

# SELF STUDY REPORT







2023

## Chaudhary Charan Singh Haryana Agricultural University

Hisar, Haryana-125004

# FOREWORD



It gives me immense pleasure to know that Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar is applying for the fifth cycle of accreditation by the National Agricultural Education Accreditation Board (NAEAB) of Indian Council of Agricultural Research (ICAR) and is presenting a Self Study Report (SSR) for this purpose.

The University was established to impart knowledge in the field of agriculture and allied sciences through latest crop production and protection technologies. The university has kept up with cutting edge research and educational advancements in the goal of improving the quality, quantity and productivity of the region's most important crops. It provides quality education and state of art facilities to students & helps them build new skills. The University has maintained the stringent educational standards and stands as a validated hallmark of excellence and quality. Feathers added to its cap since its inception speak volumes of our excellence in education ensuring that CCSHAU will reach enviable heights.

The documentation of the various facilities and activities is important in order to improvise and enhance the performance of the Universities. The efficiency of the institutional policies, procedures and practices can be accessed during the process of SSR preparation, which in turn help to pinpoint the areas of strength and accomplishments as well as issues and problems that need to be resolved. The SSRs of the University and its constituent colleges primarily examine CCSHAU's compliance with NAEAB accreditation standards and record supporting documents.

I am confident that the SSR pertaining to the period under report has been prepared by taking utmost care to include inputs regarding the existing status of the University; in terms of infrastructure including class rooms, hostels, library, sport grounds, residences, farm, etc. The self study report will give CCSHAU a strong platform for reflection, development and transformation of the existing facilities and technologies. In order to promote our aim of striving for excellence in agricultural education, research and outreach, we can further enhance the quality of our academic programs, research endeavors, and administrative procedures by critically evaluating our strength and weaknesses.

I appreciate the efforts of faculty, office supporting staff and who worked in the preparation of the document. I believe the present document prepared by the Accreditation Committee fulfils all the requirements and all the parameters mentioned in the report are met. I hope that CCSHAU will pass the quality check in terms of managing accurate institutional data, designing courses, carrying out assessments to evaluate and enhancing students' performance and provided top-class facilities.

**Prof. B. R. Kamboj**
Vice Chancellor
CCSHAU, Hisar

# PREFACE

Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar is applying for its 5th cycle of accreditation by ICAR and we present this Self Study Report (SSR) of the University and its constituent colleges with a sense of achievement and satisfaction. This report is a concise account of the growth and accomplishments of CCSHAU since the last accreditation cycle.

CCSHAU has always striven for excellence in agricultural education, research, and extension services. This SSR is an embodiment of our commitment to academic excellence, innovation, and sustainable development in the field of agricultural education. CCSHAU provides outstanding education and research opportunities in the field of agriculture, home sciences, agricultural engineering, basic sciences and humanities. Various awards and honours won by the University, constituent colleges and also the faculty and students bear an ample testimony of the standard of education and research facilities available at CCSHAU. Along with quality education the University can proudly claim to have infrastructure and world class facilities for co-curricular activities of its students. The purpose of this SSR is to provide an in-depth analysis of various aspects of the University's functioning. It has been prepared in accordance with the guidelines and framework provided by the National Agricultural Education Accreditation Board (NAEAB), which emphasizes the importance of self-evaluation as an essential part of the accreditation process.

Preparation of this SSR involved extensive work by various stakeholders of CCSHAU, including faculty, students, staff, alumni, parents, farming community, industry etc. The report presents a comprehensive appraisal of our academic programmes, research initiatives, infrastructure, governance structure, faculty, staff and student support services, and also an evaluation of our commitment to social responsibility, inclusivity, and environmental sustainability.

We are highly thankful to Vice-Chancellor CCSHAU, Hisar Prof. B.R. Kamboj for giving us the support and direction we needed. We want to sincerely thank everyone who helped in the creation of this SSR. This self-study report, we hope, accurately portrays CCSHAU's current situation and exemplifies our dedication to excellence and constant growth in higher education. We are looking forward to the NAEAB's evaluation and accreditation, which will confirm our success and establish new standards for the future.

**Dr. Aparna**
Convenor Accreditation Committee

**Dr. Manju Mehta**
Director of Human Resource Management

## 6.6. Self Study Report of Chaudhary Charan Singh Haryana Agricultural University

### INTRODUCTION

Chaudhary Charan Singh Haryana Agricultural University popularly known as HAU, is one of Asia's biggest agricultural universities, located at Hisar in the Indian state of Haryana. It came into existence on 2 February, 1970 as a result of reorganization of the erstwhile Punjab Agricultural University, through a Parliamentary Act. It was rechristened as Chaudhary Charan Singh Haryana Agricultural University as a consequence of the amendment to the Haryana and Punjab Agricultural Universities Act (Haryana Amendment), 1991 which received the Presidential assent on 8 October 1991 (notification issued on 31 October, 1991 vide No. Leg. 15/91). It was envisaged to achieve the following objectives:

**OBJECTIVES:**

- Imparting education in different branches of study, particularly agriculture, agricultural engineering, home science and other allied sciences.
- Furthering the advancement of learning and research, particularly in agriculture and allied sciences.
- Undertaking the extension of such sciences to the rural people within the State.
- Such other purposes as the State Government may, by notification in the official Gazette, direct.



Administrative Block– located at the heart of the Campus

The University has an excellent infrastructure to achieve its academic, research, extension education and social objective. Presently the University has eight colleges: College of Agriculture, Hisar, College of Agriculture, Kaul and College of Agriculture, Bawal, College of Basic Sciences & Humanities, I C College of Home Sciences, College of Agricultural Engineering & Technology, College of Fisheries Science and College of Biotechnology. Institute of Business Management and Agripreneurship, Gurugram is under construction. However, classes have been started at CCSHAU main campus, Hisar. The University has 515 faculty members, 2883 students and around 3498 staff including technical and non technical staff. It has an annual budget of around INR 5800 million and annual income of about INR 200 million. The University is providing services to the agriculture sector and creating human resource for the sector. In the present scenario where we are committed for doubling the farmers' income, the University is working with a mission **"Inspiring Agripreneurs"**.

At present the University is offering 5 UG, 46 Masters and 38 Ph.D. degree programmes. Besides Govt. of India has also approved nineteen certificate courses related to skill development and a few vocational trainings are also offered by different faculties. So far the University has awarded more than 21800 UG, PG and PhD degrees. The faculty of this university has served on various coveted positions such as Director General (ICAR), Chairman (Agricultural Scientists Recruitment Board), Advisor (Planning Commission), Vice-Chancellors, Deputy Director General (ICRISAT), Deputy Director Generals (ICAR), Directors of National Institutes *etc*. Alumni of this university are working all over the world and are holding executive positions in administration of various sectors.

In addition to colleges, the University campus has the facilities i.e., Fletcher Bhawan, the Administrative Block, a magnificent Nehru Library, Indira Gandhi Auditorium, Gandhi Bhawan serving as the Directorate of Extension Education, an excellent Faculty Club, a fine Faculty House, a well equipped Hospital to look after the University Community, Campus School for the children of faculty, Government High school at HAU, Farmers' Hostel, Community Centre, well furnished hostels for students, residential houses, Kisan Ashram for visiting farmers, Dr. Mangal Sein Agricultural Sciences Museum and Shopping Complex are the other important features of the Campus.

The University is one of the most beautiful campuses in India with a lot of biodiversity both in terms of flora and fauna. The University's main campus at Hisar is spread over 7219 acres. Green lush landscape of the University is a charm for walkers and temptation for visitors to visit again and again. The University is having well planned and extremely well maintained landscape and gardens (Horticultural garden, Vegetable garden, Medicinal garden, Botanical garden, *etc*.). There are proper lawns , forest areas and ornamental plants everywhere in the University. Places like Central Plaza ( in front of library ) and Tri Color Plaza ( in front of administrative block ) are a treat to watch at night and early morning.




Swarna Jayanti Dwar of CCSHAU, Hisar

The main campus of CCS HAU has four gates, Gate No. 1 near Mahabir stadium, Gate No. 2 and gate No. 3 behind Campus school and next to Giri centre respectively. The main entrance of the University is known as Gate No. 4, also known as Swarna Jayanti Dwar that leads to Agricultural Technology Information Centre **(**ATIC), Agri-tourism Centre New Campus, Girls Hostels, I. C. College of Home Sciences, College of Basic Sciences & Humanities, Office of Dean Post Gaduate

Studies, Estate Office, Directorate of Human Resource Management, Gandhi Bhawan, Administrative Block, Nehru Library, Indira Gandhi (IG) Auditorium, and Faculty Club at Hisar. The IG Auditorium is unmatched in its majesty and grace.



Indira Gandhi Auditorium

The University with its headquarters at Hisar has 19 Krishi Vigyan Kendras (KVKs) situated at Devigarh (Kaithal), Bhopani (Faridabad), Jagdishpur (Sonepat), Sadalpur (Hisar), Pandu Pindara (Jind), Ujha (Panipat), Damla (Yamunanagar), Karnal, Rohtak, Ambala, Sirsa, Bhiwani, Bawal (Rewari), Fatehabad, Panchkula, Jhajjar, Mahendergarh and Mandkola (Mewat). Besides these, University has Agricultural Technology Information Centre (ATIC) at Hisar and Extension Education Institute (EEI) at Nilokheri. There are five Research Stations at Bawal (Rewari), Kaul (Kaithal), Rohtak, Sirsa, and Uchani (Karnal).

The University is proud of having created splendid infrastructure in its life span of 53 years. The teaching and research facilities available in this University are comparable to any institution in an advanced country. The network of Krishi Vigyan Kendras set up by this University has earned admiration for its uniqueness and effective farmer service. It acts as a channel for the transfer of technology from the laboratory to the farming community. Haryana, being a deficit state at its birth, is now not only self-sufficient in food grain production but also second largest contributor to central food grain reserve which amounts to one-third of the total food grain stock.



Nehru Library

Nehru Library, a hub of academic and research activities is housed in a centrally located elegant building. It has a large collection of books, facility of reading halls, computer centre, book bank and various e-resources for the use of faculty and students.

The extension education set-up of the University has been recognized as one of the best in the country. The Directorate of Extension Education carries out multifarious extension activities and programmes through its three units. *viz;* Farm Advisory Service, Farm Training Service and Farm Information and Communication Service. Agricultural Technology Information Centre (ATIC) popularly known as Kisan Sewa Kendra provides a 'single window' delivery system for the products like seeds of cereals, vegetables and horticultural crops, nursery plants of vegetables, fruits and ornamental plants, bio-fertilizers, processed products of fruits and milk urea detection kit, *etc*. The University also houses a training institute for skill development named as SNIATTE. The University has started provisions for e-payment, cashless payment, mobile van for sale of seeds, mobile van for soil & water testing, seed hub *etc*. Besides organization of theme specific farmer's fair (Krishi Mela) in different regions of the State of Haryana, the Directorate organizes two major Krishi Melas (Rabi and Kharif) every year at the main campus.



Agricultural Technology Information Centre (ATIC)

The University has taken a lead among the agricultural universities in the country, in creating institutionalized training facilities for the faculty. The Academy of Agricultural Research and Education Management was established on 16.04.1994 to impart in service to the training University/Institute faculty on a regular and continuous basis, thus strictly adhering to the policy of Haryana Govt. "Training for all". The University has established international collaboration and signed Memoranda of Understanding (MoU) with universities in USA, UK, Japan, Turkey, Czech Republic, Nepal and various public and private sectors institution/companies of repute. IPR Cell was established in Directorate of Human Resource Management in 2005. The University has so far submitted 63 applications for its intellectual properties, out of which 39 have been protected/granted. The University has also registered its trade mark. CCSHAU is the first Agricultural University to prepare and implement its IPR policy. The Business Planning and Development Unit (BPD) has been promoting and supporting the spirit of entrepreneurship amongst stake holders and commercialization of agriculture.

The University established Deendayal Upadhyaya Centre of Excellence on Organic Farming on October 31, 2017 with the objective to popularize organic and natural farming in the State. To prepare university students for different competitive exams including ICAR-PGS exam, JRF- SRF and ASRB, Students' Centre for Career Excellence has been set up under Counseling and Placement Cell of Directorate of Students' Welfare.




Centre of Excellence on Organic Farming




Dr. Mangal Sein Agricultural Sciences Museum

**DR. MANGAL SEIN AGRICULTURAL SCIENCES MUSEUM**

The University established Dr. Mangal Sein Agricultural Science Museum with the objective of depicting Haryanvi Culture. The notable achievements of the museum are mini film theatre, architecture, library and it is centrally air conditioned.

**BEST INSTITUTE AWARDS**

- CCSHAU ranked 4th among Indian Agricultural Universities in 2018
- Ranked 3rd and 4th in Atal Ranking of Institutions on Innovation Achievements (ARIIA) during 2020 and 2021, respectively
- KVK, Mahendergarh has been awarded the best KVK Award at the "Outlook Summit and Swaraj Puraskar in 2022.

The University is on march towards a promising future. It ranked 4th among Indian Agricultural Universities in 2018. It also ranked 3rd and 4th in Atal Ranking of Institutions on Innovation Achievements (ARIIA) during 2020 and 2021, respectively. The University has also received "Haryana Kisan Ratna Award" conferred by Haryana Government for the year 2019. Mahindra & Mahindra Ltd. awarded the university with "Krishi Shiksha Samman" on the occasion of Mahindra Samridhi India Agri Awards 2019. I.C. College of Home Science, CCSHAU, Hisar has been ranked 49th, 38th and 42th across India in NIRF ranking 2020, 2021 and 2022, respectively by MHRD. University's Krishi Vigyan Kendra Mahendergarh has been awarded the best Krishi Vigyan Kendra Award at the "Outlook Summit and Swaraj Puraskar-2022" organized by Outlook Group on 14th September, 2022. KVK Yamunanagar had been awarded with Best NICRA KVK Award-2019 for the ATARI Zone II. 91.2 FM Community Radio Station, KVK Rohtak received the certificate of appreciation from CIET- NCERT New Delhi in 2022 for its continuous commendable work. University has golden feathers in form of several awards as Best AICRP Centre Award Sorghum (2021-22); Best performing ICAR-AICRP on Pearl millet Centre Award (2021-22); Best AICRP Centre Award on Spices (2021); Chaudhary Devi Lal Outstanding AICRP Award on Farm Implements and Machinery (2019); Best AICRP Centre Award of MULLaRP (2019); Best AICRP Centre Award of Weed Control (2019); and Best AICRP Centre Award of Sugarcane (2019).

### 6.6.1. University Governance

**6.6.1.1. Vision, Mission and Goals:** *Whether the University has published a vision document and developed a plan of implementation with a time frame and proposed financial arrangement? Whether the University has planned, developed, implemented, and evaluated intentional and purposeful programs/services that may facilitate students and other stakeholders of the University (provide one paragraph for each).*

Yes, the University has published a vision document which outlines a plan of implementation with a realistic timeline. In response to the changing socio-economic conditions, CCSHAU constantly redefines its objectives while emphasizing its vision. The University published Vision 2020, and then in line with its purpose of reorienting its objectives, in 2016 brought out Vision 2030. Now in line with the PM's India @2047 plan, CCSHAU Vision 2047 has been prepared **(Supporting Document, SD-I)**.

The Vision 2047 outlines a strategy to leverage the strength of advances in each of these disciplines via integrated approaches to increase the productivity potential genetically and per unit area while conserving the environment. Basic, strategic and anticipatory research would be pursued in a translational mode to sustainably increase land and water productivity on one hand and successfully face the challenges of climate change on the other. To address the challenges of climate change, sustainable production, food and nutritional security, degradation of soil and water resources and increasing the profitability of small and marginal farmers demand along term vision of the University. As part of long-term objective, the university will continue communicating and interacting with farmers at state and national levels to generate recommendations that help to improve and sustain agricultural productivity and to improve life style of rural masses. The new and emerging areas identified through feedback from the stakeholders, extension workers, farmers and faculty consultation act as a blue print for research policies, directions and strategies over the coming years. Main focus areas are as under:

- Natural Resource Management along with development and validation of integrated crop production technology in order to maintain better soil health and enhancing the water use efficiency.
- Development of climate resilient and market competitive technologies including crop varieties/hybrids.
- Promotion of farm mechanization to make small and medium farming remunerative through the development and adoption of efficient machines and tools.
- Enhancing the availability of good quality seed of commercial crop hybrids/varieties including the seedlings of plantation crops through the promotion of seed village concept and establishment of hi-tech seedling nurseries.
- Validation and refinement of farmer's innovation and putting them up for larger application
- Human Resource Development for teaching, research and extension which can address emerging needs.
- Revamping extension system with changing needs.

**Short and long-term plans**

**Short-term plans**

- Review and upgrading of course curricula to match the international standards.

- Strengthening of facilities for survey and surveillance of disease and pests, networking of weather forecasting/GIS and soil &water analysis to make strong decision support system for farmers and stakeholders.
- Establishment of laboratories for organic food testing, pesticide residue, bio-control, bio-pesticides etc. to enhance the market access.
- Creation of awareness among the farmers and stakeholders for diversification in agriculture.

**Long-term plans**

- Development and promotion of cost effective soil health management technologies for various agro climatic regions.
- Development and promotion of efficient and low cost water management techniques including water harvesting and micro irrigation systems.
- Use of waste waters including industrial effluents and domestic sewer sludge waters
- Application of biotechnology for crop improvement and its protection by meeting the bio-safety and SPS standards required for competing in global market.
- Development of hybrids/varieties for low input conditions including for climate change and low water availability.
- Development of low cost and efficient machines and tools for small and marginal farmers and also for emerging entrepreneurs.
- Promotion of public-private and public-public partnership for sharing of knowledge, resources and for technology transfer.
- Gearing-up of extension system through incubation, training, entrepreneurship development, technology commercialization, field schools etc. in response to changing needs of the farmers.
- Generation of off-farm employment through the promotion of post harvest management techniques such as value addition, processing, seed production, dairying, bee-keeping, storage, custom hiring services etc.
- Development of a decision support system for varying agro-ecological, and socio-economical conditions to achieve the goal of precision farming using GIS and Remote sensing techniques

To attain a sustained growth rate of four per cent and harvest the aforesaid opportunities in agriculture, the technology support to farmers and other stakeholders is needed to be upgraded at higher place. Hence, acceleration of technology generation efforts is a matter of priority in the state. It would obviously need a dynamic approach, coupled with a focused strategy, which is well planned, coordinated and monitored. CCS Haryana Agricultural University (CCSHAU) has been and will continue to provide long term technology support to all stakeholders including farmers, entrepreneurs and agro-industries. The university has assessed the emerging opportunities and problems in state agriculture and accordingly has taken initiatives for bringing modifications and strengthening teaching, research and extension programmes. The following priority areas are considered.

| Vision | Action Plan | Time frame |
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| Empowering students by making course curricula enterprising | • Imparting education in different branches of study, particularly agriculture, agricultural engineering, home science and other allied sciences, upgrading of course curricula to match the international standards | • Ongoing process.<br>• Sixth Dean's Committee report will be implemented |
| Soil, water, nutrient resource and residue Management | Preparation of district wise soil and water quality maps:<br>• GPS based soil fertility maps of 15 districts for Micronutrients and three districts for macronutrient have been completed. Work on remaining districts is going on. Water quality maps of 14 districts have been completed; work on remaining districts is going | • 2027 and will be revised after every 10 years |

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| | on. Based on these maps, soil and water management practices will be developed for each district of the state. | |
| | Enhancing soil organic carbon content:<br>• The optimum quantity of crop residues (rice, cotton, mustard, pearl millet *etc.*) for successful *in-situ* management and their impact on organic carbon build up and nutrient availability will be quantified.<br>• After quantification of organic carbon buildup and nutrient availability from these wastes, the doses of chemical fertilizers will be standardized for different cropping systems of the state. This will be helpful for reducing the doses of chemical fertilizers and also reducing environmental pollution. | • 2024 for rice –wheat, 2025 for cotton-wheat, 2027 for pearl millet-wheat and other cropping systems.<br>• These Nutrient management practices will be revised after every five years |
| | Basic research in the field of organic farming/natural farming and Validation of claims made by organic and natural farming:<br>• Organic manures/formulations will be identified/ prepared having higher rate of nutrient mineralization to fulfill nutrient need of high yielding varieties. Suitable varieties for organic farming will be identified.<br>• The organic/natural farming technologies will be tested in different soil types of different agro-ecological regions of Haryana state. Soil site suitability for organic farming/natural farming will be identified and demarcated in district level soil fertility maps. | • 2025 for organic manures/ formulation development and 2027 for soil site suitability maps.<br>• Newly released varieties will be tested regularly for suitability of organic/ natural farming |
| | Increasing nutrient use efficiency and reducing the dependency on chemical fertilizers:<br>• Precision nutrient management strategies for all crops and cropping systems will be developed. Fertilizers prescriptions based on targeted yield concept will be made for each district with the help of soil testing laboratories of KVKs in next five years.<br>• Application of Nano science for improving nutrient use efficiency. Nano fertilizers will be evaluated for each crop in different soils having varying soil fertility and their recommendation will be made based on inherent soil fertility of the location.<br>• Alternate source of nutrients such as phosphorus rich organic manure (PROM), phosphor-compost, natural K *etc* will be evaluated for reducing the dependency on chemical fertilizers.<br>• Use of artificial intelligence in diagnostic soil and plant problems and their remedy will be disseminated to the farmers with the help of soil scientists deputed in different KVKs. | • 2027 for fertilizer prescriptions and revised after every five years.<br>• 2025 for Nano-fertilizers recommendations.<br>• 2027 for alternate source of nutrients.<br>• 2030 for use of artificial intelligence in technology dissemination. |
| | Making salt affected soil productive:<br>• Salt affected areas have been identified and GPS based maps of problematic soil will be prepared for each district.<br>• Production technology for these salt affected soils will be developed for each district considering the soil type, rainfall and crops of the area.<br>• Salt tolerant varieties based on the extent of soil salinity/sodicity of the area have been identified and | • 2027 for preparation of GPS based maps of salt affected soils.<br>• 2027 for production technology for salt affected soils of each district. |

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| | a nutrient management practice for salt affected soils has been developed.<br>• Cost effective easily/locally available soil amendment such as municipal and industrial waste will be identified for reclamation of salt affected soils<br>• Refinement of existing and development of new technologies for changing scenario. | • 2030 for identification of cost effective locally available soil amendments.<br>• Refinement will be made after every five years. |
| | Crop Residue Management:<br>• Development of region-specific crop residue inventories<br>• Assessing the quality of various crop residues and their suitability for off-farm (e.g. animal feed, composting, energy, biogas, biochar and biofuel production) and on-farm purposes<br>• Analyzing the benefit: cost ratio, socio-economic impact and technical feasibility of off-farm and on-farm uses of crop residues.<br>• Efficient microbial cultures possessing multiple enzyme activities (cellulase, protease, amylase, laccase etc.) have been isolated and identified to degrade various polymers (cellulose, proteins, starch, lignin etc.) present in agro-residues under laboratory conditions.<br>• The most efficient microbial strain/ consortia will be evaluated for developing a formulation for field-level use and for technology commercialization<br>• Diversified field level/farmers' field level trials will be conducted using the most efficient microbial strain/ consortia formulations. *In-situ* decomposition at the field level will be evaluated and other conditions like irrigation, supplementation of N source etc will be optimized<br>• Diversified field level/ farmers' field level trials will be validated. The recommendation will be made based on evaluation and validation at field level and laboratory-based models for in-situ decomposition of various agro-residues | 2022-2037 |
| Strengthening of research in organic and Natural farming | • Organic manures/formulations will be identified/ prepared having higher rate of nutrient mineralization to fulfill nutrient need of high yielding varieties.<br>• The organic/natural farming technologies will be tested in different soil types of different agro-ecological regions of Haryana state. | • 2025 for organic manures/ formulation development and 2027 for the soil site suitability maps.<br>• Newly released varieties will be tested regularly for suitability of organic/ natural farming |
| Managing vulnerability to climate change and variability | • At present 3 Agromet Observatories at regional level and 7 Automatic Weather Station (AWS) at District Headquarter installed for continuous record of weather observations under GKMS-DAMU project. | • The entire area of the state will be covered up to 2047.<br>• The network of Agromet observatories and AWS at all KVKs will be strengthened up to 2037 under DAMU & GKMS- project |

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| | • The weather forecast and farm advisories are being disseminated to 6 lakh farmers of Haryana through SMS Services. Weather forecast based crop specific advisory are also disseminated by *e-mausamhau* Mobile App. Facebook, WhatsApp, twitter etc. | |
| | • The Micro-level Agromet Advisories will be disseminated at block level upto 2037 and village level and finally at the field level will be strengthened to mitigate effects of climate change upto 2047 by using ITC. | |
| | • At present database prepared for agro climatic atlas of the State. A vulnerability map at regional level considering frequent extreme weather events will be developed which will be a guiding document for crop diversification and risk management (AEZ and Atlas) upto 2037.<br>• Crop land use planning will be suggested as per Agro ecological characteristics at micro level up to 2047. | |
| | • Developed the Maps of cropping pattern and agro ecological zones by using Remote sensing & GIS techniques. Remote sensing-based decision support system (DSS) will be standardized and operationalized for forewarning of climatic extremes condition upto 2037. Crop land use planning will be suggested as per Agro ecological characteristics at micro level up to 2047. | |
| Development of need based crop improvement programme by developing high yielding, climate resilient plant varieties/hybrids | • Adoption of seed village concept with buy back policy for providing quality seed of pulse and oilseed crops<br>• Genetic enhancement of crops for abiotic and biotic stresses<br>• Improvement in productivity and resilience to climate change impacts andupscaling of technologies with the aid of genomics, proteomics and metabolomics and geospatial approaches<br>• Genetic improvement of nutritional qualities through biofortification of iron, zinc in wheat, rice and pearl millets<br>• Molecular tagging of useful genes and their introgression through marker assisted selection.<br>• Development of improved bread wheat varieties for early, timely and late sown, irrigated and high fertility conditions<br>• Development of wheat varieties for saline/alkaline conditions<br>• Development of resistant wheat parents in diverse backgrounds for developing resistant strains<br>• Exploitation of heterosis and development of hybrids in Mustard<br>• Development of high yielding varieties/hybrids with higher oil content and improved oil and seed meal quality.<br>• Development of bio-fortified hybrids/ varieties in wheat, rice and pearlmillets.<br>• Exploitation of germplasm and wild accessions in pulses for breaking yield barriers<br>• Development of drought, low and high temperature tolerant pulse crops through biotechnological | • Adoption of seed village concept (2022-2037)<br>• Application of marker-assisted selection (2022-2032<br>• CRISPR/Cas enables precise improvement (2022-2032)<br>• Application of genomics, proteomics and metabolomics and geospatial approaches (2022-247)<br>• Genetic enhancement of crops for abiotic and biotic stresses (ongoing strategy)<br>• Development of biofortified hybrids/ varieties in wheat, rice and pearlmillets (2022-2032) |

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| | approaches<br>• Development of cytoplasmic genetic male sterility (CGMS) based hybrids for enhancement of productivity and stability of yield in pigeon pea.<br>• Application of marker-assisted selection (MAS) for improvement of specific traits (drought and downy mildew resistance etc.)<br>• Development of rice varieties suitable for direct seeded rice conditions<br>• CRISPR/Cas enables precise improvement of commercially relevant crop species through gene editing by transgenic and non-transgenic methodologies | |
| Farm mechanization, protected & precision agriculture | • Switching over to machine assisted resource-conservation techniques such as zero-tillage, raised bed planting, precision farming, micro irrigation etc.<br>• Efficient and precise application of plant protection chemicals, mechanization of seed production, improving versatility of power tillers, dry land agriculture, oilseeds, pulses and coarse cereals.<br>• Refinement of resource conservation technologies like precision sowing, incorporating, mulching and bailing machines.<br>• Multi task precision farm machinery allowing selective automation for crop production would be developed<br>• Low cost poly-house for cultivation of high value crops in small farms will be developed<br>• The feasibility study on the use of modern technologies in agriculture will be carried out and university will work on the research on these technologies.<br>• Efforts will be increased in area of Artificial Intelligence and Drones (Imaging, weeding, spraying etc.). | • Machine assisted resource-conservation (2022-2032)<br>• Switching from surface to micro irrigation (2030)<br>• Efficient and precise application of plant protection chemicals (2022-2037)<br>• Multi task precision farm machinery (2022-2037)<br>• Suitable app for selection design and operation of micro irrigation system (2025)<br>• Artificial Intelligence and Drones (2022-2047) |
| Scaling-up of insect-pests, disease, nematode and weed management approach | • Development, validation and dissemination of IPM technologies for emerging and invasive insect-pests of major field and horticultural crops, owing to changed cropping patterns and climate change.<br>• Devising tools and techniques for insect pest disease and nematode management in organic farming, natural farming, conservation agriculture and protected cultivation. | • Up to 2027 the IPM technologies for organic farming will be developed |
| | • Development of superior and indigenous strains of bio-control agents and bio-pesticides to regulate populations of important insect pests, pathogen and nematodes.<br>• Isolation and testing of indigenous strains of bio-control agents<br>• Validation of commercialization of bio control technologies<br>• A continuous and effective bio-control programme for the management of insect-pests, disease and nematodes | • Ongoing activity |
| | • Monitoring of pesticide residues in vegetables, fruits and field crops and development of strategies to minimize pesticide residues in food/feed commodities. | • The residue lab will be strengthened (up 2027). |
| | • Evaluation of new herbicides and integration with | • Impact study of |

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| | other methods to reduce the herbicide residues, development of weed management practices in organic farming of field and other crops, crop establishment. Set economic threshold limit (ETLs) of weeds in different crops to understand biology and ecology of major weeds. | weeds will be carried out in next ten years (up to 2032) |
| Technology-led Horticulture | • To develop new cultivars through conventional as well as biotechnological approaches for low seeded, better colour & shelf life, and resistance against biotic and abiotic stresses for horticultural crops. Development of horticulture based cropping system. Improvement in productivity by refinement of technologies and Good agricultural practices (GAP) | • Development of improved Varieties (2022-32)<br>• Mass multiplication<br>• of healthy and quality planting material (2022-2027) |
| Diversification in Agriculture: | • Paddy-wheat is the dominant cropping system in of this zone-I. Initially strategy of crop diversification by adopting lower water requiring systems is proposed in 60 thousand hectares area. The proposed cropping systems can potentially save 37-47% water.<br>• Cotton-wheat and rice-wheat are the dominant cropping system in zone II. Initially strategy of crop diversification by adopting less water requiring cropping systems is proposed 48 thousand hectares area, which can potentially save about 20-60% irrigation water.<br>• Cotton-wheat, bajra-wheat and bajra-wheat based cropping system are the dominant system in zone III. Initially strategy of crop diversification is proposed in 68 thousand hectares area. The proposed cropping systems can potentially save 33-60% irrigation water.<br>• Diversification through utilization of fisheries and aquaculture resources through enhancing fish production, shrimp culture, fresh water & ornamental aquaculture, fish processing & utilisation of fish waste and functional foods of high nutritional quality and better health. | • Crop, vegetable, mushroom based diversification, (2022-27) Horticulture and conservation agriculture based diversification (2022-37); Fisheries based diversification (2022-47); Micro irrigation based diversification (2022-47) |

Apart from the above following policy decisions will be adopted in order to implement the vision:

- Linkage with Private Sector
- Gearing-up of Extension System
- Agribusiness and Agripreneurship
- Protection and rewarding creativity
- Creation of data network for effective decision making
- Development of decision support system (DSS)

The CCS Haryana Agricultural University is committed to enhance agricultural production and productivity in the state through science-led and technology-driven approach. It is well poised to meet the challenges ahead that transforms agriculture sector into the engine of growth of Haryana's economy by providing human resources, skills and technology for the sustainable development of state's agriculture, production of biomass based land and water including crop production (agriculture) and forestry. Conservation and optimal utilization of natural resources with focus on soil health, input use efficiency, production technique to mitigate climate change, cropping and farming system development under resource constraints focusing on water resource management, organic pest and disease management, crop modeling, use of remote sensing and Geographical Information System (GIS). The outputs of research must translate into increased productivity,

improvement in quality of life and creation of wealth for the society at large, and small farmers in particular. The unfolding data revolution allows us to assess our present state, fixes the 2047 goal posts and indicates the direction for movement. Vision 2047 document, which integrates all the four interdependent dimensions of sustainable development (economic, social, environmental and governance), will be vigorously pursued.

For the implementation of the vision programs/services that may facilitate students and other stakeholders of the University, funding from the ICAR and state government will be used.

**6.6.1.2. Statutes and Regulations:** *Provide a list of Statutes and Regulations published in the gazette notification and being implemented by the University for administration and planning.*

**CCSHAU Act & Statutes (SD-II)** covers all laws and rules that the University is implementing for administration and planning. On the University website, a copy of the CCSHAU Act & Statutes is also available, along with all amendments made up to 2023.

**6.6.1.3. University Statutory officers and their selection process:** *Provide list of the statutory officers sanctioned in the Act, present position, their mode of appointment (selection/nomination), joining date, tenure. Please provide the reason of those statutory officers who have not been appointed so for.*

**The list of appointed statutory officers along with their joining date and tenure is as under:**

| Sr. No. | Name of post | Name of the incumbent | Date of joining | Mode of appointment |
|---|---|---|---|---|
| 1 | Vice-Chancellor | Dr. B. R. Kamboj | 16-04-2021 | Selection |
| 2 | Registrar | Dr. Balwan Singh Mandal | 01.04.2023 | Nomination |
| 3 | Dean, College of Agriculture | Dr. S. K. Pahuja | 27-12-2021 | Selection |
| 4 | Dean, College of Agril. Engg. & Technology | Dr. Baldev Dogra | 11-01-2022 | Selection |
| 5 | Dean, College of Basic Sciences & Humanities | Dr. Neeraj Kumar | 30-03-2022 | Selection |
| 6 | Dean, College of Fisheries Science | Dr. Neeraj Kumar | 24-05-2022 | Nomination |
| 7 | Dean, College of Biotechnology | Dr. Sudhir Kumar | 29-04-2022 | Nomination |
| 8 | Dean, I.C. College of Home Sciences | Dr. (Mrs) Manju Mehta | 02-04-2022 | Nomination |
| 9 | Dean, Postgraduate Studies | Dr. K. D. Sharma | 27-12-2021 | Selection |
| 10 | Director of Research | Dr. Jeet Ram Sharma | 30-03-2022 | Selection |
| 11 | Director of Extension Education | Dr. Balwan Singh Mandal | 27-12-2021 | Selection |
| 12 | Director of Students Welfare | Dr. Atul Dhingra | 12-08-2022 | Nomination |
| 13 | Director of Human Resource Management | Dr. (Mrs) Manju Mehta | 30-03-2022 | Selection |
| 14 | Comptroller | Sh. Naveen Jain | 25-05-2021 | Selection |
| 15 | University Librarian | Dr. K. D. Sharma | 09-08-2022 | Nomination |

| | | | | |
|---|---|---|---|---|
| 16 | Estate Officer-cum-Chief Engineer | Dr. M. S. Sidhpuria | 03-03-2021 | Nomination |

*Note: Tenure of Vice-Chancellor is four years and for Registrar, Dean/Directors' is 4 years or till the date of retirement whichever is earlier.*

The University follows a well-defined and structured mode of appointment (selection/nomination) of statutory officers. It is available in Act and Statutes at CHAPTER III--Statutes regarding the designation, the manner of appointment, powers and the duties of the officers of the University **(SD-II)**. The posts of Dean, College of Fisheries Science and Dean, College of Biotechnology are newly sanctioned and rules for the same are likely to be framed in due course of time and incorporated in Act and Statutes of the University Statutes.

**6.6.1.4. Decentralization of power**: *Decentralized systems are those in which central entities play a lesser role in any or both of fiscal and administrative dimensions in the agricultural universities. The information on financial autonomy and sanctioning power to the Dean and other officers of the University shall be provided. Whether the necessary administrative powers have been delegated to the statutory officers of the University? Provide the list.*

For the smooth and efficient operation of the University, decentralization of power is practiced at CCSHAU. Substantial financial and sanctioning autonomy as well as administrative authority has been granted to the Deans, Directors, and other Statutory Officers of the University. **Chapter XXIII** (Statutes Regarding the Exercise of Financial and Administrative Powers by the Officers, Teachers and Other Employees of the University) and **Chapter XXIV** (Delegation of Administrative and Financial Powers by the Board of Management to the Officers/ Employees of the University) of the Act and Statutes (SD-II) contain details of the administrative and financial authorities granted to University officers/officials. The financial and sanctioning authority given to the officers of the University as enumerated in the **Account Code of the University (SD-III)**.

**6.6.1.5. Supporting Units:** *Whether the University has established a Maintenance cell, SC/ST Cell and Health facility and what is the present mode of functioning of these units to support the student, staff and University infrastructure?*

Yes, the University has established Maintenance Cell, SC/ST Cell and Health facility. The mode of functioning of these units is as under.

a) **Maintenance Cell:** The Engineering Unit of this University is in charge of the well-equipped Maintenance Cell. Through its regular and contractual workers, the Maintenance Cell offers routine maintenance, annual and special repairs/maintenance of institutional/administrative buildings, apartments, and hostels. This Cell is also in charge of the water supply, sewage system, electricity supply, emergency/generator power supply, *etc.* through regular repair and preservation of the University infrastructure and maintenance Cell's primary duty is to offer amenities for the students, employees, and residents of the campus.

b) **SC/ST Cell:** The University has a fully operational SC/ST Employees' Federation. In compliance with State Government directives periodically published and implemented by the University, an official is nominated as In-charge, Reservation Cell to coordinate the welfare of SC/ST personnel and to present their grievances, if any, concerning reservations in appointments or promotions.

For managing the scholarships and other issues of SC/BC students, Nodal Officer is nominated from among the faculty whose responsibilities are as under:

1. To collect the Filled in forms from all the colleges of CCSHAU, Hisar.
2. To send filled-in forms by email/post to the office of Higher education, Panchkula or welfare office SC/BC, Chandigarh indicating the total expenditure to be incurred on it.
3. To help the students in filling up of online proforma.
4. To help the students in getting their scholarships who do not receive it in time.
5. To make correspondence with the Higher Education Department, Panchkula, Welfare office of SC/BC, Chandigarh, Polytechnic office, Nilokheri, and DWO office, Hisar.
6. To bring awareness among SC/BC students about welfare schemes of the Government.
7. To send the reports of SC/BC students as and when required by the authorities.

c) **Health Facility**: University Health Service provides a comprehensive primary health clinic for students, faculty, staff and other campus residents. The University has a fully functional 20 bedded Campus Hospital providing medical care and health cover to students, employees and their dependents and retired employees of the University. At present medical staff includes two Lady Medical Officers (LMO), two Medical Officers and one Dental Surgeon. The post of Senior Medical Officer is presently vacant and its charge is being dispensed by one of the LMOs. There are three field dispensaries located at Kaul, Uchani (Karnal) and Bawal providing first aid to the employees of the University. Daily OPD at Hisar is about 200- 250 per day. Hypertensive clinics are being held every week on Tuesday and Thursday. The indoor facility is also being extended to the admitted patient. On average about 30-35 cases per month are being given indoor treatment. The University hospital also provides complete dental care with an X-ray facility. The immunization schedule is being followed as per national immunization policy and carried out on 1$^{st}$ Saturday of the month by ANM at Campus Hospital, on the third Saturday at the new campus and on 1$^{st}$ Wednesday at HAU Labour Colony. Regular antenatal care is provided to the residents of the campus taking care that the entire area of the campus is covered. Complicated cases are referred to various empanelled hospitals for better and more comprehensive treatment.

**6.6.1.6. Technology Support:** *Information on Classroom technology (e.g., technology in rooms, computer labs), online learning tools, internet/Wi-Fi connectivity, student systems (e.g., online enrolment), business applications, computer help (e.g., setup for email, firewalls) and password resets being implemented at the University level. A brief note shall be provided.*

The University and its constituent colleges have ample resources with respect to Classroom technology, online learning tools, internet/Wi-Fi connectivity, student systems (e.g., online enrolment), business applications, computer help (e.g., setup for email, firewalls) and password resets. Today, owing to technological interventions whole of the world has become a global community. Technology is imbibed in modern-day students' lifestyles, and it is also part of the classroom and laboratory instructions. The academic training of students is required for sensitization to its erudite uses. The faculty members also require multimedia tools to boost their teaching and learning effectiveness. The learning environment is more dynamic than ever before, as a result, today's learners are learning in a way that's very different from how our educational system was originally designed.

With the advancement in technology and the rise of remote learning, classrooms are being remodelled and redefined in several ways to fit the evolving needs of modern digital learners. The faculty of the University extensively use tools from multimedia presentations to enhance their teaching-learning effectiveness. The Smart Classroom facility for the students is provided in each college of the University for the teaching purpose in an interactive manner. Similarly, fully equipped Computer labs with internet facilities are available in each college of the University for the students. The Internet connection and Wi-Fi facility are available on the whole campus to all the Faculty/Students/other staff of the University as well as to the students in the hostels. Students can use the computer lab of their respective colleges for getting internet facilities for their study purpose.

The University has also installed a video conferencing facility at various locations (College of Basic Sciences & Humanities, College of Agriculture, College of Agricultural Engineering and Technology, I C College of Home Sciences, Directorate of Human Resource Management, University Library, Director of Research, Post Graduate Studies office, Registrar's office along with Vice Chancellor's Secretariat) to facilitate and enhance communication with educational/technical institutions at National/International levels.

In the wake of digitization, the University has implemented the online student life cycle system under which various modules related to the student life cycle are implemented. This online platform has covered all the processes from admissions to academics. All the aspects, from the invitation of applications for admission in the various programmes to the student admission and after completion of the degree up to disbursal of the result are covered in this system. A Student Portal under IUMS (Integrated University Management System) helps students with online registration each semester. The same is replicated and used by different stakeholders of the University such as Deans/advisors/faculties/other staff for different student-related activities. Students can pay their fees, view their timetable and examination schedule, attendance status *etc.* through this portal. This platform is quick and efficient for communication with students. The teachers and students use this interactive portal to publish notices and upload assignments and tutorials to enhance learning.

**A) College of Agriculture, Hisar**

The College of Agriculture, Hisar has more than two hundred desktops with specifications of i5 and i7 Core, 500 GB/1TB HDD and 8 GB RAM/16 GB RAM. All the computers are connected through LAN for better connectivity. All the **c**omputers are well equipped with recent software such as Microsoft Office, SPSS, SAS and Turnitin to improve the writing skills of students and assist them in checking plagiarism in a research thesis. In College, every node is connected to the internet. Regular courses on computers and special training on the use of Information and Communication Technology (ICT) are provided to teachers/students. Seminars and lectures are conducted in smart classrooms enabled with interactive panels and the internet. Several departments have separate Computer labs for their students. Every faculty member and all offices of the University have their own PCs connected to the internet facility.

The College of Agriculture has 15 lecture rooms. Each lecture hall has a seating capacity of 70. Ten lecture rooms have smart classroom facilities. The rest of the lecture rooms have an LCD projector and Computers. All lecture rooms are fitted with CCTV Camera, Blackboard, Whiteboard, screens *etc.* These lecture rooms are fitted with internet connections and an online facility for the recording of lectures. A fully furnished computer centre with 60 computers with accessories. Internet/Wi-Fi connectivity is an asset for staff and students. There are 14 departments in the college and every department has a seminar room and departmental library.



Smart class room of COA, Hisar.

**B) College of Basic Sciences & Humanities**

The Central Computer Centre of the University is established in the College of Basic Sciences & Humanities. The centre has 8 rooms (seminar room, staff room, In-charge room, software development lab, server and switch room, Network Lab, and Teaching lab for UG & PG). The computer section has at present more than 70 desktop PCs with the latest configuration and 6 printers for the use of students, faculty and staff. One workstation – Intel ® Xeon Silver 4316 CPU has been used for online statistical analysis and one Dell server running Linux and Windows server operating system is being used for the application server and radius server.



PG Computer Lab. Computer Section, COBS&H



UG Computer Lab. Computer Section, COBS&H

The centre is working as the gateway of internet connectivity for the University. The installation of the campus-wide GIGABIT Network is implemented by this section with funds from the AHRD project. The Campus wide network is spread over more than 18 K.M. through fibre optic cables and is providing Internet facility to the stakeholder through a 1 GBPS (Shared) leased line provided by National Knowledge Network (NKN). A firewall (Sophos) has been installed to ensure internet security. Currently, the central computer section offers Wi-Fi access to students in their hostels as well as at colleges and offices for the stakeholders. Students and researchers can use SPSS, SAS, OPSTAT, Indostat, and other data analysis tools in the computer lab to meet their academic and research needs.



Teaching through 4K ultra interactive flat panel

Almost all the Classrooms are equipped with 4 K ultra interactive flat panel (IFP) with OPS, which would be the future of classroom teaching and empower teachers as well as inspires students to learn more, share their knowledge and interact with others.

**C) I.C. College of Home Sciences**

The College of Home Sciences has a central computer lab at the college level with 30 computers enabled with internet facility which is used by the UG and PG students for preparation of their assignments, research projects and other academic works. Also, all five departments of the college have computer labs for conducting UG/PG practical classes and seminars. In total, the college has more than 100 computers connected to the Internet. All faculty members have computers, printers and internet connections in their offices. There is a Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. The faculty members of the I.C. College of Home Sciences use ICT in teaching and practice. There are lecture rooms and seminar rooms with a computer, LCD projector and internet connection. Some Labs are also equipped with LCD projectors. As per the requirement of curricula delivery Power point presentations, YouTube videos, e-manuals, e-learning modules, CD-ROM, CAD Software and Online Catalogues are used. During the pandemic Covid 19, the online classes were conducted on different platforms viz. Google Classroom, MS Teams, Zoom *etc.*

**D) College of Agricultural Engineering and Technology**

The College of Agricultural Engineering and Technology is equipped with two smart classrooms and interactive whiteboards for classroom and laboratory instruction. There is one seminar room and one committee room for students and faculty to discuss their research topics and live interaction. In each

department of the college, students have access to Smart Classrooms so that they can learn dynamically. The tools from multimedia presentations such as power point presentations and smart boards are used by teachers to make their teaching and learning more effective. The facility of computers to each faculty and lab consisting of about forty computers, a University website, campus-wide networking with Wi-Fi facilities, CCTV cameras, *etc.*, make up the college's robust ICT infrastructure. Technology and Internet access are available in every college department for administrative, instructional, and scholarly work. ICT is used in classrooms, labs, and extension programmes to better serve students. The governance of the faculty and student system is enhanced by their official ID including emails, online course enrollment, fee payment, grade submission, and student attendance *etc.* Faculty members from all departments utilize e-courses on websites and e-manuals to deliver the curriculum.



Computer Lab

**E) College of Agriculture, Bawal**

College of Agriculture Bawal has six smart classrooms facilities (whiteboard, CCTV, audio-visual aids, visualize, speakers *etc.*) with a seating capacity of about 70 students and one seminar cum meeting hall equipped with audio-visual aids, sensor-based camera, microphones, speakers, whiteboard, LED screen *etc*. The college has one computer lab with a seating capacity of 30 students and all the computers are connected to internet facilities. Besides, one language lab has been established with a seating capacity of 30 students with the installation of online software (updated vocabulary and spoken English) for improvement in communication skills in English. The whole campus is under the surveillance of CCTV which is monitored by the Principal. There is Wi-Fi connectivity on the campus for students, faculty and guest visitors. During the COVID-19 period, online classes were conducted using Google Meet, and Microsoft Team and doubt-clearing sessions were taken in Whats App groups. During the Covid-19 pandemic, student performance was evaluated through online examinations using Google Meet.




Use of digital platform to train faculty and students at COA Bawal

**F) College of Agriculture, Kaul**

College of Agriculture, Kaul, has a magnificent infrastructure with all modern facilities to cater the academic needs of the students. The College has four lecture rooms with a seating capacity of 60 students. These four lecture rooms are converted into smart classrooms with well-equipped Interactive flat panels along with a mini PC, CCTV, power back up (UPS), digital lecture stand, podium, and other teaching aids. All the lecture rooms are accessed with WiFi internet connectivity and the students are given full right to access it. Besides the lecture room, a WiFi facility is also provided to the students in their hostels (Boys and Girls) where they can access their study material through it. Students as well as teachers can also record their lectures through the smart classroom through high-valued cameras and upload them onto the website through WiFi connectivity. Facilities for the recording of lectures are also provided in the extension lab.

The College of Agriculture, Kaul also has a fully furnished computer lab having 10 computers with printers, scanners and Mic cum headphones for students and staff of the college. The Library of college is also having a facility of computer lab where the students as well as teachers can access study material while in the library. All the computers are connected to LAN and are well equipped with the latest software. All the lecture rooms and laboratories are monitored through CCTV. The College of Agriculture, Kaul has one language lab for the students as well as for teachers to upgrade them with modern English skills and techniques. The lab consists of a 4k interactive display, thirty (30) desktops and an internet connection with language software which helps students with listening, speaking, reading and writing skills.

A well-equipped extension Lab with different audio-visual aids, like LED panels, audio mixers, digital cameras, tripods, portable PA systems, audio recording devices, *etc.* is available for practical purposes. The students can also apply online for their degree programme.

An **official email-id of CCSHAU** is provided individually to each student and employee of the University for official communication. Applications for admission to various degree programmes/ diplomas/ certificate courses/training *etc.* are also invited and accepted online. Most of the classrooms are equipped with Computers and Projectors for teaching using multi-media facilities. The University library is fully digitised and the student theses are uploaded on *KrishiKosh* of ICAR.

**6.6.1.7. Institutional Database and Website Update:** *Whether the institutional extensive database of general and specific programs in partnering with peer universities, research institutions and government agencies are available to facilitate a wide variety of intellectual interactions and exchanges? Mention the periodicity of Website updating.*

Yes. the institutional extensive database of general and specific programs in partnering with peer universities, research institutions and government agencies are available to facilitate a wide variety of intellectual interactions and exchanges and the website is updated regularly.

**Institutional Database and Website:** Depending on the specific needs, the University deploys and maintains a wide range of databases. For several programmes like Pension, CPF/GPF, Faculty Profile, and various online University events like seminars, conferences, training, and convocation organized in the University, multiple databases are stored at the University server. In the University, a centralized salary module with a SQL database has been put in place, allowing for the online preparation and processing of the salaries of all teaching and non-teaching employees.

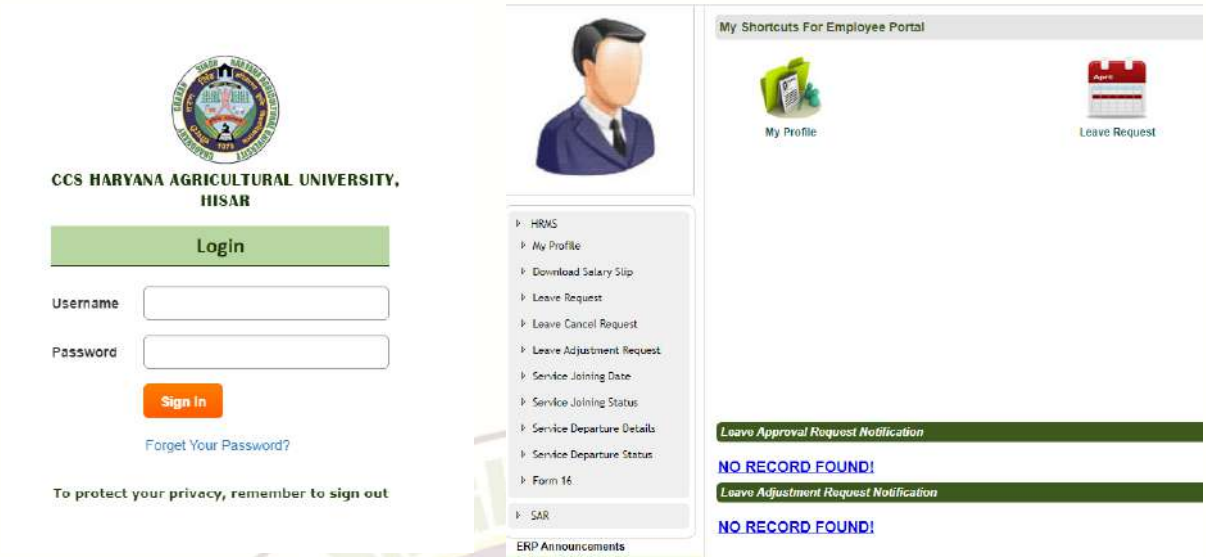
The complete result process from registration to grace marks calculation is automated as a web portal with an SQL database. All the teachers submit internal results (practical) and external examiners submit the external result online through this portal.

**Online statistical data analysis tool:** A programme called OPSTAT, an online statistical data analysis tool, has been created to serve the needs of the scientific community. Frequently new and demanding modules have been added to this tool (https://www.hau.ac.in/page/o-p-stat).

**Antiplagiarism software:** To examine the similarity index (plagiarism) for Ph.D./M.Sc. thesis and research papers, a licence for cloud-based anti-plagiarism software viz., Turnitin (http://www.turnitin.com) and Ouriginal by Turnitin (erstwhile URKUND) (https://www.ouriginal.com) has been obtained, and access has been made available to all departments and the library.

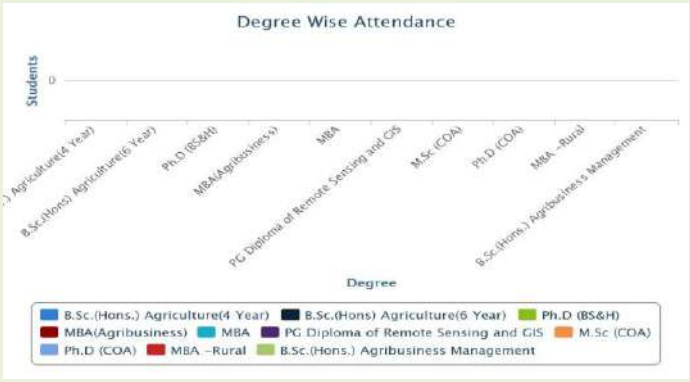
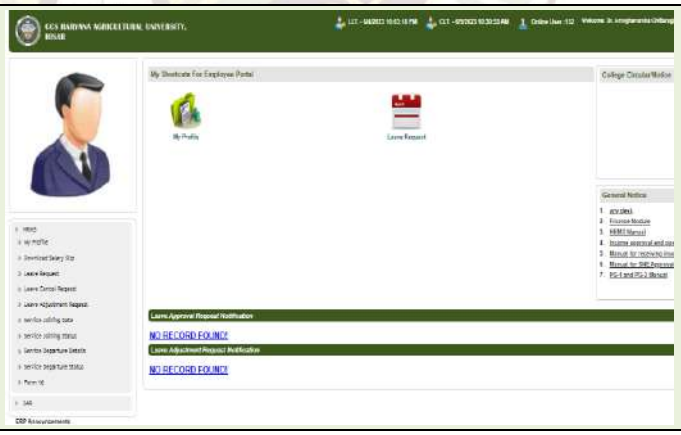
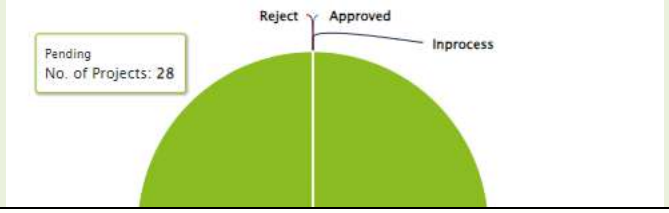
Besides this, the Haryana government portals namely HRMS (Human Resource Management Software) & PFMS (Public Financial Management System) are also used and managed by the University for various purposes.

**Integrated University Management System:** The University has purchased the Integrated University Management System (IUMS) having 19 modules (https://hauiums.in). The IUMS is web-based software for the effective management of administrative and other University management functions that are necessary to successfully handle all of the challenges of running an educational institution. IUMS provides real-time information processing and knowledge management. It is an integrated solution that facilitates the processing and maintenance of large volumes of information - including student, faculty, and staff details, and payroll and student fees across various departments in an institution. IUMS practically covers the entire area of operations and automation of the University. The system not only helps in the daily operations of the University but also provides the foundation to foster research and development on e-learning methodologies. IUMS is powered with user-friendly reports and user interface thereby ensuring maximum user efficiency. The main focus is on the integration of learning management systems, research, extension of education and university administration. The University also has on-site and off-site backups of a database of IUMS. Different roles like end-user, moderator, admin and super admin are also maintained for reliable and scalable systems to support vast areas of operation.




Integrated University Management System (IUMS)

**Modules of IUMS**

| | | |
|---|---|---|
| 1. **Student Life Cycle Modules** | | |
| a) Pre-Admission Module | |  |
| b) Admission and Academics Module | | |
| c) Student Attendance Module | | |
| d) Fee Management Module | | |
| e) Pre-Examination Module | | |
| f) Examination and Result Module | | |
| g) Student Self-Service Portal Module | | |
| **2. Financial Management Modules** | | |
| a) HRMS and Payroll Module | |  |
| b) Bill Tracking Module | | |
| c) Budget Management Module | | |
| d) PF & Pension Management Module | | |
| e) Financial Accounting Module | | |
| **3. Operations/ Administration** | | |
| a) Self-Service Portal for Employees | |  |
| b) Establishment Module | | |
| c) Farm Management Module | | |
| d) Research Management Module | | |
| e) Recruitment Module | | |

| | | |
|---|---|---|
| f) Leave Management Module | | |
| g) RTI Management Module | | |

The data of faculty and staff is available on the university website along with their specialization and departments. The student data is available to their course instructors.

**Periodicity of Website updating:** The webpage for CCSHAU, Hisar is updated every day. On a priority basis, news, tenders, and job postings are uploaded/updated on the University website. The University website also features several informative links from the government and other institutions that are updated regularly. These databases have periodic backups kept on local storage. For the benefit of researchers or the scientific community, the web is also maintained with databases for insects, mites, rice, and crop diseases.




Homepage of the University website

**6.6.1.8. Interdepartmental Linkages:** *Provide information on whether the University is currently adopting a decentralized, participatory, adaptive and multifarious demand-supply side extension-research-academics approach; involving public, private and third sector (civil society) in research and extension programmes and strengthening the capacity of farmers, researchers and extension workers. Provide a note on interdepartmental linkages the University is currently having in practice. Is the University cultivating a collaborative culture within-subject and across subjects?*

Yes. A decentralized, participative, adaptable, and multifaceted demand-supply side extension-research-academics method is being used by CCSHAU; involving public, private and third sector (civil society) in teaching, research and extension programmes and thereby strengthening the capacity of farmers, researchers and extension workers. The colleges of the University are involved in instructing undergraduate and graduate students from other constituent colleges as well as students from their colleges. Similarly, faculty from other departments collaborate to do multifaceted research that benefits the farming industry and other key stakeholders.

The University has established **linkages with line departments** of the Government of Haryana and regularly conducts workshops and meeting such as the Agricultural Officers Workshop (AOW), Horticultural Officers Workshop (HOW), Zonal Research and Extension Advisory Committee (ZERAC), Training and Visits (T&V), *etc.*in collaboration with the Government departments. The University has collaborated with various SAUs of India and International organizations such as IRRI,

ICRISAT, CIMMYT *etc.* for the improvement of extension, research and academics. Other government agencies in Haryana, including the Department of Renewable Energy (HAREDA), are working with the Department of Processing and Food Engineering, COAE&T. For the design and development of a Continuous Type Carrot Washing machine, the Department of Processing and Food Engineering is working with the private manufacturer Sanjive Jangra Engineering Works, Bahbalpur, Hisar., The Departments of the COAE&T have association with the Tractor, Irrigation, and Processing Industries for the purpose of setting up the summer and industrial training for the College's UG and PG students. The **transfer of technology** work is being undertaken in collaboration with State departments of agriculture, public and private agri-industry and NGOs.

The departments of the University collaborate with other departments to conduct **interdisciplinary research**. Faculty members working in research and extension education are also engaged in teaching and academic work. Similar to this, research faculty also engages in extension activities. Every faculty member is required by University policy to spend 30% of their time working in a field (teaching, research, or extension) other than where they are currently posted. Students are sent on visits to other institutions and urged to participate in seminars, training, and conferences at other universities to meet the demands of the dynamic job market. External experts are invited and they conduct mock interviews to develop the student's personalities and make them confident when facing interviews. They also receive instruction on public speaking, taking part in group discussions, *etc.*

In the College of Agriculture, there are different AICRP schemes which includes **multidisciplinary teams** that comprise breeders, agronomists, soil scientists, microbiologists, plant pathologists, entomologists, crop physiologists, nematologists, biochemists, *etc.* An interdisciplinary team composed of researchers from the fields of horticulture, vegetable science, food & nutrition, processing & food engineering, and the Centre of Food Science and Technology has been established to research food science and technology. Multidisciplinary teams of scientists are working on extension projects at KVKs as well. The research is planned meticulously based on the feedback from the extension faculty of the University and officers of State Agricultural Department. The suggestions of AOW's ZERAC and T&V are incorporated in the research plan by the respective departments. The heads of linked departments meet to discuss and finalize the technical programmes of the respective departments. Technical inputs from other departments are also included in the research programmes. Different committees, *i.e.*, crop protection, crop production and crop improvement have been constituted. These committees finalized the recommendations of technologies to be included in the Package of Practices.

The College of Basic Sciences & Humanities has 11 departments which have association with the constituent colleges of the University such as College of Agriculture (Plant Pathology, Entomology, Nematology, Agri. meteorology, Genetics & Plant Breeding, Agri. Extension, Agri. Economics, Soil Science, Agronomy, Vegetable Sciences and Forestry), College of Biotechnology (Molecular Biology and Biotechnology and Bioinformatics), College of Agricultural Engineering & Technology (Processing and Food Engineering, Renewable and Bioenergy Engineering, Soil and Water Engineering and Farm Machinery & Power Engineering).

College of Biotechnology has five departments namely Department of Agricultural Biotechnology, Department of Molecular Biology & Biotechnology, Department of Industrial Biotechnology, Department of Bioinformatics & Computational Biology, Department of Bio-nanotechnology. The Department of Molecular Biology & Biotechnology offers minor and supporting courses to all other departments of College of Basic sciences and Humanities as well to the College of Agriculture. For research purposes, the department works in conjunction with Department of Genetics and Plant Breeding, Entomology, Plant Pathology, Biochemistry, Microbiology, Plant Physiology and

others. The Department has collaborations with several world-leading research teams and conducts both basic and applied research. The Department is also involved in a University level NAIP-ICAR project for commercialization of technologies developed in the Department. The department has earned three patents and twelve have been filed. Training programs for students and faculty are also organized in collaboration with ICAR or under SFS scheme. The college also runs state of art commercial facility for production of micro-propagated quality planting material for farmers of Haryana as well as adjoining states. One technology on production of biodegradable plastics has also been transferred.

**Interdepartmental linkages** are established among all the five departments of the I. C. College of Home Sciences. The college has five departments, namely, Extension and Communication Management (EECM), Food and Nutrition (FN), Family Resource Management (FRM), Human Development and Family Studies (HDFS) & Textiles and Apparel Designing (TAD). The department of EECM has established linkages with different departments of the District Rural Development Agency, Local Govt. Schools, Nehru *Yuva Kendra*, ICDS officials, Various Banks for village-level functions, RHWE *etc.* The experiments on crop diversification, solar Hara *etc.* were carried out in collaboration with the technical departments of the University *viz.* Horticulture, Medicinal and Aromatics Plants, Agricultural Engineering *etc.* Technologies recommended by different departments are field tested and feedback is given for refinement. The Department of Foods and Nutrition is working with other University departments, including the Departments of Genetics and Plant Breeding (Bajra division), Processing and Food Engineering, and EECM, to conduct interdisciplinary research. The Department is also working with the Department of FN's Centre of Excellence on the processing and value addition of pearl millet, and the All India Coordinated Pearl Millet Improvement Project (AICPMIP). For the objectives of teaching, research, and extension, the department of FRM collaborates with several University departments, including those of Horticulture, Meteorology, Agronomy, Farm Machinery & Power Engineering, Textile & Apparel Design, Extension Education, and Communication Management. The Department of HDFS is collaborating with other departments of the University such as the Department of Plant Pathology, Agronomy and Soil Sciences. The department of TAD has developed Interdepartmental linkages with all four departments of the I.C. College of Home Sciences viz. Departments of FN, EECM, FRM and HDFS. The department has linkage with various scientists of relevant fields who regularly impart training to rural ladies on cutting, stitching, fabric embellishment techniques, use of discarded materials, cot bag technology and other related areas of textile and apparel designing. The Department of Processing & Food Engineering works in conjunction with other academic units at the University, including the Department of Microbiology for research projects involving the installation of automatic biogas production on a large scale and the Centre of Food Science and Technology for academic purposes such as offering minor and supporting courses at the PG level. For the installation of the Kurkure plant, the PFE Department is connected to the Food and Nutrition Department. The Department of Soil and Water Engineering collaborates with the Departments of Horticulture, Agronomy, Soil Science, and Dryland Agriculture for research activities as well as academic purposes such as giving minor and supporting courses at the PG level.

For strengthening the capacity of researchers, the University has implemented Institutional Training Programme under NAHEP-IDP. It is a special faculty and students training programme to get exposure from global institutions in area of academic and research. Several students and faculties have visited esteemed international institutions/ universities leading in different agricultural and allied sectors. This has strengthened the research quality and academic curriculum that boost the university in top most agricultural universities in India. During the period under report, 26 faculty members have visited abroad for three-months international training (**list is available under section 6.6.2.2**).

**6.6.1.9. Monitoring Mechanism:** *Whether the University is following a comprehensive curriculum monitoring mechanism including teachers' self-reflection, surveys on teaching effectiveness, lesson observation, assignment inspection, examination papers review, appraisal system, and curriculum evaluation.*

At CCSHAU, a thorough monitoring system for the curriculum is in place to make sure that it is finished in a way that assures both knowledge acquisition and satisfactory results. Here are a few mechanisms that help both UG and PG curriculum monitoring:

- At the start of semester, an **academic calendar** and a course outline are sent to the students.
- Interactive sessions, teaching charts, demonstrations, and models make the learning environment in the institute more student-centered. Presentations by individuals and groups are also invited.
- The faculty creates and prepares **special lectures** to foster in students a scientific mindset, critical thinking, and creativity.
- The faculty uses the latest smart classrooms with interactive panels, audio-visual equipment and computers for efficient instruction.
- Occasionally, professional training programmes, expert lectures, seminars, workshops, conferences, *etc.* are organized.
- The placement cell and the advisory system help the students personally and professionally.
- Discussions are interspersed with lectures. To improve teaching, faculty members are sent for advanced training on specialized topics.
- The library, which is well-equipped with an extensive selection of books and other internet amenities including *Krishi Prabha*, CeRA, and video conferencing, is recommended for use among students.
- The Vice-Chancellor, Deans and Heads of Departments conduct surprise inspections in the classrooms, and feedback from the students is obtained to assess the effectiveness of the teaching and learning process and address any concerns that may arise.
- Each lecture hall is under the surveillence of CCTV camera.
- The programme of work, synopsis and thesis work of PG students is approved by Departmental Advisory Committee and final approval is given by the Dean, PGS.
- At the end of the academic year, all faculty members submit their Self-Assessment Reports (SAR). The relevant Heads of the Departments, as well as the Dean, DR, DEE, Dean PGS and Vice-Chancellor reviews it.
- Performance of the teacher is evaluated by **Student feedback proforma**.
- The service of retired teachers/ scientists is being utilized as **consultant faculty** till the age of 63.
- The University offers refresher courses, trainings, workshops, and conferences, and teachers are also sent to other universities in **India and abroad** to participate in training in their specialized fields.

For the teaching of UG and PG students, the Deans of respective colleges evolve specific strategies and means for the monitoring of satisfactory delivery of course curriculum.

**Curriculum monitoring:**

- ✓ For the newly admitted Graduate and Post graduate students, an orientation programme is organized to inform them about the rules and regulations of the University.
- ✓ Cultural, sports and other activities are organized to provide a platform for the freshers and seniors to interact in the presence of faculty members.
- ✓ The programme of work, synopsis and thesis work of PG students is discussed in Advisory Committee Meeting and finally approved by the Dean, PGS.

**Teaching effectiveness:**

To harness the potential of experts, the lectures were delivered by the examiners who had been invited for conducting viva-voce of the PG students, organized by the HODs.

**Examination System**

- The office of Controller of Examination (COE) conducts examination under the supervision of Dean of the concerned College. The question papers of various subjects/courses are prepared from the external examiners. The answer sheets are evaluated by the teachers other than course Instructors/external examiners and the Award Lists are prepared accordingly.
- The admission to various under graduate and post graduate including Ph.D. programmes is made through Entrance Examinations. The question papers for various subjects for Entrance Tests are prepared/set from External Examiners of repute. The Entrance Tests are conducted with intensive supervision and monitoring by university authority.
- COE monitors the examination centres for smooth conduct of examinations. A Central Flying Squad is constituted by the orders of the Vice- Chancellor. This squad visits various centres for monitoring the examination for smooth conduct and fair examinations held at CCS HAU Campus including COA, Kaul & Bawal.
- An Unfair Means Committee of the University is a Central level committee which consider the cases of unfair means reported during the examinations by the concerned Dean and make suitable recommendations. The Committee consists of Three Professors (one to be nominated as Chairman by the Vice-Chancellor), Director of Students Welfare, Legal Remembrancer, Asstt. Registrar (Academics). The Controller of Examination is the Member-Secretary of this Committee.

Dean PGS periodically sends out general directions to the entire faculty to ensure the smooth operation of the postgraduate programmes (SD-IV). To review the question papers, exams, *etc.* and take any action as needed. College and university level monitoring team visits each centre for smooth conduct of exams, surprise checks are made by Dean PGS during credit and thesis seminars (SD-V).

**Appraisal System**

After passing the written exam, the student must show up for a preliminary viva voce examination, which will be led by members of the advisory committee and an outside examiner. Before oral comprehensive examination a mock viva voce is done at the level of the department by the Committee constituted by HOD along with the Major advisor.

**Curriculum evaluation:**

The RIC in its 213$^{th}$ meeting held on 03.04.2023 recommended the course syllabi, course curricula and nomenclature has been finalized as per BSMA and has been approved by Academic Council in its 493$^{rd}$ meeting held on 25 May 2023.

**Tutorial System:**

The University has implemented a tutorial system. Throughout the degree programme, this system serves the groups of students associated with the faculty. Generally, ten students from each class make up a tutorial group of students. This group has one faculty member as an advisor who calls the weekly tutorial group meetings. At these meetings, the faculty member discusses the students' activities during the previous week, their performance, and any issues they may have had in understanding the lectures, hostels' life, extracurricular activities, sports, and other topics. The faculty also speaks with the parents of their tutees/students and inquires about how their children feel about the class, the professors, campus life, *etc.*

**Monitoring of teaching, research and extension**

**a) Monitoring of teaching**

- ✓ The Dean, DR, DEE, DPGS, and VC analyze each teacher's **self-appraisal report**.
- ✓ The evaluation of teachers using student feedback forms.
- ✓ The Advisory Committee, HOD, and Dean, PGS all approve the PG students' work schedules, synopses, and thesis before they are officially authorised.
- ✓ To receive feedback from the departmental professors, PG students present synopsis seminars in their departments.
- ✓ Before being submitted to the Dean of PGS for final approval, the synopsis is internally examined.
- ✓ CCTV has been installed in every lecture hall for surveillence.

**b) Monitoring of research**

- ✓ The professors and heads frequently visit the labs and research sites.
- ✓ To assess and monitor the research work done in all the departments, the Annual Technical Programme meetings are held under the chairmanship of the Director of Research, along with ADR, Dean COA, and HODs of the respective and associated departments.
- ✓ The teachers' action plans for their research projects are also reviewed and finalized.
- ✓ Meetings are organized to review the research effort at midterm appraisal.
- ✓ The supervising authority given its approval to the trip schedules and programmes.
- ✓ Teachers' self-reflection is monitored by HOD followed by the controlling officer which is finally approved by the Vice-Chancellor.
- ✓ Research/Extension effectiveness is monitored through OFT/FLD and survey by the concerned department itself or by the Department of Extension Education, Department of Agricultural Economics, Department of Sociology and Extension Education & Communication Management either through the experiments by the scientist or through students' research problems.

**c) Monitoring of extension**

- ✓ Directorate of Extension Education is following a comprehensive monitoring mechanism through various review meeting of all the KVKs and all the units [(ADT, AD(E), ATIC, AD(P) and EEI, Nilokheri)]" chaired by the Director Extension Education as well as by the Vice-Chancellor on some occasions.

- ✓ In Monthly Review Meetings, Senior Coordinators/Coordinators, and Unit In charges present the various activities conducted during the last month and plan the work for next month. All the activities of KVKs/Units are monitored and evaluated in the meeting.

**6.6.1.10. Institute Quality Assurance Cell /PME Cell:** *Please mention the establishment and the active functioning of both the cells and the kind of outcome-based assignment presently being carried out through these cells.*

**Project Monitoring and Evaluation Cell (PME)/ Project Monitoring Committee (PMC):**

The Project Monitoring and Evaluation (PME) Cell was constituted in the University vide memo No.PAE/2011/A.1/130-36 dated 22/04/2011. Subsequently, the PME Cell was reconstituted many times by the competent authority. Recently, the PME Cell has again reconstituted vide Memo No. DR/B.1/2022/7284-7306 dated 7.12.2022. Following members were approved in the PME Cell.

| | |
|---|---|
| OSD to Vice-Chancellor | Coordinator |
| Director of Research | Member |
| Concerned Dean/Assoc. Dean | Member |
| Concerned Head of the Department | Member |
| Addl. Director of Research | Convener |
| PI & Co-PI | |
| One person of Accounts (to be nominated by DR) | |
| Head of the Departments of the related discipline as a special invitee. | |

**Activities of PME Cell**

- Monitoring and review of the progress of various projects from different funding agencies like ICAR, RKVY, ICRISAT, IRRI, CIMMYT *etc.* are regularly done.
- The timely utilization of funds to achieve the desired project goals and timely submission of utilization certificate ensured by the PIs.
- Research programmes under AICRP of ICAR monitored regularly by HODs for timely completion of programme activities.
- Scientists are encouraged to submit research project proposals to funding agencies in India and abroad. Efforts are made to explore collaboration with CGIAR institutes for research work in frontier areas.

**The following PMC meetings were held for the last five years (i.e. from 2018 to till date):**

| Sr. No | Date of Meeting | No. of project(s) recommended |
|---|---|---|
| **1.** | 16.04.2018 | 1 |
| **2.** | 17.04.2018 | 7 |
| **3.** | 29.05.2018 | 4 |
| **4.** | 09.08.2018 | 9 |
| **5.** | 06. 09.2018 | 3 |
| **6.** | 08.10.2018 | 7 |
| **7.** | 28.11.2018 | 3 |
| **8.** | 24.01.2019 | 12 |
| **9.** | 26.04.2019 | 36 |

| | | |
|---|---|---|
| **10.** | 13.09.2019 | 15 |
| **11.** | 13.12.2022 | 15 |
| **12.** | 19.01.2023 | 17 |
| **13.** | 17.03.2023 | 11 |

**The proceedings of the meetings of the PMC held during the last five years are attached as SD-VI*

**Meeting outcome**

Total of 13 meetings were conducted in the last 5 years to evaluate the various components of the research projects (**140 projects**) that are received from the different Departments of the University. In the PMC meeting, the committee evaluates the research projects and approves them for submission to the concerned funding agency.

**6.6.1.11. Collaboration with Academic Institutions and Industry:** *What type and how much collaboration are currently in place with academic institutions and industry? Does the University have some more proposals for future collaboration? Give details with road map.*

Over time, rather than being purely individual pursuits, agricultural research, teaching, and extension have evolved to be multidisciplinary. The coordinated activities cover a wide range of issues and disciplines to expand scientific understanding and make advances in ways to take care of regional issues. For considering the proposals for collaboration with academic institutions and industry, the University has an MoU Committee constituted by the Vice-Chancellor. The Committee consists of the following:

| | | |
|---|---|---|
| 1. | Director, HRM | Chairperson |
| 2. | Registrar | Member |
| 3. | Comptroller | Member |
| 4. | Director of Research | Member |
| 5. | Dean, College of Agriculture | Member |
| 6. | Dean, College of Basic Sciences & Humanities | Member |
| 7. | Dean, PGS | VC Nominee |
| 8. | Incharge, Legal Cell | Member |
| 9. | Controlling Officer /HOD (for related MoU only) | Member |
| 10. | Incharge, International Affairs (for International MoUs only) | Member |
| 11. | Incharge IPR Cell and BPD unit (related MoUs only) | Member |
| 12. | Prof. Atul Dhingra | Member |




Signing of MoU with different institutions

During the period of report, the University has entered into several collaborative agreements with national and international organizations for cooperation in the fields of agricultural education, research and extension through the exchange of students, scientists and technologies which are listed below.

**National MoUs**

| Sr. No. | Name of Organization | Date of signing MoU (Duration) | Type of Collaboration |
|---|---|---|---|
| 1. | ICAR- Indian Institute of Pulse Research MoU, Kanpur | 03.02.2018<br>Co-terminus with the project | For research project |
| 2. | Umbrella Memorandum of Understanding Between ICAR and host Institutions | 12.03.2018<br>Continue | For cooperation in Agricultural Research and Education |
| 3. | Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar | 11-6-2018<br>10 years | For cooperation in Agricultural Research and Education |
| 4. | Swami Vivekanand Subharti University, Meerut | 25-08-2018<br>5 years | For cooperation in Agricultural Research and Education |
| 5. | National Research Centre on Equines, Hisar | 5-1-2019<br>3 years (Renewal under process) | For cooperation in Agricultural Research and Education |
| 6. | Central Soil Salinity Research Institute, Karnal | 24-01-2019<br>5 years | For cooperation in Agricultural Research and Education |
| 7. | Indian Institute of Wheat & Barley Research, Karnal | 13-03-2019<br>5 years | For cooperation in Agricultural Research and Education |
| 8. | ICAR-Indian Institute of Millets Research, Hyderabad | 31-05-2019<br>5 years | For cooperation in Agricultural Research and Education |
| 9. | JSW IP Holdings Pvt. Ltd. | 24.12.2018<br>3 years (Terminated) | Renovation, refurbishment and upgradation of the Giri centre for Students' Welfare and Activities of CCS HAU |
| 10. | Department of Agriculutre and Farmers' Welfare Government of Haryana | 8-07-2019<br>3 years (Terminated) | Enhancing capacities of stake holders for implementing and sustaining the climate change adaptation strategies through trainings |
| 11. | Letter of Agreement between India Meteorological Department, Ministry of Earth Sciences, Govt. of India and CCS HAU, Hisar | 20-07-2019<br>3 years (Terminated) | Establishment of Black carbon aerosol monitoring system |
| 12. | Central Institute of Research Buffaloes (CIRB), Hisar | 10-10-2019 | For cooperation in Agricultural Research and Education |
| 13. | National Research Development Corporation (NRDC) | 10-10-2019<br>5 years | For cooperation in Agricultural Research and Education |
| 14. | National Agri-Food Biotechnology Institute (NABI), Mohali | 03-10-2019<br>5 years | For cooperation in Agricultural Research and Education |
| 15. | Punjab National Bank Farmers Training Cenre (PNB-FTC),Sacha Khera District, Jind (Haryana) | 12-12-2019<br>2 years (Renewal under process) | Establish relations between farm training services divisions and create facilities for imparting quality training to farmers |
| 16. | National Bureau of Fish Genetic Resources, Lucknow | 20-12-2019<br>5 years | For cooperation in Agricultural Research and Education |
| 17. | Indian Institute of Natural Resins and Gums, Ranchi | 07-01-2020<br>5 years | For cooperation in Agricultural Research and Education |
| 18. | Central Sheep and Wool Research Institute, | 31-12-2019 | For cooperation in Agricultural |

| | | | |
|---|---|---|---|
| | Avikanagar Rajasthan | 10 years | Research and Education |
| 19. | Amity Universities and Institutions | 17.01.2020<br>5 years | For cooperation in Agricultural Research and Education |
| 20. | Petroleum Conservation Research Association, New Delhi | 06.02.2020<br>3 years | To participate in *Kisan Mela*, Agriculture Workshops and Seminars |
| 21. | Eternal University, Baru Sahib, HP | 13.07.2020<br>5 years | For cooperation in Agricultural Research and Education |
| 22. | ICAR-Indian Institute of Maize Research, Ludhiana, Punjab | 09.02.2021<br>5 years | For cooperation in Agricultural Research and Education |
| 23. | India Meteorological Department, Ministry of Earth Sciences, Govt. of India and CCS HAU, Hisar | 22.09.2021<br>5 years | For cooperation in Agricultural Research and Education |
| 24. | Shri Krishna Ayush University, Kurukshetra | 27.12.2021<br>5 years | For cooperation in Agricultural Research and Education |
| 25. | Guru Jambheshwar University of Science and Technology, Hisar | 27.06.2022<br>Until either of the parties intends to terminate it | For cooperation in Agricultural Research and Education |
| 26. | International Potato Centre, New Delhi | 29.06.2022<br>5 years | For cooperation in Agricultural Research and Education |
| 27. | International Rice Research Institute, Varanasi | 11.07.2022<br>5 years | For cooperation in Agricultural Research and Education |
| 28. | Maharana Partap Horticultural University, Karnal | 2022<br>2 years | For academic collaboration |
| 29. | State Bank of India | 15.07.2022<br>5 years | Pension Payment |
| 30. | International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru Telangana State | 23.02.2023<br>5 years | For cooperation in Agricultural Research and Education |
| 31. | Indian Council for Cultural relations (ICCR), Ministry of External Affairs, Govt. of India | February 2023<br>3 years | For academic collaboration |

**International MoUs**

| Sr. No. | Name of Organization | Date of signing MoU (Duration) | Type of Collaboration |
|---|---|---|---|
| **1.** | Agriculture and Forestry University, Rampur Chitwan, Nepal | 3-2-2018<br>5 years | For cooperation in Agricultural Research and Education |
| **2.** | Indus Forum, Netherland | 24-05-2018 | Valorisation of paddy straw |
| **3.** | Michigan State University, USA | 31-05-2018<br>5 years | For cooperation in Agricultural Research and Education |
| **4.** | National Chung Cheng University, Taiwan | 20-06-2018<br>5 years | For cooperation in Agricultural Research and Education |
| **5.** | Czech University of Life Sciences, Prague, Czech Republic | 07-09-2018<br>5 years | For cooperation in Agricultural Research and Education |
| **6.** | S. Toraighyrov Pavlodar State University | 10-10-2018 | For cooperation in Agricultural |

| | | | |
|---|---|---|---|
| | of Pavlodar, Kazakhstan | 5 Years | Research and Education |
| **7.** | Western Sydney University, Australia | 27-11-2018<br>5 years | For cooperation in Agricultural Research and Education |
| **8.** | UTP University of Science & Technology in BYDGOSZCZ, Poland | 05-08-2019<br>5 years | For cooperation in Agricultural Research and Education |
| **9.** | Virginia Polytechnic Institute and State University (Virginia Tech) Blacksburg, Virginia, USA | 7-8-2019<br>3 years | For cooperation in Agricultural Research and Education |
| **10.** | Kabul University, Kabul, Afghanistan | 16-08-2019<br>3 years | For cooperation in Agricultural Research and Education |
| **11.** | University Guleph, Canada | 28-11-2019<br>3 years | For cooperation in Agricultural Research and Education |
| **12.** | University of Western Australia, Perth, Australia | 16.12.2019<br>5 years | For cooperation in Agricultural Research and Education |
| **13.** | Massey University, New Zealand | 13.10.2020<br>5 years | For cooperation in Agricultural Research and Education |
| **14.** | International Fertilizer Development Centre, USA | 9.9.2021<br>5 years | For cooperation in Agricultural Research and Education |
| **15.** | Partnership agreement for dual award and higher degree research candidature- Master of Research with Western Sydney University, Australia | October 2022<br>5 years | For cooperation in Education |
| **16.** | Combined partnership agreement for dual award and higher degree research candidature- Master of Research, Doctor of Philosophy pathway and Doctor of Philosophy with Western Sydney University, Australia | November 2022 | For cooperation in Education |

**Collaboration with Industry**

The Business Planning and Development (BPD) Unit of the Directorate of Human Resource Management has been taking action to commercialize the technology created by the University. During the period under report, The Unit has played a key role in securing 56 Non-Exclusive Licence Agreements/MoUs with more than 50 illustrious businesses in Haryana, Punjab, Rajasthan, Uttar Pradesh, Delhi, Andhra Pradesh and Telangana for the production and marketing of 14 University technologies, including 4 hybrids of Maize, 3 hybrids of Bajra, two varieties of Raya, one variety each of Wheat, Moong, Sorghum, Onion, and Oats.

| Sr. No | Product/Process/Technology/area of agreement | No. of Agreements |
|---|---|---|
| 1 | Maize Hybrids<br>HQPM 1, HQPM 4, HQPM 5 & HQPM 7 | 01 |
| 2 | Bajra Hybrids<br>HHB 67 (Improved), HHB 299, HHB 311 | 05 |
| 3 | Wheat Varieties<br>WH 1270 | 31 |
| 4 | Raya Variety<br>RH 725, RH 761 | 05 |
| 5 | Moong Variety<br>MH 1142 | 01 |
| 6 | Sorghum Variety | 01 |

| | | |
|---|---|---|
| | CSV44F | |
| 7 | Onion Variety<br>HOS3 | 01 |
| 8 | Oats Variety<br>OS 405 | 01 |
| 9 | Incubation | 01 |
| 10 | Public Sector | 03 |
| 11 | PPP Mode | 02 |
| 12 | R&D Agreements | 04 |
| 13 | Total | 56 |
| | | |

**Road Map for Future Collaborations**

To share and familiarize its faculty and students with international best practices, the University is concentrating on national and international partnerships with famous institutions. Thirty-one MoUs were signed with national organizations for academic and research cooperation during the reporting year, and 16 MoUs/LOIs were signed with international organizations such as University of Western Australia, Massey University, New Zealand, Western Sydney University, Australia, Michigan State University, USA *etc.*, for academic cooperation. To enhance the capacity of teachers, students, and other stakeholders, the initiative will be taken to collaborate with top public and private institutions through training, seminars and workshops.

To the advantage of farmers, the University will hasten the process of commercialization and pilot/large-scale production of promising and feasible innovations to the public and private sector firms. Various institutions are interested in working together on projects involving vegetable grafting, Schizont Cell Culture vaccines, sorghum varieties, and fertilizer technologies. To achieve its goals of technology licencing and capacity building, the University's BPD Unit intends to organize several programmes to entice businesses and entrepreneurs.

### 6.6.2 Academic Support

**6.6.2.1. Academic Council:** *Provide the composition and date of Academic Council Meetings held in last five years along with ATRs.*

The composition of the Academic Council as per section 23(3) of HPAU Act & Statutes is as under:

a. The Vice-Chancellor
b. The Deans of the Colleges of University
c. The Dean of Post Graduate Studies
d. The Director of Extension Education
e. The Director of Research
f. The Head of one Department from each college, to be selected by the respective college

As per Clause-2(1) of Chapter-II of Act & Statutes, the Vice-Chancellor shall also have the power to co-opt such Heads of Departments, as may be considered necessary for any particular meeting of the Academic Council under Section 23(2)(b) of HPAU Act, 1970.

During the last five years, the meetings of the Academic Council were held as under: -

1. 476th dated 05.04.2018
2. 477th dated 11.04.2018
3. 478th dated 05.07.2018
4. 479th dated 27.10.2018
5. 480th dated 28.02.2019
6. 481st dated 18.04.2019
7. 482nd dated 28.08.2019
8. 483rd dated 10.12.2019
9. 484th dated 13.03.2020
10. 485th dated 07.08.2020
11. 486th dated 08.03.2021
12. 487th dated 24.03.2021
13. 488th dated 25.06.2021
14. 489th dated 27.08.2021
15. 490th dated 09.06.2022
16. 491st dated 02.07.2022
17. 492nd dated 09.12.2022

**The Proceedings and Action taken Reports are available as SD-VII**

**6.6.2.2. Innovation and Best Practices:** *An innovative practice could be a pathway created to further the interest of the student and the institution, for internal quality assurance, inclusive practices and stakeholder relationships. What are the innovative efforts of an institution that help in its academic excellence?*

Innovative practices in an educational institution should be productive, and must incorporate student-centered processes that enable students to participate actively in their learning in a safe atmosphere. For knowledge acquisition to be broadened, a student must be able to engage in authentic and relatable problem-solving activities through advances in teaching-learning methodologies. The best educational methods must be able to develop pupils' creative potential. Teachers and students at CCSHAU welcome fresh perspectives and quickly apply them to all facets of education, i.e., teaching, research, and extension. University has established an IPR Cell to protect the innovations from various research activities of students.

In order to create academic excellence among students and to provide them the best practical exposure to ongoing research activities in their own and relevant subjects, the University has taken various initiatives including exposure visits, experiential learning programmes, trainings, student exchange at national and international institutes, collaboration with industries, signing of various MoUs and upgradation of existing facilities in addition to organizing various activities throughout the year.

**An overview of such innovations and best practices is given below.**

- Exposure of students to foreign Universities under NAHEP-IDP programme
- Experiential Learning Programmes to get the students acquainted with experience-based learning and to learn entrepreneurial skills by selling their products through HAU Mart
- Use of ICT in teaching and learning
- Student & faculty exchange programme under the projects like SPARC
- Under student exchange programme for academic excellence in Post Graduate Studies, CCSHAU, Hisar has signed MoU with Punjab Agricultural University, Ludhiana for students exchange in first semester of Ph.D. students in four disciplines i.e., Agronomy, Soil Science, Entomology and Microbiology. The students admitted in these departments stay at Ludhiana for 1st Semester of Ph.D. and study defined courses
- MoUs with the various ICAR institutes have been signed for collaboration in Post Graduate research
- An International Cell has especially been established in the university to facilitate the international students and develop collaboration with prestigious international universities /institutions to strengthen research and academic activities globally. Sixty-seven students were studying in various colleges of the university during period under report.
- The faculty/scientists working in other Govt. Institutes/Universities can be included as additional major & co-major in the Advisory Committee of PG students
- A provision has been made to utilize expertise of external examiners to deliver specialized lectures in the departments, when invited by Dean, PGS for viva-voce of PG students.
- Courses have been revamped and curriculum revised to keep up with changing trends and demands both from students and the industry as well as to give boost to the number of students opting different disciplines for professional electives.
- The faculty of the University combines traditional and modern methods for imparting education. PPTs of course lectures and teaching manuals have been developed for UG and PG students and uploaded on the e-portal for ready access.
- Students are given exposure in computer applications, e-learning, multimedia applications and handling of teaching equipment. Department of EECM, IC COHS has developed media in the form of video films, posters, charts, leaflets etc. on various topics for women empowerment.
- Under graduate seminars are also conducted during the degree programme and presented using multimedia projector. In majority of the courses, students are given assignments and are required to give presentations for building confidence.
- Study tours for UG and PG students to renowned institutions, including IARI, NDRI, the NASC complex and the top institutions in a discipline, were routinely arranged to acquaint students with current advancements in their fields of specialization or interest. Besides this, exposure is provided to students through skill training and demonstrations, such as the evaluation of farm and agro-processing equipment and the installation of drip irrigation systems.
- For identification of various medicinal and aromatic plants by UG and PG students, Herbal Garden is being maintained at Research Farm of MAP Section and Botanical Garden.
- Students are also given exposure to various skill development programmes through skill trainings and demonstrations like bakery and confectionery products, educational material, personality development, video production, auto CAD, interior decoration, and creative arts etc.

- Students are encouraged to apply their theoretical knowledge by organizing activities in their respective fields for the benefit of the society. Various enrichment talks, workshops/seminars/extension lectures, classes are organized for the holistic development of students. For promoting and enhancing teaching-learning environment, innovative approaches including use of assignments, research-based project work, field visits, focused group discussions, debate and declamation, quiz competitions, slogan and poster writing competitions are being adopted in the University.
- The students of agriculture undergo Rural Agriculture Work Experience (RAWE) which focuses on strengthening capacity of individual students so that they can respond to the farmers' needs and address issues related to such needs in their professional career.
- UG students of Community Science spend three months 'in-plant' training to gain practical exposure. Also, students gain knowledge of indigenous rural practices through IAHS. Various Campaigns like- Health Campaign, Population and Family Campaign, Consumer Day, Health and Hygiene Campaign and Drudgery Reducing Technologies Campaign etc. were organized to acquaint the students working with rural masses in order to improve their livelihoods.
- The University also encourages its staff to update their knowledge and skill through refresher courses, attending/participating in conferences and faculty development workshops.
- Dr. Mangal Sein Agricultural Sciences Museum was established in 2022 for providing an overview of agricultural developments.
- Joint MReS (Masters Research) and Dual Degree Ph.D. Programme: CCSHAU and WSU have started dual degree Programme, MReS for Masters and direct Ph.D. Dual Degree Programme. From CCSHAU, three students from disciplines of Foods & Nutrition, Entomology and Soil Science, respectively, were selected for pursuing Ph.D. research work at Western Sydney University, Australia.



Partnership agreement for dual award and higher degree research candidature- Master of Research Between CCSHAU and Western Sydney University, Australia at WSU, Australia

- Three students have been selected for their UG/PG/PhD program to complete their degree program with scholarship funded by Tokyo NODAI.
- Students were selected to participate in international student summit under Tokyo International Students Summit (ISS) open call. Five students of CCSHAU have successfully participated in ISS.

- During the period of report, CCSHAU has entered into collaborative agreements with 31 national and 16 international organizations for cooperation in the fields of agricultural education, research and extension through exchange of students, scientists and technologies (List given under section **6.6.1.11**).
- Initiative have been taken to join hands with leading institutions of public and private sector for capacity building of faculty, students and other stake holders through trainings, seminars, workshops etc.

**Protection of innovations under Intellectual Property Rights**

The University has a fully functional IPR Cell at Directorate of Human Resource Management. The cell has organized awareness programs on IP management for faculty members and students of the university. The University has so far submitted 63 patent/protection applications for its intellectual properties, 39 IPRs have been protected/granted (List given under section **6.6.3**). During the period of report, university has filed 47 IPR applications and has been awarded with IP rights for 24 innovations.

**Academic excellence by organizing lectures/ workshops/ trainings/ webinars/ seminars/brain storming session organized (offline/online)**

**Trainings Conducted under IDP NAHEP during the period under report**

| S. No. | Activities |
|---|---|
| 1. | Launch Workshop of the Institutional Development Plan (IDP) sub-project entitled "Strengthening Institutional Capacity to Produce Skilled Professionals for Market Driven Agriculture" at Haryana Raj Bhavan, Chandigarh on May 31, 2018. |
| 2. | Indo-US Brainstorming Workshop on 'Identification of Industry Needs and Skill Gaps for Market Driven Agriculture' was held on September 14-15, 2018 in College of Agriculture, CCSHAU Hisar. The participants included students and faculty from CCSHAU, industry representatives and delegates from Michigan State University (MSU), USA. |
| |  |
| 3. | A lecture-cum-field demonstration of "Uses of drone technology in agriculture" was organized in the Department of Agronomy, College of Agriculture by Bayer Crop Science and Lotech Avigation Pvt. Ltd., Gurugram, Haryana on December 9, 2019. There was a demonstration of application of herbicide through drone in one acre of wheat sown plot at experimental field area of Agronomy Department. |



Field demonstration of uses of drone technology in agriculture

4. Industry conclave as 'New Placement Avenues in Agriculture' was organized on February 13-14, 2020 and was attended by about 500 delegates, which included industry delegates, scientists from various universities including CCSHAU faculty and students.



Dr. Paramjeet Singh, Principal Director RCED, Chandigarh delivered presentation on entrepreneurship



Interactive session with university students

5. Two days training on 'How to make Successful Start-Up' was organized at Agribusiness Incubation Centre (ABIC), CCSHAU Hisar on February 26-27, 2020. In this training programme, students were sensitised on "How to Setup an Agri Enterprise" & "Enterprise and Risk" and what are the different ways to enter into entrepreneurship, what are the requirements, how to deal with challenges and competition, various ways of market research, how to take calculative decision keeping in mind about the certain and uncertain risk.




Participants during training on 'How to make Successful Start-Up'

6. I.C. College of Home Sciences, CCSHAU, Hisar organized two training Programme on "Enhancement of designing competencies with ICT tools" for UG students on February 24-March 4, 2020 and February 26- March 6, 2020.





Participants during training Programme on "Enhancement of designing competencies with ICT tools"

7. Two days training on 'How to Setup New Agri Enterprise' was organized at Agribusiness Incubation Centre, CCSHAU Hisar on February 29-March 01, 2020. Various opportunities in agriculture which can be converted into a profit-making business idea with the help of market and social research were discussed at length during the training programme.





Participants during training on 'How to Setup New Agri Enterprise'

8. Two days training on "Design for future" was organized by Directorate of Student's Welfare, CCSHAU Hisar on February 28-29, 2020. The design methodology for the development of self-optimizing systems consisting of a reference process, methods, and tools were discussed in detail.




Participants during training on "Design for future"

9. Two days training on "Success factor for an Enterprise" was organized at Agribusiness Incubation Centre, CCSHAU Hisar on February 29–March 01, 2020. Students learnt about the Role of Women in Entrepreneurship.



Participants and lectures during training programme

10. One day training on "Agro forestry System" in two batches in collaboration with College of Agriculture Kaul on March 2-3, 2020, to expose the students about the best features of agriculture and tree planting.




Participants during training Programme

11. One day training programme on "Organic Agriculture" on March 3, 2020 at Agribusiness Incubation Centre, CCSHAU Hisar. The objective of this training was to make the students aware about the indiscriminate use of pesticide in agriculture and health benefits of products developed organically

12. Training on 'Mushroom cultivation' was conducted in the Department of Plant Pathology from February 29-March 1, 2020.

13. A three days webinar training on 'Personality Development' on May 5-7, 2020 for UG students was organized at COA, Bawal.

14. Online training on "Role of Agribusiness Sector and Market intelligence in Enhancing Farmers Income" was organized at COA, Kaul on May 12-13, 2020.

15. Online workshop was organized at COA, Bawal on "Effective Communication and Interpersonal Skills "from May 18-21, 2020 for Undergraduate students through ZOOM cloud platform.

16. Directorate of Students Welfare, CCSHAU, Hisar organized an online competition for poster making, collage making and photography on June 10-12, 2020.

17. Webinar on "Value Addition of Horticultural crops: A way to Entrepreneurship" was organized by Saina Nehwal Institution of Agricultural Technology Training and Education on July 01-04, 2020.

18. One day Online training on topic "Adding Meaning to Nutritional data" was organized by the Department of Foods and Nutrition, IC COHS on July 5, 2020. Ms. Gurdeep Kaur, Dietitian (Department of Dietetics AIIMS, New Delhi) guided the students about the use of software Dietcal.

19. International Webinar was organized on 'Combating Hidden Hunger-Obstacles & Interventions for Sustainability' by the Department of Foods and Nutrition, IC COHS, CCSHAU, on September 19, 2020.

20. Department of Farm Machinery & Power Engineering (COAE&T) organized a webinar on 'Engineering interventions to curb the menace of stubble burning in Haryana' on October 29, 2020.

**Workshops/ trainings conducted with support from university/other agencies during period under report**

1. Visit of International delegates with RAWE students at farmer field on September 15, 2018. International delegates from Michigan State University, USA visited a farmer's field with RAWE students. RAWE provides exposure to agricultural students to the natural setting of the village situations, work with the farm families, identify their problems and make use of various extension tools for transferring the latest agricultural technologies.

2. Lecture on "Opportunities for higher education in Canada" by Prof. Malcom M. Campbell, University of Guelph on November 28, 2019.




Participants during training Programme

3. Interactive Session On "Seed Quality Testing and Opportunity for Higher Education in New Zealand" by Dr. Craig McGill and Dr. Svetla Sofkova, Massey University, New Zealand on November 30, 2019.




Participants during interactive session

4. Lecture on "Biomass conversion: Technology based Agripreneural opportunities" by Prof. Shabaddine Sokhansanj, University of British Columbia, Canada on November 30, 2019.



Interactive session during lecture by Prof. Shabaddine Sokhansanj

5. Guest lecture on "Weeding, Precision Agriculture, Automation and Robotics" by Dr. Vijay Singh, University of Virginia Tech, USA on December 20, 2019.




Interactive session during lecture by Dr. Vijay Singh at COAE&T

6. Interactive session on 'Opportunities for higher education in United Kingdom' by Dr. Ratan Yadav, Aberystwyth University, UK on February 14, 2020.




Participants during interactive session

7. Three trainings of two-week duration each were organized on 'Communication Skill for Effective Public Speaking' from February 17-29, February 18-March 2, and February 19-March 3, 2020





Participants during training programmes

8. Five training program (one-week each) on "Robotics and Automation" were conducted starting from February 25, 2020, at College of Agricultural Engineering & Technology, CCSHAU, Hisar.



Distribution of kits for Robotics and Automation Training

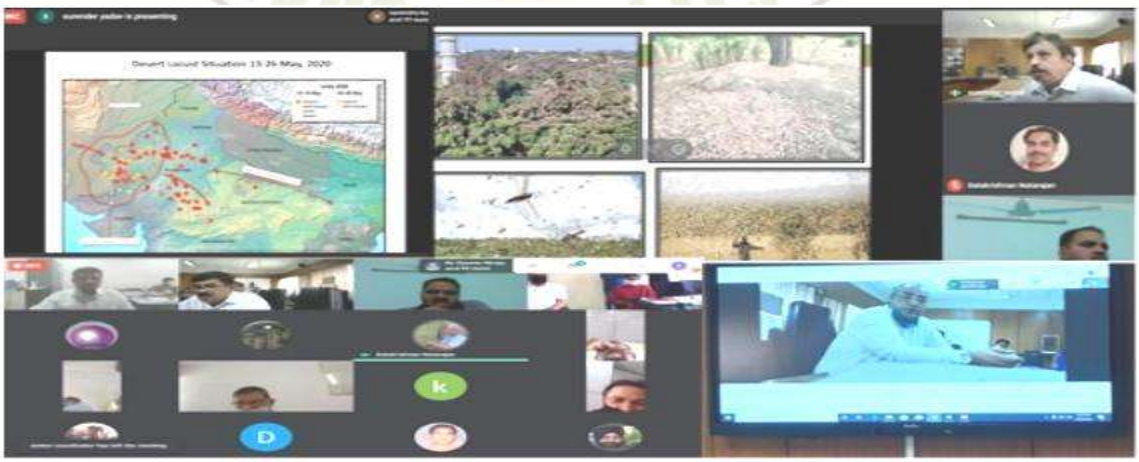
9. Training of ten days duration on 'Enhancement of handicrafts skills for entrepreneurship development' was organized for UG students of CCSHAU, Hisar from March 6-18, 2020.



Evaluation of handicrafts by director Research cum PI IDP development during training

10. A webinar designed especially for UG students entitled "Introduction to MATLAB and its application" was organized by College of Agricultural Engineering & Technology, CCSHAU, Hisar from April 27-29, 2020 during Covid-19 lockdown period using Google Meet.

11. National webinar on "Locust: A serious threat to Agriculture" was conducted on May 29, 2020.



Glimpses of the "National webinar on "Locust: A serious threat to Agriculture"

12. Webinar on 'Impact of COVID-19 on Agricultural Education' was conducted on June 01, 2020

13. International webinar on "International Funding for Young Researchers- An Opportunity" on July 11, 2020 for Scientists and students.

14. "Online International training on Climate Change" was conducted in lecture series on July 16, 23, 30 and August 6, 2020.

15. Webinar on "Nematode problem in Horticultural Crops and their Management" was organized on August 09, 2020.

16. Three days Virtual workshop on "Digital Library Frame Work for Strengthening Agricultural Knowledge" on February 17-19, 2021 was conducted through ZOOM platform.




Participants and lectures during training programme

17. Online webinar on "Minerals: Their absorption and interaction with other nutrients" was conducted by Department of Foods and Nutrition, I.C. College of Home Sciences in collaboration with the Society "Food Matters" on April 15, 2021.

18. An online webinar on "Methods for estimating requirements and RDA of different nutrients for different age groups and physiological states" was conducted on May 6, 2021 by Department of Foods and Nutrition, I.C. College of Home Sciences in collaboration with the Society "Food Matters".

19. An online webinar was organized on the occasion of "World Hepatitis Day" on July 28, 2021. The key speakers of this webinar were Dr. Veenu Sangwan and Dr. Urvashi Nandal from CCSHAU, Hisar.

20. One day awareness workshop was organized at the Directorate of Students Welfare, CCSHAU on 'Development of soft skills for entrepreneurship among Agri-graduates' in collaboration of ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad on December 02, 2021

.

21. An orientation programme for undergraduate students selected for international training was held on December 17, 2022 in the auditorium of COA.




Participants during orientation training programme

| | |
|---|---|
| 22. | College of Agricultural Engineering & Technology, CCSHAU, Hisar organized a three months online certificate course on "Design, Installation, Operation and Maintenance of Protected Structures" starting on November 13, 2021 |
| 23. | A training programme on 'Skill Development in Apparel Designing' was organized for SC/ST students of IC COHS on March 7-16, 2022 |
| 24. | A workshop on Capacity Building of Young Researchers for carrying out nutrition research was organized on August 25-26, 2022 at IC COHS, CCSHAU, Hisar |

- Various other training programmes organized for the students of the University is covered under Student development activities section **(6.6.6.5)** and Global support section **(6.6.3.7)**

With a view to enhancing the skills of students for bringing in innovations, lecture rooms and laboratories were upgraded

**Laboratories upgraded**

1. Post Graduate lab, Department of Genetics & Plant breeding, College of Agriculture, CCSHAU
2. Laboratory no. 57, Department of Nematology, College of Agriculture, CCSHAU
3. Laboratory no. 430, Department of Biochemistry, COBS&H, CCSHAU
4. Advanced computing lab, Department of Mathematics & Statistics, COBS&H, CCSHAU
5. Food Analysis Lab No. 38, Food Nutrition, IC COHS, CCSHAU
6. Farm Power Laboratory, COAE&T, CCSHAU
7. Farm Machinery Laboratory, COAE&T, CCSHAU
8. Irrigation & Drainage Engineering Laboratory, COAE&T, CCSHAU
9. Electrical Engineering Laboratory, COAE&T, CCSHAU
10. A.I. and Robotics Laboratory, COAE&T, CCSHAU
11. Computer lab/TAD lab, Department of Textile and Apparel Design, IC COHS, CCSHAU
12. Language Laboratory, Department of Languages and Haryanvi Culture, COBS&H, CCSHAU

**Outcome of laboratories upgradation and modernization**

❖ Advanced facility at one place helps students /researchers to deal with current issues pertaining to their research in specified area from both individual and global perspective. The world class facilities generated through establishment/upgradation of these laboratories provides an environment and exposure to students. It has resulted in improved quality of research and publications.

**Lecture rooms upgraded to smart class rooms**

1. Lecture room No. 9, Department of Vegetable Science, COA, Hisar
2. Lecture room No. 10, Department of Genetics & Plant Breeding, COA, Hisar
3. Lecture room No. 1, Department of Mathematics & Statistics, COBS&H, Hisar
4. Lecture room No. 10, Department of Soil Science, COA, Hisar

5. Lecture room No. 3, IC COHS, Hisar
6. Lecture room No. 4, IC COHS, Hisar
7. Lecture room No. 1, COAE&T, Hisar
8. Lecture room No. 5, COAE&T, Hisar
9. Lecture room No. 1, COA, Kaul

**Outcome of lecture rooms upgradation:**

The smart classroom facility is helpful for teachers to deliver lectures more effectively by using the different projections in their presentation. With certain special effects and graphic presentations, teachers can easily explain each and every component of the lesson. It facilitates a speedy question-and-answer session between teachers and students, which results in a superb learning atmosphere in the classroom. Also, it helped in conducting classes in online mode during COVID-19 pandemic and this ensured uninterrupted teaching. The facility has also resulted in video and animations display in classrooms for a better understanding of the relevant topics and effective teaching has resulted in qualification of large number of students in competitive examinations for higher education and employment.

- ❖ The smart technology would ensure better understanding on part of the students
- ❖ Implementation of ICT aided classroom education would enhance students/ teacher interaction & collaboration

**The Rural Entrepreneurial Awareness Development Yojana [READY]**

The READY programme is a flagship activity for the final year students of B.Sc. (Hons.) Agriculture, during seventh semester. The basic objective of the programme is building self-confidence in the agricultural graduates by developing their professional skills. During 2022-23 students of CCSHAU, Hisar adopted an Open data Kit (ODK) based Landscape Diagnositic Survey (LDS). The survey was carried out in the areas following cropping patterns *viz.* Rice- Wheat; Cotton- Wheat; Bajra- Mustard. Seven districts were selected based upon the cropping patterns. Thirty villages from each district were selected for the survey and random sample of ten farmers was used for the study. The students' collected agricultural data from the farmers about their particular crop rotations with the help of Android software named ODK COLLECT (v2022.3.6.) with the following objectives;

- To assess the adoption rate of the technologies developed by the CCSHAU, Hisar for Haryana
- To enlist the other technologies of crop production adopted by the farmers developed by other SAUs or any other institution
- To identify good agricultural practices followed by farmers for enhancing crop production and profitability
- To identify the gap regarding the adoption of technology
- To analyze the data collected during the survey and to chalk out strategies to fulfil the gaps.
- To formulate recommendations for policy makers for considering the same while formulating policies for the farmers

**Rural Agriculture Work Experience (RAWE)**

The students of agriculture undergo RAWE for strengthening capacity towards responding to the farmers' need and promote issues related to such needs in their service career. It includes:

orientation and basic training; rural experience through village placement (9 weeks); agro-industrial attachment (5 weeks); self-employment training (2 weeks); project report preparation (2 weeks); presentation and evaluation of report (1 week). Nine days orientation at Hisar and then 3 days basic training of crop production and protection at respective KVK's, ATIC, Hisar and COA, Kaul.

In Rural Experience, the students assume full responsibility to operate individually and in small groups to interact with farmers during their stay in villages for 65 days. They prepare survey schedule, identify issues and constraints in farming system and analyse factors involved in the sustainability of overall system in the village. Students learn how farmers determine and manage their resources and prepare a document, which is presented to the course faculty at the end of the course. This helps students to develop and maintain cooperation among the group and with farmers.

### Agro-Industrial Attachment

The students of agriculture and agricultural engineering gained a substantial experience through five weeks interaction with agro-based industries. The experience of commercial environment further advances their practical knowledge in communication skills and working in a team. Some students got direct interaction with prospective employer and got the job according to individual capability. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project.

### Clean and Green Environment in Campus

The University has prioritised a clean and green environment, and numerous programmes and activities in this vein have been launched. Various measures have been adopted to make the University campus eco-friendly.

- Special days including Environment Day, Earth Day, Energy Day, Sanitation Campaign, and Cleanliness Drive are observed and implemented.
- Every year on *Van Mahotsav*, the faculty and students plant a large number of trees to enhance the ecosystem. In the year 2021 about 75000 plants were planted under the massive tree plantation campaign.
- Students and residents are also advised to keep the campus and colleges free of trash and polythene.
- The chemicals are disposed-off by standard recommended disposal methods and are not added to the drainage system.
- The campus has thick vegetation cover and frequent programme for plantation of trees are organized by the college to improve ecosystem.
- The University has solar water heating system for the students' Hostels.
- The rooftops of various buildings including colleges and library are installed with solar panels for production of electricity from sunlight
- Proper water harvesting of rain water is done by storing it in a pond for later uses
- Biological waste is used for production of biogas.
- Research projects on the development of biodegradable plastics have been initiated.
- The University maintains a modern Botanical Garden with a biodiversity of 600 plants.
- Upgradation of Agri-tourism Centre is in process to aid students, farmers and entrepreneurs in their respective ventures.

- The University has set up the first of its kind in the State, Mechanized Agro-Waste Compost Unit
- M/s. Habitat Genome Improvement Primary Producers Company Ltd. is producing biofertilizers at Biofertilizers production laboratory of Department of Microbiology, CCSHAU under PPP mode since 2018. The firm is producing and supplying different type of biofertilizers to farmers and other farm agencies. The use of biofertilizers can increase crop yield in addition to the saving of chemical fertilizers.
- Annual Flower Shows were organized in the Botanical Garden and Agri-tourism Centre. The shows were open to public for participation in different competitive categories

**6.6.2.3. Library:** *Write about the University library (in one page) mentioning its space for stocking and reading, automation, library staff, library committee meetings, library management system, text books availability, subscription of research journals, periodicals, e-journals and other necessary state-of-the-art software/ programme, timing etc.*



Nehru Library, CCSHAU, Hisar



Interior view of Nehru Library, CCSHAU, Hisar

Nehru Library, the hub of academic and research activities of the University is housed in a centrally located elegant building. Library has large print collection of about 381636 volumes of books & other reading material. It has 6 Reading Halls with cozy reading environment and seating capacity of 650 readers. Night Reading Hall with modern facilities- exquisite furniture, air-conditioned environment and uninterrupted power supply, opens immediately after the closure of library and remains open up to midnight on all days of week. It has seating capacity of 120 readers.

### Automation of library

The library catalogue, journals' subscription, journals' holding, circulation operations, and many other library activities are fully computerized. Online Catalogue of the Library i.e., Web OPAC can be accessed over the campus network as well as on Internet through Library portal and AgriCat. The library is updating an important digital repository in the field of agricultural sciences i.e., Krishikosh consisting of full text Ph.D. and M.Sc. dissertations. Full text access to Krishikosh database is accessible to all the SAUs/DAUs/ICAR Institutes. The Library Automation for its entire range of activities had implemented with LibSys software way back in 2000 which has now been replaced with Koha- Open Source Software. The Library Servers are linked to the Campus Network for providing online library services all over the campus. Library catalogue has been automated and web-enabled. Computerized Periodicals' Holdings and Stock Verification, bar-coded and RFID tagged library collection, automated circulation functions and Library Membership and Smart ID Cards for Students are other automation services of library.

### Library staff

At present, library has 02 professors, 02 Assistant Librarians, and 45 supporting staff (including regular and outsourcing staff) in position.

### Library committee meetings

Library Advisory Committee – a policy making body - decides the guidelines for smooth functioning of the library. This Committee comprises of Vice-Chancellor as its Chairman and University Librarian as its Member-Secretary. All the Deans/ Directors, Registrar, Comptroller, Principal- College of Agriculture, Kaul and President of HAUTA are its ex-officio members, while one HOD, one faculty member and one PG student from each College are nominated by the Vice-Chancellor for two academic years. The 66$^{th}$ meeting of the Library Advisory Committee was held on 21.12.2021.

### Library management system

RFID Technology has been fully implemented in Library. Entire collection of library has been made bar-coded as well as RFID tagged for automated circulation activities. Library is issuing QR coded Smart ID card to all University employees and Students which is integrated with RFID application.

### Text books availability

Library has large print collection of about 381636 volumes of books & other reading material. Book Bank facility is a very popular service provided to students. Under this facility, students are entitled to borrow text books at nominal charges for whole semester. Book Exhibitions are also organized annually to acquaint users with latest information in their respective field and help them to recommend books for purchase in library.

## Subscription of research journals, periodicals, e-journals and state of art software/programme

In addition, it has 106 Indian and foreign print and Online journals on current subscription. Besides, it subscribes many e-resources i.e., indiastat.com; Britannica On-Line Academic Edition (BOLAE); DELNET resources, Scopus Citation Database, NIPA e-Resource Solution for Students for Preparation of Competitive Examinations, NIPA English Writing Improvement Tool, and NIPA Online English Language Development and Improvement Resources. Library provides access to more than 2659 e-journals of highly reputed publishers through CeRA-consortium of e-Resources on Agriculture. Millions of books, journals, technical reports, audio lectures, video lectures, proceedings, institutional repositories, question papers, datasets, reports, theses, etc. are accessible to the University users through National Digital Repository (NDLI). Library provides access to more than 2,32,000 e-books through EBSCO Database. About 2,659 e-journals published by Annual Reviews Inc.-25, Bio One-163, CSIRO-8, Elsevier-Science Direct-419, J-Gate Fulltext-406, Nature Publishing Group-02, Oxford University Press-24, Springer-120, Taylor and Francis-176, Wiley-Agriculture and Horticulture-42, Wiley- Fisheries and Aquaculture- 12, Wiley-Veterinary and Animal Science-31 were made accessible online to user community through J-Gate Plus Service subscribed by the CeRA. This online service was logged in by the users of our university more than 867 times and 3,233 full text/abstracts of research papers were viewed/downloaded, 124 ILL requests/enquiries were made. Besides, during the period of report, total 13,458 hits are reported. Online access of 14 Foreign as well as 92 Indian Journals was provided to the users of the University from the library Portal. The details of library e-resources is given under Technology Enabled Learning Resources section

## Library timing

The library remains open for 12-13 hours daily throughout the year. The working hours of library during summer are 7.00 AM to 8.00 PM and during holidays 7.00 AM to 1.30 PM. Working hours during winter are 8.30 AM to 8.00 PM and during holidays 9.00 AM to 4.00 PM.







Library automation facilities

**6.6.2.4. Centre for Excellence/Advance Studies/Centre for Advanced Faculty Training:** *Clearly mention about the name, number, year of establishment, funding agency and outcome of Centre for Excellence/Advance Studies/Centre for Advanced Faculty Training.*

CCSHAU has one Centre for Advanced Faculty Training in the Department of Entomology, College of Agriculture, and one Centre for Excellence in the Department of Foods & Nutrition, I.C. College of Home Sciences. The details of activities of CAFT and COE are given below;

**Centre for Advanced Faculty Training in the Department of Entomology, College of Agriculture, CCSHAU, Hisar**

1. **Name of Centre for Excellence/Advance Studies/Centre for Advanced Faculty Training:** ICAR's Centre for Advanced Faculty Training (CAFT) in Entomology
2. **Year of establishment:** 1994
3. **Funding agency**: ICAR
4. **Brief report on outcome of Centre for Excellence/Advance Studies/Centre for Advanced Faculty Training**:

The Department of Entomology, CCS Haryana Agricultural University, Hisar was identified by ICAR as Centre of Advanced Studies (CAS) during 1994, vide letter No.1- 2/93(CAS)/ UNDP dated 26.03.94. The Centre of Advanced Studies was re-designated as Centre of Advanced Faculty Training (CAFT) by ICAR during 2009-10 vide letter No.1(6)/2009 CAFT/HRD dated 01.01.2010. So far, the Centre has organized 35 trainings covering various aspects of entomology *viz*., apiculture, pollinators, insect ecology, insecticide toxicology, host plant resistance, non-insect pests, stored grain pests, pest and pesticide management, biological control, integrated pest management, pest population dynamics and pest monitoring, application of techniques in entomological research, pest damage diagnosis and loss assessment, etc. Around 623 scientists'/faculty members from different SAU's have been imparted training regarding various aspects of Agricultural Entomology.

5. **Details of trainings conducted during the period under report**:

| S. No. | Year | Name of training | Date/Duration of training | No. of participants | Name of states to which participants belong |
|---|---|---|---|---|---|
| 1 | 2018-19 | Recent trends in pests status, pesticide usage and pest management Strategies in Agriculture" | October 5-25, 2018 | 17 | Punjab, Gujarat, Jharkhand, Assam, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, Bihar, Rajasthan, Haryana |
| 2 | 2019-20 | Advances in Biology, Conservation, Rearing and Management of *Apis* and non-*Apis* bees | October 4-24, 2019. | 24 | Assam, Bihar, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu, Uttarakhand |
| 3 | 2022-23 | "Current Scenario of Pesticide Toxicology and its Impact on Future Agriculture" | November 3-23, 2022 | 25 | Andhra Pradesh, Assam, Bihar, Haryana, Karnataka, Punjab, Rajasthan, Uttar Pradesh, Telangana |



Address by chief guest at CAFT, November 3, 2022



Field visit of CAFT Trainees



Practical on pesticide calibration in CAFT training 2022

## Centre of Excellence for Processing and Value Addition of Pearl Millet for Nutritional Security in the Department of Foods & Nutrition, I.C. College of Home Sciences, CCSHAU, Hisar.

1. **Name of Centre for Excellence/Advance Studies/Centre for Advanced Faculty Training**: Centre of Excellence (COE) on Processing and Value Addition of Pearl millet for Nutritional Security (C (g) FN-15-OA)
2. **Year of establishment:** 2011
3. **Funding agency:** Department of Agriculture and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India.
4. **Brief report on outcome of Centre for Excellence**

The Centre of Excellence was established with the primary and secondary processing facilities. Scientists of COE are working for development of value-added products with pearl millet, promotion of the consumption of pearl millet at household level and capacity building of farmers, rural masses, Scientists, consumers, SHGs/ ICDS functionaries, entrepreneurs, etc., thus contributing towards nutritional security and economic development of farmers. The Centre is equipped with facilities required for capacity building of masses, organization of awareness programmes and training of entrepreneurs which is the need of current era. This Centre is working effectively for popularization and increased utilization of pearl millet-based value-added products. Continuous efforts have been made for popularization of developed value added multi grain products including extensive efforts to establish links between producer, entrepreneurs and consumers during international year of millet 2023.

### Laboratory/Equipment/ Machinery:

Hammer Mill, Sieve Separator, Pearling Machine, Dough Mixer, Baking Oven, Ready to Eat Extruder, Masala Mixture, Noodle Machine, Pasta Machine, Vacuum Packaging Machine, Sealing Machine, Flour Grinder, Moisture Analyzer, Spectrophotometer, Blancher, Parboiling Unit, Wire cut biscuit making machine, cookie drop machine, puff gun, Semolina Maker Machine and Cereal flake production line.

### Technology generated for product development and standardization:

1. Bakery and confectionery products (cakes, biscuits, breads, buns, *kulcha*), traditional products (*ladoo, sev, matar, shakarpara, suhali, khichri, churma, mathri, bakli, idli, dhokla*), extruded products (noodles, vermicelli and pasta) and ready to eat extruded products (crispies, puffs)
2. Convenience mixes (*halwa mix, ladoo mix, dhokla mix, idli mix, upma mix, kheer mix, khichri mix*) and popped mixtures
3. Sugar free and low gluten biscuits
4. Shelf stable flour and grits from pearl millet
5. Different processing treatments like blanching, malting and roasting have been standardized

**Awareness Campaigns/Exhibitions:**

- An exhibition was arranged at National Level Workshop on Millets held at Yeshwantrao Chavan Academy of Development of Administration, Pune on September 28, 2018, organized by Indian Institute of Millet Research, Hyderabad and Ministry of Agriculture & Farmers Welfare, GOI, New Delhi.

- A Millet Food Exhibition stall was put up during "National Millets Stakeholders Campaign" as a part of Celebrations of National Year of Millets organized by ICAR- Indian Institute of Millets Research (IIMR), Hyderabad on June 3, 2019.
- Exhibited Technologies of COE Pearl millet during National Workshop on 'Production, Processing & Value Addition of Nutri-Cereals (Millets) in India' on September 16, 2019, at Department of Genetics & Plant Breeding, Bajra Section, CCSHAU, Hisar.
- Exhibited stall in Geeta Jayanti Mahotsava organized at Govt. PG College ground, Hisar on December 12-14, 2021.
- Exhibited stall of millet products at ABIC during Governor's visit to CCSHAU, Hisar on October 5, 2021.
- Displayed millet products in Seminar & exhibition "*Aatmnirbhar Haryana Aur Rojgar Srijan*" on September 6, 2021 at GJUS&T, Hisar.
- Exhibited stall at State Level Livestock Show at Bhiwani on February 25-27, 2022.
- Exhibited stall during Urban Farming Expo and Flower Fest held on December 19-20, 2022 at CCSHAU, Hisar



Urban Farming Expo and Flower Fest at CCSHAU, Hisar

- Stall Exhibition of various pearl millet value added technologies at *Krishi Darshan* at Northern Region Farm Machinery Training and Testing Institute Sirsa Road, Hisar held on February 18-20, 2023.
- Stall Exhibition for technical know-how on various aspects of pearl millet value added technologies and nutrition intervention to farmers during Haryana Krishi Vikas Mela held on March 10-12, 2023.







Exhibition during Haryana Krishi Vikas Mela held on March 10-12, 2023

## Literature/Publications

- Recipe booklets, leaflets, handouts, posters, compendium, etc. have been prepared and used for publicity for utilization of pearl millet and its value-added products.
- Research papers
- Articles in magazines

**Details of trainings conducted by Scientists for the participants of Haryana during the period under report**:

| S. No. | Year | Name of training | Date/Duration of training | No. of participants |
|---|---|---|---|---|
| 1 | 2020-21 | Popularisation of biofortified pearl millet and value-added products | 16.12.2020<br>17.12.2020<br>19.01.2021<br>22.01.2021<br>22.02.2021 | 30<br>30<br>25-30<br>25-30<br>20 |
| 2 | 2021-22 | Importance of biofortified pearl millet | 03.07.2021 | 25 |
| | | Demonstration on pearl millet biscuits and give lecture on biofortified pearl millet varieties. | 06.08.2021 | 30 |
| | | Nutritional importance of Pearl Millet and alternative uses | 30.09.2021<br>16.10.2021 | 30<br>30 |
| | | Conducted group meeting with rural ladies and gave lectures on balanced diet, value addition, importance of biofortified pearl millet | 25.10.2021 | 25 |

| | | | | |
|---|---|---|---|---|
| | | Popularized use of biofortified pearl millet through nutrition lectures | 23.11.2021 | 30 |
| | | Organized exposure visit of farm women from HRDP, Rewari to Centre of Excellence on Processing and value addition of pearl millet Lab and motivated them to adopt pearl millet based products enterprise for self-reliance. | 08.12.21 | 70 |
| | | Value addition of millets | 17.12.2021<br>21.12.2021 | 30<br>30 |
| | | Alternative uses of pearl millet for recipe preparation | 22.12.2021 | 30 |
| 3 | 2022-23 | Nutritional importance of pearl millet | 10.08.2022 | 30 |
| | | Bakery | 18.01.2023 | 20 |
| | | Value added traditional products from Pearl millet and Foxtail Millet | 21.02-2023<br>to<br>23.02.2023 | 30 |

**6.6.2.5. Incubation Centre/Start up units/ Venture capital:** *Provide the list of Incubation Centre(s) start up units/ venture capital set up by the University for the promotion of technologies generated at the University.*

CCS Haryana Agricultural University, Haryana, India has taken initiative to set up "Agri Business Incubation Centre (ABIC)" for supporting startups in Agri and Allied Sectors, supported by National Bank for Agriculture and Rural Development (NABARD) and *Rashtriya Krishi Vikas Yojana*(RKVY, MOA&FW).

ABIC, CCSHAU promotes Agripreneurial Eco-system and nurtures a system of agri-business incubation by providing incubation support and handholding innovative and highly potential agri-business ideas with the concept of growth through encouraging innovation, upgrading technology, and developing skills. ABIC provides the budding agripreneurs of the nation the perfect opportunity to bring their ideas from 'Mind to Market'. ABIC helps them to develop networking with like-minded professionals from related businesses and sectors to gain and learn about best entrepreneurship practice approaches. A well-dedicated ABIC team is there to guide and mentor the young agripreneurs. No stone is left unturned by the young and energetic team and all mentoring and guidance related to idea nurturing, business planning, investment planning, marketing, packaging, linkages, funding guidance, etc.; is provided under one roof.

The prominent area in which the businesses have been started or scaled up includes Liquid Biofertilizers, Food processing, Agri-waste management, Agriculture implements and Farm Machinery, Horticulture, Aquaculture, Organic Farming, Supply Chain in Agriculture, Nursery Raising, Animal Feed, Apiculture, Medicinal & Health Products, and other agriculture-allied sectors using ABIC's support and guidance.

Since inception, ABIC has made its mark in the country. It has successfully trained more than 140 youngsters and guided extensively 84 to either start-up or scale up their Agri- businesses. ABIC has organized & conducted more than 50 Networking Events & Sensitization Workshops, 17 webinars, etc. and has been also able to generate more than 3000 direct and indirect employments

through its incubatees and a turnover of more than 30 Crores rupees. Recently it has been judged as Best Agri Business Incubation Centre by MOFPI, GOI as the No.1 Agri Business Incubation Centre for Excellence in Multiple Incubation Centers by Sh. Prahalad Singh Patel, Minister, MoFPI, GOI.

List of Start-ups units set up by the University for the promotion of technologies generated at theUniversity during the period under report.

1. **Mr. Satish Kumar**

   **FPO:** Habitat Genome Primary Producer Company Limited

   **Specific Activity:** Bio Fertilizer

   **Domain Area:** Agriculture and Biological Sciences

2. **Mr. Jagan Nath Chopra**

   **Partnership Firm:** CCS Foods

   **Specific Activity:** Bakery & Confectionary Products

   **Domain Area:** Food Processing

3. **Mr. Satya Pal**

   **Firm:** Arya Agro Implements

   **Specific Activity:** Bakery & Confectionary Products

   **Domain Area:** Food Processing

The ideas of the following have been cultivated and they have actively scaled up their businesses.

| S. No. | Name | Sector |
|---|---|---|
| 1 | Kunwar Ashish Pratap Singh | Waste management |
| 2 | Satish Kumar | Biofertilizers production |
| 3 | Naveen Kumar | Multi-Layer farming and supply chain |
| 4 | Shushil Kumar | Agri-engineering |
| 5 | Dimple Kathuria | Post-Harvest, Food technology & value addition |
| 6 | Anand Kumar | Biofertilizers production |
| 7 | Nikhil | Mushroom farming |
| 8 | Ravin Sharma | Functional foods & nutraceuticals |
| 9 | Komal Ahuja | Aquaculture |
| 10 | Bharat Bhushan | Processing Value addition in organic products of his farm |
| 11 | Gaurav Miglani | Jute products |
| 12 | Seema Soni | Home Remedies based products having medicinal properties |
| 13 | Deepak Singla | Neem based products |
| 14 | Arvind Verma | One stop shop for farming |
| 15 | Anuj Hooda | Supply chain & agriculture logistics |
| 16 | Jagan Nath Chopra | Bakery products |
| 17 | Ompal Singh | Agriculture allied sectors |
| 18 | Sunil Kumar | Processing and value addition |

| | | |
|---|---|---|
| 19 | Deepika Ahlawat | Food processing & value addition |
| 20 | Jagdeep Singh | Mushroom production |
| 21 | Shobit Aggarwal | Artificial intelligence |
| 22 | Subhash Chand Kamboj | Apiculture |
| 23 | Virender Kumar | Nano-fertilizer |
| 24 | Suraj Choudhary | Agro value addition |
| 25 | Mohinder Singh | Value addition |
| 26 | Naresh Saini | Waste to wealth |
| 27 | Vivek Khurana | Agri-Tourism |
| 28 | Prince | Farm mechanization |
| 29 | Ankit Singh Ahlawat | Post-Harvest, Food Technology & Value addition |
| 30 | Vipan Sarin | Supply chain & Agriculture logistics |
| 31 | Vivek Kumar | Farm mechanization |
| 32 | Vishal Bhandari | Precision Agriculture/Agri Fintech/Blockchain |
| 33 | Naresh Kumar | Waste to Wealth & Green Energy/Ag. Extn. & Ed. |
| 34 | Jaikaran | Waste to wealth & Green energy/Ag. Extn. & Ed. |
| 35 | Nitin Lalit | Precision agriculture |
| 36 | Ankit Ahlawat | Value addition |
| 37 | Rajender Singh | Farm mechanization |
| 38 | Mridulla Bhardwaj | Agro waste to wealth |
| 39 | Bhoop Singh | Agro waste to wealth |
| 40 | Mohit Dangi | Post-Harvest supply chain & agriculture logistics |
| 41 | Rohit Kansay | IoT & Supply chain management |
| 42 | Pradeep Singh | Supply chain management |
| 43 | Puneet Tripathi | Information and communication technology |
| 44 | Parveen Kumar Sindhu | Precision farming |
| 45 | Bhupender Singh | Farm mechanization |
| 46 | Saurabh Gautam | Agriculture extension education |
| 47 | Satyavir Singh Ahlawat | Food processing & value addition |
| 48 | Naresh Kumar | Animal husbandry |
| 49 | Puneet Dutta | Food processing |
| 50 | Sayed Quaiser Alam | Animal husbandry for dairy animals |
| 51 | Krishan Lal Nain | Organic farming |

## Public Private Partnership

- **Compost Spawn and Mushroom Production**

For growth and development in agriculture, it is mandatory that agricultural technology reaches maximum number of farmers. CCSHAU has adopted public-private partnership (PPP) model in collaboration with private sector to ensure that its technology is disseminated far and wide. The University has set up a Compost Spawn and Mushroom Production Centre on its Hisar campus under

PPP mode with M/s Bajwa Mushroom Farm, Kurukshetra. The Centre was inaugurated on January 24, 2018 and partnership is continuing with renewal of agreement with Bajwa Mushroom Farm, Kurukshetra till 2023. Under the MoU, apart from mushroom spawn production, mushroom cultivation, preparation of mushroom compost, pasteurized spawn compost and casing mixture, Bajwa Mushroom Farm has also developed skills of entrepreneurs and farmers in mushroom production through vocational trainings.

**Biofertilizer production**

The University has also signed a MoU under Public Private Partnership mode with M/s Habitat Genome Improvement Primary Producers Company Pvt. Ltd., Village-Ramayan, Hisar for the Usage of Biofertilizers production laboratory of Department of Microbiology, CCSHAU, Hisar on 04.07.2018 and partnership is continuing with renewal of agreement with the firm till 2023.

**Commercialization of Technologies through Non-Exclusive License agreements**

After the establishment of IPR Cell & BPD Unit, the University has signed 579 non exclusive license agreements with different firms/stakeholders for commercialization of technologies. During the period of report, the University has signed 56 non exclusive license agreements with different firms for commercialization of 11 no. of technologies (List given under section **6.6.2.8**).

**Protection of Intellectual Property Rights**

The IPR Cell & BPD Unit also organizes University-Industry Interaction workshops. The Cell also engages in continuous interface with various government and private agencies through exhibitions, demonstrations and brainstorming sessions. This cell has organized awareness programs on IP management for faculty members and students of the university and also for all the SAUs and ICAR Institutes in the country. The University has so far submitted 63 patent/protection applications for its intellectual properties, 39 IPRs have been protected/granted (List given under section **6.6.3**). During the period of report, university has filed 47 IPR applications and has been awarded with IP rights for 24 innovations.

**6.6.2.6. Technology Enabled Learning Resources:** *Technology allows for personalizing learning, building capacity of teachers and driving decisions based on real-time data. What kind of infrastructure, digital content, teacher training and data systems have been created in this regard. What are monitoring and evaluation frameworks to maintain and sustain these facilities?*

Technology-enabled learning (TEL) has the power to transform both teaching and learning in classroom-based, online, and blended education by introducing the digital tools and resources that the 21st century learners will need in order to explore, understand, and express themselves. These technologies, including computers, internet, social media, mobile and tablet devices and other open educational resources, can bring fundamental structural changes.

**Infrastructure**

- Computer for every teacher with internet access is provided at CCSHAU. The faculty of the University is trained with regards to computer applications, MS Office, e-learning, multimedia, etc.
- Faculty makes use of these trainings while preparing lecture presentation for class room teaching, imparting lectures in trainings, seminars etc.
- Wi-Fi facility is provided to all the teachers, students and staff in the colleges. All Departments and offices are equipped with computers and accessories.

- All the departments have upgraded UG and PG labs with advanced instruments/ equipment's and seminar rooms with LCD/LED projector, interactive panel having internet facility with anti-virus etc.
- All the labs which are being used by UG students of professional electives, and M.Sc. & Ph.D. students have computers and internet access to develop presentations for assignments and for delivering seminars

**Data systems**

- *e-mausam* website is developed by the Dept. of Agricultural Meteorology to provide information on weather variables and advisories to farmers and other stakeholders. More than 6 lakhs farmers of state availed free *e-mausam* SMS service of Haryana.
- The University issues district-wise weather forecast (Weather Advisories) for Haryana by Email on every Tuesday and Friday in Hindi and English on the basis of weather forecast and satellite imagery/Charts. These bulletins are disseminated to users through ATIC, KVKs of CCSHAU, Dept. of Agriculture & Farmer's Welfare GoH, IFFCO SMS, *mkisan* SMS service, University website, electronic, print media and social media. Farmers always remain in constant contact & regular alert messaging weather forecasting is being sent to them.
- The faculty members of College of Agriculture are involved in constant monitoring, survey & surveillance of crop diseases and also suggesting warning as well as alternative remedial measures.
- For statistical data analysis work, Online Statistical Analysis Software OPSTAT has been developed and is upgraded with new and relevant modules every year.
- University has a Facebook page, Twitter handle and YouTube channel so that important activities/news and video can be shared on social networking sites.

**Library e-resources**

- Sufficient digital resources have been subscribed by the University library, access of which has also been provided to individual scientists/teachers on their tables. Various automation services provided in Nehru Library is covered under section **6.6.2.3.** Nehru Library subscribes to different types of e-resources and manages access of e-resources subscribed by the library as well as provided by the CeRA (Consortium of e-Resources in Agriculture). IP authenticated campus-wide access of these important resources to main campus users as well as users at RRS (Uchani), COA (Kaul), RRS (Sirsa) and COA (Bawal) campuses is being provided. Library has provided access to following e-resources:

**Online Computer Library Centre (OCLC)**

- With the implementation of e-Granth Project, Nehru Library, CCSHAU, Hisar has become member of OCLC which is the largest library network in the world with membership of 26441 libraries from more than 100 countries. OCLC and its member libraries cooperatively produce and maintain WorldCat (more than 500 million records) the largest online public access catalog (OPAC) in the world. Nehru Library, CCSHAU, Hisar is one of Indian libraries who are members of this big network and maintaining its catalogue on the WorldCat. Nehru Library has been updated on the WorldCat.

***Krishikosh***

- *Krishikosh* is e-repository of all collection related to agricultural & allied sciences like old & rare books, theses, old journals, research articles, conference proceedings, annual reports,

monographs, case studies, newsletters etc. It was created under a NAIP project named "e-granth" in 2009. All agricultural universities were directed by ICAR to update the repository by updating the respective community (University) with its collection in digitized format. More than 7850 records of CCSHAU are accessible via *Krishikosh* during the period under report.

**Indiastat.com**

- Library subscribed a statistical website "indiastat.com" which is a cluster of 56 sites including India specific, region specific & state specific sites. It provides socioeconomic statistical data about India & its states, region & sector on more than 31 Variables. The user community of the University viewed/downloaded 4,895 tables from this e-tool.

**Britannica Online Academic Edition (BOLAE)**

- It is world known electronic tool for promoting Knowledge and learning. It provides timely relevant & trust worthy information. It is accessible to the library users during the period under report. It provides access to e-Dictionary, Thesaurus, Biographies of world great personalities, e-books and primary sources, full length video priority in depth coverage of media collection on every subject quotation of great personalities etc. This important online reference tool was used by the users for their academic purposes in 1,795 sessions and 4,84,875 hits have been recorded on the site.

**e-books**

- Library has purchased 2319 e-books (perpetual access) and annual subscription of EBSCO e-Books (More than 23,000 e-books) Academic Collection has also been done. These e-books are accessible in the University as well as in a few outstations and downloadable. The access link has been provided on library portal.

**Scopus Database**

- Library subscribed a largest abstracting and citation database of peer-reviewed literature: scientific journals, books and conference proceedings. It delivers a comprehensive overview of the world's research output in the fields of science, technology, medicine, social sciences, and arts and humanities. A total 57,568 searches and records have investigated by the users in recent past.

**DELNET Database**

- Library has subscribed DELNET resources' subscription which provides millions of bibliographic records of union catalogue of 7,561 libraries of India and overseas. Thousands of books, journals and theses are accessible through DELNET to the University users. DELNET contains 3,52,65,440 bibliographic records of books, 20,235 records for periodicals, 11,24,250 records of periodical articles, 61,750 records of CD-ROMs, 6,000 records of video recordings, 1,025 records of sound recordings, and 1,30,753 records of theses and dissertations.

**Indian Journals.com**

- IndianJournals.com is a vast collection of interdisciplinary Indian journals and research publications, which provides a pan-global web exposure to journals, a chance to preserve our research, online, an international door to knowledge-sharing, and a mode to generate interest in the concerned field. Under the period of report, a total 2,371 full text articles have been accessed or downloaded by the users from various journals hosted on the platform.

### National Digital Library (NDL) Resources

- The University Library provides access to millions of books, journals, technical reports, audio lectures, video lectures, proceedings, institutional repositories, question papers, datasets, reports, theses, etc. through National Digital Repository to the University users.

### NIPA e-Resource Solution for Students for Preparation of Competitive Examinations

- Library provides access to more than 4,30,000 Question Banks through New India Publishing Agency (NIPA) e-resource. This resource is fully searchable online e-resource, with free remote access of questions (MCQs, fill in the Blanks, Match the followings) and useful for preparation of following examinations viz., ICAR-JRF, ICAR-SRF, ICAR-NET, ICAR-ARS (objective only), ICAR-STO, IBPS-Agriculture Field Officer (Preliminaries and Mains), etc.

### NIPA English Writing Improvement Tool

- The tool is focused on developing and polishing English language writing among students. It helps the user to have a complete word by word analysis with types of errors in English language in a written document. The error analysis covers grammar, punctuation, pronunciation, sentence formation, and ease of reading. Facility for Wordy Phrases, Choice of Words, Rephrasing Sentences, Formal and Informal Writing is also provided in this resource.

### NIPA Online English Language Development and Improvement Resources

- This e-resource provides video-based learning to make the students proficient in English language by eminent professors/professionals which can be viewed unlimited number of times. It covers reading, writing, speaking, pronunciation, listening and communications. Inbuilt dictionary with support for 13 Indian languages including Hindi, Gujarati, Bangla, Kannada, Telugu, Tamil, Malayalam, Konkani etc. is provided in this resource. It also provides assessment and analysis test in real time conditions, which can be reviewed by teachers from university.

### Digital content

- College of Home Science has developed multi-media training and course modules in the form of Interactive CDs on Gender and Development, Energy conservation, Bee-keeping etc. Members of the faculty have also been trained in graphic designing and audio-video editing.
- The faculty members of the University are regularly deputed for the training on basic as well as advanced aspects of their subjects/fields in CCSHAU, Hisar and other institutions.
- A large number of recorded lectures by university faculty members on various topics have been uploaded on YouTube channel of the University for students

### Language laboratory: Department of Languages and Haryanvi Culture

- A University level Language Lab has been established in the Department of Languages and Haryanvi Culture which caters the students of all constituent colleges viz. COA, COBS&H, COAE&T, COB, COFS and IC COHS. This Lab is equipped with state-of-the-art equipment and language software which will help the students to learn the finer details of English language, grammar, Phonetics and will make the students fluent and confident in spoken English. Language Labs are also functional in the College of Agriculture at Kaul and Bawal.

## Teacher Training

For institutionalized in-service training to the faculty staff and agricultural professionals CCSHAU established the Academy of Agricultural Research and Education Management in April, 1994 under Agricultural Human Resource Development Project with financial support from World Bank. The mandate of the Academy is to provide specialized in-service institutionalized training to the academicians, scientists, research and extension personnel working in various State Agricultural Universities, ICAR institutes and other universities. The Academy is doing a pioneering job in its chosen field of imparting the much-needed in-service training to the university teachers and scientists of not only this country but of foreign countries too. The Academy upgrades and strengthens the knowledge of the scientists and teachers and familiarizes them with latest development in their respective fields of specialization through the intensive training capsules that it devises and imparts. The Academy also organizes group discussions, seminars, visits, brainstorming sessions and workshops on different aspects of agricultural education.

The Academy has been organizing numerous short-term courses, workshops, and discussions for the technical and administrative staff of our university to update their knowledge and abilities, in addition to the three- or four-week refresher courses for the teaching community. Workshops were conducted on internet, e-mail, store purchasing practices, communication skills development, writing abilities, and important fields of computer application.

During the period under report, the Academy organized 50 activities. Out of these, 27 refresher courses/training programmes were conducted by the Academy in collaboration with the other departments or independently for the scientists, teachers, extension specialists and other faculty working in State Agricultural Universities, ICAR Institutes and other State Universities. Overall, 21 training programmes were conducted for technical, para-professionals and administrative staff of CCSHAU. One Yoga workshop for faculty and non-teaching staff and one faculty development programme was organized for campus school teachers.

During the period under report, 26 faculty members have attended international training of three months under IDP-NAHEP in various foreign universities. A list of such faculty members is given below;

| Sr. No. | Name of Faculty Member | Dept. | Area of priority / training | Place | Host Institute | Mentor |
|---|---|---|---|---|---|---|
| 1. | Dr. Ajay Pal | Biochemistry | Nano- technology | Australia | Department of Jobs, Horsham, Victoria, Australia | Dr Surya Kant, Senior Research Scientist |
| 2. | Dr. Sarita Devi | Botany & Plant Physiology | International pedagogy | Australia | -do- | -do |
| 3. | Dr. Mukesh Kumar | Genetics & Plant Breeding | Molecular Breeding | Austria | University of Natural Resources and Life Sciences, Vienna, Austria | Dr. Harmann Buerstrmyr, Chair of Plant Breeding |
| 4. | Dr. Devvart | Genetics & Plant Breeding | International pedagogy | U.K. | Aberystwyth University, UK | Prof. Alison Kingstn Smith |
| 5. | Dr. Jayanti Tokas | Biochemistry | Do | U.K. | -do- | Prof. Rattan Yadav, Reader |
| 6. | Dr. Anju Kumari | CFST | Food Processing | New Zealand | University of Auckland, New Zealand | Dr. Mohmmad Frid |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7. | Dr. Sangeeta | F&N | Food processing | USA | UIUC, Illinois, USA | Dr Juan Andrae |
| 8. | Dr. Yadvika | RBEE | International pedagogy | USA | -do- | Dr. Vijay Singh |
| 9. | Dr. VK Singh | Agri. Engg. | Food Processing | USA | IBRL, UIUC, Illinois, USA | Prof. Alex Winter Nelson |
| 10. | Dr. Dalvinder Singh | Plant Pathology | International Pedology | Australia | Agriculture Victoria Research, Victoria Grain Innovation Park | Dr. Surya Kant |
| 11. | Dr. Kamla Malik | Microbiology | Bio-energy & Bio fuels | USA | Texas A & M University, College Station Texas, USA | Prof. Sergio Capareda |
| 12. | Dr. Nisha Kumari | Genetics & Plant Breeding | International Pedology | USA | -do- | Prof. Sergio Capareda |
| 13. | Dr. Sushil | Entomology | Bio-energy & Bio fuels | USA | Texas A & M University, College Station Texas, USA | Prof. Sergio Capareda |
| 14. | Dr. Seema Sangwan | Microbiology | International Pedagogy | Denmark | Department of Plant and Environmental Sciences, University of Copenhagen, | Dr. Bodil Jorgensen |
| 15. | Dr. Sandeep Dhundhara | Basic engineering | Agrirobotics & Automation agriculture | United Kingdom | School of Engineering and the Built Environment, Birmingham City University | Dr. Florimond Gueniat |
| 16. | Dr. Varsha Rani | Foods & Nutrition | International Pedagogy | The Netherlands | Wageningen University and Research Center (WUR), The Netherlands | Dr. Inge Brouwer |
| 17. | Dr. Sandeep Arya | Forestry | International Pedagogy | USA | Texas A&M University, College Station, Texas, USA | Dr. Florimond Gueniat |
| 18. | Dr. Karmal Singh | Agronomy | INM | USA | -do- | Dr. Florimond Gueniat |
| 19. | Dr. Dalip Kumar Bishnoi | Agri. Economics | International Pedagogy | USA | -do | Dr. Florimond Gueniat |
| 20. | Dr. Shweta | Agronomy | International Pedagogy | USA | -do- | Dr. Florimond Gueniat |
| 21. | Dr. Vinod Kumar | Pathology | International Pedagogy | USA | -do- | Dr. Florimond Gueniat |
| 22. | Dr. Prakash Banakar | Nematology | International Pedagogy | USA | University of Clemson, USA | Dr. Churamani Khanal |
| 23. | Dr. Shiwani Mandhania | Biochemistry | International Pedagogy | USA | University of Clemson, USA | Dr. Nishanth Tharayil |
| 24. | Dr. Vinod Goyal | Botany & Physiology | International Pedagogy | USA | Institute of Genomics for Crop Abiotic Stress Tolerance, USA | Dr. Gunwant Patil |
| 25. | Dr. Rajesh Kumar | Genetics & Plant Breeding | Molecular Breeding | Australia | Molecular Plant Breeding, AVR's Grains Innovation Park (GIP), Horsham, Victoria, Australia | Dr. Surya Kant |

| | | | | | | |
|---|---|---|---|---|---|---|
| 26. | Dr. Rahul | Chemistry | Nanotechnology | Singapore | Department of Biological Sciences, National University of Singapore | Dr. Prakash Kumar |

**Monitoring and evaluation frameworks**

- The Advisory Committee, HOD, and Dean, PGS all approve the PG students' work schedules, synopses, and the thesis before they are officially authorized.
- PG students present synopsis and thesis seminars in their departments to receive feedback from the departmental professors.
- CCTV cameras have been installed in every lecture hall for effective monitoring.
- The evaluation of teachers using student feedback forms.
- The self-appraisal report of teachers is analyzed by HOD, Dean, DR, DEE, DPGS, and VC.

**6.6.2.7. Integrated Learning Systems (Experiential Learning):** *How many these units have been sanctioned by the ICAR? Mention the functional condition of each unit. Provide data regarding* year wise profit sharing with the students from each unit.

A total of eleven Experiential Learning Programmes (ELP) are functional in the University, out of which seven are ICAR funded and four are functioning with university funds. The ELP seek to advance professional abilities and knowledge through practical application, foster self-assurance and the capacity for project-based work, and develop entrepreneurship and enterprise management skills among the students. The ELP have given students a very good foundation with an approach of "Learning by Doing" and "Seeing by Believing". The ELPs functioning in the various colleges of the University has been successful in developing skilled, human resource in the area of agriculture and other related disciplines. Separate bank account for each EL unit has been created and the seed money of Rs. 50,000/- has been deposited in Bank of Baroda, CCSHAU in the form of revolving fund.

In these programmes, students were also trained for calculating cost of production, GST and profit sharing along with maintenance of records. The entire scheme of experiential learning follows the established system of "Earn While You Learn". The objective of the ELPs is to promote professional skills, entrepreneurship, knowledge and marketing skills through meaningful hands-on experience and working in project mode. The focus of the ELPs is on developing enterprise management capabilities amongst students including skills for project development and execution, accountancy, national/international marketing, etc. This end-to-end approach in product development succeeds in instilling confidence among students that they will be able to build their own business ventures after completion of their degree programmes.

**1. Bakery & Confectionary Products**

The ELP on Bakery & Confectionary Products was started in Department of Foods and Nutrition to give Hands on Training in Bakery and Confectionery to the students for self-employment and entrepreneurship. This is also part of syllabus of final year students of B.Sc. (Hons) Community Science under Student Ready Programme. Different type of bakery and confectionery products like cakes, melting moments, biscuits/cookies, nan khatai, pav bhaji, buns, pizza, dough nuts, kulche, garlic bread, chocolate balls and muffins are being prepared in bakery unit on order which are available and sold out at HAU Mart i.e. outlet for the university ELP products as well as Bakery Lab situated in IC COHS. The ELP of Food and Nutrition has adequate facilities for Hands on Training of Bakery and Confectionery with mechanized equipment's like cookie dropping machine, wire cut

biscuit machine, electric ovens, electric dough keaders, beaters etc for production at bigger scale in less time. This ELP is functional and running successfully in terms of revenue generation and profit is being shared among the students (50% of the total profit) working in it. The products are prepared and sold at fixed rates approved by a committee making the unit economically viable. In this ELP the students are taught plan, production and sale of bakery and confectionery products**:**

- Selection and purchase of material used in bakery & confectionary for the preparation of value-added products
- Purchase of ingredients
- Standardization of portion and costing as well as standardization of new products as per demand of consumers

**Plan for the production**

- Preparation of bakery and confectionary items
- Packaging and storage of developed products
- Product pricing-physical inputs, man-hours, depreciation etc.
- Quality assessment

### 2. Product Design: Digital Embroidered Home Furnishings

This ELP is functional in the Department of Textile and Apparel Designing, IC COHS. Students gain experience in developing creative designs for digital embroidery and develop different embroidered home furnishing articles using digital embroidery machines. They acquire skills in operating advanced equipment's and develop merchandising skills and dealing with customers.

Under Experiential Learning various digital embroidered home furnishing products like Single and Double bed sheets with pillow covers, Cushion covers, Top sheets, Quilt covers, Curtains, Table mats, Table runners, Coaster sets, Sofa covers, Vegetable shopping bags, Baby sheets, Face mask, Apron, Cotton picking bags, Tote bag etc. have been prepared by the students and the prepared products were marketed by the students by putting up exhibitions. The prepared products are sold at various sale points like HAU Mart, exhibitions in different seminars, conferences, Kisan Mela, etc. and profit earned is shared with the students as per ICAR guidelines.

### 3. Studio Media Lab for Designing and production of information material

This ELP is functioning in the Department of Extension Education & Communication Management, IC College of Home Sciences and is working in Graphic and multimedia production, Photography and videography, Audio and video editing and management of information system. The unit is in working mode and exhibits and sells its products at various exhibitions/melas etc. To make it more functional efforts will be made to explore marketing strategy through KVKs, all Colleges, departments, Educational Institutes, PG Students and ATIC.

### 4. Processing of fruits, vegetables and some other food items

Experiential Learning Programme on Processing of fruits, vegetables and some other food items is operating in Centre of Food Science & Technology, COBS&H. The ELP imparts proactive training, to students in agriculture and allied enterprises. With an aim to develop entrepreneurial skills in students. The ELP is conducted during the last semester of final year students of Undergraduate Programme i.e., B.Sc. (Hons.) Agriculture.

The students were imparted practical demonstrations for development of following value-added food products from fruits, vegetables and grain crops:

- Ready-to-serve (RTS) drink from pineapple, guava, mango, ber, papaya and bael;
- Squashes from mango, pineapple, orange, bael, guava and papaya;
- Syrups from pomegranate, orange, raw mango-mint, rose and almond;
- Preserve/murrabba and candy from aonla, bael, ber, karonda and carrot;
- Sauces/Ketchup, chutneys, pickles, confectioneries and dehydrated products
- Biscuits, cakes, muffins and instant mixes

### 5. Processing of Fruits and Vegetables for value addition

This ELP is functioning at COA, Kaul. The students prepare various products such as pickles, jams, chutneys, sauce, Amla candies etc. The fruits and vegetables used are Guava, Tomato, Mango, Aonla, Lemon, Carrot, Potato, Apple, Pear, Plum, Radish, Orange and Chili. The products have been exhibited at various events of the University and have received great appreciation.

### 6. Hi-Tech Agriculture

The ELP on "Hi-Tech Agriculture" is run by Department of Horticulture, College of Agriculture, CCSHAU Hisar. This ELP is funded by ICAR and started in the year 2006. Major facilities created under ELP includes Green-house, fertigation unit and irrigation, equipment's. Depending on the requirement and availability, space at Agri-Tourism Centre is also used by the students, after taking consent from the Centre In-charge.

***Activities Undertaken***

- Nursery of seasonal flowers and different vegetables in plug tray
- Potted plants of chrysanthemum, strawberry, other flowering annuals, & exotic vegetables
- Cuttings of ornamental plants chrysanthemum, bougainvillea, philodendron etc.
- Protected cultivation of fruits, flower and vegetables

***Expertise Gained***

- Techniques of Ornamental Plants Propagation
- Seedling raising in Soilless media in working and operation of green house

### 7. Production of medicinal & Aromatic plants through Tissue Culture & Production of Biofertilizers:

The above Experiential Learning Programme is functioning under the Department of Microbiology, COBS&H. The biofertilizers developed by students are exhibited and sale counters are put up by students at various Krishi Melas and other events organized by the University/ State or central Agriculture department at various places. The unit chiefly works for promotional professional skills, entrepreneurship, knowledge and marketing skills amongst students through meaningful hands-on-experience and working in biofertilizers production and compost making. Skills of the participating students are upgraded for quality control assurance of biofertilizers production and compost making. Linkage between agriculture departments and via forest department Kisan Mela, Kisan Seva Kendra/ Agricultural Technology Information Centre (ATIC) and Field Day have been developed and executed.

### 8. Centre for Agro processing and Engineering Services (CAPES)

This ELP is functional under COAE&T. The basic idea in this ELP is to supply and install customized structures for home gardening and indoor spaces, to supply processed post-harvest produce and to provide custom hiring services of farm machinery.

### 9. ELP on Bio-fertilizers (Bio manure) Production and Compost Making

The unit promotes professional skills, entrepreneurship, knowledge and marketing skills amongst students through working in biofertilizers production and compost making. Skills of students have been upgraded for quality control assurance of biofertilizers production and compost making. Linkages between agriculture departments through Kisan Mela, Kisan Seva Kendra/ Agricultural Technology Information Centre (ATIC) and Field Day have been developed and executed.

### 10. Peri-urban Agriculture

For this ELP, one-acre area at Vegetable Research Farm is allotted to the students and major vegetable crops such as potato, onion etc. which are one time harvested, is being grown. The students sell their products from the CCSHAU Mart.

### 11.Processing of Fruits and Vegetables for value addition

The above Experiential Learning Programme is functioning in the College of Agriculture, Bawal, Rewari. The ELP unit was started during 2022-23. Initially only two products viz., bael squash and bael RTS were prepared. Now students are preparing Aonla Candy and Aonla Murabba. These products are being sold locally. Some more products will be added and prepared in the ensuing season on the basis of availability and rates of raw material.

**The following are the Experiential Learning Units sanctioned by ICAR:**

| Sr. No | Title of the EL Unit | Location (College Name, Place) | Date of Start | Total Amount sanctioned by ICAR (In lakhs) | Status of ELP Unit |
|---|---|---|---|---|---|
| **College of Agriculture** | | | | | |
| 1. | Hi-Tech Agriculture | Department of Horticulture, College of Agriculture | 2006-07 | 40.00 | Functional |
| 2. | Processing of Fruits and Vegetables for value addition | College of Agriculture, Kaul | 2013-14 | 60.00 | Functional |
| **I.C. College of Home Sciences** | | | | | |
| 3. | Bakery & Confectionary products | Department of Foods & Nutrition, IC COHS | 2006-07 | 20.00 | Functional |
| 4. | Studio media Lab. for designing and production of information material | Department of EECM, IC COHS | 2008-09 | 88.00 | Functional |
| 5. | Product Design Digital Embroidered Home Furnishings | Department of Textile and Apparel Designing, IC COHS | 2013-14 | 65.75 | Functional |
| **College of Basic Sciences and Humanities** | | | | | |
| 6. | Processing of fruits, vegetables and some | CFST, COBS&H | 2006-07 | 40 .00 | Functional |

| | | | | | |
|---|---|---|---|---|---|
| | other food items | | | | |
| 7. | Production of medicinal & Aromatic plants through Tissue Culture & Production of Biofertilizers | COBS&H | 2006-07 | 46.00 | Functional |

**The following are the Experiential Learning Units supported by the University:**

| Sr. No. | Title of the ELP Unit | Location (College Name, Place) | Date of Start | Total Amount sanctioned/allocated by university | Status of ELP Unit |
|---|---|---|---|---|---|
| **College of Agriculture, Hisar** | | | | | |
| 1. | Peri Urban Agriculture | College of Agriculture, Hisar | 2018-19 | 50,000/- | Functional |
| **College of Agriculture, Bawal** | | | | | |
| 2 | Processing of Fruits and Vegetables for value addition | College of Agriculture, Bawal | 2021-22 | 50,000/- | Functional |
| **College of Agriculture Engineering & Technology, Hisar** | | | | | |
| 3. | Composting and Bio-fertilizers production | COAE&T, Hisar | 2018-19 | 50,000/- | Functional |
| 4. | Centre for Agro Processing and Engineering Services | COAE&T, Hisar | 2018-19 | 50,000/- | Functional |

**Details of students trained, revenue generation and other activities under report period**

| S. No. | College /Discipline | Title of the EL Unit where the students were enrolled | EL Unit wise number of students trained | Revenue generated (Rs.) | Expertise gained |
|---|---|---|---|---|---|
| 1. | **College of Agriculture** | Hi Tech Agriculture | 41 | 56,700 | • Nursery raising of horticultural plants, Propagation of ornamental plants, Care and management of potted plants; Greenhouse management for nursery raising; Marketing skills |
|   Demonstrations of ELP activities | | | | | |
| 2 | CFST, COBS&H | Processing of fruits, vegetables and some other food items | 49 | 3,38,346 | • Students were imparted practical demonstrations for processing of value-added fruits, vegetables and cereals products viz.,<br>• Ready-to-serve drink from pineapple, guava, mango, ber, papaya and bael; Squashes from mango, pineapple, orange, bael, guava and papaya;<br>• Syrups from pomegranate, orange, raw |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | mango-mint, rose and almond;<br>• Preserve/murrabba and candy from aonla, bael, ber, karonda and carrot;<br>• Biscuits, cakes, muffins and instant mixes;<br>• (Expenditure limit increased from seed money of Rs. 50000/- allotted during 2016-17 to Rs 2.0 lac during 2019-20 and onwards) |
|  <br>Demonstrations of ELP activities at Kisan Diwas | | | | | |
| 3 | COBS&H | Production of medicinal & Aromatic plants through Tissue Culture & Production of Biofertilizers | 70 | 68,000 | • Students were able to isolate, purify the potential bioinoculants.<br>• The trained students were able to produce biofertilizers at large scale. |
| 4 | Department of Foods & Nutrition, IC COHS | Bakery & Confectionery | 56 | 7,70,806 | • Different types of Cakes, Pearl millet biscuits, Chocolate balls, Muffins, Bajra Namkeen/ Sev etc. |
|  <br>Demonstrations of ELP activities at Kisan Diwas | | | | | |
| 5 | Department of EECM, IC COHS | Studio media Lab. for designing and production of information material | 76 | 56,774 | • Skill acquisition in Designing and production of print media<br>• Ability to design and develop customized products with informative messages |




Demonstrations of ELP activities

| | | | | | |
|---|---|---|---|---|---|
| 6 | Department of Textile and Apparel Designing IC COHS | Product Design: Digital Embroidered Home Furnishings | 42 | 4,90,608 | • Digital Embroidered Single & Double Bed Sheets<br>• Digital Embroidered Pillow Covers, Cushion Covers, Baby Sheets, Vegetable Shopping Bags |




Demonstration of ELP activities was awarded at Kisan Mela

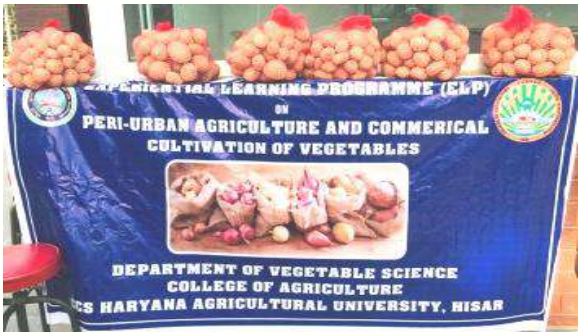
| | | | | | |
|---|---|---|---|---|---|
| 7 | COA, Kaul (Kaithal) | Processing of Fruits and Vegetables for value addition | 70 | - | • Experience gained for value addition in fruits and vegetables products like candy, squash, chutney, jam etc.<br>• Products like Pickles (Mango and lemon), Jam (Apple and Pear), Squash (Lemon and Mausambi) and Sauce & Chutney (Tomato and Aonla) made by ELP students and demonstrated in Farmers Fairs and Kisan Diwas at CCSHAU, Hisar. |




Demonstrations of ELP activities CoA Kaul, Kaithal

| | | | | | |
|---|---|---|---|---|---|
| 8 | College of Agriculture, Hisar | Peri Urban Agriculture | 46 | 67,434 | • Potato and Onion crops |




Sale of ELP Produce at HAU mart

| | | | | | |
|---|---|---|---|---|---|
| 9 | College of Agricultural Engineering & Technology | Composting and Bio-fertilizers production | 40 | 30,000 | • Students learnt steps to prepare compost, vermicompost and biofertilizers<br>• The trained students were able to produce compost and vermicompost at large scale and were able to sell their product through HAU e Mart and demonstrated their products in Krishi Melas |
| 10 | College of Agricultural Engineering & Technology | Centre for Agro Processing and Engineering Services | 2 | 3,869 | • Primary and secondary processing of food produce |
| 11 | College of Agriculture, Bawal | Processing of Fruits and Vegetables for value addition | 22 | 20,500 | • Students of B.Sc. (Hons) Ag. are engaged in experiential learning programme without module<br>1. Aonla candy<br>2. Aonla murabba<br>3. Bael squash<br>4. Bael RTS |

**6.6.2.8. Academic Industry Interface:** *Mention the important channels for knowledge transfer between university and firms. How the university has been benefited in last five years in terms of resource mobilization, research funding, knowledge transfer and others.*

There is mechanism of University-Industry interface in the shape of MoUs and Industry sponsored projects including evaluation of products like chemicals, fertilizers, manures, varieties, hybrids etc. for their suitability in agricultural production systems of the state. Resources are being mobilized from industry/private agencies in the shape of different projects/testing. During the 2018-19 to 2022-23, funding for 72 projects have been received in the shape of industry sponsored projects/testing, amounting to total sum of Rs 15,32,44,412/-. The details of funding received from industry/private agencies during the last five years are given below.

| Year | No. of projects funded by industry/private agencies | Amount of funding received from Industry/ private agencies (Rs) |
|---|---|---|
| 2018-19 | 16 | 2,93,25,184 |
| 2019-20 | 12 | 1,74,35,084 |
| 2020-21 | 16 | 2,78,18,347 |
| 2021-22 | 16 | 4,86,69,624 |
| 2022-23 | 12 | 2,99,96,173 |
| Total | 72 | 15,32,44,412 |

**Non-Exclusive License Agreement (MoU)** is very important channel for the University for Knowledge Transfer between University and firms and in last five years University has signed 56

Non-Exclusive License Agreements/MoUs (List given below) for the commercialization/ technology transfer, incubation, Research and Development etc.

**List of Non-Exclusive License Agreements (2018-2023)**

| S. No. | Name of the Organization | Product/Process/ Technology | Date/Duration of MoU |
|---|---|---|---|
| **(A.) Maize Hybrids** | | | |
| 1. | Sri Sai Seeds, Kurnool, Andhra Pradesh | HQPM 1, HQPM 4, HQPM 5 & HQPM 7 | 04.03.2014 (5 years) Renewed for HQPM 1 on 09.07.2020 (5 years) |
| **(B.) Bajra Hybrids** | | | |
| 2. | Sampoorna Seeds, Kurnool, Andhra Pradesh | HHB 299 & HHB 311 | 08.01.2020 (4 Years) |
| 3. | Sri Laxmi Venkateshwara Seeds, Kurnool, Andhra Pradesh | HHB 299 & HHB 311 | 20.01.2020 (4 Years) |
| 4. | Shri Sai Sadguru Seeds, Hyderabad | HHB 67(I) & HHB 299 | 23.08.2021 (4 Years) |
| 5. | Murlidhar Seeds Corporation, Kurnool | HHB 299 & HHB 311 | 26.08.2021 (4 Years) |
| 6. | Dev Agri-tech Pvt. Ltd., Gurugram | HHB 299 & HHB 311 | 03.09.2021 (4 Years) |
| **(C.) Wheat Variety WH 1270** | | | |
| 7. | Dev Agri-tech Pvt. Ltd., Gurugram | WH 1270 | 31.05.2022 (3 Years) |
| 8. | Uttam seeds, Hisar | | 15.10.2022 (3 Years) |
| 9. | Quality hybrid seed company, Hisar | | 26.10.2022 (3 Years) |
| 10. | Shaktivardhak Hybrid seeds Pvt Ltd, Hisar | | 26.10.2022 (3 Years) |
| 11. | Shiv Ganga Hybrid Seeds Pvt Ltd, Hisar | | 26.10.2022 (3 Years) |
| 12. | Haryana Seed Company, Karnal | | 26.10.2022 (3 Years) |
| 13. | Kurukshetra Agritech Pvt Ltd, Indri, Karnal | | 26.10.2022 (3 Years) |
| 14. | Kastkar Seeds Vidisha, M.P. | | 26.10.2022 (3 Years) |
| 15. | Model Agritech India Ltd, Indri, Karnal | | 26.10.2022 (3 Years) |
| 16. | Unnat Beej Company, Sirsa | | 26.10.2022 (3 Years) |
| 17. | Lakshya seeds, Uchana, Jind | | 10.11.2022 (3 Years) |
| 18. | Shankar Seeds, Safidon, Jind | | 10.11.2022 (3 Years) |
| 19. | Kiran Seeds, Kurukshetra | | 10.11.2022 (3 Years) |
| 20. | Shaktimaan Seeds, Sirsa | | 10.11.2022 (3 Years) |
| 21. | Harbir Agrotech, Karnal | | 10.11.2022 (3 Years) |
| 22. | Asian Seeds, Bhadson, Karnal | | 10.11.2022 (3 Years) |
| 23. | Khalsa Exports, Karnal | | 10.11.2022 (3 Years) |
| 24. | Sahib Seeds Ltd., Karnal | | 10.11.2022 (3 Years) |
| 25. | Surya Seeds & Chemicals, Fatehabad | | 10.11.2022 (3 Years) |
| 26. | Jai Shri ram export seeds, Narwana | | 10.11.2022 (3 Years) |
| 27. | Growtech Seeds India Pvt. Ltd., Hisar | | 10.11.2022 (3 Years) |
| 28. | Jot Karnal Seed Farm, Ajnala, Amritsar PB. | | 10.11.2022 (3 Years) |
| 29. | Tiwana Seed Store, Bhwanigarh, Sangrur | | 10.11.2022 (3 Years) |

| | | | |
|---|---|---|---|
| 30. | Onkar Seeds, Karnal | | 10.11.2022 (3 Years) |
| 31. | Supreme Seeds, Fatehabad | | 10.11.2022 (3 Years) |
| 32. | Support Organic Farm India (SOFI), New Delhi | | 10.11.2022 (3 Years) |
| 33. | Fame Seeds, Hisar | | 10.11.2022 (3 Years) |
| 34. | Semenis Seed Company, Panipat | | 10.11.2022 (3 Years) |
| 35. | K.D. Seeds Mathana, Kurushetra | | 10.11.2022 (3 Years) |
| 36. | Punjab Seeds, Sirsa | | 10.11.2022 (3 Years) |
| 37. | Jai Agro Seeds, Hisar | | 10.11.2022 (3 Years) |
| **(D.) Raya Varieties** | | | |
| 38. | AgroStar (Ulink Agritech Pvt Ltd), Pune | RH 725 | 02.09.2021 (3 Years) |
| 39. | Greenspace Agri Life Pvt. Ltd., Alwar | | 28.01.2022 (3 Years) |
| 40. | Dev Agri-tech Pvt. Ltd., Gurugram | | 31.05.2022 (3 Years) |
| 41. | Support Organic Farm India (SOFI), New Delhi | Raya Variety RH 725 | 10.11.2022 (3 Years) |
| 42. | My Kisan Agro (MKD Seeds), Neemach, M.P. | Raya Variety RH 725, RH 761 | 10.11.2022 (3 Years) |
| **(E.) Moong Variety (MH 421)** | | | |
| 43. | Dev Agri-tech Pvt. Ltd., Gurugram | MH 1142 | 03.09.2021 (3 Years) |
| **(F.) Sorghum Variety** | | | |
| 44. | Dev Agri-tech Pvt. Ltd., Gurugram | CSV44F | 03.09.2021 (3 Years) |
| **(G.) Onion Variety (HOS3)** | | | |
| 45. | Mansoon Seeds Pvt. Ltd., Pune. | HOS3 | 28.04.2022 (3 Years) |
| **(H.) Oats OS 405** | | | |
| 46. | Dev Agri-tech Pvt. Ltd., Gurugram | OS 405 | 31.05.2022 (3 Years) |
| **(I.) Incubation** | | | |
| 47. | ABIC, CCSHAU, Hisar | Increasing Entrepreneurship based on CCSHAU Technologies | 23.10.2020 (5 Years) |
| **(J.) PPP Mode** | | | |
| 48. | M/s Bajwa Mushroom Farm, Kurukshetra | Usage of Mushroom Technology Laboratory, CCSHAU, Hisar | 19.12.2017 (11 Months) |
| 49. | M/s HABITAT Genome Improvement Primary Producers Company Pvt. Ltd. Village- Ramayan, Hisar, Haryana | Usage of Bio-fertilizers production Laboratory, CCSHAU, Hisar | 04.07.2018 (11 Months) |
| **(K.) R&D Agreement** | | | |
| 50. | VNR Nursery Pvt. Ltd., Corporate Centre, 1st Floor Canal Road Crossing, Ring Road No. 01 Raipur, Chhattisgarh 492010 | Transfer of Vegetable Grafting Technology | 05.09.2018 (01 Year) |
| 51. | Fortum India, New Delhi | Research about paddy and paddy straw | 05.09.2019 (5 Years) |
| 52. | Coromandel International Limited, Secunderabad | Training, Research and Extension | 22.02.2021 (3 Years) |
| 53. | Dhanuka Agritech Limited, New Delhi | Training, Research and Extension | 17.11.2021 (3 Years) |

| | | | |
|---|---|---|---|
| **(L.) PUBLIC SECTOR** | | | |
| 54. | National Research Development Corporation | Promotion of Commercializable technologies available with CCSHAU | 10.10.2019 (10 years) |
| 55. | The Haryana State Cooperative Marketing & Federation Limited (HAFED), Sector-5, Panchkula<br>&<br>M/s Habitat Genome Improvement Primary Producers Company Ltd., Village Ramayan, Hisar | Sale of Biofertilizer through HAFED retail channels | 01.07.2020 to 31.03.2021 |
| 56. | ICAR-Indian Institute of Wheat and Barley Research (IIWBR), Karnal-132001, Haryana, India | Benefit sharing from jointly released wheat variety DBWH-221 | 08.12.2021 |

During this period, a revenue of Rs. 46,26,000/- has been generated by the BPD Unit through membership fee and technology licensing through Non-Exclusive License Agreements and Rs. 25,58,000/- have been generated through public private partnership agreements.

| S. No | Revenue generated | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|---|---|---|---|---|---|---|---|---|
| 1 | Membership Fees (Entrepreneurs) | 1,000 | - | - | - | - | - | 1,000 |
| 2 | Membership Fees (Companies) | 40,000 | - | - | 1,00,000 | 4,75,000 | - | 6,15,000 |
| 3 | MoUs (Technology Licensing) | - | - | 8,00,000 | 13,10,000 | 19,00,000 | - | 40,10,000 |
| 4 | Public private partnership | 1,35,000 | 8,80,700 | 9,37,300 | 80,000 | 2,50,000 | 2,75,000 | 25,58,000 |
| | | | | | | | **Grand total** | 71,84,000 |

**6.6.2.9. National Ranking (ICAR/MHRD):** Mention about the rank of the University in last five years in the NIRF from ICAR/MHRD.

- CCSHAU, Hisar ranked 4th amongst Govt. And Govt. Aided universities & deemed to be Universities in Atal ranking of Institution on Innovation Achievement (ARIIA) by MHRD in the year 2021
- CCSHAU, Hisar ranked 3rd amongst Govt. and Govt. Aided universities & deemed to be Universities in Atal ranking of Institution on Innovation Achievement (ARIIA) by MHRD in the year 2020
- CCSHAU, Hisar ranked 9th amongst Agricultural Universities by ICAR in the year 2020
- CCSHAU, Hisar ranked 63rd in the University category by NIRF in the year 2019
- CCSHAU, Hisar ranked 89th in overall category by NIRF in the year 2019
- CCSHAU, Hisar ranked 6th amongst Agricultural Universities by ICAR in the year 2019
- CCSHAU, Hisar ranked 50th in the University category by NIRF in the year 2018
- CCSHAU, Hisar ranked 76th in overall category by NIRF in the year 2018
- CCSHAU, Hisar ranked 4th amongst Agricultural Universities by ICAR in the year 2018
- I.C. College of Home Sciences, CCSHAU, Hisar, Ranked 42nd in college category in the year 2022 by NIRF
- I.C. College of Home Sciences, CCSHAU, Hisar, Ranked 38th in college category in the year 2021 by NIRF
- I.C. College of Home Sciences, CCSHAU, Hisar, Ranked 49th in college category in the year 2020 by NIRF

### 6.6.3. Research Support

**6.6.3.1. Research Council:** *Mention the present composition of the research council and provide the dates of meetings in last five years in tabular form.*

**CCSHAU has a Research Programme Committee (RPC) for chalking out the road map and guiding research programmes of the different departments of the university**

**A. Composition of Research Programme Committee**

| | | |
|---|---|---|
| 1. | Vice-Chancellor, CCSHAU, Hisar | Chairman |
| 2. | Dean, Post-graduate Studies, CCSHAU, Hisar | Member |
| 3. | Dean, College of Agriculture, CCSHAU, Hisar | Member |
| 4. | Dean, College of Agril. Engg. & Technology, CCSHAU, Hisar | Member |
| 5. | Dean, College of Basic Sciences & Humanities, CCSHAU, Hisar | Member |
| 6. | Dean, College of Home Sciences, CCSHAU, Hisar | Member |
| 7. | Dean, College of Veterinary Sciences, LLRUVAS, Hisar | Member |
| 8. | Director of Extension Education, CCSHAU, Hisar | Member |
| 9. | Director, Human Resource Management, CCSHAU, Hisar | Member |
| 10. | Director of Research, LLRUVAS, Hisar | Member |
| 11. | Director General, Agriculture& Farmers welfare, Govt. of Haryana, Chandigarh | Member |
| 12. | Director General, Horticulture, Govt. of Haryana, Panchkula | Member |
| 13. | Director General, Animal Husbandry and Dairying, Govt. of Haryana, Panchkula | Member |
| 14. | Director of Research, CCSHAU, Hisar | Member Secretary |

**SPECIAL INVITEES**

1. Director, IARI, New Delhi
2. Director, NDRI, Karnal
3. Director, CIRB, Sirsa Road, Hisar
4. Director, NBPGR, New Delhi
5. Director, CSSRI, Karnal
6. Director, CAZRI, Jodhpur
7. Director, NBAGR, Karnal
8. Director, NRC on Equines, Hisar
9. Director, Department of Fisheries, Haryana, Panchkula
10. Director, Department of Women and Child Development, Haryana, Chandigarh
11. Director, Department of Environment, Haryana, Chandigarh
12. Director, IIWBR, Karnal
13. Comptroller, CCSHAU, Hisar
14. Head, Seed Science &Technology-cum-Nodal Officer (Seeds)
15. President, HAUTA, CCSHAU, Hisar

**DIRECTORATE OF RESEARCH**

1. Additional Director of Research
2. Project Director
3. Joint Director (BS/HS)
4. Assistant Director (REL)

5. Assistant Director (Crops)
6. Assistant Director (PP)
7. Assistant Director (Stat.)

**B. Research Programme Committee Meetings held during the last five years**

| S. No. | RPC Meeting | Date of Meeting |
|---|---|---|
| 1. | 49th Research Programme Committee Meeting | 16.10.2020 |

**Technical Programme Committee**: In addition to Research Programme Committee (RPC), CCSHAU has Technical Programme Committee to review and formulate the technical programmes of the ongoing research schemes in the university. The constitution of the Technical Programme Committee is as under:

1. Director of Research – Chairperson
2. Head of the concerned department – Convener
3. Heads of the related department – Members
4. Faculty of the concerned department – Invited members
5. Collaborators from the related departments – Invited members

Related member departments for inclusion Technical Programme Committee pertaining to different crops/departments of the university are as under:

| Crops/Disciplines | Related Departments |
|---|---|
| Rice | All HODs of COA (Except Business Mgt); HOSs (Pulses, Oilseeds and Forages, G&PB ;), HODs, SWE, FM&PE, MBB&B, Chemistry, Biochemistry, Microbiology and Botany & Plant Physiology, Maths. & Stat., Foods & Nutrition, RDs, RRS, Kaul, Karnal and Director, DDUCE-OF |
| Bajra | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Botany & Plant Physiology, Maths. & Stat., CFST, FN, SWE, FM&PE and Director, DDUCE-OF |
| *Kharif* Oilseeds | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Botany & Plant Physiology, Maths. & Stat., CFST, FN, SWE, FM&PE and Director, DDUCE-OF |
| RRS, Bawal | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, FM&PE, SWE Microbiology, Maths. & Stat., MBB&B, Botany & Plant Physiology, FN and Director, DDUCE-OF |
| *Kharif* Pulses | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Botany & Plant Physiology, Maths. & Stat., CFST, FN, SWE, P&FE, FM&PE and Director, DDUCE-OF |
| RRS Rohtak | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Botany & Plant Physiology, Maths. & Stat., CFST, FN, SWE, P&FE, FM&PE and Director, DDUCE-OF |
| Soils | All HODs of COA (Except Business Mgt.); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Botany & Plant Physiology, Maths. & Stat., SWE, FM&PE and Director, DDUCE-OF |
| Agronomy | All HODs of COA (Except Business Mgt.); All HOSs, G&PB; HODs, Microbiology, Chemistry, Biochemistry, Botany& Plant Physiology, Maths. & Stat., FM&PE, SWE and Director, DDUCE-OF |
| *Kharif* Forages | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Maths. & Stat., Botany & Plant Phy., FN, FM&PE, SWE and Director, DDUCE-OF |

| | |
|---|---|
| DDUCE-OF | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Botany & Plant Physiology, Maths. & Stat., FST, FN, SWE, P&FE, FM&PE and Director, DDUCE-OF |
| Vegetable Sciences | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Maths. & Stat., CFST, FN, SWE, P&FE, FM&PE, RBEE and Director, DDUCE-OF |
| Agricultural Meteorology | All HODs of COA (Except Business Mgt.); All HOSs, G&PB; HODs, Botany & Plant Physiology, Maths. & Stat., Physics, SWE and Director, DDUCE-OF |
| SST | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, Botany & Plant Physiology, MBB&B, Chemistry, Biochemistry, Maths. & Stat., FM&PE, P&FE and Director, DDUCE-OF |
| Plant Pathology | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs; Microbiology, MBB&B, Chemistry, Maths. & Stat., Biochemistry and Director, DDUCE-OF |
| Nematology | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Maths. & Stat. and Director, DDUCE-OF |
| Entomology | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, MBB&B, Chemistry, Biochemistry, Zoology, Botany & Plant Physiology, Maths. & Stat., SWE, FM&PE and Director, DDUCE-OF |
| Horticulture | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs; Microbiology, MBB&B, Chemistry, Biochemistry, Botany & Plant Physiology, Maths. & Stat., Physics, CFST, FN, FM&PE, SWE, P&FE and Director, DDUCE-OF |
| Forestry | All HODs of COA (Except Business Mgt); All HOSs, G&PB; HODs, Microbiology, Botany & Plant Physiology, MBB&B, Biochemistry, Chemistry, Maths. & Stat., FM&PE , SWE, RBEE and Director, DDUCE-OF |
| Agril. Economics | All HODs of COA; All HOSs, G&PB; HODs, Math& Statistics, Sociology EE&CM, P&FE, FM&PE, SWE and Director, DDUCE-OF |
| Sociology | All HODs of COA; All HOSs, G&PB; HODs, Maths. & Stat., EE&CM, P&FE, FM&PE, SWE and Director, DDUCE-OF |
| Agril. Extension | All HODs of COA; All HOSs, G&PB; HODs, Maths. & Stat., EE&CM, P&FE, FM&PE, SWE and Director, DDUCE-OF |
| FM&PE | All HODs of COAE&T and COA (except Business Mgt.), All HOSs, G&PB, HODs Math. & Stat., Physics, Director; DDUCE-OF |
| SWE | All HODs of COAE&T and COA (except Business Mgt.), All HOSs, G&PB, HODs Math. & Stat., Physics; Director, DDUCE-OF |
| P&FE | All HODs of COAE&T and COA (except Business Mgt.), All HOSs, G&PB, HODs, Microbiology, Maths. & Stat., Physics, FST, EECM, FRM, FN and Director, DDUCE-OF |
| RBEE | All HODs of COAE&T and COA (except Business Mgt.), All HOSs, G&PB, HODs, Microbiology, Math. & Stat., Physics, FST, EECM, FRM, FN and Director, DDUCE-OF |
| Maize | All HODs of COA (Except Business Mgt); HOSs (Pulses, Oilseeds and Forages), G&PB; HODs, SWE, FM&PE, MBB&B, Chemistry, Biochemistry, Microbiology and Botany & Plant Physiology, Maths. & Stat., Foods & Nutrition and Director, DDUCE-OF |
| CFST | All HODs of COAE&T, FN, Genetics and Plant Breeding, Agricultural Economics, Extension Education, Business Management, Horticulture, Vegetable Science, Chemistry, Biochemistry, Microbiology, Maths. & Stat., HOSs, Forage, Bajra, MAP, Oilseeds, Pulses, Wheat & Barley and Director, DDUCE-OF |
| Microbiology | All HODs COBS&H, Director DDUCE-OF, HODs: Agronomy, Entomology, Forestry, G&PB, Horticulture, Nematology, Plant Pathology, Soil Science, Vegetable Science, All HOSs: G&PB |
| Chemistry | All HODs COBS&H, Director DDUCE-OF, All HODs COAE&T, HODs: Agri. Met., Agronomy, Entomology, Agril. Economics, Forestry, G&PB, Horticulture, Vegetable Science, All HOSs, G&PB, Chemistry, Biochemistry, Microbiology Nematology, Plant |

| | |
|---|---|
| | Pathology, Soil Science, FN |
| CFST | All HODs COBS&H, Director DDUCE-OF, All HODs COAE&T, HODs: Agri. Met., Agronomy, Entomology, Agril. Economics, Forestry, G&PB, Horticulture, Vegetable Science, All HOSs, G&PB, Chemistry, Biochemistry, Microbiology Nematology, Plant Pathology, Soil Science, FN |
| Botany & Plant Physiology | All HODs COBS&H, HODs: Agronomy, Entomology, Forestry, G&PB, Horticulture, Nematology, Plant Pathology, Soil Science, Vegetable Science, All HOSs of G&PB |
| Biochemistry | All HODs COBS&H, HODs: Agronomy, Entomology, Forestry, G&PB, Horticulture, Nematology, Plant Pathology, Soil Science, Vegetable Science, All HOSs of G&PB |
| College of Bio-technology | All HODs COBS&H, Director DDUCE-OF, HODs: Agronomy, Entomology, Forestry, G&PB, Horticulture, Nematology, Plant Pathology, Soil Science, Vegetable Science, All HOSs of G&PB |
| Zoology & Aquaculture | All HODs COBS&H, Director DDUCE-OF, HODs: Entomology, Nematology, Plant Pathology, Soil Science |
| College of Fisheries Science | All HODs COBS&H, Director DDUCE-OF, HODs: Entomology, Nematology, Plant Pathology, Soil Science |
| Physics | All HODs COBS&H, Director DDUCE-OF, HODs Computer Section, Agronomy, Entomology, Forestry, G&PB, Horticulture, Plant Pathology, Soil Science, Vegetable Science |
| Maths & Stat. | All HODs COBS&H, Director DDUCE-OF, HODs: Computer Section, Agronomy, Entomology, Forestry, G&PB, Horticulture, Plant Pathology, Soil Science, Vegetable Science |
| Extension Edu. & Communication Management | All HODs COHS, Director DDUCE-OF, HODs: G&PB, Agricultural Economics, Sociology, Extension Education, Business Management, Math & Stat., Sociology, CFST, P&FE, |
| Textile and Apparel Designing | All HODs COHS, HODs: G&PB, Agricultural Economics, Sociology, Extension Education, Business Management, Math & Stat., Sociology, CFST, P&FE, Director DDUCE-OF |
| Family Resource Management | All HODs COHS, HODs: G&PB, Agricultural Economics, Sociology, Extension Education, Business Management, Math & Stat., Sociology, CFST, P&FE, Director DDUCE-OF |
| AICRP (Home Science) | All HODs COHS, HODs: G&PB, Agricultural Economics, Extension Education, Sociology, Entomology, Plant Pathology, Business Management, Horticulture, Vegetable Science, Chemistry, Biochemistry, Math & Stat., Microbiology, CFST, All HOSs G&PB, Director DDUCE-OF |
| Foods & Nutrition | All HODs COHS, HODs: G&PB, Agricultural Economics, Extension Education, Sociology, Entomology, Plant Pathology, Business Management, Horticulture, Vegetable Science, Chemistry, Biochemistry, Math & Stat., Microbiology, CFST, All HOSs G&PB, Director DDUCE-OF |
| Human Dev.& Family Studies | All HODs COHS, HODs: G&PB, Agricultural Economics, Extension Education, Sociology, Entomology, Plant Pathology Business Management, Horticulture, Vegetable Science, Chemistry, Biochemistry, Math& Stat., Microbiology, CFST, All HOSs G&PB, Director DDUCE-OF |

Review of Research Schemes and Technical programme meetings are held once a year for all the crops/departments and twice a year (*Kharif* and *Rabi* seasons) for Agronomy, Pulses, Oilseeds, Forage crops, and RRS, Bawal under the chairmanship of Director of Research, in which the results of the previous year are reviewed and the technical programme of the next year is formulated based on the previous year's results and feedback from different stakeholders.

**Review of Research Schemes and Technical programme meetings held during period under report**

| Department | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| Agronomy ***(Kharif)*** | 06.06.2018 | 10.06.2019 | 20.06.2020 | 02.07.2021 | 14.07.2022 |
| Agronomy (*Rabi*) | 18.10.2018 | 15.10.2019 | 28.10.2020 | 14.10.2021 | 28.10.2022 |

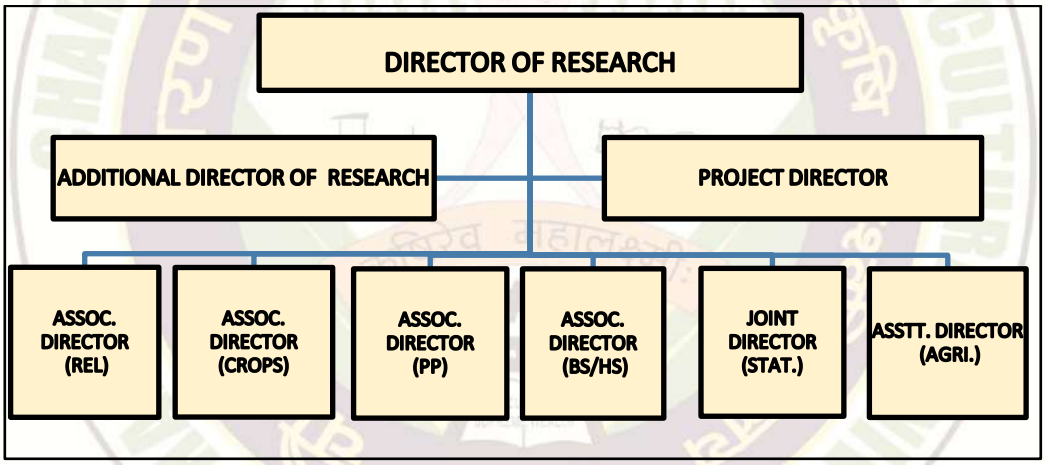
| | | | | | |
|---|---|---|---|---|---|
| Soils | 07.06.2018 | 11.06.2019 | 10.06.2020 | 20.07.2021 | 22.06. 2022 |
| Forestry | 11.06.2018 | 12.06.2019 | 17.08.2020 | 26.07.2021 | 18.07. 2022 |
| Nematology | 12.06.2018 | 25.06.2019 | 24.06.2020 | 19.07.2021 | 11.07. 2022 |
| Extension Education | 23.06.2018 | 02.07.2019 | 05.08.2020 | 30.07.2021 | 22.07. 2022 |
| SST | 09.08.2018 | 08.07.2019 | 08.07.2020 | 16.07.2021 | 05.08. 2022 |
| Horticulture | 02.07.2018 | 28.06.2019 | 09.07.2020 | 03.08.2021 | 15.07. 2022 |
| Plant Pathology | 05.07.2018 | 05.07.2019 | 06.07.2020 | 14.07.2021 | 07.07. 2022 |
| Agri. Economics | 05.07.2018 | 01.07.2019 | 10.07.2020 | 28.07.2021 | 20.07. 2022 |
| Agri-Met. | 13.06.2018 | 04.06.2019 | 04.07.2020 | 17.07.2021 | 04.07. 2022 |
| Vegetable Sciences | 15.06.2018 | 20.06.2019 | 22.06.2020 | 27.07.2021 | 02.07. 2022 |
| Entomology | 20.06.2018 | 02.07.2019 | 03.07.2020 | 12.07.2021 | 13.07. 2022 |
| Forage *(Kharif)* | 19.06.2018 | 13.06.2019 | 15.06.2020 | 28.06.2021 | 28.06. 2022 |
| Forage (*Rabi*) | 29.09.2018 | 26.09.2019 | 5.10.2020 | 08.10.2021 | 10.10.2022 |
| Pulses *(Kharif)* | 21.06.2018 | 26.06.2019 | 29.06.2020 | 23.06.2021 | 20.06. 2022 |
| Pulses (*Rabi*) | 28.09.2018 | 09.10.2019 | 01.10.2020 | 04.10.2021 | 02.11.2022 |
| MAP | 21.06.2018 | 26.06.2019 | 30.10.2020 | 16.10.2021 | 04.11.2022 |
| Bajra | 09.08.2018 | 19.06.2019 | 19.06.2020 | 17.06.2021 | 15.06. 2022 |
| Oilseeds (*Kharif*) | 09.08.2018 | 19.06.2019 | 19.6.2020 | 17.06.2021 | 15.06. 2022 |
| Oilseeds (*Rabi*) | 27.09.2018 | 01.10.2019 | 24.09.2020 | 30.09.2021 | 30.09.2022 |
| Wheat and Barley | 16.10.2018 | 16.10.2019 | 26.10.2020 | 18.10.2021 | 29.10.2022 |
| Sugarcane | 19.02.2018 | 13.02.2019 | 24.02.2020 | 08.03.2021 | 21.03.2022 |
| Cotton | 04.05.2018 | 25.04.2019 | 08.05.2022 | 18.05.2021 | 05.05.2022 |
| FM&PE | 26.06.2018 | 25.10.2019 | 15.07.2020 | 02.08.2021 | 26.07. 2022 |
| SWE | 26.06.2018 | 03.07.2019 | 15.07.2020 | 02.08.2021 | 26.07. 2022 |
| P&FE | 21.08.2018 | 04.07.2019 | 17.07.2020 | 04.08.2021 | 09.09.2022 |
| RBEE | 21.08.2018 | 25.10.2019 | 17.07.2020 | 04.8.2021 | 28.07. 2022 |
| DDUCE-OF | - | - | 23.06.2020 | 05.07.2021 | 30.06. 2022 |
| Sociology | 23.06.2018 | 27.06.2019 | 13.07.2020 | 04.09.2021 | 22.07. 2022 |
| CFST | 04.08.2018 | 30.09.2019 | 18.07.2020 | 04.08.2021 | 02.08.2022 |
| Zoology & Aquaculture | 3.07.2018 | 09.07.2019 | 20.07.2020 | 09.08.2021 | 16.08.2022 |
| Botany & Plant Physiology | 3.07.2018 | 09.07.2019 | 22.07.2020 | 06.08.2021 | 16.08.2022 |
| COFS | - | - | 20.07.2020 | 09.08.2021 | 08.08.2022 |
| MBBB | 04.07.2018 | 18.07.2019 | 24.07.2020 | 16.08.2021 | 22.08.2022 |
| Physics | 04.07.2018 | 18.07.2019 | 22.07.2020 | 12.08.2021 | 19.08.2022 |
| Chemistry | 06.07.2018 | 26.07.2019 | 27.07.2020 | 17.08.2021 | 17.08.2022 |
| Biochemistry | 06.07.2018 | 26.07.2019 | 27.07.2020 | 18.08.2021 | 08.08.2022 |
| Microbiology | 07.07.2018 | 12.07.2019 | 30.07.2020 | 06.08.2021 | 20.08.2022 |
| Maths & Statistics | 07.07.2018 | 12.07.2019 | 06.08.2020 | 12.08.2021 | 19.08.2022 |
| Foods & Nutrition, | 23.08.2018 | 15.07.2019 | 11.08.2020 | 23.08.2021 | 02.09.2022 |
| Textile and Apparel Designing | 23.08.2018 | 15.07.2019 | 11.08.2020 | 25.08.2021 | 02.09.2022 |
| EECM | 08.08.2018 | 16.07.2019 | 07.08.2020 | 24.08.2021 | 31.08.2022 |
| Human Development | 08.08.2018 | 16.07.2019 | 07.08.2020 | 26.08.2021 | 31.08.2022 |

| | | | | | |
|---|---|---|---|---|---|
| Family Studies | | | | | |
| AICRP (Home Sc.) | 13.07.2018 | 08.08.2019 | 10.08.2020 | 04.09.2021 | 05.09.2022 |
| Family Resource Management | 13.07.2018 | 08.08.2019 | 10.08.2020 | 04.09.2021 | 25.08.2022 |
| RRS, Bawal | 14.06.2018 | 15.05.2019 | 8.06.2020 | 21.06.2021 | 18.06. 2022 |
| RRS, Bawal (*Rabi*) | 12.10.2018 | 03.06.2019 | 8.10.2020 | 11.10.2021 | 12.10.2022 |
| RRS, Rohtak | 12.06.2018 | 29.05.2019 | 30.06.2020 | 30.06.2021 | 20.06. 2022 |
| CRS Sirsa | 04.05.2015 | 25.04.2019 | 08.05.2020 | 18.05.2021 | 17.05.2022 |
| Rice RRS, Kaul | 21.05.2018 | 18.06.2019 | 17.06.2020 | 11.06.2021 | 08.06.2022 |
| Maize RRS, Uchani | 25.06.2018 | 18.06.2019 | 26.06.2020 | 29.06.2021 | 06.07.2022 |

**6.6.3.2. Directorate of Research:** *Give brief information about the present establishment of the Directorate of Research, staff pattern, research coordination mechanism, research and seed production centres and contribution in academic programmes.*

The Directorate of Research is the Nodal Agency for planning, implementation and monitoring research activities in different disciplines of constituent colleges and outreach research stations of the University. The Directorate is headed by Director of Research who is assisted by Additional Director of Research, Project Director and a team of scientists from various disciplines.

**Organizational Set-up**




**Mandate**

1. Planning, execution, monitoring and technical evaluation of research programmes of constituent colleges and outreach research stations of the University.
2. Submission of research projects to ICAR, State, RKVY, CSIR, DBT, DST, NHM, various central government departments, etc. and other national/international agencies, follow-up for approval, funding and implementation thereof.
3. Compilation of annual research reports and research highlights to cater to State Deptts., ICAR and BOM.
4. To coordinate testing of agricultural chemicals, bio-products/bio-fertilizers, variety/hybrid/ transgenic etc.
5. Evaluation of award proposals submitted by the university faculty.
6. Arranging visit of dignitaries to the University research farms, laboratories and outreach research stations.

7. Monitoring of self-finance/revolving fund schemes
8. Matters related to Nodal Officer (Seeds), Scientists Meet/Agricultural Officers' Workshop, ZREAC/T&V meetings etc.
9. Processing and monitoring of cases related to variety release and registration of genetic plant material.

To fulfil the objectives of research related to the State Agriculture, different research schemes have been created in which, 214 research faculty have been posted in different departments of University at main campus and outreach research stations.

## Research Coordination Mechanism

The University is undertaking need-based research in the field of agriculture and allied sciences at main campus Hisar as well as outreach research stations situated in different agro-climatic zones of the State for generation of location specific technologies through multidisciplinary approach and also to verify/validate technologies, through On-Farm Trials/Front Line Demonstrations.

The research work is being carried out mainly through two State Plan schemes and 42 ICAR-All India Coordinated Research Projects (75:25% funding from ICAR and State) on different crops and aspects. In addition, research and development work is going on under different projects funded by other agencies including DST, DBT, SPARC, Ministry of Agriculture Earth Science, UGC, ICRISAT, IRRI, CIMMYT, CSIR, BARC, ICAR, NHM, RKVY etc. along with self-financed, revolving fund schemes as under:

| Sr. No. | Name of Schemes | No. of Schemes |
|---|---|---|
| 1 | State Plan Agri. | 2 |
| 2 | Gap Filling Ad-hoc Research Schemes (Plan Schemes) (involving 6 departments) | 1 |
| 3 | ICAR-All India Coordinated Research Projects (AICRP) (75:25%) | 42 |
| 4 | Ad-hocs schemes including, NICRA, Emeritus Scientist and FLD (100% funded by ICAR) | 18 |
| 5 | Centrally sponsored scheme | 1 |
| 6 | Other Agency (DST, DBT, NHM, HSHDA, Ministry of Agri., Earth Sci., New Delhi, UGC, ICRISAT, CISR, BARC, NASF, SPARC etc.) | 32 |
| 7 | RKVY(Rashtriya Krishi Vikas Yojana) | 13 |
| 8 | Self-Finance (SF) | 18 |
| 9 | Revolving Fund (RF) | 13 |
| 10 | RF Mega Seeds | 3 |
| 11 | Testing Fee Scheme | 12 |
| | **Total** | **155** |

The zonal research and extension advisory committee (ZREAC) and T&V meetings are conducted in different zonal research stations of the state to disseminate the university technologies to the field functionaries so as to reach the actual beneficiaries and also to identify the field problems in different crops. Based on the proceedings of these meetings the problems are finalised for the formulation of the research experiments. The results of these experiments are reviewed annually in the technical programme meetings under the chairmanship of Director of Research. After drawing the tangible conclusion/outcomes from sufficient study period, the same are validated on the farmers' field through on-farm trials. The final results, after thorough deliberations in the scientists' meet are

presented in the Agricultural Officers' Workshop, in which the recommendations for inclusion in the package of practices of different crops are approved.

### Project Monitoring Cell:

This point is already covered under the point no. 6.6.1.10. Institute Quality Assurance Cell /PME Cell.

## Location specific committees for emergent issues

**North Zone cotton stakeholder's committee for pink bollworm management**

Haryana is one of the major cotton growing states of the Northern Region of the country. The problem of pink bollworm incidence has been found increasing and spreading in almost all the cotton growing districts of the state as well as North Zone. Looking towards the severity of Pink Bollworm, CCSHAU has organised four committee meetings of North Zone cotton stakeholders under the chairmanship of Prof. B. R. Kamboj, Vice-Chancellor, CCSHAU, Hisar.

The committee comprises the following

1. Vice- Chancellor, CCSHAU, Hisar
2. Director of Research, CCSHAU
3. Director of Research, PAU, Ludhiana
4. Director of Research, SKRAU, Bikaner
5. Director of Extension Education, CCSHAU
6. Head /In charge, ICAR-CICR, RS, Sirsa
7. Joint Director, (Cotton,) DAC&FW, Haryana
8. Prof. & Head, Entomology
9. HoS, Cotton, G&PB, CCSHAU, Hisar
10. DDA's & SDAO's of cotton growing districts of Haryana
11. Manager, Cotton Corporation of India
12. Representative of Crop Care federation of India
13. DDAs, Sirsa, Fatehabad, Hisar, Bhiwani, Jind, Rohtak, Rewari, Kaithal & Mahendergarh
14. Regional Manager, Rasi Seeds, Hyderabad
15. Regional Manager, Shriram Bio-seeds Genetics, Hyderabad
16. Regional Manager, Ankur Seeds, Nagpur, Maharashtra
17. Regional Manager, US Agra Seeds, Hyderabad, Telangana
18. Regional Manager, Ajit Seeds, Aurangabad, Maharashtra

Four different meetings of the committee on 29.09.2021, 02.03.2022, 24.08.2022 and 27.03.2023 were convened. On the recommendations of North Zone cotton stakeholder's committee, the action plan was formulated and implemented to manage the menace of pink bollworm by all the stakeholder in their respective states.

### Committee on dwarfing in rice

During *kharif* 2022, an unknown disease in paddy crop causing "dwarfing" of the plants was observed over paddy growing areas in Haryana state. The disease was observed across almost all rice varieties, i.e. basmati, non-basmati, hybrid and PR group. The following committee was constituted to find out the root cause of the problem and give recommendations for the farmers:

1. Dr. Jeet Ram Sharma, Director of Research, CCSHAU Hisar
2. Dr. H.S. Saharan, HOD, Plant Pathology, CCSHAU, Hisar
3. Dr. O.P. Lathwal, RD, Rice Research Station, Kaul
4. Dr. Sunita Yadav, HOD, Entomology, CCSHAU Hisar

5. Dr. Sikha Yashveer, Assistant Professor, MBBB
6. Dr. V.K. Malik, Assistant Scientist, Plant Pathology
7. Dr. Mahaveer Singh, Assistant Scientist, Plant Pathology
8. Dr. Promil Kapoor, Assistant Scientist, Plant Pathology
9. Dr. Sumit Saini, Assistant Scientist, Entomology
10. Dr. Vishal Gandhi, Assistant Scientist, Plant Pathology

After intensive studies the University elucidated that a virus complex namely *Spinareo viridae* group was behind this problem of dwarfing in rice. The major infective agent was Southern Rice Black Streaked Dwarf Virus (SRBSDV) followed by Rice Gall Dwarf Virus (RGDV). The nucleotide sequence (SRBSDV) so obtained, was also validated at NCBI. This was confirmed through molecular studies based on S4, S9 and S10 segments of viruses. The scientist observed SRBSDV presence in *Rabi* annual weed namely *Poaannua*. Presence of SRBSDV has been observed in wheat/*Rabi* weed *Poa*, but not in wheat crop. The nucleotide sequences were also obtained for S4 segment where BLAST analysed at NCBI showed higher homology to SRBSDV.

## Research and Seed Production Centres

The research work is carried out through different departments at main headquarter and through different research stations established to work on location specific objectives of research on crops and cropping systems of the region.

**Departments and Research Stations**

| S. No. | College | Departments |
|---|---|---|
| 1 | College of Agriculture, Hisar | Agricultural Economics, Agricultural Meteorology, Agronomy, Soil Science, Genetics & Plant Breeding, Seed Science & Technology, Entomology, Plant Pathology, Nematology, Extension Education, Forestry, Vegetable Science, Horticulture, |
| 2 | College of Agricultural Engineering & Technology, Hisar | Processing & Food Engineering, Renewable & Bio-Energy Engineering, Farm Machinery & Power Engineering, Soil & Water Engineering |
| 3 | College of Basic Sciences & Humanities, Hisar | Botany & Plant Physiology, Chemistry, Biochemistry, Microbiology, Sociology, Zoology, Food Science & Technology, Mathematics and Statistics, Physics, Molecular Biology, Biotechnology & Bioinformatics |
| 4 | I.C. College of Home Sciences, Hisar | Foods & Nutrition, Human Development & Family Studies, Family Resource Management, Textile & Apparel Designing, Extension Education & Communication Management |
| 5 | College of Fisheries Science | Aquaculture, Aquatic Animal Health Management, Aquatic Environment Management, Fish Engineering, Fisheries Extension, Economics and Statistics, Fish Processing, Technology, Fisheries Resource Management |
| 6 | College of Biotechnology | Agricultural Biotechnology, Bio-Nanotechnology, Bioinformatics & Computational Biology, Industrial Biotechnology, Molecular Biology & Biotechnology |

### Outreach Research Stations

| S. No. | Research Station | Research Priorities |
|---|---|---|
| 1 | Regional Research Station, Uchani (Karnal) | Sugarcane, Maize and other cropping systems of the region |
| 2 | Regional Research Station, Bawal (Rewari) | Dryland Agriculture |
| 3 | Regional Research Station, Rohtak | Saline & water-logged soils |

| | | |
|---|---|---|
| 4 | Rice Research Station, Kaul (Kaithal) | Rice & rice based cropping systems |
| 5 | Cotton Research Station, Sirsa | Cotton and cotton based cropping systems |
| 6 | Nutri-Cereal Research Station, Gokalpura (Bhiwani) | Nutri-Cereals |
| 7 | Sub-Research Station on Horticulture, Buria (Yamuna Nagar) | Horticulture |
| 8 | Sub-Research Station on Forestry, Balsamand Hisar) | Sand Dune Stabilization |

**Centre of Excellence on Pearlmillet**

Pearl Millet is a crop getting highly importance for the purpose of Nutritional Security. Centre of Excellence (COE) on Processing and Value Addition of Pearl millet was established in 2011 with funding support of the Ministry of Agriculture and Farmers Welfare, GOI. The centre has worked for capacity building of the farmers, rural masses, scientists, consumers, SHGs/ICDS functionaries, entrepreneurs, etc. and promoted the consumption of pearl millet at household and national level. Various kinds of bakery and confectionary products, convenience mixes, grits and traditional foods incorporating pearl millet have been developed and these are promoted through their sale at ATIC and *Krishi Melas* so as to popularize them.

**Deen Dayal Upadhyaya Centre of Excellence for Organic Farming**

Deen Dayal Upadhyaya Centre of Excellence for Organic Farming has been established in an area of about 138 acre at main campus. The centre is working on Natural and Organic Farming with the objectives of sustainable plant nutrient management through suitable organic sources or biofertilizers or by cow urine based liquid/solid bio formulations to maintain and improve soil health in field. The scientific data under different cropping systems based on horticulture, vegetable and field crops for natural farming as well as organic farming is being generated. Among Horticultural crops, application of FYM along with biofertilizers performance is observed.

**Seed Production Centres**

Production of quality seed of different crops is an important feature of the University, which helps in dissemination of the high yielding varieties to stakeholders at State and National level. Nucleus seed of different varieties developed by University is produced for their maintenance and further production of quality seed by different agencies. The University undertakes seed production of various classes of seeds through different component units. Nucleus seed of different varieties developed by University is produced by concerned crop breeders. The breeder seed production is undertaken by Department of Seed Science and Technology with the Head of the Department as Nodal Officer (Seeds). Seed production programme is taken up at Seed Science and Technology, Directorate of Farms, Ram Dhan Singh Seed Farm and Vegetable Seed Farm at Hisar and Kaul, Sirsa, Bhiwani and Bawal outstations. Planting material is produced at Centre for Quality Planting Material, Vegetable and horticulture research farm at main campus.

**Seed production (q) of field crops during the period under report**

| Class of seed | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 (Raw seed) |
|---|---|---|---|---|---|
| Breeder seed | 1657 | 1468 | 1234 | 1123 | 940 |
| Foundation seed | 4485 | 4844 | 4354 | 1075 | 3380 |
| Certified seed | 8965 | 4844 | 6222 | 5315 | 4839 |
| TL Seed | 2240 | 2338 | 1389 | 1655 | 5859 |
| Total | 17347 | 13495 | 13200 | 9168 | 15018 |

**Seed Science and Technology**

Department of Seed Science and Technology is undertaking the production and distribution of breeder seed as per national or state indent to maintain the national seed supply chain in order to make timely availability of quality seed to the farmers. Apart from 72 hectare area available with the department, the breeder seed is also produced at research farms to meet out the required quantity of indented seed.

**Directorate of Farms**

Directorate of Farms was established at the inception of the University to produce and supply the quality and high yielding seeds i.e. Foundation/Certified/TFL category of various *Rabi* and *Kharif* crops to the seed growers for further multiplication. The unit is headed by Director Farms, which works under administrative control of Director of Research. The Directorate has 367 ha area for production of quality seeds. The seed quality and varietal improvement had played a very important role in better utilization of inputs in different agro-climatic conditions of the state.

**Ram Dhan Singh Seed Farm**

Ram Dhan Singh Seed Farm was established in 1999 to produce quality seed/planting material, of major field and horticultural crops and seed production of certified and TFL seeds. The seed farm was named after one of the eminent agricultural scientists of Indian sub-continent "Rao Bahadur Dr. Ram Dhan Singh" and now popularly known as 'RDS Seed Farm'. The RDS Farm is headed by Director, RDS Farm, and functions under administrative control of Director of Research. Ram Dhan Singh Seed Farm office is situated in the main campus of the University and the seed farm is situated 18 kilometres away from the main campus near the village Bir Babran on Hisar-Sirsa road comprising an area of 1608 ha. Out of total farm area, 450 ha have been transferred to LUVAS during 2017. Recently, a modern nursery has been set up with installation of Poly house, Insect net house and shade net house along with a mother block of important fruit crops on the main campus for supply of quality planting material for the farmers of Haryana and adjoining states.

**Vegetable Seed Farm**

Vegetable seed production of cucurbits, potato, carrot, radish, turnip, fenugreek, coriander, fennel, okra, tomato, brinjal and other vegetable crops are produced as demand on the research farm of vegetable science in an area of 10 ha and supplied to the farmers for large scale production as well as for kitchen gardening. Seedlings are also supplied for various seasonal vegetables on this farm.

**Horticulture Planting Material**

Quality planting material of fruit crops is produced and sold to the farmers at the horticulture research farm.

**Centre for Quality Planting Material**

The centre for Quality Planting Material has been established in 2015 and a modern nursery has been set up near Gate No. 4 in 3 acres of area with installation of poly house, Insect net house and Shade net house along with a mother block of important fruit crops. The scope of this centre includes production of quality planting material of flowers, fruits, vegetable crops and other trees/plants of economic value in open as well as protected conditions.

A demonstration block has been developed at the centre for display of quality planting material and exotic vegetables. Also for promoting vegetables in peri-urban areas, container gardening is being demonstrated at the centre.

**Awards**

During the last five years, various awards/ honours have been conferred upon the University and its different departments/ sections. Details about some of the awards are given below:

| S. No. | Year | Name of Award | Conferred By |
|---|---|---|---|
| **Best Institute Awards** | | | |
| 1. | 2018 | Krishi Shiksha Samman | Mahindra & Mahindra |
| 2. | 2019 | Haryana Kisan Ratna Award | Haryana Government |
| 3. | 2019 | Krishi Shiksha Samman | Mahindra & Mahindra |
| **Other Outstanding Awards** | | | |
| 1. | 2019 | Chaudhary Devi Lal Outstanding AICRP on Farm Implements and Machinery | ICAR |
| 2. | 2019 | Best AICRP Centre Award of MULLaRP | ICAR |
| 3. | 2019 | Best AICRP Centre Award of Weed Control | ICAR |
| 4. | 2019 | Best AICRP Centre Award of Sugarcane | ICAR |
| 5. | 2021 | Best AICRP Centre Award on Spices | ICAR |
| 6. | 2022 | Best AICRP Centre Award Sorghum for overall performance during the period 2021-22 | ICAR-IIMR |
| 7. | 2022 | Best performing ICAR-AICRP on Pearl millet Centre Award (2021-22) | ICAR-AICRP Pearlmillet |

**Contribution in academic programmes**

The research scientists of the University are also involved in teaching courses offered at both UG and PG levels. They also act as Major advisors to the M.Sc. and Ph.D. students for their research work to ensure that student research remains relevant to the farmers and other stakeholders. The research problems of the other students are also decided in consultation with the research faculty.



Students on farm area for practical class



Student on field for data collection and research

**6.6.3.3. Technology Developed and its Adoption:** *Provide the list of approved technologies developed in last five years along with their adoption and coverage in the jurisdiction of the University.*

**1. Varietal Development**

| Crop | Variety | Year of release | Coverage (National/State) |
|---|---|---|---|
| **Wheat** | | | |
| | WH 1184 | 2019 | Haryana State for timely sown irrigated conditions |

| | | | |
|---|---|---|---|
| | WH 1270 | 2021 | Early sown, high fertility and irrigated conditions of NWPZ |
| | DBWH 221 | 2021 | Haryana State for timely sown irrigated conditions |
| **Rice** | | | |
| | Haryana Basmati 2 | 2018 | Medium fertility paddy growing areas of Haryana |
| | HKR 128 | 2018 | Paddy growing areas of Haryana under timely planting |
| **Pearl millet** | | | |
| | HHB 299 | 2018 | National A&B Zone irrigated(Haryana, Rajasthan, Gujarat, Punjab, Delhi, Maharashtra and Tamil Nadu) |
| | HHB 311 | 2020 | National A&B Zone irrigated (Rajasthan, Gujarat, Haryana, Punjab, Delhi, Maharashtra and Tamil Nadu) |
| | HHB 67 Improved 2 | 2022 | Suitable for rainfed areas of Haryana, Rajasthan and Gujarat. |
| **Maize** | | | |
| **Inter-institutional Maize Hybrids** | | | |
| | DMRH 1305 | 2018 | National (Jammu & Kashmir, Himachal Pradesh, Uttarakhand (Hill region), Meghalaya, Sikkim, Assam, Tripura, Nagaland, Manipur and Arunachal Pradesh) for *Kharif* season |
| | IMHB 1539 | 2018 | National (Jammu and Kashmir, Himachal Pradesh, Uttarakhand(Hill region), Meghalaya, Sikkim, Assam, Tripura, Nagaland, Manipur and Arunachal Pradesh) for *Kharif* |
| | DMRH 1308 | 2018 | National (Rajasthan, Gujarat, Chhattisgarh and Madhya Pradesh)for *Rabi* season |
| | Pusa HQPM-7 Improved | 2020 | National (Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu and Telangana) for *Kharif* season |
| | Pusa HQPM-5 Improved | 2020 | Across the country for *Kharif* season |
| | IMH QPM 1530 | 2020 | National (Jammu & Kashmir, Himachal Pradesh, Uttarakhand (Hill region), Meghalaya, Sikkim, Assam, Tripura, Nagaland, Manipur and Arunachal Pradesh) for *Kharif* season |
| | HM 4 Male sterility baby corn (Shishu) | 2022 | NWPZ. Resistant to Powdery Mildew |
| | PUSA HQPM 1 Improved | 2022 | Biofortified maize hybrid. National level |
| **Oilseed Crops** | | | |
| **Indian Mustard** | | | |
| | RH 725 | 2018 | National (Haryana, Punjab, Delhi, Jammu &Northern Rajasthan) for timely sown and rainfedconditions |
| | RH 761 | 2019 | National (Jammu, Punjab, Haryana, Delhi and northern Rajasthan) for timely sown rainfed conditions |
| | RH (0E)1706 | 2023 | Suitable for Zone-II (Haryana, Punjab, Jammu and Western & Northern Rajasthan. Low ericic acid (<2.0%) |
| | RH 1424 | 2023 | Suitable for Zone-II (Haryana, Punjab, Jammu and Western & Northern Rajasthan. |
| **Pulses Crops** | | | |
| **Desi (Brown) Chickpea** | | | |
| | HC 7 | 2019 | Notified for cultivation in Punjab, Haryana, WesternUttar Pradesh, Delhi, North Rajasthan, Jammu andKashmir, plains of Himachal Pradesh andUttarakhand |

| | | | |
|---|---|---|---|
| | HC 6 | 2022 | Timely sown conditions of Haryana |
| **Field pea** | | | |
| | HFP 1428 | 2021 | Notified for *Rabi* season in North West Plain zone ofIndia (Punjab, Haryana, Delhi, Rajasthan,Uttrakhand, parts of J&K and western UttarPradesh) |
| **Mungbean** | | | |
| | MH 1142 | 2020 | Notified for *Kharif* season in North West and North East Plainzones of India (Uttar Pradesh, Punjab, Haryana, Delhi,Rajasthan, Uttrakhand, Bihar, Jharkhand, West Bengal andAssam) |
| **American Cotton** | | | |
| | HS292 | 2018 | South zone in the states of Andhra Pradesh,Telangana, Tamil Nadu and Karnataka |
| **Forage Crops** | | | |
| **Oats** | | | |
| | OS 403 | 2018 | National suitable for timely sown irrigatedconditions |
| | OS 424 | 2020 | Notified for Hill Zone of India (Himachal Pradesh,J&K and Uttrakhand) |
| | OS 405 | 2020 | Notified for Central Zone of India (Maharashtra, Gujarat, Chhatisgarh, Madhya Pradesh and Central UttarPradesh) |
| | HFO 529 | 2021 | Suitable for timely sown normal fertility and Irrigated conditions of Hill Zone |
| | HFO 611(Dual Type) | 2021 | Suitable for timely sown irrigated conditions of NWPZ |
| | HFO 607 | 2021 | Notified for North West Zone of India (Haryana,Punjab, Rajasthan,Terai region of Uttarakhand andWestern UP) |
| | HFO 427 | 2021 | Notified for South zone of India (Telangana, AndhraPradesh, Tamil Nadu, Karnataka and Kerala). |
| | HFO 707 | 2022 | Suitable for multi cut, timely sown, normal fertilty and irrigated conditions of NWPZ |
| | HFO 806 | 2022 | Suitable for single cut. Recommended for Hill & South Zone |
| **Sorghum** | | | |
| | CSV 44F | 2020 | Released for Zone II of India (i.e., Maharashtra, Tamil Nadu and Karnataka) |
| | HJ 1514 | 2023 | Recommended for cultivation in Haryana |
| | HJH 1513 | 2023 | Recommended for cultivation in Haryana |
| | CSV 53 F | 2023 | Released for Gujarat, Rajasthan, Punjab, Haryana, Uttarakhand, Karnataka and Tamilnadu. |
| **Faba bean** | | | |
| | HFB 2 | 2022 | Suitable for timely sown irrigated conditions of Haryana & other states |
| **Chandrasur** | | | |
| | HLS 4 | 2021 | Suitable for timely sown irrigated& rainfed conditions of Haryana & other states |
| **Sugarcane** | | | |
| | CoH 160 | 2021 | Suitable for spring and autumn planting in Haryana |
| **Vegetable Crop (Bitter Gourd)** | | | |
| | HK 127 | 2019 | Both for spring-summer and rainy seasons underirrigated |

| | | | |
|---|---|---|---|
| | | | conditions of Haryana state. |
| | HKH 56 | 2022 | Suitable for irrigated conditions of Haryana |

## 2. Technologies related to crop production and protection

| S.No. | Technologies/ Machineries/ Other items developed/ for inclusion in Package Practices | Year of development |
|---|---|---|
| 1. | In addition to the recommended basal dose of DAP and Zinc sulphate, apply urea @ 28 kg/acre each at 20, 40 and 60 days after sowing in semi-dwarf basmati rice under direct seeding. | 2018 |
| 2. | Apply penoxsulam 2.5% OD (Assert 2.5% OD) @ 360 ml/acre at 15-20 days after transplanting as spray in 120 litre water to control complex weed flora in transplanted rice. There should be no standing water one day before and after herbicide application. | 2018 |
| 3. | Apply Penoxsulam+ Cyhalofop 6% OD (Vivaya 6% OD) @ 900 ml/acre at 15-20 days after transplanting as spray in 120 litre water to control complex weed flora in transplanted rice. There should be no standing water one day before and after herbicide application. | 2018 |
| 4. | Apply ACM9 29% WP (Clodinafop+Metribuzin) 174 g a.i/ha in 300 L water/ha at 30-35 DAS using flood jet or flat fan nozzles only for the control of complex weed flora in wheat and avoid repeat spray. | 2018 |
| 5. | Apply UPH 110 (Shagun 54% WG) [Clodinafop+Metribuzin] 270 g a.i/ha in 300 L water/ha at 30-35 DAS using flood jet or flat fan nozzles only for the control of complex weed flora in wheat and avoid repeat spray. | 2018 |
| 6. | Use Happy Seeder for sowing of wheat crop directly in combine harvested paddy field. | 2018 |
| 7. | Agronomic practices of spring maize cultivation in Haryana. For getting better yield of spring maize, crop should be sown from last week of January to second week of February with 60 x 20 cm spacing and fertilizer @ 72:24:24 NPK kg/acre. Seed rate should be 10 kg/acre. Hybrid HM 10, HM 11, HQPM 4 and HQPM 1 were found best in spring season and resistant to common rust. Sowing should be completed up to second week of February to avoid shoot fly incidence. | 2018 |
| 8 | Sett and soil application of Chlorpyriphos 20 % EC (Goldban 20 % EC) @ 6.25 litre/ha (1.25 litre a.i./ha) in 1500 litres water applied at the time of planting effectively protect cane setts against termites and substantially enhanced germination, reduce termite infestation of canes and increase number of millable canes with no phyto-toxicity on the crop and consequently result in significant increase in cane yield. | 2018 |
| 9 | Apply pendimethalin 30 EC @ 1.0 kg a.i./ha PPI or PRE in 375 l water/ha for the control of complex weed flora in *Rabi* pulses". | 2018 |
| 10 | Apply 8 kg $K_2O$ (14 kg Muriate of Potash 60% $K_2O$) per acre in chickpea at sowing time in low to medium K status soils. | |
| 11 | Apply 12 kg S (92 kg Gypsum) per acre in chickpea at sowing time in low S status soils. | 2018 |
| 12 | Raya variety RH 725: Recommended for cultivation under timely sown in rainfed conditions of Zone II (Jammu, Punjab, Haryana, Delhi & Northern Rajasthan) of the country. | 2018 |
| 13 | Slow initial growth and wider row to row spacing in cotton favours taking up summer green gram as intercrop in cotton. In cotton grown with row to row and plant to plant spacing of 100 cm and 45 cm, respectively, two rows of green gram can be taken as intercrop. There should be sufficient moisture in the field at sowing time. Summer variety of green gram should be grown. | 2019 |
| 14 | To remove paddy straw from the field, use rotary slasher, hay rake and baler one after the other for cutting, windrowing and baling of paddy straw so that the bales may be used for industrial application. | 2019 |

| | | |
|---|---|---|
| 15 | Apply Penoxsulam 0.97% w/w (1.0% w/v) + Butachlor 38.8% w/w (40% w/v) SE (Coreon 41% SE) @ 800 ml/acre at 0-7 days after transplanting as spray in 120 litre water under saturated moist field conditions to control complex weed flora in transplanted rice. Apply irrigation in field one day after herbicide application. | 2019 |
| 16 | Spray 240 ml (55 g a.i./acre) spiromesifen 22.9% w/w SC (Oberon 240 SC) in 200 L of water/acre for the management of whitefly in cotton. | 2019 |
| 17 | Apply of pyroxasulfone 85%WG (Awkira) at 127.5g/ha in 500L/ha water within 3 days of sowing of wheat crop for the control of grassy weeds (*Phalaris minor, Avena ludoviciana, Polypagon monospeliensis and Lolium sp*). | 2019 |
| 18 | Application of tank mix of pyroxasulfone 85%WG (Awkira) at 127.5g/ha +pendimethalin 30% EC 1.5 kg/ha in 500L/ha water within 3 days of sowing of wheat crop for the control of mixed weeds flora in wheat. | 2019 |
| 19 | In low and medium sulphur status soils apply 10 kg S/acre (75 kg Gypsum or 85 kg single super phosphate/acre) in plants as well as ratoon crops of sugarcane for better cane production and juice quality. | 2019 |
| 20 | Use 16 kg phosphorus per acre (16 kg P2O5/acre) to realize the higher fodder and seed yield potential of multi-cut oat varieties. | 2019 |
| 21 | In iron deficient soils (DTPA extractable Fe < 4.5 ppm), foliar application of $FeSO_4$ @ 0.5 % at tillering stage (25-30 DAS) should be done in the pearl millet crop. | 2019 |
| 22 | Apply 8 kg S (62 kg gypsum) per acre in mungbean at sowing time in low sulpher status soils. | 2019 |
| 23 | Apply 8 kg $P_2O_5$/acre (50 kg SSP) in sesame at sowing time in medium phosphorous status soils of Haryana. | 2019 |
| 24 | In low to medium Phosphorus soils, apply 12 kg $P_2O_5$/acre at sowing to realize the higher fodder yield of single-cut forage Sorghum varieties. | 2019 |
| 25 | In low to medium potash soils, apply 12 kg $K_2O$/acre at sowing to realize the higher fodder yield of single-cut forage sorghum varieties | 2019 |
| 26 | For control of leaf folder and stem borer in rice apply Chlorantraniliprole 0.4 % GR (Ferterra 0.4 % GR) 4.0 Kg/Acre (16 g a.i./acre) by mixing in 10 Kg sand at 30 days after transplanting. | 2019 |
| 27 | To control early shoot borer and top borer in sugarcane apply 7.5 kg Chloranraniliprole 0.4% GR (Ferterra 0.4% GR) per acre near the root zone of crop from end April to first week of May and give light irrigation. | 2019 |
| 28 | Spray 400 ml (40 g a.i./acre) Pyriproxifen 10% EC (Daita 10% EC) in 200 L of water/acre at economic threshold level (ETL) for management of whitefly in Cotton. | 2019 |
| 29 | In low to medium phosphorus soils, apply 12 kg $P_2O_5$ (75 kg Single super phosphate) per acre at sowing to realize the higher fodder yield of single-cut oats. | 2020 |
| 30 | For control of Brown Plant Hopper in paddy, spray dinotefuran 20 % SG (Osheen 20 % SG) @ 80 g /acre (16 g a.i./acre) in 200 liters water at appearance of 5-10 hoppers/hill. | 2020 |
| 31 | Apply 8 kg S (62 kg gypsum) per acre in cowpea at sowing time in low sulphur status soils. | 2021 |
| 32 | Apply 8 kg $K_2O$ (14 kg Muriate of Potash 60 %) per acre in Cowpea at sowing time in low to medium K status soils. | 2021 |
| 33 | Irrigate in Bt. Cotton by Drip irrigation method at an interval of 3 days as needed. The soluble fertilizers- nitrogen, phosphorus, potash and zinc are recommended at 45: 12: 12: 5 kg per acre respectively. 10% fertilizer should be given at the time of sowing by the drip irrigation method and the remaining fertilizer should be given in equal quantity 15 times every sixth day between 30 to 120 days. | 2021 |
| 34 | For control of leaf folder and stem borer in rice spray flubendiamide 20% WG (Takumi 20% WG) @ 50 g/acre first at tillering stage (30 DAT) and second at panicle initiation stage (50 DAT) or when pest crosses economic threshold. | 2021 |

| | | |
|---|---|---|
| 35 | For control of leaf folder and brown plant hopper in rice spray buprofezine 20% + acephate 50% (Odis 70% WP) @ 400 g/acre first at tillering stage (30 DAT) and second at panicle initiation stage (50 DAT) or when pests reaches ETL (1-2 larvae/hill for leaf folder & 5-10 hoppers/hill for brown plant hopper). | 2021 |
| 36 | Apply Triafamone (20%) + Ethoxysulfuron (10%) 30%WG (Council Activ 30%WG @ 90 g/acre) as spray at 15 DAT in a water volume of 120 litre/ha under saturated moist field conditions to control complex weed flora in transplanted rice. Drain the water from field one day before and apply irrigation in the field one day after spray. | 2021 |
| 37 | For the management of rice root-knot nematode in rice nursery, solarise the nursery beds before sowing for 15 days during summer. Cover the nursery beds with transparent polythene sheet (25 µm thickness) after light irrigation. Cover the edges of polythene sheet with soil to make it air tight. | 2021 |
| 38 | Blast of pearl millet: This disease affects different aerial parts of the plant at all growth stages. Initially, the disease appears as greyish, water-soaked lesions on foliage which later become necrotic. The eye shaped lesions size vary from small to elongated, often surrounded by a chlorotic halo. Lesions grow and coalesce to cover large surface areas and cause necrosis of plant tissues and the entire foliage may give a burnt appearance. On stem and neck, elongated lesions can be seen. Earhead turns initially brown, later black. This results in very poor grain development in the earheads, even no grain or few shrivelled grains in blasted florets. Management: i. Early or timely sown crop has less incidence of blast disease, ii. Avoid late planting (after 15 July) in the disease prone areas, iii. Grow disease resistance hybrids HHB-272, HHB-299 and HHB-311. | 2021 |
| 39 | In cereal cyst nematode (Molya disease) infested areas of South Western districts of Haryana, to reduce the damage of cyst nematode, sow the wheat crop in dry condition and apply irrigation immediately. | 2021 |
| 40 | Intercropping of short duration vegetable crops (coriander, spinach, fenugreek, cabbage and cauliflower) with maize during *Rabi* season will help in enhancing the income of farmers. | 2021 |
| 41 | For control of mixed weeds in spring maize, apply Atrazine 50 % WP 400-600 g/acre in 200 litres of water 0-3 days after sowing. Spray Tembotrion 42%SC 115 g/acre in 200 litres of water at 20-25 days after sowing (2-3 leaf stage). | 2021 |
| 42 | For control of all types of weeds in spring maize spread rice straw 3.2 tonnes/acre evenly on the ridges after sowing. | 2021 |
| 43 | For rice straw management, spreading of chopped straw (chopped to ~2-3 cm using paddy chopper-cum-spreader), application of urea (50 kg/ha) and waste decomposer (500 litre/ha) followed by mixing straw in soil (using disc harrow or rotavator), and irrigation immediately after potato planting is recommended in rice-potato system. | 2021 |
| 44 | In potato double row planting at 30 cm x 20 cm inter- and intra-row spacing on 90 cm wide bed with one drip lateral having inline drippers at 30 cm is recommended for raising potato under drip irrigation. | 2021 |
| 45 | The organic based fertilization through crop residue incorporation of previous cropapplication of biofertilizers (Azotobacter and Phosphobacteria) along with 25 ton FYM/ha is recommended for organic potato cultivation. | 2021 |
| 46 | Basal application of Zinc Sulphate 21.4 kg/ha along with recommended dose of fertilizer (150:50:100 NPK kg/ha) may be recommended in Zinc deficient soil of Haryana for potato cultivation. If Zinc has applied in previous crop then no need to apply Zinc in the potato crop. | 2021 |
| 47 | Palak crop sown on last week of October with one cutting at 30 days after sowing gave higher seed yield along with an additional green leaf yield. | 2021 |
| 48 | Two foliar sprays of either 2,4-D @20 ppm (20mg/ litre water) sodium salt or NAA @50 ppm (50 mg per litre water) in the last week of each April and July months significantly improved the fruit size in sweet orange. For spray in one acre, dissolve either 11g. 2,4-D or 28 g. NAA in 550 litre of water. Do not spray 2,4-D when sweet orange is intercropped with cotton or sunflower crop, instead use NAA growth regulator. | 2021 |

| | | |
|---|---|---|
| 49 | Ginger and turmeric should be grown as intercrop in mango orchard where the mango trees have been planted at spacing of 9 m x 9m. These crops should be sown 2-2.5 m away from mango trees stem. | 2021 |
| 50 | For high density planting of guava cv. Hisar Safeda, 6 m x 4 m spacing is recommended for obtaining higher yield. | 2021 |
| 51 | Propagation of Jamun is successful by T-budding method in the month of August. Rootstocks can be prepared according to method explained in patch budding. | 2021 |
| 52 | For high density planting, Beal plants can be planted at a distance of 8 m x 5m. | 2021 |
| 53 | For the management of root-knot nematode in polyhouse grown capsicum apply neem cake @ 200 g/ $m^2$, fifteen days prior to transplanting. | 2021 |
| 54 | For the management of root-knot nematode in the cucumber in polyhouse, take the following measures: 1) Remove and destroy the plants of the previous crop along with the roots. 2) Solarise the soil during summer by covering the soil with a 25 µm thick transparent polythene sheet for 15-20 days, after light irrigation. Cover the edges of polythene sheet with soil to make it air tight. 3) Add FYM enriched with fungus (*Purpureocillium lilacinum)* @ of 1 kg/$m^2$ in the soil. For preparing enriched FYM, mix 2 kg of fungus in 1 ton of FYM. Cover it with polythene sheet after sprinkling with water. After 10-15 days, mix it well on the paved surface. | 2021 |
| 55 | For the effective control of sheath blight of paddy, spray Hexaconazole 75%WG (Epic 75%WG)@27g/acre in 200 litre water at the time of disease initiation followed by second spray after 15 days | 2022 |
| 56 | For the effective control of paddy blast, spray Isoprothiolane 40%EC (FujiOne 40%EC)@ 300ml per acre in 200 litre water at the time of disease initiation followed by second spray after 15 days. | 2022 |
| 57 | For the control of brown plant hopper in rice, spray Pymetrozine 50% WG (Chess 50% WG) @ 120g/acre in 200 litres water at the appearance of 5-10 hoppers/hill. | 2022 |
| 58 | Tractor operated shredder may be used for management of cotton stalks after picking of cotton which saves 34.42 per cent cost and 90 per cent labour in comparison to manual removal of stalk. | 2022 |
| 59 | Sowing of Bt cotton should be started from first fortnight of April and be completed upto end of May. | 2022 |
| 60 | Application of sulphur @ 30 kg/ha through gypsum recorded maximum seed cotton yield and higher benefit cost ratio compared to control. | 2022 |
| 61 | Spray 60 g Flonicamid 50% WG (ULALA) in 200 L of water/acre at economic threshold level for management of whitefly and leafhopper in cotton. | 2022 |
| 62 | Management of maize stem borer, *Chilo partellus* release egg parasitoid, *Trichogramma chilonis* @ 50,000 parasitized eggs/acre at 10-11 and 17-18 days after germination." | 2022 |
| 63 | Apply Sulfentrazone 39.6% w/w 48% w/v (Authority) 600 ml in 200 litres of water per acre as pre-emergence at proper soil moisture to control complex weed in sole sugarcane." | 2022 |
| 64 | Apply Sulfentrazone 28%+ clomazone 30% (Authority NXT 58% WP) 1.0 kg in 200 litres of water per acre as pre-emergence at proper soil moisture for control of complex weed flora in sole sugarcane." | 2022 |
| 65 | "Phosphorus and potassium in multi-cut forage sorghum" i.e. In low to medium phosphorus and potassium soils, apply 12 kg $P_2O_5$ and 12 kg K2O/acre at sowing to realize the higher fodder yield of multi-cut forage sorghum. | 2022 |
| 66 | Spray of Tebuconazole 50% + Trifloxystrobin 25% WG (Nativo) @ 120g/acre in 200 litres of water on appearance of yellow rust followed by second spray after 15 days". | 2022 |
| 67 | In South West Haryana, under irrigated conditions barley should be sown from last week of October to first week of November. | 2022 |

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| 68 | In low to medium potash soils apply 8 kg of potash (14 kg muriate of potash) per acre in field pea at the time of sowing | 2022 |
| 69 | In low Sulphur soils apply 12 kg of sulphur (100 kg gypsum) per acre in field pea at the time of sowing. | 2022 |

3. **Adoption and coverage of technologies of the University:**

| Crops | Area covered by University varieties (% basis) in Haryana | Adoption of University varieties in other states |
|---|---|---|
| Pearl Millet | 20-25% | Rajasthan |
| Rice | 25-30% | Punjab and Uttrakhand |
| Wheat | 10-30% | Punjab, Uttar Pradesh, Rajasthan and Madhya Pradesh |
| Indian Mustard | 50% | Gujarat, Rajasthan, Madhya Pradesh, Uttar Pradesh, Bihar, Orissa and West Bengal |
| Barley | 65-70% | Rajasthan |
| Clusterbean | 65-70% | Rajasthan |
| Sugarcane | 25-30% | Punjab, Uttar Pradesh and Uttrakhand |
| Mungbean | 90% | Rajasthan, Madhya Pradesh, Assam and Bihar |
| Chickpea | 10-15% | Uttar Pradesh, Rajasthan and Madhya Pradesh |
| Onion | 10% | Uttar Pradesh, Rajasthan and Maharashtra |
| Guava | 60 -65% | Rajasthan, Uttar Pradesh and Punjab |
| Sorghum | 15-20% | Gujarat, Rajasthan, Uttar Pradesh, Zone II (Tamilnadu, Maharashtra and Karnataka) |
| Oats | 5-10% | Gujarat, Jammu & Kashmir, Punjab and Rajasthan |
| Okra, Bittergourd and Bottlegourd | 1-2% | Supplied in kitchen gardening seed packets also |

The technologies are being disseminated to various stakeholders through trainings, demonstrations, exposure visits by KVK's, Department of Agriculture & Farmers Welfare, Horticulture and farmers' organizations and are being adopted by the farmers. Adoption of the technologies of the university are gaining importance day by day and will result in increasing the production of food grains in Haryana in particular, and the country, in general.

**6.6.3.4. Research Publication:** *Provide the list of research articles (NAAS ranking 5.00 or more) published in National and International Journals (only based on the work conducted in the University).*

A total of 1147 research articles were published with NAAS rating 5.00 or more in National and International Journals based on the work conducted in the University. During the period under report the University publications were cited 8546 times with an H-index of 41 based on Scopus database. The list of publications with NAAS rating is given below:

| Sr. No. | Author, Title and Journal | NAAS Rating |
|---|---|---|
| 1. | Abhishek, D., Bochalya, M.S., Chauhan, P., Srivastva, Alok and Dudi, B.S. (2018). Sulphur sources and levels differential response on yield, sto*Rabi*lity and economic return of onion (*Allium cepa* L.). *International Journal of Current Microbiology and Applied Sciences* 7 (6): 866 | 5.38 |
| 2. | Alam, M. S., Kumar, N., & Singh, B. (2018). Development of Sweet Lime (*Citrus LimettaRisso*) Pomace Integrated Rice based Extruded Product: Process Optimization. *Journal of Agricultural Engineering*, 55(1), 47-53. | 11.00 |

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| 3. | Alisha, Sanjeev andUrmil Verma (2018) Arimax models for cotton yield forecasting in Haryana *International Journal of Current Microbiology and Applied Sciences 7*(12), 2968-2972. | 5.38 |
| 4. | Amandeep Singh, R.K. Jhorar, Sanjay Kumar and Narender Kumar. (2018). Performance evaluation of surface irrigation method under cotton-wheat rotation. *International Journal of Current Microbiology and Applied Sciences 7* (5): 1014-1026. | 5.38 |
| 5. | Amandeep Singh, Sushant Bhardwaj, Sanjay Kumar and Narender Kumar. (2018). A review: Groundwater level forecasting using artificial neural network. *Journal of Entomology and Zoology Studies* 7(3): 2433-2436. | 5.53 |
| 6. | Anita, Madan, V. K., Chauhan, R. and Kumari, B. (2018) Dissipation Behaviour and Effect of Different Decontamination Processes on Reduction of Residues of Novaluron in Tomato (*Lycopersicon esculentum* Mill.).*International Journal of Current Microbiology and Applied Sciences*,7(05):648-656 | 5.38 |
| 7. | Anjali, and Rani, V. (2018). Nutritional Composition of Functional Extrudates Developed from Wheat and Black Gram. *International Journal of Current Microbiology and Applied Sciences.* 7 (8): 375-381. | 5.38 |
| 8. | Anuradha, Goyal, R.K., Godara, A.K. and Sindhu, S.S. (2018). Strawberry runner production enhanced by plant growth promoting rhizobacteria. *International Journal of Current Microbiology and Applied Science,* 7(11): 3236-3238. | 5.38 |
| 9. | Anurag; Kumar; A.; Singh, D.; Singh, R.; Kumar, Manoj; Singh, S. and Kumar S. (2018). Changes in weather entities and extreme events in western Haryana, India, *Journal of Agro meteorology (Special issue), 135-142.* | 6.00 |
| 10. | Anurag, Kumar, A., Singh, D., Singh R., Kumar, M. and Singh, S. (2018). Local impact of climate change: A case study of western Haryana, India. *Journal of Agrometeorology* 20(SI): 135-142. | 6.00 |
| 11. | Arya, N., Singh, V. and Chauhan, N. (2018). Study on existing clothing practices of rural elderly women of Hisar. *The Anthropologist,* 34(1-3): 48-52. | 6.00 |
| 12. | Attkan, A. K., and Yadav, Y. K. (2018) Sorption Study on Developed Low-cost Solid Desiccant Material for Solar Dryer. *Journal of Agricultural Engineering*, 55(3), 52-58. | 11.00 |
| 13. | Bhadu, S., Agrawal, V., Himani and Tokas, J. (2018). *In silico* Analysis for Functional Predicition of *Salmonella typhi* Gene in Human Infection through Threading Model. *International Journal of Current Microbiology and Applied Sciences*. 7(2): 3426-3431. | 5.38 |
| 14. | Bhagat Singh, Kumar, Mukesh, Dhaka, A.K. and Singh, Raj (2018). Thermal energy utilization and yield performance of wheat varieties under different sowing times. *Journal of Agrometeorology* 20 (Special issue): 76-83. | 6.00 |
| 15. | Bhat, M.A., Grewal, M.S., Wani, S.A., Singh, I., Dinesh, Grewal, K. S., Arya, V. S. (2018). Application of Geoinformatics for Groundwater Characterization. *Journal of the Indian Society of Soil Science* 66(3): 237-248. | 5.23 |
| 16. | Bhushana B. V. and B. K. Hooda (2018). Fuzzy majority approach for modeling spatial and temporal distributions of daily rainfall in western zone of Haryana. International *Journal of Agricultural and Statistical Sciences* 14 (Supplement 1): 57-67. | 5.13 |
| 17. | Chauhan, N., Arya, N. and Yadav, N. (2018). Applications of cyclodextrins in textiles. *International Journal of Chemical Studies,* 6(3): 2314-2320. | 5.31 |
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| | *Journal of Agrometeorology* 20(SI): 235-239. | |
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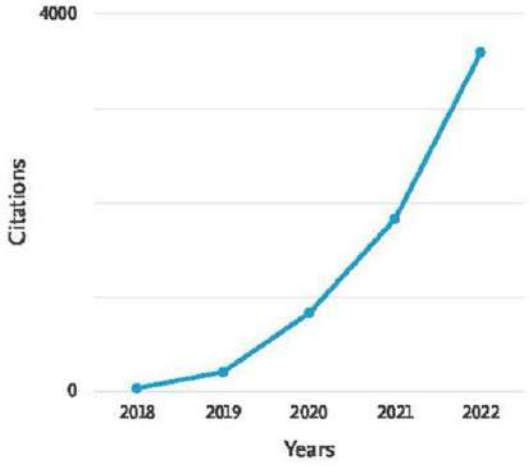
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| | | Total | 0 | 34 | 206 | 830 | 1828 | 3596 | 6494 | 2054 | 8548 |
| 1 | Preface | 2022 | | | | | | | 0 | | 0 |
| 2 | Pulse Electric Field: Novel Technology in Food Processing | 2022 | | | | | | | 0 | | 0 |
| 3 | Novel Technologies in Food Science | 2022 | | | | | | | 0 | | 0 |
| 4 | Radio-Frequency Technology in Food Processing | 2022 | | | | | | | 0 | | 0 |
| 5 | An Overview of Membrane Technology in Dairy & Food Indus... | 2022 | | | | | | | 0 | | 0 |
| 6 | Active Packaging in Food Industry | 2022 | | | | | | | 0 | | 0 |
| 7 | Utilization of Magnetic Fields in Food Industry | 2022 | | | | | | | 0 | | 0 |
| 8 | Novel draught resistance sensing elements for measurement of... | 2022 | | | | | | | 0 | 1 | 1 |
| 9 | Ultimate fate and possible ecological risks associated with ... | 2022 | | | | | | | 0 | 3 | 3 |
| 10 | Unravelling the thermodynamics and binding interactions of b... | 2022 | | | | | | 1 | 1 | 6 | 7 |
| 11 | Recent insights into metallic nanoparticles in shelf-life ex... | 2022 | | | | | | | 0 | 1 | 1 |
| | | Total | 0 | 34 | 206 | 830 | 1828 | 3596 | 6494 | 2054 | 8548 |
| 12 | Realms of nanostructured microbial enzymes: Formulation, cha... | 2022 | | | | | | | 0 | | 0 |
| 13 | A comprehensive review on synthesis, biological profile and ... | 2022 | | | | | | | 0 | 6 | 6 |
| 14 | An Economic Analysis of Potato Marketing in Haryana | 2022 | | | | | | | 0 | | 0 |
| 15 | Trends in Area, Production and Productivity of Flower Crops ... | 2022 | | | | | | | 0 | | 0 |
| 16 | An Empirical Analysis of Custom Hire Centres in Karnataka | 2022 | | | | | | | 0 | | 0 |
| 17 | EVALUATION OF INSECTICIDES AGAINST AMRASCA BIGUTTULA BIGUTTU... | 2022 | | | | | | | 0 | | 0 |
| 18 | FORAGING SPEED OF CASTOR POLLINATORS | 2022 | | | | | | | 0 | | 0 |
| 19 | Tecovirimat as a Potential Bioavailable Inhibitor against MP... | 2022 | | | | | | | 0 | 1 | 1 |
| 20 | Trends and Economic Dynamics of Guar in India | 2022 | | | | | | | 0 | | 0 |

**6.6.3.5. Innovation and Best Practices:** *What are the innovative efforts of the University that help in its excellence in research?*

**a) Innovative efforts of the University**

**Natural Farming at Deen Dayal Upadhyaya Centre of Excellence for Organic Farming:** Research on Natural Farming has been initiated by cow urine based liquid/solid bio formulations to maintain and improve soil health in field on the Deen Dayal Upadhyaya Centre of Excellence for Organic Farming at main campus. The centre is already working on Natural and Organic Farming. The scientific data under different cropping systems based on horticulture, vegetable and field crops for natural farming as well as organic farming is being generated.

**Nutri-Cereals Research Station, Gokalpura (Bhiwani):** CCSHAU Nutri-Cereal Research Station, Gokalpura (Bhiwani) is spread over an area of 63 acres in semi-arid area near Haryana-Rajasthan state border. The research station has mandate for collection of germplasm of nutri-cereals available in the country and elsewhere, development of improved varieties/hybrids of nutri-cereals resistant against the pests and diseases, improved cultivation practices for sustainably higher yields, processing and value addition of the nutri-cereals.

**Centre for Micro-propagation and Doubled Haploid Production**: Horticultural crops are gaining popularity amongst farmers these days owing to the rich dividend paid. However, the availability of quality planting material of horticulture crops is one of the major constraints in expansion of area under horticulture crops. Therefore, CCSHAU, Hisar is in the process of establishing a state of art facility as Centre for Micro-propagation and Doubled Haploid Production to provide the viral disease free planting material to the farmers.

**Centre for Bio Nano-technology:** This Centre was inaugurated by Chief Secretary, Sh. Depinder Singh Dhesi on May 25, 2019. It has been started to revolutionize diversified industries including agriculture with the aim to reduce the amount of sprayed chemicals, minimize nutrient losses and to increase the yield. Mission of this centre is to contribute in the value research of the university through analytical support to the teachers, researchers and the students of the university; to provide expertise and resource to the university; and to generate revenue by providing open advanced analytical facilities to the researchers at academia and industry. Besides the following objectives, the main objective of the centre is to promote Bio-Nanotechnology research in the university and state.

**Establishment of Modern Indigenous Seed Bank:** A modern indigenous Seed Bank has been constructed for medium term storage of germplasm and other precious material of field crops, vegetables and horticultural crop species which was inaugurated by Dr. T. Mohapatra, Secretary DARE and DG (ICAR).

**Weather forecasting:** More than 6 lakh farmers from Haryana are connected with CCSHAU SMS based weather advisory system and they are being issued regular advisories for pest/disease control and other agronomical practices in various crops. The use of social media like WhatsApp, Facebook, etc. is also being used for providing information and other advisory purposes. Under the e-Mausam Krishi Sewa (ATMA project) e-mausamhau.com app has been made by the Department of Agril. Meteorology of the university to provide weather information to the farmers. As of today, there are 6.19 lakh registered farmers.

**GIS and Remote Sensing Softwares:** Resource set satellite LISS-III for 7 scene data of Haryana has been purchased from NRSA, Hyderabad. Real time images will be helpful for the

detection of farm problems such as biotic and abiotic stresses and further estimation of the area affected by biotic and abiotic stresses, crop health quantification, weed flora identification and crop growth & production estimation.

**Herbicide Residues laboratory:** State of art laboratory facilities have been created at the University for pesticide residue monitoring. Pesticide residues are being continuously monitored and residue testing is being done for new molecules before making recommendations.

**Grafted Vegetable Plants**

CCSHAU, Hisar has established vegetable grafting unit which has production facility for grafted vegetable plants in the university with the objective to overcome biotic and abiotic stresses for the welfare of farmers.

**Farm Advisory &e-resources:** The accuracy of rainfall forecast has now been improved from 81 to 92 percent. Pre-harvest forecasting of yield of cotton and wheat crops can reliably be made about 4-5 weeks in advance of the actual harvest using biometrical characters.

***e-Mausam* Service**: Weather SMS service was launched on the occasion of Kisan Mela on 21 March, 2011 to serve the farmers of the State. This service was further strengthened by start of a bilingual (Hindi & English) 'E-mausam' service through dedicated website (www.emausamhau.gov.in) with help from National Informatics Centre, Government of India and was inaugurated on 18th December, 2013. This web portal provides online weather data and agro-advisories, registration and feedback from farmers and other stake holders including extension officials of the State. In 2017, an android smartphone-based E-Mausam HAU App has also been developed which provides weather advisory and crop advisory.

**Micrometeorology Lab**: Education Minister, Haryana, Shri Kanwar Pal also inaugurated the newly established Micrometeorology Lab in the Agricultural Meteorological Department of the University. This lab will prove to be very helpful in assessing the effect of climate on crops and in researching and prevention of insects and diseases on crops, related to temperature, moisture and other seasonal factors. The lab is equipped with state-of-the-art equipments like Spectro Radiometer, Canopy Analyzer, Leaf Area Meter, Leaf Quantum Sensor and Hydrometer etc. which will assess the effect of weather on crops and alert about future activities.

***e-Resources*/Database Developed**: Two databases one containing comprehensive information on crop plant diseases and other one having details of plant mites have been developed and hosted on university website. A web-site having annotated data of rice genome has been prepared. The database has been prepared on proven postharvest technologies/equipments which were very much useful for the manufacturers, customers, dealers, etc. to avoid duplication, missing and overlapping of technology by manufacturers in the state.

**Database of Pollen Grains:** Data base of pollen grains of different plant species has been prepared which differ in their size, shape and aperture (number, position and character).

***e-Resources* on Farm Machinery:** e-Resources on farm machinery have been compiled along with the important specifications, photographs, manufacturers, address, etc. The specifications of important farm machinery have been uploaded in the University website, (www.hau.ernet.in/coaet/mach-FMPE.htm).

***e-tractor:*** Chaudhary Charan Singh Haryana Agricultural University has become the first agricultural university in the country to conduct research on electric tractors**.** The tractor is

powered by a 16.2 kilowatt battery and its running cost is very less as compared to diesel tractor.

**Combine Harvester Technology Training Laboratory**: A combine Harvester Technology Training Laboratory has been set up in the Department of Farm Machinery and Power Engineering of the University, in collaboration with CLAAS group, Germany. In this lab, working models of different components of combine harvester have been displayed. It will help in better understanding the working of a combine harvester.

**Automatic seeding machine**: Automatic seeding machine has been installed for nursery raising of high value crops. Automation in the seeder will help in reducing the wastage of the costly seeds, time required for sowing and it will indirectly affect the cost of the vegetables and fruits through minimizing the workers expenses

**Artificial Intelligence and Robotics Laboratory**: The laboratory has been established in order to make better use of Automation and Robotics in the field of agriculture. This will be helpful for the farmers in efficient use of fertilizer application and detection of insect-pest infestation. In turn, this will be helpful in increasing the farmer's income.

**Fisheries Science:** The University established a College of Fisheries Science in 2019 with five departments namely Department of Aquaculture, Department of Aquatic Animal Health Management, Department of Aquatic Environment Management, Department of Fish Engineering, Department of Fish Processing, Technology, Department of Fisheries Extension, Economics and Statistics and Department of Fisheries Resource Management. The college was establisehd with an aim to produce trained graduates equipped with modern techniques and management practices in Fisheries who can help the fishers/entrepreneurs or other stake holders to exploit the natural resources. Providing quality education, research and training in fish breeding/producing value added products/aquaponics etc. so that they can face and tackle challenges of fast developing fisheries sector.

**Biotechnology:** Realizing the potential of various applications of biotechnology in teaching and research in the areas of agriculture, industry and environment, the University has established a College of Biotechnology in 2022 with five departments namely Department of Agricultural Biotechnology, Department of Molecular Biology & Biotechnology, Department of Industrial Biotechnology, Department of Bioinformatics & Computational Biology, Department of Bio-nanotechnology.

**b) Best practices developed/adopted**

**Gender-specific markers**: The SCAR markers in date palm, Jojoba and Paradise tree have been developed. The protocol has been standardized for sex identification in male/female plants at an early stage of development.

**Molecular breeding/Speed breeding:** High yielding water efficient aerobic lines of rice have been selected using phenotypic and marker assisted selection strategies. In addition, marker assisted breeding is being practiced for the selection of mineral-rich (Fe & Zn), high-yielding and BLB resistant genotypes in rice and mungbean.

**Integrated Farming System Model**: Integrated Farming System Model has been developed over an area of one ha comprising of field crops, animal unit with two buffalo, vegetables, fruit and flower plants, mushroom cultivation, vermicompost unit and quality FYM production. From this model, net profit of Rs. 2,65,435/- was recorded during 2021-22.

**Zero Tillage and Happy Seeder Sowing:** University played a leading role in acceleration of zero-tillage and other resource conservation technologies in rice-wheat cropping system. These technologies were cost effective, demonstrated and transferred directly at farmers' fields.

**Direct Seeded Rice:** University has played a major role in developing the technique of direct seeded rice and full package of DSR was developed. Long-term study on different crop establishment methods in rice-wheat system indicated that the productivity of rice-wheat cropping system was better under direct seeded rice (96 q/ha) as compared to puddle transplant rice (93 q/ha).

**Crop Residue Management:** The technologies of combine harvester with straw management system, straw baler, chopper, and sowing of wheat with happy seeder help in management of rice crop residues by bringing back the organic waste to the soil/field and thus, soil health is also maintained on a sustainable basis. Microbial consortia are also being developed for *in situ* and *ex situ* decomposition of rice straw.

**Furrow irrigated raised bed system:** Furrow irrigated raised bed (FIRB) system of planting also helps in saving of water with improved yields of wheat. Recent studies in seed crop of wheat showed that FIRB system of planting with 3 rows on 70 cm bed was found superior.

**Agri-silvi-horticulture:** The agri-silvi-horticultural system of khejri + guava + clusterbean barley fetched higher net returns than sole cropping of clusterbean barley. There was appreciable build up in soil organic carbon in this system as compared to sole cropping in dryland areas of south Haryana.

**National Initiative on Climate Resilient Agriculture:** Results of demonstrations conducted at three NICRA villages indicated that adoption of complete package of practices recorded 13.5% higher yield over farmers' practices. 'Climate Smart Villages' have been established under the NICRA project in Yamuna Nagar and Sirsa districts.

**Value Added Fruits and Vegetable Products**: Cheese and toffee prepared with guava and mango pulp in the ratio of 80: 20 and toffee 60: 40, respectively were highly acceptable. Cheese and toffee prepared by blending mango pulp with bael pulp showed higher acceptability.

The squash prepared with 40% blended pulp of jamun and lemon (90:10) remained acceptable up to three months of storage at room temperature (35 ± 50 C). Aloe vera: aonla (25:75), Aloe vera: papaya (25:75) and Aloe vera: aonla: papaya (10:10:80) juice/pulp blends were found most acceptable for the preparation of RTS drink and squash.

**Nutritionally Rich Composite Flours**: Various types of composite flours using different processed coarse cereals, pulses, medicinal crops and microgreen blends in dried powdered form have been found to be nutritionally good for utilization in development of value added baked, traditional and extruded products.

**Micro-irrigation:** Micro-irrigation systems ensure uniform water application. Therefore, all plants in a field receive equal amount of water. Higher uniformity results in efficient irrigation, thereby, causing less wastage of water, power and fertilisers. The university has established an automated micro irrigation system for irrigation and fertigation studies under surface and sub surface drip irrigation for enhanced water and fertilizer use efficiency. Micro-irrigation technology ensures water use efficiency as much as 50- 90%. This can be achieved due to the fact that micro-irrigation helps to reduce conveyance losses, runoff, evaporation losses, seepage and deep percolation losses significantly.

**Adjunct Faculty:** In order to render help and guidance pertaining to research, developing research projects, education and developing viable collaboration between institutions and industry to synergise the outside 'real world experience with the inside intellectual pursuits in the university, 33 International and national eminent scientists have been appointed as Adjunct Faculty from various universities/institutes of USA, UK, Australia, Swizerland, Philippines, Croatia, Austria, UAE, Kenya and India for a period of two years.

**6.6.3.6. IPR Cell/ ITMU:** *Whether the University is currently having functional Intellectual Property Right Cell in place. Mention the date of the meetings conducted by the Cell in last three years and what were the major recommendations. Is the University having Institute Technology Management Unit in place. Mention the date of the meetings conducted by the Unit in last three years and what were the major recommendations.*

The University is currently having functional Intellectual Property Right Cell and BPD Unit (ITMU) in place. The IPR cell was launched in this University in December, 2005. The University has also got its trade mark for various University products. By registering for trademark the University name and fame can be ascertained from infringement claims and restrict the use of CCSHAU brand name by others and help the farming community to procure genuine quality products of the University. Intellectual Property Rights play a key role in obtaining an advantageous position in the competitive technological era for economic growth. Therefore, the cell will organise the trainings/workshops/seminar to enhance the skills of scientists, research scholars and faculty members in research work and increases the number of Intellectual Property Registration from the university. Scientists, students, research scholars will be motivated for the new innovations, development of cost effective, economically viable, environmentally feasible, socially acceptable agricultural technologies to compete in global market and the growth of IPR for the economic benefit of the state as well as for the country.During the last five years, various discussions were held with different functionaries and 63 numbers of IPRs have been filed and 39 IPRs have been granted so far to the University. During the period under report, 25 IPRs have been granted to University for its various technologies

**List of Patents/Copyright/Design Granted: 25 (Patents 9, Copyrights 10, Design 06 (2018-23)**

| Sr. No. | Technology Protected/ Patented | Inventor | Grantedon | Patent No./ ProtectionDetails |
|---|---|---|---|---|
| **PATENTS** | | | | |
| 1. | A method for the estimation of multi residue in Butter/Ghee | Beena Kumari, COA | 09.05.2018 | **296648** |
| 2. | A process for production of Polyhdroxybutyrate (phb) production from agri-byproductsbyRhizobia. | V.K. Sikka, Aarti Sharma,Praveen Kumar Sharma, COBS&H | 14.05.2018 | **296744** |
| 3. | SCAR marker based identification of sex in date palm | Pushpa Kharb, Charu Mitra, COBS&H | 30.10.2018 | **302567** |
| 4. | A renewable resource drives starchy raw materials to ferment fast into ethanol | S.S. Dhamijia, SeemaSangwan,COBS&H | 27.11.2018 | **303453** |
| 5. | A rapid and cost effective process for assessment of genetic purity in hybrids of pearl millet | Neelam Rani Yadav, SandeepYadav, Ram ChanderYadav, Hari Prakash Yadav | 13/09/2019 | **320441** |

| | | | | |
|---|---|---|---|---|
| | | Deptt. of MBB, COBS&H, CCSHAU,Hisar | | |
| 6. | A Pricking Machine For Pricking Fruit | M K Garg, Dinesh Sharma, Deptt.of Processing and Food Engineering, COAE&T | 29/07/2020 | **342783** |
| 7. | Pedal operated machine for fruits and vegetables | Nitin Kumar, D.K. Sharma, M.K Garg Deptt. of Processing and Food Engineering, COAE&T | 12.09.2022 | **406360** |
| 8. | De-stoning of Ber (*Ziziphus mauritiana* Lamk) fruits and its value addition | Mukesh Kumar, Devi Singh, R.K. Godara, Deptt. of Horticulture, COA, Bawal | 29.09.2022 | **408016** |
| 9. | Graphene Oxide-Polycarbonate Track-Etched Nanosieve Platform For Sensitive Detection Of Human Immunodeficiency Virus Envelope Glycoprotein | K.P. Singh, Anuj Nehra (CCSHAU), Dimiter Dimitrov, Annu Puri (USA rep by Secretary of DHHS) | 30.11.2022 | **413178** |
| **COPYRIGHTS** | | | | |
| **S. No.** | **Technology** | **Inventor** | **Granted on** | **No.** |
| 10. | Mathematical modelling for prediction of P.T.O. power requirement for rotavator | Vivek R. Kamat, Mukesh Jain HemantPoonia | 29/02/2020 | **SW-13325/2020** |
| 11. | Online Tool for analysis of series of Experiments in Randomized Block Designs | O.P. Sheoran, Manoj Kumar Manju Singh Tonk, Deptt.of Mathematics& Statistics, COBS&H, CCSHAU, Hisar | 28/05/2020 | **SW-13436/2020** |
| 12. | Online Analysis Tool for computation of LC50, LD50 or GR50 (Probit Analysis) | O.P. Sheoran, Manju Singh Tonk, Ram Niwas, Deptt.of Mathematics& Statistics, COBS&H, CCSHAU, Hisar | 28/05/2020 | **SW-13437/2020** |
| 13. | Principal Component Analysis-Online Statistical Analysis tool | O.P. Sheoran, Hament Poonia, Manju Singh Tonk,Deptt. of Math & Stat. , CCSHAU | 27/05/2020 | **SW-13417/2020** |
| 14. | Development of Online Analysis tool for k-means cluster analysis | O.P. Sheroran, Vinay Kumar, Ramniwas Sheokand, Deptt. of Math & Stat. , CCSHAU | 18.01.2021 | SW-14121/2021 |
| 15. | Development of Web based Tool for Comparisons of Means (Post-Hoc Tests) | O.P. Sheroran, Vinay Kumar Dep. of Math & Stat. , CCSHAU | 23.02.2021 | SW-14220/2021 |
| 16. | Development of Web based Application for Analysis of Augmented Designs | O.P. Sheroran, Vinay Kumar Sarita Rani, Deptt. of Math & Stat. , CCSHAU | 18.03.2021 | SW-14301/2021 |

| | | | | |
|---|---|---|---|---|
| 17. | Development of Web based tools for Analysis of Strip Plot and Latin Square Design | O.P. Sheroran, Vinay Kumar<br>Maju Singh Tonk, Deptt. of Math & Stat. , CCSHAU | 18.03.2021 | SW-14302/2021 |
| 18. | Development of App content for Mothers of Infants | Poonam Malik, Samanta,<br>Department of HDFS, CoHS, CCSHAU, Hisar | 17.05.2022 | L-115521/2022 |
| 19. | Development of App content for pregnant women | Poonam Malik,Poonam Yadav,Department of HDFS, IC CoHS, CCSHAU, Hisar | 17.05.2022 | L-115520/2022 |
| **DESIGNS** | | | | |
| **S. No.** | **Design No.** | **Inventor** | | **Granted on** |
| 20. | Composite Stool for Pruning and harvesting | Savita Kumari, Manju Mehta<br>Deptt. of FRM, COHS, CCSHAU | 25/11/2019 | **305095** |
| 21. | Multipurpose dispenser for honey bees | O.P. Chaudhary<br>Regional Research Station, Uchani, Karnal-132001. | 26/08/2020 | 320896-001 |
| 22. | Pedal Operated Maize Sheller | Vinay, Vijay K. Singh<br>M. K. Garg, P&FE, COAE&T, CCSHAU, Hisar | 30.09.2021 | 317534-001 |
| 23. | Bead Product Workstation | Ekta Melkani, Manju Mehta, Deptt. of FRM, COHS,<br>CCSHAU Hisar | 20.12.2021 | 339710-001 |
| 24. | Sugar assisted sugarcane juice extraction cart | Arun Kumar Attkan,<br>Sunil Kumar, Nitin Kumar, M.K. Garg, P&FE, COAE&T, CCSHAU, Hisar | 02.03.2022 | 339193-001 |
| 25. | SECATEURS | Kanchan Shilla,Binoo Sehgal,Manju Mehta<br>Deptt. of FRM, COHS, CCSHAU | 13/01/2023 | 356939-001 |

The University has a fully functional ITM Unit with nomenclature of Business Planning and Development Unit (BPD Unit) at Directorate of Human Resourse Management. After the establishment of BPD Unit, the University has signed 579 non exclusive license agreements with different firms/stakeholders for commercialization of technologies. During the period of report, the University has signed 56 non exclusive license agreements with different firms for the commercializationof 11 no. of technologies and technology transfer, incubation, Research and Development etc. (Detailed list is given under section **6.6.2.7**). During this period, a revenue of Rs. 46,26,000/- has been generated by the BPD Unit through membership fee and technology licensing through Non-Exclusive License Agreementsand Rs. 25,58,000/- have been generated through public private partnership agreements.The Cell plans to organize several programs to attract industries and entrepreneurs in order to fulfil its objectives of technology licensing and capacity building. The

proposals for licensing of technologies are decided through approval from MoU committee in its meetings.

**Fund operation committee meeting held during the last three years (Proceedings, SD-VIII)**

| S. No. | Meeting | Date of Meeting |
|---|---|---|
| 1. | Fund operation committee meeting | 09.07.2020 |

**6.6.3.7. Central Instrumentation Unit:** *Is there a Central Instrumentation Unit in place? What are the facilities available in the unit?*

**Central Instrumentation Unit, CCSHAU, Hisar**

**Central Instrumentation Unit** was established with the name **Central Laboratory** at Chaudhary Charan Singh Haryana Agricultural University in 2001 to promote research and development in the state. The laboratory facilitates research activities by providing analytical support to conduct independent quality research in the key areas of Agriculture, Biotechnology and allied sectors for agricultural development. It offers state of the art analytical facilities for the academic and research institutes of Haryana and outside. The laboratory also strives to train the students and researchers of the University and other academic institutes by providing hands-on experience on operation and management of advanced analytical instruments.

The detailed list of the facilities available in the laboratory is as follows:

| Sr. No. | Name of Instrument | Qty. | Make And Model | Country of Origin | Cost(Rs.) | Current Status |
|---|---|---|---|---|---|---|
| 1. | IC -ICPMS | 1 | Thermo Fisher Scientific Icap-RQ | USA | 1,49,50,370 | Working |
| 2. | FTIR | 1 | Thermo Fisher Scientific Nicolet Is-50 | USA | 57,00,000 | Working |
| 3. | Particle Size Analyzer | 1 | Methrom Microtrac Nanotrac Wave | USA | USD 56,800 | Working |
| 4. | Scanning Electochemical Microscope | 1 | Methrom PGSTAT-302M | Netherland | Euro 1,50,876 | Working |
| 5. | PG STAT | 1 | Methrom Multi Auto Lab M204 | Netherland | Euro 1,56,487 | Working |
| 6. | Surface Plasmon Resonance Analyzer | 1 | Methrom SPR-ESPRIT | Netherland | Euro 1,69,160 | Working |
| 7. | Refrigerated Incubator Shaker | 1 | Eppendorf Innova® 44 AG | Germany | 10,40,000 | Working |
| 8. | Micro Centrifuge | 1 | Eppendorf | Germany | 2,96,800 | Working |
| 9. | BET Surface Area Analyzer | 1 | Antonpaar Quanta Chrome Instruments | USA | 44,00,000 | Working |
| 10. | FESEM with EDS | 1 | Jeol Scientific JSM-IT800 | Japan | 2,90,00,000 | Working |
| 11. | Flow Cytometer | 1 | Invitogen, Thermo ScientificAFC2 | Singapore | 79,98,480 | Working |
| 12. | Ion Gene Studio | 1 | Invitrogen Ion-S5 System | USA | 89,00,000 | Working |
| 13. | Probe Sonicator | 1 | Cole Parmer | India | 2,80,000 | Working |

| | | | | | | |
|---|---|---|---|---|---|---|
| 14. | Microwave Synthesizer | 1 | Anton Paar | India | 16,85,000 | Working |
| 15. | KJELTEC Protein Analyzer | 1 | Foss Analytics | India | 51,00,000 | Working |

**6.6.3.8. Global Support:** *Global Support may assist Universities to organize and undertake activities outside of the Regions by providing a centralized location for administrative resources and a single point of contact for addressing related questions. Does the University maintain functional experts in a range of administrative areas to provide technical advice and guidance in the areas of exchange programmes, visa related issues, International MoUs, collaborative research etc.?*

Yes, the University has functional experts in a range of administrative areas to provide technical advice and guidance in the areas of exchange programmes, visa related issues, International MoUs, collaborative research.Universityis offering a Global support through the **International Affairs Cell** which was established as per the instructions from the Ministry of Home Affairs, Government of India, communicated through local police (FRRO) Branch, Hisar. CCS Haryana Agricultural University took the lead to establish an International Affairs Cellin the Directorate of Human Resource Management with an objective to keep fast tracking, uploading & getting latest updated online information/data of foreigners visiting CCSHAU. International Desk has linkages with DARE (Department of Agricultural Research & Education, Government of India under Ministry of Agriculture). The Desk works with the collaborative efforts of local administrative authorities such as intelligence bureau (IB) & Central Intelligence Department (CID).

Incharge and Coordinator, International Affairs Cellis the point of contact which addresses the international student related issues, along with a range of other inter- university linkages for student's exchange. The permission and clearance from DARE/MHA, MEAGovernment of India regarding visit of foreign participants for study, short visit, delegations and for trainings to this University is sought by this Cell and necessary arrangements for successful conduct of these visits are made thereafter.

The International Affairs Cellalso looks after uploading and updating the details of foreign students and delegation's information online regarding the registration, stay permit, visa extension, exit visa and extension of stay permit, etc in CCS Haryana Agricultural University. During the period under report, online registrations of 72 foreign students and several adjunt faculty who visited this University completed by the International Affairs Cell**,** Dean, PGS. Thirty-three visits of international delegations were coordinated.

**Important International Visits and other Activities**

| Sr.No | Date of Visit | Visitor/Institute/Country | Purpose |
|---|---|---|---|
| 1. | April 23-24, 2018 | Georgi Kirov, Head of Sales Biogest Biogas, Austria | Research Collaboration |
| 2. | April 23-24, 2018 | Joost Van Rooij, Hortifuture, Netherlands | Research Collaboration |
| 3. | February 25, 2020 | Jessica Garrels<br>Senior Programme Manager, USA | Project meeting |
| 4. | March18-22, 2020 | Noor Seddiq, USA | Research & Academic Collaboration |
| 5. | June 28, 2022 | JessicaGarrels<br>Senior Programme Manager, USA | Project meeting |
| 6. | December 18, 2022 | Karim M. Maredia, USA | Research Collaboration |

| | | | |
|---|---|---|---|
| 7. | November 23, 2022 | Ian Anderson and Nisha , WSU Australia | MReS degree programme |
| 8. | February 13, 2023 | Lukasz Drewniak and Kumar Parnaw, Poland | Research Collaboration |

**International Training Programmes**

Tailor-made courses in the fields of agriculture, home science, extension management and research management have been planned and offered at the international level too, on specific requests from the organizations abroad. Since its inception AAREM has conducted forty-nine international training programmes for foreign nationals. During the period of report six such training programmes were organised.

**Lectures delivered by international adjunct faculty**

| Sr. No. | Date | Name and address of Adjunct faculty | Title |
|---|---|---|---|
| 1 | 23.06.2021 | Bhagirath Chauhan, Professor (Weed Science) The University of Queensland, Australia | Publication in International Journals |
| 2 | 06.07.2021 | Harbans Bariana, Professor of Cereal Rust Genetics The University of Sydney, Australia Adjunct Faculty, CCSHAU, Hisar | Implementation of technological advances to achieve food security |
| 3 | 22.07.2021 | Urmil Bansal, Principal Research Fellow – cum- Associate Professor, The University of Sydney, Australia | Mapping, fine mapping and cloning of rust resistance genes in wheat |
| 4 | 05.08.2021 | Ranvir Singh, Assoc.Professor, Massey University, New Zealand. | Water and nutrition sensitive agriculture- increasing land and water productivity for sustainable food security |
| 5 | 26.08.2021 | Craig McGill, Senior Research Officer, Massey University, New Zealand | Seed quality: why is it a cornerstone for food security? |
| 6 | 15.09.2021 | Ana Luísa Oliveira, Coordinator, Excellence in Breeding Platform, CIMMYT, Kenya | Genetic molecular markers and their deployment in public sector plant breeding programs : challenges and opportunities |
| 7 | 29.09.2021 | Dror Minz, Director, Institute of Soil, Water and Environmental Sciences, ARO-Volcani Institute, Ministry of Agriculture and Rural Development, Israel | What can the microbiome tell us about the conditions in agricultural soil? |
| 8 | 29.10.2021 | Surya Kant, Senior Research Scientist, School of Applied Systems Biology, La Trobe University, Australia | Advanced technologies to accelerate yield improvement in food crops |
| 9 | 01.12.2021 | Hermann Buerstmayr | Challenges for crop improvement in times of global change |

**International Training/ Workshops**

| S. No. | Name of the Course | Period |
|---|---|---|
| 1. | Capacity Development for Agricultural Innovation Systems: *Agricultural Research* and Climate-Smart Agriculture Approaches | 07-18 March, 2020 |
| 2. | Development of Essential Research Capabilities: Design, Implement and Perform Analysis in Applied Research" | 23 & 29 June, 2020. |
| 3. | Integrated Pest Management | 14, 15 & 22 September, 2020 |
| 4. | Climate change | 16, 23,30 July and 06 August, 2020 |
| 5. | Training on Agribusiness Experiential Learning | 05 &06 April, 2021 |
| 6. | Basic and Advance Laboratory/Farm Technologies in Agriculture | 28-30June, 2021 |
| 7. | Biotechnologies in environmental engineering – scientific and business perspective | 13-19 February, 2023 |








Activities and Trainings of foreign students under International Cell

**International Webinars/ Seminars**

| S. No. | Name of the Course | Period |
|---|---|---|
| 1. | What can the microbiome tell us about the conditions in agricultural soil | 29 September, 2021 |
| 2. | Antibiotic Resistance in Agro-environments between: Epidemiology and Microbial Ecology | 24 May, 2022 |
| 3. | Reducing carbon emissions- Simple solutions to complex problems | 3 June, 2022 |
| 4. | Your Future after Undergraduate or Postgraduate Degree | 9 September, 2022 |
| 5 | Genomics and Metabolomics | 21-27 December,2022 |




**International Students:** Seventy-two foreign students from Vietnam, Ethiopia, Sudan, Afghanistan, Ghana, Uganda, Indonesia, Rwanda, Nepal, Sri Lanka, Egypt, Namibia, Myanmar, Zambia, Tanzania, Liberia, Nigeria and Fiji have completed UG and PG degree programmes in various disciplines. Students from different countries have completed their degree programme and many more are studying at present in various colleges of the university.



Professor B.R. Kamboj, Vice-Chancellor, with foriegn students




Foriegn Students in field and Library

## International Collaborations

University has International partnership in academics in the field of *Agricultural Research* and education with CIMMYT, Czech University of Life Science, Prague; International University of Japan; James Hutton Institute Dundee Scotland; Tokyo University of Agriculture Japan; Agriculture Research Organization Israel; COM University Turkey; University of Illinois; Michigan State University, USA; University of Massachusetts Amherst, USA; Western Sydney University,Australia; AFU University Nepal; University of Warsaw, Poland.

## International Projects

### GRAIN-MSU Project

We have lead GRAIN-MSU Project in collaboration with Michigan State University funded by USAID, USA to support students from five different provinces of Afghanistan to complete their Master and Doctoral degree program at CCSHAU, Hisar. During this project, monthly meetings with GRAIN coordinator of Michigan state University were convened and compiled the monthly progress reports till successful completion (2023) of the project.

### CAAI-VT Project

We have lead Catalyzing Afghan Agricultural Innovation (CAAI) project in collaboration with Virginia Tech University, USA to train Afghanistan scientists in pioneering area of Agriculture sector towards sustainability.

### SPARC Project:

This is a multidisciplinary international project in collaboration with many foreign universities to exchange faculties for strengthening research and academic activities. The students are also getting benefit through learning new research techniques and skill enhancement. The list of the projects is as follows:

| Sr. No. | Department | Scheme/Title of Project | Sanctioned amount | Name of PI |
|---|---|---|---|---|
| 1. | Molecular Biology Bio-informatics &Bio-technology | **C (g) MBB-36-OA (SPARC)-** Application of CRISPR/ Cas9genome editing techniques for development of low silicone rice suitable for paddy straw management. | 2950000 | Dr. Upendra Balyan |
| 2. | Agricultural Meteorology | **C (g) Agrimet-21-OA (SPARC)-** Promoting climate smart farming through agro-meteorological techniques. | 2899970 | Dr. Surender Dhankhar |
| 3. | Seed Science & Technology | **C(g)SST-6-OA(SPARC)-** Standardization of seed testing procedures and sto*Rabi*lity for medicinal | 2899970 | Dr. Axay Bhuker |

| | | | | |
|---|---|---|---|---|
| | | plants (Moringa and Gokhru) | | |
| 4. | Botany and Plant Physiology | **C(g)Bot-20-OA(SPARC)-** Combining rust resistance with non-structural carbohydrates (NSC) in wheat to achieve food security | 2699970 | Dr. Renu Munjal |
| 5. | Renewable &Bio Energy Engineering | **C(g)COAET-8-OA(SPARC)-** Identification of techno-economically viable biomass conversion technologies for crop residue management. | 2949970 | Dr. Y. K. Yadav |
| 6. | Botany and Plant Physiology | **C(g)Bot-19-OA(SPARC)-** Genotyping by Sequencing Genome-wide Association Study and Genomic Selection Approaches for the Complex Trait like stress tolerance and yield in Soyabean | 2950000 | Dr. Vinod Goyal |

**Institutional Development Project - NAHEP- IDP CCSHAU, Hisar:**

For strengthening the capacity of researchers, the University has implemented Institutional Training Programme under NAHEP-IDP. It is a special faculty and students training programme to get exposure from global institutions in area of academic and research. Several students and faculties have visited esteemed international institutions/ universities leading in different agricultural and allied sectors. This has strengthened the research quality and academic curriculum that boost the university in top most agricultural universities in India.

**Title of the project:** Strengthening Institutional Capacity to Produce Skilled Professionals for Market Driven Agriculture: The IDP sub-project entitled "Strengthening Institutional Capacity to Produce Skilled Professional for Market Driven Agriculture" was sanctioned by the National Agricultural Higher Education Project for 2017-18 to 2023-24

**Objectives**:

- Curriculum enhancement with focus on quality and excellence for developing professionally qualified students and next generation of agri-professionals.
- Empowering students and faculty with new skills and knowledge.
- Innovative partnership with foreign universities and private sector.
- Sharing the acquired knowledge and experiences with other agricultural institutes in India for strengthening their capacity.

**Achievements on output-outcome framework indicators:**

| Sr. No. | Indicators | Cumulative Target (till March 2023) | Cumulative Achievements (till March 2023) |
|---|---|---|---|
| 1. | % increase in student placement rates (in %) | 60 | 63 |
| 2. | No. of students completed international trainings (number) | 80 | 101 |
| 3. | No. of faculties completed international trainings (number) | 35 | 26 |
| 4. | No. of new facilitative units established to enable academic and research infrastructure (IIIC- Industry Institution Interaction Cell / Start up cell / incubation cell / placement cell, alumni cell, conference halls, smart/virtual classrooms, AR/VR, language lab, other digital infrastructure etc.) | 13 | 13 |
| 5. | No. of MoU signed with other HEIs, industries | 12 | 138 |
| 6. | Number of pilot courses added/upgraded on communication skills, entrepreneurial skills, information processing, creative and innovative thinking, leadership skills, industry-oriented courses. | 3 | 2 |

| | | | |
|---|---|---|---|
| 7. | Number of national level trainings/workshops/webinars organised to improve the learning outcomes of students | 0 | 99 |
| 8. | Number of national level trainings/workshops/webinars organised for faculty upgradation | NA | NA |
| 9. | Improved AU revenue generation (% change in Internal revenue of AU) | 41 | 47 |
| 10. | Direct project beneficiaries | 5000 | 6394 |
| 11. | Female beneficiaries (share in total beneficiaries) | 2500 | 3760 |

**Outcome focused activity milestones (Cumulative):**

| Objective | Target | Achievement | Out come |
|---|---|---|---|
| Curriculum enhancement with focus on quality and excellence for developing professionally qualified students and next generation of agri-professionals | Capacity Building of faculty | 26 faculty was deputed for International training to the International Institutes | • The newly trained faculty has been assigned to train the other faculty working in particular area of research.<br>• They delivered the seminars and prepared collaborative research proposal with foreign partners<br>• Students got real time field exposure in the area of crop improvement with latest equipments and latest techniques of Seed testing and quality improvement |
| | International training of students | 101 students have completed the international training at Czech University of Life Sciences, Prague; The University of Sydney (Plant Breeding Institute); Massey University, New Zealand; Asian Institute of Technology (AIT), Bangkok, Thailand; Massey University, New Zealand; Mr. Hua Thai NHAN, Vietnam | |
| | New certificate courses and short term trainings | Three certificate courses has been successfully completed) | Revenue generation to sustain these courses after the completion of project. |
| | Learning and teaching development services leading to good governance, smart Lecture rooms & Modernized labs | Five labs and eight lectures rooms are renovated and upgraded.<br>The equipments for smart classroom and robotic and automation lab have been installed | Research facility and high impact publication.<br>Smart lecture rooms could be used to provide ICT enabled instructions |
| Innovative partnership with foreign universities and private sector | University–industrial linkage | Industry Conclave- New Placement Avenues in Agriculture (IC-2020) on February 13-14, 2020 was organized<br>Brainstorming with industries persons<br>MoUs with institutes and industry<br>International conference on" Climate resilient agriculture for food security and sustainability" at CCSHAU, Hisar<br>INDO-POLISH International training on "Biotechnologies in Environmental Engineering-Scientific and Business Perspective<br>The Fuss About Food Supplements' organized under online lecture series "Food safety and Security: Global Perspective | Exposure visits to industries, Short term trainings, market related assignments, Climate smart technologies & collaborative research with industries of agri graduates are being focused<br>Students shared their experience, innovative ideas and their future goals with the resource persons |
| | Student entrepreneurship | Incubation centre has been established and students are being trained for entrepreneurial skill | The incubates for startup of agribusiness are being trained<br>Student learned various |

| | | | |
|---|---|---|---|
| | | Several workshops and trainings for entrepreneurship have been conducted | innovative techniques of agriculture |
| Sharing the acquired knowledge and experiences with other agricultural institutes in India for strengthening their capacity | National and international Expert/ Technical consultancy | 26 faculties were trained in various identified area through international trainings | The acquired knowledge of the faculty is being shared with other faculty members/ institutes through various short term courses and seminars |



**Tokyo University special exchange programme, Tokyo**

Many students have been selected for their UG/PG/Ph.D. program to complete their degree program every year with scholarship funded by Tokyo NODAI.

**Tokyo International Students Summit (ISS)**

Every year students are selected to participate in international student summit under Tokyo International Students Summit (ISS) open call. Under this summit, CCSHAU students were awarded in different themes.

**DUO-INDIA FELLOWSHIP AWARD 2020 (PROFESSORS)**

One-month exchange visit each of Indian and foreign PIs in each others's Institute

**Funding Agency:** ASEM-DUO, South Korea

**Objectives**

- Promoting exchange of scientific personnel between India and European countries on a balanced and permanent basis.

- Developing academic and research linkages between the two institutions

**Budget:** Euro 3000/- (including travel and living expenses for one month) to each faculty

**Duration/Tenure** January-December, 2020

**Fellowship 1:**

**Indian PI:** Dr. Dev Vart, Assistant Scientist (PB), Bajra Section, Department of Genetics & Plant Breeding

**International PI:** Dr. Rattan Yadav, Reader, Genetics, Genomics and Plant Breeding, Aberystwyth University, Aberystwyth




Seminar-cum-interactive session with Dr Rattan Yadav, Duo-India Exchange Professor (2nd from left)

**Fellowship 2:**

**Indian PI:** Dr. Renu Munjal, Principal Scientist (P), Wheat Section, Department of Genetics & Plant Breeding

**International PI:** Dr. Soren K. Rasmussen, Professor, University of Copenhagen, Denmark

**Fellowship 3:**

**Indian PI:** Dr. Vinod Goyal, Assistant Scientist, Department of Botany & Plant Physiology

**International PI:** Dr. Arthur Korte, Professor, Julius-Maximilians University, Wurzburg, Germany

**MoUs for National and International Collaboration has been covered under the section 6.6.1.11. Collaboration with Academic Institutions and Industry.**

**Student's selection in foreign universities**

Many students were guided and selected for their UG and PG degree program in prestigious universities globally.

**Dual Degree Ph.D. programme 2021**

| Sr. No. | Name | Discipline | WSU Supervisors | Status |
|---|---|---|---|---|
| 1. | Mantavya | Foods & Nutrition | Dr. Vijay Jayasena | Pursuing Ph.D. research work at WSU |
| 2. | Sindhu | Entomology | Dr. Sally Power | |
| 3. | Charan Singh | Soil Science | Dr. Uffe Nielsen | |






**Joint MRes programme 2022-23**

| Sr. No. | Name | Discipline | WSU Supervisors | Status |
|---|---|---|---|---|
| 1. | Bhavesh | Agronomy | Prof. Brajesh Singh | Recently joined |
| 2. | Sagar Kwatra | Plant Pathology | Dr. Chris Cazonelli | Received offer letter |
| 3. | Kanti Ghimire | Foods & Nutrition | Dr. Chris Cazonelli | |

**Other International Projects:**

| Sr. No. | Departments | Name of Scheme | Scheme entitled | Amount (Rs.) | Funding Agency |
|---|---|---|---|---|---|
| 1 | Genetics &Plant Breeding | **C(g)PB-110-OA (CIMMYT)** | Forecasting Agricultural Output using space, Agro-meteorology and land based observation | - | CIMMYT |
| 2 | Genetics & Plant Breeding | **C(g)PB 81-OA** | Partnership based genetic enhancement of pearl millet and high grain iron density and improvement human nutrition in India | 1833000 | ICRISAT |
| 3 | RRS, Karnal | **C(g)RSK-26-OA** | Climate Smart Management Practices. | 788480 | IRRI, Philippines |
| 4 | RRS, Karnal | Funds received in 2022-23 | Direct Seeded Rice Consortium (ICAR-IRRI Collaborative Workplan Project) | 343000 | IRRI, Philippines |
| 5 | KVKs Yamuna Nagar, Karnal, Panipat, Sonepat | Funds received in 2022-23 | NEXUS Gains: Realizing Multiple benefits across water, energy, food and ecosystems (Forests, biodiversity) Initiative | 2429400 | IRRI, Philippines |
| 6 | Microbioolgy | C(g)Micro-36-OA | Assessment of Agri-biomass from agro-climate zone of Haryana. | 1736980 | M/s Fortum India Pvt. Ltd., Gurugram |
| 7 | Dean PGS | C(g)Dte-R-19-OA | Indo-US-VT-CAAI Programme. | 1440499 | Virgania Tech. University, USA |
| 8 | RBEE | RBEE-2-OA | Production and Evaluation of Organic Fertilizer using Land Care 1611 | 1092996 | Tokyo University, Japan |

**Corporate social responsibility (CSR) funding**

University had organized an International Conference on GINMA, 2019 & fund of **Rs. 16.93 lakh** were raised which were sponsored by various corporate like Coromandel, Corteva, PI industries, Bayer, FMC, Syngenta, UPL etc.

Recently, University had organized an International Conference on INTCLIMATE & fund of **Rs. 11.63 lakh** were raised which were sponsored by various corporate such as Bayer Crop Science limited, Rasi seeds, Corteva etc.

University has raised funds of **Rs. 73.90 lakh** for various CSR projects including stainless steel dual drum dustbins with SS stand; solar lights (Installed at COA, Bawal; 100 lights); Solar lights (Installed at COA, Kaul; 75 lights); incinerators and sanitary napkin dispenser covered and sponsored by HPCL, ONGC, IREDA and ONGC companied, respectively.

A fund of **Rs. 2 lakh** were raised for sponsoring workshop covered by ONGC company.

COA&ET has raised fund of **Rs. 70, 000/-** for Development of HAU type Hempseed sponsered by Canapure Pvt. Ltd. Bhopal.

University also raised funds of **Rs. 2,03,38,000/-** for infrastructure development *i.e.*, Potato Grading Line, Vegetable Seed Packing Machine and Vegetable Grafting Unit installed at Department of Vegetable Science, COA, Hisar.

Besides, CCSHAU has also contributed towards society and taken steps to ensure that there are positive social and environmental effects associated with it. Our university conducted following actvities as social responsibility:

1. The University contributed an amount of **Rs. 2 crore** in chief minister relief fund for the Corona.
2. The University has adopted many adjourned villages through it's constituent colleges. Adoption is for conducting awarness programme, extension activities, skill trainings and motivational programme for betterment of social and economical lifestyle of residents.

### 6.6.4. Extension Support:

CCSHAU conceived and implemented a unique system of extension education for the transfer of technology to end users at its inception itself. This system was highly acclaimed by the ICAR Review Committee (1978) headed by late Dr. M.S. Randhawa and was appreciated at the National level. The Directorate of Extension Education acts as a bridge between the research scientists, farmers and the other end user beneficiaries to provide the feedback. Therefore, the role of this Directorate is significant in two ways *i.e.,* (i) transfer of technologies from scientists to the farming communities through KVKs and (ii) Extension Specialists to formulate research project acccordingly.

**6.6.4.1. Extension Council:** *Mention the present composition of the Extension Council and provide the dates of meetings in last five years in tabular form.*

Extension Education Advisory Committee considers and makes recommendations in respect of the Extension Education Programmes and Projects of the University; co-ordination of extension education activities for improvement of agriculture and allied sector for the development of rural communities; development of farmers' education & training and advisory services; identification and resolution of field problems and transmission of information; methodology of extension education; evaluation of the Krishi Vigyan Kendra functions and any other matters referred to it by the Vice-Chancellor, Board of Management or any other authority of the University.

**Constitution of Extension Education Advisory Committee**

The following are the permanent members of CCSHAU, Hisar Extension Education Advisory Committee:

| Sr. No. | Extension Education Advisory Committee | Position |
|---|---|---|
| 1. | Vice-Chancellor | **Chairman** |
| 2. | Registrar | Member |
| 3. | Director of Research | Member |
| 4. | Comptroller | Member |
| 5. | Librarian, Nehru Library | Member |
| 6. | Dean, Post Graduate Studies | Member |
| 7. | Dean, College of Agriculture | Member |
| 8. | Dean, COBS&H | Member |
| 9. | Dean, COHS | Member |
| 10. | Dean, COAE&T | Member |
| 11. | Director General, Agriculture and Farmers Welfare, Haryana | Member |
| 12. | Director General, Horticulture, Haryana | Member |
| 13. | Director General Animal Husbandry, Haryana | Member |
| 14. | Director, Women & Child Developement Haryana | Member |
| 15. | Director, CIRB, Sirsa Road, Hisar | Member |
| 16. | Associate Director (Extension) | Member |
| 17. | Associate Director (Publication) | Member |
| 18. | Associate Director (Training) | Member |
| 19. | Manager ATIC | Member |
| 20. | HOD (Genetics & Plant Breeding) | Member |
| 21. | HOD (Plant Pathology) | Member |
| 22. | HOD (Soil Science) | Member |

| | | |
|---|---|---|
| 23. | HOD (Microbiology) | Member |
| 24. | HOD (Centre of Food Science & Techology) | Member |
| 25. | HOD (Farm Machinery & Power Engg.) | Member |
| 26. | HOD (Soil & Water Engg.) | Member |
| 27. | President HAUTA | Member |
| 28. | Sr. Coordinator KVK, Panipat | Member |
| 29. | Sr. Coordinator KVK, Mandkola | Member |
| 30. | Sr. Coordinator KVK, Karnal | Member |
| 31. | Associate Director (FAS) | Member |
| 32. | Assistant Director (Extension Education) | Member |
| 33. | Director Extension Education | Member Secretary |

In addition to this, Scientitfic Advisory Committee (SAC) for Krishi Vigyan Kendra is also constituted as under:

| Sr. No. | Extension Education Advisory Committee | Position |
|---|---|---|
| 1. | Vice-Chancellor | **Chairman** |
| 2. | Director of Extension Education | Member |
| 3. | Director ATARI | Member |
| 4. | Representative of ICAR | Member |
| 5. | Regional Director, RRS | Member |
| 6. | District Officials of Line departments (Agriculture, Horticulture, Animal Husbandry, Soil Conservation, Fisheries, Irrigation, Social Welfare and small scale industry | Member |
| 7. | Representative of Lead Bank | Member |
| 8. | Farm Radio Officer and Doordarshan | Member |
| 9. | Two Representatives of progressive farmers | Member |
| 10. | Two Representatives of progressive Women farmers | Member |
| 11. | Senior Coordinator of respective KVKs | **Member Secretary** |

**Scientific Advisory Committee Meeting**

SAC meetings are convened once in a year in all the ICAR funded KVKs of Haryana

| Sr. No. | Year | SAC meetings convened |
|---|---|---|
| 1. | 2018 | 11.10.2018 to 22.11.2018 |
| 2. | 2019 | 13.09.2019 to 08.11.2019 |
| 3. | 2020 | 02.09.2020 to 16.09.2020 |
| 4. | 2021 | 02.08.2021 to 22.10.2021 |
| 5. | 2022 | 07.07.2022 to 29.08.2022 |

**ICAR funded KVK's wise SAC meetings convened**

| Year | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| Bhiwani | 22.11.2018 | 04.11.2019 | 09.09.2020 | 18.08.2021 | 29.08.2022 |
| Faridabad | 11.10.2018 | 06.11.2019 | 07.09.2020 | 12.08.2021 | 21.07.2022 |
| Fatehabad | 31.10.2018 | 24.09.2019 | 11.09.2020 | 26.08.2021 | 08.08.2022 |

| | | | | | |
|---|---|---|---|---|---|
| Hisar (Sadalpur) | 17.10.2018 | 13.09.2019 | 09.09.2020 | 23.08.2021 | 01.08.2022 |
| Jhajjar | 05.11.2018 | 30.09.2019 | 14.09.2020 | 22.10.2021 | 30.08.2022 |
| Jind | 15.10.2018 | 08.11.2019 | 02.09.2020 | 02.08.2021 | 07.07.2022 |
| Kaithal | 12.11.2018 | 03.10.2019 | 02.09.2020 | 30.09.2021 | 11.07.2022 |
| Kurukshetra | 16.11.2018 | 30.10.2019 | 04.09.2020 | 10.08.2021 | 29.08.2022 |
| Mahendergarh | 25.10.2018 | 18.09.2019 | 07.09.2020 | 17.08.2021 | 25.07.2022 |
| Panipat | 29.10.2018 | 08.11.2019 | 16.09.2020 | 06.10.2021 | 22.08.2022 |
| Rohtak | 22.11.2018 | 04.11.2019 | 14.09.2020 | 31.08.2021 | 10.08.2022 |
| Sirsa | 14.11.2018 | 04.10.2019 | 11.09.2020 | 25.08.2021 | 05.08.2022 |
| Sonipat | 02.11.2018 | 26.09.2019 | 16.09.2020 | 12.10.2021 | 26.08.2022 |
| Yamunanagar | 22.10.2018 | 16.09.2019 | 04.09.2020 | 06.08.2021 | 15.07.2022 |








SAC Meetings

**6.6.4.2. Directorate of Extension Education:** *Give brief information about the present establishment of the Directorate of Extension Education, staff pattern, KVK and other off-campus extension programmes, extension coordination mechanism, extension and technology dissemination system and contribution in academic programmes.*

The Directorate of Extension Education is headed by a Director who is assisted by Associate Director (Farm Advisory Service), Joint Director (Farm Information and Communication Service) and Associate Director (Publication), Associate Director (Trainings), Manager (ATIC), Associate Directors (Agronomy, Horticulture, Plant Pathology, Soil Science, Entomology, Vegetable Science, Farm Machinery and Power Engineering, Home Sciences). Policy decisions regarding the functioning of the Directorate of Extension Education are taken by the Extension Education Advisory Committee. This Committee is headed by Vice Chancellor and Director of Extension Education acts as the Member Secretary.

**ORGANIZATIONAL STRUCTURE**




KVKs and Off-Campus extension programmes

***Krishi Vigyan Kendras:***

Amongst total 19 KVKs under the jurisdiction of CCSHAU, five KVKs *viz.*, Ambala, Bawal, Mandkola, Panchkula and Karnal are State funded and remaining 14 KVKs are funded by ICAR. Each KVK has a provision of one Sr. Coordinator and six District Extension Specialists of different subjects *i.e.*. Agronomy/Soil Science, Entomology/Plant Pathology/Nematology, Extension Education, Horticulture/ Vegetable Science, Home Science, Agricultural Engineering/Agroforestry/Agricultural Economics and other supporting staff.

**Addresses of Krishi Vigyan Kendras in Haryana**

| Sr. No. | Name of KVKs | Address (s) |
|---|---|---|
| **ICAR Funded KVKs** | | |
| **1** | Krishi Vigyan Kendra, Bhiwani | Opposite Sports Stadium, Bhiwani 127 021 |
| **2** | Krishi Vigyan Kendra, Fatehabad | Majra Road, Dhani Bikaneri, Fatehabad 125 050 |
| **3** | Krishi Vigyan Kendra, Faridabad | V & PO Bhopani, Bhopani Farm, Faridabad 121 002, |
| **4** | Krishi Vigyan Kendra, Jind | V & PO Pandu Pindara, Jind 126 102 |
| **5** | Krishi Vigyan Kendra, Jhajjar | V.& PO Beed Sunarwala, Badli Road, Jhajjar 124 103 |
| **6** | Krishi Vigyan Kendra, Kaithal | Devigarh Farm, New Peoda Road, Kaithal 136 027, |
| **7** | Krishi Vigyan Kendra, Kurukshetra | 430 Urban Estate, Near Railway Station, Sec-13, Kurukshetra 132 118 |
| **8** | Krishi Vigyan Kendra, Mahendergarh | Near Forest Department, Mahendergarh 123 001 Phone: 01285-220293 |
| **9** | Krishi Vigyan Kendra, Panipat | V & PO Ujha, Panipat 132 104 |
| **10** | Krishi Vigyan Kendra, Rohtak | Near Jat College, Rohtak 124 001 |
| **11** | Krishi Vigyan Kendra, Sirsa | Old Tehsil Road, Sirsa 125 055 |
| **12** | Krishi Vigyan Kendra, Hisar | V & PO Sadalpur (Hisar) 125 052 |
| **13** | Krishi Vigyan Kendra, Sonipat | V &PO Jagdishpur Narela Road, PO Box No. 28, Sonipat 131 001 |
| **14** | Krishi Vigyan Kendra, Yamunanagar | V & PO Damla, Yamunanagar 135 001 |
| **State Funded KVKs** | | |
| **15** | Krishi Vigyan Kendra, Ambala | Near District Courts, Ambala City 134 030 |
| **16** | Krishi Vigyan Kendra, Bawal | Bawal District Rewari 123 501, |
| **17** | Krishi Vigyan Kendra, Karnal | 9/1 Regional Research Station, Uchani, Karnal 132 001, |
| **18** | Krishi Vigyan Kendra, Mandkola | Saroli Road, Near Jhiri Mandir VPO Mandkola Tehsil Hastin Distt Palwal-121 103 |
| **19** | Krishi Vigyan Kendra, Panchkula | Sector 21, Budanpur, Panchkula, Haryana 134112 |

**On/Off Campus Extension Programme of KVKs**

(i) Collaborate with the subject matter specialists of the State Department of Agriculture and farmers welfare/University Scientists of the Regional Research Stations and the State Extension Personnel in 'On-Farm Testing', refining and documenting technologies for developing region-specific sustainable land use system.

(ii) Organize trainings to update the Extension Personnel within the areas of operation with emerging advances in agricultural research on regular basis.

(iii) Organize long-term vocational training courses in agricultural and allied fields for the rural youths as well as for scheduled caste categories with emphasis on 'Learning by doing' for generating self-employment through institutional financing.

(iv) Organize On Farm Trials and Front-Line Demonstrations on various crops to generate production data and feedback information.

**Scientific Advisory Committee (SAC)** meeting is conducted every year at each KVK to approve and monitor the technical programmes (Rabi & Kharif) of respective KVK for its smooth functioning and for dissemination of relevant techniques, technologies and methods to different stakeholders.

## Extension Coordination Mechanism

The entire extension education set-up in CCSHAU is composed of three services or units, each with a clear mandate as given below:

**i. Farm Advisory Service**

Farm Advisory Service is the major wing of the Directorate involved in transfer of technology; it covers the entire Haryana state through its Farm Advisory Service Centers popularly known as "Krishi Vigyan Kendras" (KVKs) located in each district, and also through Toll free Help-line service at Agricultural Technology Information Center (ATIC) for disseminating relevant techniques, technologies and methods to different clienteles.

**Agricultural Technology Information Center (ATIC/*Kisan Seva Kendra*)**

This unit is located at Gate No. 4 of the main campus of CCSHAU and has been providing services to the farmers of Haryana and adjoining states since February, 2002.

**Functions**

i) To provide a 'single window' delivery system for the products, by-products, seeds, planting materials and publications etc. of the institution to the farmers and other interested groups.

ii) To facilitate direct access to the farmers about institutional resources available in terms of technology, advice (including toll-free helpline), technology products etc., for reducing technology dissemination losses.

iii) To provide feedback from the users to the University

**ii. Farm Training Service** (SNIATTE)

Saina Nehwal Institute of Agricultural Technology, Training and Education (SNIATTE) disseminates the latest technical know how through various training programmes to farming community and field extension personnel like officers of State Agriculture Department, Semi-Govt. and Co-operative organizations like IFFCO, KRIBHCCO, and probationers/Asst. Commissioners (under training), HCS Probationers (under training) etc.

This institute has organized 200 trainings in various disciplines for a variety of clientele and 6876 participants have been benefited during 2018-2023. During this period; 141 visits of farmers (5666) from different parts of Haryana and other states were conducted and about 3067 lectures were delivered to the beneficiaries. One of the important and regular features of SNIATTE is T&V and ZREAC workshop. Thiry six trainings were organized for SAOs/Extension personnel and extension specialists from which 1136 participants were benefited. A total of 56 trainings were conducted for SC/ST communities and 1680 participants were benefited.

In order to ameliorate the standard of living of unemployed rural youth, farmers and women, the various trainings conducted at SNIATTE are bee keeping, mushroom production technology, fruit & vegetable preservation, nursery management, landscaping, safe & judicious use of pesticides, vermiccompost, integrated farming system and dairy farming. The trainings in the field of home science include baking, stitching & cutting of garments, value addition in cereals and bakery. The trainings are imparted in collaboration with the technical experts from the respective departments.

This institute has played a crucial role by providing data on seed availability of different crops with CCSHAU and other government agencies and also its sale record during the *Krishi Mela*.



**Extension Education Institute (EEI), Nilokheri**

It was established in 1959 as Trainers' Training Institute for middle level extension personnel engaged directly or indirectly in Agricultural Production Programs. The administrative control of EEI Nilokheri was transferred to CCSHAU, Hisar w.e.f. 1.2.1991 but the funds are provided by Govt. of India. EEI organizes trainings for the staff of State Training Centers/Regional Institutes of Rural Development in Extension. It also organizes workshops on orientation, communication and extension teaching methods for Master/Sub-Divisional Agricultural Officers/Allied subjects Officers, Subject Matter Specialists working under T & V system. Besides, it also conducts workshops in specialized fields like Monitoring, Evaluation and Supervision, Extension Management for Middle Level Extension Personnel under T & V system. The trainings/workshops are organized at EEI, Nilokheri Campus as well as off campus in other states of North India.

**iii. Farm Information and Communication Service (FICS)**

FICS provides audio-visual and mass media support to the other two wings of the Directorate, *viz.*, Farm Advisory and Farm Training Services and to other constituent colleges/departments of the University. This unit also organizes exhibitions, Farm *Darshan*, *Krishi Melas* etc. at state, zonal and district levels and represents the University in exhibitions organized by the State and Central Government. This unit also produces video films. Communication material such as folders, bulletins, pamphlets for the benefit of farmers and farm women is published in the unit. The responsibility of maintaining liaison with the All India Radio, Doordarshan and other imass media agencies lie with this unit. This section acts as nodal agency for Satellite Communication (SATCOM) programmes for Agricultural Development initiated by ISRO, Ahmedabad.

**Community Radio Station:**

CCSHAU HISAR Community radio Station 91.2 MHz, the first CRS in Northern India, was started on 29$^{th}$ November, 2009. This Community Radio Station was established in the Directorate of Extension Education (Gandhi Bhawan), CCSHAU, Hisar with the objective to provide latest agricultural information to the farming community by involving them. Besides this, there are six more CRS located at different KVKs namely; Rohtak, Jind, Panipat, Sirsa, Jhajjar and Kurukshetra. The CRS broadcast the programmes of Farmers' interest in general and for upliftment of weaker sections including marginal farmers, women, girls and minority groups in particular. It broadcasts the programmes daily for four hours during winter (August to April) and two hours during summer (May to July) only on working days. The main programmes broadcast through CRS are based upon various agricultural aspects *viz;* Agriculture, Veterinary Science, Agricultural Engineering, Home Science, Social and Economic issues. It also

broadcasts Haryanvi programmes of local talent of Hisar and surrounding areas like; village women, poor rural people, farmers, students, teachers and staff of the university who are not very well recognized but are very talented artists. This gives them a sense of recognition and self belief. The total duration of programme broadcasted during 2018-23 was 13494 hrs.

**Publication Unit**

The Publication unit brings out a large number of extension and research publications for the farmers, scientists and others interested in agriculture, livestock and allied fields, besides bringing out monthly magazine in Hindi, "Haryana Kheti".

**Detail of different Publications (Numbers of Copies)**

| Sr. No. | Name of Book | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| 1. | Haryana Kheti | 40010 | 39405 | 32640 | 32300 | 33110 |
| 2. | Package of Practices Kharif | - | 3500 | 475 | 2500 | 4000 |
| 3. | Package of Practices Rabi | - | 3500 | 490 | 2500 | 4000 |
| 4. | Package of Practices Horticulture | 4000 | 1000 | - | 2500 | 3500 |
| 5. | Diary | 2600 | 2280 | 2550 | - | 2450 |
| 6. | Annual Report | 153 | 231 | 183 | 30 | 75 |
| 7. | Telephone Directory | 600 | - | - | - | - |
| 8. | Calendar | 4000 | 5000 | 2000 | - | 5200 |
| 9. | Table Calendar | 500 | 500 | 500 | - | - |

| Haryana Kheti Members during 2018-2023 | | | | | |
|---|---|---|---|---|---|
| **Name** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** |
| **Yearly Member** | 7351 | 6861 | 2384 | 4817 | **4817** |
| **Life Member** | 25374 | 25595 | 24092 | 21952 | **21952** |
| **DDA** | 3684 | 3684 | 3684 | 3631 | **3631** |
| **Authors** | 651 | 819 | 512 | 416 | **416** |
| **Library** | 480 | 492 | 429 | 312 | **312** |
| **Haryana Farming** | 1572 | 1572 | 1222 | 996 | **996** |
| **Total Members** | **39112** | **3903** | **32323** | **32124** | **32124** |

| Income (Rs.) from April 2018- March 2023 | | | | | |
|---|---|---|---|---|---|
| **Month** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** |
| **April** | 452888 | 234255 | 0 | 55047 | 243569 |
| **May** | 266957 | 123283 | 45552 | 460 | 207092 |
| **June** | 138290 | 54228 | 356296 | 12713 | 61768 |
| **July** | 69509 | 17400 | 37318 | 6250 | 1398 |
| **August** | 39624 | 16844 | 920 | 550 | 2220 |
| **September** | 69432 | 159559 | 400 | 52134 | 214767 |
| **October** | 154685 | 61700 | 11710 | 221794 | 7158 |
| **November** | 84520 | 22839 | 598599 | 5392 | 23943 |
| **December** | 79480 | 1093 | 21841 | 240243 | 254500 |
| **January** | 144029 | 29021 | 16124 | 146799 | 187900 |
| **February** | 77399 | 59997 | 104356 | 555100 | 3810 |
| **March** | 111761 | 63023 | 46150 | 218352 | 209390 |
| **Total** | **1688574** | **843242** | **1238966** | **1514834** | **1422515** |

**Extension & Technology dissemination system and contribution in academic programmes:**

**Extension Workshops**

The Directorate of Extension Education organizes various workshops, seminars, symposia, training camps in collaboration with the extension agencies of the State and private sector organizations including PHD Chamber of Commerce. Such activities *viz.*, Agriculture Officers' Workshop, Horticulture Officers' Workshop, Home Science and Women Program Workshop etc. provides excellent opportunities to discuss and assess the extension education needs of the community.

**Agricultural Officers' Workshop:**

Agricultural Officers' Workshop, a biannual feature (one for *kharif* and other for *rabi* crops), provides forum for discussing the problems faced by the field staff with the University scientists about crop husbandry and then to finalize the package of practices based on the experiences of field staff and research findings. The feedback from the field is used for the re-orientation of research program. The package of practices are finalized during the deliberations of workshops, so as to serve as a guide book for the field personnel and progressive farmers. Field problems are discussed at this forum and extension needs are determined.







**Horticultural Officers' Workshop:**

Horticultural officers' workshop is organized in collaboration with the Department of Horticulture, Govt. of Haryana once in two years to finalize the package of practices for fruits and vegetables based on the experiences of field staff and research findings. Fruit and vegetable crops scenario is overviewed by the field functionaries and the University scientists to determine future extension strategies of the state.






**Annual Krishi Mela**

Two-day annual *Krishi Melas* are organized every year at the University in the month of March and September. Recently, CCSHAU Hisar organized Krishi Vikas Mela 2023 of three days from March 10-12, 2023. Field trials, experiments and demonstrations laid out on various crops are visited by the farmers. Scientists-Farmers interaction, guided visits for farmers, sale of seeds of improved varieties of different crops and vegetables, horticultural saplings and dummy demonstrations etc. are conducted, besides analyzing water and soil samples. The farmers from all over Haryana and neighbouring states participate actively and study various research and other activities of their interest. *Krishi Mela* provides the biggest opportunity for one to one interaction with the farmers.









*A Glimpse of Krishi Melas*



*A Glimpse of Krishi Melas*

**Performances in Krishi Melas (2018-2023)**

| Years (Season) | Sale of Seeds/ Literature sale etc. | Soil sample | Water sample | CCSHAU Stall | Private Stall | Total Stall | Farmers attended |
|---|---|---|---|---|---|---|---|
| **2018 (Rabi)** | Rs. 13028000 | 230 | 239 | 174 | 77 | 251 | 62000 |
| **2018 (Kharif)** | Rs. 2150115 | 214 | 195 | 141 | 66 | 207 | 44056 |
| **2019 (Rabi)** | Rs. 12864200 | 192 | 263 | 141 | 79 | 220 | 42700 |
| **2019 (Kharif)** | Rs. 866200 | 56 | 112 | 168 | 83 | 251 | 51000 |
| **2021 (Rabi)** | Rs. 6934440 | 220 | 164 | 112 | 77 | 189 | 51721 |
| **2021 (Kharif)** | - | - | - | - | - | - | 50611 ** |
| **2022 (Rabi)** | Rs. 15008970 | 251 | 414 | 103 | 167 | 270 | 131000 |
| **2022 (Kharif)** | Rs. 2245200 | 225 | 162 | 179 | 32 | 211 | 78000 |
| **2023 (Kharif)** | Rs. 2944330 | 3010 | 3340 | 127 | 64 | 191 | 32000 |

** Krishi Mela could not be organized during Kharif 2020 due to Covid-19.*

*** Krishi Mela Organized Virtually during Rabi 2020 & 2021 and 44190 & 50611 farmers attended respectively, due to Covid-19 outbreak.*

### Crop Specific *Melas*

The Directorate of Extension Education also organizes crop specific *Melas* such as *Dhan Mela* at Regional Research Station (RRS), Kaul, *Ganna Mela* at RRS, Uchani (Karnal) and *Kapas Mela* at RRS, Sirsa for the benefit of farming community. The emphasis is laid on the activities concerning that particular crop in order to make the participating farmers abreast with the latest technical 'know-how' and 'do-how' about these location specific crops. The experiences of the farmers also provide feedback to the scientists on researchable issues as well as to work out their extension requirements for future.




KVK Kukrukshetra (Crop residue management)



Dhan Mela at RRS, Kaul



KVK, Bhiwani (Natural Farming)



District Level Mela on DSR , KVK Jind



KVK Kaithal (Natural farming)



Kisan mela at KVK Yamunanagar on Natural Farming




KVK Ambala (Natural farming)



KVK Sadalpur (Natural farming)




KVK Sirsa (Natural farming)



KVK Fatehbad (Natural farming)



KVK Jhajjar (Natural farming)



KVK Rohtak (Natural farming)

***Kisan Diwas***

Every year the University celebrates *Jai Kisan Jai Vigyan* week from 23-29 December on the birth anniversary of Ch. Charan Singh and Sh. Atal Bihari Vajpai. During this week intraction between farmers and scientists are held on problems, new innovations, technologies as well as fields visits. The progressive farmers elaborate their success stories to motivate the farmers. Two progressive farmers/farm women are honoured by the chief guest on this occasion.







*Celebration of Kisan Diwas*

**University Exhibition**

University level exhibition has been established & maintained by this unit under the umbrella of Directorate of Extension Education. It was inaugurated on February 02, 1994 by Honorable Governor of Haryana Sh. Dhanik Lal Mandal. This exhibition is a show window of the techniques/ technologies evolved/ developed by the different departments of the university in a comprehensive and effective manner. It is being visited by the scientists, students, farmers, etc. not only from the state of Haryana but other states of India. In addition to it, the university has a facility of 'Mobile Diagnostic cum Exhibition Van' for displaying the latest achievements of the university to all parts of state. This unit is totally funded by ICAR, New Delhi.

**Dr. Mangal Sein Agricultural Sciences Museum**

There is no denying the fact that Haryana has got a rich cultural heritage. To highlight this unique cultural heritage of Haryana, Haryana Rural Antique Museum was established in Gandhi Bhawan by Dr J.C. Sharma, first Director of Extension Education. It is maintained by this Unit under the umbrella of Directorate of Extension Education. This museum was inaugurated on February 02, 1989 by Dr. Har Sawroop Singh, the Vice Chancellor, HAU, Hisar. This Museum not only highlights cultural details but also provides linkages between the old and new culture. The museum preserves and displays all the information related with agriculture in particular and rural life in general like: old agricultural implements, costumes, household items, pottery pieces and the art objects have been displayed in an artistic manner so as to attract and educate the visitors about the rich culture of Haryana. Presently, this museum has been known as Dr. Mangal Sein Agricultural Sciences Museum which is located in Gandhi Bhawan. Dr. Mangal Sein Agricultural Sciences Museum was inaugurated by Sh. Manohar Lal , Chief Minister, Haryana on 26/03/2022 in the august presence of Sh. J. P. Dalal, Agriculture Minister; Dr. Kamal Gupta, Minister; Sh Ranvir Gangwa, Dy. Speaker and Prof. B. R. Kamboj, Vice-Chancellor, CCSHAU, Hisar. This museum is frequently visited by persons from all ranks and files. It is being visited by the scientists, students, defense personnel, farmers, etc. from the state of Haryana and other states of India. To highlight the unique cultural heritage of Haryana, a rural antique section is also established. A total of 8073 visitors visited the Museum during 2018-23.



*Innaguration of Dr. Mangal Sein Agricultural Sciences Museum by Hon'ble Chief Minister, Haryana*

**Mobile Diagnostic cum Exhibition Van**

Mobile Diagnostic cum Exhibition Van was flaged off by Vice-Chancellor Prof. B. R. Kamboj on 9th July, 2021 for collecting soil & water samples from the doorstep of farmers. This van visited different KVKs of CCSHAU, Hisar & collected thousands of samples of soil & water.

The purpose of Mobile Diagnostic cum Exhibition Van is to create awareness and provide help to the farmers, CCSHAU scientists visit villages with a mobile van equipped with a microscope to test soil and audio visual aids screen documentaries of activities being conducted by University for the welfare of farming community.

The Mobile Diagnostic cum Exhibition Van visits rural areas or krishi kendras, where the experts listen to the problems being faced by farmers of that area and provide solutions. The step has been taken in order to save crops from several diseases and pests. Farmers have to pay Rs. 10/- as fee for the testing of each soil and water samples from their fields. The audio visual aids installed in the van are used to inform the farmers in detail about the problems related to soils, water and pests and their solutions. Knowledge regarding seasonal crops and new techniques of agriculture is also given to the farmers.




Mobile Diagnostic cum Exhibition Van

**Zonal Research and Extension Advisory Committee (ZREAC) Meetings**

Zonal Research and Extension Advisory Committee meetings are convened at zonal level twice a year to have interface between university scientists and extension workers from CCSHAU as well as field functionaries of the State Department of Agriculture & Farmers Welfare. The meetings provide a platform to exchange the information to increase crop productivity.

**Training and Visit (T&V ) Programme**

Training and Visit programms are being held every month for updation of knowledge of field functionaries of State Department of Agriculture, Horticulture and allied fields.

**Contribution of Extension Education in Academic Programmes**

There are some courses offered by the University which have practical component with village based field visits. The students learn to value rural life, hard work, love and affection, rural hospitality, feelings of sharing and caring among villagers etc.; hardships of rural life, financial and other constraints etc. The students also learn about Agricultural crops of the area and involvement of women in agriculture and livestock management; existence and functioning of local political bodies, other institutions (*Gram panchayat , aanganwadis*, youth club, PHC's, veterinary hospital, *Mahila Mandal*, etc.); need to have a dialogue with government officials, field functionaries, and NGOs. This gives an edge to the students for working under village conditions and with farmers. Students learn to organize various functions, conduct extension activities and rapport building with villagers. During

extension activities conducted under RAWE programme status of adoption of technologies generated by various colleges of CCSHAU, Hisar is observed. This provides feedback to the Departments concerned for refinement and modification of technologies in light of suggestions provided by end users.

***Parthenium Awareness Program***

*Parthenium hystorephores* is an annual weed which has drawn attention due to its determined effects on human and animal health. The weed is called by different names in different location *viz*. gaffor grass, ongress grass, safed ispi grasss, chatak chandini etc. Duplication of weed takes place through seed which is very fast. The weed has invaded large area in the country. Several health problems takes place in human being due to weed contact like skin allergy, asthma dumatit fever. Animal health and productivity are also adversely affected due to weed contact and its eating. However, losses in the cropped area due to infestation of the weed are marginal. Looking at the several effects of the weed, CCS HAU, Hisar took initiative to organize "Parthenium Eradication" week every year in August month (16-22 August). Directorate of Extension Education have taken a lead role in organizing the week involving all Krishi Vigyan Kendras working in different districts of the state. Department of Agronomy, CCSHAU and India Institute of Weed Research, Jabalpur, ICAR also provides technical support for organizing the programme successfully. Various activities *viz*. group meeting, awareness program, method demonstrations are being organized to aware people about harmful effects and management practices of the weed. KVKs of Haryana state have organized 92 programs on parthenium eradication involving 3,404 farmers, farm women, school and college students.

***Agriculture Education Day***

To commemorate the birthday of our 1st president Dr. Rajendra Prasad, on 3rd December, the KVKs, under CCS Haryana Agricultural University Hisar celebrated it as an "Agriculture Education Day". All the KVKs working under Directorate of Extension Education have organized 20 sensitization programmes on Agriculture Education Day at schools, colleges and villages as well as at KVK premises. The objective of the these programmes was to create awareness among youth especially school and college students regarding various facts of agriculture and allied science including its importance, scope, relevance for the country, job opportunities and agri-entrepreneurial avenues so as to develop their interest in the subject. In all 1,700 students have participated. During students' visit of the KVK premises, scientist explained about demonstration unit crop cafeteria, nutrition garden, nursery unit, vermi-compost unit, different farm implements, etc. Highlights of the different programmes organized by KVKs are

- Awareness among rural youth and farmers on agriculture education and various platforms available in the form of degree, diploma and skill certificate trainings.
- Awareness among rural youth and farmers on scope of agriculture in the district.
- Training-cum-workshop session on various topics on agriculture and allied areas.
- Quizzes were organized and the winners to get award and honor.

**6.6.4.3. Extension Planning and Technological Impact:** *In what way the extension planning help to support enterprises in adopting and deploying new technologies and in commercializing innovations? What is the mechanism in place to study the technological impact?*

The extension activities are planned by the Directorate through its KVKs depending upon the needs of the farmers/farm-women. The entrepreneurial activities for income generation are also planned so that landless and small land holders can start their units to earn their livelihood and raise their socio-economic status through vocational trainings, demonstrations, adaptive research trials, soil

and water testing, *Krishi Mela*/Mini *Krishi Mela*, Field days/Camps, exhibitions, toll-free telephone services and other extension activities organized from time to time as under:

**Vocational trainings**

During the period under report, a total of 901 vocational trainings were organized by KVKs, in which 8,351 male and 3,798 female farmers of general categories and 9,712 male and 11,032 female farmers of SC/ST categories participated.

**Demonstrations**

Demonstrations on various crops/livestock/home science activities, etc. are being conducted regularly. A large number of method and result demonstrations of various disciplines are carried out every year. As many as 7,070 method demonstrations and 10,690 front line demonstrations were conducted by KVKs during the reporting period to transfer the technical know-how to the farmers.

**Adaptive research trials**

Testing of research findings at farmers' fields is important to see their adaptability, ensuring popularization and to obtain farmers' response necessary for finalization of recommendations for adoption by them. Such 1,440 trials were conducted on different research findings concerning agriculture and allied disciplines.

**Soil and water testing**

Nine Soil and Water Testing Laboratories of CCSHAU, Hisar located at Hisar and other KVKs serve the farmers by testing their soil & water samples for fertilizers recommendations of crops, reclamation of saline and sodic soils and plantation of orchard. The samples collected over a span of time are analyzed and thus soil nutrient status (district-wise) of the State has been put on the map. The status of soil health so identified helps in determining the future program for soil health cards of the farmers.

During the period 2018-19 to 2022-23, Regional Soil Testing Laboratories (RSTL) Hisar and different KVKs analyzed a total of 36,375 soil samples for fertility (pH, EC, OC, available phosphorus and potassium), orchard/garden plantation and micro nutrients (zinc, copper, manganese and iron). A total of 23,581 water samples have been analyzed for EC, carbonate, bicarbonate, chlorine, calcium, calcium + magnesium and RSC (residual sodium carbonate) for calculating the amount of gypsum requirement per irrigation per acre to neutralize the sodicity of irrigation water.




Soil and Water Testing Stall at *Krishi Mela*

**Year wise breakup of soil and water sample analyzed**

| Year | Soil samples | Water samples | Total |
|---|---|---|---|
| 2018-19 | 9276 | 6745 | 16021 |
| 2019-20 | 7998 | 4207 | 12205 |
| 2020-21 | 6577 | 3964 | 10541 |
| 2021-22 | 7687 | 5209 | 12896 |
| 2022-23 | 4837 | 3456 | 8293 |
| Grand Total | 36375 | 23581 | 59956 |

**Krishi Mela/Mini Krishi Mela**

*Krishi Mela/Mini Krishi Melas i.e.,* 297 were organized by various KVKs to demonstrate improved technologies at farmers'fields. Through these melas, 1,53,686 farmers were benefited.

**Field days/Camps**

The KVKs organized 885 field days to show and demonstrate the performance of improved technologies which were attended by 40,002 farmers. Besides the above activities, KVKs also organized 3,204 *Kisan Goshthies*/Training Camps in which 1,01,453 farmers were benefitted. Also 351 *Udyan Goshthies/Gyan Diwas* were also organised and the beneficiaries were 17,637. Through 1,205 Campaigns 1,06,991 farmers were benefited.

**ATIC/*Kisan Seva Kendra***

ATIC center has sold the seeds of improved varieties of various crops, bio-fertilizers, food products, honey and farm literatures worth Rs. 3,73,69,844/- from 2018-23.

**Sale of seeds and other products during 2018-23**

| Year | Total sale (Rs.) |
|---|---|
| **2018-19** | 1,14,82,501 |
| **2019-20** | 74,80,850 |
| **2020-21** | 74,91,600 |
| **2021-22** | 62,82,368 |
| **2022-23** | 46,32,525 |
| **Grand Total** | 3,73,69,844 |

**Toll-free helpline services**

CCS HAU is one of the few universities of the country which provides free tele-agricultural service to the farmers through *Kisan Seva Kendra*, Hisar. Any farmer through telephone number 1800-180-3001 (without code) can get free of charge information related to agriculture and its allied fields from 10-12 noon on Monday, Wednesday and Friday (on working days). Apart from Hisar, this facility is available at CCSHAU Regional Research Station, Uchani (Karnal) at Tel. No. 1800-180-3111 (10-12 noon on Tuesday and Thursday) while, at KVK, Bawal at Tel.No.1800-180-4002 (10-11 a.m. on Monday, Wednesday and Friday).

During the period under report, total 38,396 farmers were guided and out of them 14,753 through visiting ATIC and 15,075 through toll-free helpline.

**Advisory service during 2018-23**

| Year | Advisory to farmers visiting ATIC | Through Toll Free Helpline No. | Total beneficaries |
|---|---|---|---|
| **2018-19** | 3773 | 3954 | 7727 |
| **2019-20** | 2634 | 3350 | 5984 |
| **2020-21** | 3194 | 3318 | 6512 |
| **2021-22** | 3199 | 2534 | 5733 |
| **2022-23** | 1953 | 1919 | 3872 |
| **Total** | 14753 | 15075 | 29828 |

**Mechanism to study the technological impact**

Extension makes a bridge between researchers and farmers; and aims to increase the efficiency of the farmers, increase production and generally increase the standard of living of the farm family. It works with rural people in order to improve their livelihoods. There are following points through which extension helps in disseminating & adopting the technologies:

- Pre and Post evaluation of participants before start and after completion of the training.
- Feedback from the farmers from time to time.
- Ex-trainee summit.
- Filling questionnaire.
- Evaluation through method/demonstration, field dayof particpaints as described above.

**6.6.4.4. Implementation of National Initiatives:** *Mention the status of implementation of Student Ready, green initiatives, Farmers First Scheme, Mera Gaon Mera Gaurav, NICRA and other similar schemes.*

**Faculty and students' involvement in extension programs**

The University has integrated approach towards teachings, research and extension activities. Directorates of Research and Extension Education have a very strong linkage among themselves and also with the State Departments of Agriculture & Farmer Welfare, Horticulture and Animal Husbandry. The teaching faculty is also involved in various extension education programs organized at the district as well as State level. The package of practices for agricultural crops and home science workers is published through active participation of the research scientists, extension scientists and the officers of the various state departments. Research and teaching faculty use extension facilities to make direct connections with farmers. The students of different colleges of the university are also involved in various extension education programs. Besides, the undergraduate students of Agriculture and Home Science complete their internship and RAWE/RHWE programs with the active participation of extension scientists of KVKs. The research and extension facilities provided at different research and extension centers help students to identify locations for internship program, provide directions to students about the work to be undertaken at each location, arrange their meetings with farmers and provide them other facilities of boarding and lodging.

***Rural Agricultural Work Experience (RAWE):***

Placement of RAWE students: B.Sc (Final) year students were placed in different villages of Hisar. During their stay in villages, various trainings on fruit and vegetable preservation, cultivation of *rabi, kharif, fruits* and *vegetable* crops were organized. Besides this, campaigns on *Sawachh Bharat*

*Abhiyan, Beti Bachao Abhiyan, Traffic Rule Awareness Programme, Career in Agriculture* and *Career after Sr. Sec.* were launched in all the villages. *Van Mahotsav* was also organized in schools of these villages. Further these students were monitored from time to time and two days training was imparted before their exposure to villages on different aspects like cultivations of crops, orchard management, insect-pests, disease management, weed control etc.

Activites undertaken during RAWE programme:

1. ODK LDS (Open Data Kit Landscape Diagnostic Survey)
   - Visited randomly selected households from randomly selected villages.
   - Filled information and data of Kharif and Rabi crops of selected households at ODK application through online mode.
   - Main component of ODK was taking geo-location of farmer's field.
2. RAWE (Rural Agricultural Work Experience)
   - Placement in selected villages for RAWE programme by KVKs.
   - Filling of forms of selected progressive farmers of the village.
   - Meeting with school students.
   - Visited different agriculture and allied institutions in the village like Grain market (Anaaj Mandi), Animal hospital etc.
   - Visited Agriculture Credit Institutions like banks, PACS etc.
   - Meeting with farmers for briefing them about next crop cultivation and for taking field feedback from them.
   - Techno- economic survey of host farmer: each student selected one host farmer in his respective host village and did techno - economic survey of that farmer.
   - Crop production analysis: filled the information related to crop production of host farmer in proforma provided by the University.
   - Training: Each group imparted one day training in their village on various topics like soil and water testing, vermicomposting, mushroom cultivation; organic farming, management of insect pests in organic farming, vermicomposting, importance of seed treatment, management of kitchen waste, mushroom cultivation.
   - **Awareness**
     - About toll-free number of university and e-Mausam HAU app
     - Environment day








*Farming awareness by Final year B.Sc. Students at villages during RAWE Programme*

**Green Initiatives**

To restore the environment under Go Green, each KVK imparted trainings on vermi composting, boundary plantation in fields, use of green manuring (*dhaincha*) for soil health management, diversification of crops into orchards, introduction of pulses in paddy -wheat rotation, incorporation of crop residue in the soil instead of its burning, residue management through straw baler and biofertilizers, use of farmer friendly predators and pheromones traps to minimize insecticides use. Keeping in mind about conserving energy, University has installed about 1000 kw of solar panels on different buidling's rooftops.

| | |
|---|---|
| Solar pannel at Admin block =120 kw | Solar panel at College of Engineering = 60 kw |
| Solar panel at Nehru library =150 kw | Solar panel at College of Biotechnology = 40 kw |
| Solar panel at IG Auditorium = 20 kw | Solar Panel at IC College of Home Science = 260 kw |
| Solar panel at College of Agriculture = 230 kw | Solar panel at College of Basic Science= 120 kw |



Vermicompost unit



Crop residue incorporation

**One Student One Tree Campaign**

The University has adopted "*One Student One Tree Campaign*" of the GOI. Under this campaign the UG students of the university plant a sapling during the 1st year of their degree programme and take its care till the completion of their degree.

**Sarva Shreshtha Bharat**

A quarterly report of the various activities organized by the University. There are seven components in the report under which information of Sarva Shrestha Bharat Report of the CCSHAU is prepared which is sent to the Department of Higher Education, Government of Haryana. The seven components are -*Swachh Bharat*, *Shrestha Bharat*, *Sushashit Bharat*, *Surakshit Bharat*, *Vikasit Bharat*, *Swasth Bharat* and *Shikshit Bharat*. The University performs various activities under these components.

***Swachh Bharat*** component activities to maintain status of open defecation free India are organized from time to time like *Swachhta Abhiyan Compaign*, *Swachhata Awareness programmes*, Cleanliness drives, Sanitation work, Plantation drives, pollution check drives, organizing eco-friendly drives, etc. Solid waste management plant has been established in the campus where segregation of garbage *i.e.*, wet items, sale items are segregated. After segregation of waste material, auctions are conducted by the Office to sale the segregated materials.







Cycle Ride by Vice-Chancellor Prof. B. R. Kamboj

Under ***Shresth Bharat*** component, many eminent scientists and sports persons have participated in different events and have been awarded at national level. These persons have been motivated and honored by the Vice-Chancellor CCS HAU, Hisar.

Under ***Sushashit Bharat***, University has implemented e-governance for all students and employees. Students' registration, fee submission, attendance, results, classes etc. are made online. Employee profile, salary, all kinds of leave account etc. are online. Budget, pension, accounts and pay have been computerized and processed online. Online academic activities like seminars, classes, viva voce exams were conducted. All the purchases were done through GeM portal. Majority of the work is being done online including uploading of all service records on HRMS Portal.




Step-wise overlook of HRMS Portal

Under 4th component, many awareness programmes for welfare of women and child safety are organized such as health and self employment, women empowerment building and inspiring and motivating youth programmes are regularly organized in the University. Rural areas are visited by the scientists and students for the purposes. Youth is motivated and inspired by providing lot of exposure and opportunities.




National Nutrition Month celebrated in Budak, Balsamand and Hindwan villages

Under next component ***Vikshit and Swasth Bharat***, different National Service Scheme programmes are organized by the University fraternity. International Yoga Day and National Yoga Diwas are celeberated by motivating all to perform Yoga not only on single day and rather. NSS volunteers, faculty and students of the university participate in Blood Donation Camps, National Integration Camps, Republic Day Parade, etc. University also participates in plantation, rallies against drug abuse, Beti Bachao Beti Padhao, road safety issue and World No Tabacco Day and other social welfare activities. Mega COVID-19 vaccination Camps were organised in the University during COVID 19 and all kind of life saving facilities were provided to people by the campus hospital during pandemic.



Vice-Chancellor, Prof. B. R. Kamboj performing Yoga on Internatioinal Yoga Day



The university organised FIT INDIA FREEDOM RUN 2.0

Under ***Shikshit Bharat*** component, various villages of the state were adopted by the University to organize awareness campaigns and implement schemes for the welfare of farmers. All kinds of issues raised by farm women through toll free number of Kisan Call Center are addressed by the scientists. Many faculty and students are sent to different villages for exposure and organizing camp. Programme on fundamental duties and Gandhiji's thoughts and values are also organized by the university.



Kisan Mela stall on March 15-16, 2022



Volunteers of the University participated in workshop and exhibition

**Mera Gaon Mera Gaurav (MGMG)**

CCSHAU, Hisar has involved fifteen *Krishi Vigyan Kendras* in *Mera Gaon Mera Gaurav* progam. In this programme, sixty one villages were covered and thirty five groups were formed for the upliftment of the farming communities under the different climatic zones. Eighty four per cent farmers were small, 8 per cent medium, 7 per cent large and 1 per cent landless farmers. The villages have 92 per cent irrigation (canal and tubewell) facilities and 8 per cent rainfed area. The major crops of villages were rice, cotton, wheat, sugarcane, guar, bajra, ber, guava and citrus. The crop intensity is hundred per cent. The specialists of KVKs organize trainings in the villages/on campus to guide farmers/farm women about latest agricultural technologies for enhancing the productivity. In order to develop the entrepreneurship among the unemployed youth, need based vocational trainings are organized for their upliftment. The income generating trainings on bee keeping, fruit & vegetables preservation,

nursery raising of fruit & vegetables, spraying techniques of pesticides, cutting & tailoring, Tie & dye techniques, value added products of bajra. etc are organized by the KVKs. Organization of monthly group meetings *viz.*, Farmers Club and Women Club meeting every month is the special feature of the KVKs. Various campaigns were undertaken for creating awareness about the adoption of a particular technique at large scale. Good liaison between KVKs and other departments remains engaged in the services of farming sector.

| Sr. No. | Name of KVK | Total No of Groups formed | No. of Scientists Involved | No. of villages covered | No. of field activities conducted | No. of messages/ advisory sent | Farmers benefited (No.) |
|---|---|---|---|---|---|---|---|
| **1** | Faridabad | 7 | 42 | 7 | 90 | 102 | 2286 |
| **2** | Fathebad | 6 | 18 | 6 | 72 | 326 | 8933 |
| **3** | Jhajjar | 27 | 27 | 25 | 317 | 72 | 13443 |
| **4** | Panipat | 18 | 20 | 20 | 68 | 26 | 2721 |
| **5** | Sadalpur | 14 | 26 | 10 | 132 | 755 | 2130 |
| **6** | Sirsa | 9 | 23 | 24 | 231 | 280 | 5490 |
| **7** | Kurukshetra | 12 | 16 | 12 | 42 | 32 | 613 |
| **8** | Bhiwani | 28 | 30 | 27 | 366 | 196 | 3431 |
| **9** | Jind | - | 6 | 15 | 128 | 12 | 1089 |
| **10** | Rohtak | 6 | 31 | 29 | 592 | 27 | 21477 |
| **11** | Kaithal | 6 | 22 | 17 | 46 | 62 | 2645 |
| **12** | Sonipat | 21 | 6 | 11 | 168 | 278 | 2189 |
| **13** | Mohindergarh | 6 | 30 | 30 | 159 | 2593 | 4917 |
| **14** | Bawal | 5 | 11 | 1 | 32 | 1660 | 2084 |

Under the crop residue management, awareness campaign were organised during 2018 to 2023, farmers/farm women were made aware about the menance of residue burning. Trainings/group meetings / soil & water testing camps were organised during the period under report and farmers were sensitised about the importance of soil & water testing, as well as seed treatment of crops, IPM in paddy, health & nutrition, safe & judicious use of fertilizers and pesticides, safe storage of food grains, balanced use of fertilizers in kharif crops, disease and nematode management in paddy, bio-control of sugarcane pests, vermicompost production, water conservation and diagnosis of nutrient deficiency symptoms and their control.

No. of teams formed : 34

No. of villages selected : 118

| Sr. No. | Name of KVK | No. of Team of Scientists | No. of Scientists | No. of Villages | No. of Blocks | Bench Mark Survey conducted |
|---|---|---|---|---|---|---|
| **1** | Faridabad | 1 | 6 | 1 | 1 | 1 |
| **2** | Fathebad | 1 | 3 | 1 | 1 | 1 |
| **3** | Jhajjar | 5 | 5 | 5 | 5 | 5 |
| **4** | Panipat | 2 | 6 | 5 | 5 | 5 |
| **5** | Sadalpur | 1 | 4 | 2 | 1 | 1 |
| **6** | Sirsa | 9 | 23 | 24 | 7 | 25 |
| **7** | Kurukshetra | 2 | 5 | 4 | 2 | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **8** | Bhiwani | 5 | 5 | 14 | 3 | 5 |
| **9** | Jind | - | - | 3 | 2 | - |
| **10** | Rohtak | 1 | 6 | 5 | 3 | 2 |
| **11** | Kaithal | 6 | 22 | 17 | 46 | 2645 |
| **12** | Sonipat | - | 6 | 11 | 4 | 1 |
| **13** | Mohindergarh | 1 | 5 | 25 | 8 | 30 |
| **14** | Bawal | | 2 | 1 | 1 | 1 |

**Activities Undertaken**

Under this project trainings on Production Technology of cotton, organic farming, vermicomposting, management of Insects & Pests, drudgery reduction, hygiene & sanitation, weed management, food processing and purification of water were imparted. General awareness was created on control of Parthenium & use of bajra in daily diet. Linkage was created with Agriculture & Farmer Welfare Deptt., Women & Child Development Dept., NABARD, PCRA and Department of Horticulture. Literature on *Bachon Mein Punarjali Karan Kaisen Karen*, Safe & Judicious use of pesticides, IPM in cotton, *Peene Ke Pani Ka Shudikaran*, *Safal Madhumakhi Palan Hetu Sujhav*, *Kapas Mein Safed Makhi sae bachav hetu upay* and parthenium awareness handouts were distributed. The farmers were also motivated to take up organic farming and integrated farming system. They were also sensitised about the *Swachh Bharat Abhiyan.* Cleanliness drives were undertaken and villagers were told about the benefits of cleanliness and hygiene in their daily life.

**Activities organised by KVKs of CCSHAU, Hisar under MGMG**

| Name of KVKs | Visit to village by teams | Interface meeting/ Goshthies | Training organized | Demonstrations conducted | Mobile based advisories (No.) | Literature support provided | Awareness created | Input support provided (q) |
|---|---|---|---|---|---|---|---|---|
| **Faridabad** | 44 | 8 | 10 | 210 | 51 | 1 | 9 | 32 |
| **Fatehbad** | 72 | 41 | 19 | 14 | 326 | 8 | - | 11 |
| **Jhajjar** | 102 | 12 | 56 | 25 | 72 | 8 | 17 | 25 |
| **Panipat** | 5 | 31 | 37 | - | 26 | 3 | 5 | - |
| **Sadalpur** | 80 | 17 | 25 | 15 | 140 | 5 | 5 | 15 |
| **Sirsa** | 231 | 87 | 67 | 107 | 280 | 180 | 22 | 116 |
| **Kurukshetra** | 8 | - | 6 | 12 | 24 | 6 | 24 | - |
| **Bhiwani** | 550 | 33 | 10 | 115 | 152 | 10 | 20 | 40 |
| **Jind** | - | 3 | 60 | - | - | - | 63 | - |
| **Rohtak** | 350 | 89 | 203 | 19 | 36 | 20 | 95 | 104.32 |
| **Kaithal** | 46 | 28 | 12 | 50 | 62 | 12 | 8 | 12.5 |
| **Sonipat** | 168 | 63 | 12 | 120 | 278 | 12 | 24 | 120 |
| **Mohindergarh** | 222 | 140 | 95 | 40 | 2593 | 24 | 94 | 286.8 + 1000 kit of kitchen gardening |
| **Bawal** | 55 | 40 | 30 | 30 | 1660 | Nil | 35 | Pesticides for seed treatment |

**Number of farmers benefited under activities organised by KVKs of CCSHAU, Hisar under MGMG**

| Name of activity | Visit to village by teams | Interface meeting/ Goshthies | Training organized | Demonstrations conducted | Mobile based advisories (No.) | Literature support provided | Awareness created | Input support provided (q) |
|---|---|---|---|---|---|---|---|---|
| **Faridabad** | 1143 | 210 | 252 | 210 | 175 | 90 | 206 | 210 |
| **Fatehbad** | 8933 | 887 | 447 | 210 | 8933 | 720 | - | 25 |
| **Jhajjar** | 6620 | 788 | 2513 | 605 | 943 | 822 | 547 | 605 |
| **Panipat** | 86 | 2615 | 1927 | - | 2718 | 2218 | 1065 | - |
| **Sadalpur** | 1250 | 380 | 610 | 600 | 5000 | 2000 | 2000 | 600 |
| **Sirsa** | 5490 | 1700 | 1100 | 1000 | 5490 | 6000 | 500 | 97 |
| **Kurukshetra** | 168 | - | 152 | 108 | - | 1400 | 740 | - |
| **Bhiwani** | 750 | 150 | 210 | 115 | 220 | 121 | 110 | 40 |
| **Jind** | - | 150 | 780 | - | - | - | 865 | - |
| **Rohtak** | 10735 | 2308 | 5328 | 680 | 21237 | 4605 | 5631 | 457 |
| **Kaithal** | 2645 | 1050 | 554 | 50 | 2645 | 645 | 405 | 50 |
| **Sonipat** | 2920 | 1578 | 325 | 240 | 2189 | 1248 | 3265 | 240 |
| **Mohindergarh** | 7133 | 4082 | 3682 | 1632 | 1750 | 4041 | 9156 | 4220 |
| **Bawal** | 275 | 830 | 940 | 30 | 2084 | | 955 | 50 |

***Swachh Bharat Abhiyan***

*Swachhta Abhiyan* is a regular extension activity of the University. It is carried out by all the 19 KVKs in the State (2 villages adopted by each KVK) in the first week of every month. In light of the ongoing *Swachh Bharat Abhiyan*, KVKs organized various activities like display of *Swachhta* banner in KVKs, campus and adopted village, *swachhta* pledge, maintenance of office records, activities/ participation in basic maintenance and sanitation, beautification of surrounding areas, vermicomposting/composting of biodegradable waste management & other activities to generate wealth from waste, activities for recycling of used water for agriculture/ horticulture application, *swachhta* awareness programmes at local level and various competitions with *Swachhta* theme, with the aim to bring behavioural change in rural people regarding personal and environmental sanitation practices.



Swachhata Pakhwada



Swachhta Abhiyan Special Camp 2.0





**National Initiative for Climate Resilient Agriculture (NICRA)**

National Innovations in Climate Resilient Agriculture (NICRA) is a multi-institutional and multi-disciplinary network project launched by ICAR in 2011 which aims to build resilience in Indian agriculture to climate change and climate variability through strategic research and technology demonstrations. The project has following three main objectives:

i. To enhance the resilience of Indian agriculture covering crops, livestock and fisheries to climatic variability and climate change through development and application of improved production and risk management technologies

ii. To demonstrate site specific technology packages on farmers fields for adapting to current climate risks.

iii. To enhance the capacity of scientists and other stakeholders in climate resilient agricultural research and its application

Technology Demonstration Component (TDC) of NICRA is implemented in 121 climatically vulnerable districts of the country focuses on enhancing the adaptive capacity of farmer in these districts to climatic change and to ensure security of livelihood in times of climatic aberrations. Technology Demonstration Component (TDC) of NICRA was implemented through Krishi Vigyan Kendras (KVKs) *i.e.*, In CCSHAU, HISAR NICRA project was initially implemented in two KVK located at Sirsa and Yamunanagar.

In KVK Sirsa, this project is operational in village Rupana Khurd in Nathusari Block of Sirsa district. The number of household in this village is around 600 and total cultivated area is nearly 760 hectares. The soil type of this village is sandy loam and indulated. In some low lying areas of the village, accumulation of salt on soil surface rendering it unfit or marginally fit for crop cultivation. Other climatic variabilities were drought, heat wave, cold wave, frost etc leading to yield loss in crops and animals. To address these climatic and soil vulnerabilities, various interventions were demonstrated in the village. Use of laser leveler was promoted for water saving .Various awareness programmes were also conducted in the village with an aim to make villagers climate literate and how adopting of resilient techniques will minimize crop loss. To address the problem of soil salinity salt tolerant varieties KRL 210, 213 and 19 were demonstrated in the village. The erratic rainfall pattern also affects cotton crop badly due to large scale insect pest attack and prolonged vegetative period result in delayed boll opening. So to address these problems, use of bio pesticides and spray of $KNO_3$ was promoted in the village. Under animal husbandry component use of Mineral Mixture and dewormer was promoted in the village. In the year 2017 successful interventions were identified and these interventions were scaled up in the existing village and adjoining villages.

NICRA project was started during the year 2010-11 and completed successfully in 2019-20 at KVK Yamunanagar. The project was carried out at Radauri, Bakana and Dholi villages in Yamunanagar. In

these villages, various techniques were demonstrated during different years. For water conservation, techniques like micro-irrigation, system of rice intensification (SRI), direct seeded rice (DSR), laser land-levelling etc. were demonstrated. Under climate smart agriculture, improved and short duration varieties were demonstrated and promoted on large scale. For resource conservation, use of happy seeder, zero tillage were demonstrated on large scale. For further acceleration, use of these machineries, through custom hiring was promoted for revenue generation and ease of availability of machineries for RCTs. Further, fodder bank was established at NICRA adopted villages and summer maize was demonstrated for this purpose. Since, Yamunanagar district has a large area of sugarcane under cultivation, intercropping in autumn planted sugarcane was promoted in NICRA adopted villages. Various awareness programmes on CRM, Swacchhta Abhiyan were organized during different years. Soil health was promoted and given importance though promotion of balanced use of fertilizers, use of green manures like dhiancha, importance of soil testing, paddy residue management for carbon retention, increasing availability of useful microbes in the soil, mulching benefits etc. Agro-advisories were issued to the farmers on timely basis for better implementation of technologies.

Under institutional interventions, custom hiring centre was established in the village with an aim to make villagers technologically more sound and get rid of arduous time consuming agricultural operations coupled with labor crisis.

**Farmer FIRST Scheme**

The Farmer FIRST programme as a concept of ICAR is developed as farmer in a centric role for research problem identification, prioritization and conduct of experiments and its management at farmers' farm. The focus is on Farmer's Farm, Innovations, Resources, Science and Technology (FIRST). Integrated agriculture development is based more on efficient resource management. Keeping this in view, the Farmer FIRST programme is being implemented on need basis of farmers, resources and local environment. The farmers are being treated as an active partner in the development and transfer of technology for both decision making and implementation. The overall objective of the project is to use the research information in such a way that it matches with the on-farm situations. Gurana, Bure and Dubetta villages in Hisar district were selected for the first phase of the project from the year 2016 to 2020. For the second phase (2021-2025) three more villages viz; Chirod, Payal and Lohari Ragho were selected from the district. Newly selected villages are agriculture-based, where more than 75% of the population earns their livelihood from agriculture and allied fields. The major crops grown in these villages are wheat, paddy, bajra, mustard, cotton, fodder crops etc. The information about the agro-eco-systems and socio-economic conditions of these villages has been obtained through suitable Participatory Rural Appraisal Techniques (PRA). A total of 1000 farm families have been benefited from this project every year. The soil conditions, cropping patterns, preferences to crops and requirements of farmers have been assessed. The common problems of these three villages have been prioritized with farmer's participation considering their needs and resources. Hence, different technology modules encompassing areas of integrated farming have been formulated in consultation with the farmers by the project team. A participatory planning exercise involving the farmers is undertanken, which provides the basis for these modules. The modules include the introduction of new crops, insect-pest and weed management practices, livestock management and activities for income augmentation to meet the needs of the farmers considering their problems, resources and willingness to act.






**Unnat Bharat Abhiyan**

*Unnat Bharat Abhiyan* (UBA) is a flagship programme of Ministry of Human Resource Development, Govt. of India, of which IIT Delhi is the National Coordinating Institute (CI), CCSHAU has signed an MoU with IIT Delhi on July 4, 2017 and is a Participating Institute (PI) for implementation of UBA. The University is working with IIT Delhi for achieving the objectives of the programme. Village and household survey of all the selected villages has been completed and data are uploaded on reporting portal of UBA website.

**6.6.4.5. Innovation and Best Practices:** *What are the innovative efforts of an institution that help in its excellence in extension?*

**Integrated Farming System**

Cow Centric IFS Model has been established at KVK, Jhajjar. Eleven demonstration units have already been established. The income generation has already started in these units. The net balance in IFS account as on date is Rs. 389380/-. All the parameters of Cow Centric aspects under natural farming like formulation of Jeevamrit, Ghanjeevamrit, Agniastra, Brahmastra etc. are functional at this KVK.

**Components of Cow Centric IFS Model under RKVY**

| S.No. | Item | Area (ha) |
|---|---|---|
| 1 | Under "Cow centric IFS Model" | 1.0 |
| | i) Demonstration Units: 0.2 ha<br>-Cow shed<br>-Vermicompost unit<br>-Fish pond<br>-Value addition lab (In process)<br>-Sheep and Goat rearing Unit<br>-Mushroom Unit<br>-Bio gas unit<br>-Bee keeping unit | |
| | ii) Fruit crops : 0.15 ha<br>iii) Vegetable crops: 0.15 ha<br>iv) Cereals, pulses, oilseeds, fodder etc : 0.50 ha | |
| | Total | 1.0 |




**Out Scaling of Natural Farming**

The project "Out scaling of Natural Farming" aims at bringing sustainability in production system and restoring soil fertility. Natural Farming offers a solution to various problems, such as food insecurity, farmers' distress and health problems arising due to pesticide and fertilizer residue in food and water, global warming, climate change and natural calamities. It also has the potential to generate employment, thereby stemming the migration of rural youth. Ministry of Agriculture and Farmers Welfare has taken an initiative for promotion of Natural Farming as *Bharatiya Prakritik Krishi Paddhati Programme* (BPKP) under centrally sponsored scheme- *Paramparagat Krishi Vikas Yojana* (PKVY). It is largely based on on-farm biomass recycling with major stress on biomass mulching, use of on-farm cow dung-urine formulations; periodic soil aeration and exclusion of all synthetic chemical inputs.

CCSHAU Krishi Vigyan Kendra, Mahendergarh working under ICAR-ATARI, Zone-II, Jodhpur is one of the centres where the project has been implemented. The center has implemented the project with active participation of the farmers. A number of activities have been organized by the center for promotion of the natural farming technology.

Trainings for farmers and farm women were organized to improve the knowledge and skill on practices of natural farming. Aspects of natural farming *i.e.,* need and scope of adoption of natural farming, harmful effects of modern chemical input based agriculture, preparation and use of different inputs in natural farming, etc were discussed in the training programs. Method demonstrations on preparations of inputs (*Beejamrit, Jeevamrit, Ghanjeevamrit, Neemastra, Brahamasthra*, etc.) were also carried during the training programes. Group meetings with the farmers were held to discuss various issues of natural farming. Feedback from farmers on possibilities of adoption of the farming was also obtained. Problems encountered in adoption of the farming technologies by the farmers already practicing were also discussed. Awareness programes for farmers and farm women were orgnaized at village, block, and district level to disseminate the information on advantages of natural farming in masses. Demonstrations were very helpful in building confidence among farmers for adoption of a new technology or practice. Farmers visualized the performance of a particular technology and compared with farmers' adopted technology. Demonstrations on practices of natural farming were conducted by the Center.

A total of 119 awareness programmes (Village, Block and District) were organized which were attended by 30,047 farmers and farm women. In addition to these programs KVKs also organized 16 training programmes of two-day duration on concept and importance of natural farming. A total of 137 demonstrations were conducted at farmers' fields in different villages of Haryana. Total 30743 farmers/women benefited from various programme organized by 14 KVKs of Haryana.

**Awareness programme organized by KVKs**

| Name of KVKs | Village level awareness programme organized | Total participants | Block level awareness programme organized | Total participants | District level awareness programme organized | Total participants |
|---|---|---|---|---|---|---|
| **Bhiwani** | 3 | 452 | 3 | 755 | 3 | 1810 |
| **Rohtak** | 3 | 201 | 3 | 307 | 3 | 1048 |
| **Sirsa** | 3 | 295 | 3 | 455 | 3 | 1450 |
| **Jind** | 2 | 300 | 1 | 250 | 2 | 1050 |
| **Hisar** | 3 | 480 | 3 | 765 | 3 | 1950 |
| **Kaithal** | 3 | 400 | 3 | 520 | 3 | 1450 |
| **Panipat** | 3 | 345 | 3 | 620 | 3 | 1550 |
| **Sonepat** | 3 | 466 | 3 | 774 | 3 | 1875 |
| **Kurukshetra** | 3 | 70 | 3 | 260 | 3 | 525 |
| **Mahendergarh** | 3 | 472 | 3 | 764 | 3 | 1948 |
| **Fatehabad** | 3 | 170 | 3 | 274 | 2 | 411 |
| **Faridabad** | 3 | 450 | 2 | 410 | 2 | 1213 |
| **Jhajjar** | 3 | 376 | 3 | 374 | 3 | 852 |
| **Yamunanagar** | 3 | 455 | 3 | 330 | 3 | 1125 |
| **Total** | 41 | 4932 | 39 | 6858 | 39 | 18257 |

**Training and demonstration conducted by KVKs**

| Name of KVKs | Two days training programme organized | Total participants | Demonstration conducted | Total event | G Total Participants |
|---|---|---|---|---|---|
| **Bhiwani** | 1 | 40 | 8 | 10 | 3057 |
| **Rohtak** | 1 | 40 | 8 | 10 | 1596 |
| **Sirsa** | 1 | 40 | 8 | 10 | 2240 |
| **Jind** | 1 | 40 | 8 | 6 | 1640 |
| **Hisar** | 1 | 40 | 17 | 10 | 3235 |
| **Kaithal** | 1 | 50 | 8 | 10 | 2420 |
| **Panipat** | 1 | 40 | 8 | 10 | 2555 |
| **Sonepat** | 1 | 40 | 8 | 10 | 3155 |
| **Kurukshetra** | 1 | 86 | 8 | 10 | 941 |
| **Mahendergarh** | 3 | 120 | 16 | 12 | 3304 |

| | | | | | |
|---|---|---|---|---|---|
| **Fatehabad** | 1 | 40 | 8 | 9 | 895 |
| **Faridabad** | 1 | 40 | 8 | 8 | 2113 |
| **Jhajjar** | 1 | 40 | 8 | 10 | 1642 |
| **Yamunanagar** | 1 | 40 | 16 | 10 | 1950 |
| **Total** | 16 | 696 | 137 | 135 | 30743 |

**Mobile Diagnostic cum Exhibition Van**

The Directorate of Extension Education has a Mobile Diagnostic cum Exhibition Van. This van travels all over Haryana especially in remote areas to collect Soil and Water samples from the door steps of farmers and provide results of the same. Along with it, the van makes publicity of package of practices & programs developed by University for the welfare of the farming community, along with the policies of Government of Haryana & India through audio visual aids.

**Soil Health Card**

Depletion of soil fertility in Haryana State is one of the major concerns of sustainability. Organic matter content in state has decreased from 0.7-0.8% in 1970 to 0.2-0.3% in 2022, Intensive farming, imbalanced fertilizer application, escaping lagumes/pulses in crop rotation etc. are some of the main factors responsible for soil fertility depletion. Restoring soil fertility is therefore, very important for maintaining sustainability of farming system. Directorate of Extension Education had made plan to organize "*Soil Health Care Campaign*" every year in May by active involvement of KVKs. Subject matter specialties of subjects Soil Science/Agronomy working in different KVKs, organizes "*Soil Health Card Campaign*" of one week duration. Activities *viz. Kisan Gosthies*, Method demonstrations on collection of soil and water samples, application of manures and fertilizes on soil test basis. Selection of crops and varieties to be grown according to soil and water quality have been addressed during the campaigns. KVKs have also been organizing "*World Soil Day*" on 5$^{th}$ December since 2016 to acquaint farmers about importance of soil and water testing. Soil health card have provided to the farmers who participate in the programme. Keeping in view the importance of Soil health care, KVK of Haryana State have organized 87 "*Soil Health Care Camping*" with participation of 20,880 farmers & farm women and have organized "*World Soil Day*" every year on 5$^{th}$ December involving 6,970 participants in various 70 programs.

**Resource Conservation Technologies**

**Zero Tillage**

Zero tillage practice is mainly used in the Rice-Wheat cropping system as timely sowing of wheat crop gets delayed beyond 25 November. Sowing is delayed due to multiple reasons *viz.*, preparation of field, uncertain rainfall and rice harvesting with traditional method. Out of these, the field preparation is one of the most important reasons, which causes delay in wheat sowing. Puddling in transplanted rice creates a hard pan in the field. After harvesting of rice crop, field requires at least 6-8 tillage operations in ploughing and harrowing for sowing of wheat, in which generally 10-15 days are required for proper field preparation. Moreover, Yield of wheat decreases due to delayed sowing.

**KVK intervention:** Two clusters of villages, one comprising Bainsi, Kharak Jatan, Gugaheri, Khrainti, Ajaib, Nindana and Lakhan Majra etc. and another cluster comprising Sanghi, Rithal, Kahni, Baliyana, Titoli etc. of district Rohtak used to sow wheat crop over on area of about 27,000 acre by conventional method after paddy. The sowing of wheat normally got delayed and crop germination was also poor particularly in salt affected soils. KVK, Rohtak conducted demonstrations on zero

tillage sowing of wheat in selected village Bainsi, Ajaib, Sanghi, Rithal, Kahni, Baliyna etc and organized field day. Since the technology is simple and provided marked advantages, the farmers of cluster villages readily accepted this technology. To make this technology wide spread, the KVK continued its efforts by conducting demonstrations, field days, *Kisan Gosthis*, *Kisan Melas* etc. KVK Rohtak has been constantly monitoring this technology by conducting demonstrations at permanent locations to witness the positive and negative impact of this technology.

**Output:** The sowing of wheat with zero tillage technology made it possible to advance the sowing at least by 7-10 days as compared to conventional method. Based on observations recorded from 100 farmers, there was an increase of about 8-10 per cent in yield of wheat. Moreover, The results of demonstrations conducted by KVK, Rohtak indicated that zero tillage sown fields either yield at par or upto 5 per cent higher as compared to conventional sowing method with same date of sowing.

**Outcome:** The zero tillage sowing of wheat has led to total saving of expenditure incurred on preparatory tillage. There is also saving of water at the time of first irrigation. There is less problem of weeds particularly *Phalaris minor*.

**Impact:** Due to constant efforts of KVK and distinct advantages of technology, the entire cluster area of about 10,800 ha has been converted under zero tillage. Every year, the area under zero tillage sown wheat is increasing in the other villages of Rohtak district at a fast pace. At present, this technology has spread in 110 villages over an area of about 25,000 ha.

**Comparative performance of turboseeded wheat vs zero tillage wheat and conventional tillage wheat**

| Technology Option | No .of trials | Yield (qt./ha) | Increase in yield (%) | Net Return (Rs./ha) | B: C Ratio |
|---|---|---|---|---|---|
| **Turbo seeded wheat (ZT+R)** | 10 | 55.79 | 10.1 | 62008 | 2.78 |
| **Zero tillage wheat** | | 54.14 | 6.9 | 59636 | 2.74 |
| **Conventional wheat** | | 50.63 | - | 40422 | 1.85 |

**Direct Seeded Rice in Rice-Wheat Cropping System**

Direct Seeded Rice (DSR) is among the latest RCTs evolved and recommended for the rice crop as to substitute the puddled transplanted rice (PTR). The genesis of this technology has been in the backdrop of the following pertinent issues:-

- The labour has become scarce and costly.
- The puddling operation is energy intensive and costly.
- Predominance of the basmati rice in the varietal basket of rice as the DSR betters suits to basmati rice with less chance of yield penalty.
- The Laser leveler and Seed cum fertilizer drills are now available to have the leveled field and line sowing which are the essential prerequisites for the success of DSR.

**DSR revealed the following facts:**

- The succeeding wheat crop appears more vigorous in DSR fields and farmers reported the yield increment of upto 4-5 per cent.
- The DSR definitely saves water during the vegetative phase.

- In nutshell, the DSR is highly desirable in the contemporary Agro-ecological situation but needs more work on crop nutrition, water management and appears to have location specific connotations.

**Weed management in Direct seeding of paddy (2020)**

| Treatments | No. of trials | Yield (q/ha) | Gross cost (Rs./ha) | Gross returns (Rs./ha) | Net returns (Rs./ha) | BC Ratio |
|---|---|---|---|---|---|---|
| **Farmer Practice (Sole application of post emergence Bispyribac-Na)** | 5 | 65.0 | 45955 | 117000 | 71045 | 2.54 |
| **Weed management (Pre emergence- Pendimethalin followed by Post emergence- bispyribac-Na+ Metsulfuron+chlorimuron)** | | 72.5 | 47455 | 130500 | 83045 | 2.74 |

**Laser Land Levelling**

Levelling the fields through laser leveler is one proven technology which is highly useful in conservation of irrigation water. Effective land levelling is meant to optimize water use efficiency, improved crop efficiency, reduce the irrigation time and efforts to require managing the crop and saving of diesel/electricity. This technology gave 16 per cent higher grain yield with 20 per cent water saving.

**Comparison of Water Productivity of Paddy under Laser Levelling and traditional method of levelling (KVK Yamunanagar)**

| Technology | No. of trials | Yield (q/ha) | Increase in Yield (%) | Water saving (%) | Water Productivity (Kg/m$^3$) |
|---|---|---|---|---|---|
| **Traditional land levelling with wooden planker** | 5 | 45.0 | - | - | **0.35** |
| **Laser Land Levelling** | | **52.0** | **16** | **20** | **0.49** |

**Happy Seeder**

About 6.25 per cent increase in wheat yield was observed under crop residue management through happy seeder compared to conventional method. Economic return was also attained under the same practice.

**Demonstration under Crop residue management through happy seeder 2021-22 (KVK Fatehbad)**

| Crop | Thematic area | Technology demonstrated | No. of Farmers | Area (ha) |
|---|---|---|---|---|
| **Wheat** | CRM | Demo. under Crop residue management through happy seeder (Var. HD 3086) | 50 | 20 |

| Yield (q/ha) | | Increase in yield (%) | Economics of demonstration (Rs./ha) | | | | Economics of check (Rs./ha) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Demo | Check | | Gross | Gross | Net | B: C | Gross | Gross | Net | B: C |

| | | | cost | return | Return | Ratio (R/C) | cost | return | Return | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| **42.5** | 40.0 | 6.25 | 29845 | 85598 | 55753 | 2.86 | 32825 | 80813 | 47988 | 2.46 |

**Drip irrigation**

An increase of 20 per cent sugarcane yield was observed under drip irrigation compared to traditional method of surface irrigation. Alongwith, 42 per cent water was also saved with the same irrigation method.

**Comparison of Water Productivity of Sugarcane under Drip irrigation and traditional method of surface irrigation**

| Technology Option | No. of trials | Yield (q/ha) | Increase in Yield (%) | Water saving (%) | Water Productivity ($Kg/m^3$) |
|---|---|---|---|---|---|
| **Traditional method of irrigation- surface** | 5 | 875.0 | - | - | **7.3** |
| **Drip irrigation** | | 1050.0 | 20 | 42 | 15 |

**Women Empowerment and Gender Sensitization-Developing a Model for Bridging Gender Gap**

Equity, entrepreneurship and empowerment form the base for sustainability of any society. Gender sensitization is a global issue, and even while the gender ratio has improved significantly, the situation for gender equality in patriarchal societies, particularly rural Haryana, was not very positive. It is a gigantic task and needs constant hammering through personalized interventions. Need of the hour is to change insight of the whole society. An attempt was made by choosing remote village located on Haryana, Rajasthan border by conducting various entrepreneurial activities, sensitization campaigns, training centers and workshops. In Orissa & Haryana entrepreneurial inputs in selected villages brought few successful stories.

ICAR-NASF funded project entitled "Women Empowerment and Gender Sensitization Developing a Model for Bridging Gender Gap" helped in assessing the gender gap with respect to five fundamental aspects of inclusive development viz., Social, Health and Nutrition, Environmental, Economical and Technological.

The assessment of gender gap helped in formulating gender-sensitive actionable strategic interventions, which enabled to enhance the farm income, through 'Livelihood Enhancement Model', mitigate the nutritional concern through 'Nutrition Security Model' and promote women agri-preneurial prospects through 'Entrepreneurship Promotion Model'.

The extent of technology adoption through dissemination of scientific crop production technologies, drudgery reduction though popularization of farm implements and tools and increased profitability through commercial farming has created a sense of awareness among the farm women to elevate their existing farming to new dimensions.

As a part of project interventions, sensitization on family nutrition through promotion of 'nutri farms' have made the farming community, especially women farmers to include bio-fortified varieties and nutri-rich vegetables in their daily diet, thus resulting in an increase in production of bio-fortified rice, pulses, fruits and vegetables in the region.

Lastly, the gender sensitization approach of the project which was accomplished through several gender sensitization workshops and programmes, has uplifted the socio-economic status of women in

the region. Activities were undertaken to provide nutrition education, remove drudgery and empower them with income generation activities. Income generation technologies were introduced through different trainings on apparel and textile products, food products, handicrafts and bio-manure. These activities helped in establishing a closer rapport with the stakeholders and instilled confidence in them.

The farm women of the region evolved to have better access to resources and were empowered to take farm related decisions. Conclusively, the inception of the project synthesized a kind of awakening among the farm women of the region, which ended with the formation of WFPOs 'Ananya Farmer Producer Company' Limited, creating a sensation among the women group to upscale their farming to a new height and serve as a catalyst to empower other unreached farm women.

**6.6.4.6. Consultancy/Certification/Testing:** *Mention about the resources generated through Consultancy/ Certification/Testing etc. in last five years. Give details of all activities. Give summary of participation of faculty in Consultancy/Certification/Testing and outreach programmes.*

The Directorate of Extension Education promotes technologies refined by various departments of the university through *Krishi Vigyan Kendras* (14 ICAR KVKS and 5 State funded KVKs) and units of the directorate viz;. Agricultural Technology Information Centre (ATIC), Saina Nehwal Institute of Agricultural Technology Training & Education (SNIATTE), Farm Information and Communication Services (FICS), Associate Director Publications (ADP) and Extension Education Institute (EEI), Nilokheri, Karnal under the supervision of DEE by delivering expert lectures on various need based agriculture and allied subjects to the clientele (farmer/farmwomen/ school dropout students/rural youth) to improve their livelihoods in the field of fruits & vegetables preservation, mushroom production technology, beekeeping, spray techniques, milk and milk products, various value added products, nursery raising, vermi- composting etc. and expertise to middle level extension functionaries of State Department of Agriculture & Farmers' Welfare, Horticulture, Animal Husbandry, Child Development etc. through its consultancy by delivering expert lecture by the scientists concerned.

**Resources generated through seed production at KVKs**

| Year (s) | Crop | Variety | Quantity (q) | Category of seed |
|---|---|---|---|---|
| **KVK (Ambala)** | | | | |
| **2018-19** | Wheat | C-306 | 211.46 | F/C seed |
| **2019-20** | Wheat | HD-3086 | 139.19 | F/C seed |
| **2020-21** | Wheat | HD-3086 | 337.15 | F/C seed |
| **2021-22** | Wheat | HD-3086 | 250.87 | F/C seed |
| **2022-23** | Wheat | DBW-222 | 383.97 | F/C seed |
| **KVK (Fathebad)** | | | | |
| **2018-19** | Paddy<br>Wheat | PB 1121<br>HD 2967 | 151.00<br>224.00 | Grain |
| **2019-20** | Paddy<br>Wheat | PB 1509<br>WH 1124 | 252.00<br>217.00 | Grain |
| **2020-21** | Paddy<br>Wheat | PB 1509<br>HD 3086 | 289.50<br>271.89 | Grain |
| **2021-22** | Paddy<br>Wheat | PB 1509<br>HD 3086 | 306.00<br>285.97 | Grain |
| **2022-23** | Paddy<br>Wheat | PB 1509<br>HD 3086 | 219.50<br>324.47 | Grain |

| | | | | |
|---|---|---|---|---|
| **KVK (Kurukshetra)** | | | | |
| **2018-19** | Paddy | HKR-47 | 190.22 | F to C |
| | Wheat | HD-2967 | 149.58 | B to F |
| **2019-20** | Paddy | PB-1121 | 244.22 | F to C |
| | Wheat | HD-2967 | 177.17 | B to F |
| | | DBW-221 | 6.4 | B to F |
| **2020-21** | Paddy | HKR-47 | 142.50 | B to F |
| | | PR-126 | 249.37 | B to F |
| | | PB-1509 | 113.25 | B to F |
| | Wheat | HD-2967 | 156.00 | B to F |
| | | DBW-221 | 6.5 | B to F |
| **2021-22** | Paddy | PR-126 | 596.75 | B to F |
| | Wheat | (HD-2967, DBW-222, DBW-187) | 377.78 | B to F |
| **2022-23** | Paddy | PR-126 | 288.11 | B to F |
| | Wheat | DBW-222 | 296.32 | B to F |
| **KVK (Mahendergarh)** | | | | |
| **2019-20** | Mustard | RB-50 | 133 | Certified |
| **KVK (Panipat)** | | | | |
| **2018-19** | Paddy | PB-1121 | 360.99 | F2 Certified |
| | Wheat | HD-2967 | 550.12 | B2F |
| **2019-20** | Paddy | PB-1509 | 317.54 | F2 Certified |
| | | PB-1718 | 67.46 | F2 Certified |
| | Wheat | HD-2967 | 556.00 | Certified |
| **2020-21** | Paddy | PB-1718 | 375.70 | F2 Certified |
| | | PB-1509 | 86.54 | F2 Certified |
| | | PB-1121 | 227.39 | Certified |
| | Wheat | DBW-222 | 392.30 | Foundation |
| | | DBW-303 | 155.74 | Foundation |
| | | DBW-222 | 307.93 | Certified |
| | | DBW-187 | 118.90 | Certified |
| | Moong | MH-1121 | 10.40 | TL |
| **KVK (Rohtak)** | | | | |
| **2020-21** | Wheat | WH 1124 | 133.23 | Certified |
| **2021-22** | Barley | BH 946 | 118.15 | Certified |
| **KVK (Sadalpur)** | | | | |
| **2018-19** | Raya | RH-749, RH-30 | 117.00 | Non seed (commercial) |
| | Wheat | HD 3086 & C-306 | 61.0 & 10.0 | Non seed (commercial) |
| **2019 -20** | Guar & Moong | HG 2-20 & MH-421 | 11.80 & 18.15 | Non seed (commercial) |
| | Raya | RH-749, RH 0725, RH-30 | 110.80 | Non seed (commercial) |
| | Wheat | C-306 | 28.50 | Non seed (commercial) |
| | Gram | GNG 2171 | 6.15 | Non seed (commercial) |
| **2020-21** | Moong | MH-421 | 2.55 | Non seed (commercial) |
| | Raya | RH749, RH 0725, RH 30 | 100.55 | Non seed (commercial) |
| | Wheat | C-306 | 20.50 | Non seed (commercial) |
| **2020-21** | Gram | GNG 2171 | 15.50 | Non seed (commercial) |
| | Raya | RH749, RH 0725, RH 30 | 138.00 | Non seed (commercial) |
| | Gram | GNG 2171 | 18.00 | Non seed (commercial) |

| | | | | |
|---|---|---|---|---|
| **2022-23** | Raya | RH749, RH 0725, RH 30 | 100.00 (apx.) | Non seed (commercial) |
| **KVK (Sirsa)** | | | | |
| **2018-19** | Wheat | HD- 3086,HD-2851 | 414 | TL |
| **2019-20** | Wheat | HD-2851 | 360 | TL |
| **2020-21** | Wheat | DBW303,HD-2851,PBW-725 | 331 | TL |
| **2021-22** | Wheat | HD-2851,HD-3086 | 239 | TL |
| **2022-23** | Wheat | HD-2851,HD-3086 | 350 | TL |
| **KVK (Sonipat)** | | | | |
| **2018-19** | Wheat | HD-2967 | 289 | Commercial sale |
| **2019-20** | Wheat | HD-2967 | 371 | Commercial sale |
| **2020-21** | Wheat | HD-2967, DBW-222 | 300 | Seed Production |
| **2021-22** | Wheat | HD 3226 | 270 | Seed Production |
| **KVK (Yamunanagar)** | | | | |
| **2018-19** | Wheat | HD 2967/3086 | 542.0 | Certified seed |
| **2019-20** | Wheat | HD 2967 | 392.8 | Certified seed |
| **2020-21** | Wheat | HD 3086/HD 3226/DBW 187 | 387.93 | Certified seed |
| **2021-22** | Wheat | DBW 222 | 287.14 | Certified seed |
| **KVK (Bhiwani)** | | | | |
| **2018-19** | Green gram | MH 421 | 72.90 | Tfl |
| | Chickpea | CSJ 515 | 280.74 | Tfl |
| **2019-20** | Green gram | MH 421 | 52.60 | Tfl |
| | Chickpea | CSJ 515 | 229.88 | Tfl |
| **2020-21** | Green gram | MH 421 | 46.78 | Foundation |
| | Chickpea | GNG 2171 | 41.66 | Tfl |
| **2021-22** | Green gram | MH 421 | 12.20 | Tfl |
| | Chickpea | CSJ 515 | 30.32 | Tfl |
| **2022-23** | Chickpea | CSJ 515 | 250 | Certified |

### 6.6.5. Faculty and Staff Development

**6.6.5.1 Recruitment and Promotional Avenue:** *Give the detailed recruitment procedure for faculty, technical, supporting and administrative staff (in brief) and further mention the last recruitment for each category held in the University. Similarly, career advancement procedure and its implementation for all categories shall be given. How many staff have been recruited directly at the higher positions in the last five years?*

**Recruitment procedure of faculty**

The Academic Council vide item No. B-3 in its 476th (emergent) meeting held on 05.04.2018 has approved the selection criteria for recruitment of Assistant Professor/Equiv. posts by open selection. The qualification and marks for recruitment process has been described in the letter dated 11/04/2018 with Memo No Admn.R.2/18/TM-82/1907-2025. Semilarly, the Personnel Committee/Board of Management vide item No. B-5/A-18 in their 79th /258th meeting held on 21.12.2017 has approved the selection criteria for recruitment of Associate Professor/equivalent (Annexure-1) & Professor/equiv. (Annexure-II) posts by open selection. The qualification and marks for recruitment process has been described in the letter dated 02/01/2018 with Memo No Admn.R.2/17/TM-82/126-250.

**Latest recruitment of faculty and administrative staff**

The teaching posts are filled in the University as per the procedure laid down in Chapter-III and IV of CCSHAU Act & Statutes. The last recruitment in respect of teaching posts, i.e. Assistant Prof./equiv.- 43 Nos. were made vide Advt. No.2 /2022, 3 posts of Deans/Director were made vide Advt. No. 3/2022.

**The following Nos. of teaching posts pertaining to Group A & B have been recruited directly for the last five years:**

| Sr. No. | Name of post | Group | No. of posts filled up |
|---|---|---|---|
| **1** | Deans/Directors | A | 7 |
| **2.** | Associate Prof./equiv. | A | 6 |
| **3.** | Assistant Prof./equiv. | B | 191 |

Forty posts (Group A and B) were filled vide Adv. No. 3/2022 during November 2022. The recruitment process for 41 posts Adv. No. 4/2022 (Group A and B) was completed in June 2023. Also, scrutiny for 41 posts has been completed and interview will be scheduled shortly.

**Promotion of teaching posts:**

The promotion of the faculty is according to the Academic Performance Indicators (API) based on Performance Based Appraisal System (PBAS) under Career Advancement Scheme under Chapter VII-A of HAU Statutes (SD-III). As per the approval of the Academic Council, all the applications for promotions under Career Advancement Scheme as received in the office of the Registrar will be referred to the Committee for proper screening/scrutiny and making recommendations for placing the promotion cases before the Assessment Committee. The cases relating to teaching, research and extension schemes will be referred to the Dean concerned, Director of Research and Director Extension Education respectively who may convene the meeting and act as Chairman of the Committee.

The career advancement procedure and its implementation is available as **Chapter VII A** in **SD-III.**

**Non-teaching posts (recruitment and promotion)**

**i)** **Class I:** Among the Class-I posts, 75% of posts are filled through promotion and 25% of the posts are filled through direct recruitment.

**ii)** **Class II:** Posts of Class-II are filled through promotion except post of Administrative-cum-Accounts Officer and in case of of Administrative-cum-Accounts Officer 75% is filled through promotion and 25% through direct recruitment.

**iii)** **Class-III:** These posts are filled through direct recruitment and some posts of Laboratory staff, Library staff and field staff are filled through promotion.

**iv)** **Class-IV:** These posts are filled through direct recruitment.

The recruitment for group-A, B, C and D non-teaching posts is made in the University as per procedure laid down in **Chapter-VIII** of CCSHAU Act & Statutes (**Chapter VIII** in **SD-III).** The last recruitment in respect of non-teaching posts was made vide Advt. No. 2/2017 **(SD-VIII).**

**The following non-teaching staff has been recruited directly during the last five years:**

| Sr. No. | Name of post | Group | No. of posts filled up. | Recruitment Year |
|---|---|---|---|---|
| **1.** | Principal Campus School | A | 01 | 2018 |
| **2.** | Assistant Registrar | A | 01 | 2018 |
| **3.** | Executive Engineer (Elec.) (Deputation) | A | 01 | 2018 |
| **4.** | Admn.–cum-Accounts officer | B | 01 | 2018 |
| **5.** | Workshop Engineer | B | 01 | 2018 |
| **6.** | Plant Engineer-cum-Manager | B | 01 | 2018 |
| **7.** | Chief Security Officer | B | 01 | 2018 |
| **8.** | Exhibition officer | B | 01 | 2018 |
| **9.** | Store Verification Officer | B | 01 | 2019 |
| **10.** | Clerk | C | 186 | 2019 |
| **11.** | Steno Typist | C | 31 | 2019 |
| **12.** | Laboratory Assistant | C | 28 | 2019 |
| **13.** | S.O. Junior Engineer (Civil) | C | 08 | 2019 |
| **14.** | TA KVK Farm | C | 09 | 2019 |
| **15.** | Training Assistant | C | 09 | 2019 |
| **16.** | Computer Programmer | C | 01 | 2019 |
| **17.** | Heavy Vehicle Driver | C | 02 | 2019 |
| **18.** | Car Jeep Driver | C | 03 | 2019 |
| **19.** | Instructor (Dress Designing) | C | 01 | 2019 |
| **20.** | School Teacher (English) | C | 01 | 2019 |
| **21.** | Senior Technical Assistant (Entomology) | C | 01 | 2019 |
| **22.** | Senior Technical Assistant (Agril. Engg.) | C | 01 | 2019 |
| **23.** | Senior Technical Assistant (Plant Pathology) | C | 01 | 2019 |
| **24.** | Pharmacist | C | 02 | 2019 |
| **25.** | Game Organizer | C | 01 | 2019 |
| **26.** | Senior Technician (Video Production) | C | 01 | 2019 |
| **27.** | Mess Supervisor | C | 01 | 2019 |
| **28.** | Chief Mechanic | C | 01 | 2019 |

| | | | | |
|---|---|---|---|---|
| **29.** | Senior Technical Assistant (Plant Breeding) | C | 03 | 2019 |
| **30.** | Graphic Designer | C | 01 | 2019 |
| **31.** | Senior Technical Assistant (Soil Science) | C | 01 | 2019 |
| **32.** | Senior Technical Assistant (Agronomy) | C | 03 | 2019 |
| **33.** | Surveyor | C | 01 | 2019 |
| **34.** | Meteorological Observer | C | 02 | 2019 |
| **35.** | Mechanic (Instruments) | C | 01 | 2019 |
| **36.** | Mechanic (Turner) | C | 01 | 2019 |
| **37.** | Mechanic (Fitter) | C | 01 | 2019 |
| **38.** | Turner | C | 01 | 2019 |
| **39.** | Auto Electrician | C | 01 | 2019 |
| **40.** | Technical Assistant | C | 06 | 2019 |
| **41.** | Photographer | C | 01 | 2019 |
| **42.** | Library Attendant | C | 02 | 2019 |
| **43.** | Saw Operator | C | 01 | 2019 |
| **44.** | Tube well Electrician | C | 01 | 2019 |
| **45.** | Road Roller Driver | C | 01 | 2019 |
| **46.** | Section Officer (Hort.) | C | 01 | 2019 |
| **47.** | Mechanic (Ref. & AC) | C | 01 | 2019 |

**6.6.5.2 Participation of Faculty in Symposia/Workshops:** *Give the comprehensive list (year wise, College wise) participation of faculty in National/International Seminars/ Symposia/Workshops/ Training/ Consultancy visits/Special assignments etc.*

During the period under report faculty from the College of Agriculture in Hisar participated in 579 National and 272 International trainings, seminars, and conferences. During the reporting period, faculty from the College of Basic Sciences & Humanities participated in 149 National and 122 International trainings, seminars, and conferences. The faculty of I C College of Home Sciences attended a total of 330 National and 102 International trainings, seminars and conferences during the period under report. The faculty of College of Agricultural Engineering & Technology attended a total of 2 National and 12 International trainings, seminars and conferences. The faculty of College of Agriculture, Kaul participated in a total of 43 National trainings, seminars and conferences and the faculty of College of Agriculture, Bawal participated in a total of 13 International and 33 National trainings, seminars and conferences. Year wise and College wise list of faculty participation in different events has been furnished below.

### A) College of Agriculture

The College of Agriculture, CCSHAU, Hisar has 14 departments and the participation of faculty in National/ International Seminars/ Symposia/ Workshops/ Training/Consultancy visits/Special assignments etc. (2018-19 to 2022-23) is as under.

| Sl. No | Department | National | International | Number |
|---|---|---|---|---|
| **1** | Agricultural Economics | 39 | 5 | 44 |
| **2** | Agronomy | 70 | 55 | 125 |
| **3.** | Agricultural Meteorology | 18 | 21 | 39 |
| **4.** | Business Management | 10 | 15 | 25 |

| | | | | |
|---|---|---|---|---|
| **5.** | Entomology | 66 | 16 | 82 |
| **6.** | Forestry | 21 | 19 | 40 |
| **7.** | Genetics and Plant Breeding | 126 | 29 | 155 |
| **8.** | Horticulture | 23 | 18 | 41 |
| **9.** | Nematology | 23 | 6 | 29 |
| **10.** | Plant Pathology | 58 | 22 | 80 |
| **11.** | Seed Science & Technology | 10 | 11 | 21 |
| **12.** | Soil Science | 31 | 18 | 49 |
| **13.** | Vegetable Science | 68 | 33 | 101 |
| **14.** | Extension Education | 16 | 4 | 20 |
| | **Total** | **579** | **272** | **851** |

## 1) Agricultural Economics

| Sl. No | Year | Name of faculty | Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc. | National /International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. D.P. Malik, Dr. A.K. Dhillon and Dr. Dalip Kumar Bishnoi | Workshop-cum-Seminar on Resource Use Planning for Sustainable Agriculture held at BHU, Varanasi | National | 29-30 August 2018 |
| 2. | 2018 | Dr. D.P. Malik, Dr. V.P. Luhach, Dr. Nitin Bhardwaj and Dr. Nirmal Kumar | National workshop on Cost of Cultivation of Principal crops in India at University of Kerala, Thiruvanathpuram, (Kerala) | National | 13-15 September 2018 |
| 3. | 2018 | Dr. D.P. Malik, Dr. K.K. Kundu, Dr. Jitender Bhatia and Dr. Dalip Kumar Bishnoi | World Union Wholesale Market (WUWM) Gurugram, | National | 10-12 October 2018 |
| 4. | 2019 | Dr. J. K. Bhatia | 14$^{th}$ Agricultural Science Congress on Innovations for Agricultural Transformation held at NASC complex New Delhi | National | 20-23 February 2019 |
| 5. | 2019 | Dr. Nitin Bhardwaj | Workshop-cum-Seminar on two days' workshop on application of analytical tools and ethics in academic research, Ghaziabad U.P. | National | 27-28 February 2019 |
| 6. | 2019 | Dr. Nirmal Kumar | International Symposium on "Innopreneurship: A Need of Sustainable Agriculture" (ISINSA) CCSHAU Hisar | International | 2-3 February 2019 |
| 7. | 2019 | Dr. Dalip Kumar Bishnoi | International Symposium on "Innopreneurship: A Need of Sustainable Agriculture" (ISINSA) CCSHAU Hisar | International | 2-3 February 2019 |
| 8. | 2019 | Dr. J. K. Bhatia | International Symposium on "Innopreneurship: A Need of Sustainable Agriculture" (ISINSA) CCSHAU Hisar | International | 2-3 February 2019 |
| 9. | 2019 | Dr. D. P. Malik | International Symposium on "Innopreneurship: A Need of | International | 2-3 February 2019 |

| | | | | | |
|---|---|---|---|---|---|
| | | | Sustainable Agriculture" (ISINSA) CCSHAU Hisar | | |
| 10. | 2019 | Dr. J. K. Bhatia | 14th Agricultural Science Congress, NASC Complex, New Delhi | National | 20-23 February 2019 |
| 11. | 2019 | Dr. Vijay Kumar and Dr. Kavita | Workshop on "Awareness and Use of Scopus Citation Database" organized by Nehru Library, CCSHAU, Hisar. | National | 18 November to 17 December 2019 |
| 12. | 2019 | Dr. Vijay Kumar, Dr. J.S. Papang and Dr. Kavita | "Induction Training Course" organised by DHRM, CCSHAU, Hisar | National | 18 November to 17 December 2019 |
| 13. | 2019 | Dr. Joginder | Training programme on "Statistical Advances in Designing Agricultural Experiments and Data Analysis" held at ICAR-IASRI, New Delhi | National | 19 July to 8 August 2019 |
| 14. | 2020 | Dr. Neeraj Pawar | Training on "Educational Technology" organized by DHRM, CCSHAU,Hisar | National | 18 December 2019 to 07 January 2020 |
| 15. | 2020 | Dr. Monika Devi | CAFT programme on "Statistical and Machine Learning Techniques for Modeling and Forecasting Agricultural Data" held at ICAR-IASRI, New Delhi | National | 20 December 2019 to 9 January 2020 |
| 16. | 2020 | Dr. Dalip Kumar | Training on "Same Field, Better Yield: Understanding on Current and Emerging Technologies for Doubling Farmers Income" held at SKAUST, Srinagar | National | 03-23 February 2020 |
| 17. | 2020 | Dr. Veer Sain | National Seminar on "Agrometeorological Interventions for Enhancing Farmers' Income" held at KAU, Thrissur | National | 20-22 January2020 |
| 18. | 2020 | Dr. D.P.Malik | Review Workshop and Policy Advocacy Workshop of project Resource Use Planning for Sustainable Agriculture held at TNAU, Coimbatore | National | 23-24 January 2020 |
| 19. | 2020 | Dr. Dalip Kumar | | National | 23-24 January 2020 |
| 20. | 2020 | Dr. Veer Sain | Workshop on "Digital Library for Strengthening Agricultural Knowledge in NARES organized by Nehru Library, CCSHAU, Hisar in collaboration with ICAR-IARI, New Delhi | National | 12 February 2020 |
| 21. | 2020 | Dr. Vijay Kumar | | National | 12 February 2020 |
| 22. | 2020 | Dr. Vijay Kumar | National Conference on Methods & Application of Geospatial Technology in Sustainable Development held at IASE University, Sardarshahar, Rajasthan | National | 14-15 February 2020 |
| 23. | 2020 | Dr. D.P. Malik | National seminar on `Sustainable Agriculture' organized by ICAR-NIAP, New Delhi in collaboration with NRM Division of ICAR held at NASC Complex, New Delhi | National | 6 March 2020 |

| | | | | | |
|---|---|---|---|---|---|
| 24. | 2020 | Dr. Vijay Kumar | Attended "Refresher Course on Language Skills through online mode" | National | 27 May to 16 June 2020 |
| 25. | 2020 | Dr. Sanjay | | National | 27 May to 16 June 2020 |
| 26. | 2020 | Dr. Joginder | | National | 27 May to 16 June 2020 |
| 27. | 2020 | Dr. Kavita | National Seminar 2020 (Webinar) organized by The Society of Economics and Development | National | 22 June 2020 |
| 28. | 2020 | Dr. D.P.Malik | Technical expert for 29th Institute Management Committee Meeting of ICAR-National institute of Agricultural Economics and policy research (NIAP), New Delhi | National | 09 October 2020 |
| 29. | 2020 | Dr. J.S. Papang | Refresher course on Statistical Tools and Techniques for Analysis of Agricultural Data organized by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU Hisar | National | 08-28 July 2020 |
| 30. | 2020 | Dr. Veer Sain | Induction Training Course organized by AAREM, DHRM, CCSHAU, Hisar | National | 08 September to 08 October 2020 |
| 31. | 2021 | Dr. D.P.Malik | Meeting to discuss draft report on Peri –Urban Agriculture organised by Haryana Kisan and Agricultural Costs and Prices Commission held at DHRM | National | 18 March 2021 |
| 32. | 2021 | Dr. Neeraj Pawar | International Conference on Food Security through Sustainable Agriculture (FSSA), VAKSANA-2020 | International | 21-22 September 202 |
| 33. | 2021 | Dr. Neeraj Pawar | International conference on Current Approaches in Agriculture, Animal Husbandry & Allied Sciences for Successful entrepreneurship, | National | 13-15 March 2021 |
| 34. | 2021 | Dr. D.P.Malik | IUCN- IORA workshop on Restoration Opportunities Assessment Methodology held at Forest Complex, Hisar | National | 1 April 2021 |
| 35. | 2021 | Dr. D.P.Malik | Expert in online meeting of unit cost 2021-22 organized by NABARD Haryana Regional Office | National | June 2021 |
| 36. | 2021 | Dr. K.K.Kundu | National Symposium of Indian Society for Buffalo Development (ISBD) on Scientific Intervention to address challenges for buffalo production, Organized by GADVASU, Ludhiana | National | 10-11 December 2021 |
| 37. | 2021 | Dr. Neeraj Pawar | International Conference (Hybrid Mode) on Food, Agriculture and Innovations (ICFAI), Dhanbad, Jharkhand, | National | 24-26 December 2021 |

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| 38. | 2021 | Dr. Neeraj Pawar | National Webinar on "Market Intelligence: Agricultural Market and Price Information System" organized by Deptt. Of Agricultural Economics and Management, Rajasthan COA, MPU of Agriculture and Technology, Udaipur, Rajasthan. | National | 29 September 2021 |
| 39. | 2021 | Dr. Neeraj Pawar | Refresher Course on Application of Statistical & Econometric Techniques in Agriculture conducted by AAREM, DHRM in collaboration with Deptt. Of Agricultural Economics, CCSHAU, Hisar | National | 24 November to 14 December 2021 |
| 40. | | Dr. Vinay | | National | 24 November to 14 December 2021 |
| 41. | 2022 | Dr. Neeraj Pawar | International Symposium on Cereals for Food Security and Climate Resilience Organized By Society for Advancement of Wheat & Barley Research, (SAWBAR), Karnal held online | National | 18-20 January 2022 |
| 42. | 2022 | Dr. Monika Devi and Dr. D.K. Bishnoi | Virtual Winter School on "Analytical Techniques for Decision Making in Agriculture" organized by ICAR-NIAP, New Delhi | National | 05 February 2022 to 25 February 2022 |
| 43. | 2022 | Dr. J.S. Papang | National E-conference on "Emerging Trends in Agricultural and Biological Science - ETABS 2022" held online organized by Society for Bioinformatics and Biological Sciences in collaboration with Applied Research and Development Organization, India | National | 14-15 January 2022 |
| 44. | 2022 | Dr. Dalip. Kumar Bishnoi | National symposium on Paradigm shift in cotton cultivation held at MPAUT Udaipur | National | 8-10 August 2022 |

## 2. Department of Agronomy

| Sl. No | Year | Name of faculty | Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc. | National /International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Suresh Kumar | Innovative Approaches and Strategies for Higher Profitability and Sustainability in Organic Production System at Maharana Pratap University of Agriculture and Technology Udaipur | National | 01 –21 June 2018 |
| 2. | 2018 | Dr. Suresh Kumar | Annual Group Meeting on AICRP on Rapeseeds & Mustard held at RARI Durgapura, Jaipur | National | 4-6 April 2018 |
| 3. | 2018 | Dr. A.Duhan | ICAR sponsored short course on 'Nanotechnological approaches in pest and diseases management' organized by ICAR- National Bureau of Agricultural Insects Resources, | National | 15-24 November 2018 |

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| | | | Bangaluru. | | |
| 4. | 2018 | Dr. Rajender Kumar | 9th National Extension Education Congress 2018 | National | 15 – 17 November 2018 |
| 5. | 2018 | Dr. R. D. Jat | 2. Annual Group Meet of AICRP on MULLaRP and Arid Legumes (*kharif* crops) held at GBPUA&T (Organized by Govt. institution). | National | 28-30 April 2018 |
| 6. | 2018 | Dr. Amit Kumar | Induction training conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 29 November-29 December 2018 |
| 7. | 2018 | Dr. JM Sutaliya | Induction Training course conducted by the Academy of Agriculture Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 29 November to 29 December 2018 |
| 8. | 2018 | Dr. JM Sutaliya | Workshop on Digital Field Book organized by Forage Section in collaboration with Dr. Ram Dhan Singh Chair, Department of Genetics and Plant Breeding, CCSHAU, Hisar. | National | 10 December 2018 |
| 9. | 2018 | Dr. Suresh Kumar | 8$^{th}$ QRT on Oilseeds Annual Group Meeting on AICRP on Rapeseeds & Mustard held during at Bharti Vidyapeeth, Pune | National | 7-8 September 2018 |
| 10. | 2018 | Dr. Sandeep Rawal | ICAR Winter School Training on "Advances in Salinity and Sodicity Management under Different Agro-Climatic Regions for enhancing Farmers Income | National | 4 September 2018 to 24 September 2018 |
| 11. | 2018 | Dr. V.S.Hooda | Training on "GHG emission/carbon sequestration estimation using B version of excel tool" 26-28 June-2018 and IPNI sponsored training on "4R nutrient management strategy" on at ICAR IIFSR, Modipuram. Meerut, UP | National | 29 June-2018 |
| 12. | 2018 | Dr. Naveen Kumar | Induction Training Course organized by the Academy of Agricultural Research and Education Management (AAREM) at CCSHAU, Hisar. | National | 29 November to 29 December 2018 |
| 13. | 2018 | Dr. Naveen Kumar | Workshop on "Digital Field Book" organized by Forage Section in Collaboration with Dr. Ram Dhan Singh Chair, Department of Genetics & Plant Breeding, CCS Haryana Agricultural University, Hisar. | National | 10 December 2018 |
| 14. | 2018 | Dr. Ankur Chaudhary | Short course on "Advances in sugarcane mechanization technologies to reduce cost of operations and drudgery for | National | 16-25 Septembe r 2018 |

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| | | | enhancing farmers' income" ICAR-Indian Institute of Sugarcane Research (IISR), Lucknow-226002 (UP) | | |
| 15. | 2018 | Dr. Ankur Chaudhary | Short course on "Advances in sugarcane mechanization technologies to reduce cost of operations and drudgery for enhancing farmers' income" ICAR-Indian Institute of Sugarcane Research (IISR), Lucknow-226002 (UP) | National | 16-25 Septembe r 2018 |
| 16. | 2018 | Dr. Ankur Chaudhary | National training program on conservation agriculture for improving productivity and sustainability of wheat based systems ICAR- IIWBR (Karnal) and BISA (Ludhiana) | National | 11-13 October 2018 |
| 17. | 2018 | Dr. Sushil Kumar Singh | International Conference on "Weeds and Society:Challenges and Oppiortunities"Organized by Indian society of weed science held at Directorate of Weed Research, Jabalpur | International | 21-24 November 2018 |
| 18. | 2018 | Dr. Nitin Bhardwaj | Refresher Course in Educational Technology CCSHAU, Hisar | National | 21 July - 10 August 2018 |
| 19. | 2018 | Dr. Amarjeet | XXI National Symposium of Indian Society of Agronomy (ISA) on "Doubling Farmers' Income Through Agronomic Interventions Under Changing Scenario" held at Rajasthan College of Agriculture (RCOA), MaharanaPratap University of Agriculture and Technology (MPUAT), Udaipur, Rajasthan, India. | National | 24-26 October 2018 |
| 20. | 2018 | Dr. R. D. Jat | National Seminar on meeting the challenges in weed management in India, organized by Haryana Agronomist Association in collaboration with International weed science society and Department of Agronomy CCSHAU, Hisar. | National | 20 August 2018 |
| 21. | 2019 | Dr. Amit Kumar | International Conference on New Millennia Agriculture- Novel Trends and Future Scenario at Chaudhary Charan Singh, Haryana Agricultural University, Hisar | International | 6-8 November 2019 |
| 22. | 2019 | Dr. Rajender Kumar | Entrepreneurship Development Through Agro / Food Processing Centres. | National | 12 - 21 December 2019 |
| 23. | 2019 | Dr. JM Sutaliya | Poster presented in "Golden Jubilee International Conference on "New Millennia Agriculture" organized by Directorate of Research, CCS Haryana Agricultural University, | International | 6-8 November 2019 |

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| 24. | 2019 | Dr. Suresh Kumar | International Symposium on "Innopreneurship: A need of Sustainable Agriculture" held at CSHAU, Hisar | International | 2-3 February 2019 |
| 25. | 2019 | Dr. Meena Sewhag | International symposium on "Innopreneurship: A need of sustainable Agriculture" at CCSHAU, Hisar | International | 2-3 February 2019 |
| 26. | 2019 | Dr. A.Duhan | Endeavour Post-doctoral Research Fellowship- 2018 Department of Technical and Higher Education, Govt. of Australia | International | 15 August 2018 to 14 February 2019 |
| 27. | 2019 | Dr. A. Duhan | Refresher Course on Research Management at organised by DHRM, CCSHAU, Hisar | National | 25 July to 14 Aug 2019 |
| 28. | 2019 | Dr. V.S.Hooda | Training programme on "Geospatial Technology & its Application" at HARSAC, Hisar | National | 21 January - 08 February 2019 |
| 29. | 2019 | Dr. V.S.Hooda | 10 days training prog. on "PRA and Micro watershed planning" 12.02.2019 to 21.02.2019 at ICAR-IISWC, Dehradun | National | 12 to 21 February 2019 |
| 30. | 2019 | Dr. Naveen Kumar | International Symposium on Innopreneourship: A need of Sustainable Agriculture" organized by Directorate of Research, CCSHAU, Hisar. | International | 2-3 February 2019 |
| 31. | 2019 | Dr. Sushil Kumar Singh | Short Course on Cop Diversification for Resilience in Agriculture and Doubling farming income conducted by IARI, New Delhi. | National | 25 February to 03 March 2019 |
| 32. | 2019 | Dr. Amarjeet | International Symposium On: Innopreneurship : A need of Sustainable Agriculture" organized by CCS Haryana Agricultural University, Hisar, India. | International | 2-3 February 2019 |
| 33. | 2019 | Dr. Amarjeet | Conference on "Climate Change towards Health and Agricultural Sustainability" to be organized by Department of Environmental Science & Engineering, GJUS&T Hisar - 125001, India. | International | 18–20 February 2019 |
| 34. | 2019 | Dr. Satyajeet | Conference on New Millennia Agriculture: Novel Trends & Future Scenario" at CCS Haryana Agricultural University, Hisar (India). | International | 6-8 November 2019 |
| 35. | 2019 | Dr. Satyajeet | National Seminar on Socio-Digital Approaches for Transforming Indian Agriculture" organized by Indian Society of Extension Education, ICAR-IARI, New Delhi at CCS Haryana Agricultural University, Hisar (India). | National | 20-22 November 2019 |

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| 36. | 2019 | Dr. Neelam | International Symposium on Innopreneurship: A Need of Sustainable Agriculture" at CCSHAU, Hisar, Haryana. | International | 2-3 February 2019 |
| 37. | 2019 | Dr. R. D. Jat | International Symposium on Innopreneurship: A Need of Sustainable Agriculture, CCSHAU, Hisar | International | 2-3 February 2019 |
| 38. | 2019 | Dr. R. D. Jat | Interaction workshop for stakeholders of castor, organized by RRS, Bawal, Held at CCSHAU, Hisar | National | 15-16 March 2019 |
| 39. | 2019 | Dr. Pattam Keerthi | XIV Agricultural Science Congress-Innovations for Agricultural Transformation National Academy of Agricultural Science (NAAS) and ICAR-Indian Agricultural Research Institute | National | 20-23 February 2019 |
| 40. | 2019 | Dr. Pattam Keerthi | International Symposium On Advances in Agrometeorology For Managing Climatic Risks of Farmers. IMD& Indian Centre of Agricultural Research (ICAR)-Indian Agricultural Research Institute and Jawaharlal Nehru University | International | 11-13 February 2019 |
| 41. | 2019 | Dr. Pattam Keerthi | International symposium on Innopreneurship: A need of sustainable Agriculture, Chaudhary Charan Singh Haryana Agricultural University | International | 2-3 February 2019 |
| 42. | 2019 | Dr. Pattam Keerthi | International conference on Climate change towards Health and Agricultural Sustainability Department of Environmental Science & Engineering, Guru Jambheshwar University of Science & Technology, Hisar | International | 18-20 February 2019 |
| 43. | 2019 | Dr. Parveen Kumar | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario GINMA-2019, at CCSHAU Hisar, Haryana. | International | 6-8 November 2019 |
| 44. | 2019 | Dr. Naveen Kumar | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario" organized by Directorate of Research, CCSHAU, Hisar. | International | 6-8 November 2019 |
| 45. | 2019 | Dr. Naveen Kumar | Workshop on "Awareness and Use of Scopus Citation Database" organized by Nehru Library, CCS Haryana Agricultural University, Hisar. | National | 29 November 2019 |
| 46. | 2019 | Dr. Naveen Kumar | National Group Meet (*Rabi* 2019-20) AICRP on Forage Crops & Utilization held at CAU, Imphal. | National | 30-31 August 2019 |

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| 47. | 2019 | Dr. Amarjeet | "Golden Jubilee International Conference on New Millennia Agriculture: Novel Trends & Future Scenario" at CCS Haryana Agricultural University, Hisar (India). | International | 6-8 November 2019 |
| 48. | 2019 | Dr. Sushil Kumar Singh | Golden Jubilee International Conference on "New Millennia Agriculture Novel Trends & Future Scenario" held at CCS Haryana Agricultural University, Hisar | International | 06-08 November 2019 |
| 49. | 2019 | Dr. Nitin Bhardwaj | Golden Jubilee international conference on new millennia agriculture novel trend & future scenario | International | 6 August 2019 |
| 50. | 2019 | Dr. R. D. Jat | Golden jubilee international conference on New Millennia agriculture novel trends and future scenario, held at CCSHAU | International | 6-8 November 2019 |
| 51. | 2019 | Dr. R. D. Jat | Annual Group Meet on Rabi Pulses of AICRP on MULLaRP crops held at Central Agricultural University, Imphal, Manipur (Organized by Govt. institution). | National | 12-13 September 2019 |
| 52. | 2019 | Dr. V.S. Hooda | Collaborative training on "Integrated Farming System: Issues and Challenges" at DHRM, CCSHAU, Hisar on 8-12 July, 2019 organized by Extension Education Institute, Nilokheri. (5 days) | National | 8-12 July 2019 |
| 53. | 2020 | Dr. R. D. Jat | Online Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in Collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar | National | 08-28 July 2020 |
| 54. | 2020 | Dr. A.K. Dhaka | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario GINMA-2019, 6-8 November, 2019 at CCSHAU Hisar, Haryana. | International | 6-8 November 2019 |
| 55. | 2020 | Dr. A.K. Dhaka | National seminar on Agrometeorological interventions for enhancing farmer's income (AGMET-2020), at College of Horticulture, KAU, Thrissur, Kerala. | National | 20-22 January 2020 |
| 56. | 2020 | Dr. Neelam | AGMET-2020, Kerala Agricultural University | National | 20-22 January 2020 |
| 57. | 2020 | Dr. Suresh Kumar | Golden Jubilee International Conference on "New Millennia | International | 6-8 November 2019 |

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| | | | Agriculture Novel Trends and Future Scenario" held at CCSHAU, Hisar | | |
| 58. | 2020 | Dr. Ankur Chaudhary | Hands-on Training Workshop on 'Assessment Methods for Soil Carbon and Greenhouse Gas Emissions in Agriculture' Department of Soil Science, Punjab Agriculture University, Ludhiana under the auspices of NAHEP-CAAST-SNRM. | National | 12-19 February 2020 |
| 59. | 2020 | Dr. R. D. Jat | Online Annual Group Meet of Kharif pulses held (Organized by Govt. institution) | National | 2-4 June 2020 |
| 60. | 2020 | Dr. V.S. Hooda | Training programme on "Language Skills" at DHRM, CCSHAU, Hisar. (21 days) | National | 27 May 2020 to 16 June 2020 |
| 61. | 2020 | Dr. V.S. Hooda | "Awareness and use of E-resources through remote login for faculty and students of CCSHAU" on 23.06.2020 at Nehru Library, CCSHAU, Hisar. | National | 23 June 2020 |
| 62. | 2020 | Dr. Satyajeet | Agronomist Meet and Students' Weed Contest organized by Department of Agronomy, CCSHAU, Hisar In collaboration with Haryana Agronomists Association & International Weed Science Society held at Hisar. | National | 30-31 January 2020 |
| 63. | 2020 | Dr. Naveen Kumar | National Webinar on "Awareness and Use of e-Resources through Mobile App" organized by Nehru Library, CCS Haryana Agricultural University, Hisar. | National | 18 December 2020 |
| 64. | 2020 | Dr. Sushil Kumar Singh | Biennial Conference on "Weed Management for Enhancing Farmers' Income and FoodSecurityOrganized by Indian society of weed science held at Central Coastal AgriculturalResearch Institute, Goa (India), | National | 5-7 February 2020 |
| 65. | 2020 | Dr. Sushil Kumar Singh | Refresher Course on Extension Management conducted by Academy of Agriculture Research and EducationManagement, Directorate of Human Resource Management, CCSHAU, Hisar | National | 11- 31 December 2020 |
| 66. | 2020 | Dr. Suresh Kumar | Training Programme on "Extension Management" organized at DHRM, CCSHAU, Hisar . | National | 11-31 December 2020 |
| 67. | 2020 | Dr. Suresh Kumar | Geospatial Analytics Using R Online Training Program" organised by IRRI South Asia Regional Centre (IRRI-SARC), Varanasi. | International | 23-25 November 2020 |
| 68. | 2020 | Dr. Vinod Kumar | Refresher course on Statistical tools & techniques for Analysis of Agricultural Data | National | 08 July- 28 August 2020 |

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| 69. | 2020 | Dr. Sandeep Rawal | Training on Statistical tools and techniques for analysis of Agricultural Data | National | 08 to 28 July 2020 |
| 70. | 2020 | Dr. Nitin Bhardwaj | Mathematical science: Repositories of logical thought and analytical tools at CCSHAU, Hisar | National | 22 December 2020 |
| 71. | 2020 | Dr. Neelam | Refresher Course on Statistical Tools and 'techniques for analysis of Agricultural Data by DHRM, CCSHAU, Hisar | National | 8-28 July 2020 |
| 72. | 2020 | Dr. V.S.Hooda | One day webinar on "Climate Resilience Agriculture-Opportunities and potential" on 27.07.2020 organised by Directorate of extension services,- RVSKVV, Gwalior (MP). | National | 27 July 2020 |
| 73. | 2020 | Dr. V.S.Hooda | National webinar on "Start up- A stepping stone to attain self reliance and sustainability in agriculture science" on organised by ASPEE college of Home Science and nutrition, SDAU, Gujrat | National | 06 August 2020 |
| 74. | 2021 | Dr. Amit Kumar | National training programme organized under ICAR-NAHEP CAAST at PAU, Ludhiana | National | 16-28 March 2021 |
| 75. | 2021 | Dr. Satyajeet | International Agronomy Congress on "Agri. Innovations to Combat Food and Nutrition Challenges" organized by ISA at PJTSAU Hyderabad, Telangana (Virtually). | International | 23-27 November 2021 |
| 76. | 2021 | Dr. Naveen Kumar | National Webinar on "फसलों में ओरोबेन्की खरपतवार प्रबंधन" held at Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan in collaboration with ICAR-Directorate of Weed Research, Jabalpur, Madhya Pradesh. | National | 19 February 2021 |
| 77. | 2021 | Dr. Naveen Kumar | National webinar on "जैविक खेती तकनीकें एवं उनका प्रसार" held at Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan. | National | 20 February 2021 |
| 78. | 2021 | Dr. Naveen Kumar | National Gladiolus Show cum Webinar on "Gladiolus Production Strategy in India to Improve Farmers' Income" held at Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan in collaboration with ICAR-Directorate of Floricultural Research, Pune. | National | 24 February 2021 |
| 79. | 2021 | Dr. Naveen Kumar | National Webinar on "Our Solutions are in Nature" sponsored by State Government Funded Rashtriya Krishi | National | 22 May 2021 |

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| | | | Vikas Yojana Project on "Development of Organic Input Production of Organic Farming Technologies and organized by Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan. | | |
| 80. | 2021 | Dr. Naveen Kumar | "Mass Awareness Campaign on Organic Farming" held by ICAR- All India Network Project on Organic Farming, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan. | National | 24 May 2021 |
| 81. | 2021 | Dr. Meena Sewhag | Conference on Agriculture, Climate Change and Life Science held (ONLINE) | International | 5-6 March 2021 |
| 82. | 2021 | Dr. Nitin Bhardwaj | Applications of Statistical and Econometric Techniques in Agriculture by AAREM, at CCSHAU, Hisar | National | 24 to 14 November 2021 |
| 83. | 2021 | Dr. Neelam | Sustaining Pulse production for self sufficiency and nutritional Security (Pulse WebCon-2021) | National | 9-11 February 2021 |
| 84. | 2021 | Dr. Parveen Kumar | Refresher course on Research Management organised by DHRM, CCSHAU, Hisar | National | 8-28 April 2021 |
| 85. | 2021 | Dr. Amit Kumar | Fifth international Agronomy congress organized by Indian society of agronomy at PJTSAU, Hyderabad | International | 23-27 November 2021 |
| 86. | 2021 | Dr. Suresh Kumar | 5$^{th}$ International Agronomy Congress on"Agri Innovations to Combat Food and Nutrition Challenges" at PJTSAU, Hyderabad. | International | 23–27 November 2021 |
| 87. | 2021 | Dr. Vinod Kumar | 5$^{th}$International Agronomy Congress on "Agri Innovations to Combat food and nutrition challenges" organized by Indian Society of Agronomy. | International | 23-27 November 2021 |
| 88. | 2021 | Dr. Naveen Kumar | International Agronomy Congress on Agri Innovations to Combat Food and Nutrition Challenges" organized by the Indian Society of Agronomy at PJTSAU, Hyderabad (India). | International | 23-27 November 2021 |
| 89. | 2021 | Dr. Parveen Kumar | International Agronomy Congress on Agri-Innovations to Combat Food and Nutrition Challenges held at PJTSAU, Hyderabad, Telangana, India | International | 23-27 November 2021 |
| 90. | 2021 | Dr. JM Sutaliya | Training on "Entrepreneurship Orientation Program on Medicinal and Aromatic Plants-III (EOMAP-III)." organized by ICAR-DMAR, Anand, Gujrat | National | 19 July to 8 August 2021 |
| 91. | 2021 | Dr. V.S.Hooda | National Conference on 'Integrated farming systems: A tool for | National | 5-7 October 2021 |

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| | | | enhancing income and nutritional security' organized by ICAR-Research Complex for eastern region. Patna, Bihar. | | |
| 92. | 2021 | Dr. Sushil Kumar Singh | Refresher Course on Research Management conducted by Academy of Agriculture Research and Education Management, Directorate of HumanResource Management, CCSHAU, Hisar | National | 08-28 April 2021 |
| 93. | 2021 | Dr. Amarjeet | National Seminar on *"Agri-Business Identification, Planning and Funding for Entrepreneurship Development*" Organized by Navsari Agricultural University, Navsari, Gujrat. | National | 01 October 2021 |
| 94. | 2021 | Dr. Amarjeet | 5 th International Agronomy Congress on *"Agri. Innovations to Combat Food and Nutrition Challenges"* organized by ISA at PJTSAU Hyderabad, Telangana held. | International | 23-27 November 2021 |
| 95. | 2021 | Dr. Amarjeet | International Conference on" Integrated Agriculture, Natural Farming, Biodiversity Conservation and Rural Bio- Entrepreneurship under Changing Climate Scenario" organised by NAAS Regional Chapter – Barapani, International Union of Organic Agriculture, Shillong and COA, CAU (I) Meghalaya. | International | 7-9 December 2021 |
| 96. | 2021 | Dr. A.K.Dhaka | 5th International Agronomy Congress on Agri-Innovations to Combat Food and Nutrition Challenges held at PJTSAU, Hyderabad, Telangana, India | International | 23-27 November 2021 |
| 97. | 2021 | Dr. Ankur Chaudhary | Fifth International Agronomy Congress on "Agri Innovations to Combat Food and Nutrition Challenges" Organised by Indian Society of Agronomy at PJTSAU, Hyderabad | National | 23-27 November 2021 |
| 98. | 2021 | Dr. A. Duhan | Refresher course on Application of statistical and Econometric Techniques in Agriculture organized by AAREM, CCSHAU, Hisar | National | 24 November to 14 December 2021 |
| 99. | 2022 | Dr. Naveen Kumar | ICAR sponsored Winter School entitled "Advances in Agricultural Extension Research'' conducted by Dairy Extension Division, ICAR-NDRI, Karnal. | National | 28 January to 17 February 2022 |
| 100. | 2022 | Dr. Satyajeet | National Symposium on Paradigm shift in cotton cultivation at Maharana Pratap University of Agriculture and Technology, Udaipur. | National | 8-10 August 2022 |

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| 101. | 2022 | Dr. Meena Sewhag | International Conference on Advancement of Science and Technology for Environment, Society and People organized by Society for Technology, Environment, Science & People through virtual mode | International | 28-29 January 2022 |
| 102. | 2022 | Dr. V.S.Hooda | International Conference on 'Recent Advances for managing sustainable soil health and crop production' organized by GKV Society, Agra, India | International | 18-20 February 2022 |
| 103. | 2022 | Dr. V.S.Hooda | Winter School Training programme on 'Conservation agriculture for efficient resource use and climate-resilient farming' organized at Division of Agronomy, ICAR-IARI, New Delhi. | National | 15 February to 07 March 2022 |
| 104. | 2022 | Dr. Ankur Chaudhary | XXIX Annual review meeting of AICRP WM AICRP weed management, ICAR-Directorate of Weed Research Jabalpur at TNAU Coimbatore | National | 25-27 May 2022 |
| 105. | 2022 | Dr. Vinod Kumar | Training on Natural Farming : Way forward for sustainable Farming and Ecological Balance | National | 13-22 December 2022 |
| 106. | 2022 | Dr. Meena Sewhag | International Conference on Vision 2047: Sustainable Developments towards AtmaNirbhar Bharat (VSANB-2022) held on 23rd -24th December, 2022 at FDDI Chandigarh. | International | 23-24 December 2022 |
| 107. | 2022 | Dr. Sushil Kumar Singh | "BIOSCI-CON, Biosciences Congress- 2022" Organized byIndian Society Of Genetics, Biotechnology Research andDevelopment AndHindustan College Of Science & Technology, Farah,U.P.held at Hindustan College of Science & Technology, Farah, U.P., India. | International | 14-17 April 2022 |
| 108. | 2022 | Dr. A.K.Dhaka | International Conference on "Sustainable Agricultural Innovations for Resilient Agri-Food systems" he at SKUAST Jammu (India) | International | 13-15 October 2022 |
| 109. | 2022 | Dr. A. Duhan | Winter School on Natural Farming-Agroecological Approaches under Rainfed Production System at SKN Agriculture University, JOBNER, JAIPUR | National | 08-28 December 2022 |
| 110. | 2023 | Dr. Vinod Kumar | Pulses: Smart Crops for Agricultural Sustainability And Nutritional Security" organized by ISPRD, ICAR & IIPR, Kanpur | International | 10-12 February 2023 |
| 111. | 2023 | Dr. Sandeep Rawal | International Conference on Climate Resilient Agriculture forFood | International | 17-19 February 2023 |

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| | | | Security and Sustainability | | |
| 112. | 2023 | Dr. Suresh Kumar | International Conference on 'Climate Resilient Agriculture for Food Security and Sustainability' organised by CCSHAU, Hisar | International | 17-19 February 2023 |
| 113. | 2023 | Dr. Ajay Singh | International Conference on Climate Resilient Agriculture for Food Security and Sustainability held at CCSHAU, Hisar | International | 17-19 February 2023 |
| 114. | 2023 | Dr. Amarjeet | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at CCSHAU, Hisar. | International | 17-19 February 2023 |
| 115. | 2023 | Dr. Uma Devi | National webinar on "Quit India Movement To Food Secured India" held on 8th August, 2022 organized by Maharana Partap University of Agriculture and Technology, Udaipur (Rajasthan) | National | 8 August 2022 |
| 116. | 2023 | Dr. Uma Devi | International Conference on, "Pulses: Smart Crops for Agricultural Sustainability and Nutritional Security" NASC complex, New Delhi-110012 organized by ISPRD, IIPR and ICAR | International | 10-12 February 2023 |
| 117. | 2023 | Dr. Uma Devi | International Conference on, "Climate Resilient Agriculture for Food Security and Sustainability" at CCSHAU organized by Chaudhary Charan Singh Haryana Agricultural University, Hisar. | International | 17-19 February 2023 |
| 118. | 2023 | Dr. Sushil Kumar Singh | International Conference on"Climate Resilient Agriculture for Food Security and Sustainability"held at CCS Haryana Agricultural University, Hisar | International | 17-19 February 2023 |
| 119. | 2023 | Dr. Naveen Kumar | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh Haryana Agricultural University, Hisar. | International | 17-19 February 2023 |
| 120. | 2023 | Dr. Satyajeet | International Conference "Climate Resilient Agriculture for Food Security and Sustainability on at CCSHAU, Hisar. | International | 17-19 February 2023 |
| 121. | 2023 | Dr. Satyajeet | International Conference on System of CropIntensification (ICSCI 2022) for Climate-Smart Livelihoodand Nutritional Security held at Hyderabad | International | 12-14 December 2022 |

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| 122. | | Dr. Amit Kumar | International conference on Climate Resilient Agriculture for food Security and Sustainability held at CCSHAU, Hisar. | International | 7-19 February 2023 |
| | | Dr. Amit Kumar | ICAR sponsored short course on Agri-preneurship development in seed sector for sustainability of Agriculture & Rural Economy to be held at ICAR-Indian Institute of Wheat and Barley Research, Karnal (Haryana) | National | 01-10 February 2023 |
| 123. | 2023 | Dr. V.S.Hooda | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at CCSHAU, Hisar | International | 17-19 February 2023 |
| 124. | 2023 | Dr. A. Duhan | International Conference on 'Climate Resilient Agriculture for Food Security and Sustainability' organized by CCSHAU.<br><br>International Conference on 'Biotechnology and Human Welfare: Vision 2030 and Beyond' organized by Department of Biotechnology, Chaudhary Devilal University Sirsa | International<br><br>International | 17-19 February 2023<br><br>3-4 March 2023 |
| 125. | 2023 | Dr. Pattam Keerthi | International conference on Climate Resilient Agriculture for Food Security and Sustainability | International | 17-19 February 2023 |

## 3. Department of Agricultural Meteorology

| Sl. No | Year | Name of faculty | Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc. | National/International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. M.L. Khichar | Meeting on Preparation of roadmap for successful implementation of block level Agromet Advisory Services on at IMD New Delhi | International | 04 May 2018 |
| 2. | 2018 | Dr. M.L. Khichar | Annual Review Meeting of Gramin Krishi Mausam Sewa (GKMS) at ANGRAU Regional Agricultural Research Station, Tirupati (Andhra Pradesh) | National | 3-5 December 2018 |
| 3. | 2018 | Dr. C.S. Dagar | Annual Review Meeting of Gramin Krishi Mausam Sewa (GKMS) at ANGRAU Regional Agricultural Research Station, Tirupati (Andhra Pradesh) | National | 3-5 December 2018 |
| 4. | 2018 | Dr. C.S. Dagar | XV Biennial workshop-AICRP on Agrometeorology, at UAS-Dharwad, | National | 15-17 November |

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| | | | RASA, Vijayapura, Karnatak | | 2018 |
| 5. | 2018 | Dr Anurag | 'Refresher course on Computer Applications' organized by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU Hisar | National | 16 May, 2018 to 05 June, 2018 |
| 6. | 2018 | Dr. Anil Kumar | XV Biennial workshop-AICRP on Agrometeorology, at UAS-Dharwad, RASA, Vijayapura, Karnatak | National | 15-17 November, 2018 |
| 7. | 2019 | Dr. Surender Singh | International Symposium on "Advances in Agrometeorology for Managing Climatic Risks of Farmers" (INAGMET-2019) at JNU, New Delhi (India) | International | 11- 13 February 2019 |
| 8. | 2019 | Dr. M.L. Khichar | International Symposium on Innopreneurship: A need of sustainable Agriculture (ISINIA-2019) at CCSHAU Hisar. | International | 2-3 February 2019 |
| 9. | 2019 | Dr. M.L. Khichar | International Symposium on "Advances in Agrometeorology for Managing Climatic Risks of Farmers INAGMET 2019" at JNU, Convention center (Auditorium), JNU Campus, New Delhi, India. | International | 11-13 February 2019 |
| 10. | 2019 | Dr. C.S. Dagar | Symposium on "Advances in Agrometeorology for Managing Climatic Risks of Farmers INAGMET 2019" at JNU, Convention center (Auditorium), JNU Campus, New Delhi | International | 11-13 February, 2019 |
| 11. | 2019 | Dr. Anil Kumar | Symposium on "Advances in Agrometeorology for Managing Climatic Risks of Farmers INAGMET 2019" at JNU, Convention center (Auditorium), JNU Campus, New Delhi | International | 11-13 February, 2019 |
| 12. | 2019 | Dr. Raj Singh | Swiss Geoscience Meeting in Fribourg, Switzerland | International | 14-29 November, 2019 |
| 13. | 2019 | Dr. Raj Singh | Golden Jubilee International Conference on "New Millennia Agriculture- Novel Trends and Future Scenario" at CCSHAU Hisar | International | 6-8 November, 2019 |
| 14. | 2019 | Dr. Ram Niwas, | Golden Jubilee International Conference on "New Millennia Agriculture- Novel Trends and Future Scenario" at CCSHAU Hisar | International | 6-8 November, 2019 |
| 15. | 2019 | Dr. Surender Singh | 17$^{th}$ Swiss Geoscience Meeting in Fribourg, Switzerland | International | 14-29, November 2019 |
| 16. | 2019 | Dr. Surender Singh | Golden Jubilee International Conference on "New Millennia Agriculture- Novel Trends and Future Scenario" at CCSHAU Hisar | International | 6-8, November 2019 |

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| 17. | 2019 | Dr. M.L. Khichar | 'Use of satellite products in operational Agromet Advisory Services in Haryana' with Scientists of ISRO-Space Application Centre (SAC), IMD and SAUs at SAC Ahmedabad | National | 24-25, June 2019 |
| 18. | 2019 | Dr. M.L. Khichar | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario GINMA-2019, at CCSHAU Hisar, Haryana. | International | 6-8 November, 2019 |
| 19. | 2019 | Dr. C.S. Dagar | Golden Jubilee International Conference on "New Millennia Agriculture- Novel Trends and Future Scenario" at CCSHAU Hisar | International | 6-8, November 2019 |
| 20. | 2019 | Dr. Anurag | Golden Jubilee International Conference on "New Millennia Agriculture- Novel Trends and Future Scenario" at CCSHAU Hisar | International | 6-8, November 2019 |
| 21. | 2019 | Dr. Anurag | Delegate "20th APG meet and National Conference on Ecological Sustainability,Regional Development and Geospatial Technology" held at Govt. College, Hisar | National | 9-11 November, 2019 |
| 22. | 2020 | Dr. M.L. Khichar | National Seminar on Agrometeorological Interventions for Enhancing Farmers' Income (AGMET-2020)" scheduled at KAU, Thrissur, Kerala. | National | 20-22, January 2020 |
| 23. | 2021 | Dr. Chander Shekhar | 'Refresher Course on Educational Technology' conducted by DHRM, CCSHAU, Hisar | National | 21 September to 11 October 2021 |
| 24. | 2021 | Dr. Anurag | 'Refresher Course on Educational Technology' conducted by DHRM, CCSHAU, Hisar | National | 21 September to 11 October 2021 |
| 25. | 2021 | Dr. Naresh Kumar | 'Refresher Course on Educational Technology' conducted by DHRM, CCSHAU, Hisar | National | 21 September to 11 October. 2021 |
| 26. | 2022 | Dr. Surender Singh | International Conference on Ecology at Zagreb, Croatia | International | 23-24, August 2022 |
| 27. | 2022 | Dr. Surender Singh | As Core Member (Asia Region) of WMO SC-AGR ET on Drought (International) attended<br>• 5th virtual meeting on the Global Drought Classification System online through Microsoft Team Meeting.<br>• 6th virtual meeting on the Global Drought Classification System online through Microsoft Team Meeting.<br>• IDMP Virtual Exchange – IDMP updates https://teams.microsoft.com | International | • 10 May, 2022 @ 1630-1830 IST<br>• 22 June, 2022 @ 1630-1830 IST<br>• 23 June, 2022 at 1.30 to 3.30 CET<br>• 7 March, |

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| | | | • IDMP Virtual Exchange – IDMP Strategy 2022-2025 https://gwp-org.zoom.us/ | | 2022 at 1.30 to 3.30 CET |
| 28. | 2022 | Dr. Chander Shekhar | XVI Biennial Workshop of AICRP on Agro-Meteorology at GKVK, UAS, Bangalore , Karnataka | National | 12-14 November 2022 |
| 29. | 2022 | Dr. Chander Shekhar | 7th/VII capacity building programme of AICRPAM" at UAS, GKVK, Bangalore, Karnataka | National | 15-21 November 2022 |
| 30. | 2022 | Dr. Chander Shekhar | 10thAnnual Review Workshop of NICRA-AICRPAM, AICRPAM Brainstorming session at ICAR-CRIDA, Hyderabad | National | 02-04 June 2022 |
| 31. | 2022 | Dr. Anurag | Refresher Course on Statistical Methods & Data Analysis | National | 30 July, 2022 to 19 August, 2022 |
| 32. | 2022 | Dr. Anil Kumar | XVI Biennial Workshop of AICRP on Agro-Meteorology at GKVK, UAS, Bangalore, Karnataka | National | 12-14 November 2022 |
| 33. | 2022 | Dr. Anil Kumar | 7th/VII capacity building programme of AICRPAM"atUAS,GKVK,Bangalore, Karnataka | National | 15-21 November 2022 |
| 34. | 2022 | Dr. Anil Kumar | 10th Annual Review Workshop of NICRA-AICRPAM, AICRPAM Brainstorming session at ICAR-CRIDA, Hyderabad | National | 02-04 June 2022 |
| 35. | 2023 | Dr. ML Khichar | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) | International | 17-19 February, 2023 |
| 36. | 2023 | Dr. Surender Singh | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) | International | 17-19 February, 2023 |
| 37. | 2023 | Dr. Chander Shekhar | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) | International | 17-19, February 2023 |
| 38. | 2023 | Dr. Anurag | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) | International | 17-19 February, 2023 |

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| 39. | 2023 | Dr. Naresh Kumar | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) | International | 17-19 February, 2023 |

## 4. Department of Business Management

| Sl. No | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc. | National /International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2019 | Dr. Atul Dhingra | Technical Session on "Strategy, Entrepreneurship & IT" in HSB 11th Annual National Conference on Business and Management organized by Haryana School of Business | National | 7-8, Feb 2019 |
| 2. | 2020 | Dr. Atul Dhingra | Technical Session on in HSB 12th Annual National Conference on Business and Management organized by Haryana School of Business, GJUS&T, Hisar, | National | 6-7, Feb 2020 |
| 3. | 2020 | Dr. Atul Dhingra | International Webinar on "New Dimensions of Human Resource Management after COVID-19" organized by Om Sterling Global University, Hisar, | International | 7 November 2020 |
| 4. | 2020 | Dr. Atul Dhingra | Online National Workshop on "Intellectual Property Rights: Industry-Academia Interface" organized by Internal Quality Assurance Cell (IQAC), Guru Nanak Khalsa College, Yamuna Nagar, | National | 4 December 2020 |
| 5. | 2021 | Dr. Atul Dhingra | Technical Session in HSB 13th Annual National Conference on Business and Management organized by Haryana School of Business, GJUS&T, Hisar, | National | 11-12 February 2021 |
| 6. | 2022 | Dr. Atul Dhingra | International Conference on 'Technologies and Options for securing Energy & Food flows in view of the Ukrainian Crisis' and presented a paper titled, "Energy & Food Flows in view of the Ukrainian Crisis – Options and Approaches for Developed and Developing Countries", organized by IFEED (www.ifeed.org) in Istanbul, Turkey. | International | 20-22 September, 2022 |
| 7. | 2023 | Dr. Atul Dhingra | 'Promoting Agripreneurship for Agribusiness towards Food Security and Sustainability' on February 18, 2023 in International conference on 'Climate Resilient Agriculture for Food Security and Sustainability | International | 17-19, February 2023 |

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| | | | (INTCLIMATE 2023) organized by CCSHAU, Hisar | | |
| 8. | 2019 | Dr. S. K. Goyal | Poster presented in Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held at Chaudhary Charan Singh, Haryana Agricultural University, Hisar. | International | 6-18. November 2019 |
| 9. | 2023 | Dr. S. K. Goyal | International Conference on Climate Resilient Agriculture for Food Security and Sustainability held at Chaudhary Charan Singh, Haryana Agricultural University, Hisar. | International | 17-18. February 2023 |
| 10. | 2019 | Dr. Suman Ghalawat | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario(GINMA-2019) | International | 6 - 8 November, 2019 |
| 11. | 2019 | Dr. Suman Ghalawat | International Symposium proceedings on "Innopreneurship: A Need of Sustainable Agriculture (ISINSA-2019) | International | 2 -3 February 2019 |
| 12. | 2019 | Dr. Suman Ghalawat | National Conference on Capacity Building of Sustainable Food Value Chains for Enhanced Food Safety and Quality | National | 21- 22 August 2019 |
| 13. | 2022 | Dr. Suman Ghalawat | National Conference on "Mathematical Sciences for Applied & Agricultural Research" | National | 22 February, 2022 |
| 14. | 2023 | Dr. Suman Ghalawat | International Conference on Climate Resilient Agriculture for Food Security and Sustainability at CCSHAU, Hisar | International | 17-19 February 2023 |
| 15. | 2022 | Dr. Amita Girdhar | National Conference on "Mathematical Sciences for Applied & Agricultural Research" | National | 22 February 2022 |
| 16. | 2023 | Dr. Amita Girdhar | International Conference on Climate Resilient Agriculture for Food Security and Sustainability at CCSHAU, Hisar | International | 17-19 February 2023 |
| 17. | 2019 | Mr. Subodh Agarwal | "Golden Jubilee International conference on new millennia agriculture novel trends and Future Scenario" orgnised by Directorate of Research at CCSHAU, Hisar | International | 6-18 November 2019 |
| 18. | 2019 | Mr. Subodh Agarwal | National Seminar on "Inter-Dependence of Nations in Shaping the Global Future: Issues, Challenges and Way Forward" held at UGC-HRDC, Kumaun University, Nainital. | National | 13-14 December 2019 |
| 19. | 2020 | Mr. Subodh Agarwal | International Conference on "Global Food Security-2020" held on at Le Corum, Montepellier, France. | International | 7-9 December 2020 |

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| | | | (Through online mode) | | |
| 20. | 2021 | Mr. Subodh Agarwal | International conference on "Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development" (GIAFAS-2021) held at Shri Guru Ram Rai University, Dehradun, Uttarakhand. | International | 17-18 October 2021 |
| 21. | 2022 | Mr. Subodh Agarwal | National seminar on "Managing weather and climate risks in agriculture-Adapting crops to climate variability and uncertainty" held at SKAUST, Srinagar. | National | 24-26 March 2022 |
| 22. | 2019 | Dr. Megha | In Golden Jubilee International Conference on new Millennia Agriculture Novel Trends and Future Scenario (GINMA-2019), Organized by CCS Haryana Agricultural University, Hisar, Haryana, India | International | 6-8 November 2019 |
| 23. | 2022 | Dr. Megha | "Mathematical ciences for Applied and Agricultural Research "organized by dept. of math & stat. CCS Haryana Agricultural University, Hisar, Haryana, | National | 22 Feburary 2022 |
| 24. | 2022 | Dr. Megha | "5th International Conference on Mathematical Modelling, Applied Analysis and Computation-2022 (ICMMAAC-22)"organized by Department of mathematics, Faculty of Science, JECRC University, Jaipur, India, | International | 4-6 August 2022 |
| 25. | 2023 | Dr. Megha | International Conference on Climate Resilient Agriculture for Food Security and Sustainability (INCLMATE-2023)" organized by CCSHAU, Hisar, | International | 17-19 February 2023 |

## 5. Department of Entomology

| **Sl.** | **Year** | **Name of faculty** | **Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc.** | **National /International** | **Date(s)** |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Sunita Yadav | National Startup Summit held at CCSHAU, Hisar | National | 1-2, June 2018 |
| 2. | 2019 | Dr. Sunita Yadav | Training course on 'DNA-Bar coding and Bioinformatics Applications in Entomology' organized by National Bureau of Agricultural Insect Resources (NBAIR), Bangalore | National | 25 February- 3 March 2019 |
| 3. | 2019 | Dr. Krishna Rolania | "Innopreneurship: A Need of Sustainable Agriculture" organized by CCSHAU, Hisar, Haryana | International | 2-3 February 2019 |
| 4. | 2019 | Dr. Deepika Kalkal | Recent Advances in Agriculture, | International | 2 March 2019 |

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| | | | Aquaculture, Food Technology, Environmental Dynamics and Climate Change (AFTEC- 2019) | | |
| 5. | 2019 | Dr. Deepika Kalkal | Farmers' Friendly Soil and Water Conservation Technologies for Mitigating Climate Change Impact | National | 31 January to 2 February 2019 |
| 6. | 2018 | Dr. Swati Mehra | Induction Training Course organized by the Academy of Agricultural Research and Education Management (AAREM) at CCSHAU, Hisar. | National | 07 June to 07 July 2018 |
| 7. | 2018 | Dr. Lomash Kumar | Intellectual Property Rights-A Mechanism for Social Economic Growth | National | 6 September, 2018 |
| 8. | 2018 | Dr. Lomash Kumar | Induction Training organized by Academy of Agricultural Research & Education Management, at CCSHAU, Hisar | National | 29 November to 29 December 2018 |
| 9. | 2019 | Dr. Lomash Kumar | Awareness and use of Scopus database and Mendeley Reference Manager, College of Basic Sciences and Humanities | National | 28 January 2019 |
| 10. | 2019 | Dr. Lomash Kumar | Training on 'Pesticide Residue Analysis (PRA)" at National Institute of Plant Health Management (NIPHM), Hyderabad. | National | 1 May to 21 May 2019 |
| 11. | 2020 | Dr. Sunita Yadav | Conference on 'Termites and Bees of Haryana' organized by Centre for Conservation of Natural Resources (CCNR), TDU, Bangalore | National | 15 May 2020 |
| 12. | 2019 | Dr. Sunita Yadav | Webinar on 'Locust: A serious threat to Agriculture' organized by Department of Entomology and Directorate of Research, CCS Haryana Agricultural University, Hisar | National | 29 May 2020 |
| 13. | 2019 | Dr. Sunita Yadav | Webinar on 'Awareness & use of CeRA Resources through J-Gate Discovery Plateform' organized by Nehru Library, CCS Haryana Agricultural University, Hisar in collaboration with Consortium for e-resources –DKMA-ICAR, New Delhi and Informatics Publishing Limited, Bangalore | National | 25 June 2020 |
| 14. | 2020 | Dr. Sunita Yadav | Webinar on 'Awareness & use of e-Resources through remote login' organized by Nehru Library, CCS Haryana Agricultural University, Hisar | National | 23 June 2020 |
| 15. | 2020 | Dr. Sunita Yadav | Webinar on "Emerging Trends in Physics and its Applications in Agriculture" organized by Department of Physics, College of Basic Sciences and Humanities, CCS Haryana Agricultural | International | 29 June 2020 |

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| | | | University, Hisar, Haryana, India | | |
| 16. | 2019 | Dr. Krishna Rolania | New Millennia Agriculture- Novel Trends and Future Scenario | International | 6 -8 November 2019 |
| 17. | 2020 | hna Rolania | Agrometerological interventions for enhancing farmers' income (AGMET-2020) | National | 20-22 January, 2020 |
| 18. | 2019 | Dr. DeepikaKalkal | New Millennia Agriculture- Novel Trends and Future Scenario | International | 6 -8 Novmber, 2019 |
| 19. | 2020 | Dr. DeepikaKalkal | Agrometerological interventions for enhancing farmers' income(AGMET-2020) | National | 20-22 January, 2020 |
| 20. | 2019 | Dr. Swati Mehra | ISEE National seminar on: Socio-Digital Approaches for Transforming Indian Agriculture, at CCSHAU, Hisar. | National | 20- 22, November 2019 |
| 21. | 2020 | Dr. Lomash Kumar | Capacity development for agricultural innovation systems: Agricultural research and climate-smart agriculture approaches | International | 7-18 March 2020 |
| 22. | 2019 | Dr. Manoj Kumar Jat | Induction training course at Directorate of HRM, at CCSHAU, Hisar. | National | 18 November to 17 December, 2019 |
| 23. | 2019 | Mr. Harish Kumar | Innopreneurship: A Need of Sustainable Agriculture (ISINSA-2019)" | International | 2 -3 February, 2019 |
| 24. | 2019 | Dr. Ankit Kumar | New Millennia Agriculture- Novel Trends and Future Scenario. | International | 6 -8, November, 2019 |
| 25. | 2019 | Dr. Ankit Kumar | Induction Training programme conducted by Directorate of HRM, at CCSHAU, Hisar. | National | 18 November to 17 December 2019 |
| 26. | 2019 | Dr. Ankit Kumar | One day workshop on Awareness and Use of Scopus Citation Database Organized by Nehru Library, CCSHAU, Hisar. | National | 29 November 2019 |
| 27. | 2020 | Dr. Swati Mehra | Attended & IDEA Investors Meet 2020organised by ABIC, CCSHAU, Hisar on December 4th, 2020 (Online) | National | 4 December 2020 |
| 28. | 2020 | Dr. Sunita Yadav | Web Conference on "Ensuring Food Safety, Security and Sustainability through Crop Protection" organized by BHU, Sabour, Bhagalpur | International | 5-6, August 2020 |
| 29. | 2020 | Dr. Sunita Yadav | Webinar on Diversification in Agriculture: Enhancement in farmers income organized by Department of Forestry, CCSHAU, Hisar | National | 22 August 2020 |
| 30. | 2020 | Dr. Sunita Yadav | Online training on 'Farm Equipment for Plant Health Management' organized by National Institute of Plant Health | National | 29 to 31 October, 2020 |

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| | | | Management, Hyderabad | | |
| 31. | 2020 | Dr. Sunita Yadav | Webinar on Health as a Driver of Plant Biosecurity, | International | 26 November, 2020 |
| 32. | 2020 | Dr. Sunita Yadav | Food Security and Sustainable Agriculture' organized on the eve of International Year of Plant Health 2020 by National Institute of Plant Health Management, Hyderabad | National | 16, December 2020 |
| 33. | 2020 | Dr. Sunita Yadav | Refresher Course on "Extension Management" organized by Academy of Agricultural Research and Education Management, Directorate of HRM, CCSHAU, Hisar | National | 11 -31 December, 2020 |
| 34. | 2021 | Dr. Sunita Yadav | National Web-symposium on Recent Advances in Beneficial Insects and Natural Resins & Gums held at ICAR-IINRG, Ranchi | National | 25 -26 February 2021 |
| 35. | 2021 | Dr. Sunita Yadav | Online training on 'Invasive Alien Species: Introduced and Emerging Pests' organized by National Institute of Plant Health Management, Hyderabad | National | 06 to 08 April, 2021 |
| 36. | 2021 | Dr. Sunita Yadav | National Webinar on "Beekeeping : Opportunities and Challenges" organized by AICRP (Honeybee and Pollinator), Division of Entomology, Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, J&K (UT) | National | 20 -21 May, 2021 |
| 37. | 2021 | Dr. Krishna Rolania | Recent Advances in Beneficial Insects, Natural Resins and Gums (By virtual mode) | National | 25 - 26 February, 2021 |
| 38. | 2020 | Dr. Krishna Rolania | Agricultural Resource Management for Atmanirbhar Bharat (By virtual mode) | National | 17 -19 July, 2020 |
| 39. | 2021 | Dr. Deepika Kalkal | Recent Advances in Beneficial Insects, Natural Resins and Gums (By virtual mode) | National | 25 - 26 February, 2021 |
| 40. | 2020 | Dr. Deepika Kalkal | Refresher Course on "Extension Management" organized by Academy of Agricultural Research and Education Management, Directorate of HRM, CCSHAU, Hisar | National | 11 -31 December, 2020 |
| 41. | 2021 | Dr. Swati Mehra | Recent Advances in Beneficial Insects and Natural Resins & Gums, held at ICAR-IINRG, Ranchi | National | 25 - 26 February, 2021 |
| 42. | 2021 | Dr. Swati Mehra | Priorities in crop protection for sustainable agriculture, held at CAU, Imphal | National | 16 to 18 March, 2021 |
| 43. | 2021 | Dr. Swati Mehra | "Digital Library framework for strengthening agricultural knowledge" organised by Nehru | National | 17 to 19 February, 2021 |

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| | | | Library CCSHAU, Hisar | | |
| 44. | 2021 | Dr. Swati Mehra | Referesher course on Educational Technology organized by the Academy of Agricultural Research and Education Management (AAREM) at DHRM, CCSHAU, Hisar. | National | 21 September to 11 October, 2021 |
| 45. | 2021 | Dr. Swati Mehra | Training 'On-Farm Production of Bio-Control Agents and Microbial Bio-Pesticides' organized by National Institute of Plant Health Management, Hyderabad | National | 13 to17 September, 2021 |
| 46. | 2021 | Dr. Swati Mehra | Webinar on "Insect Systematics: Importance, Challenges and Way forward" organised by ICAR-National Bureau of Agricultural Insect Resources, Bengaluru in Virtual mode | National | 29 January, 2021 |
| 47. | 2020 | Dr. Lomash Kumar | Awareness and use of e-resources through Remote Login for faculty and students of CCSHAU" on 23.06.2020 at Nehru Library, CCSHAU, Hisar. | National | 23 June, 2020 |
| 48. | 2020 | Dr. Lomash Kumar | Stored Product Protection in Era of Climate Change | National | 23rd-24 July, 2020 |
| 49. | 2020 | Dr. Lomash Kumar | Fruit Fly: Surveillance and Management | National | 07-11 December 2020 |
| 50. | 2020 | Dr. Lomash Kumar | Recent Trends in Plant Biosecurity– International and National Perspectives | National | 04 December, 2020 |
| 51. | 2021 | Dr. Lomash Kumar | Career Opportunities in Entomological Science | National | 28 -29 June, 2021 |
| 52. | 2020 | Dr. Manoj Kumar Jat | Agricultural Resource Management for Atmanirbhar Bharat (By virtual mode) | National | 17 to 19 July, 2020 |
| 53. | 2021 | Dr. Manoj Kumar Jat | Beekeeping: opportunities and challenges (By virtual mode) | National | 20 -21 May, 2021 |
| 54. | 2021 | Dr. Manoj Kumar Jat | Priorities in crop protection for sustainable agriculture (By virtual mode) | National | 16 -18 March, 2021 |
| 55. | 2020 | Dr. Manoj Kumar Jat | National Level Online Training programme Recent advances in entomology- new dimensions to invigorate the insect pest management (By virtual mode) | National | 7 -18 December, 2020 |
| 56. | 2021 | Dr. Ankit Kumar | Training "On-Farm production of Bio-control agents and Microbial bio- pesticides, NIPHM Hyderabad. | National | 13 -17 April 2021 |
| 57. | 2021 | Dr. Sunita Yadav | Attended one day Webinar on 'Bio control- A global Sustainable Approach for Ecofriendly Agriculture' organized by NIPHM | National | 24 September, 2021 |

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| 58. | 2021 | Dr. Sunita Yadav | Training on 'Plant Health management in protected Cultivation' organized by NIPHM | National | 4 to 8 October, 2021 |
| 59. | 2021 | Dr. Sunita Yadav | One day Webinar on 'Research Management' | National | 21-Dec-2021 |
| 60. | 2021 | Dr. Sunita Yadav | Webinar on Research Methodology Enhancing the Research Grants organized by Swami Vivekanand Subharti University, U.P. | National | December, 2021 |
| 61. | 2021 | Dr. Sunita Yadav | Online training on "Conservation of Insect Pollinators in Agriculture" organized by NIPHM, Hyderabad | National | 22-24 November 2021 |
| 62. | 2022 | Dr. Sunita Yadav | Winter school on "Commercial Apiculture for Livelihood Security of Farmers and Unemployed Youth" organized by Department of Entomology, PAU, Ludhiana | National | 10 February to 02 March 2022 |
| 63. | 2022 | Dr. Sunita Yadav | Annual meeting of the Indian Phytopathological Society (NZ) & National Symposium on Crop protection through Bio-rational approaches- Current trends and future perspective organized by Indian Phytopathological Society and Department of Plant Pathology, College of Agriculture, CCSHAU, Hisar | National | 10 March 2022 |
| 64. | 2022 | Dr. Krishna Rolania | Crop Protection through bio-rational approaches-current trends and future perspective | National | 10 March 2022 |
| 65. | 2022 | Dr. Krishna Rolania | Mathematical Sciences for Applied and Agricultural Research organized by Department of Mathematics and Statistics, COBS&H, CCSHAU, Hisar sponsored by HSCSIT, Panchkula, Haryana. | National | 22 February 2022 |
| 66. | 2022 | Dr. Deepika Kalkal | Annual meeting of the Indian Phytopathological Society (NZ) & National Symposium on Crop protection through Bio-rational approaches- Current trends and future perspective organized by Indian Phytopathological Society and Department of Plant Pathology, College of Agriculture, CCSHAU, Hisar | National | 10 March 2022 |
| 67. | 2022 | Dr. Lomash Kumar | Scientific Management of *Apis mellifera* Colonies for Nutritional and Economic Security at CCSHAU, Hisar | National | 25 January to 3 February, 2022 |
| 68. | 2022 | Dr. Lomash Kumar | Recent Innovations in Stored Product Protection for Food and Nutritional Security: A Gateway of Green Agriculture Technology | National | 24 February to 16 March, 2022 |

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| 69. | 2022 | Dr. Lomash Kumar | Crop Protection through Bio-rational Approaches- Current Trends and Future Perspective | National | 10 March, 2022 |
| 70. | 2022 | Dr. Manoj Kumar Jat | Commercial Apiculture for Livelihood Security of Farmers and Unemployed Youth | National | 10 February to 02nd March, 2022 |
| 71. | 2021 | Dr. Manoj Kumar Jat | Conservation of Insect Pollinators in Agriculture | National | 22nd to 24 November, 2021 |
| 72. | 2021 | Dr. Manoj Kumar Jat | Alternate cropping systems for climate and resource conservation (By virtual mode) | International | 29 Sep. to 01 Oct. 2021 |
| 73. | 2021 | Dr. Manoj Kumar Jat | Fruits, vegetables and tropical tubers in shaping global food and nutrition security (By virtual mode) | International | 12 November, 2021 |
| 74. | 2021 | Dr. Manoj Kumar Jat | Remote sensing innovations for smart and precision Agriculture (By virtual mode) | National | 12 July, 2021 |
| 75. | 2021 | Dr. Manoj Kumar Jat | Emerging trends in plant Physiology (By virtual mode) | National | 28 June, 2021 |
| 76. | 2022 | Dr. Ankit Kumar | National symposium on crop protection through Bio-rational approaches-Current Trends and Future Perspective & Annual Meeting of Indian Phytopathological Society at CCSHAU, Hisar | National | 10 March, 2022 |
| 77. | 2023 | Dr. Sunita Yadav | International Conference on Climate Resilient Agriculture for Food Security and Sustainability at CCSHAU, Hisar | International | 17 -19 February, 2023 |
| 78. | 2022 | Dr. Krishna Rolania | International Conference on "Sustainable Agricultural Innovations for Resilient Agri-Food Systems" at Sher-e-Kashmir University and Technology of Jammu, India. | International | 13 to 15 October, 2022 |
| 79. | 2023 | Dr. Krishna Rolania | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at CCS Haryana Agricultural University, Hisar | International | 17 -19 February, 2023 |
| 80. | 2022 | Dr. Deepika Kalkal | National Symposium on "Paradigm shift in cotton cultivation" at MPUAT, Udaipur | National | 8 -10 August, 2022 |
| 81. | 2023 | Dr. Deepika Kalkal | Refresher course on"Entrepreneurial Prospects in Agricultural and Allied Sciences" at DHRM, CCSHAU, Hisar | National | 10 30 January,2023 |
| 82. | 2023 | Dr. Deepika Kalkal | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at CCS Haryana Agricultural University, Hisar | International | 17 -19 February, 2023 |

## 6. Department of Forestry

| Sr. No. | Year | Name of faculty | Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc. | National /International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Karan Singh Ahlawat | 14th National silviculture conference on forest and sustainability: Securing a common future | National | 3-5 December, 2018 |
| 2. | 2019 | Dr. Karan Singh Ahlawat | 14thInternational symposium on Innopreneurship: A need of sustainable agriculture | International | 2-3 February, 2019 |
| 3. | 2019 | Dr. Karan Singh Ahlawat | International conference on climate change towards health and agricultural sustainability | International | 18-20, February 2019 |
| 4. | 2020 | Dr Virender Dalal | International Conferenceon "New Millennia Noval Trends and Future Scenario" held at CCSHAU, Hisar | International | 6-8 November,2020 |
| 5. | 2019 | Dr Virender Dalal | Refresher Course on Research Management conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 25th July-14thAugust,2019 |
| 6. | 2019 | Dr Pawan Kr Poonia | "Induction Trainingcourse" Organized by DHRM, CCSHAU, Hisar | National | 18 November to 17 December, 2019 |
| 7. | 2019 | Dr Pawan Kr Poonia | Workshop on "Awareness and use of Scopuscitation database"organized by Nehru Library,CCSHAUHisar | National | 29 November,2019 |
| 8. | 2019 | Dr. Chhavi Sirohi | International Conference on "Climate Change towards Health and Agricultural Sustainability (CCHAS-2019)" held at GJUS&T, Hisar | International | 18-20, February 2019 |
| 9. | 2019 | Dr. Chhavi Sirohi | International Symposium on "Innopreneurship: A need of Sustainable Agriculture" held at CCSHAU, Hisar | International | 02-03, February 2019 |
| 10. | 2018 | Dr. Chhavi Sirohi | Forum on Climate Science (CTWF), International Symposium and Workshop on Ecohydrology and Climate Change held in Beijing, China | International | 17-21, September 2018 |
| 11. | 2019 | Dr. Chhavi Sirohi | 4th World Congress on Agroforestry, held at Montpellier, France with full funding of French Agricultural Research Centre for International Development (CIRAD) and French National Institute for Agricultural Research (INRA), Montpellier, France | International | 20-22, May 2019 |

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| 12. | 2019 | Dr. Chhavi Sirohi | Sixth International Casuarina Workshop on "Casuarinas for green economy and environmental sustainability" held at Krabi, Thailand with full funding of International Union of Forest Research Organizations (IUFRO) in collaboration with Kasetsart University, Bangkok | International | 21-25, October 2019 |
| 13. | 2019 | Dr. Chhavi Sirohi | Golden Jubilee International Conference on "New Millennia Agriculture Novel Trends & Future Scenario" held at CCS Haryana Agricultural University, Hisar | International | 6-8, November 2019 |
| 14. | 2019 | Dr. Chhavi Sirohi | ICAR sponsored Winter School on "Agroforestry for Climate Change Mitigation, Biodiversity Conservation and Resilience in Agroecological Systems: Current Trends and Future Strategies" held at College of Forestry, Kerala Agricultural University, Thrissur, Kerala | National | 03 - 23 December, 2019 |
| 15. | 2019 | Dr. Karan Singh Ahlawat | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario GINMA-2019, at CCSHAU Hisar, Haryana. | International | 6-8, November 2019 |
| 16. | 2019 | Dr. Karan Singh Ahlawat | Winter School on "Agroforestry for Climate Change Mitigation, Biodiversity Conservation and Resilience in Agroecological Systems: Current Trends and Future Strategies" College of Forestry, Kerala Agricultural University, Thrissur, Kerala | National | 03 to 23 December, 2019 |
| 17. | 2020 | Dr Virender Dalal | International Webinar on " Combating Hidden Huger-Obstacles and Interventions forSustainability"organised by Department of Food and Nutrition, I.C. College of Home Sciences, CCSHAU | National | 19th September, 2020 |
| 18. | 2020 | Dr Pawan Kr Poonia | "National Webinar on Awareness and Use of CeRA Resources through Gate Discovery Platform" organized by Nehru Library, CCSHAU Hisar | National | 25 June 2020 |
| 19. | 2020 | Dr Pawan Kr Poonia | Online training on "Extension management" organized by DHRM, CCSHAU Hisar | National | 11-31 December 2020 |
| 20. | 2020 | Dr Sushil Kumari | One day Webinar on Environment Day | National | 05 June 2020 |
| 21. | 2020 | Dr Sushil Kuma ri | One day Webinar on "Diversification in Agriculture: Innovative Programme to Improve | National | 22 August 2020 |

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| | | | Livelihood of Farmers | | |
| 22. | 2020 | Dr Sushil Kumari | 21days Refresher Course on "Statistical Tool& techniques for Analysis of Agricultural Data" | National | 08-28 July, 2020 |
| 23. | 2020 | Dr Sushil Kumari | "Induction Training course" organized by AAREM, CCSHAU, Hisar | National | 09 September 2020 to 09 October 2020 |
| 24. | 2020 | Dr. Karan Singh Ahlawat | Refresher course on "Statistical tools and techniques for analysis of agricultural data" conducted by the academy of agricultural research and education management, | National | 08-28 July,2020 |
| 25. | 2021 | Dr. Karan Singh Ahlawat | National Training Programme on "Biophysical and socioeconomics interactions in agroforestry | National | 16th February to 8th March 2021 |
| 26. | 2021 | Dr Virender Dalal | "Dragon fruit in Haryana"organized by horticulture training institute, Department of Horticulture, Haryana held at HTl, Uchani (Karnal) | National | 20 July 2021 |
| 27. | 2021 | Dr Pawan Kr Poonia | International conference on GRISAAS-2021 held at SKRAU, Bikaner, Rajasthan | National | 13-15th December 2021 |
| 28. | 2021 | Dr Sushil Kumari | Training program on "Climate change, impact, assessment and mitigation in Agriculture" (Online mode) | National | 04 – 06, January 2021 |
| 29. | 2021 | Dr Sushil Kumari | National ICAR -NAHEP-CAAST Training on "Biophysical and Socioeconomic Interactions in Agroforestry | National | 16 February 21 to 8 March 2021 |
| 30. | 2021 | Dr Sushil Kumari | International conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences | International | 17 March 2021 |
| 31. | 2021 | Dr Sushil Kumari | Workshop on "Forestry Research, Sustainable Management and Livelihood | International | 05-13 December 2021 |
| 32. | 2021 | Dr. Chhavi Sirohi | International Commission on Poplars and other fast growing Trees sustaining People and the Environment (IPC) "Poplars in Indian Agroforestry and way forward through online mode | International | 5-8 October, 2021 |
| 33. | 2023 | Dr. Karan Singh Ahlawat | Refresher Course on" Entrepreneurial Prospects in Agricultural and Allied Sciences" Organised by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 10-30, January 2023 |
| 34. | 2023 | Dr. Karan Singh Ahlawat | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability at CCSHAU, Hisar | International | 17-19, February 2023 |

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| 35. | 2022 | Dr Pawan Kr Poonia | International conferenceon ICAAAS-2022 held at Shimla | National | 12-14 June 2022 |
| 36. | 2023 | Dr Pawan Kr Poonia | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability at CCSHAU, Hisar | International | 17-19, February 2023 |
| 37. | 2022 | Dr Sushil Kumari | International conference NAHEP on climate Resilient Agriculture for Food Security and Sustainability | International | 17-19 February 2022 |
| 38. | 2022 | Dr. Chhavi Sirohi | World Congress of Agroforestry held in Quebec, Canada through online mode | International | 17-20 July, 2022 |
| 39. | 2022 | Dr. Chhavi Sirohi | International Training on Diversification of Costal Agroecosystems for Climate Resilience and Livelihood Security at Goa organized by World Agroforestry (ICRAF), New Delhi in collaboration with the ICAR-Central Agricultural Research Institute (CCARI), Goa | International | 07-11, November 2022 |
| 40. | 2023 | Dr. Chhavi Sirohi | NAHEP International Conference on Climate Resilient Agriculture for Food Security and Sustainability organized by CCSHAU, Hisar | International | 17-19, February 2023 |

## 7. Department of Genetics & Plant Breeding

| Sl. No | Year | Name of faculty | Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc. | National /International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Ravika | Training course on "Enhancing Crop Productivity through Biotechnology Tools and Techniques" conducted by the Department of Molecular Biology, Biotechnology & Bioinformatics, CCSHAU, Hisar | National | 19 June – 9 July 2018 |
| 2. | 2018 | Dr Vinod Kumar | Training course "Refresher Course in Educational Technology "at DHRM, CCSHAU, Hisar. | National | 21 July to 10 August, 2018 |
| 3. | 2018 | Dr. Karmal Singh | National seminar on Agrometerology for sustainable development. | National | 12-14 Oct, 2018 |
| 4. | 2018 | Dr. Rajesh Yadav | Annual Group Meet of AICRP on MULLaRP and Arid Legumes (*kharif* crops) held at SDAU, SK Nagar, Gujarat | National | 28-30, April 2018 |
| 5. | 2018 | Dr. Promil Kapoor | Annual Group Meet of AICRP on Chickpea held at RARI, Jaipur, Rajasthan | National | $17^{th}$-$18^{th}$ August 2018 |
| 6. | 2018 | Dr. Yogender Kumar | Use of Biotechnology and Bioinformatics tools for genome analysis organized by Department of Molecular Biology, | National | 17 July to. 7 Aug, 2018 |

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| | | | Biotechnology & Bioinformatics, CCSHAU, Hisar. | | |
| 7. | 2018 | Dr. Yogender Kumar | 56th All India Wheat and Barley Research Workers Meet held at BHU, Varanasi (UP). | National | 25-28, August 2018 |
| 8. | 2018 | Ms. Priyanka | Induction Training course conducted by the Academy of Agriculture Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 07th- June 07th July, 2018 |
| 9. | 2018 | Dr. Vikram Singh | Annual Group Meet of AICRP on Wheat & Barley held at BHU, Varanasi | National | 25-28 August 2018 |
| 10. | 2018 | Dr. Vikram Singh | Refresher Course on "Computer Applications" organized by DHRM, CCSHAU, Hisar | National | 16th May to 5th June 2018 |
| 11. | 2018 | Dr. Yogesh Jindal | National Symposium on New directions in managing forage resources and livestock productivity in 21st century: Challenges and Opportunities" | National | 3-4 March 2018 |
| 12. | 2018 | Dr. Yogesh Jindal | "International Conference on Triticale Biology, Breeding and Production" at Plant Breeding and Acclimatization Institute & National Research Institute, IHAR-PIB, Radzików, Poland. | International | 2-5, July 2018 |
| 13. | 2018 | Dr. Anil | Induction training course organized by the Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 07 June – 07 July, 2018 |
| 14. | 2018 | Dr. Minakshi Devi | Seminar on Elsevier empowering Agricultural research in India in association with CeRA at CCSHAU, Hisar | National | 24 Aug., 2018 |
| 15. | 2018 | Dr. Shiwani Mandhania | 9thNational Extension Education Congress on "Climate smart Agricultural Technologies: Innovations and Interventions", CAU, Imphal, Ranipool | National | 15- 17 November, 2018 |
| 16. | 2018 | Dr. Sandeep Kumar | Induction training course organized by the Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 29 November- 29 December, 2018 |
| 17. | 2018 | Dr. Minakshi Devi | Induction training course organized by the Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 29 November- 29 December, 2018 |

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| 18. | 2018 | Dr. Rajesh Yadav | Annual Group Meet of AICRP on MULLaRP and Arid Legumes (kharif crops) held at ANGRAU, Lam, Guntur, AP | National | 30-Apr-2018 |
| 19. | 2018 | Dr. Uma Devi | Workshop on Digital Field Book organized by Forage section in collaboration with Dr. Ram Dhan Singh Chair, Department of genetics and Plant Breeding, CCSHAU, Hisar. | National | 10 December 2018 |
| 20. | 2018 | Dr. Sunil Kumar | Induction training course organized by the Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 29 November to 29 December 2018 |
| 21. | 2018 | Dr. NishaKumari | Refresher Course on Computer Application conducted by AARM, DHRM, CCSHAU, Hisar | National | 16 May, 2018 to 05 June, 2018 |
| 22. | 2018 | Dr. Rakesh Punia | Induction training course organized by the Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 07 June to 07 July 2018 |
| 23. | 2018 | Dr. Yogender Kumar | Enhancing crop productivity through biotechnological tools and techniques" organized by Department of Molecular Biology, Biotechnology & Bioinformatics, CCSHAU, Hisar. | National | 19 June to 9 July, 2018 |
| 24. | 2018 | Dr. Yogender Kumar | 57$^{th}$All India Wheat and Barley Research Workers Meet held at BAU, Ranchi (Jharkhand). | National | 24-26, August 2018 |
| 25. | 2018 | Dr. Divya | Workshop on Digital field book organized by Forage Section and Dr. Ram Dhan Singh Chair, Department of Genetics & Plant Breeding in collaboration with Directorate, Human Resource Management, CCSHAU, Hisar | National | 10 December 18 |
| 26. | 2018 | Dr. Divya | Seminar on Intellectual Property Rights- A Mechanism for Social Economic Growth organized by DHRM, CCSHAU, Hisar. | National | 22 November 2018 |
| 27. | 2018 | Dr. Divya | State Level Biosafety Capacity Building Workshop held organized by CCSHAU, Hisar and Biotech Consortium India Limited, New Delhi at CCSHAU, Hisar. | National | 14 March 2018 |
| 28. | 2018 | Dr. Pummy Kumari | Training course on "Enhancing Crop Productivity through Biotechnological Tools and Techniques" | National | 19 June- 9 July, 2018 |

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| 29. | 2018 | Dr. Satpal | XXI Biennial National Symposium of Indian Society of Agronomy on "Doubling Farmers' Income Through Agronomic Interventions Under Changing Scenario" | National | 24-26, Oct 2018 |
| 30. | 2019 | Dr. Mukesh Kumar | International training under NAHEP-IDP on "Molecular Breeding"at Department of AgribiotechnologyTulln, Institute of Biotechnology in Plant Production, University of Natural Resources and Life Sciences, Vienna, Austria | International | 29 March - 26 June 2019 |
| 31. | 2019 | Dr. Mukesh Kumar | International workshop on "Plant Phenotyping and Remote Sensing" at University of Natural Resources and Life Sciences, Vienna, Austria | International | 13 June 2019 |
| 32. | 2019 | Dr. Ravika | Symposium on advances in agrometerology for managing climatic risks of farmers (INAGMET-2019) New Delhi. | International | 11-13 February 2019 |
| 33. | 2019 | Dr. Sandeep Kumar | International Symposium on "Innopreneurship: A need of sustainable Agriculture" at CCSHAU, Hisar | International | 2-3 February, 2019 |
| 34. | 2019 | Dr. Minakshi Devi | International Symposium on "Innopreneurship: A need of sustainable Agriculture" at CCSHAU, Hisar | International | 2-3 February, 2019 |
| 35. | 2019 | Dr. Subhash Chander | International Symposium on Innopreneurship: A Need of Sustainable Agriculture at Chaudhary Charan Singh Haryana Agricultural University, Hisar | International | 2-3 February, 2019 |
| 36. | 2019 | Dr. Yogender Kumar | International Symposium on Innopreneurship: A Need of Sustainable Agriculture organized by Directorate of Research, CCSHAU, Hisar. | International | 2-3, February 2019 |
| 37. | 2019 | Ms.Priyanka | Symposium on "Innopreneurship: A need of Sustainable Agriculture" at CCSHAU, Hisar | International | 2-3 Feb, 2019 |
| 38. | 2019 | Dr. Satpal | "International Symposium on "Innopreneurship: A need of Sustainable Agriculture" at CCSHAU, Hisar | International | 2-3, February 2019 |
| 39. | 2019 | Dr. Yogesh Jindal | "International Symposium on "Innopreneurship: A need of Sustainable Agriculture" at CCSHAU, Hisar | International | 2-3, February 2019 |
| 40. | 2019 | Dr J M Sutaliya | Induction Training course conducted by the Academy of Agriculture Research and Education Management, Directorate of Human Resource | National | 18 November to 17 December 2019 |

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| | | | Management, CCSHAU, Hisar | | |
| 41. | 2019 | Dr. Anil Kumar Saini | National Workshop on Production, Processing and Value Addition of Nutri-Cereals (Millets) in India | National | 16 September, 2019 |
| 42. | 2019 | Dr. Somveer | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends &Future Scenario | International | 6-8 November, 2019 |
| 43. | 2019 | Dr. Anil | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends &Future Scenario | International | 6-8 November, 2019 |
| 44. | 2019 | Dr. Sandeep Kumar | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends &Future Scenario | International | 6-8 November, 2019 |
| 45. | 2019 | Dr. Anil Kumar Saini | Induction Training course conducted by the Academy of Agriculture Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 18 November - 17 December, 2019 |
| 46. | 2019 | Dr. Anil Kumar Saini | Workshop on Awareness and Use of Scopus Citation Database | National | 29 November, 2019 |
| 47. | 2019 | Dr. Rajesh Yadav | Annual Group Meet on Rabi Pulses of AICRP on MULLaRP crops' held at Central Agril. University, Imphal, Manipur | National | 12-13, September 2019 |
| 48. | 2019 | Dr. Rajesh Yadav | Annual Group Meet on Mungbean, Urdbean, Cowpea and Guar for Spring, Summer & Rice Fallow Cultivation" at BARC, Trombay, Mumbai. | National | 11-12, November 2019 |
| 49. | 2019 | Dr. Lakshmi Chaudhary | Induction training course organized by the Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 1 June to 1 July 2019 |
| 50. | 2019 | Dr. Lakshmi Chaudhary | International Symposium on "Innopreneurship: A need of Sustainable Agriculture" at CCSHAU, Hisar | National | 2-3 February, 2019 |
| 51. | 2019 | Dr. Sunil Kumar | Annual Chickpea Group Meet of All India Coordinated Research Project on Chickpea (ICAR) held at Birsa Agricultural UniversityKanke, Ranchi, Jharkhand | National | 27-29 August 2019 |
| 52. | 2019 | Dr. Promil Kapoor | Golden Jubilee International Conference on New Millennia Agriculture-Novel trends and Future Scenario, CCSHAU, Hisar | National | 6-8, November 2019 |
| 53. | 2019 | Dr. Subhash | Golden Jubilee International | International | 6-8 |

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| | | Chander | Conference on New Millennia Agriculture- Novel Trends and Future Scenario at Chaudhary Charan Singh Haryana Agricultural University, Hisar | | November, 2019 |
| 54. | 2019 | Dr. Shweta Malik | Recent Advances in Sample Survey and Data Analysis Using Statistical Software at Division of Sample SurveysICAR-IASRI, Library Avenue, Pusa, New Delhi -12 | National | 28 November -18 December 2019 |
| 55. | 2019 | Dr. Nisha Kumari | Omics meet plant biochemistry: Applications in nutritional enhancement with one health perspective at IARI, New Delhi | National | 27-Jul-2019 |
| 56. | 2019 | Dr. Vinod Goyal | Building an operational composite drought monitoring index for India at IARI, New Delhi | National | 19-Feb-2019 |
| 57. | 2019 | Dr. Yogender Kumar | 58th All India Wheat and Barley Research Workers Meet held at IARI, RS, Indore (MP). | National | 24-26, August 2019 |
| 58. | 2019 | Dr. Yogender Kumar | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held at CCSHAU, Hisar. | International | 6-8, November 2019 |
| 59. | 2019 | Ms. Priyanka | All India Wheat and Barley Research Workers' Meet held at ICAR-IARI, Regional Station, Indore | National | 24$^{th}$-26$^{th}$Aug 2019 |
| 60. | 2019 | Ms. Priyanka | National Symposium on "Nematodes: A threat to food security & farmer's livelihood" at Manipur University, Imphal, Manipur | National | 11$^{th}$-13$^{th}$Dec 2019 |
| 61. | 2019 | Dr. Vikram Singh | Training on "Crop improvement through biotechnological tools and techniques" organized by the Department of Molecular Biology, Biotechnology and Bioinformatics, College of Basic Science and Humanities, CCSHAU, Hisar | National | 19 June-10 July , 2019 |
| 62. | 2019 | Dr. Vikram Singh | Training on "New approaches in seed technology for quality assurance" organized at Department of Seed Science & Technology, CCSHAU, Hisar in collaboration with Massey University, New Zealand | International | 20-29, November 2019 |
| 63. | 2019 | Dr. M S Dalal | Training on "Crop improvement through biotechnological tools and techniques" organized by the Department of Molecular Biology, Biotechnology and Bioinformatics, College of Basic Science and Humanities, CCSHAU, Hisar | National | 19 June -10 July, 2019 |

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| 64. | 2019 | Dr. M S Dalal | Training on "New approaches in seed technology for quality assurance" organized at Department of Seed Science & Technology, CCSHAU, Hisar in collaboration with Massey University, New Zealand | International | , 20-29, November 2019 |
| 65. | 2019 | Dr. Ravish Panchta | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends & Future Scenario at CCSHAU, Hisar | International | 6-8, November 2019 |
| 66. | 2019 | Dr. Ravish Panchta | International Conference on Innovations and Animal Sciences for Sustainable Agriculture and Rural Development | International | 07-09, December 2019 |
| 67. | 2019 | Drs. Ravish Panchta, | Three weeks training course on "Crop Improvement through Biotechnological Tools and Techniques at CCSHAU, Hisar | National | 19 June -10 July, 2019 |
| 68. | 2019 | Dr. Satyawan Arya | Three weeks training course on "Crop Improvement through Biotechnological Tools and Techniques at CCSHAU, Hisar | National | 19 June -10 July, 2019 |
| 69. | 2019 | Dr. Neeraj Kharor | Induction Training course conducted by the Academy of Agriculture Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 18 November - 17 December, 2019 |
| 70. | 2019 | Dr. Yogesh Jindal | "International Conference on Reliable Renewable Energies for Off-Grid Empowering Rural Habitats" held at The Nordic Folkecenter for Renewable Energy, Hurup Thy, Denmark. | International | 25 –29 August 2019 |
| 71. | 2019 | Dr. Yogesh Jindal | "Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario" at CCSHAU, Hisar | International | 6-8, November 2019 |
| 72. | 2019 | Dr. Pummy Kumari | International conferences Harnessing Scientific, Technological Innovations and Sustainable Development in Africa and Asia Entrepreneurship for held at HAWK University, Gottingen, Germany | International | 2-5, September 2019 |
| 73. | 2019 | Dr J M Sutaliya | "Golden Jubilee International Conference on "New Millennia Agriculture" organized by Directorate of Research, CCS Haryana Agricultural University, Hisar (Haryana) | International | 6-8, November 2019 |

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| 74. | 2019 | Dr R. K. Arya | Conference on: Neglected and Underutilized Crop Species for Food, Nutrition, Energy and Environment' held in NIPGR, New Delhi. | National | 2 August 2019 |
| 75. | 2019 | Dr Ravi Kumar | Conference on: Neglected and Underutilized Crop Species for Food, Nutrition, Energy and Environment' held in NIPGR, New Delhi. | National | 2 August 2019 |
| 76. | 2019 | Dr R. K. Arya | Int. conference on Harnessing Scientific, Technological Innovations and Entrepreneurship for Sustainable Development in Africa And Asia held at HAWK Univ. of Applied Sc. & Arts, Campus Goettingen, Germany. | International | 02 - 04, September 2019 |
| 77. | 2019 | Dr R K Arya | "Golden Jubilee International Conference on "New Millennia Agriculture" organized by Directorate of Research, CCS Haryana Agricultural University, Hisar (Haryana). | International | 6-8, November 2019 |
| 78. | 2019 | Dr Ravi Kumar | "Golden Jubilee International Conference on "New Millennia Agriculture" organized by Directorate of Research, CCS Haryana Agricultural University, Hisar (Haryana). | International | 6-8, November 2019 |
| 79. | 2020 | Dr. Rajesh Yadav | Annual Group Meet on Rabi Pulses of AICRP on MULLaRP crops held at Assam Agricultural University, Jorhat | National | 27 August 2020 |
| 80. | 2020 | Dr Dev Vart | Training on "Education Technology" at DHRM, CCSHAU, Hisar | National | 18, Dec 2019 to 07 Jan, 2020 |
| 81. | 2020 | Dr. Karmal Singh | National Seminar on Agrometeorological Interventions for Enhancing Farmers' Income (AGMET-2020)" scheduled at KAU, Thrissur, Kerala. | National | 20-22, January 2020 |
| 82. | 2020 | Dr. Somveer | Workshop cum training on 'Digital Field book' at ICAR-IIWBR, Karnal. | National | 25 February, 2020 |
| 83. | 2020 | Dr. Rajesh Yadav | Annual Group Meet of AICRP on MULLaRP and Arid Legumes (kharif crops) held online | National | 2-4 June, 2020 |
| 84. | 2020 | Dr. Sunil Kumar | Refresher course on research management" organized by DHRM, CCSHAU, HISAR | National | 8$^{th}$July, 2020 to 28$^{th}$July, 2020 |
| 85. | 2020 | Dr. Sunil Kumar | Training on "Online Expert Workshop "Chickpea, diseases-Detection, Phenotyping and Management jointly by ICRISAT, Patancheru and RAK Collage of | National | 16-18$^{th}$December, 2020 |

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| | | | Agriculture Sehore under the ICAR-AICRP on Chickpea. | | |
| 86. | 2020 | Dr. Lakshmi Chaudhary | Refresher Course on 'Statistical Tools and Techniques for Analysis of Agricultural Data' at CCSHAU, Hisar | National | 8 July- 28 July, 2020 |
| 87. | 2020 | Dr. Mukesh Kumar | Refresher course on "Statistical tools and techniques for analysis of agricultural data by AAREM at CCS Haryana Agricultural University, Hisar | National | 8-28 July 2020 |
| 88. | 2020 | Dr. Vinod Kumar | "Refresher Course on Language Skills" at DHRM, CCSHAU, Hisar. | National | 27 May to 16 June, 2020 |
| 89. | 2020 | Dr. Anil | Refresher Course on 'Statistical Tools and Techniques for Analysis of Agricultural Data' at CCSHAU, Hisar | National | 08 -28 July, 2020 |
| 90. | 2020 | Dr. Sandeep Kumar | Refresher Course on 'Statistical Tools and Techniques for Analysis of Agricultural Data' at CCSHAU, Hisar | National | 08 -28 July, 2020 |
| 91. | 2020 | Dr. Rajesh Yadav | Annual Group Meet on Rabi Pulses of AICRP on MULLaRP crops held online | National | .28, Aug 2020 |
| 92. | 2020 | Dr. Rajesh Yadav | Annual Group Meet on Mungbean, Urdbean, Cowpea and Guar for Spring, Summer & Rice Fallow Cultivation held online | National | 9, December 2020 |
| 93. | 2020 | Dr. Sunil Kumar | Annual Chickpea Group Meet of All India Coordinated Research Project on Chickpea (ICAR) held at IIPR Kanpur, (Online Mode) | National | 25-28, August 2020 |
| 94. | 2020 | Dr. Ram Avtar | Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural at CCSHAU, Hisar | National | 08 July, 2020 to 28 July, 2020 |
| 95. | 2020 | Dr. Rakesh Punia | Preparing and Management of Result Oriented Research Projects in Agriculture, Horticulture, Animal Husbandry and Allied Sectors (Online mode) | National | 26 May to 15 June, 2020 |
| 96. | 2020 | Dr. Dalip Kumar | Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data at CCSHAU, Hisar | National | 08 July, 2020 to 28 July, 2020 |
| 97. | 2020 | Dr. Yogender Kumar | Refresher course on "Statistical Tools and Techniques for analysis of Agricultural Data" organized by DHRM, CCSHAU, Hisar in collaboration with Department of Mathematics and Statistics, COBS&H. | National | 8 July to 28 July, 2020 |
| 98. | 2020 | Dr. Yogender Kumar | All India Wheat and Barley Research Workers Virtual Meet organized by Indian Institute of Wheat and Barley Research (ICAR- | National | 24-25 August, 2020 |

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| | | | IIWBR), Karnal. | | |
| 99. | 2020 | Dr.Satyawan Arya | Three weeks refresher course on Statistical tools and Techniques for Analysis of Agricultural data | National | 08-28, July, 2020 |
| 100. | | Dr. Pummy Kumari | Three weeks refresher course on Statistical tools and Techniques for Analysis of Agricultural data | National | 08-28, July, 2020 |
| 101. | | Dr. Ravish Panchta | Three weeks refresher course on Statistical tools and Techniques for Analysis of Agricultural data | National | 08-28, July, 2020 |
| 102. | | Dr. Satpal | Three weeks refresher course on Statistical tools and Techniques for Analysis of Agricultural data | National | 08-28, July, 2020 |
| 103. | | Dr. Neeraj Kharor | Three weeks refresher course on Statistical tools and Techniques for Analysis of Agricultural data | National | 08-28, July, 2020 |
| 104. | 2020 | Dr R. K. Arya | Refresher Course on "Statistical Tools and Techniques for Analysis of Agricultural data" by DHRM and Department of Mathematics and Statistics, CCSHAU Hisar. | National | 08 -28 July, 2020 |
| 105. | 2021 | Dr. Shweta Malik | Refresher course on Education technology organized by DHRM, CCSHAU, Hisar | National | 11 Aug - 21 Sept, 2021 |
| 106. | 2021 | Dr. Ravika | National Web Conference on 'Sustaining Pulse Production for Self Sufficiency and Nutritional Security' Organized by Indian Society of Pulses Research and Development and ICAR-Indian Institute of Pulses Research, Kanpur. | National | 9-11, February 2021 |
| 107. | 2021 | Dr. Rajesh Yadav | Annual Group Meet of AICRP on MULLaRP and Arid Legumes (kharif crops) held online | National | 27-28 May, 2021 |
| 108. | 2021 | Dr. Lakshmi Chaudhary | National Web Conference on "Sustaining Pulse Production for Self Sufficiency and Nutritional Security" (pulses Webcon2021). Indian Society of Pulses Research and Development and IIPR, Kanpur in collaboration with ICAR-New Delhi. | National | 9-11, Feb 2021 |
| 109. | 2021 | Dr. Uma Devi | Annual Group Meet of AICRP on MULLaRP and Arid Legumes (kharif crops) held (online mode) | National | 27-28, May 2021 |
| 110. | 2021 | Dr. Sunil Kumar | Online training program on "Climate change, impact, assessment and mitigation in Agriculture held Organized by Department of Climate change and Agricultural Meteorology, PAU, Ludhiana | National | 4-6, January 2021 |
| 111. | 2021 | Dr. Sunil Kumar | Online training on "Extension Strategies To Increase Farmers | National | 20 to 24 December |

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| | | | Income organized by Extention Education Institute (EEI) Nilokheri CCSHAU, Hisar and Ministry of Agriculture &Farmers Welfare Govt. of India | | 2021 |
| 112. | 2021 | Dr. Subhash Chander | Online Refresher Course on 'Research Management' held at Academy of Agricultural Research & Education Management, Directorate of Human Resourse Management, CCS Haryana Agricultural University, Hisar | National | 08-28 April, 2021 |
| 113. | 2021 | Dr. Yogender Kumar | Training on Capacity building to improve efficiency of AICRP on wheat and barley organized by Indian Institute of Wheat and Barley Research (ICAR-IIWBR), Karnal. | National | 3-9 March, 2021 |
| 114. | 2021 | Dr. Vikram Singh | Training programme on "Capacity building to improve efficiency of AICRP on wheat & barley" organized by ICAR- IIWBR, Karnal | National | 03-09 March, 2021 |
| 115. | 2021 | Dr. Mukesh Kumar | Training on "Application of Molecular Biology and Bioinformatics tools in Agriculture and Allied Sciences" conducted by Centre of Excellence in Agri-biotechnology and Bioinformatics infrastructure facility, College of Biotechnology, SardarVallabhbhai Patel Univ. Of Agri. & Technology, Meerut | National | 7-20 July, 2021 |
| 116. | 2021 | Dr Dev Vart | Refresher course on Applications of Statistical and Econometric Techniques in Agriculture CCSHAU, Hisar | National | 24 November -14 December 2021 |
| 117. | 2021 | Dr. Rajesh Yadav | Annual Group Meet on Rabi Pulses of AICRP on MULLaRP crops held online | National | 16-17, August 2021 |
| 118. | 2021 | Dr. Rajesh Yadav | Annual Group Meet on Mungbean, Urdbean, Cowpea and Guar for Spring, Summer & Rice Fallow Cultivation held online | National | 6 December 2021 |
| 119. | 2021 | Dr. Rajesh Yadav | Annual Group Meet of AICRP on MULLaRP, Pigeonpea and Arid Legumes (kharif crops) held at CSK HPKV, Palampur | National | 10-11, May 2022 |
| 120. | 2021 | Dr. Uma Devi | Annual Group Meet on Rabi Pulses of AICRP on MULLaRP crops held online. | National | 16-17, Aug 2021 |
| 121. | 2021 | Dr. Uma Devi | Annual Group Meet on Mungbean, Urdbean, Cowpea and Guar for Spring, Summer & Rice Fallow Cultivation held online | National | 6, December 2021 |

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| 122. | 2021 | Dr. Uma Devi | Online Annual Group Meet of AICRP on MULLaRP, Pigeonpeaand Arid Legumes (kharif crops) held at CSK HPKV, Palampur | National | 10-11, May 2022 |
| 123. | 2021 | Dr. Sunil Kumar | Annual Chickpea Group Meet of All India Coordinated Research Project on Chickpea (ICAR) held at IIPR Kanpur, (Online Mode) | National | 17-19, August 2021 |
| 124. | 2021 | Dr. Sunil Kumar | Annual Group Meet on Rabi Pulses (Chickpea &MULLaRP), 2022 Indira Gandhi KrishiVishwavidyalay (IGKV) COA, Raipur. | National | 16 August – 19 August 2021 |
| 125. | 2021 | Dr. Subhash Chander | Refresher Course on 'Educational Technology' held at Academy of Agricultural Research & Education Management, Directorate of Human Resourse Management, CCS Haryana Agricultural University, Hisar | National | 21 September 2021 to 11 October 2021 |
| 126. | 2021 | Dr. Rakesh Punia | Training programme in Accounts for teachers and technical employees for departmental examination organized by DHRM, CCSHAU, Hisar | National | 31 August to 04 September 2021 |
| 127. | 2021 | Dr. Dalip Kumar | Refresher Course on Research Management conducted by Academy of Agriculture Research and Education Management, Directorate of HumanResource Management, CCSHAU, Hisar | National | 08 to 28 April, 2021 |
| 128. | 2021 | Dr. Yogender Kumar | Refresher course on Educational Technology conducted by AAREM, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 21$^{st}$September to 11$^{th}$October, 2021 |
| 129. | 2021 | Dr. Yogender Kumar | 60$^{th}$All India Wheat and Barley Research Workers Meet organized by Indian Institute of Wheat and Barley Research (ICAR-IIWBR), Karnal. | National | 23-24, August 2021 |
| 130. | 2021 | Dr. Satyawan Arya | Refresher Course on Research Management conducted by Academy of Agriculture Research and Education Management, Directorate of HumanResource Management, CCSHAU, Hisar | National | 21 September to 11, October 2021 |
| 131. | 2021 | Dr J M Sutaliya | International Agronomy Congress, at PJTSAU, Hyderabad, Telangana, India, pp. 2198-2200. | National | 22 November 2021 |
| 132. | 2022 | Ms. Priyanka | National symposium on crop protection through Bio-Rational Approaches- Current Trends and | National | 10$^{th}$ March 2022 |

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| | | | future Prospective at CCSHAU, Hisar | | |
| 133. | 2022 | Dr Vinod Kumar | Conference on Plant Pathology: Retrospect and Prospects" by IPS, New Delhi | International | 22-26 March, 2022 |
| 134. | 2022 | Dr Vinod Kumar | Refresher course on extension management conducted by AAREM, DHRM, CCSHAU, Hisar | National | 4-24 May, 2022 |
| 135. | 2022 | Dr K D Sehrawat | Inter-disciplinary Research strategies for climate resilient agriculture at CCSHAU, Hisar | National | 25 June 2022 |
| 136. | 2022 | Dr. Minakshi Devi | Refresher course on "Application of Statistical and Econometric Techniques in Agriculture" at CCSHAU, Hisar | National | 24 November–14 December, 2021 |
| 137. | 2022 | Dr. Sandeep Kumar | Symposium on "Crop Protection through bio-rational approaches - current trends and future perspective" at CCSHAU, Hisar | National | 10 March, 2022 |
| 138. | 2022 | Dr. Minakshi Devi | Symposium on "Crop Protection through bio-rational approaches - current trends and future perspective" at CCSHAU, Hisar | National | 10 March, 2022 |
| 139. | 2022 | Dr. Somveer | National Symposium on 'Paradigm Shift in Cotton Cultivation'at | National | 08-10 August 2022 |
| 140. | 2022 | Dr. Karmal Singh | National Symposium on 'Paradigm Shift in Cotton Cultivation'at | National | 08-10 August 2022 |
| 141. | 2022 | Dr. Shiwani Mandhania | National Symposium on 'Paradigm Shift in Cotton Cultivation'at | National | 08-10 August 2022 |
| 142. | 2022 | Dr. Anil | National Symposium on 'Paradigm Shift in Cotton Cultivation'at | National | 08-10 August 2022 |
| 143. | 2022 | Dr. Sandeep Kumar | National Symposium on 'Paradigm Shift in Cotton Cultivation'at | National | 08-10 August 2022 |
| 144. | 2022 | Dr. Minakshi Devi | National Symposium on 'Paradigm Shift in Cotton Cultivation'at | National | 08-10 August 2022 |
| 145. | 2022 | Dr. Anil Kumar Saini | National Symposium on 'Paradigm Shift in Cotton Cultivation'at | National | 08-10 August 2022 |
| 146. | 2022 | Dr. Uma Devi | "National Seminar cum Webinar on Climate Change Concerns: Challenges for Agriculture Sector and Food and Nutrition Security" organized by ICAR-Indian Institute of Millets Research (IIMR), Hyderabad and Karnataka Agri-Professionals Association (KAPA), Hyderabad | National | 14-15 May, 2022 |
| 147. | 2022 | Dr. Sunil Kumar | ONLINE "International Workshop on Advance Statistical data Analysis using SPSS organized by Science Tech Institute Lucknow. India. | National | 21 January to 27 Jauuary 2022 |

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| 148. | 2022 | Dr. J M Sutaliya | Training on "Entrepreneurship Orientation Program on Medicinal and Aromatic Plants-III (EOMAP-III)." organized by ICAR-DMAR, Anand, Gujrat | National | 21, August 2022 |
| 149. | 2022 | Dr. R. K. Arya | Training on "Entrepreneurship Orientation Program on Medicinal and Aromatic Plants-III (EOMAP-III)." organized by ICAR-DMAR, Anand, Gujrat | National | 21, August 2022 |
| 150. | 2022 | Dr. Rajesh Yadav | Annual Group Meet of AICRP on Rabi Pulses held at IGKV, Raipur | National | 17-18 Aug, 2022 |
| 151. | 2022 | Dr. Uma Devi | Online Annual Group Meet of AICRP on Rabi Pulses held at IGKV, Raipur | National | 17-18, Aug 2022 |
| 152. | 2022 | Dr. Uma Devi | National webinar on "Quit India Movement to Food Secured India" held on 8$^{th}$August, 2022 organized by MaharanaPartapUniversity of Agriculture and Technology, Udaipur (Rajasthan) | National | 8 Aug., 2022 |
| 153. | 2022 | Dr. Lakshmi Chaudhary | Online Annual Group Meet of AICRP on Rabi Pulses held at IGKV, Raipur | National | 17-18, Aug 2022 |
| 154. | 2022 | Dr. Ravika | ICAR sponsored ten days short course on Statistical development for data analytics in Agricultural experimentation held in virtual mode. | National | 27 January – 05 February 2022 |
| 155. | 2022 | Dr. Ravika | Refresher course on "Extension Management" conducted by the Directorate of Human Resource Management, CCSHAU, Hisar. | National | 27 January-05 February, 2022 |

## 8. Department of Horticulture

| Sr. No. | Year | Name of faculty | Name of Seminars/Symposia /Workshops/Training/ Consultancy visits/Special Assignments etc. | National/ International | Date (s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Raj Pal Singh Dalal | Training on "Enhancing crop productivity through biotechnological tools and techniques" organized by Department of MBBB, CCSHAU, Hisar | National | 19 June - 9 July 2018 |
| 2. | 2018 | Dr. Sushil Sharma | Induction training conducted by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 7 June - 7 July 2018 |
| 3. | 2018 | Dr. Sushil Sharma | Training programme in Accounts for teachers and technical employees for departmental examination organized by DHRM, CCSHAU, Hisar | National | 7 -11 May 2018 |

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| 4. | 2018 | Dr. Suresh Kumar | Induction training conducted by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 29 November - 29 December 2018 |
| 5. | 2018 | Dr. Sonu Kumari | Induction training conducted by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 29 November - 29 December 2018 |
| 6. | 2018 | Dr. Sonu Kumari | Workshop on digital field book organized by forage section in collaboration with Dr. Ram Dhan Singh Chair, Dept. of GPB at DHRM, CCSHAU Hisar | National | 10-December 2018 |
| 7. | 2018 | Dr. Satpal | Seminar on "Harnessing Science and Technology Applications through Capacity Building and Economic Policies for Sustainable Development" at Goettingen, Germany | International | 13 - 15 September 2018 |
| 8. | 2018 | Dr. Sushil Sharma | Conference on "Arid Horticulture for Enhancing Productivity and Economic Empowerment" at CIAH, Bikaner. | National | 27-29 October 2018 |
| 9. | 2018 | Dr. Sonu Kumari | Workshop on "Elsevier Empowering Agriculture Research in India" in association with CeRA organized by Nehru Library, CCSHAU, Hisar CeRA at Auditorium of College of Basic Sciences & Humanities | National | 24 August 2018 |
| 10. | 2019 | Dr. Sushil Sharma | International Symposium on "Innopreneurship: A Need of Sustainable Agriculture" held at CCSHAU, Hisar | International | 2-3 February 2019 |
| 11. | 2019 | Dr. Suresh Kumar | International Symposium on " Innopreneurship: A Need of Sustainable Agriculture" held at CCSHAU, Hisar | International | 2-3 February 2019 |
| 12. | 2019 | Dr Satpal | Summer School on "Cutting edge epitome of processing, value addition and waste utilisation of horticultural crops for augmenting farmers income" organised by ICAR- CIPHET, Ludhiana Punjab | National | 01-21 November 2019 |
| 13. | 2019 | Dr. Sushil Sharma | Training on "Crop Improvement through Biotechnological Tools & Techniques" organized by Department of Molecular Biology, Biotechnology & Bioinformatics, COBS&H, CCSHAU, Hisar | National | 9th June - 10th July 2019 |
| 14. | 2019 | Dr. Sushil Sharma | International conference on "New Millenia Agriculture – Novel Trends and Future Scenario" held | International | 6-8 November 2019 |

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| | | | at CCS Haryana Agricultural University, Hisar (Haryana) | | |
| 15. | 2019 | Dr. Suresh Kumar | International conference on "New Millenia Agriculture – Novel Trends and Future Scenario" held at CCS Haryana Agricultural University, Hisar (Haryana) | International | 6-8 November 2019 |
| 16. | 2019 | Dr. Sonu Kumari | International Conference on "Innopreneurship: A need of Sustainable Agriculture& Rao Bahadur Dr. Ram Dhan Singh Fifth Memorial Lecture" held at CCSHAU, Hisar. | International | 02-03 February 2019 |
| 17. | 2019 | Dr. Sonu Kumari | International Conference entitled "XIV Agricultural Science Congress: Innovations for Agricultural Transformation" at NASC Complex, Pusa, New Delhi. | International | 20-23 February 2019 |
| 18. | 2019 | Dr. Satpal | International Symposium on "Innopreneurship: need of sustainable Agriculture" organised by CCSHAU, Hisar, | International | 02-03 February 2019 |
| 19. | 2019 | Dr. Satpal | Golden Jubilee International conference on "New millennium agriculture- noval trends and future scenario" organised by CCSHAU, Hisar | International | 06-08 November 2019 |
| 20. | 2019 | Dr. R.P.S. Dalal | Indian Horticultural Congress-2019 at IGKV, Raipur, Chhatishgarh. | National | 17-21 January 2019 |
| 21. | 2019 | Dr. R.P.S. Dalal | "Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario" organized by CCSHAU, Hisar. | International | 6$^{th}$ -8$^{th}$ November 2019 |
| 22. | 2020 | Dr. Sonu Kumari | Massive Open Online Course on "Psychology of Learning" conducted by the ICAR- National Academy of Agricultural Research Management, Hyderabad | National | 1 - 15 May 2020 |
| 23. | 2020 | Dr. Rupali Sharma | National web conference on " Augmenting vegetable productivity through recent techniques" organized by Bihar Agricultural University, Sabour, Bhagalpur | National | 9-10 September 2020 |
| 24. | 2020 | Dr. Sonu Kumari | Online Refresher Course on "Language Skills" conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 27 May 2020 - 16 June 2020 |
| 25. | 2020 | Dr. Sonu Kumari | E-conference on "Opportunities and challenges: Arid Horticulture", organized by SGVU, Jaipur | National | 21-22 October 2020 |

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| 26. | 2021 | Dr. Sonu Kumari | Webinar on "Krishi me vividha-kisaano ki aajivika me sudharkeliye abinav karyakarm" organized by Dept. of Forestery, CCSHAU, hisar | National | 22 August 2021 |
| 27. | 2021 | Dr. Sonu Kumari | International conference on "Global approaches in natural resource management for climate smart agriculture (GNRSA-2020) pandemic era of COVID-19" organised by Shobhit Deemed University, Modipurram, Meerut | International | 26-28 February 2021 |
| 28. | 2021 | Dr. Sonu Kumari | International conference on "Global initiative in agricultural forestry and applied sciences for food security, environmental safety and sustainable development (GIAFS-2021)" held at Dehradoon, UK | International | 17-18 October 2021 |
| 29. | 2021 | Dr. Suresh Kumar | Online Refresher course on "Research management" conducted by AAREM, CCSHAU, Hisar | National | 08-28 April 2021 |
| 30. | 2021 | Dr. Sushil Sharma | National webinar through online mode on " New Paradigm in production and utilization of fruits and vegetables for health and livelihood" organized by CHAI commemorating international year of fruits and vegetables-2021 | International | 11 February 2021 |
| 31. | 2021 | Dr. Sushil Sharma | National webinar "improving quality of Agricultural Research Landscape in India" Organized by Nehru Library, CCSHAU, Hiar | National | 30 June 2021 |
| 32. | 2022 | Dr. Sushil Sharma | Training on "Entrepreneurial prospects in agricultural and allied sciences" Organised by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 3-23 November 2022 |
| 33. | 2022 | Dr. Suresh Kumar | Online training on "Postharvest management and storage techniques" organized by NIPHM, Hyderabad | National | 7-11 March 2022 |
| 34. | 2022 | Dr. Sonu Kumari | International Conference on "Current issues in Agricultural biological and applied sciences for sustainable development (CIABASSD-2022)" held at Darjling, WB. | International | 11-13 June 2022 |
| 35. | 2023 | Dr. Sushil Sharma | International Conference on "Climate Resilient Agriculture for Food Security & Sustainability" held at CCS Haryana Agricultural University, Hisar | International | 17-19 February 2023 |
| 36. | 2023 | Dr. Satpal Baloda | International Conference on | International | 17-19 |

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| | | | "Climate Resilient Agriculture for Food Security & Sustainability" held at CCS Haryana Agricultural University, Hisar | | February 2023 |
| 37. | 2023 | Dr. Sonu Kumari | International Conference on "Climate Resilient Agriculture for Food Security & Sustainability" held at CCS Haryana Agricultural University, Hisar | International | 17-19 February 2023 |
| 38. | 2023 | Dr. R.P.S. Dalal | International Conference on "Climate Resilient Agriculture for Food Security & Sustainability" held at CCS Haryana Agricultural University, Hisar | International | 17-19 February 2023 |
| 39. | 2023 | Dr. Reena Chauhan | Induction training conducted by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 24 January - 23 February 2023 |
| 40. | 2023 | Dr. Savita Rani | Induction training conducted by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 24 January - 23 February 2023 |
| 41. | 2023 | Dr. Prince | Induction training conducted by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar. | National | 24 January - 23 February 2023 |

## 9. Department of Nematology

| Sl. No | Year | Name of Faculty | Section/Department/College Name of Seminars/ Symposia/ Workshops/Training / Consultancy visits / Special assignments etc. | National/International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Sardul Singh Mann | Conference on Agriculture, Horticulture and Plant sciences organized by Society of Tropical Agriculture | International | 28-29 June 2018 |
| 2. | 2018 | Dr. Sardul Singh Mann | Training programme in Accounts for teachers and technical employees for departmental examination organized by DHRM, CCSHAU, Hisar | National | 7 -11 May 2018 |
| 3. | 2019 | Dr. Anil Kumar | Symposium on "Innopreneurship: A Need of Sustainable Agriculture" | International | 2-3 February 2019 |
| 4. | | Dr. Sardul Singh Mann | | | |
| 5. | | Dr. Vinod Kumar | | | |
| 6. | 2019 | Dr. Sardul Singh Mann | Seminar on "Socio digital approaches for transforming Indian agriculture" | National | 20-22 November 2019 |
| 7. | 2019 | Dr. R. S. Kanwar | Symposium on "Nematodes: A threat to food security and farmers livelihood" | National | 11-12 December 2019 |

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| 8. | 2019 | Dr. Saroj Yadav | Conference on Global initiative in Agricultural and Applied Sciences for Ecofriendly Environment | International | 1-2 December 2019 |
| 9. | 2019 | Dr. Prakash Banakar | Cereal Nematode symposium | International | 3-6 November 2019 |
| 10. | | Dr. Vinod Kumar | | | |
| 11. | 2019 | Dr. Sardul Singh Mann | Seminar-2019 on Socio-Digital Approaches for Transforming Indian Agriculture | National | 20-22 November 2019 |
| 12. | 2020 | Dr. Sardul Singh Mann | Refresher Course on Extension Management conducted by Academy of Agriculture Research and EducationManagement, Directorate of Human Resource Management, CCSHAU, Hisar | National | 11-31 December 2020 |
| 13. | 2021 | Dr. Sardul Singh Mann | Web conference on "Global research initiative for sustainable agriculture and allied science" | International | 13-15 December 2021 |
| 14. | 2021 | Dr Saroj Yadav | Webinar on "Facets of Innovation and Development of Plant Nematology" | National | 29-30 October 2021 |
| 15. | 2021 | Dr. Vinod Kumar | Symposium on plant protection in horticulture (NSPPH-2021) | National | 27-29 December 2021 |
| 16. | 2021 | Dr Saroj Yadav | Symposium on plant protection in horticulture (NSPPH-2021) | National | 27-29 December 2021 |
| 17. | 2021 | Dr. Sardul Mann | Online training on "Effective extension methods for upscaling and outscaling of wheat and barleyproduction technologies" | National | 1-10 September 2021 |
| 18. | 2021 | Dr. Vinor Kumar | Online training on "Effective extension methods for upscaling and outscaling of wheat and barleyproduction technologies" | National | 1-10 September 2021 |
| 19. | 2021 | Dr. Anil Kumar | Training on 'Agricultural Research Methodologies, Practices and their Management' at CCSHAU, Hisar | National | 04-24 October 2021 |
| 20. | 2021 | Dr. J. A. Patil | | National | 04-24 October 2021 |
| 21. | 2021 | Dr. Vinor Kumar | Training on "Applications of statistical and econometric techniques in agriculture" at CCSHAU, Hisar | National | 24 November - 14 December 2021 |
| 22. | 2021 | Dr Saroj Yadav | Training on "Applications of statistical and econometric techniques in agriculture" at CCSHAU, Hisar | National | 24 November - 14 December 2021 |
| 23. | 2022 | Dr. Sardul Singh Mann | Symposium on "Crop protection through bio-rational approaches-Current trends and future perspective at CCSHAU, Hisar | National | 10 March2022 |
| 24. | 2022 | Dr. Vinod Kumar | | National | 10 March2022 |

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| 25. | 2022 | Dr. Sardul Mann | Short course on "Scientific management of *Apis mellifera* colonies for nutritional and economic security" at CCSHAU, Hisar | National | 25 January– 3 February 2022 |
| 26. | 2023 | Dr. Prakash Banakar | Conference on Plant Parasitic Nematodes, Bayer Crop Sciences, Bemgaluru | National | 16-18 January 2023 |
| 27. | | Dr. J. A. Patil | | | |
| 28. | | Dr. Chaitra Bhat | | | |
| 29. | 2023 | Dr. Anil Kumar | Conference on Climate Resilient Agriculture for Food Security and Sustainability at CCSHAU, Hisar | International | 17-19 February 2023 |

## 10. Department of Plant Pathology

| Sl .No | Year | Name of Scientist | Title of Conference/ Seminar/Workshop/ Training/Consultancy visits/Special assignments | Naional/ International | Dates |
|---|---|---|---|---|---|
| 1. | 2019 | Dr. Satish Kumar | National Symposium on Trends & Innovations in Mushroom Production Technologies, Diversification, Processing and Consumption Integrated Mushroom R & D Project HAIC R & D Centre, Murthal (Haryana) | National | 3 January - 2 February 2019 |
| 2. | 2018 | Dr. Satish Kumar | National symposium on Alternative Approaches in Plant Health Management for enhancing farmers income. Dr. Y.S. Parmar Univ. of Hort. & Forestry, Nauni, Solan | National | 2-3 November 2018 |
| 3. | 2018 | Dr. Satish Kumar | Presented report in QRT Meeting of Mushroom HAIC Murthal (Sonipat) | National | 2 December 2018 |
| 4. | 2018 | Dr. Kishor Chand | National Symposium on Alternative Approaches in Plant Health Management for Enhancing Farmers' Income" Dr YS Parmar University of Horticulture & Forestry, Nauni, Solan (HP) | National | 2-3 November 2018 |
| 5. | 2018 | Dr. Vinod Malik | National Symposium on Alternative Approaches in Plant Health Management for Enhancing Farmers' Income" Dr YS Parmar University of Horticulture & Forestry, Nauni, Solan (HP) | National | 2-3 November 2018 |

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| 6. | 2018 | Dr. Vinod Malik | Refresher Course in Educational Technology at DHRM, CCSHAU, Hisar | National | 21 July to 10 August 2018 |
| 7. | 2018 | Dr. Vinod Malik | Attended and presented QRT-pearl millet at ICAR, New Delhi | National | 2018 |
| 8. | 2018 | Dr. Rakesh Kumar Chugh | Refresher Course in Educational Technology at DHRM, CCSHAU, Hisar | National | 21 July to 10 August 2018 |
| 9. | 2018 | Dr. Rakesh Kumar Chugh | Attended QRT Meeting of Mushroom at HAIC Murthal (Sonipat) | National | 2 December 2018 |
| 10. | 2018 | Dr. Pooja Sangwan | Induction Training by AAREM, DHRM, at CCSHAU Hisar | International | 29 November 2018 to 29 December 2018 |
| 11. | 2018 | Dr. Promil Kapoor | Induction Training AAREM, DHRM, CCSHAU Hisar | National | 29 November 2018 to 29 December 2018 |
| 12. | 2019 | Dr. Kishor Chand | International Symposium on "Innopreneurship: A need of Sustainable Agriculture" Chaudhary Charan Singh, Haryana Agricultural University, Hisar | International | 2-3 February 2019 |
| 13. | 2019 | Dr. Man Mohan | International Symposium on Innopreneurship: A need of sustainable Agriculture Chaudhary Charan Singh, Haryana Agricultural University, Hisar | International | February 2-3 2019 |
| 14. | 2019 | Dr. Vinod Malik | International Symposium on Innopreneurship: A need of sustainable Agriculture CCS Haryana Agricultural University, Hisar, (Haryana) | International | February 2-3 2019 |
| 15. | 2019 | Dr. Pooja Sangwan | State level Interaction Workshop of stakeholders of Castor at College of Basic Sciences and Humanities, CCSHAU Hisar | National | 15-16 March 2019 |
| 16. | 2019 | Dr. Pooja Sangwan | International symposium on Innopreneurship : A need of Sustainable Agriculture at CCSHAU Hisar | National | 2-3 February 2019 |
| 17. | 2019 | Dr. Mamta | Induction Training AAREM, DHRM, CCSHAU Hisar | National | 29 November 2018 to 29 December 2018 |
| 18. | 2019 | Dr. Rajender Singh | International Symposium on "Innopreneurship: A need of | National | 2-3 February 2019 |

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| | | | Sustainable Agriculture CCSHAU-Hisar | | |
| 19. | 2019 | Dr. Promil Kapoor | International Symposium on "Innopreneurship: A need of Sustainable Agriculture CCSHAU-Hisar | International | 2-3 Feb 2019 |
| 20. | 2019 | Dr. V. K. Malik | New Millennia Agriculture Novel Trends and Future Scenario at CCSHAU, Hisar | International | 6-8 Novembe 2019 |
| 21. | 2019 | Dr. V. K. Malik | National symposium on "Mitigation of emerging plant diseases underchanging climate scenario" Tamil Nadu agricultural university, Coimbatore, Tamil Nadu | National | 16-17 December 2019 |
| 22. | 2019 | Dr. Pankaj | New Millennia Agriculture Novel Trends and Future Scenario CCSHAU, Hisar | National | 6-8 Novembe 2019 |
| 23. | 2019 | Dr. Kushal Raj | Souvenir of One Day National workshop on "Production, Processing & Value Addition of Nutri-Cereals (Millets) in India" at CCSHAU | National | 16 September 2019 |
| 24. | 2019 | Dr. Kishor Chand Kumhar | International symposium Innopreneurship: A need ofsustainable agriculture at CCSHAU, Hisar | International | 2-3 February 2019 |
| 25. | 2019 | Dr. Kishor Chand Kumhar | Golden jubilee international conference on New Millennia agriculture novel trends and future scenario at CCSHAU, Hisar | International | 6-8 November 2019 |
| 26. | 2019 | Dr. Kishor Chand Kumhar | National Symposium on "Mitigation of Emerging Plant Diseases under changing climate scenario" at Tamil Nadu Agricultural University, Coimbatore | National | 16-17 December 2019 |
| 27. | 2020 | Dr. Rakesh Kumar Chugh | National Symposium on Plant Disease Management for Food Security under Climatechange Scenario and Annual Meeting Indian Phytopathological Society (NZ) at Directorate of Wheat and Barley Research Institute, Karnal | National | 9-10 January 2020 |
| 28. | 2020 | Dr. V. K. Malik | National Symposium on Plant Disease Management for Food Security under Climatechange Scenario and Annual Meeting Indian Phytopathological Society | National | 9-10 January 2020 |

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| | | | (NZ) at Directorate of Wheat and Barley Research Institute, Karnal | | |
| 29. | 2020 | Dr. Pooja Sangwan | National conference on Phytopathology in achieving UN sustainable Development goals at New Delhi | National | 16-20 January 2020 |
| 30. | 2020 | Dr. Kishor Chand Kumhar | National Symposium on Plant Disease Management for Food Security under climate change Scenario & Annual Meeting ofIndianPhytopathological Society (North Zone) at Directorate of Wheat and Barley Research Institute, Karnal | National | 9-10 January 2020 |
| 31. | 2020 | Dr Jagdeep Singh | "Mushroom kikheti: Ek labhday ak Vywasay" at CCSHAU Hisar | National | 25- 27 August 2020 |
| 32. | 2021 | Dr. Kushal Raj | National e conference Plant Health and Food Security: Challenges and Opportunities Through virtual mode | National | 25-27 March 2021 |
| 33. | 2021 | Dr. Kushal Raj | INSOPP – National e conference on Recent Trends in Plant Pathology Through virtual mode | National | 4 May 2021 |
| 34. | 2021 | Dr. Pooja Sangwan | National e conference Plant Health and Food Security: Challenges and Opportunities Through virtual mode | National | 25-27 March 2021 |
| 35. | 2021 | Dr. Mamta | National e conference Plant Health and Food Security: Challenges and Opportunities Through virtual mode | National | 25-27 March 2021 |
| 36. | 2021 | Dr. Manjeet | National e conference Plant Health and Food Security: Challenges and Opportunities Through virtual mode | National | 25-27 March 2021 |
| 37. | 2021 | Dr. Rakesh Kumar | National e conference Plant Health and Food Security: Challenges and Opportunities Through virtual mode | National | 2021 |
| 38. | 2021 | Dr. Anil Saini | Integrated management for cotton cultivation at CCSHAU Hisar | National | 22 June 2021 |
| 39. | 2021 | Dr. Anil Saini | Azadi ka Amrut Mahotsava- I at CCSHAU Hisar | National | 23 June 2021 |
| 40. | 2021 | Dr. Anil Saini | Azadi ka Amrut Mahotsava-II at CCSHAU Hisar | National | 07 July 2021 |
| 41. | 2021 | Dr. Anil Saini | Improving quality of agricultural research in India at CCSHAU Hisar | National | 30 June 2021 |

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| 42. | 2021 | Dr. Anil Saini | Horticulture officers' workshop at CCSHAU Hisar | National | 09 July 2021 |
| 43. | 2021 | Dr. Jagdeep Singh | Integrated management for cotton cultivation at CCSHAU Hisar | National | 22 June 2021 |
| 44. | 2021 | Dr. Jagdeep Singh | Improving quality of agricultural research in India at CCSHAU Hisar | National | 30 June 2021 |
| 45. | 2021 | Dr. Jagdeep Singh | National web conference- "Mushroom 2021 Mushroom Biology:Opportunities and challendes" at CCSHAU Hisar | National | 15-17 April 2021 |
| 46. | 2021 | Dr. Jagdeep Singh | Horticulture officers' workshop at CCSHAU Hisar | National | 09 July 2021 |
| 47. | 2022 | Dr. Rakesh Mehra | International conference (Hybrid Mode) on Plant Pathology Sri Karan Narendra Agricultural University, Jobner, Jaipur, Rajasthan | National | 23-26 March 2022 |
| 48. | 2022 | Dr. Narender singh, | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 49. | 2022 | Dr. Narender Kumar Yadav | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 50. | 2022 | Dr. Satish Kumar | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 51. | 2022 | Dr. M. S. Bochalya, | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 52. | 2022 | Dr. Man Mohan, | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 53. | 2022 | Dr. Manjeet Singh | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |

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| 54. | 2022 | Dr. R.S. Chauhan, | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 55. | 2022 | Dr. Vinod Kumar Malik | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 56. | 2022 | Dr. Harbinder Singh | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS HAU, Hisar | National | 10 March 2022 |
| 57. | 2022 | Dr. Promil Kapoor | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 58. | 2022 | Dr. Prashant Chauhan | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 59. | 2022 | Dr. Kishor Chand | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 60. | 2022 | Dr. Pooja Sangwan, | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 61. | 2022 | Dr. Rakesh Kumar Chugh | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 62. | 2022 | Dr. Anil Kumar Saini | Crop Protection through Bio-rational approaches: Current trends and future perspective CCS Haryana Agricultural University Hisar | National | 10 March 2022 |
| 63. | 2023 | Dr. Pawan Kumar Kasniya | Climate Resilient Agriculture for Food Security and Sustainability | International | 17-19 February 2023 |
| 64. | 2023 | Dr. Manjeet | | International | 17-19 February |

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| 65. | 2023 | Dr. Pooja Sangwan | | International | 17-19 February 2023 |
| 66. | 2023 | Ms. Pavitra | | International | 17-19 February 2023 |
| 67. | 2023 | Dr. Mamta | | International | 17-19 February 2023 |
| 68. | 2023 | Dr. Kishor Chand | | International | 17-19 February 2023 |
| 69. | 2023 | Dr. RajenderBeniwal | | International | 17-19 February 2023 |
| 70. | 2023 | Dr. Promil Kapoor | | International | 17-19 February 2023 |
| 71. | 2023 | Dr. Jagmohan | | International | 17-19 February 2023 |
| 72. | 2023 | Dr. Manoj Kumar | | International | 17-19 February 2023 |
| 73. | 2023 | Dr. Harbinder | | International | 17-19 February 2023 |
| 74. | 2023 | Dr. Rakesh | | International | 17-19 February 2023 |
| 75. | 2023 | Dr. Rakesh Kumar Chugh | | International | 17-19 February 2023 |
| 76. | 2023 | Dr. Kushal Raj | Platinum Jubilee Conference on "Plant and Soil Health Management: Issues and Innovations" University of Mysore | National | 2-4 February 2023 |
| 77. | 2023 | Dr Vinod Kumar | "International Pedagogy" for the year 2022-2023 at USA under NAHEP- Institutional Development Plan Project. USA | International | 26 April 2023 |
| 78. | 2023 | Dr. Satish Kumar | Induction training course at AAREM, DHRM, CCSHAU, Hisar | National | 11 January to 10 February 2023 |

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| 79. | 2023 | Dr. Annu | Induction training course at AAREM, DHRM, CCSHAU, Hisar | National | 11 January to 10 February 2023 |
| 80. | 2023 | Dr. Vishal Gandhi | Induction training course at AAREM, DHRM, CCSHAU, Hisar | National | 11 January to 10 February 2023 |

## 11. Department of Seed Science & Technology

| Sl. No | Year | Name of Faculty | Name of Seminars/ conference/ Workshops | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Axay Bhuker | XXXII Annual Group Meeting AICRP-National Seed Project (Crops) held at PAJANCOA & RI, Karaikal (Puducherry) | National | 9-11 May, 2018 |
| 2. | 2018 | Dr. Axay Bhuker | Conference on Food Security and sustainable agriculture" held at Bankok-Pataya, Thailand | International | 21-24 December, 2018 |
| 3. | 2018 | Dr. S.S.Jakhar | Symposium at Dr, YS Parmar University of Horticulture and Forestry. Nauni, Solan, Himachal Pradesh | National | 27-28, October 2018 |
| 4. | 2019 | Dr. Axay Bhuker | Joint Annual Group Meeting of 34$^{th}$ AICRP- NSP (Crops) & 14$^{th}$ Annual Review Meeting, ICAR Seed Project held at CCSHAU, Hisar | National | 7-9 April, 2019 |
| 5. | 2019 | Dr. V.S.Mor | International Symposium "Innopreneurship: A need of sustainable Agriculture" held at CCS Haryana Agricultural University, Hisar. | International | 2-3 February, 2019 |
| 6. | 2019 | Dr. V.S.Mor | Golden Jubilee International Salinity Conference (GJISC) 2019 "Resilient agriculture in saline environments under changing climate: Challenges &Opportunities" held at CSSRI, Karnal. | International | 7-9 February, 2019 |
| 7. | 2019 | Dr. V.S.Mor | 10$^{th}$ National Seed Congress-2019 "Quality seed for Farmers' Prosperity" held at ICAR-IARI, New Delhi in collaboration with National Seed Research & Training Centre Varanasi, UP. | National | 14-16, October 2019 |
| 8. | 2020 | Dr. Axay Bhuker | Virtual meeting of Joint Annual Group Meeting of AICRP on National Seed Project (Crops) &ICAR Seed project | National | 14-15 May, 2020 |
| 9. | 2020 | Dr. Axay Bhuker | National Webinar on" Post COVID-19 Agribusiness: Challenges and Opportunities " organized by the Junagadh Agricultural University, Junagadh. | National | 13-14 June, 2020 |

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| 10. | 2020 | Dr. Axay Bhuker | Webinar on Recent Advancements in Seed Health Management" organized by ICAR- Indian Institute of Seed Science, Mau, UP | National | 05th October, 2020 |
| 11. | 2020 | Dr. V.S.Mor | National Webinar on“ Post COVID-19 Agribusiness: Challenges and Opportunities ” organized by the Junagadh Agricultural University, Junagadh. | National | 13-14, June 2020 |
| 12. | 2021 | Dr. Axay Bhuker | International webinar-cum-workshop on seed testing for quality assurance organized by Division of Seed Science and Technology ICAR-Indian Agricultural research Institute New Delhi and Indo-German cooperation on seed sector development. | International | 06-09 July, 2021 |
| 13. | 2021 | Dr. Puneeth Raj M.S. | International capacity building Webinar-cum-workshop on seed production for Northern zone (mustard, wheat and barley) Organized by ICAR- Indian Agricultural Research Institute, R | International | 12-14, January, 2021 |
| 14. | 2021 | Puneeth Raj M.S. | International Webinar-cum-workshop on seed quality enhancement for Northern zone ICAR- Indian Agricultural Research Institute, New Delhi and CCSHAU, Hisar. | International | 22-24, September, 2021 |
| 15. | 2021 | Dr. V.S.Mor | International capacity building webinar cum workshop on seed production for Northen Zone (Mustard, wheat, Barley) organized by ICAR,IARI Regional station Karnal | International | 12 -14, January 2021 |
| 16. | 2021 | Dr. V.S.Mor | International Webinar-cum-workshop on seed quality enhancement for Northern zone ICAR- Indian Agricultural Research Institute, New Delhi and CCSHAU, Hisar, | International | 22nd to 24th September, 2021 |
| 17. | 2021 | Dr. S.S.Jakhar | International Webinar-cum-workshop on seed quality enhancement for Northern zone ICAR- Indian Agricultural Research Institute, New Delhi and CCSHAU, Hisar, | International | 22nd to 24th September, 2021 |
| 18. | 2022 | Dr. Axay Bhuker | International conference on Design and Application of Multifunctional Materials, Interfaces and Composites (DAM21C-22) organized by School of Engineering & Technology, K.R. Mangalam University, Gurugram, Harayan. | International | 4-6 June, 2022 |

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| 19. | 2022 | Dr. V.S.Mor | Symposium on Paradigm Shift in Cotton cultivation at MPUAT, Udaipur, organized by CRDA, CCSHAU Hisar and MPUAT, Udaipur in collaboration with ICAR, New Delhi | National | 8th -10th August, 2022 |
| 20. | 2022 | Dr. S.S.Jakhar | National Symposium on "Multidisciplinary approaches for plant disease management" held on Pant University of Agriculture & Technology, Pantnagar organized by GBPUAT, Pantnagar and Indian Society of Plant Pathologists (INSOPP), PAU, Ludhiana. | National | 04-05 November, 2022 |
| 21. | 2023 | Dr. V.S.Mor | International Conference on Climate Resilient Agriculture for Food Security and Sustainability" Organised by Dean, COA, CCSHAU, Hisar | International | 17-19 February, 2023 |

## 12. Department of Soil Science

| Sl. No | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc. | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Ram Prakash | ICAR-winter school on "Advance in soil salinity and sodicity management under different agro climatic regions for enhancing farmers income" ICAR-CSSRI, Karnal | National | 04-24 September 2018 |
| 2. | 2018 | Dr. Ram Prakash | Global Research Initiatives for Sustainable Agriculture & Allied Sciences held at RAU, Research Institute (SKNAU, Jobner), Durgapaura, Jaipur (Rajasthan) India. | International | 28-30 October 2018 |
| 3. | 2019 | Dr. Ram Prakash | Golden Jubilee International Salinity Conference (GJISC) held at CSSRI, Karnal. | International | 7-9 February 2019 |
| 4. | 2019 | Dr. Rohtas Kumar | International Symposium on Innopreneurship: A need of sustainable agriculture and Rao Bahadur Dr. Ram Dhan Singh Fifth Memorial Lecture at CCSHAU, Hisar | International | 2-3 February 2019 |
| 5. | 2019 | Dr. Ram Prakash | Innopreneurship : A need of sustainable Agriculture (ISINSA-2019) held at CCSHAU, Hisar, | International | 2-3 February 2019 |
| 6. | 2019 | Dr. Ram Prakash | "New millennia agriculture novel trends & future scenario" at CCSHAU, Hisar, India . | International | 6-8 November 2019 |

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| 7. | 2019 | Dr. Ram Prakash | "Development in Soil Science-2019" at Institute of Agricultural Sciences, BHU, Varanasi. | National | 15-18 November 2019 |
| 8. | 2019 | Dr. K.K. Bhardwaj | National seminar on "Sustainable Environment" at MDU, Rohtak | National | 15November 2019 |
| 9. | 2019 | Dr. K.K. Bhardwaj | Refresher Course On Research Management organized by AAREM, DHRM,CCSHAU, Hisar | National | 25 July to 14 August 2019 |
| 10. | 2019 | Dr. Dev Raj | Summer school programme on 'Soil Health Management and Plant Nutrition under Changing Climate Scenario'organised by Rajasthan Agricultural Research Institute, Durgapura SKN Agriculture University Jobner | National | 2 to 22 September 2019 |
| 11. | 2019 | Dr. Dev Raj | ICAR sponsored short course on 'Recent Advances in Soil Carbon Sequestration and Stabilization for Soil Health Improvement and Climate Change Mitigation' at Indian Institute of Soil Science Bhopal. | National | 10 to 19 December 2019 |
| 12. | 2019 | Dr. Dev Raj | Annual convention of Indian society of Soil science at BHU, Varanasi | National | 15 to 17 November 2019 |
| 13. | 2019 | Dr. Rohtas Kumar | "Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends and Future Scenario" at CCSHAU, Hisar | International | 6-8 November 2019 |
| 14. | 2019 | Dr. Hardeep Singh Sheoran | Induction Training organized by Directorate of Human Resource Management, CCSHAU, Hisar | National | 18 November to 17 December 2019 |
| 15. | 2020 | Dr. Rohtas Kumar | National webinar on Awareness and Use of CeRA Resource Through J-gate Discovery Platform | National | 25 June 2020 |
| 16. | 2020 | Dr. Pankaj Kumar | Induction Training organized by Directorate of Human Resource Management, CCSHAU, Hisar | National | 08 September to 08 Oct 2020 |
| 17. | 2020 | Dr. Usha Kumari | Induction Training organized by Directorate of Human Resource Management, CCSHAU, Hisar | National | 08 September to 08 October 2020 |
| 18. | 2020 | Dr. Ram Prakash | Refresher course on "Language Skills" Academy of Agril. Res. & Edu. Management, DHRM, CCSHAU, Hisar. | National | 27- 16 May June 2020 |
| 19. | 2020 | Dr. Ram Prakash | Webinar on "Aquaculture Practices for Improved Quality and Quantity Production" which is organized by College of Fisheries Science, CCSHAU, Hisar. | National | 21 November 2020 |

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| 20. | 2020 | Dr. Ram Prakash | Web Conference on "Sustainable Soil and Water Management for Bio-diversity Conservation, Food Security and Climate Resilience" Organized by Soil Conservation Society of India. | National | 29-30 December 2020 |
| 21. | 2020 | Dr. K. K. Bhardwaj | Sustainable Soil and Water Management for Bio-diversity Conservation, Food Security and Climate Resilience organized by Soil Conservation Society of India | National | 29-30 December 2020 |
| 22. | 2020 | Dr. Rohtas Kumar | Refresher course on "Statistical tools and techniques for analysis of agricultural data". | National | 8-28 July 2020 |
| 23. | 2021 | Dr. Usha Kumari | Annual Convention of Indian society of soil science to be held at Visva-Bharati (Central University), Sriniketan, West Bengal | National | 16-19 November 2021 |
| 24. | 2021 | Dr. K.K Bhardwaj | Conference of 85th annual convention of Indian society of soil science to be held at Visva-Bharati (Central University), Sriniketan, West Bengal | National | 16-19 November 2021 |
| 25. | 2021 | Dr. Pooja Jangra | Annual Convention of Indian society of soil science to be held at Visva-Bharati (Central University), Sriniketan, West Bengal | National | 16-19 November 2021 |
| 26. | 2021 | Dr. Devraj | Annual Convention of Indian society of soil science to be held at Visva-Bharati (Central University), Sriniketan, West Bengal | National | 16-19 November 2021 |
| 27. | 2021 | Dr. Ram Prakash | GIS mapping of groundwater quality for irrigation of Sonipat block of Sonipat district, Haryana, India -. 85$^{th}$ Annual convention of Indian Society of Soil Science and National Seminar on Development in Soil Science -2021 held at Visva-Bharati, Srinketan,Kolkota | National | 16-19 November 2021 |
| 28. | 2021 | Dinesh | GIS mapping of groundwater quality for irrigation of Sonipat block of Sonipat district, Haryana, India -. 85$^{th}$ Annual convention of Indian Society of Soil Science and National Seminar on Development in Soil Science -2021 held at Visva-Bharati, Srinketan,Kolkota | National | 16-19 November 2021 |
| 29. | 2021 | Dr. Dev Raj | Annual Convention of Indian society of Soil science at Sri Niketan W. Bengal | National | 15-17 November 2021 |
| 30. | 2021 | Dr. Usha Kumari | Annual Convention of Indian society of Soil science at Sri Niketan W. Bengal | National | 15-17 November 2021 |
| 31. | 2021 | Dr. Ram Prakash | Refresher course on "Applications of Statistical & Econometric Techniques in Agriculture" | National | 24 November-14 December |

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| | | | organized by DHRM, CCSHAU, Hisar. | | 2021 |
| 32. | 2021 | Dr. Usha Kumari | Refresher course on "Applications of Statistical & Econometric Techniques in Agriculture" organized by DHRM, CCSHAU, Hisar. | National | 24 November-14 December 2021 |
| 33. | 2021 | Dr. Ram Prakash | Seminar on Developments in Soil Science-2021 Organized by Sriniketan chapter of ISSS, Dept. of Soil Science and Agricultural Chemistry, PalliSiksha Bhavana (Institute of Agriculture),Vsva-Bharati, Sriniketan. | National | 16-19 November 2021 |
| 34. | 2022 | Dr. K.K. Bhardwaj | International symposium on cereals for food security and climate resilience through Online mode ICAR-IIWBR, Karnal, India | International | 18 to 20 January 2022 |
| 35. | 2022 | Dr. Dev Raj | Training on Extension management organised by DHRM CCSHAU Hisar | National | 4-24 May 2022 |
| 36. | 2022 | Dr. Ram Prakash | Symposium on "Paradigm Shift in Cotton Cultivation" Organized by Cotton Research and Development Association (CRDA) at MPUA&T, Udaipur. | National | 08-10 August 2022 |
| 37. | 2022 | Dr. Hardeep Sheoran | CAFT training programme on: Soil and Water Management for Sustaining Intensive Agriculture" organized by Punjab Agricultural University, Firozpur Road, Ludhiana | National | 01 December 2022 to 21 December 2022 |
| 38. | 2023 | Dr. Hardeep Sheoran | Workshop by AISHE Unit Higher Education Panchkula (haryana) under the aegis of MoE, New Delhi at Govt. College for Girls, Sector -14, Panchkula. | National | 2 March 2023 |
| 39. | 2023 | Dr. Shubham Lamba | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 40. | 2023 | Dr. Usha Kaushik | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 41. | 2023 | Dr. Ram Prakash | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 42. | 2023 | Dr. Hardeep Sheoran | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 43. | 2023 | Dr. Seema Sheoran | International Conference on Climate Resilient Agriculture for | International | 17-19 February |

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| | | | Food Security and Sustainability, CCSHAU, Hisar | | 2023 |
| 44. | 2023 | Dr. Sushil | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 45. | 2023 | Dr. Sushil Kumar | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 46. | 2023 | Dr. K K Bhardwaj | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 47. | 2023 | Dr. Sonia Rani | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 48. | 2023 | Dr. Devraj | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 49. | 2023 | Dr. Rohtas Kumar | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |

## 13. Department of Vegetable Science

| Sl. No | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc etc. | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2022 | Dr. T.P. Malik / | Training program on "Data digitalization and visualization" by IISR, Calicut | National | 22-24 February 2022 |
| 2. | 2022 | Dr. S.K. Tehlan | Training program on "Data digitalization and visualization" by IISR, Calicut | National | 22-24 February 2022 |
| 3. | 2018 | Dr. Kuldeep Kumar | 36$^{th}$ Workshop/Group Meeting of All India Co-ordinated Research Project on (Vegetable Crops) held at Durgapura- Jaipur | National | 18-21 May 2018 |
| 4. | 2018 | Dr. Kuldeep Kumar | "National Start Up Summit" held at CCSHAU | National | 1-2 June 2018 |
| 5. | 2018 | Dr. Kuldeep Kumar | "Induction Training" conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 07 June - 07 July 2018 |
| 6. | 2018 | Dr. Makhan Lal | Annual Review Meeting of Central Sector Scheme-Mission for Integrated Development of Horticultural organized by | National | 26-27 June 2018 |

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| | | | Directorate of Arecanut and Spices Development, Calicut (Kerala) at IGKV, Raipur. | | |
| 7. | 2018 | Dr. T.P. Malik | Workshop of All India Coordinated Research Project on Spices held at Dr. Y.S. Parmar University of Horticulture & Forestry, Solan (H.P.) | National | 4-6 October 2018 |
| 8. | 2018 | Dr. S.K. Tehlan | Workshop of All India Coordinated Research Project on Spices held at Dr. Y.S. Parmar University of Horticulture & Forestry, Solan (H.P.) | National | 4-6 October 2018 |
| 9. | 2018 | Dr. Amit Kumar | Induction Training Course organized by the Academy of Agricultural Research and Education Management (AAREM) at CCSHAU, Hisar | National | 29 November to 29 December 2018 |
| 10. | 2018 | Dr. Makhan Lal | Training programme on "Robotics and Automation" conducted by COAE&T in collaboration with AAREM, Directorate of Human Resource Management, CCSHAU-Hisar. | National | 17-30 July 2018 |
| 11. | 2018 | Dr. Makhan Lal | Training programme on "Robotics and Automation" conducted by COAE&T in collaboration with AAREM, Directorate of Human Resource Management, CCSHAU-Hisar. | National | 17-30 July 2018 |
| 12. | 2018 | Dr. Indu Arora | International seminar on Innovative theories and practices for sustainable development in changing world scenario at Kualalumpur, Malayasia. | International | 10-13 July 2018 |
| 13. | 2018 | Dr. V.K. Batra, | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 18-21 May 2018 |
| 14. | 2018 | Dr. A.K. Bhatia, | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 18-21 May 2018 |
| 15. | 2018 | Dr. D.S. Duhan, | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 18-21 May 2018 |
| 16. | 2018 | Dr. Kuldeep Kumar | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 18-21 May 2018 |
| 17. | 2018 | Dr. Virendra Singh | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 18-21 May 2018 |
| 18. | 2018 | Dr. A.K. Bhatia, | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 08-12 September 2018 |

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| 19. | 2018 | Dr. V.P.S. Panghal | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 08-12 September 2018 |
| 20. | 2018 | Dr. Kishor Chand | National workshop of AICRP (Potato) at SDAU, Sardar Krushi Nagar, Gujrat | National | 08-12 September 2018 |
| 21. | 2018 | Dr. T.P. Malik | National workshop of AICRP on Spices, Dr. Y.S.Parmar University of Horticultural & Forestry, Nauni-Solan, HP | National | 04-06 October 2018 |
| 22. | 2018 | Dr. S.K. Tehlan | National workshop of AICRP on Spices, Dr. Y.S.Parmar University of Horticultural & Forestry, Nauni-Solan, HP | National | 04-06 October 2018 |
| 23. | 2019 | Dr. Kuldeep Kumar | Group Meeting of AICRP (Vegetable Crops) held at TNAU, Coimbatore- Tamilnadu | National | 22 to 25 June 2019 |
| 24. | 2019 | Dr. Makhan Lal | Workshop on "Awareness and use of Scopus and Mendeley reference manager" in college of Basic Science and Humanities, CCS Haryana Agricultural University, Hisar. | National | 1 January 2019 |
| 25. | 2019 | Dr. Makhan Lal | International Symposium "Inno-preneurship: A Need of Sustainable Agriculture" (ISINSA-2019) organized by Director of Research, CCS Haryana Agricultural University, Hisar | International | 2-3 February 2019 |
| 26. | 2019 | Dr. Makhan Lal | International Conference on "Food Security through Agriculture & Allied Sciences" (FAAS-2019) at Tribhuvan University, Kathmandu, Nepal. | International | 27-29 May 2019 |
| 27. | 2019 | Dr. D.S. Duhan | Indian Horticulture Congress 2019–Shaping future of Indian Horticulture,. | National | 17-21 January 2019 |
| 28. | 2019 | Dr. V.P.S. Panghal | Indian Horticulture Congress 2019–Shaping future of Indian Horticulture,. | National | 17-21 January 2019 |
| 29. | 2019 | Dr. Indu Arora | International Symposium on Innopreneurship: A Need of Sustainable Agriculture, organized by Directorate of Research, CCS Haryana Agricultural University, Hisar | International | 2-3 February 2019 |
| 30. | 2019 | Dr. T.P. Malik | Quinquennial Review Team (QRT) meeting of All India Co-ordinated Research Project on Spices held at Jaipur | National | 27 August 2019 |
| 31. | 2019 | Dr. S.K. Tehlan | Quinquennial Review Team (QRT) meeting of All India Co-ordinated Research Project on Spices held at Jaipur | National | 27 August 2019 |

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| 32. | 2019 | Dr Indu Arora | Participated and presented work on "Vegetable Grafting" in round table on 'Agriculture & Food Processing' at the Knowledge Summit 2, a high-level Franco-Indian summit held in Lyon, France. | International | 17-18 October 2019 |
| 33. | 2019 | Dr. T.P. Malik | Workshop/Group meeting of All India Co-ordinated Research Project on Spices held at Tamil Nadu Agricultural University, Coimbatore | National | 13-16 November 2019 |
| 34. | 2019 | Dr. S.K. Tehlan | Workshop/Group meeting of All India Co-ordinated Research Project on Spices held at Tamil Nadu Agricultural University, Coimbatore | National | 13-16 November 2019 |
| 35. | 2019 | Dr. Kuldeep Kumar | Quinquennial Review Team (QRT) of All India Coordinated Research Project on Vegetable Crops at IARI, New Delhi. | National | 20-21 November 2019 |
| 36. | 2019 | Dr. Amit Kumar | International Symposium on Innopreneurship: A need of Sustainable Agriculture at CCSHAU, Hisar. | International | 2-3 February 2019 |
| 37. | 2019 | Dr. Amit Kumar | Golden Jubilee International Conference on New Millennia Agriculture Novel Trend and Future Scenario | International | 2019 |
| 38. | 2019 | Dr. Makhan Lal | Advanced training programme on "Innovative interventions for sustainable vegetable production under changing climate scenario" organized by Centre of Advanced Faculty Training in Horticulture (Vegetables), Department of Vegetable Science Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni, Solan, (Hiamchal Pradesh) | National | 3-23 September 2019 |
| 39. | 2020 | Dr. Kuldeep Kumar | National Incubators Colloquium, held at ABIC, CCSHAU, Hisar | National | 15-16 January 2020 |
| 40. | 2020 | Dr. Kuldeep Kumar | Refresher course on "Language Skills" conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 27 May-16 June 2020 |
| 41. | 2020 | Dr. Amit Kumar | Refresher Course on "Language Skills" conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 27 May to 16 June 2020 |
| 42. | 2020 | Dr. Makhan Lal | Refresher Course on Language Skills (online mode)" at AAREM, | National | 22 May to 12 June 2020 |

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| | | | Directorate of Human Resource Management, CCS Haryana Agricultural University, Hisar. | | |
| 43. | 2020 | Dr. S.K. Tehlan | National webinar on "Recent Advances in Seed Spices Production" organized by Seed Spices Research station, SD Agricultural University, Jagudan (Gujrat) | National | 04 August 2020 |
| 44. | 2020 | Dr. T.P. Malik/Dr. S.K. Tehlan | XXXI Workshop/Group meeting of All India Co-ordinated Research Project on Spices (virtual event) by IISR, Calicut. | National | 29-30 September 2020 |
| 45. | 2020 | Dr. Kuldeep Kumar | 38th Group Meeting of AICRP (Vegetable Crops) scheme held through online mode. | National | September 25-27 2020 |
| 46. | 2020 | Dr. Kuldeep Kumar | International Web Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2020), held at Meerut. | International | 28-30 December 2020 |
| 47. | 2020 | Dr. Makhan Lal | International Level Webinar on "Future Strategies for Multiplication of Potato" organized by University of Horticultural Science, Bagalkot, Karnataka & International Potato Centre | International | 15 October 2020 |
| 48. | 2020 | Dr. Makhan Lal | National Level Webinar on "Challenges and Opportunities of Vegetable Production in Warmed Humid Tropics" organized by Department of Vegetable Science, College of Horticulture, Kerala Agricultural University Thrissur & Indian Societies of Vegetable Science | National | 11-13 November 2020 |
| 49. | 2021 | Dr. Makhan Lal | Training on "Communication Skills and Technical Writing (online mode)" at AAREM, Directorate of Human Resource Management, CCS Haryana Agricultural University, Hisar. | National | 03-23 February 2021 |
| 50. | 2020 | Dr. Makhan Lal | The 15th Annual Review Meeting of Central Sector Scheme-Mission for Integrated Development of Horticultural organized by Directorate of Arecanut and Spices Development, Calicut (Kerala) through video conferencing. (virtual) | National | 25-26 June 2021 |
| 51. | 2021 | Dr. S.K. Tehlan | International Symposium on "Spices as Flavours, Fragrances & Functional Foods" (virtual event) by IISR, Calicut | International | 09-12 February 2021 |
| 52. | 2021 | Dr. Makhan Lal | Virtual Horticultural Officers' | National | 09 July 2021 |

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| | | | Workshop-2021 organized by Directorate of Extension Education, CCSHAU-Hisar. (virtual) | | |
| 53. | 2021 | Dr. Makhan Lal | International Webinar cum Workshop on "Seed Quality Enhancement North Zone" organized by ICAR-Indian Agricultural Research Institute, New Delhi & CCSHAU-Hisar (Haryana) | International | 22-24 September 2021 |
| 54. | 2021 | Dr. Makhan Lal | "International Conference on Vegetable Research and Innovations for Nutrition, Entrepreneurship and Environment" (ICVEG-2021)". (virtual) | International | 14-16 December 2021 |
| 55. | 2021 | Dr. T.P. Malik | Workshop of All India Co-ordinated Research Project on Spices (virtual event) | National | 22-24 September 2021 |
| 56. | 2021 | Dr. S.K. Tehlan | Workshop of All India Co-ordinated Research Project on Spices (virtual event) | National | 22-24 September 2021 |
| 57. | 2021 | Dr. D.S. Duhan | Refresher Course on Educational Technology DHRM, CCSHAU. | National | 21 September to 09 October 2021 |
| 58. | 2021 | Dr. Kuldeep Kumar | Group Meeting of AICRP (Vegetable Crops) held through online mode. | National | 07-09 September 2021 |
| 59. | 2021 | Dr. Kuldeep Kumar | "International Conference on Vegetable Research and Innovations for Nutrition, Entrepreneurship and Environment (ICVEG-21)" through online mode held at ICAR-IIVR, Varanasi, UP. | International | 14-16 December 2021 |
| 60. | 2022 | Dr. Kuldeep Kumar | Group Meeting of AICRP (Vegetable Crops) held through online/virtual mode. | National | 15 to 17 June 2022 |
| 61. | 2022 | Dr. Kuldeep Kumar | Group Meeting of AICRP (Vegetable Crops) held through online/virtual mode. | National | 15 to 17 June 2022 |
| 62. | 2022 | Dr. T.P. Malik | Group Meeting of AICRP (Spices) held at ANDUA&T, Kumarganj, U.P. | National | 14-16 October 22 |
| 63. | 2022 | Dr. S.K. Tehlan | Group Meeting of AICRP (Spices) held at ANDUA&T, Kumarganj, U.P. | National | 14-16 October 2022 |
| 64. | 2022 | Dr. Kuldeep | 40$^{th}$ Group Meeting of AICRP (Vegetable Crops) held 15$^{th}$ to 17$^{th}$ June, 2022 through online/virtual mode. | National | 15$^{th}$ to 17$^{th}$ June 2022 |
| 65. | 2023 | Dr. Kuldeep Kumar / | International conference on climate resilient agriculture for food security and sustainability, held at CCS | International | 17-19 February 2023 |

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| | | | Haryana Agricultural University Hisar, on February 17-19, 2023 | | |
| 66. | 2023 | Dr. Amit Kumar/ | International conference on climate resilient agriculture for food security and sustainability,held at CCS Haryana Agricultural University Hisar, on February 17-19, 2023 | International | 17-19 February 2023 |
| 67. | 2023 | Dr. Jagmohan Singh | International conference on climate resilient agriculture for food security and sustainability,held at CCS Haryana Agricultural University Hisar, on February 17-19, 2023 | International | 17-19 February 2023 |
| 68. | 2023 | Dr. Makhan Lal | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability (INTCLIMATE-2023)" held at CCS Haryana Agricultural University-Hisar | International | 17-19 February 2023 |
| 69. | 2023 | Dr. Archana | Refresher Course on Induction training organized by DHRM, CCSHAU, Hisar | National | 27 June -27 July 2022 |
| 70. | 2023 | Dr. Hansraj | Annual meeting of ICAR - All India Coordinated Research Project on Potato concludes at SKUAST-K's Division of Vegetable Science, Faculty of Horticulture, Kashmir, Srinagar | National | 07 to 09 October 2022 |
| 71. | 2023 | Dr. Davinder Singh | Annual meeting of ICAR - All India Coordinated Research Project on Potato concludes at SKUAST-K's Division of Vegetable Science, Faculty of Horticulture, Kashmir, Srinagar | National | 07 to 09 October 2022 |
| 72. | 2023 | Dr. Sumit | Review meeting on spices and aromatic plants under MIDH through DASD AT Horticulture College and Research Institute-Periyakulum, Tamilnadu | National | 13-14 July 2022 |
| 73. | 2023 | Dr. Hansraj | Review meeting on spices and aromatic plants under MIDH through DASD AT Horticulture College and Research Institute-Periyakulum, Tamilnadu | National | 13-14 July 2022 |
| 74. | 2023 | Dr. T.P. Malik/ | International conference on climate resilient agriculture for food security and sustainability,held at CCS Haryana Agricultural University Hisar, on February 17-19, 2023 | International | 17-19 February 2023 |
| 75. | | Dr. S.K. Tehlan/ | | International | 17-19 February 2023 |
| 76. | | Dr. S.K. Dhankhar/ | | International | 17-19 February 2023 |
| 77. | | Dr. D.S. Duhan/ | | International | 17-19 |

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| | | | | | February 2023 |
| 78. | | Dr. Indu Arora/ | | International | 17-19 February 2023 |
| 79. | | Dr. Rakesh Chugh/ | | International | 17-19 February 2023 |
| 80. | | Dr. Hansraj/ | | International | 17-19 February 2023 |
| 81. | | Dr. Sumit | | International | 17-19 February 2023 |
| 82. | | Dr. Sumit | | | |
| 83. | | Dr. Amit | | International | 17-19 February 2023 |
| 84. | | Dr. Archana | | International | 17-19 February 2023 |
| 85. | | Dr. Kuldeep Kumar | | International | 17-19 February 2023 |
| 86. | | Dr. Vikas | | International | 17-19 February 2023 |
| 87. | | Dr. Vikram | | International | 17-19 February 2023 |
| 88. | 2023 | Dr. Snjay Kumar | Winter school on commercialization of arid fruits and vegetable crops through modern approaches by ICAR-CIAH, Bikaner | National | 1-21 February 2023 |
| 89. | 2023 | Dr. Davinder | Natural Farming for revitalizing environment and resilient agriculture, Organized by Central Agricultural University, Imphal. | International | 17- 19 March 23 |
| 90. | 2023 | Dr. Vikas | Natural Farming for evitalizing environment and resilient agriculture, Organized by Central Agricultural University, Imphal. | International | 17- 19 March 23 |
| 91. | 2023 | Dr. Vikram | Natural Farming for revitalizing environment and resilient agriculture, Organized by Central Agricultural University, Imphal. | International | 17- 19 March 23 |

## 14. Department of Extension Education

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
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| 1. | 2018 | Dr. P. K. Chahal | National Extension Education Congress at Advance Research & Management Center of Rural Environment 810, Paschimpuri, Sikandra, Agra-282007, INDIA. | National | 15-17 November 2018 |
| 2. | 2018 | Dr. P. K. Chahal | Congress on Cotton and Other Fibre Crops at ICAR Research Complex for NEH Region, Umiam(Meghalaya) | International | 20-23 February 2018 |
| 3. | 2018 | Dr. J. S. Malik | National Extension Education Congress at Advance Research & Management Center of Rural Environment 810, Paschimpuri, Sikandra, Agra-282007, INDIA. | National | 15-17 November 2018 |
| 4. | 2018 | Dr. J. S. Malik | National Extension Education Congress at Advance Research & Management Center of Rural Environment 810, Paschimpuri, Sikandra, Agra-282007, INDIA. | National | 15-17 November 2018 |
| 5. | 2018 | Dr. P. S. Shehrawat | National Extension Education Congress at Advance Research & Management Center of Rural Environment 810, Paschimpuri, Sikandra, Agra-282007, INDIA. | National | 15-17 November 2018 |
| 6. | 2019 | Dr. B. S. Ghanghas | National Seminar on Socio-Digital Approaches for Transforming Indian Agriculture | National | 20-22 November 2019 |
| 7. | 2019 | Dr. P. K. Chahal | National Seminar on Socio-Digital Approaches for Transforming Indian Agriculture | National | 20-22 November 2019 |
| 8. | 2019 | Dr. J. S. Malik | National Seminar on Socio-Digital Approaches for Transforming Indian Agriculture | National | 20-22 November 2019 |
| 9. | 2019 | Dr. P. K. Chahal | National Seminar on Awareness, Motivation and Technology Transfer in Beekeeping | National | 20-22 November 2019 |
| 10. | 2019 | Dr. P. K. Chahal | National Workshop on Production, Processing and Value Addition of Nutri-Cereals (Millets) in India | National | 16 September 2019 |
| 11. | 2019 | Dr. P. K. Chahal | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends & Future Scenario at CCSHAU, Hisar | International | 6-8 November 2019 |
| 12. | 2019 | Dr. J. S. Malik | National Seminar on Innovative Strategies for Gender Equality organized by I.C. College of Home Science, CCSHAU, Hisar. | National | 8 March 2019 |
| 13. | 2019 | Dr. Rati Mukteshwar | National Seminar on Socio-Digital Approaches for Transforming Indian Agriculture | National | 20-22 November 2019 |
| 14. | 2019 | Dr. J. S. Malik | National Seminar-2019 on Socio-Digital Approaches for Transforming Indian Agriculture | National | 20-22 November 2019 |

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| 15. | 2020 | Dr. P. K. Chahal | National Webinar on " Role of ICT in Agriculture and Extension in Present Scenario of Covid-19" | National | 11-12 June 2020 |
| 16. | 2021 | Dr. J.S.Malik | National Conference on "Transforming Indian Agriculture through Pluralistic and Innovative Extension Approaches for Self-Reliant India." | National | 4 -6 October 2021 |
| 17. | 2022 | Dr. J. S. Malik | Agrivision Zonal Convention-2022 on "Natural Farming: a National Priority for Human Health and Ecological Restoration" | National | 5-6 April 2022 |
| 18. | 2022 | Dr. J .S. Malik | Agrovision-2022 6th National Convention on "Natural Farming-Modern Technology: Coordination and Implementation" | National | 20-21 May 2022 |
| 19. | 2022 | Dr. J. S. Malik | International Conference on Significance of Technology in Empowering Tribal Community of India | International | 23-24 August 2022 |
| 20. | 2023 | Dr. P. K. Chahal | International Conference on Climate Resilient Agriculture for Food Security and Sustainability at CCSHAU, Hisar | International | 17-19 February 2023 |

## B) College of Basic Science

The participation of faculty in National/ International Seminars/ Symposia/ Workshops/ Training/Consultancy visits/Special assignments etc. (2018-19 to 2022-23) of College of Basic Science is as under.

| Sl. No | Department | International | National | Total Number |
|---|---|---|---|---|
| 1. | Biochemistry | 8 | 0 | 8 |
| 2. | Bioinformatics | 0 | 1 | 1 |
| 3. | Chemistry | 19 | 5 | 24 |
| 4. | Language and Haryanvi Culture | 23 | 51 | 74 |
| 5. | Mathemetics and Statistics | 7 | 16 | 23 |
| 6. | Molecular Biology and Biotechnology | 3 | 3 | 6 |
| 7. | Microbiology | 47 | 59 | 106 |
| 8. | Physics | 1 | 2 | 3 |
| 9. | Plant Physiology | 14 | 12 | 26 |
| | **Total** | **122** | **149** | **271** |

### 1) Biochemistry

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Jayanti Tokas | 10th International Seminar on "Harnessing science and technology applications through capacity | International | 13-15 September 2018 |

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| | | | building and economic policies for sustainable development" at Mahatma Gandhi House, Goettingen, Germany. | | |
| 2. | 2018 | Dr. Jayanti Tokas | International Conference on "Climate change towards health and agricultural sustainability" at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | International | 18-20 February 2019 |
| 3. | 2019 | Dr. Jayanti Tokas | "Golden jubilee International conference on new millenia agriculture- novel trends and future scenario at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 4. | 2019 | Dr. Nisha Kumari | "Golden jubilee International conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 5. | 2019 | Dr. Jayanti Tokas | Workshop on "Aberystwyth bioinformatics" at Aberystwyth University, Aberystwyth, United Kingdom. | International | 28 June 2019 |
| 6. | 2019 | Dr. Jayanti Tokas | SPARC-MHRD sponsored International Workshop cum Training on "New approaches in seed technology for quality assurance" organized by CCS Haryana Agricultural University in collaboration with Massey University, New Zealand. | International | 20-29 November 2019 |
| 7. | 2019 | Dr. Jayanti Tokas | "Annual learning and Teaching Conference" at Aberystwyth University, Aberystwyth, United Kingdom. | International | 08-10 July 2019 |
| 8. | 2022 | Dr. Nisha Kumari | Training on "International pedagogy" at Texas A and M University, College Station, Texas, USA. | International | 15 November 2021- 14 February 2022 |

## B) Bioinformatics and Computational Biology

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2022 | Dr. Navjeet Ahalawat | Faculty Training on "Molecular Biology and Bioinformatics Tools and its application in Agriculture and Allied Sciences" organized by Centre of Excellence at Agri-Biotechnology, College of Biotechnology, Meerut, Uttar Pradesh, India. | National | 08-21 September 2022 |

## C) Chemistry

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Sushila Singh | GIAN-MHRD Workshop on "Nanotechnology: nanoparticle synthesis and conjugation chemistry for bio application" at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | National | 16-20 July, 2018 |
| 2. | 2019 | Dr. Anushree | Silver Jubilee International Conference on "Physical and biological sciences at cross-roads: interdisciplinary explorations and exciting challenges" at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | International | 29-31, December 2019 |
| 3. | 2019 | Dr. Sushila Singh | International Symposium on "Innopreneurship: a need of sustainable agriculture" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 02-03, February 2019 |
| 4. | 2019 | Dr. Sushila Singh | "Golden jubilee International conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08, November 2019 |
| 5. | 2019 | Dr. Anil Duhan | "Golden jubilee International conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08, November 2019 |
| 6. | 2019 | Dr. Anushree | "Golden jubilee International conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08, November 2019 |
| 7. | 2019 | Dr. Anushree | "Induction training" organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 01- June 01, July 2019 |
| 8. | 2019 | Dr. Sonu C. | "Golden jubilee International conference on new millenia agriculture- novel trends and future scenarioat CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08, November 2019 |
| 9. | 2019 | Dr. Sonu C. | Silver Jubilee International Conference on "Physical and biological sciences at cross-roads: interdisciplinary explorations and | International | 29-31, December 2019 |

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| | | | exciting challenges" at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | | |
| 10. | 2019 | Dr. Sonu C. | "Induction training" organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 01- June 01, July 2019 |
| 11. | 2019 | Dr. Jayant Sindhu | "Golden jubilee International conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08, November 2019 |
| 12. | 2019 | Dr. Vipan Kumar | 3rd International Conference on "Innovations in science, engineering and technology" organized by Department of Chemistry, Arya P.G. College at Panipat, Haryana, India. | International | 09-10, November 2019 |
| 13. | 2019 | Dr. Sachin Kumari | "Golden jubilee International Conference on new millenia agriculture- novel trends and future scenario" CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08, November 2019 |
| 14. | 2019 | Dr. Sachin Kumari | Silver Jubilee International Conference on "Physical and biological sciences at cross-roads: interdisciplinary explorations and exciting challenges" at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | International | 29-31, December 2019 |
| 15. | 2020 | Dr. Anil Duhan | Global Conference of South-South Cooperation Forum on "Food security and agro-biodiversity in times of covid-19 and climate change" organized by United Nations Environment Programme in collaboration with Global Alliance for the Future of The Food, Icimod, Ifad, Ifpri. | International | 30 November – 02 December 2020 |
| 16. | 2020 | Dr. Sonu | 1st International Conference of Indian Science Congress Association- Rohtak Chapter on "Science and technology: Rural Development" at Maharshi Dayanand University, Rohtak, Haryana, India. | International | 04-05, March 2020 |
| 17. | 2020 | Dr. Ravi Kumar | "Awareness and use of CeRAresourses through J-gate discovery platform" at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 25, June 2020 |
| 18. | 2021 | Dr. Jayant Sindhu | International Conference on "Advanced developments in chemistry and allied sciences", | International | 16- 17, December 2021 |

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| | | | organized by Department of Chemistry, DeenbandhuChhotu Ram University of Science and Technology, Murthal, Haryana, India. | | |
| 19. | 2021 | Dr. Ravi Kumar | National Web Conference on "Sustaining pulse production for self-sufficiency and nutritional security" organized by Indian Society of Pulses Research and Development (ISPRD) and ICAR-Indian institute of pulses research (IIPR), Kanpur in collaboration with Indian Council of Agricultural Research (ICAR), New Delhi. | National | 09-11, February 2021 |
| 20. | 2021 | Dr. Sachin Kumari | International Conference on "Nanoscience and nanotechnology" organized by Department of Physics and Nanotechnology, Sri Ramaswamy Memorial Institute of Science and Technology , India. | International | 01-03, February 2021 |
| 21. | 2021 | Dr. Sachin Kumari | "Smart polymers: application in current scenario" by Amity Institute of Applied Sciences in association with Asian Polymer Association at Noida, Uttar Pradesh, India | International | 15-16, January 2021 |
| 22. | 2021 | Dr. Sachin Kumari | "Instigating research in materials, energy and environment" at Department of Chemistry, Easwari Engineering College, Rampuram,Chennai, India. | International | 06-07, October 2021 |
| 23. | 2022 | Dr. Anushree | International Conference on "Integrated approaches in science and technology for sustainable future" at J. C. Bose University of Science and Technology, Young Men's Christian Association University of Science and Technology, Faridabad, Haryana, India. | International | 28-February-01, March 2022 |
| 24. | 2022 | Dr. Sachin Kumari | International Conference on "Advances in science and technology" at Rajarshi Chhatrapati Shahu College, Kolhapur, Maharashtra, India. | International | 09-10, March 2022 |

## D) Language and Haryanvi Culture

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2019 | Dr. Devender Singh | Workshop sponsored by UGC on "Professional Development and Capacity Building of Teachers of Higher Education Institutions"at Central University Mahendergarh, Haryana | National | 11-18 March 2019 |
| 2. | 2019 | Dr. Devender Singh | Workshop on 'Professional Development and capacity | National | 11-18 March 2019 |

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| | | | Building of Teachers of Higher Education Institutions' at Central University, Mahendergarh, Haryana | | |
| 3. | 2019 | Dr. Devender Singh | National Seminar Sponsored by UGC (Multidisciplinary) on 'Literature and Gender' at DAV College, Ambala City on | National | 4 January 2019 |
| 4. | 2019 | Dr. Devender Singh | National Seminar on 'Legal Provisions for Gender Equality' at COHS, CCSHAU, Hisar | National | 8 March 2019 |
| 5. | 2019 | Dr. Devender Singh | "Voice of the Marginalised in Rohinton Mistry's Fiction' at Chaudhary Ranbir SinghUniversity, Jind | International | 11 February 2019 |
| 6. | 2019 | Dr. Devender Singh | International Seminar sponsored by DGHE on 'Representation of Women in Shakespearan Texts' at DAV College for Women, Karnal | International | 18-19 January 2019 |
| 7. | 2019 | Dr. Devender Singh | Ntional Seminar sponsored by DGHE on'Post-Colonialism: Edward Said, Gayatri Spivak and Homi K. Bhabha' at Markanda National College, Shahbad, Markanda | Ntional | 16 February 2019 |
| 8. | 2019 | Dr. Devender Singh | in National Seminar on the topic "The Famous Identity of Indian Female Enterpreneurs' at COHS, CCSHAU, Hisar | National | 8 March 2019 |
| 9. | 2019 | Dr. Krishna Hooda | कुरुक्षेत्र विश्वविद्यालय द्वारा आयोजित तथा हिंदी प्रचारिणी सभा मॉरीशस वह मातृ भाषा सेवा मिशन के मॉरीशस के समाज साहित्य एवं भाषा का भारत पर प्रभाव नामक अंतर्राष्ट्रीय संगोष्ठी मैं पत्र प्रस्तुति | International | 28 Janauary 2019 |
| 10. | 2019 | Dr. Krishna Hooda | बाबा मस्तनाथ विश्वविद्यालय रोहतक के तत्वविधान में उत्तर प्रदेश भाषा संस्थान लखनऊ के सहयोग से आयोजित एवं एक दिवसीय राष्ट्रीय संगोष्ठी में मानव मूल्य और साहित्य नामक विषय पर पत्र प्रस्तुति फरवरी 7, 2019 | National | 7 February 2019 |
| 11. | 2019 | Dr. Aparna | Golden Jubilee & 14th International Annual Conference of ELT at Amity University, NOIDA. | International | 9 - 12 October 2019 |
| 12. | 2019 | Dr. Aparna | National Seminar on “Innovative Strategies for Gender Equality” organized by I.C.College of Home Science, CCSHAU; Hisar. | National | 8 March 2019 |
| 13. | 2019 | Dr. Aparna | International Symposium on “Innopreneurship: A need of Sustainable Agriculture” at Chaudhary Charan Singh, Haryana Agricultural University, Hisar. | International | 2-3 February 2019 |
| 14. | 2019 | Dr. Aparna | International Seminar on "Indian | International | 11 February |

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| | | | Writing in English: New Trends and Approaches" organised by Department of English, CRS University, Jind | | 2019 |
| 15. | 2019 | Dr. Poonam Mor | International Symposium on Innopreneurship: A Need Of Sustainable Agriculture at College of Agriculture, CCSHAU, Hisar | International | 2-3 February 2019 |
| 16. | 2019 | Dr. Poonam Mor | International Seminar on Indian Writing in English: New Trends and Approaches: A Global Prespective organized by Department of English, CRS University, Jind | International | 11 February 2019 |
| 17. | 2019 | Dr. Poonam Mor | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends & Future Scenario at CCS Haryana Agricultural University, Hisar (India) | International | 6-8 November 2019 |
| 18. | 2020 | Dr. Devender Singh | Refresher course on 'Language Skills' conducted by the Acadmy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | National | 27-May- 16 June 2020 |
| 19. | 2020 | Dr. Devender Singh | FDP on Technology and Instructional Reforms with reference to "Online Teaching Learning and Evaluation" | National | 15 -20 July 2020 |
| 20. | 2020 | Dr. Devender Singh | Refresher course on 'Extension Management'conducted by the Acadmy of Agricultural Research and Education Management, DHRM,CCSHAU, Hisar | National | 11-31 December 2020 |
| 21. | 2020 | Dr. Krishna Hooda | National Web Sangoshti on 'Contribution of Jambhani literature for Rajasthani language and literature' organized by Jambhani Sahitya Academy, Bikaner. | National | 11 November 2020 |
| 22. | 2020 | Dr. Krishna Hooda | International Webinar on 'Australia mein Hindi Adhyapan pe Khatra' organised by Kendriya Hindi Sansthantatha Vishwa Hindi Sachivalaya. | International | 6 Dcember 2020 |
| 23. | 2020 | Dr. Krishna Hooda | Web *Samvaad* on Rang RangeelaPrajatantra organized by 'Prayas Prakashan', Bilaspur, Chhatisgarh | National | 14 January 2021 |
| 24. | 2020 | Dr. Krishna Hooda | International webinar on 'Recent Pandemic's Environmental Consequences, inter-relationships and solution in Jambhani philosophy' organized by Giri Jambeshwar Environment Conservation research Chair, Jainarayan Vyas University Jodhpur, Rajasthan | International | 4-5 June 2021 |

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| 25. | 2020 | Dr. Aparna | "National Level e-Quiz on Virtual Learning during Covid-19 Crisis" organised by the Post-Graduate and Research Department of English in collaboration with the Internal Quality Assurance Cell (IQAC), Chevaliar T. Thomas Elizabeth College for Women, Chennai, | National | 03-05 July 2020 |
| 26. | 2020 | Dr. Aparna | Guest of Honour in the National Webinar on "Acquiring Proficiency in English for Everyday Communication, Written and Oral" organised by DAV Centenary College, Faridabad | National | 15 July 2020 |
| 27. | 2020 | Dr. Aparna | Online Quiz on 'English Drama in The Eighteenth Century' organised by Department of English, Kisan P.G. College, Bahraich, Uttar Pradesh | National | 27 July 2020 |
| 28. | 2020 | Dr. Aparna | Webinar on the topic "Bharat ki Swatantrata me Vaigyanikon ka Yogdan" organised by Vigyan Bharti (Hisar chapter) | National | 27 Oct 2020 |
| 29. | 2020 | Dr. Aparna | Webinar "Culture-An Integral Part of Life" organised by Government College, Dhaliara (HPU, Shimla) | National | 19-22 May 2020 |
| 30. | 2020 | Dr. Aparna | Chaired Technical Session on May 22, 2020 in Webinar "Culture-An Integral Part of Life" organised by Government College, Dhaliara (HPU, Shimla) | National | 19-22 May 2020 |
| 31. | 2020 | Dr. Poonam | Webinar on Culture-An Integral Part Of Life conducted by Government College Dhaliara, HPU, Shimla. | National | 19-21 May 2020 |
| 32. | 2020 | Dr. Poonam | Career Advancement Programme on “Shape Your Career: Professional Writing in English” organized by the Department of English | National | 25 August 2020 |
| 33. | 2021 | Dr. Devender Singh | International onine workshop series on 'Social and Emotional Learning(SEL) in Early Years Education for Positive Life Outcomes' organized by Samanta Education(India) in association with the KC college & BTT College &Aatman Academy | International | 18-23 January 2021 |
| 34. | 2021 | Dr. Devender Singh | International Online Workshop series on ‘Social and Emotional Learning in Early Years Education for Positive Life Outcomes’ conducted by HSNC University, Mumbai | International | 18-23 January 2021 |
| 35. | 2021 | Dr. Devender Singh | Refresher Course on Research Management conducted by | National | 08-28 April 2021 |

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| | | | Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar | | |
| 36. | 2021 | Dr. Devender Singh | Online Faculty Development Program on "Research Methodology"organized by DR D Y Patil School of Management & Dr D.Y. Patil School of MCA | National | 2-6 Aug 2021 |
| 37. | 2021 | Dr. Devender Singh | Capacity Building Programme "Data Analysis and Research Methodology in Social Sciences" sponsored by ICSSR, New Delhi and organized by the Dept. of Commerce, Alagappa University, Kraikudi | National | 03–14 September 2021 |
| 38. | 2021 | Dr. Devender Singh | National Training Workshop on Research Article Writing and Plagiarism" organized by Zoology and Bitechnology Dept. and IQAC, | National | 18 September 2021 |
| 39. | 2021 | Dr. Devender Singh | FDP cum Workshop on "Personality Development" organized by Department of Commerce in association with IQAC, Govt. Vikram College, Kachrod,Dist- ujjain(M.P.) under the aegis of WB- MPHWQIP's "Academic Excellence" initiative. | National | 14 December 2021 |
| 40. | 2021 | Dr. Devender Singh | One Day Webinar on Media: Challenges and Responsibilities in Present Context' Organised by Dept. of Journalism and Mass Communication, GGN Khalsa College, Ludhiana | National | 5 January 2021 |
| 41. | 2021 | Dr. Devender Singh | International Webinar titled as 'Role of Community Media in Human Development' conducted by Dept. of Sociology, Parul University of Arts, Gujarat. | International | 06 January 2021 |
| 42. | 2021 | Dr. Devender Singh | International Webinar 'Changes in Bangladeshi Media & Impact of Pandemic' conducted by Dept. of Journalism and Mass Communication, Parul University of Arts, Gujarat. | International | 11 January 2021 |
| 43. | 2021 | Dr. Devender Singh | Webinar on 'Characterization Techniques for Smart Matrials' conducted by Dept. of Physics, COBS&H,CCSHAU, Hisar | National | 15-16 January 2021 |
| 44. | 2021 | Dr. Devender Singh | National webinar organized by Department of English by Markanda National College Shahabad Markanda. | National | 24 April 2021 |
| 45. | 2021 | Dr. Devender Singh | National Webinar on 'Implementation of NEP 2020 organised by Internal Quality Assurance Cell of our Instituion. | National | 16 June 2021 |
| 46. | 2021 | Dr. Devender Singh | National webinar on "Vigyan Se | National | 31 July 2021 |

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| | | | Samaj Tak" organised by Indian Science Technology and Engineering facilities Map | | |
| 47. | 2021 | Dr. Devender Singh | National webinar on Future Potential of Digital Media organized by Centre for Information Science and Technology(CIST) held at the University of Mysore, Mysuru. | National | 2 August 2021 |
| 48. | 2021 | Dr. Devender Singh | Two-Day National webinar on Creative and Critical Writings" organized by the Dept.of English, Govt. College, Dahliara in collaboration with GC, Dada Siba., GC, Dehra., GC, Kotla Behar., GC,Haripur and GC, Takipur. | National | 21-22 August 2021 |
| 49. | 2021 | Dr. Devender Singh | National webinar on "India's Security Challenges in 21st Century" organized by P.G. Dept. of Political Science & Public Administration, Sambalpur University, Jyoti Vihar. | National | 17 September2021 |
| 50. | 2021 | Dr. Devender Singh | National webinar on "Sociocultural Issues in Life Writings" organized by the Dept. of English in Collaboration with IQAC. | National | 19 October 2021 |
| 51. | 2021 | Dr. Devender Singh | International Conference on New Policy Imperatives- NEP 2020 of India approved by DGHE, Haryana. | International | 12-14 November 2021 |
| 52. | 2021 | Dr. Krishna Hooda | *Tarang sangoshthi* on 'Hindi Maankikaran: Sudh Ucharan Aur Lekhan' organised by Dept. of Hindi Vaishya Mahila College, Rohtak. | National | 28 July 2021 |
| 53. | 2021 | Dr. Krishna Hooda | Online Folk Music Workshop organised by DSW, CCSHAU, Hisar. | National | 15 to 28 July 2021 |
| 54. | 2021 | Dr. Krishna Hooda | Online 'sangoshthi' on "Azadi KePichhatarveVarsh Mein Rajbhasaha Hindi Ki Sthiti' organised by Hindi Prakoshtha, Nagaland Vishwavidyalaya; | International | 31 August 2021 |
| 55. | 2021 | Dr. Krishna Hooda | National webinar on 'Role of a Teacher as Psychologist' organised by Surya College of Education, Kathua, Jammu and Kashmir dated 5th September, 2021 | National | 5 September 2021 |
| 56. | 2021 | Dr. Krishna Hooda | International Conference on 'Vishva Shanti Sthapna Mein Shrimad BhagwadGeeta Ki Prasangikta' organised by Dept. of Youth and Cultural Affairs, Kurukshetra University, Kurukshetra' | International | 11-12 November 2021 |
| 57. | 2021 | Dr. Krishna Hooda | Webinar on 'New Education Policy, 2020: Opportunity and | National | 11 February 2022 |

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| | | | Challenges' (In The Context of Education and Teachers) organised by Dept. of Education, University of Delhi | | |
| 58. | 2021 | Dr. Krishna Hooda | Webinar on 'Azadi Ke 75 Varshon Mein Patrakarita, Shiksha Ki Dasha Aur Disha' organised by Integrated Society of Media Professionals, Lucknow. | National | 22 November 2021 |
| 59. | 2021 | Dr. Aparna | Webinar-cum-Seminar on Teacher's Role In Nep Implementation Awareness, Orientation, Challenges& Responses organised by CCSHAU, Hisar incollaboration with Bharatiya Shikshan Mandal &Nitiayog | National | 24 February 2021 |
| 60. | 2021 | Dr. Aparna | Webinar on "Implementation of NEP 2020 in HEI's" organised by Internal Quality Assurance Cell - IQAC, B.S. Abdur Rahman Crescent Institute of Science and Technology Vandalur, Chennai | National | 16 June 2021 |
| 61. | 2021 | Dr. Aparna | Webinar on Improving quality of Agricultural Research in India organised by Elsevier, in collaboration with CCSHAU, Hisar | National | 30 June 2021 |
| 62. | 2021 | Dr. Poonam Mor | Online Webinar on Challenges in Higher Education organized by GGN Institute of Management & Technology, Ghumar Mandi, Civil Lines, Ludhiana | National | 6 September 2021 |
| 63. | 2021 | Dr. Poonam Mor | Webinar on Interview Skills and Professional Writings organized by ChanderdharGuleri Govt. Degree College Haripur Guler, District Kangra HP | National | 19 October 2021 |
| 64. | 2021 | Dr. Poonam Mor | Online Webinar on Awareness Of Original (Urkund) Anti-Plagiarism Software Among Faculty And PG Students of CCSHAU organized by Nehru Library CCSHAU, Hisar | National | 28 September 2021 |
| 65. | 2021 | Dr Anita Kumari | Online Training on "Communication skills and technical writing" February 03-23, 2021 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 03-23 February 2021 |
| 66. | 2022 | Dr. Devender Singh | Conference on Changing Trends On Diasporic Literature dated on 22_23/04/2022 organised by Department of English, Govt. | International | 22_23 April 2022 |

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| | | | College, Una (H.P). | | |
| 67. | 2022 | Dr. Devender Singh | Virtual conference organised by P.G. Department of English, SGTB Khalsa College, Sri Anandpur Sahib, Punjab. | International | 22 April 2022 |
| 68. | 2022 | Dr. Devender Singh | Conference on "Peace, Prudence and Prosperity" organised by School of Education, Centre for Liberal Arts & IQAC in collaboration with Gandhi Smriti & Darshan Samiti, Ministry of Culture, Govt. of India at ApeejayStya University, Gurugram,Delhi NCR. | International | 5-6 August 2022 |
| 69. | 2022 | Dr. Devender Singh | Webinar on Emerging Trends in Physics, College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 29 June 2020 |
| 70. | 2022 | Dr. Devender Singh | Conference on Advances in English Language Studies(ICAELS-2022) organized by University of Engineering & Management , Jaipur, Rajasthan, India. | International | 14 to 15 October 2022 |
| 71. | 2022 | Dr. Aparna | Seminar on the Professional Development and Quality Enhancement in Higher Education through ICT (PDQEHE-2022) at NAAC Accredited Maharani Lakshmi Bai College, Hisar. | National | 12 Sept 2022 |

## E) Mathematics & Statistics

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2019 | Dr. Manoj Kumar | Conference on New Milennia Agriculture Novel Trends and Future Scenario organized by CCS Haryana Agricultural University, Hisar | International | 6-8 November 2019 |
| 2. | 2019 | Dr. Vikash | Seminar on 'Mathematical Sciences and Applications'(NSMSA 2019) held on December 22, 2019 at Department of Mathematics, Maharshi Dayanand University, Rohtak. | National | 22 December 2019 |
| 3. | 2019 | Dr. Vikash | Training Course organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar . | National | 1 June- 1 July 2019 |
| 4. | 2019 | Dr. Vikash | Faculty Development Program on Deep Learning and Applications at IIT Roorkee organized by | National | 27-31 May 2019 |

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| | | | Electronics & ICT Academies at IIT Roorkee through National Knowledge Network (NKN/online) mode. | | |
| 5. | 2019 | Dr. Manoj Kumar | Training on Statistical Advances in Designing of Agricultural experiments and data analysis orgnised by IASRI, IARI-New Delhi | National | 19 July - 08 August 2019 |
| 6. | 2019 | Dr. Sarita Rani | Induction Training Course conducted by the Academy of Agricultural Research and Education Management (AAREM), Directorate of Human Resource Management (DHRM), CCSHAU, Hisar. | National | 1 June - 1 July 2019 |
| 7. | 2020 | Dr. Sarita Rani | Online Refresher course on "Language Skills" conducted by the Academy of Agricultural Research and Education Management (AAREM), Directorate of Human Resource Management (DHRM) at CCSHAU, Hisar. | National | 27 May - 16 June 2020 |
| 8. | 2020 | Dr. Sarita Rani | Workshop on "Digital Library for Strengthening Agricultural knowledge in NARES" organized by Nehru library, CCSHAU, Hisar in collaboration with ICAR-IARI, New Delhi | National | 12 Februar 2020 |
| 9. | 2020 | Dr. Sarita Rani | Refresher course on "Statistical Tools and Techniques for Analysis of Agricultural Data" conducted by Academy of Agricultural Research and Education Management (AAREM), Directorate of Human Resource Management in collaboration with Department of Mathematics and Statistics, CCSHAU, Hisar . | National | 8 July - 28 July 2020 |
| 10. | 2020 | Dr. Sarita Rani | Online national Seminar on "Mathematical Sciences: Repositories of Logical Thoughts and Analytical Tools" organized by the Department of Mathematics and Statistics, CCSHAU, Hisar. | National | 22 December 2020 |
| 11. | 2021 | Dr. Sarita Rani | Suceesfully completed International workshop on "Advance statistical Data analysis using SPSS" organised by Science tech Institute, Lucknow, UP, India | International | 21-27 September 2021 |
| 12. | 2021 | Dr. Sarita Rani | Conference on "Global Initiative in Agricultural, Forestry and Applied Sciences For Food Security, Environmental Safety and Sustainable Development (GIAFAS-2021)" organized at Shri Guru Ram Rai University, Dehradun, Uttarakhand, India. | International | 17-18 October 2021 |

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| 13. | 2022 | Dr. Sarita Rani | National Conference on "Mathematical Sciences for Applied and Agricultural Research" organized by Department of Mathematics and Statistics, COBS&H, CCSHAU, Hisar sponsored by HSCSIT, Panchkula, Haryana. | National | 22 February 2022 |
| 14. | 2020 | Dr. Manoj Kumar | Online Refresher Course on "Language Skills orgnised by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. | National | 27 May 2020 - 16 June 2020 |
| 15. | 2020 | Dr. Vikash | Online Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in Collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar. | National | 08-28 July 2020 |
| 16. | 2021 | Dr. Manoj Kumar | National Conference on "Significance of Mathematics as an interdisciplinary subject" organized by Division of Social Sciences, Faculty of Fisheries, and Division of Agri. Statistics, Shalimar, FoH, SKUAST-Kashmir jointly with University of Kashmir and SKUAST-Jammu, J&K | National | 22 December 2021 |
| 17. | 2021 | Dr. Manoj Kumar | Conference on "Applied Statistics in Biological, Agricultural, Social and Medical Sciences "organised by Division of Social Sciences Faculty of Fisheries, Rangil, Ganderbal, SKUAST-Kashmir, J&K | International | 20-21 October 2021 |
| 18. | 2021 | Dr. Vikash | Conference on "Recent Advances in Solid Mechanics and Seismology" Organized by Department of Mathematics Kurukshetra University, Kurukshetra, India | International | 26-28 October 2021 |
| 19. | 2021 | Dr. Vikash | AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Recent Developments in Mathematical Sciences and Engineering" at Maharshi Dayanand University, Rohtak. | National | 22-26 December 2021 |
| 20. | 2021 | Dr. Vikash | Conference on Frontiers in Industrial and Applied Mathematics (FIAM-2021) Organized by the Department of Mathematics, SLIET Longowal, | International | 21-22 December 2021 |

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| | | | Punjab (INDIA). | | |
| 21. | 2022 | Dr. Manoj Kumar | Conference on " Statistics and Machine Learning for Big data analytics" at Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir (SKUAST-K), Shalimar, Srinagar, Kashmir | National | 14-16 November 2022 |
| 22. | 2022 | Dr. Vikash | National Conference "Mathematical Sciences for Applied and Agricultural Research" Organized by Department of Mathematics and Statistics, CCSHAU, Hisar | National | 22 February2022 |
| 23. | 2022 | Dr. Vikash | Global initiative of Academic Network (GIAN) course entitled "Stochastic Processes: Theory and Its Applications in Medical Sciences" organized by Department of Mathematics, Maharshi Dayanand University, Rohtak. | International | 14- 18 March 2022 |

## F) Microbiology

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
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| 1. | 2018 | Dr. Leela Wati | National Seminar on "Management of paddy straw for bio- CNG, manure, employment and swachhbharat' organized by Centre for Research in Rural and Industrial Development (CRRID) at Chandigarh, India. | National | 16-17 May 2018 |
| 2. | 2018 | Mr. Jagdish Parshad | Attended Gian Training on "Application of thermodynamic prediction for development of microbial biotechnological approaches" organized by Department of Bio and Nano Technology at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | National | 12-21 November 2018 |
| 3. | 2018 | Dr. Baljeet Singh Saharan | Conference on "Sustainable agriculture, energy, environment and technology at Maharshi Dayanand University (MDU), Rohtak, Haryana, India. | International | 24-25 February 2018 |
| 4. | 2018 | Dr. Baljeet Singh Saharan | Seminar on "Harnessing science and technology applications through capacity building and economic policies for sustainable development" at Mahatma Gandhi House, Goettingen, Germany. | International | 13-15 September 2018 |

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| 5. | 2018 | Dr. Baljeet Singh Saharan | Workshop on "Bioinformatics – basic tools and its applications" at DNA Labs – A Centre for Applied Sciences, Dehradun, Uttarakhand, India. | National | 09 December 2018 |
| 6. | 2018 | Dr. Kamla Malik | Workshop on "Intellectual property rights- a mechanism for social economic growth" at CCS Haryana Agricultural University, Hisar, Haryana. | National | 22 November 2018 |
| 7. | 2018 | Mr. Jagdish Parshad | Training on "Accounts for teachers and technical employees for departmental examination" organized by The Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 01-05 May 2018 |
| 8. | 2018 | Mr. Jagdish Parshad | Attended "Induction Training" organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 04 January - 03 February 2018 |
| 9. | 2018 | Mr. Jagdish Parshad | Annual Review Meeting of All India Coordinated Research Project on "Weed management" at G. B. Pant University of Agriculture and Technology, Pant Nagar, U.S. Nagar, Uttarakhand, India. | National | 07-08 June 2018 |
| 10. | 2019 | Dr. Leela wati | Workshop on "Production, processing and value addition of nutri-cereals (millets) in India" organised by Bajra Section at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 19 September 2019 |
| 11. | 2019 | Dr. Baljeet Singh Saharan | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 12. | 2019 | Dr. Baljeet Singh Saharan | Workshop on "Bio-analytical tools and techniques in the modern era of diagnostics" at DNA Labs – A Centre for Applied Sciences (DLCAS) at Dehradun, Uttarakhand, India. | National | 13-14 April 2019 |
| 13. | 2019 | Dr. Baljeet Singh Saharan | Seminar on "Biodiversity : issues, challenges and opportunities" by Department of Zoology and Aquaculture, College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 16-17 July 2019 |

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| 14. | 2019 | Dr. Baljeet Singh Saharan | "Induction training" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 18 November - 17 December 2019 |
| 15. | 2019 | Dr. Baljeet Singh Saharan | Symposium of IAUA on "Low budget natural farming" on September 20, 2019 at Gurukul, Kurukshetra, Haryana, India. | National | 20 September 2019 |
| 16. | 2019 | Dr. Kamla Malik | World Congress on "Nanomedical Sciences at Delhi, India. | National | 07-09 January 2019 |
| 17. | 2019 | Dr. Kamla Malik | Symposium on "Innopreneurship: A need of sustainable agriculture" at CCS Haryana Agricultural University, Hisar, Haryana, India | International | 02-03 February 2019 |
| 18. | 2019 | Dr. Kamla Malik | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 19. | 2019 | Dr. Kamla Malik | Workshop on "Awareness and use of scopus citation databse" by Nehru Library, at CCS Haryana Agricultural University, Hisar, Haryana, Hisar. | National | 29 November 2019 |
| 20. | 2019 | Dr. Anuj Rana | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 21. | 2019 | Dr. Anuj Rana | Conference of Association of Microbiologist of India at Central University of Haryana, Mahendargarh, Haryana, India. | International | 15-18 November 2019 |
| 22. | 2019 | Dr. Meena Sindhu | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 23. | 2019 | Dr. Monika Kayasth | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 24. | 2019 | Dr. Poonam Ranga | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 25. | 2019 | Dr. Shikha Mehta | Conference on "Climate change towards health and agricultural sustainability" by Department of Environmental Science and Engineering at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | International | 18-20 February 2019 |

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| 26. | 2019 | Dr. Shikha Mehta | "Induction training" organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 01- June 01 July 2019 |
| 27. | 2019 | Dr. Shikha Mehta | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 28. | 2019 | Dr. Jagdish Parshad | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 29. | 2019 | Dr. Ajay Kumar | Conference of Association of Microbiologist of India at Central University of Haryana, Mahendargarh, Haryana, India. | International | 15-18 November 2019 |
| 30. | 2020 | Dr. Baljeet Singh Saharan | "COVID-19 pandemic general awareness quiz program", on May 09, 2020 at Dev Bhoomi Institute of Pharmacy and Research, Dev Bhoomi Group of Institutions, Dehradun, Uttarakhand, India. | National | 09 May 2020 |
| 31. | 2020 | Dr. Baljeet Singh Saharan | Webinar on "Emerging trends in physics and its applications in agriculture" organized by Department of Physics, College of Basic Sciences and Humanities at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 29 June 2020 |
| 32. | 2020 | Dr. Baljeet Singh Saharan | International Webinar on "COVID-19 and beyond: future prospects in biotechnology" organized by Department of Molecular and Cellular Engineering, Jacob Institute of Biotechnology and Bioengineering (JIBB) at Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh, India. | International | 08-09 July 2020 |
| 33. | 2020 | Dr. Baljeet Singh Saharan | Webinar on "International funding for young researchers" organized by Directorate of research, at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 11 July 2020 |
| 34. | 2020 | Dr. Baljeet Singh Saharan | Webinar on "Awareness and use of CeRAresourses through J-gate discovery platform" at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 25 June 2020 |
| 35. | 2020 | Dr. Baljeet Singh Saharan | National Webinar on "Zero budget natural farming" organized by Association of Plant Science | National | 06- June 07 2020 |

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| | | | Researchers (APSR) Plantica Foundation, Dehradun, Uttarakhand in association with Department of Agriculture, Amritsar Group of Colleges (AGC), Punjab, India. | | |
| 36. | 2020 | Dr. Baljeet Singh Saharan | National Webinar on "Journal discovery platform (e- resource) J-gate" organized by Nehru Library at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 04 June 2020 |
| 37. | 2020 | Dr. Baljeet Singh Saharan | Workshop on "Digital library for strengthening agricultural knowledge in NARES" organized by Nehru Library, at CCS Haryana Agricultural University, Hisar in collaboration with Indian Agricultural Research Institute, New Delhi, India. | National | 12 February 2020 |
| 38. | 2020 | Dr. Baljeet Singh Saharan | Workshop on "Awareness and use of scopus citation database" organized by Nehru Library at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 29 November 2020 |
| 39. | 2020 | Dr. Baljeet Singh Saharan | Training on "Educational technology" organized by the Academy of research and Education management, Directorate of Human Resource management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 18 December 2019 - 07 January 2020 |
| 40. | 2020 | Dr. Baljeet Singh Saharan | National Workshop cum Webinar on "Endogenous, exogenous and housekeeping genes as an internal controls for the optimization, standardization and validations of nucleic acid amplification technologies for SARS-Cov-2 and Swine Flu (H1N1) virus 2009 pandemics" by DNA Labs-A Centre for Applied Sciences (DLCAS) at Dehradun, Uttrakhand, India. | National | 27-28 June 2020 |
| 41. | 2020 | Dr. Baljeet Singh Saharan | Refresher Course on "Statistical tools and techniques for analysis of agricultural data" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 08-28 July 2020 |
| 42. | 2020 | Dr. Baljeet Singh Saharan | Webinar on "Trends in technology for agriculture, food, nutrition, environment and health" at Jagannath university, Delhi NCR, Haryana, India. | International | 02 October 2020 |
| 43. | 2020 | Dr. Baljeet Singh | Workshop on "Low budget | National | 12 March |

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| | | Saharan | Natural farming" organized by Directorate of Agriculture and Farmers Welfare, Government of Haryana at Gurukul, Kurukshetra, Haryana, India. | | 2020 |
| 44. | 2020 | Dr. Baljeet Singh Saharan | International Webinar on "Translation regulation in eukaryotes: the role of regulatory networks and RNA epi transcriptome" at Max Planck Institute for Biophysical chemistry, Gottingen, Germany. | International | 11 October 2020 |
| 45. | 2020 | Dr. Baljeet Singh Saharan | Faculty Development Programme on "Advances in bio techniques" organized by Department of Biotechnology, Meerut Institute of Engineering and Technology, Meerut, Uttar Pradesh, India. | National | 09-11 October 2020 |
| 46. | 2020 | Dr. Baljeet Singh Saharan | Attended Webinar on "Teaching and learning modes post covid – 19" organized by Department of Electronics and Communication Engineering at Punjabi University, Patiala, Punjab, India. | National | 29 April 2020 |
| 47. | 2020 | Dr. Kamla Malik | National Webinar on "Role of renewable energy technologies in conservation of energy" organized by the ICAR-AICRP on EAAI, Department of Renewable Energy Engineering, College of Agricultural Engineering, University for Agricultural Sciences, Raichur, Karnataka, | National | 14 December 2020 |
| 48. | 2020 | Dr. Kamla Malik | "Digital library for strengthening agricultural knowledge in NARES" organized by Nehru Library at CCS Haryana Agricultural University Hisar, Haryana, India. | National | 12 Februray 2020 |
| 49. | 2020 | Dr. Kamla Malik | Faculty Development Program on "Nanomaterials for energy harvesting and biomedical applications" organized by Nanomaterials for photovoltaic and biomaterials laboratory (NPBL), Department of Humanities and Basic Sciences at Godavari Institute of Engineering and Technology, Rajamathendravaram, Andhra Pradesh, India. | National | 18-22 May 2020 |
| 50. | 2020 | Dr. Kamla Malik | Workshop on "Awareness and use of e-resources through remote login for faculty and students of CCS Haryana Agricultural University" at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 23 June 2020 |
| 51. | 2020 | Dr. Kamla Malik | Webinar on "Women in bioenergy sciences-promoting the | National | 26 June 2020 |

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| | | | bioeconomy in the post-COVID era" organized by Department of Biotechnology at New Delhi, India. | | |
| 52. | 2020 | Dr. Kamla Malik | Refresher Course on "Extension management" at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 11-31 December 2020 |
| 53. | 2020 | Dr. Kamla Malik | Training on "Virtual biogas training tour" organized by Indian Biogas Association at New Delhi, India. | National | 07-08 October 2020 |
| 54. | 2020 | Dr. Shikha Mehta | Webinar on "Emerging trends in physics and its applications in agriculture" organized by Department of Physics, College of Basic Sciences and Humanities at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 29 June 2020 |
| 55. | 2020 | Dr. Anuj Rana | Refresher Course on "Statistical tools and techniques" at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 08-28 July 2020 |
| 56. | 2020 | Dr. Anuj Rana | Induction training on "Teaching-learning pedagogy" at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 08 September - 10 October 2020 |
| 57. | 2020 | Dr. Anuj Rana | Twelve days International Indo-US-Afghanistan CAAI workshop on "Capacity development for agricultural innovation systems: agricultural research and climate-smart agriculture approaches" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 07- 18 March 2020 |
| 58. | 2020 | Dr. Anuj Rana | Online Indo-US Afghanistan International workshop on "Development of essential research capabilities: design, implement and perform analysis in applied research" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 23-29 March 2020 |
| 59. | 2020 | Dr. Anuj Rana | Online Indo-US Afghanistan International Workshop on "Integrated pest management" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 14 15 and 22 September 2020 |
| 60. | 2020 | Dr. Anuj Rana | International Workshop on "Climate change" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 16 23 30 July and 6 August 2020 |
| 61. | 2020 | Dr. Ajay Kumar | Workshop on "Digital library for strengthening agricultural knowledge in NARES" organized by Nehru Library, CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 12 February 2020 |
| 62. | 2020 | Dr. Ajay Kumar | Induction training conducted by the Academy of Agricultural | National | 08 September - 08 October |

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| | | | Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | | 2020 |
| 63. | 2020 | Dr. Ajay Kumar | International Webinar on "COVID-19 infection: origin and transmission" on August 15, 2020 organized by Association of Microbiologists of India, Hisar, Haryana, India. | International | 15 August 2020 |
| 64. | 2021 | Dr. Baljeet Singh Saharan | Conference on "Sustaining pulse production for self-sufficiency and nutritional security" organized by Indian Society of Pulses Research and Development and ICAR-Indian institute of pulses research, Kanpur in collaboration with Indian Council of Agricultural Research, New Delhi. | National | 09-11 February 2021 |
| 65. | 2021 | Dr. Baljeet Singh Saharan | Webinar on "Nano Biosensors: applications in healthcare diagnostics" organized by Department of Biotechnology, School of Basic and Applied Sciences. | National | 05 June 2021 |
| 66. | 2021 | Dr. Ajay Kumar | Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). | International | 03-05 February 2021 |
| 67. | 2021 | Dr. Baljeet Singh Saharan | "National conclave on natural farming" at Anand Agricultural University, Anand, Gujarat, India. | National | 14-16 December 2021 |
| 68. | 2021 | Dr. Kamla Malik | Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). | International | 03-05 February 2021 |
| 69. | 2021 | Dr. Anuj Rana | Webinar on "Deep learning for detection and management of plant disease" in collaboration with Jagannath university, Bhadurgarh, India and CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 08-12 March 2021 |
| 70. | 2021 | Dr. Anuj Rana | Indo-US Afghanistan International workshop on "Training on agribusiness | International | 05-06 April 2021 |

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| | | | experiential learning" at CCS Haryana Agricultural University, Hisar, Haryana, India. | | |
| 71. | 2021 | Dr. Anuj Rana | Indo-US Afghanistan International workshop on "Basic and advance laboratory/farm technologies in agriculture" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 28-30 June 2021 |
| 72. | 2021 | Dr. Anuj Rana | International Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on "What can the microbiome tell us about the conditions in agricultural soil" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 29 September 2021 |
| 73. | 2021 | Dr. Meena Sindhu | Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). | International | 03-05 February 2021 |
| 74. | 2021 | Dr. Meena Sindhu | Refresher Course on "Research management" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 08-28 April 2021 |
| 75. | 2021 | Dr. Monika Kayasth | Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). | International | 03-05 February 2021 |
| 76. | 2021 | Dr. Monika Kayasth | Refresher Course on "Research management" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 08-28 April 2021 |
| 77. | 2021 | Dr. Monika Kayasth | Conference on "Advanced developments in chemistry and allied sciences-2021" organized by the Department of Chemistry at Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, | International | 16-17 December 2021 |

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| | | | Haryana, India. | | |
| 78. | 2021 | Dr. Poonam Ranga | Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). | International | 03-05 February 2021 |
| 79. | 2021 | Dr. Shikha Mehta | Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). | International | 03-05 February 2021 |
| 80. | 2021 | Dr. Shikha Mehta | Conference on "Advanced developments in chemistry and allied sciences" organized by the Department of Chemistry at DeenbandhuChhotu Ram University of Science and Technology, Murthal, Sonipat, Haryana, India. | International | 16-17 December 2021 |
| 81. | 2021 | Dr. Shikha Mehta | Refresher course on "Applications of statistical and econometric techniques in agriculture" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in collaboration with Department of Agricultural Economics at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 24 November - 14 December 2021 |
| 82. | 2021 | Mr. Jagdish Parshad | Refresher Course on "Research management" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 08-28 April 2021 |
| 83. | 2021 | Mr. Jagdish Parshad | Training Course on "Opportunities in agriculture, animal husbandry and allied sectors for sustainable entrepreneurship and livelihood security" jointly organized by Centre for Agribusiness Incubation and Entrepreneurship, RVSKVV, Gwalior (Madha Pradesh), NABARD and AEDS, Majhra Ghat, Rampur, U.P., | National | 01-21 July 2021 |

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| | | | India. | | |
| 84. | 2021 | Mr. Jagdish Parshad | Webinar on "Improving quality of agricultural research in India" on June 30, 2021 organized by Research Academy. | National | 30 June 2021 |
| 85. | 2021 | Mr. Jagdish Parshad | Workshop on "Modern techniques of antibody production" organized by Department of Veterinary Microbiology, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India. | National | 25-26 March 2021 |
| 86. | 2022 | Dr. Leela wati | Symposium on "Paradigm shift in cotton cultivation" at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. | National | 09-10 August 2022 |
| 87. | 2022 | Dr. Baljeet Singh Saharan | International Workshop on "Progress in adoption of sustainable agriculture in India: barriers and opportunities" organized by National Institute Of Technology (NIT) Karnataka, Surathkal and Scheme for Promotion of Academic and Research Collaboration (Ministry of Education, GOI) | International | 25–29 April 2022 |
| 88. | 2022 | Dr. Baljeet Singh Saharan | Workshop on "Panel discussion on production technology of kharif pulses and finalization of impact points" at Saina Nehwal Institute of Agricultural Technology, Training and Education, CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 12 July 2022 |
| 89. | 2022 | Dr. Baljeet Singh Saharan | Joint Meeting of the Committee and Vice Chancellors of the State Agricultural Universities of Gujarat regarding "Finalisation of course curriculum on natural farming" at Raj Bhavan, Gandhinagar, Gujarat, India. | National | 22 July 2022 |
| 90. | 2022 | Dr. Baljeet Singh Saharan | Training on "Pest surveillance" at National Institute of Plant Health Management, Department of Agriculture, Cooperation and farmers welfare, Ministry of Agriculture and farmers welfare, Govt of India, Rajendranagar, Hyderabad, India. | National | 22-26 August 2022 |
| 91. | 2022 | Dr. Baljeet Singh Saharan | National Webinar on "Quit India movement to food secured India" organized by Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. | National | 08 August 2022 |
| 92. | 2022 | Dr. Baljeet Singh Saharan | Webinar on "Natural farming in horticulture crops" at Horticulture Training Institute (HTI), Karnal, | National | 15 June 2022 |

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| | | | Haryana, India. | | |
| 93. | 2022 | Dr. Baljeet Singh Saharan | Training on "Natural farming" at Natural Farming Training Institute (NFTI), Gurukul, Kurukshetra, Haryana, India. | National | 05-16 December 2022 |
| 94. | 2022 | Dr. Baljeet Singh Saharan | Training on "Natural farming to master trainers of Gujarat state" at Gujarat University of Natural Farming and Organic Agriculture, Halol, Gujarat, India. | National | 22-24 November 2022 |
| 95. | 2022 | Dr. Kamla Malik | Training on "International pedagogy" at Texas, A and M University, College Station, Texas, USA. | International | 15 November 2021- 14 February 2022 |
| 96. | 2022 | Dr. Kamla Malik | Refresher course on "Statistical methods and data analysis" organized by Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 30 July - 19 August 2022 |
| 97. | 2022 | Dr. Kamla Malik | Conference on "Water, agriculture, dairy and food processing for sustainable economy" organized by University Corporated Resource Centre at Eternal University, Baru Sahib, Himachal Pardesh, India. | International | 25-26 March 2022 |
| 98. | 2022 | Dr. Anuj Rana | Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on "Antibiotic resistance in agro environments: epidemiology and microbial ecology" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 24 May 2022 |
| 99. | 2022 | Dr. Anuj Rana | International Training and Webinar on "Reducing carbon emissions- simple solutions to complex problems- climate change" on June 03, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 03 June 2022 |
| 100. | 2022 | Dr. Anuj Rana | Training and Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on "Your future after undergraduate or postgraduate degree" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 09 September 2022 |
| 101. | 2022 | Dr. Meena Sindhu | Conference on "Water, agriculture, dairy and food processing for sustainable economy" organized by University Corporated Resource Centre at Eternal University Baru Sahib, Himachal Pardesh, India. | International | 25-26 March 2022 |
| 102. | 2022 | Dr. Monika Kayasth | Conference on "Emerging materials for sustainable development" jointly organized by Council of Scientific and Industrial Research - Central | International | 09-11 October 2022 |

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| | | | Scientific Instruments Organisation at Chandigarh, India. | | |
| 103. | 2022 | Dr. Poonam Ranga | Conference on "Water, agriculture, dairy and food processing for sustainable economy" organized by University Corporated Resource Centre at Eternal University Baru Sahib, Himachal Pardesh, India. | International | 25-26 March 2022 |
| 104. | 2022 | Dr. Shikha Mehta | Conference on "Emerging Materials For Sustainable Development" jointly organized by Council of Scientific and Industrial Research - Central Scientific Instruments Organisation at Chandigarh, India. | International | 09-11 October 2022 |
| 105. | 2022 | Mr. Jagdish Parshad | "World bio-sciences congress" organized by Indian Society of Genetics, Biotechnology Research and Development and Hindustan College of Science and Technology, at Farah, Agra, Uttar Pradesh, India. | National | 14-17 April 2022 |
| 106. | 2022 | Dr. Ajay Kumar | Workshop on "Yoga for physical and mental wellbeing" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 16 June 2022 |

## G) Molecular Biology and Biotechnology

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2019 | Dr. Nita Lakra | "Golden jubilee International Conference on new millenia agriculture- novel trends and future scenario" CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 2. | 2019 | Dr. Nita Lakra | CAFT Training on "Next generation sequencing and its application to crop science" by NRCPB at New Delhi, India. | National | 03 September 2019 |
| 3. | 2019 | Dr. Nita Lakra | "Plant molevulat biology" at Amsterdam, Netherlands. | International | 23-25 October 2019 |
| 4. | 2021 | Dr. Nita Lakra | Training Course at Noida Institute of Engineering and Technology, Noida sponsored by DBT, New Delhi, India. | National | 06-20 April 2021 |
| 5. | 2022 | Dr. Shikha Yashveer | Refresher course on "Statistical methods and data analysis" organized by Directorate of | National | 30 July - 19 August 2022 |

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| | | | Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. | | |
| 6. | 2022 | Dr. Nita Lakra | Conference cum-Workshop on "Physiological and molecular mechanisms of abiotic stress tolerance in plants and physiological and molecular markers of abiotic stresses in plants" at Department of Botany, University of Calicut, Kerala, India. | International | 26 October - 04 November 2022 |

## H) Physics

| Sl. No. | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops/ Training / Consultancy visits / Special assignments etc | National/ International | Date(s) |
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| 1. | 2018 | Dr. Rita Dahiya | Annual Convention of Indian Society of Soil Science and National Seminar on "Developments in soil science" at Anand Agricultural University, Anand, Gujarat, India. | National | 27-30 November 2018 |
| **2.** | 2019 | Dr. Rita Dahiya | "Golden jubilee International Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| **3.** | 2020 | Dr. Rita Dahiya | Webinar on "Drone remote sensing in agriculture" organized byIndian Society of Agro-Physics in association with Division of Agricultural Physics, Indian Council of Agricultural Research-Indian Agricultural Research Institute at New Delhi, India . | National | 09 September 2020 |

## I. Plant Physiology

| Sl. No. | Year | Name of Faculty | ame of Seminars/ Symposia/ Vorkshops/ Training / onsultancy visits / Special ssignments etc | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Sarita Devi | Symposium on "Frontiers in sustainable agriculture" organized by Bio-Science Group at Bhabha Atomic Research Centre, Trombay, Mumbai, Maharashtra, India. | National | 26-28 April 2018 |
| 2. | 2018 | Dr. Anita Kumari | Workshop on "Application of thermodynamic prediction for development of microbial biotechnological approaches" organized by GIAN-MHRD, Govt. of India at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | International | 12-21 November2018 |

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| 3. | 2018 | Dr. Vinod Goyal | Training on "Advances in simulation modeling and climate change research towards knowledge based agriculture" at CESCRA, IARI,New Delhi, India. | National | 13 November - 03 December 2018 |
| 4. | 2018 | Dr. Vinod Goyal | "KRUSHIK–live demos and agri-expo" at Krishi Vigyan Kendra, Baramati and KF Bioplants for Tissue Culture facility, Pune, Maharashtra, India. | National | January 2018 |
| 5. | 2019 | Dr. Sarita Devi | Conference on "Climate changes towards health and agricultural sustainability" organized by Department of Environmental Science and Engineering at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. | International | 18-20 February 2019 |
| 6. | 2019 | Dr. Sarita Devi | Conference on new millenia agriculture- novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 7. | 2019 | Dr. Sarita Devi | International Congress on "Environmental research" at Kalady, Ernakulam, Kerala, India. | International | 19-21 December 2019 |
| 8. | 2019 | Dr Anita Kumari | Workshop on "Molecular mapping of economic traits using high-throughput technologies" organized by Department of Botany of Plant Physiology, College of Basic Sciences and Humanities at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 08 -17 July 2019 |
| 9. | 2019 | Dr Anita Kumari | Symposium on "Innopreneurship: a need of sustainable agriculture" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 02-03 February 2019 |
| 10. | 2019 | Dr. Sukham Madaan | Conference on "New millenia agriculture - novel trends and future scenario" at CCS Haryana Agricultural University, Hisar, Haryana, India. | International | 06-08 November 2019 |
| 11. | 2020 | Dr. Sarita Devi | Plant Physiology Virtual Conference on "Prospects of plant physiology for climate proofing agriculture" organized by Sher-e-Kashmir University of Agricultural Science and Technology, Jammu, India and Indian Society for Plant Physiology, New Delhi, India. | International | 06-07 December 2020 |
| 12. | 2020 | Dr. Sarita Devi | "Advances in fodder production, utilization and conservation for improving livestock health, productivity and environmental sustainability" organized by ICAR-Indian Grassland and | National | 20 August - 09 September 2020 |

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| | | | Fodder Research Institute Regional Research Station, Srinagar and National Agriculture Development Cooperative Ltd. Delina, Baramulla, India. | | |
| 13. | 2020 | Dr Anita Kumari | Plant Physiology Virtual Conference on "Prospects of plant physiology for climate proofing agriculture" organized by Sher-e-Kashmir University of Agricultural Science and Technology, Jammu, India and Indian Society for Plant Physiology, New Delhi, India. | International | 06-07 December 2020 |
| 14. | 2020 | Dr.Sukham Madaan | Webinar on "Molecular taxonomy and DNA barcoding: concepts, methods and applications" organized by Department of Botany at R.D. and S.H. National College and SWA Science college, Mumbai, Maharashtra, India. | National | 20 May 2020 |
| 15. | 2021 | Dr. Sarita Devi | Symposium on "Physiological interventions for climate smart agriculture" organized by Indian Society for Plant Physiology (ISPP), National Academy of Agricultural Sciences (NAAS), Coimbatore, Society for Sugarcane Research and Development. | International | 11-12 March 2021 |
| 16. | 2021 | Dr. Sarita Devi | "Applications of statistical and econometric techniques in agriculture" organized by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 24 November -14 December 2021 |
| 17. | 2021 | Dr. Anita Kumari | Symposium on "Plant biotechnology towards improving agri-food industry and healthcare products" organized by Department of Bioengineering and Biotechnology at Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India. | International | 27-30 October 2021 |
| 18. | 2021 | Dr. Anita Kumari | Refresher Course on "Education technology" conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCS Haryana Agricultural University, Hisar, Haryana, India. | National | 09-21 October 2021 |
| 19. | 2021 | Dr. Anita Kumari | Conference on "Advanced developments in chemistry and allied sciences", organised by Department of Chemistry, | International | 16-17 December 2021 |

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| | | | DeenbandhuChhotu Ram University of Science and Technology, Murthal, Haryana, India. | | |
| 20. | 2021 | Dr. Sukham Madaan | Conference on "Advanced developments in chemistry and allied sciences", organized by Department of Chemistry, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Haryana, India. | International | 16-17 December 2021 |
| 21. | 2022 | Dr Anita Kumari | ISPP North Zonal Seminar on "Inter-disciplinary research strategies for climate resilient agriculture" at ICAR-Sugarcane Breeding Institute, Regional Centre, Karnal, Haryana, India. | National | 25 June 2022 |
| 22. | 2022 | Dr. Vinod Goyal | Conference on "Managing weather and climate risks in agriculture" at Srinagar, Jammu and Kashmir, India. | National | 24-26 March 2021 |
| 23. | 2022 | Dr Sarita Devi | ISPP North Zonal Seminar on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, 2022 at ICAR-Sugarcane Breeding Institute, Regional Centre, Karnal, Haryana, India. | National | 25 June 2022 |
| 24. | 2022 | Dr. Vinod Goyal | Conference on "Current issues in agricultural, biological and applied sciences for sustainable development" at Kalimpong Science Centre, Deolo, Kalimpong, Darjeeling, West Bengal, India. | International | 11-13 June 2022 |
| 25. | 2022 | Dr. Sukham Madaan | ISPP North Zonal Seminar on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, 2022 at ICAR-Sugarcane Breeding Institute, Regional Centre, Karnal, Haryana, India. | National | 25 June 2022 |
| 26. | 2022 | Dr. Sukham Madaan | National Symposium on "Paradigm shift in cotton cultivation" at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. | National | 08-10 August 2022 |

## C) College of Home Sciences

IC College of Home Science consists of five departments and the seminar /symposia /workshop /training /attended by faculty members is as under.

| Sl. No | Department | International | National | Total Number |
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| **1.** | Extension Education and Communication Management | 35 | 86 | 121 |
| **2.** | Department of Foods and Nutrition | 23 | 42 | 65 |

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| **3.** | Department of Human Development and Family Studies | 8 | 110 | 118 |
| **4.** | Department of Family Resource Management | 16 | 40 | 56 |
| **5.** | Department of Textile and Apparel Designing | 20 | 52 | 72 |
| 6. | Total | 102 | 330 | 432 |

## 1. Department of Extension Education and Communication Management

| Sr.No. | Year | Name of Faculty | Name of seminar /symposia /workshop /training /consultancy visits/special assignments etc | National /International | Date |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Vandana Verma | ICAR sponsored CAFT course on Extension Led nutritional security organised by Division of Agricultural Extension, ICAR IARI New Delhi . (21 days) | National | 04-24 September 2018 |
| 2. | 2019 | Dr. Rajesh Dahiya | International Symposium on Innopreneurship : A Need of Sustainable Agriculture organized by CCSHAU, Hisar | International | 2-3 February 2019 |
| 3. | 2019 | Dr. Poonam Kundu | International Symposium on Innopreneurship : A Need of Sustainable Agriculture organized by CCSHAU, Hisar | International | 2-3 February 2019 |
| 4. | 2019 | Dr. Vandana Verma | International Symposium on Innopreneurship : A Need of Sustainable Agriculture organized by CCSHAU, Hisar | International | 2-3 February 2019 |
| 5. | 2019 | Dr Ella rani | International Symposium on Innopreneurship : A Need of Sustainable Agriculture organized by CCSHAU, Hisar | International | 2-3 February 2019 |
| 6. | 2019 | Dr Manju Dahiya | International Symposium on Innopreneurship : A Need of Sustainable Agriculture organized by CCSHAU, Hisar | International | 2-3 February 2019 |
| 7. | 2019 | Dr. Kanta Sabharwal | XXIII Biennial Workshop of All India Coordinated Research Project on Home Science at Maharana Pratap University of Agriculture and Technology, Udaipur | National | 15-16 February 2019 |
| 8. | 2019 | Dr. Beena Yadav<br>Dr. Ella Rani | Seminar on Innovative Strategies for Gender Equality organized by I.C. College of Home Science, CCSHAU, Hisar, Haryana. | National | 8 March 2019 |
| 9. | 2019 | Dr. Rajesh Dahiya | Seminar on Innovative Strategies for Gender Equality organized by I.C. College of Home Science, CCSHAU, Hisar, Haryana. | National | 8 March 2019 |
| 10. | 2019 | Dr. Sushma Kaushik | Seminar on Innovative Strategies for Gender Equality organized by I.C. College of Home Science, CCSHAU, Hisar, Haryana. | National | 8 March 2019 |

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| 11. | 2019 | Dr. Vandana Verma | Seminar on Innovative Strategies for Gender Equality organized by I.C. College of Home Science, CCSHAU, Hisar, Haryana. | National | 8 March 2019 |
| 12. | 2019 | Dr. Poonam Kundu | Seminar on Innovative Strategies for Gender Equality organized by I.C. College of Home Science, CCSHAU, Hisar, Haryana. | National | 8 March 2019 |
| 13. | 2019 | Dr. Beena Yadav | International Conference on Emerging Paradigms in Social Science Research organized by Faculty of Social Sciences, Bhagat Phool Singh, Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat | International | 25-26 March 2019 |
| 14. | 2019 | Dr. Rajesh Dahiya | International Conference on Emerging Paradigms in Social Science Research organized by Faculty of Social Sciences, Bhagat Phool Singh, Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat | International | 25-26 March 2019 |
| 15. | 2019 | Dr. Poonam Kundu | International Conference on Emerging Paradigms in Social Science Research organized by Faculty of Social Sciences, Bhagat Phool Singh, Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat | International | 25-26 March 2019 |
| 16. | 2019 | Dr. Rajesh Dahiya | National Conference on Recent Trends in the field of Environmental Science and Engineering organized by Department Environmental Science and Engineering, GJUS&T, Hisar | National | 20-21 September 2019 |
| 17. | 2019 | Dr. Seema Rani | 25th Edition of DST-CII Technology Summit at Hotel JW Marriott, New Delhi, | National | 13-16 October 2019 |
| 18. | 2019 | Dr. Rajesh Dahiya | Golden Jubilee International Conference on New Millennia Agriculture: Novel Trend and Future Scenario. Organized by CCSHAU , | International | 6-8 November 2019 |
| 19. | 2019 | Dr. Vandana Verma | | International | 6-8 November 2019 |
| 20. | 2019 | Dr. Poonam Kundu | | International | 6-8 November 2019 |
| 21. | 2019 | Dr. Beena Yadav | ISEE National Seminar for Socio Digital Approaches for Transforming Agriculture organized by ISEE, CCSHAU and Banda Univ, UP at CCSHAU , . | National | 20-22 November 2019 |
| 22. | 2019 | Dr. Vandana Verma | | National | 20-22 November |

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| 23. | 2019 | Dr. Poonam Kundu | | National | 20-22 November 2019 |
| 24. | 2020 | Dr. Poonam Kundu | National Incubators Colloquium held at ABIC, CCSHAU, Hisar | National | 15-16 January 2020 |
| 25. | 2020 | Dr. Vandana Verma | International conference advances and innovations in agriculture and alluies sciences (AIAAS-2020) organized by Jawahar lal Nehru university convention centre, New Delhi held on | International | 31 January- 1 February 2020 |
| 26. | 2020 | Dr. Vandana Verma | National Webinar on" Gender Sensitization: Need of the hour"" organized by Institute of Home Science & IQAC, Dr. Bhimrao Ambedkar University, Agra held on | National | 26 May 2020 |
| 27. | 2020 | Dr. Ella Rani | Webinar and discussion series Migration, Displacement, and De-urbanization in the Context of COVID-19 organised by Land Portal Foundation,Netherlands, | International | 28 May 2020 |
| 28. | 2020 | Dr. Manju Dahiya | National Webinar on Deconstructing the Gender Binary organized by Govt.College for Women, Hisar ,. | National | 30 May 2020 |
| 29. | 2020 | Dr. Vandana Verma | Online workshop on Effective Strategies of Managing Stress: Handling Self, Family and Nation organized by IDP-NAHEP GBPUAT, Pantnagar on | National | 31 May 2020 |
| 30. | 2020 | Dr. Ella Rani | | National | 31 May 2020 |
| 31. | 2020 | Dr. S.Kaushik* | National Webinar on "Community Science: Linkages and Way Forward" organized by Department of EECM, College of Community and Applied Sciences, MPUAT, Udaipur (Rajasthan) | National | 3 June 2020 |
| 32. | 2020 | Dr. Vandana Verma | | National | 3 June 2020 |
| 33. | 2020 | Dr. Ella Rani | | National | 3 June 2020 |
| 34. | 2020 | Dr. Vandana Verma | National Webinar on Nutrition security challenges and importance of nutrition to boost the immune system during COVID-19 pandemic organized by Department of Food Nutrition and Public Health, Ethelind College of Home Science, Sam HigginBottom University of Agriculture, Technology & Sciences, Prayagraj U.P. India | National | 5 June 2020 |
| 35. | 2020 | Dr. Ella Rani | | National | 5 June 2020 |
| 36. | 2020 | Dr. Vandana Verma, | National Webinar on "Role of ICT in Agriculture and Extension in Present Scenario of Covid-19" organized by Department of Extension Education and Communication Management, | National | 11-12 June 2020 |
| 37. | 2020 | Dr. Ella Rani | | National | 11-12 June 2020 |

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| | | | College of Community and Applied Sciences, MPUAT, Udaipur under IDP-NAHEP. | | |
| 38. | 2020 | Dr. Seema Rani | National Webinar on "Post COVID-19 Agribusiness: Challenges and Opportunities organized by the Junagadh Agricultural University, Junagadh ,. | National | 13-14 June 2020 |
| 39. | 2020 | Dr. Vandana Verma | Two days International Webinar on Capacity Building to Cope with Unprecedented Conditions at Work Place Organized by Department of Mechanical Engineering, College of Technology & Engineering, MPUAT, Udaipur under TEQIP-III project | International | 15-16 June 2020 |
| 40. | 2020 | Dr. Ella Rani | | International | 15-16 June 2020 |
| 41. | 2020 | Dr. Vandana Verma | International Webinar on Critical Thinking and Future of Learning..Organised by Faculty of education Teerthanker Mahaveer University Moradabad. | National | 18 June 2020 |
| 42. | 2020 | Dr. Vandana Verma | Future of Indian Media. Organized by Department of Communication, Bangalore University, Bangalore. | National | 22 to 27 June 2020 |
| 43. | 2020 | Dr. Vandana Verma | Massive Open Online Course (MOOC) on "Designing E-learning Content" organized by ICAR NAARM, Hyderabad | National | 01-31 July 2020 |
| 44. | 2020 | Dr. Poonam Kundu | | National | 01-31 July 2020 |
| 45. | 2020 | Dr. Ella Rani | | National | 01-31 July 2020 |
| 46. | 2020 | Dr. Vandana Verma | International Webinar on "Strengthening the Immune System against COVID-19 through Agricultural Innovations' organized by Agricultural Research Station, SKNAU, Jobner Fatehpur - Shekhawati, Sikar, Rajasthan | International | 29 June 2020 |
| 47. | 2020 | Dr. Ella Rani | | International | 29 June 2020 |
| 48. | 2020 | Dr. Vandana Verma | Webinar on "Entrepreneurial Challenges & Opportunities Post Covid-19" organized by Faculty of Engg. & Computing Sciences,TMU Moradabad UP | National | 6 August 2020 |
| 49. | 2020 | Dr. Ella Rani | Webinar on "Popular Science Writing under AWSAR Programme organized by DST and Vigyan Prasar | National | 7 August 2020 |
| 50. | 2020 | Dr. Vandana Verma | Webinar on "Startup - A Stepping Stone to Attain Self Reliance and | National | 8 August 2020 |

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| | | | Sustainability in Agricultural Sciences" organized by ASPEE College of Home Sc & Nutrition, SDAU, Gujarat | | |
| 51. | 2020 | Dr. Ella Rani | Two weeks' online course on "Measuring of Entrepreneurial Impact" organized organized by Coventry University, UK | International | 8th August 13 September 2020 |
| 52. | 2020 | Dr. Ella Rani | International Webinar on "Entrepreneurship During COVID-19" organized by IILM Academy of Higher Learning Lucknow | International | 12 August 2020 |
| 53. | 2020 | Dr. Vandana Verma | MOOCs training program on "Gender Mainstreaming in Agriculture & Allied Sectors" organized by MANAGE, Hyderabad | National | 7-11 September 2020 |
| 54. | 2020 | Dr. Ella Rani | | National | 7-11 September 2020 |
| 55. | 2020 | Dr. Santosh Rani | National Webinar on "Women FPOs: An Effective Approach for Boosting Entrepreneurship. Empowerment and Self reliance (Atmanirbhar)" organized by MPUAT, Udaipur | National | 10 September 2020 |
| 56. | 2020 | Dr. Vandana Verma | International Webinar on COVID - 19 Biodiversity and Climate Change ; Indigenous people defining the path forward organized by Land Portal Foundation, Netherlands | International | 10 September 2020 |
| 57. | 2020 | Dr. Beena Yadav | Online panel discussion on NEP 2020 Organized by DHRM, CCSHAU Hisar | National | 16 September 2020 |
| 58. | 2020 | Dr. Vandana Verma | International Webinar on COVID - 19 Regulatory Rollback and the 'Green Recovery': Indigenous Peoples Raise Their Voices organized by Land Portal Foundation, Netherlands | International | 17 September 2020 |
| 59. | 2020 | Dr. Beena Yadav | International Webinar on, 'Combating Hidden Hunger - Obstacles & Interventions for Sustainability organized by Department of FN, COHS, CCSHAU, Hisar | International | 19 September 2020 |
| 60. | 2020 | Dr. Ella Rani | International Webinar on 'Combating Hidden Hunger - Obstacles & Interventions for Sustainability' organized by Department of FN, COHS , CCSHAU, Hisar | International | 19 September 2020 |

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| 61. | 2020 | Dr. Rajesh Dahiya | International web conference on food security through sustainable Agriculture, organized organized by Shri Vaishanv Vidya peethVishavVidyalya of Agri. Indore M.P. | International | 21- 22 September 2020 |
| 62. | 2020 | Dr. Vandana Verma | MOOCs Training Programme on "Application of ICTs in Agriculture" organized by MANAGE, Hyderabad | National | 21-27 September 2020 |
| 63. | 2020 | Dr. Ella Rani | | National | 21-27 September 2020 |
| 64. | 2020 | Dr. Ella Rani | Online MOOCs Programme on 'Extension of Women Entrepreneurial Skills for Agriculture Development' organized by MANAGE, Hyderabad | National | 28-30 September 2020 |
| 65. | 2020 | Dr. Vandana Verma | | National | 28-30 September 2020 |
| 66. | 2020 | Dr. Santosh Rani | National Webinar on "Nutri-sensitive Agriculture: A way to Empower India for a Healthier Future" organized by AICRP (HS) Centre, College of Community Science, CAU , Tura, Meghalaya | National | 29 September 2020 |
| 67. | 2020 | Dr. Vandana Verma | Online MOOCs Programme on "Monitoring and Evaluation of Agriculture Projects" organized by MANAGE, Hyderabad | National | 5-11 October 2020 |
| 68. | 2020 | Dr. Vandana Verma | MOOCs training program on "Agri Journalism" organized by MANAGE, Hyderabad | National | 23-27 November 2020 |
| 69. | 2020 | Dr. Ella Rani | | National | 23-27 November 2020 |
| 70. | 2020 | Dr. Beena Yadav | Brain storming session on Gender Sensitization Issues and Challenges under NASF project COHS, CCSHAU, Hisar | National | 3 December 2020 |
| 71. | 2020 | Dr. Beena Yadav | Webinar on Role of Women in Agriculture organized by the Deptt. of EECM, COHS, CCSHAU, Hisar | National | 4 December 2020 |
| 72. | 2020 | Dr. Rajesh Dahiya | | National | 4 December 2020 |
| 73. | 2020 | Dr. Vandana Verma | | National | 4 December 2020 |
| 74. | 2020 | Dr. Santosh Rani | | National | 4 December 2020 |

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| 75. | 2020 | Dr. Poonam Kundu | | National | 4 December 2020 |
| 76. | 2020 | Dr. Ella Rani | | National | 4 December 2020 |
| 77. | 2020 | Dr. Santosh Rani | Online Idea Investors Meet 2020 organized by ABIC Center, CCSHAU, Hisar | National | 4 December 2020 |
| 78. | 2020 | Dr. Rajesh Dahiya | Virtual International Extension Education Conference on Role of NGO's in Extension Service: Opportunities & Challenges organized by Deptt. of Ext.Edu , Institute of Agricultural Science, BHU Varanasi, U.P. | International | 27-30 December 2020 |
| 79. | 2021 | Dr. Beena Yadav | Webinar on, 'Vaccine and Medication Equity organized by Haryana State Higher Education Council and Gautam Buddha University | National | 18 May 2021 |
| 80. | 2021 | Dr. Beena Yadav | Online Lecture of Gurudev Sri Sri Ravi Shankar on 'How to overcome stress' .Organized by ICAR | National | 28 June 2021 |
| 81. | 2021 | Dr. Poonam Kundu | | National | 28 June 2021 |
| 82. | 2021 | Dr. Beena Yadav | Webinar on 'Improving quality of Agricultural Research Landscape in India.' organized by Nehru Library, CCSHAU Hisar and Elsevier | National | 30 June 2021 |
| 83. | 2021 | Dr. Rajesh Dahiya | Virtual International Conference on new paradigms for Agriculture, Food and sustainability Concerns organized by Raichur, Karnataka | International | 26-28 February 2021 |
| 84. | 2021 | Dr. Vandana Verma | International Conference on Soil and Water Resource Management organized by College of Technology and Engineering, MPUAT, Udaipur, Rajasthan, India | International | 26-27 February 2021 |
| 85. | 2021 | Dr. Poonam Kundu | Virtual workshop on digital library framework for strengthening agricultural knowledge organized by Nehru Library, CCSHAU Hisar and IARI, New Delhi | National | 17- 19 February 2021 |
| 86. | 2021 | Dr. Ella Rani | | National | 17- 19 February 2021 |
| 87. | 2021 | Dr. Vandana Verma and | Massive Open Online Course (MOOC) *on* "Information Handling Skills for Teaching, Learning and Research" organized by TSAU, Hyderabad | National | 1-21 March 2021 |
| 88. | 2021 | Dr. Ella Rani | | National | 1-21 March 2021 |

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| 89. | 2021 | Dr. Vandana Verma | Massive Open Online Course (MOOC) on "Theoretical Foundations of Educational Technology" organized by ICAR NAARM, Hyderabad | National | 1-30 June 2021 |
| 90. | 2021 | Dr. Ella Rani | | National | 1-30 June 2021 |
| 91. | 2021 | Dr. Ella Rani | Conference on 'Boosting your immune system against corona virus: how to minimize the risk of infection'organized by Department of Home Science I.B. PG College Panipat, Haryana | National | 1 July 2021 |
| 92. | 2021 | Dr Vandana Verma | Conference on 'boosting your immune system against corona virus: how to minimize the risk of infection' organized by department of home science , I.B.PG college ,G.T. Road panipat on approved by Director general of higher education, panchkula. | National | 1 July 2021 |
| 93. | 2021 | Dr Vandana Verma | Webinar on research methodology and paper writing held on organised by Rajasthan college of agriculture MPUAT, Udaipur | National | 12 July 2021 |
| 94. | 2021 | Dr. Vandana Verma | Online MOOCs Programme on India "e-Extension in Agriculture and Allied Sector" Organized by MANAGE, Hyderabad. | National | 19-23 July 2021 |
| 95. | 2021 | Dr. Ella Rani | Online MOOCs Programme on India "e-Extension in Agriculture and Allied Sector" Organized by MANAGE, Hyderabad | National | 19-23 July 2021 |
| 96. | 2021 | Dr. Vandana Verma | MOOC Training Program on Agri Journalism Organized by MANAGE, Hyderabad, India | National | 26-30 July 2021 |
| 97. | 2021 | Dr. Ella Rani | Course on 'Communication And Interpersonal Skills At Work' Organized by University of Leeds And Institute Of Coding under future learn on. | National | 28 July-10 August 2021 |
| 98. | 2021 | Dr. Vandana Verma | Training Programme on developing work life well being for farm women extension functionaries organized by MANAGE, Hyderabad in collaboration with PAMETI, Ludhiana | National | 2-5 August 2021 |
| | 2021 | Dr. Poonam Kundu | Start-up Idea for Clean and Green India Organized by AICRP – Women in Agriculture, College of Home Science, G.B.P.U.A. & T Pantnagar | National | 10 August 2021 |
| 99. | 2021 | Dr. Vandana Verma | Training Programme on capacity building of extension worker | National | 16-19 August |

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| | | | sponsored by MANAGE, Hyderabad organized by CCSHAU, Hisar | | 2021 |
| 100. | 2021 | Dr. Poonam Kundu | Conference on " Women in Leadership & Governance Organized by Department of Public Administration & Women cell at GSW Hisar | National | 26 August 2021 |
| 101. | 2021 | Dr. Ella Rani | Training Program on' organic and natural farming' conducted by MANAGE, Hyderabad in collaboration with CSK HPKV Himachal Pradesh | National | 24-26 August 2021 |
| 102. | 2021 | Dr. Vandana Verma | MOOC Training Programme on improving e-governance organized by MANAGE, Hyderabad | National | 25-28 August 2021 |
| 103. | 2021 | Dr Vandana Verma | Webinar on Popular Science Writing under AWSAR Programme Organized by the Department of Science and Technology (DST) and Vigyan Prasar (VP) | National | 19 September 2021 |
| 104. | 2021 | Dr. Ella Rani | | National | 19 September 2021 |
| 105. | 2021 | Dr. Vandana Verma | Online Training Programme on Education Management and Academic Leadership (under NAHEP Component 2A) organized by ICAR-NAARM, Hyderabad | National | 23-28 September 2021 |
| 106. | 2021 | Dr. Ella Rani | Webinar on Leadership in the pandemic – challenges opportunities and confirmation organised by NAARM Hyderabad | National | 3 October 2021 |
| 107. | 2021 | Dr Vandana Verma | Webinar on AWSAR augmenting writing skills for articulating research on Organized by the Department of Science and Technology (DST) and Vigyan Prasar (VP). | National | 8 October 2021 |
| 108. | 2021 | Dr Vandana Verma | One day webinar on NRI Marriages-issues , challenges and way forward organized by National Commission for Women , Department of Extension Education and Communication Management, PAU, Ludhiana | National | 7 November 2021 |
| 109. | 2021 | Dr. Vandana Verma | Online Training Programme on financial management for agriculture starts ups organized by MANAGE, Hyderabad | National | October 25-29 2021 |
| 110. | 2021 | Dr. Vandana Verma | Massive Open Online Course (MOOC) on "Digital Teaching Techniques" organized by ICAR NAARM, Hyderabad | National | 1-31 December 2021 |
| 111. | 2021 | Dr. Ella Rani | | National | 1-31 December |

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| 112. | 2022 | Dr. Poonam Kundu | Online International Conference on Advancement of Science and Technology for Environment, Society and People (ICASTESP) Organized by The society of Technology, Environment, Science & People. Kozhikode, India | International | 28-29 January 2022 |
| 113. | 2022 | Dr. Poonam Kundu | Online International Webinar on Women and Neonatal Health Organized & hosted By: Department of Agriculture, MM(DU) Mullana – Ambala (India) | International | 7 March 2022 |
| 114. | 2022 | Dr. Ella Rani | Training Program on Video Production and dissemination Skills for Agricultural Extension Functionaries at MANAGE through online mode. | National | 9-12 May 2022 |
| 115. | 2022 | Dr. Santosh Rani | Annual workshop of AICRP on Women in Agriculture, Bhubenshwar | National | 12-13 May 2022 |
| 116. | 2022 | Dr. Vandana Verma | Online Training Program on "Strengthening Nutrition Sensitive Agriculture Capacities of Mid-Senior Level Officers" conducted by MANAGE, Hyderabad in collaboration with PAMETI, Ludhiana, Punjab | National | 7-10 June 2022 |
| 117. | 2022 | Dr. Vandana Verma | Training Program on "community extension approaches conducted by National Institute of Agricultural Extension Management (MANAGE) | National | 13-16 June 2022 |
| 118. | 2023 | Dr. Vandana Verma | International Conference on Climate Resilient Agriculture for Food Security And Sustainability , CCSHAU Hisar | International | 17-19 February 2023 |
| 119. | 2023 | Dr. Poonam Kundu | | International | 17-19 February 2023 |
| 120. | 2023 | Dr. Ella Rani | | International | 17-19 February 2023 |
| 121. | 2023 | Dr. Santosh Rani | | International | 17-19 February 2023 |

## 2. Department of Foods and Nutrition

| Sr. No. | Year | Name of Faculty | Name of seminar /symposia /workshop /training /consultancy visits/special assignments etc | National /International | Date |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Veenu Sangwan | National Start Up Summit at CCSHAU, Hisar, | National | 1-2 June 2018 |

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| 2. | 2019 | Dr. Veenu Sangwan | Symposium on Innopreneurship: A Need of Sustainable Agriculture at CCSHAU, Hisar | International | 2-3 February 2019 |
| 3. | 2019 | Dr. Veenu Sangwan | National Seminar on 'Innovative Strategies for Gender Equality' at CCSHAU, Hisar | National | 8 March 2019 |
| 4. | 2020 | Dr. Veenu Sangwan | AICTE sponsored Training programme on Innovative teaching & learning methods for inspiring students organised by Dept. Of ECE, Sagi Rama Krishnam Raju Engineering College (A), Bhimavaram, AP, India | National | 18 to 23 December 2020 |
| 5. | 2018 | Dr. Varsha Rani | National symposium on 'Bridging biochemical interventions and environmental remediations for one health improvement, LUVAS, Hisar, Haryana | National | 2-3 November 2018 |
| 6. | 2018 | Dr. Jyoti Sihag | Conference presentation at the American Society for Nutrition, Boston, Massachusetts, USA. | International | 9-12 June 2018 |
| 7. | 2018 | Dr. Sangeeta C. Sindhu | Winter school on 'Entrepreneurship development through value addition of underutilized crops' organized by Department of Agricultural Processing and Food Engineering, College of Agricultural Engineering and Technology, OUAT, Bhubaneswar . | National | 15 November 2018 - 05 December 2018 |
| 8. | 2019 | Dr. Varsha Rani | Symposium "Innopreneurship: A need of sustainable agriculture" ISINSA-2019 Organized by Director of Research, CCSHAU, Hisar, Haryana. | International | 2-3 February 2019 |
| 9. | 2019 | Dr. Varsha Rani | Seminar on innovative strategies for gender equality organized by I. C. College of Home Science, CCSHAU, Hisar, Haryana | National | 8 March 2019 |
| 10. | 2019 | Dr. Varsha Rani | Accounts training program for teachers organized by the Academy of Agricultural Research and Education Management (AAREM), Directorate of HRM, CCSHAU, Hisar. | National | 26- 31 August 2019 |
| 11. | 2019 | Dr. Varsha Rani | Conference on New Millennia Agriculture- Novel Trends and Future Scenario (GINMA), CCSHAU, Hisar, Haryana. | International | 6th-8th November 2019 |
| 12. | 2019 | Dr. Varsha Rani | Workshop on production, processing & value addition of nutria-cereals (millets) in India, Deptt. of Genetics & | National | 16 September 2019 |

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| | | | Plant Breeding, CCSHAU, Hisar, Haryana. | | |
| 13. | 2019 | Dr. Sangeeta C. Sindhu | International Symposium on 'Innopreneurship: A need of sustainable Agriculture' organized by Directorate of Research, CCSHAU Hisar at Hisar. | International | 2 February 2019-3 February 2019 |
| 14. | 2019 | Dr. Sangeeta C. Sindhu | National Seminar on 'Innovative strategies for gender equality' organized by IC College of Home Science. | National | 8 March 2019 |
| 15. | 2019 | Dr. Sangeeta C. Sindhu | International training in the field of 'Food Processing' at Deptt. of Food Science and Human Nutrition, University of Illinois, Urbana Champaign, USA . | International | 25 June 2019-24 September 2019 |
| 16. | 2019 | Dr. Sangeeta C. Sindhu | Golden Jubilee International Conference on New millennia Agriculture Novel Trends and Future Scenario.Organized at CCSHAU, Hisar. | International | 6-8 November 2019 |
| 17. | 2019 | Dr. Veenu Sangwan | National Workshop on 'Production, Processing & Value Addition of Nutri-cereals (Millet) in India' held at CCSHAU, Hisar. | National | 16 September 2019 |
| 18. | 2019 | Dr. Veenu Sangwan | Golden Jubilee International Conference on New Millenia Agriculture Novel Trends & Future Scenario held at CCSHAU, Hisar. | International | 6-8 November 2019 |
| 19. | 2019 | Dr. Veenu Sangwan | Accounts Training Programme for Teachers organized by DHRM, CCSHAU. | National | 26-31 August 2019 |
| 20. | 2019 | Dr Urvashi Nandal | National Seminar on 'Innovative strategies for gender equality' organized by IC College of Home Science. | National | 8 March 2019 |
| 21. | 2019 | Dr. VeenuSangwan | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario (GINMA), CCSHAU, Hisar, Haryana. | International | 6-8 November 2019 |
| 22. | 2019 | Dr. Veenu Sangwan | Induction Training Course conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 18 November to 17 December 2019 |
| 23. | 2019 | Dr. Veenu Sangwan | Workshop on Awareness and use of Scopus Citation Database organized by Nehru Library, CCS Haryana Agricultural University, Hisar | National | 29 November 2019 |

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| 24. | 2020 | Dr. Varsha Rani | National Incubators Colloquium organized by Agri Business Incubation Centre, CCSHAU, Hisar. | National | 15-16 January 2020 |
| 25. | 2020 | Dr. Varsha Rani | Refresher course on Educational Technology' conducted by the Academy of Agricultural Research and Education Management (AAREM), Directorate of HRM, CCSHAU, Hisar. | National | 18 December 2019- 07 January 2020 |
| 26. | 2020 | Dr. Varsha Rani | Refresher course on Statistical tools and techniques for analysis of agricultural data conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar | National | 08-28 July 2020 |
| 27. | 2020 | Dr. Sangeeta C. Sindhu | International webinar on 'Combating Hidden Hunger-Obstacles & Interventions for Sustainability' organized by Department of FN, COHS, CCSHAU, Hisar. | International | 19 September 2020 |
| 28. | 2020 | Dr. Sangeeta C. Sindhu | Webinar on Scope and Scenario of Agriculture after COVID-19 organised by MPUAT, Udaipur | Online | 29 May 2020 |
| 29. | 2020 | Dr. Sangeeta C. Sindhu | Short term training programme on 'Innovative teaching & learning methods for inspiring students' organised by Department of ECE, Sagi Rama Krishnam Raju Engineering College, Bhimavaram, Andhra Pradesh. | National | 18 December2020-23 December2020 |
| 30. | 2020 | Dr. Veenu Sangwan | Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data organised by AAREM, Directorate of HRM in Collaboration with Department of Mathematics & Statistics,, CCSHAU, Hisar | National | 8 July 2020 – 28 July 2020 |
| 31. | 2020 | Dr. Veenu Sangwan | National Incubators Colloquium held at ABIC, CCSHAU, Hisar | National | 15-16 January 2020 |
| 32. | 2020 | Dr. Veenu Sangwan | Massive Open Online course (MOOC) on Designing E-Learning Content organised by ICAR-National Academy of Agricultural Research Management, Hyderabad | National | 1-31 July 2020 |
| 33. | 2020 | Dr. Veenu Sangwan | iDEA Investors Meet organized by Agri Business Incubation Centre, CCSHAU | National | 4 December 2020 |
| 34. | 2020 | Dr. Veenu Sangwan | Webinar Series on Immuno- | National | 03-05 July |

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| | | | Nutrition, Wellness Management & Livelihood Change organized by AICRP on Women in Agriculture, Directorate of Research (Agri.), Assam Agricultural University, Jorhat in association with ICAR-CIWA, Bhubaneshwar. | | 2020 |
| 35. | 2020 | Dr. Veenu Sangwan | Webinar on Impacts of COVID-19 on Global Economy and Higher Education: Challenges and Opportunities organized by Shri Kalyan Govt. Girls College, Sikar (Rajasthan) affiliated by Pandit Deendayal Upadhyaya Shekhawati University, Sikar in collaboration with Federation of Community Radio Stations, New Delhi. | International | 04-05 July 2020 |
| 36. | 2020 | Dr. Veenu Sangwan | Webinar on Combating Hidden Hunger- Obstacles & Interventions for Sustainability on organized by Deptt. of Foods & Nutrition, I.C. College of Home Science, CCS Haryana Agricultural University, Hisar . | International | 19 September 2020 |
| 37. | 2020 | Dr. Veenu Sangwan | Webinar on Nutritional and Health Benefits of sorghum and other millets organized by University of Agricultural Sciences, Dharwad | National | 29 September 2020 |
| 38. | 2020 | Dr. Veenu Sangwan | Webinar on " Trends in technology for Agriculture, Food, Nutrition, Environment and Health" organized by IFSDAA, AASF, SSARM, GEENPAHH hosted by Jagan Nath University, Bahadurgarh. | International | 2 October 2020 |
| 39. | 2020 | Dr. Veenu Sangwan | Webinar on Plant based Protein by 2020/2050 at 3.00 pm organized by AMITY University, Gurugram | National | 16 October 2020 |
| 40. | 2020 | Dr. Veenu Sangwan | Webinar on RDA 2020: The way forward to tackle malnutrition in India organized by Nutrition Society of India (NSI), Mumbai Chapter. | National | 19 October 2020 |
| 41. | 2020 | Dr. Veenu Sangwan | National Webinar on Agrometeorology and Food Security organized by Department of Agronomy, RCA, Maharana Pratap university of Agriculture and Technology, Udaipur | National | 20 October 2020 |
| 42. | 2020 | Dr. Veenu Sangwan | International webinar on How to conduct evaluation of agricultural extension programmes organized by Directorate of Extension Education, Maharana Pratap university of | International | 05 November 2020 |

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| | | | Agriculture and Technology, Udaipur | | |
| 43. | 2020 | Dr. Veenu Sangwan | Idea Investors Meet 2020, Organised by ABIC, CCSHAU, Hisar Online | National | 04 Decembe 2020 |
| 44. | 2020 | Dr. Veenu Sangwan | *Boudhi Krishi* 2020 ABIC IPR Workshop Online organized by ABIC, CCSHAU, Hisar | National | 19 December 2020 |
| 45. | 2021 | Dr. Varsha Rani | International virtual training program on "Biofortification: Key to nutritional security" conducted by National Institute of Agriculture Extension (MANAGE), Hyderabad, in collaboration with Harvest Plus India through online mode. | International | 12 to 14 July 2021 |
| 46. | 2021 | Dr. Sangeeta C. Sindhu | ICAR-CIWA, Bhubaneswar & MANAGE, Hyderabad Collaborative Online Training Program on "Promoting Women Agripreneurship through Crop-Livestock-Fisheries Technologies'. | National | 14-18 September 2021 |
| 47. | 2021 | Dr. Veenu Sangwan | Online training program on 'Promoting Women Agripreneurship through Crop-Livestock-Fisheries Technologies' organised by ICAR-CIWA, Bhubaneswar & MANAGE, Hyderabad. | National | 14 September 2021-18 September 2021 |
| 48. | 2021 | Dr. Veenu Sangwan | Webinar on "*Characterization Techniques for Smart Materials*" organized by Department of Physics, College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar | National | 15-16 January 2021 |
| 49. | 2021 | Dr. VeenuSangwan | Training program on Gender mainstreaming in agriculture and allied sectors conducted by National Institute of Agriculture Extension (MANAGE), Hyderabad in collaboration with College of Community and Applied Sciences, (MPUAT, Udaipur) through online mode. | National | 22-26 February 2021 |
| 50. | 2021 | Dr. Veenu Sangwan | Training in Accounts for Teachers and Technical Employees for Departmental Examination for eligibility for assigning the duties of the DDO organized by AAREM, Directorate of Human Resource Management, CCSHAU, Hisar | National | 31 August to 4 September 2021 |
| 51. | 2021 | Dr. Veenu Sangwan | International Webinar series on Qualitative Research in Public Health Nutrition- Sampling | National | 10 July to 26 July 2021 |

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| | | | Techniques, Data Collection, Analysis and Report Writing organized by Nutrition Society of India, Mumbai chapter. | | |
| 52. | 2021 | Dr. Veenu Sangwan | Training Program on Agri-DIKSHA Virtual Classroom for CCSHAU, Hisar organized under Agri-Diksha has been customized under the National Agricultural Higher Education Project Component 2 by ICAR-IASRI. | National | 26 August 2021 |
| 53. | 2022 | Dr. Varsha Rani | International conference on recent advances and innovations in biological and applied sciences (RAIBAS 2022) at SGT University, Gurugram jointly organized by faculty of Agricultural sciences, SGT University, The Society of Academic Research for Rural Development and ICAR-Central Soil Salinity Research Institute, Karnal. | International | 14-16 June 2022 |
| 54. | 2022 | Dr. Jyoti Sihag | Induction Training organized by the Academy of Agricultural Research and Education Management (AAREM), Directorate of Human Resource Management (DHRM), CCS Haryana Agricultural University, Hisar | National | 27 June - 27 July 2022 |
| 55. | 2022 | Dr. Sangeeta C. Sindhu | Conference on Advancement of Science and Technology for Environment, Society and People (ICASTESP-2022) organised by the Society for Technology, Environment, Science & People, Kozhikode, India. | International | 28-29 January 2022 |
| 56. | 2022 | Dr. Veenu Sangwan | Conference on Advancement of Science and Technology for Environment, Society and People, (ICASTESP-2022), Kozhikode, India. | International | 28-29 January 2022 |
| 57. | 2022 | Dr. Veenu Sangwan | Annual Workshop of AICRP on Women in Agriculture on 12-13, May, 2022 held at Bhubaneswar, Orissa. | National | 12-13 May 2022 |
| 58. | 2022 | Dr. Veenu Sangwan | International Conference on Advancement of Science and Technology for Environment, Society and People (ICASTESP-2022) Kozhikode, India through virtual mode. | International | 28-29 January 2022 |
| 59. | 2022 | Dr. Veenu Sangwan | Workshop on awareness and use of scopus citation and indexing | National | 02 March 2022 |

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| | | | database and other e-Resources for the faculty/scientists of university | | |
| 60. | 2023 | Dr. Varsha Rani | International training in International Pedagogy at Division of Human Nutrition and Health, Wageningen University & Research, The Netherlands supported and funded by IDP-NAHEP, CCS HAU, Hisar Haryana, Indian Council of Agricultural Research, India and World Bank. | International | 30 December 2022 to 29 March 2023 |
| 61. | 2023 | Dr. Veenu Sangwan | Conference on 'Enhancing productivity and value addition in millets' organised by ICAR-IARI, New Delhi. | International | 18 March 2023 |
| 62. | 2023 | Dr. Veenu Sangwan | Conference on Climate Resilient Agriculture for Food Security and Sustainability, at CCS Haryana Agricultural University, Hisar, Haryana. | International | 17-19 February 2023 |
| 63. | 2023 | Dr. Veenu Sangwan | Seminar on 'Engineering interventions for millet production and its value addition' at Northern Region Farm Machinery Training and Testing Institute, Hisar | National | 19 February 2023 |
| 64. | 2023 | Dr. Veenu Sangwan | Conference on Climate Resilient Agriculture for Food Security and Sustainability at CCS Haryana Agricultural University, Hisar, Haryana. | International | 17-19 February 2023 |
| 65. | 2023 | Dr. Veenu Sangwan | Refresher Course on "Entrepreneurial Prospects in Agricultural and Allied Sciences" organized by The Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar in collaboration with the College of Home Science | National | 10-30 January 2023 |

### 3. Department of Human Development and Family Studies

| Sr. No. | Year | Name of Faculty | Name of seminar /symposia /workshop /training /consultancy visits/special assignments etc | National /International | Date |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. K. Duhan | Plagiarism Software Training, CCSHAU, Hisar | National | 5 April 2018 |
| 2. | 2018 | Dr. K. Duhan | Training on IUMS Leave Management Self Service Portal, CCSHAU, Hisar | National | 6 April 2018 |
| 3. | 2018 | Dr. Poonam Malik | All India Coordinated Research Project (AICRP) Review Meeting at CIWA Bhubaneshwar | National | 9-10 April 2018 |

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| 4. | 2018 | Dr. Santosh Sangwan | Training on SCOPUS , CCSHAU, Hisar | National | 5 May 2018 |
| 5. | 2018 | Dr. K. Duhan | National Start up Summit | National | 1- 2 June 2018 |
| 6. | 2018 | Dr. Shanti Balda | | National | 1- 2 June 2018 |
| 7. | 2018 | Dr. Sheela Sangwan | | National | 1- 2 June 2018 |
| 8. | 2018 | Dr. BimlaDhanda | | National | 1- 2 June 2018 |
| 9. | 2018 | Dr. C.K. Singh | | National | 1- 2 June 2018 |
| 10. | 2018 | Dr. Santosh Sangwan | | National | 1- 2 June 2018 |
| 11. | 2018 | Dr. Poonam Malik | Induction Training Course , CCSHAU , Hisar | National | 7 June to 7 July 2018 |
| 12. | 2018 | Dr. K. Duhan | Training Program on "Stress Management" at NAARM (Hyderabad) | National | 17-20 September 2018 |
| 13. | 2018 | Dr. Santosh Sangwan | Refresher Course on Research Methodology at GJUS&T, Hisar | National | 15 November 2018 to 5 December 2018 |
| 14. | 2018 | Dr. K. Duhan | Workshop on Women in Agriculture, Deptt of EECM, COHS, CCS Haryana Agricultural University, Hisar | National | 4 December 2018 |
| 15. | | Dr. Sheela Sangwan | | National | 4 December 2018 |
| 16. | | Dr. C.K. Singh | | National | 4 December 2018 |
| 17. | | Dr. Santosh Sangwan | | National | 4 December 2018 |
| 18. | 2019 | Dr. Sheela Sangwan | Workshop on Awareness of e-Resources Available in Nehru Library | National | 8 January 2019 |
| 19. | 2019 | Dr. Shanti Balda | | National | 8 January 2019 |
| 20. | 2019 | Dr. C.K. Singh | | National | 8 January 2019 |
| 21. | 2019 | Dr. Krishna Duhan | Workshop on Awareness and Use of SCOPUS Database and Mendeley Reference Manager, College of Basic Sciences and Humanities | National | 28 January 2019 |
| 22. | 2019 | Dr. Sheela Sangwan | | National | 28 January |

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| 23. | 2019 | Dr. C.K. Singh | | National | 28 January 2019 |
| 24. | 2019 | Dr. Santosh Sangwan | | National | 28 January 2019 |
| 25. | 2019 | Dr. K. Duhan | Conference on Human Development in a globalising world : Perspectives South and South –east Asia, Vadodara ,Gujrat | International | 31 January to 2 February 2019 |
| 26. | 2019 | Dr. K. Duhan, | Seminar on Professional Opportunities in Home science, COHS, CCS Haryana Agricultural University | National | 21 February 2019 |
| 27. | 2019 | Dr. Sheela Sangwan, | | National | 21 February 2019 |
| 28. | 2019 | Dr. C.K. Singh, | | National | 21 February 2019 |
| 29. | 2019 | Dr. Santosh Sangwan | | National | 21 February 2019 |
| 30. | 2019 | Dr. K. Duhan | National seminar on Innovative strategies for gender equality, I.C. College of Home Science, CCSHAU, Hisar | National | 8 March 2019 |
| 31. | 2019 | Dr. Shanti Balda | | National | 8 March 2019 |
| 32. | 2019 | Dr. Sheela Sangwan | | National | 8 March 2019 |
| 33. | 2019 | Dr. C.K. Singh | | National | 8 March 2019 |
| 34. | 2019 | Dr. Santosh Sangwan | | National | 8 March 2019 |
| 35. | 2019 | Dr. Poonam Malik | | National | 8 March 2019 |
| 36. | 2019 | Dr. C.K.Singh | Workshop on Water Conservation, Department of HECM, COHS | National | 5 August 2019 |
| 37. | 2019 | Dr. K. Duhan | Training on ERP, COHS | National | 3 October 2019 |
| 38. | 2019 | Dr. Sheela Sangwan | | National | 3 October 2019 |
| 39. | 2019 | Dr. C.K. Singh | | National | 3 October 2019 |
| 40. | 2019 | Dr. Poonam Malik | | National | 3 October 2019 |
| 41. | 2019 | Dr. Poonam Malik | Massive Open Online Course on Teaching Excellence conducted by National Academy of Agricultural Research Management, Rajendranagar, Hyderabad | National | 1-30 November 2019 |

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| 42. | 2019 | Dr. K. Duhan | Golden Jubilee International Conference on New Millennia Agriculture- Novel trends and Future Scenario, CCSHAU, Hisar | International | 6-8 November 2019 |
| 43. | 2019 | Dr. Poonam Malik | | International | 6-8 November 2019 |
| 44. | 2019 | Dr. K. Duhan | On line webinar on Scientific Publications Writings Dos and Don'ts, by HarvansBariana university Sydney, Australia | National | 19 November 2019 |
| 45. | 2019 | Dr. Sheela Sangwan | | National | 19 November 2019 |
| 46. | 2019 | Dr. C.K. Singh | | National | 19 November 2019 |
| 47. | 2019 | Dr. Poonam Malik | | National | 19 November 2019 |
| 48. | 2020 | Dr. Krishna Duhan | National Incubation Colloquium, ABIC, CCSHAU | National | 15-16 January 2020 |
| 49. | 2020 | Dr. Sheela Sangwan | | National | 15-16 January 2020 |
| 50. | 2020 | Dr. C.K. Singh | | National | 15-16 January 2020 |
| 51. | 2020 | Dr. Poonam Malik | | National | 15-16 January 2020 |
| 52. | 2020 | Dr. K. Duhan | Golden Jubilee Celebration Seminar of CCSHAU, COA | National | 2 February 2020 |
| 53. | 2020 | Dr. Sheela Sangwan | | National | 2 February 2020 |
| 54. | 2020 | Dr. C.K. Singh | | National | 2 February 2020 |
| 55. | 2020 | Dr. Poonam Malik | | National | 2 February 2020 |
| 56. | 2020 | Dr. Poonam Malik | Online Review Workshop of AICRP on Home Science | National | 24 April 2020 |
| 57. | 2020 | Dr. C.K.Singh<br>Dr. Poonam Malik | National Webinar on Ayurved and Lifestyle, MahilaVidyalaya Degree College, Lucknow, | National | 23 May 2020 |
| 58. | 2020 | Dr. Sheela Sangwan | National Webinar on Gender Sensitization: Need of the Hour, Institute of Home Science & IQAC, Dr. B. R. Ambedkar University, | National | 26 May 2020 |
| 59. | 2020 | Dr. C.K.Singh | | National | 26 May 2020 |

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| 60. | 2020 | Dr. Poonam Malik | Agra | National | 26 May 2020 |
| 61. | 2020 | Dr. Poonam Malik | Refresher Course on Language Skills conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | 27 May to 16 June 2020 |
| 62. | 2020 | Dr. Sheela Sangwan | Online Seminar on Publishing Research Paper in to top Journals: Why and How, | National | 2 June 2020 |
| 63. | 2020 | Dr. C.K.Singh | National level Online workshop on Nutrition and Lifestyle: Diet management and mental wellness , Govt. College for Girls, Palwal | National | 5 June 2020 |
| 64. | 2020 | Dr. C.K.Singh | National Webinar on Postural Problems caused by E-Devices during Covid-19: Prevention & Cure, MahilaVidyalaya Degree College, Lucknow | National | 9 June 2020 |
| 65. | 2020 | Dr. C.K.Singh | National Webinar on Teaching-learning methods and practices on digital platform: understanding and developing MOOCs organized by Swyam – MOOC Cell | National | 11 June 2020 |
| 66. | 2020 | Dr. Poonam Malik | International Webinar on Managing Stress & Anxiety in the Family during COVID 19, Gandhi Memorial National College, AmbalaCantt., Haryana | International | 21 June 2020 |
| 67. | 2020 | Dr. Sheela Sangwan | National Webinar on COVID-19 Unlock down: Lifestyle for Health and Livelihood, | National | 22-24 June to 2020 |
| 68. | 2020 | Dr. Poonam Malik | National Webinar on Awareness and Use of CeRA Resources through J-Gate Discovery Platform, Nehru Library, CCS Haryana Agricultural University, Hisar in Collaboration with Consortium for eResources in Agriculture (CeRA) DKMA-ICAR , New Delhi | National | 25 June 2020 |
| 69. | 2020 | Dr. K. Duhan | Online National Talk show on Skill Development Dynamics for Agro-prenueurship in Post Pandemic India | National | 29 June 2020 |
| 70. | 2020 | Dr. K. Duhan | Online Workshop on Gender Sensitization organized by NAHRD | National | 3 July 2020 |
| 71. | 2020 | Dr. Poonam Malik | National webinar series on Immuno - Nutrition, Wellness Management & Livelihood Change organized by AICRP on Women in Agriculture, Directorate of Research (Agri.), Assam AgriculturalUniversity, Jorhat | National | 3-5 July 2020 |

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| | | | in association with ICAR- CIWA, Bhubaneswar | | |
| 72. | 2020 | Dr. Sheela Sangwan | Online Lecture series on Implementation on Technological Advances to achieve Food Security by HarbansBariana, Professor Cereal Rust Genetics, The University of Sydney, Australia, During the celebration of Azadi Ka Amrut Mahotsav organized by the Directorate of Research, CCSHAU | National | 6 July 2020 |
| 73. | 2020 | Dr. Sheela Sangwan, | National level online workshop on Tool Development for Psychometric Assessment organized by National Psychological Corporation, Agra (U.P.) in academic collaboration with School of Education | National | 6-12 July 2020 |
| 74. | 2020 | Dr. C. K.Singh | | National | 6-12 July 2020 |
| 75. | 2020 | Dr. Poonam Malik | National Webinar on development & Standardization of Tests, organizedby APRC Agra Psychological Research Cell. | National | 30 August 2020 |
| 76. | 2020 | Dr. Poonam Malik | Heartfulness Workshop for college faculty organized by Heartfulness Campus, Heartfulness Education Trust, Rajasthan | National | 3-5 September 2020 |
| 77. | 2020 | Dr. Poonam Malik | National Webinar on Women FPOs: An effective Approach for Boosting Entrepreneurship, Empowerment and Self- reliance (Atmanirbhar) OrganisedbyAICRP-HS, MPUAT, Udaipur in association with ICAR-CIWA | National | 7-10 September 2020 |
| 78. | 2020 | Dr. Sheela Sangwan, | International Webinar on Combating Hidden Hunger - Obstacles & Interventions for Sustainability organised by department of food and Nutrition CCSHAU Hisar | International | 19 September 2020 |
| 79. | 2020 | Dr. C. K. Singh | | International | 19 September 2020 |
| 80. | 2020 | Dr. Poonam Malik | | International | 19 September 2020 |
| 81. | 2020 | Dr. Poonam Malik | Workshop on NEP 2020, Social Entrepreneurship, Swachhta and Rural Engagement for Higher Educational Institutions organized by Mahatma Gandhi National Council of Rural Education, Department of Higher Education, Ministryof HRD | National | 20 September 2020 |
| 82. | 2020 | Dr. Sheela Sangwan | Webinar on Importance of Khadi in Present Context , Deptt of TAD , CCSHAU Hisar | National | 2 October 2020 |
| 83. | 2020 | Dr. Sheela Sangwan | Spirituality and mental wellness | National | 3 |

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| | | | webinar organised by Academy of Wellbeing Society | | October 2020 |
| 84. | 2020 | Dr. C. K.Singh | | National | 3 October 2020 |
| 85. | 2020 | Dr. Sheela Sangwan | Life Skills Orientation Program organized by Indian Association of Life Skills Education | National | 7-8 November 2020 |
| 86. | 2020 | Dr. Sheela Sangwan, | Online Brain Storming Session on Gender sensitization – Issues and Challenges, organised by Department of Human Development and Family Studies under NASF, at CCSHAU, Hisar | National | 3 December 2020 |
| 87. | 2020 | Dr. C. K.Singh, | | National | 3 December 2020 |
| 88. | 2020 | Dr. K. Duhan, | | National | 3 December 2020 |
| 89. | 2020 | Dr. Poonam Malik | | National | 3 December 2020 |
| 90. | 2020 | Dr. Sheela Sangwan, | iDEA Investors Meet 2020 (online) organized by Agri Business Incubation Centre, CCS Haryana Agricultural University, Hisar, Haryana, India | National | 4 December 2020 |
| 91. | 2020 | Dr. C. K. Singh | | National | 4 December 2020 |
| 92. | 2020 | Dr. Poonam Malik | | National | 4 December 2020 |
| 93. | 2020 | Dr. C.K.Singh | Webinar on ―Awareness and Use of e- Resources through Mobile App‖ Equality Organized by Nehru library ,CCS Haryana Agricultural University Hisar | National | 18 December 2020 |
| 94. | 2021 | Dr. C.K.Singh | Webinar on Scope & Challenges of Community Science in National Education Policy" organised by College of Community and Applied Sciences, MPUAT, Udaipur | National | 18 February 2021 |
| 95. | 2021 | Dr. C.K.Singh | Webinar on capacity building programme Parenting and family stress management :issues and coping strategies organized by college of Community Science, CAU, Imphal | National | 24 February 2021 |
| 96. | 2021 | Dr. Sheela Sangwan, Dr. Poonam Malik | Webinar on Teachers Role in NEP Implementation, Awareness, Orientation, Challenges and Responses organised by NITI Aayog and CCSHAU, Hisar | National | 24 February 2021 |
| 97. | 2021 | Dr. C.K.Singh | Webinar on "Managing Health and Stress during COVID -19" organized | National | 3 May 2021 |

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| | | | by College of Community and Applied Sciences, MaharanaPratap University of Agriculture and Technology, Udaipur | | |
| 98. | 2021 | Dr. C.K.Singh | Counseling session on Psychological manifestation in COVID era organized by DSW | National | 10 May 2021 |
| 99. | 2021 | Dr. Sheela Sangwan | Webinar- Corona: Vaccine and MedicationEquityorganised by UAVM: Universal Access to Vaccines and Medicines | National | 13 May 2021 |
| 100. | 2021 | Dr. C.K. Singh | National Webinar - "Nutraceuticals and Immunity Booster Foods for Combating COVID-19 organised by department of Food Science & Nutrition, ASPEE college of Home Science | National | 17 May 2021 |
| 101. | 2021 | Dr. Sheela Sangwan, | Online webinar on World Environment Day to encourage the awareness among the farmers, faculty and students organized by Department of Agricultural Meteorology with the collaboration of Directorate of Extension Education, CCSHAU Hisar | National | 5 June 2021 |
| 102. | 2021 | Dr. C.K.Singh | | National | 5 June 2021 |
| 103. | 2021 | Dr. Sheela Sangwan | Online Lecture series on Publication in International Journals by Bhagirath Singh Chauhan, Professor (Weed Science), The University of Queensland, Australia, During the celebration of Azadi KaAmrutMahotsav organized by the Directorate of Research, CCSHAU | National | 23 June 2021 |
| 104. | 2021 | Dr. Sheela Sangwan | Webinar on Improving the Quality of Agricultural Research Landscape in India organized organized by Nehru Library, CCS Haryana Agricultural University, Hisar in collaboration with Elsevier | National | 30 June 2021 |
| 105. | 2021 | Dr. C.K.Singh | | National | 30 June 2021 |
| 106. | 2021 | Dr. C. K.Singh | Webinar on Research Methodology and Paper Writing, College of Agriculture, MaharanaPratap University of Agriculture and Technology, Udaipur, Rajasthan | National | 12 July 2021 |
| 107. | 2021 | Dr. Poonam Malik | Webinar on Community Science: Marching towards women Empowerment through Community Mobilization organized by College of Community and Applied Sciences, MPUAT, Udaipur. | National | 23 July 2021 |
| 108. | 2021 | Dr. C. K. Singh | Webinar on World Hepatitis Day | National | 28 July |

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| | | | organized by Department of Foods and Nutrition I. C.College of Home Sciences in collaboration with NAHEP, IDP Ch. Charan Singh Haryana Agril. University Hisar, Haryana. | | 2021 |
| 109. | 2021 | Dr. Poonam Malik | Webinar on Sensitization on Intellectual Property Rights in Agricultural Research and Education organized by ICAR-CIWA, Bhubaneshwar | National | 4 August 2021 |
| 110. | 2021 | Dr. Poonam Malik | Online lecture series during the celebration of AzadikaAmrutMahotsava‘ on Water and Nutrition Sensitive Agriculture – Increasing land and water productivity for sustainable food security organized by CCS Haryana Agricultural University, Hisar | National | 5 August 2021 |
| 111. | 2021 | Dr. C. K. Singh | Awareness program on Current Trends in Research & Innovation, Research Paper Publications and Presentation, IPR and Patents, Research Projects & Fundraising Topics -National Level Webinar for Faculty Members of Higher Educational Institutions. | National | 27-31 August 2021 |
| 112. | 2021 | Dr. C. K. Singh | Webinar on Talking Menopause: Health &Nutrition organized by National Commission for Women | National | 8 September 2021 |
| 113. | 2021 | Dr. Poonam Malik | Online training program on Promoting Women Agripreneurship through Crop- Livestock-Fisheries Technologies‘ organised by ICAR-CIWA, Bhubaneswar & MANAGE, Hyderabad | National | 14-18 September 2021 |
| 114. | 2021 | Dr. C. K. Singh | Webinar on Dr. B.R. Ambedkar's views on education held at COBS&H Auditorium, CCSHAU Hisar. | National | 25 November 2021 |
| 115. | 2021 | Dr. C. K. Singh | Webinar on changes perspective of TRE(Teaching ,Research and Extension )for preparing a post COVID future in HomeScience organized by Department of Family Resource Management CCSHAU Hisar | National | 27-29 December 2021 |
| 116. | 2022 | Dr. Poonam Malik | Webinar on Job Avenues in Welfare Services for Graduates of Community and Applied Sciences‘ organized by College of Community and Applied Sciences, MPUAT, Udaipur | National | 29 January 2022 |

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| 117. | 2022 | Dr. Poonam Malik | Webinar on Science and Gender Equality‘ organized by College of Community and Applied Sciences, MPUAT, Udaipur | National | 11 February 2022 |
| 118. | 2022 | Dr. Sheela Sangwan | Webinar on Restructuring of Community Science Curriculum in Context to NEP-2020organised by College of Community Science and Applied Science MPUAT, Udaipur, Rajasthan | National | 22 April 2022 |
| 119. | 2022 | Dr. Poonam Malik | Induction Training Course , CCSHAU , Hisar | National | 27 June – 27 July 2022 |
| 120. | 2023 | Dr. Poonam Malik, | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU, Hisar | International | 17-19 February 2023 |
| 121. | 2023 | Dr. Anju Aneja | | International | 17-19 February 2023 |

## 4. Department of Family Resource Management

| Sr. No. | Year | Name of Faculty | Name of seminar /symposia /workshop /training /consultancy visits/special assignments etc | National /International | Date |
|---|---|---|---|---|---|
| 1. | 2019 | Dr. Manju Mehta | Conference on New Millennia Agriculture Novel Trends and Future Scenario GINMA-2019 held at CCSHAU Hisar | International | 6-8 November 2019 |
| 2. | 2019 | Dr. Manju Mehta | Seminar on Innovative Strategies for Gender Equality, organized by COHS, CCSHAU Hisar | National | 8 March 2019 |
| 3. | 2019 | Dr. Manju Mehta | Conference on New Millennia Agriculture Novel Trends and Future Scenario GINMA-2019 held at CCSHAU Hisar | International | 6-8 November 2019 |
| 4. | 2019 | Dr. Kavita Dua | Refresher Course entitled “ICT-preparing teachers for 21st Century” at GJUS&T. Hisar Sponsored by UGC-HRDC | National | 13 June 2019 to 26 June 2019 |
| 5. | 2019 | Dr. Kavita Dua | International Conference on Innovations in Chemical, Biological & Environmental Sciences 19) (Science & Technology for a Sustainable Future) (A Multi-Disciplinary International Conference for all Discipline (ICICBES -2019) at Arya PG College Panipat, Haryana (INDIA) | International | 27-28 February 2019 |
| 6. | 2019 | Dr. Promila Krishnan | Seminar on "Innovative Strategies | National | 8 March |

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| | | Chahal | for Gender Equality' organized by COHS, CCSHAU, Hisar on | | 2019 |
| 7. | 2019 | Dr. Promila Krishnan Chahal | Conference on Humanizing Work and Work Environment- HWWE 2019, NIT, Jalandhar, Punjab. | International | 8 – 10 November 2019 |
| 8. | 2019 | Dr. Promila Krishnan Chahal | Conference on renewable environment and agriculture, organized by SARC-ISER New Delhi, | International | 15-16 March 2019 |
| 9. | 2019 | Dr. Promila Krishnan Chahal | National Seminar on "Innovative Strategies for Gender Equality organized by COHS, CCSHAU, Hisar | National | 8 March 2019 |
| 10. | 2020 | Dr. Binoo Sehgal | Webinar on "NDDB Samvad: Managing Self during COVID-19 through Mind-Body Relaxation techniques" organized by National Dairy Development Board, Anand, Gujarat . | National | 3 June 2020 |
| 11. | 2020 | Dr. Binoo Sehgal | Webinar on 'Project formulation and funding opportunities for young researchers" organized by Directorate of Research, CCSHAU, Hisar on | National | 16 June 2020 |
| 12. | 2020 | Dr. Binoo Sehgal | Webinar on "Enhanced Employability for Home Scientists in Current Scenario" organized by Post Graduate Teaching Department of Home Science, RTM Nagpur University, Nagpur . | National | 22-23 June 2020 |
| 13. | 2020 | Dr. Binoo Sehgal | Webinar "Exploring eResources Through CCSHAU eLibrary" organized by Nehru Library team, CCSHAU | National | 23 June 2020 |
| 14. | 2020 | Dr. Binoo Sehgal | Webinar on 'Awareness and use of CeRA resources through J-Gate Discovery platform' organized by Nehru Library in collaboration with Consortium for e-resources in Agriculture (CERA) DKMA-ICAR, N. Delhi and Informatics Publishing Ltd., Bangalore | National | 25 June 2020 |
| 15. | 2020 | Dr. Binoo Sehgal | Webinar on 'Event management-Gaining a New Skill' organized by P.G. department of Home Science, Patna University | National | 27 June 2020 |
| 16. | 2020 | Dr. Binoo Sehgal | Online National Talk Show on Skill Development Dynamics for Agro-preneurship in Post Pandemic India' | National | 29 June 2020 |
| 17. | 2020 | Dr. Manju Mehta | Workshop On "Digital Library for strengthening agricultural knowledge in NARES" organized by library, | National | 12 February 2020 |

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| | | | CCS Haryana Agricultural University, Hisar in collaboration with ICAR-IARI, New Delhi | | |
| 18. | 2020 | Dr. Manju Mehta | Webinar on Ayurveda Protection - Health Tips by New Delhi Institute of Management (NDIM) | National | 30 May 2020 |
| 19. | 2020 | Dr. Manju Mehta | National Webinar on "Community science: Linkages and Way Forward, organized by COHS, MPUA&T Udaipur | National | 3 June 2020 |
| 20. | 2020 | Dr. Manju Mehta | Webinar on "Managing Self during COVID-19 through Mind-Body Relaxation techniques" on , organized by National Dairy Development Board, Anand, Gujrat | National | 3 June 2020 |
| 21. | 2020 | Dr. Manju Mehta | Webinar-J-Gate (eResource Platform) "Nehru Library", organized by Nehru Library, CCS Haryana Agricultural,University, Hisar,(Haryana) | National | June 4 2020 |
| 22. | 2020 | Dr. Manju Mehta | Webinar on project formulation and funding opportunities for young researchers. Organized by, Directorate of Research, CCS Haryana Agricultural, University, Hisar | National | 16 June 2020 |
| 23. | 2020 | Dr. Manju Mehta | Webinar on ergonomics and psychological issues and coping during COVID 19 pandemic. organized by College of Community Science, Maharana Pratap University of Agriculture & Technology. Udaipur(Raj)INDIA | National | 20 June 2020 |
| 24. | 2020 | Dr. Manju Mehta | Webinar on " Physical & Mental Fitness during COVID: Yoga & Exercises" Monday, organized by Department of Industrial and Production Engineering, Department of Industrial and Production Engineering. | National | 22nd June 2020 |
| 25. | 2020 | Dr. Manju Mehta | Zoom Webinar "Exploring eResources Through CCSHAU eLibrary" organised by Nehru Library Team. | National | 23 June 2020 |
| 26. | 2020 | Dr. Manju Mehta | National Webinar on "Event Management - Gaining a New Skill", Organized by PG deptt of Home Science Patna university | National | 27 June 2020 |
| 27. | 2020 | Dr. Manju Mehta | Webinar on "Computational Techniques and Applied Sciences" Organized by the Department of Mathematics and Statistics | National | 06-07 July 2020 |

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| 28. | 2020 | Dr. Manju Mehta | International webinar on climate change/environment conservation speaker Yash Dang , university of Queensland Australia | International | 17 July 2020 |
| 29. | 2020 | Dr. Manju Mehta | Expert Consultation Webinar on "Role of Women in Environmental Sustainability" organized by NIOH Ahmedabad | National | 28 July 2020 |
| 30. | 2020 | Dr. Manju Mehta | Webinar on Work, Work Environment and Wellness - An Ergonomic Perspective" -Organized by CSC & RI, TNAU Madurai | National | 5 August 2020 |
| 31. | 2020 | Dr. Manju Mehta | Online training on 'Ergonomics methodologies for designing and assessing women friendly agriculture tools and technologies' organized by Department of Resources Management and Consumer Science, CCAS, MPUAT, Udaipur. | National | 17-21 August 2020 |
| 32. | 2020 | Dr. Manju Mehta | Webinar on Visual Ergonomics in Digital Era organized by College of Community Science, PJTSAU, Hyderabad , Telengana , | National | 10 September 2020 |
| 33. | 2020 | Dr. Kavita Dua | Online International Workshop on Skill Development Through Communication Skills" organized by Community College, Gujranwala Guru Nanak Khalsa College,Civil Lines, Ludhianaa. | International | 27 April to 1st May 2020 |
| 34. | 2020 | Dr. Promila Krishnan Chahal | Conference on Humanizing Work and Work Environment- HWWE 2020,Theem College of Engineering, Boisar, Mumbai. | International | 10 – 12 December 2020 |
| 35. | 2020 | Dr. Promila Krishnan Chahal | Conference On "Science & Technology: Rural Development" (ICSTRD-2020), MDU, Rohtak | International | 4-5 March 2020 |
| 36. | 2020 | Dr. Promila Krishnan Chahal | Conference on Humanizing Work and Work Environment- HWWE 2020 | International | 10 – 12 December 2020 |
| 37. | 2020 | Dr. Promila Krishnan Chahal | Workshop on digital library for strengthening agricultural knowledge in NARES organized by CCSHAU, Hisar | National | 12 February 20 |
| 38. | 2020 | Dr. Promila Krishnan Chahal | Webinar on Ergonomics and Psychological Issues in Working Home during COVID-19 Pandemic Organized by NIT, Jalandhar, Punjab | National | 17 May 2020 |
| 39. | 2021 | Dr. Manju Mehta | Webinar on Ergonomics applications for higher productivity, organised by Department of Industrial & Production Engineering Hyderabad Karnataka Education Society's | National | 24 – 26 March 2021 |

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| | | | Poojya Doddappa College of Engineering (Autonomous Institution Affiliated to VTU, Belagavi) Aiwan-e-Shahi Area - Kalaburagi – 585102 | | |
| 40. | 2021 | Dr. Manju Mehta | National Workshop on "Air Pollution & Health Hazards (APHH-2021)", organized under National Clean Air Programme, Government of India. Organized by NIT Jalandahar. | National | 31 March 2021 |
| 41. | 2021 | Dr. Manju Mehta | International Training Series on "Healthy Workplace Initiative # Ergonomics" Organized by Directorate of Research & All India Coordinated Research Project on Home Science, College of Community and Applied Sciences, Maharana Pratap University of Agriculture and Technology, Udaipur. | International | 21-28 June & 5 July 2021 |
| 42. | 2021 | Dr. Kavita Dua | Online Training on " Communication Skills and Technical Writing" organized by Directorate of Human resource management | National | 3 to 23 February 2021 |
| 43. | 2021 | Dr. Promila Krishnan Chahal | Conference in Hybrid Mode on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021), Meerut. | International | 13-15 December 2021 |
| 44. | 2021 | Dr. Promila Krishnan Chahal | Conference on "Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development (GIAFAS-2021)" | International | 17-18 December 2021 |
| 45. | 2021 | Dr. Promila Krishnan Chahal | Conference in Hybrid Mode on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021), Meerut | International | 13-15 December 2021 |
| 46. | 2021 | Dr. Promila Krishnan Chahal | Webinar on "Partnering Women in Value Chain Development :A Promising Way for Creating Sustained Livelihood and Agripreneurship" , organized by ICAR-CIWA, Bhubaneswar | National | 17 March 2021 |
| 47. | 2021 | Dr. Promila Krishnan Chahal | National Workshop Under National Clean Air Programme (NCAP), GOI An Action Plan for Jalandhar Air Pollution And Health Hazards (APHH-2021), | National | 31st March 2021 |
| 48. | 2021 | Dr. Promila Krishnan Chahal | National Webinar on Ergonomics Applications For Higher Productivity, organized by Industrial & Production Engineering | National | 24 – 26 March 2021 |

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| | | | Department, P.D.A.College of Engineering, GULBARGA-585102, Karnataka State, INDIA | | |
| 49. | 2022 | Dr. Promila Krishnan Chahal | Conference on Innovation in Science, Engineering & Technology, Arya PG College Panipat. Pp.9-10 | National | 19 February 2022 |
| 50. | 2022 | Dr. Promila Krishnan Chahal | Conference on "Mathematical Sciences for Applied and Agricultural Research, organized by Department of Mathematics and Statistics, CCSHAU, Hisar | National | 22nd Feb 2022 |
| 51. | 2022 | Dr. Promila Krishnan Chahal | Conference on Humanizing Work and Work Environment- HWWE 2022, , Punjabi University, Patiala, Punjab. | International | 24 – 26 November 2022 |
| 52. | 2022 | Dr. Promila Krishnan Chahal | IEOM India Conference. Organized at Warangal, Telangana, India | National | 16-18 August 2022 |
| 53. | 2022 | Dr. Promila Krishnan Chahal | Conference Humanizing Work and Work Environment Organized by Punjabi University, Patiala | International | 24-26 November 2022 |
| 54. | 2022 | Dr. Promila Krishnan Chahal | National Seminar on Impact of Digitalization on Women, OrganiZed by Govt. PG College for Women, Rohtak held | National | 22 January 2022 |
| 55. | 2022 | Dr. Promila Krishnan Chahal | Conference on Innovation in Science, engineering and Technology, organized by Arya PG College, Panipat | National | 19 Feb 2022 |
| 56. | 2022 | Dr. Promila Krishnan Chahal | National Conference on "Mathematical Sciences for Applied and Agricultural Research, organized by Department of Mathematics and Statistics, CCSHAU, Hisar | National | 22nd Feb 2022 |

## 5. Department of Textile and Apparel Designing

| Sr. No. | Year | Name of Faculty | Name of seminar /symposia /workshop /training /consultancy visits/special assignments etc | National /International | Date |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Saroj Yadav | Start-up summit organized by CCSHAU, Hisar | National | 1-2 June 2018 |
| 2. | 2018 | Dr. Neelam M. Rose | BSMA Community Science Stakeholders Workshop, NAARM, Hyderabad | National | 3-4 October 2018 |
| 3. | 2018 | Dr. Saroj Yadav | Refresher Course on Research Methodology | National | 15 Nov - 5 Dec 2018 |
| 4. | 2019 | Dr. Nisha Arya | Symposium on Innopreneurship: A Need of Sustainable Agriculture | International | 2-3 February 2019 |
| 5. | 2019 | Dr. Saroj Yadav | | International | 2-3 February |

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| | | | | | 2019 |
| 6. | 2019 | Dr. Parul | Conference on Innovations in Chemical, Biological & Environmental Sciences, Arya PG College, Panipat, Haryana | International | 27-28 February 2019 |
| 7. | 2019 | Dr. Saroj Yadav | Biennial Workshop of All India Coordinated Research Project in Home Science at MPUA&T | National | 15-16 February 2019 |
| 8. | 2019 | Dr. N. Yada | Seminar on Innovative Strategies for Gender Equality Organized by I.C. College of Home Science | National | 8 March 2019 |
| 9. | 2019 | Dr. N. Rose | | National | 8 March 2019 |
| 10. | 2019 | Dr. Nisha Arya | | National | 8 March 2019 |
| 11. | 2019 | Dr. Saroj Yadav | | National | 8 March 2019 |
| 12. | 2019 | Dr. Parul | | National | 8 March 2019 |
| 13. | 2019 | Dr. Lalita Rani | | National | 8 March 2019 |
| 14. | 2019 | Dr. Neelam M. Rose | Training on 'Basic Research Tools in Textile Chemistry', Textile Manufacture and textile Chemistry Division, ICAR- Central Sheep and Wool research Institute, Avikanagar, Rajasthan | National | 13-24 August 2019 |
| 15. | 2019 | Dr. Neelam M. Rose | Golden Jubilee International Conference on 'New Millennia Agriculture Novel Trends & Future Scenario', at CCSHAU, Hisar | International | 6-8 November 2019 |
| 16. | 2019 | Dr. Nisha Arya | | International | 6-8 November 2019 |
| 17. | 2019 | Dr. Saroj Yadav | | International | 6-8 November 2019 |
| 18. | 2019 | Dr. Parul Gill | | International | 6-8 November 2019 |
| 19. | 2019 | Dr. Mona Verma | | International | 6-8 November 2019 |
| 20. | 2019 | Dr. Parul, | Induction Training Course, DHRM, CCSHAU, Hisar | National | 18 November –17 December 2019 |
| 21. | 2019 | Dr. Mona Verma | | National | 18 November –17 December 2019 |

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| 22. | 2020 | Dr. Neelam M. Rose | National Incubators Colloquium, Agribusiness Incubation Centre, CCSHAU, Hisar | National | 15-16 January 2020 |
| 23. | 2020 | Dr. Saroj Yadav | | National | 15-16 January 2020 |
| 24. | 2020 | Dr. Mona Verma | | National | 15-16 January 2020 |
| 25. | 2020 | Dr. Neelam M. Rose | Webinar Series on 'Post COVID-19: Challenge and Opportunities', Faculty of Family and Community Sciences, MSU of Baroda, Vadodara | National | 21-23 May 2020 |
| 26. | 2020 | Dr. Saroj Yadav | | National | 21-23 May 2020 |
| 27. | 2020 | Dr. Mona Verma | | National | 21-23 May 2020 |
| 28. | 2020 | Dr. Lalita Rani | Webinar on 'Community Science-Linkages and Way Forward', College of Community and Applied Sciences, MPUAT, Udaipur, Rajasthan | National | 3 June 2020 |
| 29. | 2020 | Dr. Lalita Rani | NAHEP Webinar on 'Project Formulation and Funding Opportunities for Young Researchers', Directorate of Research, CCSHAU Hisar | National | 16 June 2020 |
| 30. | 2020 | Dr. Saroj Yadav | Webinar on 'Enhanced Employability for Home Scientists in Current Scenario', Department of Home Science, RashtrasantTukadoji Maharaj University, Nagpur | National | 22-23 June 2020 |
| 31. | 2020 | Dr. Nisha Arya | Faculty Development Programme on 'Managing Online Classes and Co-Creating MOOCS', Ministry of Human Resource Development, Govt. of India | National | 20 April - 6 May 2020 |
| 32. | 2020 | Dr. Nisha Arya | Refresher Course on 'Language Skills', DHRM, CCSHAU, Hisar | National | 27 May - 16 June 2020 |
| 33. | 2020 | Dr. Saroj Yadav | | National | 27 May - 16 June 2020 |
| 34. | 2020 | Dr. Parul | Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data, Directorate of HRM, CCSHAU, Hisar | National | 8- 28 July 2020 |
| 35. | 2020 | Dr. Lalita Rani | | National | 8- 28 July 2020 |
| 36. | 2020 | Dr. Saroj Yadav | Brainstorming Workshop to Develop a Framework for Propelling ICAR-CIWA as Global Institute for Women in Agriculture, ICAR-CIWA, Bhubaneswar | National | 31 July 2020 |
| 37. | 2020 | Dr. Nisha Arya | E-Conference on Recent Trends in | International | 18-19 |

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| | | | Textiles – A Paradigm for Innovative and Sustainable Fibres, Yarns, Fabrics & Garments Production, Processing & Designing Aspects, Technological Institute of Textile and Sciences, Bhiwani | | September 2020 |
| 38. | 2020 | Dr. Parul Gill | | International | 18-19 September 2020 |
| 39. | 2020 | Dr. Lalita Rani | | International | 18-19 September 2020 |
| 40. | 2020 | Dr. Neelam M. Rose | Webinar on Role of Women in Agriculture, COHS, CCSHAU, Hisar | National | 4 December 2020 |
| 41. | 2020 | Dr. Saroj Yadav | | National | 4 December 2020 |
| 42. | 2020 | Dr. Nisha Arya | iDEA Investors Meet 2020 (online), Agri Business Incubation Centre, CCSHAU, Hisar | National | 4 December 2020 |
| 43. | 2020 | Dr. Saroj Yadav | | National | 4 December 2020 |
| 44. | 2020 | Dr. Parul | Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data, Directorate of HRM, CCSHAU, Hisar | National | 8 - 28 July 2020 |
| 45. | 2020 | Dr. Lalita Rani | | National | 8 - 28 July 2020 |
| 46. | 2020 | Dr. Saroj Yadav | Short term course on Textile Testing and Analytical Techniques in Textiles and Fashion, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab | National | 27 November - 1 December 2020 |
| 47. | 2020 | Dr. Saroj Yadav | Short term course on Characterization Techniques in Textiles and Polymers, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab | National | 15-19 December 2020 |
| 48. | 2021 | Dr. Mona Verma | Webinar on Characterization Techniques for Smart Materials, COBS&H, CCSHAU, Hisar | National | 15-16 January 2021 |
| 49. | 2021 | Dr. Mona Verma | Seminar on Empowering India through Regional Textile Crafts, L.N. Mithila University, Bihar | National | 30 January 2021 |
| 50. | 2021 | Neelam M. Rose | Webinar on Teachers Role in NEP Implementation, Awareness, Orientation, Challenges and Responses, NITI Aayog and CCSHAU, Hisar | National | 24 February 2021 |
| 51. | 2021 | Dr. Saroj Yadav | Conference on New Paradigms for Agriculture, Food and Sustainability Concerns, Agriculture Letters, Raichur, Karnataka | International | 26-28 February 2021 |
| 52. | 2021 | Dr. Mona Verma | | International | 26-28 February 2021 |

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| 53. | 2021 | Dr. Nisha Arya | Conference on Research Initiatives for Agriculture, Biotechnology and Allied Sciences, SoAS, IIMT University, Meerut, U.P. | International | 24-25 April 2021 |
| 54. | 2021 | Dr. Mona Verma | Webinar on Principles of Design: The Crux of Family Well-being, College of Community and Applied Sciences, MPUA&T, Udaipur, Rajasthan | National | 15 May 2021 |
| 55. | 2021 | Dr. Nisha Arya | Webinar on Innovation in Comfort Textiles for Wearable Clothing, College of Community and Applied Science, MPUA&T, Udaipur, Rajasthan | National | 11 June 2021 |
| 56. | 2021 | Dr. Neelam M. Rose | Webinar on Processing and Value Addition in the Context of Accelerated Ratting of Jute organized by ICAR- National Institute of Natural Fiber Engineering and Technology, Kolkata. | National | 19 July 2021 |
| 57. | 2021 | Dr. Saroj Yadav | | National | 19 July 2021 |
| 58. | 2021 | Dr. Parul | Webinar on Sensitization on Intellectual Property Rights in Agricultural Research and Education. ICAR-CIWA, Bhubaneswar | National | 4 August 2021 |
| 59. | 2021 | Dr. Mona Verma | Accounts Training Programme. Directorate of Human Resource Management, CCSHAU, Hisar | National | 31 August - 04 September 2021 |
| 60. | 2021 | Dr. Parul | Promoting Women Agripreneurship through Crop-Livestock-Fisheries Technologies. ICAR-CIWA, Bhubaneswar and MANAGE, Hyderabad | National | 14-18 September 2021 |
| 61. | 2021 | Dr. Nisha Arya | Conference on Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development. Shri Guru Ram Rai University, Dehradun, Uttarakhand. | International | 17 -18 October 2021 |
| 62. | 2021 | Dr. Mona Verma | | International | 17 -18 October 2021 |
| 63. | 2022 | Dr. Saroj Yadav | Webinar on 'Recent advances in apparel and textile industry' organized by Department of Apparel and Textile Technology, GNDU, Amritsar | National | 09 April 2022 |
| 64. | 2022 | Dr. Neelam M. Rose | Brainstorming Workshop on Amalgamation of Community Science Education with NEP-2020 organized by College of Community and Applied Sciences, MPUAT, Udaipur Rajasthan. | National | 21 April 2022 |

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| 65. | 2022 | Dr. Neelam M. Rose | Webinar on Restructuring Community Science Curriculum in Context to NEP-2020 organized by the College of Community and Applied Sciences, MPUAT, Udaipur Rajasthan. | National | 22 April 2022 |
| 66. | 2022 | Dr. Parul | Webinar on Natural Farming for Sustainable Production, Nutrition and Health. ICAR-CIWA, Bhubaneswar | National | 23 April 2022 |
| 67. | 2023 | Dr. Neelam M. Rose | Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar. | International | 17-19 February 2023 |
| 68. | 2023 | Dr. Saroj Yadav | | International | 17-19 February 2023 |
| 69. | 2023 | Dr. Nisha Arya | | International | 17-19 February 2023 |
| 70. | 2023 | Dr. Parul | | International | 17-19 February 2023 |
| 71. | 2023 | Dr. Suman Sodhi | | International | 17-19 February 2023 |
| 72. | 2023 | Dr. Mona Verma | Conference on Textile Recycling and Sustainable Apparel Design, SVITT, Indore, Madhya Pradesh | National | 3-4 March 2023 |

## D) College of Agricultural Engineering and Technology

The faculty of COAE&T attended 21 National and 12 International programmers under Seminars/ Conferences/Symposia/ Workshops / Refresher/ FDP/Training / Consultancy visits / Special assignments. The details are as below.

| Sl | Year | Name of Faculty | Name of Seminars/ Conferences/Symposia/ Workshops / Refresher/ FDP/Training / Consultancy visits / Special assignments with Venue etc. | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2019 | Dr. Rajender Kumar | Symposium on "Engineering Technologies for precision & climate smart agriculture" at Varanasi | International | 28-30 Jan 2019 |
| 2. | 2018 | Dr Parvesh Antil | STC on modeling and simulation on MATLAB through ICT conducted by Mech EnggDeptt., NIEC, New Delhi. | National | 21-25 May 2018 |
| 3. | 2020 | Dr. Rajender Kumar | Conference on Medical Instrumentation, Biomaterials and Signal Processing (NCMBS-20) organized by DCRUST, Murthal | National | 26-27 Feb 2020 |
| 4. | 2020 | Dr Sandeep Bhardwaj | AICTE Training And Learning (ATAL) AcademyIndian Institute of Space Science and Technology, Department of Space, Government of India. | National | 02- 06 November 2020 |

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| 5. | 2019 | Dr Parvesh Antil | Induction Training Course conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCSHAU Hisar. | National | 7 June to 07 July 2019 |
| 6. | 2021 | Dr. Rajender Kumar | Technological Transformation and Preparedness in the Post COVID World TEQIP-III organized by DCRUST, Murthal | International | 22-23 March 2021 |
| 7. | 2020 | Dr. Rajender Kumar | One week training course on Development of Laboratory Instruction organized by National Institute of Technical Teachers' Training & Research (NITTTR), Kolkata. | National | 8-12 June 2020 |
| 8. | 2020 | Dr. Rajender Kumar | Training course on Implications & Realities of Industry 4.0 organized by SLIET, Longowal under TEQIPIII. | National | 21-25 Dec 2020 |
| 9. | 2020 | Dr Sandeep Bhardwaj | Faculty Development Programme on Innovations management Education Research at Delhi University. | National | 17-30 August 2020 |
| 10. | 2020 | Dr Sandeep Bhardwaj | International webinar on recent advances in Geotechnical Engg. research & practices. | International | 01- 10 July 2020 |
| 11. | 2020 | Dr Sandeep Bhardwaj | Online refresher course on Extension Management AAREM at CCSHAU, Hisar. | National | 11-31 December 2020 |
| 12. | 2020 | Dr Parvesh Antil | Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in Collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar. | National | 08-28 July 2020 |
| 13. | 2020 | Dr. Sandeep Dhundhar | Conference on Integrated Interdisciplinary Innovations in Engineering (ICIIIE 2020) held at UIET, Panjab University, Chandigarh | International | 28-30 August 2020 |
| 14. | 2020 | Dr. Sandeep Dhundhara | Induction Training Course at Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar (Online Virtual Conference Platform) | National | 08 September to 08 Oct. 2020 |
| 15. | 2020 | Dr. Sandeep Dhundhara | Delivered expert lecture on the topic "*Overview of MATLAB Software and its applications*" in three days webinar on "Introduction to Matlab and its applications" Organized under Institutional Development Plan (IDP) of National Agricultural Higher Education Project at CCS Haryana Agricultural University, Hisar | National | 27-29 April 2020 |
| 16. | 2021 | Dr. Rajender Kumar | International Conference on Contemporary Advances in | International | 27-28 August |

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| | | | Mechanical Engineering (ICCAME-2021), organized by the Department of mechanical Engineering, Chandigarh Engineering College, Landran Mohali, Punjab | | 2021 |
| 17. | 2021 | Dr. Rajender Kumar | Online Fcaulty Development Programme on Optimization Techniques for Engineering Applications organized by NIT, Warangal | International | 7-15th April 2021 |
| 18. | 2022 | Dr. Sandeep Bhardwaj | National Conference on Mathematical Sciences for Applied and Agricultural Sciences | National | 22nd February 2022 |
| 19. | 2021 | Dr. Sandeep Bhardwaj | Refresher course on Educational Technology, at CCSHAU. Hisar | National | 21 Sept-11 Oct. 2021 |
| 20. | 2021 | Dr Parvesh Antil | 55th Annual Convention of ISAE and International symposium on 'Emerging trends in Agricultural Engineering Education, Research and Extension' organized by ISAE and DRPCAU, Pusa, Samastipur, Bihar | International | 23-25 November 2021 |
| 21. | 2022 | Dr. Sandeep Dhundhara | Workshop on Solar pump-basedvillage microgrids-potential for tackling the energy/ water/ food nexus in Punjab, Organized by: University Institute of Engineering and Technology,Panjab University, Chandigarh and Birmingham City University (UK) | International | 06 January 2022 |
| 22. | 2023 | Dr. Amarjit Kalra, | International Conference on climate Resilient Agriculture for food Security and Sustainability at CCSHAU, Hisar | International | 17-19 Feb 2023 |
| 23. | 2023 | Dr. Rajender Kumar | | International | 17-19 Feb 2023 |
| 24. | 2023 | Dr. Sandeep Bhardwaj | | International | 17-19 Feb 2023 |
| 25. | 2023 | Dr. Sandeep Dhundhara | International Training on "Agrirobotics& Automation Agriculture" at the School of Computing, Engineering and Built Environment, Birmingham City University (BCU), Birmingham, UK under NAHEP-IDP | International | 28 December 2022 to 27 March 2023 |
| 26. | 2023 | Dr. Sandeep Dhundhara | Training on "Installation of Electrical appliances for Farming" under National Agricultural Higher Education Project (NAHEP)-Institutional Development Programme (IDP) at CCS Haryana Agricultural University, Hisar | National | 9-11 Jan 2023 |
| 27. | 2019 | Arun Kumar Attkan | Induction Training Programme at the Directorate of Human Resource Management at CCSHAU Hisar. | National | 29th November to 29th December 2019 |
| 28. | 2019 | Arun Kumar Attkan | Workshop on Digital Field Book at DHRM, CCSHAU, Hisar. | National | 12 December 2019 |
| 29. | 2019 | Arun Kumar Attkan | Residential Faculty Development | National | 24th May |

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| | | | Program (FDP) at MDU Rohtak | | to 30th May 2019 |
| 30. | 2020 | Arun Kumar Attkan | Winter school on "Application of Sensors, Instrumentation, Artificial Intelligence and Machine Learningin Precision Agriculture" at ICAR-CIAE, Bhopal. | National | 14th February to 5th March 2020 |
| 31. | 2020 | Dr. Gaurav Chaudhary | Short Term training program on Bio-energy: Technologies and Transitions organized by NIT Kurukshetra | National | 13-17 May 2020 |
| 32. | 2020 | Dr. Gaurav Chaudhary | Induction Training Programme at the Directorate of Human Resource Management at CCSHAU Hisar. | National | 8 September 2020 to 8-October 2020 |
| 33. | 2023 | Dr. Gaurav Chaudhary | Refresher Course on "Entrepreneurial Prospects in Agricultural and Allied Sciences" | National | 10-30 January 2023 |

## E) College of Agriculture, Kaul

The faculties of COA, Kaul have attended 43 National programmers under Seminars/ Conferences/Symposia/ Workshops / Refresher/ FDP/Training / Consultancy visits / Special assignments. The details are as below.

| Sl. No | Year | Name of scientist | Name of Training | National/ International | Year |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Manender Singh | Induction Training , CCSHAU, Hisar, Haryana | National | 28 Nov-29 Dec 2018 |
| 2. | 2018 | Dr. Manender Singh | Workshop on Elsevier empowering Agriculture research in India in association with CeRA, CCSHAU, Hisar, Haryana | National | 24 August 2018 |
| 3. | 2019 | Dr. Manender Singh | PSA Growers Training Course, Organized by department of Horticulture and vegetable Science at DHRM, CCSHAU, Hisar, Haryana | National | 27 May 2019 |
| 4. | 2020 | Dr. Manender Singh | Non-conventional approaches for genetic improvement of perennial horticultural crops, Organized by Division of fruits and horticultural technology ICAR-IARI, New Delhi | National | 17 Jan -6 Feb 2020 |
| 5. | 2020 | Dr. Manender Singh | Communication and presentation skills for extension personnel, Organized by Extension Education Institute, Nilokheri, Haryana | National | 04-07 August 2020 |
| 6. | 2020 | Dr. Manender Singh | Basic entrepreneurship development in agriculture, Organized by CCSHAU, College of Agriculture, Kaul, Kaithal, Haryana | National | 02-04 June 2020 |
| 7. | 2022 | Dr. Manender Singh | Hydroponic: The future of food without soil, Organized by Division of Basic Science and Humanities, | National | 17-26 March 2022 |

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| | | | faculty of Horticulture SKUAST-Kashmir. | | |
| 8. | 2022 | Dr. Manender Singh | Post-harvest of fruits and vegetables for value addition, Organized by CCSHAU College of Agriculture, Kaul, Kaithal | National | 3-12 January 2022 |
| 9. | 2020 | Dr R S Garhwal | National Conference on "Agricultural Resource Management for Atmanirbhar Bharat, Central Agricultural University, Imphal through on line platform. | National | 17-19 July 2020 |
| 10. | 2019 | Dr R S Garhwal | PRCN course, OTA, Kamptee, Nagpur | National | 04 Nov 2019 to 01 Feb 2020 |
| 11. | 2021 | Dr R S Garhwal | Refresher Course on Educational technology organized, by DHRM, CCSHAU, Hisar. | National | 21 September to 11 October 2021 |
| 12. | 2018 | Dr. Vishal Goyal | Computer application, AAREM, DHRM, CCS Haryana Agricultural University, Hisar | National | 16 May to 5 June 2018 |
| 13. | 2018 | Dr. Vishal Goyal | Advances in simulation modelling and climate change research towards knowledge based research, Centre for Environmental Studies and Climate Research Agriculture (CESCRA), IARI, New Delhi | National | 13 Nov to 3 Dec 2018 |
| 14. | 2020 | Dr. Vishal Goyal | Recent Technologies of Agribusiness management and Agri-Entrepreneurship (Online mode), Rajmata VijayarajeScindia Krishi Vishwa Vidhalaya, Gwalior (MP) and National Agricultural Development Co-operative Ltd, Baramulla, J& K | National | 8-28 October 2020 |
| 15. | 2020 | Dr. Rinku Poonia | Induction training, DHRM, CCSHAU, Hisar | National | 08 September - 08 Oct. 2020 |
| 16. | 2022 | Dr. Rinku Poonia | Scientific management of *Apismellifera* colonies for nutritional and economic security, Department of Entomology, CCSHAU, Hisar | National | 25 January-03 Februry 2022 |
| 17. | 2019 | Dr. Sonika Bhankar | Induction Training Course , Directorate of Human Resource Management, CCSHAU, Hisar. | National | 18 November to 17 December 2019 |
| 18. | 2019 | Dr. Sonika Bhankar | Workshop on “Awareness and Use of scopus Citation Database” , Nehru Library, CCS Haryana Agricultural | National | 18 November to |

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| | | | University, Hisar. | | 17December 2019 |
| 19. | 2021 | Dr. Sonika Bhankar | "Technology Interventions Towards Transformation of Agriculture, Sericulture, Animal Husbandry and Allied Sectors into Sustainable Enterprises for Atmanirbhar Bharat, Central Sericultural Research & Training Institute (CSRTI), Central Silk Board-Ministry of Textiles-Government of India, Mysuru, Karnataka and AEDS. | National | 11-21 oct 2021 |
| 20. | 2022 | Dr. Sonika Bhankar | Refresher Course on "Extension Management" Organized by Academy of Agricultural Research, Education and Management, Directorate of Human Resource Management, CCSHAU Hisar. | National | 04-24 May 2022 |
| 21. | 2021 | Dr. Sonika Bhankar | Training in Accounts for Teachers and Technical Employees for Departmental Examination , DHRM, CCSHAU Hisar. | National | 31 August to 4 September 2021 |
| 22. | 2022 | Dr. Sonika Bhankar | Awareness and Use of Scopus Citation and Indexing Database, and other e-Resources", College of Agriculture Kaul. | National | 02 March 2022 |
| 23. | 2018 | Dr. Ashwani Kumar | Advancement of physiological strategies for crop improvement against abiotic stresses conducted, ICAR CSSRI, Karnal | National | 20-29 August 2018 |
| 24. | 2021 | Dr. Ashwani Kumar | Agricultural Research Methodologies Practices and their Management, SVWS& CHFCAU, Pasighat | National | 4-24 Oct 2021 |
| 25. | 2021 | Dr. Ashwani Kumar | Entrepreneurship Strategies in Agriculture, Horticulture, Animal Husbandry & Allied Sectors for Economic Development of India, DEE UBKVV & AEDS, Rampur | National | 01-21 December 2021 |
| 26. | 2020 | Mr. Sunny Kumar | Induction Training, AAREM, DHRM, CCSHAU Hisar | National | 08 September - 08 Oct. 2020 |
| 27. | 2020 | Mr. Sunny Kumar | Refresher course on Statistical tools and techniques for analysis of agricultural data, AAREM, DHRM, CCSHAU Hisar | National | 2020 |
| 28. | 2022 | Mr. Sunny Kumar | Attended online workshop on "Zero to Infinity", Placement cell, Department of Mathematics, Shaheed Udham Singh Govt. College Matak Majri, Indri (Karnal) | National | 18-22 January 2022 |

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| 29. | 2018 | Dr. S.R. Verma | Accounts and Rules of CCSHAU, Organized by AAREM, Directorate of Human Resource Development, CCSHAU, Hisar | National | 07-11 May 2018 |
| 30. | 2018 | Dr. S.R. Verma | Induction Training Course for Teachers, Organized by AAREM, Directorate of Human Resource Development, CCSHAU, Hisar | National | 07 June to 07 July 2018 |
| 31. | 2018 | Dr. S.R. Verma | Advances in Agricultural Extension and Advisory Services, Organized by National Institute of Agricultural Extension management (MANAGE), Hyderabad | National | 01 to 21 November 2018 |
| 32. | 2018 | Dr. S.R. Verma | Trainers Training Programme for Skill Training, Conducted by Agricultural Skill Council of India, New Delhi at SKRAU, Bikaner | National | 20 -22 September 2018 |
| 33. | 2020 | Dr. S.R. Verma | National Training Planning Workshop 2020, Organized by National Institute of Agricultural Extension management (MANAGE), Hyderabad | National | 30 to 31 January 2020 |
| 34. | 2021 | Dr. S.R. Verma | Mastering the techniques of effective online teaching, Organized by Faculty Development Centre, G.B. Pant University of Agriculture & Technology, Pantnagar, (Uttrakhand) | National | 25 to 27 February 2021 |
| 35. | 2021 | Dr. S.R. Verma | Innovations in Educational Technology, Organized by ICAR National Academy of Agricultural Research Management (NAARM), Hyderabad | National | 04 to 08 October 2021 |
| 36. | 2019 | Dr. Darshana | Workshop on Awareness and use of Scopus Citation Database, Organized by Nehru Library, CCSHAU Hisar | National | 29 November 2019 |
| 37. | 2022 | Dr. Darshana | Winter School on "Artificial Intelligence in Agriculture" , Organized by ICAR-Indian Agricultural Statistic Research Institute,New Delhi | National | 15 Feb 2022 to 7 March 2022 |
| 38. | 2023 | Dr. Darshana | Winter School on "Water Productivity Enhancement in Scarcity Zones: Approaches and Applications, Organized by Centre for Natural Resources Management, S. D. Agricultural University Sardarkrushinagar, district Banaskantha, Gujarat | National | 18 January 2023 to 7 February 2023 |
| 39. | 2018 | Dr. Ravi Kant | 32nd ICAR –CAFT course on 'Recent advances in cell based technologies for animal disease | National | 11-31 Oct 2018 |

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| | | | diagnostics and therapeutics', Organized by the ICAR Centre for advance faculty training, Department of Veterinary Microbiology, LUVAS, Hisar | | |
| 40. | 2020 | Dr. Ravi Kant | Online Faculty development program on teaching learning and assessment, Organized by teaching learning centre, Central University of Rajasthan (TLC@CURaj) | National | 23 November 2020 to 3 Dec 2020 |
| 41. | 2022 | Dr. Ravi Kant | Refresher course on extension management,. Organized by AAREM, DHRM, CCSHAU Hisar | National | May 04-24 2022 |
| 42. | 2019 | Dr. Subhash Chander | "Biodiversity Governance" held at SIRD-HIPA, Shimla (HP) , Organized by NIRD &Panchayati Raj, MORD, Govt. of India | National | 11-13 March 2019 |
| 43. | 2020 | Dr. Subhash Chander | Online Refresher course on "Language Skills" , Orgabnised by DHRM, CCSHAU, Hisar | National | 27 May 2020 to June 16 2020 |

## F) College of Agriculture, Bawal

The faculty of COA, Bawal attended 33 National and 13 International (Total 46) programmers under Seminars/ Conferences/Symposia/ Workshops / Refresher/ FDP/Training / Consultancy visits / Special assignments. The details are as below.

| Sl. No | Year | Name of Faculty | Name of Seminars/ Symposia/ Workshops / Training / Consultancy visits / Special assignments etc. | National/ International | Date(s) |
|---|---|---|---|---|---|
| 1. | 2018 | Dr. Mukesh Kumar | Computer applications organized by DHRM, CCSHAU, Hisar | National | 16 May-05 June 2018 |
| 2. | 2018 | Dr. Prashant Chauhan | Conference on Multidisciplinary Research organized at NIILM University, Kaithal | International | 4-5 August 2018 |
| 3. | 2018 | Dr Rameshwar Singh | ICAR sponsored twenty-one days CAFT training programme on "Recent Advances and Innovations in Modern Organic Agriculture" Organised by ICAR-CAFT on Organic Farming, Directorate of Research, MPUAT, Udaipur, Rajasthan). | National | 5-25 September 2018 |
| 4. | 2018 | Dr. Prashant Chauhan | Farmers-Scientist Workshop and Seed Day organized by ICAR-IIWBR, Karnal | National | 15 October 2018 |
| 5. | 2018 | Dr. Mukesh Kumar | Conference on Arid Horticulture for Enhancing Productivity and Economic Empowerment at CIAH, Bikaner | National | 27-29 October 2018 |
| 6. | 2018 | Dr. Prashant Chauhan | Induction Training Course organized | National | 29 Nov- |

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| | | | by the Academy of Agricultural Research and Education Management (AAREM) at DHRM, CCSHAU, Hisar. | | 29 December 2018 |
| 7. | 2019 | Dr. Devender Chahal | National symposium on trends and innovations in mushroom production technology, processing and consumption conducted by HAIC, Agro RS-D Centre Murthal, Sonepat (HR) | National | 31 Jan-02 February 2019 |
| 8. | 2019 | Dr Rameshwar Singh | International symposium on "Innopreneurship: A need of sustainable agriculture"organised by Directorate of Research, CCS Haryana Agricultural University, Hisar | International | 2-3 February 2019 |
| 9. | 2019 | Dr. Mukesh Kumar | International Symposium on Innopreneurship: A Need of Sustainable Agriculture organized by CCSHAU, Hisar | International | 2-3 February 2019 |
| 10. | 2019 | Dr. Prashant Chauhan | Awareness Camp for Micro-Irrigation programme organized by District Horticulture officer | National | 22 May-24 June 2019 |
| 11. | 2019 | Dr. Mukesh Kumar | Seminar on doubling income through sustainable and holistic agriculture (DISHA), Solan, HP, India. | National | 05-07 June 2019 |
| 12. | 2019 | Dr. Mukesh Kumar | Crop improvement through biotechnological tools and techniques organized by Deptt. of MBBB, CCSHAU, Hisar | National | 19 June-10 July 2019 |
| 13. | 2019 | Dr. Prashant Chauhan | Performed duty of expert for the training of fertilizer/seed/pesticide dealers at Nilokheri | National | 18 July 2019 |
| 14. | 2019 | Dr. Sunita Sheoran | Golden Jubilee International Conference on New Millennia Agriculture "Novel Trends and future Scenario" organized by CCSHAU, Hisar | International | 6-8 November 2019 |
| 15. | 2019 | Dr Rameshwar Singh | | International | 6-8 November 2019 |
| 16. | 2019 | Dr. Mukesh Kumar | | International | 6-8 November 2019 |
| 17. | 2019 | Dr Rameshwar Singh | Seminar on Developments in Soil Science, 84th Annual Convention of the Indian Society of Soil Science at Banaras Hindu University, Varanasi organized by Indian Society of Soil Science, New Delhi | National | 15- 18 November 2019 |
| 18. | 2020 | Dr. Mukesh Kumar | International e-symposium on Diversification of Indian Agriculture Ancient to Modern organized by School of Agriculture, Suresh Gayan Vihar University, Jaipur | International | 17-18 June 2020 |
| 19. | 2020 | Dr Rameshwar Singh | Refresher Course on "Statistical Tools and Techniques for Analysis of Agricultural Data" conducted by the Academy of Agricultural Research | National | 08-28 July 2020 |

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| | | | and Education Management, Directorate of Human Resource Management in Collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar | | |
| 20. | 2020 | Dr. Devender Chahal | Webinar on sub tropical fruits by CHTF, Ladwa (HR) | National | 20-22 July 2020 |
| 21. | 2020 | Dr Rameshwar Singh | International Web-Conference on Resource Management and Biodiversity Conservation to Achieve Sustainable Development Goals organized online by Academy of Natural Resource Conservation and management (ANRCM) Lucknow (U.P.), India | International | 11-12 September 2020 |
| 22. | 2020 | Dr. Prashant Chauhan | Online training on "Integrated pest management for maize crop with special reference to fall army worm in central -western India" organized by ICAR-IIMR, Ludhiana. | National | 15 October 2020 |
| 23. | 2020 | Dr. Mukesh Kumar | National e-conference on Opportunities and Challenges: Arid Horticulture organized by School of Agriculture, Suresh GayanVihar University, Jaipur, India | National | 21-22 October 2020 |
| 24. | 2020 | Dr. Devender Chahal | Webinar on modern technology of flower production under protected structure organized by State Department of Horticulture, Haryana | National | 24-27 October 2020 |
| 25. | 2020 | Dr. Devender Chahal | National webinar on hydroponics, aeroponics and vertical gardening – new approach in horticulture organized by MHU, Karnal (HR) | National | 05-06 November 2020 |
| 26. | 2020 | Dr. Devender Chahal | National webinar on IPM for horticultural crops organized by MHU, Karnal (HR) | National | 04 December 2020 |
| 27. | 2020 | Dr. Devender Chahal | National webinar on INM in horticultural crops organized by MHU, Karnal (HR) | National | 16-17 December 2020 |
| 28. | 2021 | Dr. Devender Chahal | Webinar on celebration of world environment day organized by CCSHAU, Hisar (HR) | National | 05 June 2021 |
| 29. | 2021 | Dr. Devender Chahal | Training on advance cultivation of vegetables organized by MHU, Karnal (HR) | National | 11-12 June 2021 |
| 30. | 2021 | Dr. Devender Chahal | Webinar on saving of water through cultivation of maize, oilseed and pulsed in state Haryana organized by Department of Agriculture and Farmers' welfare Haryana | National | 30 June 2021 |
| 31. | 2021 | Dr. Sunita Sheoran | International Web conference on Innovative and current advances in Agriculture and Allied Sciences organized by Society for Scientific Development in Agriculture and Technology, Meerut | International | 19-21 July 2021 |
| 32. | 2021 | Dr. Prashant Chauhan | Webinar on "Scientific cultivation of | National | 02 |

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| | | | maize and FAW Management" | | September 2021 |
| 33. | 2021 | Dr. Mukaesh Kumar | Refresher course on Education technology organized by DHRM, CCSHAU, Hisar | National | 11 August-21 September 2021 |
| 34. | 2021 | Dr. Devender Chahal | Virtual conference on natural farming organized by ICAR-ATARI, Jodhpur (Raj) | National | 16 December 2021 |
| 35. | 2021 | Dr. Devender Chahal | Workshop on standards related to food and agricultural products organized by BIS, Regional Office, Chandigarh and KVK Ambala (HR) | National | 17 December 2021 |
| 36. | 2022 | Dr. Prashant Chauhan | National conference on maize for Resource sustainability industrial growth and farmers' prosperity at Maharan Pratap University of Agriculture and Technology, Udaipur (Rajasthan) | National | 23-25 February 2022 |
| 37. | 2022 | Dr. Prashant Chauhan | National symposium on crop protection through bio-rational approaches- current trends and future perspective and Annual meeting of Indian Phytopathological society (NZ) | National | 10 March 2022 |
| 38. | 2022 | Dr. Prashant Chauhan | 65th Annual Maize Workshop held during at CCSHAU, Hisar | National | 19-21 April 2022 |
| 39. | 2022 | Dr. Sunita Sheoran | Refresher course on Extension Management conducted by Academy of Agricultural Research and Education Management, DHRM CCSHAU, Hisar | National | 4-24 May 2022 |
| 40. | 2022 | Dr. Prashant Chauhan | | National | 4-24 May 2022 |
| 41. | 2022 | Dr Rameshwar Singh | DST-NGP Summer School In Geospatial Science and Technology (Level 1) organized by Department of Geography, Mohanlal Sukhadia University, Udaipur, Rajasthan India | National | 6 - 26 June 2022 |
| 42. | 2022 | Dr. Sunita Sheoran | Induction Training conducted by Academy of Agricultural Research and Education Management, DHRM CCSHAU, Hisar | National | 27 June – 27 July 2022 |
| 43. | 2023 | Dr. Sunita Sheoran | International conference on Climate resilient Agriculture for food security and sustainability organized by CCSHAU, Hisar | International | 17-19 February 2023 |
| 44. | 2023 | Dr. Rameshwar Singh | | International | 17-19 February 2023 |
| 45. | 2023 | Dr. Prashant Chauhan | | International | 17-19 February 2023 |
| 46. | 2023 | Dr. Mukesh Kumar | | International | 17-19 February 2023 |

## G) Directorate of student's welfare

The faculty of DSW has attended 3 National and 2 international conferences/ workshop/ webinar during the reporting period.

| Year | Name ofFaculty | Section/Department/College Name of Seminars/Symposia/Workshops/Training / Consultancy visits / Special assignments etc. | National/ International | Date(s) |
|---|---|---|---|---|
| **2022** | Dr. SandhyaSharma | Workshop on Lalit Kala Ke VividhAayam in Maharaja Chatarsal Bundelkhand University Chhatarpur M.P. | National | 19- 23, September 2022 |
| **2022** | Dr. SandhyaSharma | International conference on Peace, Prudence and Prosperity by School of education, Centre for Liberal Arts &IQAC, Appejay Satya University , Gurugram Delhi NCR | International | 05- 06, August 2022 |
| **2021** | Dr. SandhyaSharma | National Research Webinar on Effect of Music on our Psychology | National | 27- 28, February 2021 |
| **2020** | Dr. SandhyaSharma | Two days International webinar on Affect on the Artists during pandemic of Corona Virus by Banaras Hindu University | International | 28- 29, May 2020 |
| **2018** | Dr. SandhyaSharma | National Workshop on"Regional and Folk Music of India by Department of Education in Arts & Aesthetics, NCERT, Delhi | National | 04- 08, December 2018 |

**6.6.5.3 Incentives for Excellence/Faculty Recognition:** *Is the University offering Best Teacher Award (ICAR) or any other means of recognition to promote excellence in faculty and other staff? Give the list and selection procedure (in brief).*

Yes. In order to encourage performance among teachers, CCSHAU offers the Best Teacher Award (ICAR), which was initiated from 2000–2001. Faculty members were asked to submit the applications for the Best Teacher Award in accordance with the requirements published by the DDG (Agril. Edn.) ICAR in D.O. No. Edn./5/08/2017-EQR on June 16, 2017. The selection process is followed as described in the D.O. letter of June 16, 2017 as per revised guidelines of ICAR. The application forms are invited for Best Teacher Awards in Agricultural Higher Education for the particular, which must be submitted through HOD and Dean concerned. As per guidelines, the Deans of the Colleges after having nomination from each department, will forward one name for award for each year separately to the Dean, PGS. The selection committee consists of one external expert (not below the rank of Vice Chancellor), Deans/ Directors from other University nominated by Vice Chancellor, DDG (Agriculture Education) ICAR, or his nominee and Coordinator.

**Sardar Patel Award for faculty and staff**

In order to encourage the teaching, non teaching staff and students, Sardar Patel Award is given in the form cash of Rs. 10,000.

**Honararium to PI for research projects (outside agency)**

Remunuration of 2 000 per month will be disbursed to the PI of Adhoc project (outside agency) as per the decision taken by the finance committee/ board of management vide F-14 in their 207$^{th}$ / 255$^{th}$ meeting held on 07 February 2017.

**Partial assistance to attend international conference/ training**

Partial assistance of Rs. 80,000 for the actual expense whichever is lower, is provided to faculty members to attend international conference/training/seminar.

**6.6.5.4 Capacity Building and Training**: *How many programme have been initiated towards developing and strengthening skills, instincts, abilities, processes and resources that the University and its stakeholders need to survive, adapt, and thrive in the fast-changingagricultural scenario?*

For the purpose of fulfilling the training requirements of both its own faculty members and staff as well as the faculty of other SAUs and ICAR institutions, CCSHAU has set up a dedicated facility called the Academy of Agricultural Research and Education Management (AAREM). A total of 48 capacity-building programmes, including training sessions for academics, staff, students, and other stakeholders, were carried out during the reporting year. Along with the teachers and staff, CCSHAU also meets the demands of all its stakeholders, including students, farmers, rural women and youth, etc., in terms of skill development. Regular training programme with durations ranging from two days to six weeks were imparted by AAREM and University's constituent colleges, as per the following details:

**A) Refresher Courses and Trainings for faculty by AAREM**

| S.No | Name of Training/Refresher Course | Date |
|---|---|---|
| 1 | Refresher Course on Computer applications | 16 May to 05 June, 2018 |
| 2 | Induction Training | 7 June to 7 July, 2018 |
| 3 | Refresher Course on Education Technology | 21 July to 10, August 2018 |
| 4 | Induction Training | 29 November to 29 December 2019 |
| 5 | Induction Training | 1 June to 1 July, 2019 |
| 6 | Refresher Course on Research Management | 25 July to 14, August 2019 |
| 7 | Accounts Training Programme | 26-31, August 2019 |
| 8 | Induction Training | 18 November to 17, December 2019 |
| 9 | Refresher Course on Education Technology | 18, December 2019 to 07 January, 2020 |
| 10 | Online Refresher Course on Language Skills | 27 May to 16 June, 2020 |
| 11 | Online Refresher Course on Statistical Tools and Techniques | 8 July - 28, July 2020 |
| 12 | Online Induction Training | 8 September - 8, Oct 2020 |
| 13 | Online Refresher Course on Extension Management | 11 December –31, Dec 2020 |
| 14 | Online Refresher Course on Communication Skills | 3 Feb - 23 Feb, 2021 |
| 15 | Online Refresher Course on Research Management | 8 April - 28 April, 2021 |
| 16 | Capacity Building for Extension workers, collaboration with MANAGE Hyderabad | 16 -19, August 2021 |
| 17 | Departmental Examination in Accounts for Teachers and Technical Employees | 31 August - 04 September, 2021 |
| 18 | Refresher Course on Educational Technology | 21 September - 11 October, 2021 |
| 19 | Refresher Course on Applications of Statistical and Econometric Techniques in Agriculture | 24 November - 14 December, 2021 |
| 20 | Refresher Course on Extension Management | 04-24, May 2022 |
| 21 | Training on Government E-Marketing (GeM) | 9-15, February 2022 |
| 22 | Refresher Course on Extension Management | 04-24, May 2022 |
| 23 | Induction Training | 27 June to 27 July, 2022 |
| 24 | Refresher Course on “Statistical Methods & Data Analysis" | 30 July to 19, August 2022 |
| 25 | Refresher Course on “Entrepreneurial Prospects in Agricultural and Allied Sciences" | 10-30, January 2023 |

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| **26** | Induction Training | 24 January to February, 2023 |
| **27** | Short-term Training on "Importance, Updates and Emerging Issues of Intellectual Property Rights and Commercialization of Technology in Higher Educational Institutions" | 2-11, May 2023 |

## B) Refresher Courses and Trainings for staff by AAREM

| S.No | Name of Training/Refresher Course | Date |
|---|---|---|
| **1** | LS-HS Examination for the year 2018 | 27-31, August 2018 |
| **2** | State Eligibility Test in Computer Appreciation and Application (SETC) | 4-8 February, 2019 |
| **3** | Training on ERP and Data Management | 24-26, April 2019 |
| **4** | Accounts Training Programme | 26-31, August 2019 |
| **5** | Training for shorthand test of Steno-typists and Jr. Scale Stenographers for promotion/grant of ACP pay structure | 4-8, November 2019 |
| **6** | Trainings for Non-Teaching Staff-LS/HS Examination | 18-24, December 2019 |
| **7** | Training for shorthand test of Steno-typists and Jr. Scale Stenographers for promotion/grant of ACP pay structure | 26-30, October 2020 |
| **8** | State Eligibility Test in Computer Appreciation and Application (SETC) | 28 December, 2020- 1 January, 2021 |
| **9** | Online Training on accounts and general services for non-teaching ministerial employees | 12-16, January 2021 |
| **10** | Basic Level Computer Appreciation course | 13-22 September, 2021 |
| **11** | Training for shorthand test of Steno-typists and Jr. Scale Stenographers. | 06st September - 10th September 2021 |
| **12** | Training on State Eligibility Test in Computer Appreciation and Application (SETC) | 08-12 November, 2021 |
| **13** | Trainings for Non-Teaching Staff-LS/HS Examination- Group-I | 11-15 January 2022 |
| **14** | Trainings for Non-Teaching Staff-LS/HS Examination- Group-II | 17-21 January 2022 |
| **15** | Trainings for Non-Teaching Staff-LS/HS Examination- Group-III | 24-29 January 2022 |
| **16** | Trainings for Non-Teaching Staff-LS/HS Examination- Group-IV | 01-07 February 2022 |
| **17** | Trainings for Non-Teaching Staff-LS/HS Examination- Group-V | 08-14 February 2022 |
| **18** | Training on Government E-Marketing (GeM) | 09-15 February 2022 |
| **19** | State Eligibility Test in Computer Appreciation and Application (SETC) | 05-09, September 2022 |
| **20** | Training for shorthand test of Steno-typists and Jr. Scale Stenographers for promotion/grant of ACP pay structure | 27 September to 01 October, 2022 |
| **21** | Training for the Basic Level Computer Appreciation Course (BLCA) | 16-28, November 2022 |

## C) Programme organized by COA, Hisar

The college of Agriculture, Hisar has organized various programmesfor developing and strengthening skills, instincts, abilities, processes and resources and the details are provided as below.

| Sl. No | Year | Title | Date/duration |
|---|---|---|---|
| 1. | 2019 | Training-cum- "Workshop on Commodity Derivative Markets" at DHRM,CCSHAU, Hisarin collaboration with Multi Commodity Exchange(MCX),Mumbai | 09 September 2019 |
| 2. | 2021 | Training on"Applications of Statistical and Econometric Techniques in Agriculture" | 24 November -14 December 2021 |
| 3. | 2018 | Advanced training on Recent trends in pest status, pesticide usage and pest management strategies in agriculture for scientists of ICAR institutes and SAU's under CAFT | 5 November 2018-25 November 2018 |
| 4. | 2018 | Awareness day on nematode management in protected cultivation | 21 September 2018 |

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| | | and horticultural crops at KVK Fatehabad | |
| 5. | 2018 | Training on Mushroom Production Technology to farmers | 23 December 2018 |
| 6. | 2018 | World soil day<br>At Dobi village, Hisar | 5th December 2018 |
| 7. | 2019 | Herbicide spray techniques in field crops | 18 Januay 2019 |
| 8. | 2019 | Herbicide spray techniques in field crops | 22 January 2019 |
| 9. | 2019 | Weed management in *rabi* and *kharif* crops | 31 January 2019 |
| 10. | 2019 | One day kisan gosthi was organized in village Aharwan (Ratia) on the topic "Samanvit krishi parnaali se fasal vividhikaran avam aay me vridhi" | 28 February 2019 |
| 11. | 2019 | Weed management in fieldcrops | 2 March 2019 |
| 12. | 2019 | Weed management in *rabi*and*kharif* crops | 25 April 2019 |
| 13. | 2019 | Weed management in fieldcrops | 16 August 2019 |
| 14. | 2019 | One *Kissan* gosthi was organized in village Pilimandori (Bhattu) on role of crop diversification in crop production | 25 September 2019 |
| 15. | 2019 | Advanced training on Biology, conservation, rearing and management of *Apis*& non-*Apis* bees under for scientists of ICAR institutes and SAU's under CAFT | 4 October 2019-<br>24 October 2019 |
| 16. | 2019 | National Workshop on "Production, Processing and Value Addition of Nutri-cereals (Millets) in India" | 16 September 2019 |
| 17. | 2019 | 49th Annual Group Meet- AICRP on Sorghum | 28-30 May 2019 |
| 18. | 2019 | Nursery raising and propagation of fruit plants | 8-11 January 2019 |
| 19. | 2019 | Nursery raising and propagation of fruit plants | 28-31 January 2019 |
| 20. | 2019 | Nursery raising and propagation of fruit plants | 5-8 February 2019 |
| 21. | 2019 | Nursery raising and propagation of fruit plants | 13-16 February 2019 |
| 22. | 2019 | Swachh Bharat Mission programme during observation of SwachhtaPakhwara. | 13 September 2019 |
| 23. | 2019 | Molya Wheat Nematode field day at Kharakheri | 15 March 2019 |
| 24. | 2019 | Hands on training on "Basic Techniques in Nematology and Identification of Major Plant Parasitic Nematodes" | 10-21 June 2019 |
| 25. | 2019 | Nematode awareness day at KVK Rohtak | 09 August 2019 |
| 26. | 2019 | Ten days training for UG/PG students of CCSHAU Hisar on Mushroom Production Technology | 22 April 2019- 01 May 2019 |
| 27. | 2019 | World soil day<br>At Dobi village, Hisar | 5th December 2019 |
| 28. | 2019 | Training programme on "ProductionTechnology of Spice crops" by Dept. of Vegetable Science at SNIATTE, CCSHAU, Hisar. | 27 February 2019 |
| 29. | 2019 | Training programme on "Production Technology of Spice crops" by dept. of Vegetable Science at SNIATTE, CCSHAU, Hisar. | 06 March 2019 |
| 30. | 2020 | One *Kissan*gosthi was organized in village Pilimandori (Bhattu) on Climate smart farming system for Haryana | 27 September 2020 |
| 31. | 2020 | Herbicide spray techniques in wheat | 15 January 2020 |
| 32. | 2020 | Herbicide spray techniques in field crops | 16 January 2020 |
| 33. | 2020 | Herbicide spray techniques in field crops | 22 January 2020 |
| 34. | 2020 | Weed management and fertilizer requirement in DSR crop | 6 June 2020 |
| 35. | 2020 | Weed management in DSR crop | 30 June 2020 |
| 36. | 2020 | National webinar on locust: A serious threat to agriculture | 29 May 2020 |
| 37. | 2020 | Vegetable Nematode awareness day at KVK Fatehabad | 29 June 2020 |
| 38. | 2020 | Webinar on Nematode problems in horticultural crops | 09 August 2020 |
| 39. | 2020 | Webinar on Nematode problems in horticultural crops and their management | 04 September 2020 |
| 40. | 2020 | Vocational trainings on Mushroom Production Technology | 29 February 2020- |

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| | | | 01 March 2020 |
| 41. | 2020 | "Scientific production technology of Potato" by Department of Vegetable Science SNIATTE, CCSHAU, Hisar. | 14 February 2020 |
| 42. | 2020 | "Production technology of spice crops" by Department of Vegetable Science for farmers SNIATTE, CCSHAU, Hisar. | 19 February 2020 |
| 43. | 2020 | "Scientific production technology of Potato" by Department of Vegetable Science, SNIATTE, CCSHAU, Hisar. | 20 February 2020 |
| 44. | 2020 | "Production technology of spice crops" by Department of Vegetable Science for farmers SNIATTE, CCSHAU, Hisar. | 26 February 2020 |
| 45. | 2020 | Webinar: कृषि मे विविधता-<br>किसानों की आजीविका में सुधार के लिए अभिनव कार्यक्रम | 22 August 2020 |
| 46. | 2021 | Herbicide spray techniques | 28 January 2021 |
| 47. | 2021 | Herbicide spray techniques in field crops | 17 April 2021 |
| 48. | 2021 | Parthenium awareness week | 16 August 2021 |
| 49. | 2021 | Weed management in different crops with the use of herbicide and selection of spray nozzles | 16 October 2021 |
| 50. | 2021 | Webinar on "Bee keeping Opportunities & Challenges" on World Honey Bee Day | 20 May 2021 |
| 51. | 2021 | Online training course on "Beekeeping as an Entrepreneurship" for students | 16 December 2021- 27 December 2021 |
| 52. | 2021 | Nursery raising and propagation of fruit plants | 02-05 February 2021 |
| 53. | 2021 | Nursery raising and propagation of fruit plants | 17-20 February 2021 |
| 54. | 2021 | Nursery raising and propagation of fruit plants | 03-06 March 2021 |
| 55. | 2021 | Virtual Horticultural officers workshop-2021 in collaboration with MHU, Karnal & Department of Horticulture, Govt. of Haryana | 09 July 2021 |
| 56. | 2021 | Molya Wheat Nematode field day at Kharakheri | 15 March 2021 |
| 57. | 2021 | Nematode awareness day at KVK Jind | 24 August 2021 |
| 58. | 2021 | Polyhouse nematode awareness day at KVK Fatehabad | 22 November 2021 |
| 59. | 2021 | Nematode awareness day at KVK Fatehabad | 29 December 2021 |
| 60. | 2021 | Soil and water testing for state government teachers and lecturers | 4th march- 6th March 2021 |
| 61. | 2021 | Soil and water testing for state government teachers and lecturers | 18th march- 20th March 2021 |
| 62. | 2021 | World soil day at SNIATTE with farmers | 5th December 2021 |
| 63. | 2021 | "Production technology of spice crops" for farmers of Haryana, SNIATTE, CCSHAU, Hisar. | 24 February 2021 |
| 64. | 2021 | "Production technology of spice crops" for farmers of Haryana, SNIATTE, CCSHAU, Hisar. | 03 March 2021 |
| 65. | 2021 | "Scientific Production Technology of Potato, SNIATTE, CCSHAU, Hisar. | 17 March 2021 |
| 66. | 2021 | "Scientific Production Technology of Potato" SNIATTE, CCSHAU, Hisar. | 18 March 2021 |
| 67. | 2021 | "Scientific Production Technology of Potato" SNIATTE, CCSHAU, Hisar. | 19 March 2021 |
| 68. | 2021 | "Scientific Production Technology of Potato", SNIATTE, CCSHAU, Hisar. | 20 March 2021 |
| 69. | 2022 | Herbicide spray techniques | 10 January 2022 |
| 70. | 2022 | Training programme to UG and PG students of college of agriculture on "Integrated Farming System for small and marginal Farmers" | 14 March 2022- 23 March 2022 through online mode |
| 71. | 2022 | Distribution of inputs and spray techniques in field crops | 01 April 2022 |
| 72. | 2022 | Herbicide spray techniques | 06 April 2022 |

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| 73. | 2022 | Farmers' training programme on "Exposure visit on Integrated Farming System of CCSHAU, Hisar" farmers Samba district, J & K. | 27 June 2022- 29 June 2022 |
| 74. | 2022 | Training on Integrated farming system | 22 July 2022 |
| 75. | 2022 | Parthenium awareness week | 16 August 2022 |
| 76. | 2022 | Training on Integrated farming system | 25 August 2022 |
| 77. | 2022 | Training on Integrated farming system | 26 August 2022 |
| 78. | 2022 | Training on Integrated farming system | 07 December 2022 |
| 79. | 2022 | Training on Integrated farming system | 08 December 2022 |
| 80. | 2022 | Farmers' awareness & registration for weather advisories at the "Rajya PashudhanPradarshani", Bhiwani at CCSHAU, Hisar | 25- 27 Feb 2022 |
| 81. | 2022 | ICAR sponsored short course on 'Scientific management of *Apis mellifera* colonies for nutritional and economic security' for scientists of ICAR institutes and SAU's | 25 January 2022- 03 February 2022 |
| 82. | 2022 | Online training on 'Commercial Apiculture' for 84 UG and PG students of SC category | 24 February 2022- 05 March 2022 |
| 83. | 2022 | World bee day in collaboration with Saina Nehwal Institute of Agricultural Technology, Training and Education (SNITTE), CCSHAU, Hisar. | 20 June 2022 |
| 84. | 2022 | Workshop on pink boll worm management for District Extension Specialist | 22 August 2022 |
| 85. | 2022 | Advanced training on "Current Scenario of Pesticide Toxicology and its Impact on Future Agriculture" for scientists of ICAR institutes and SAU's under CAFT | 3 November 2022- 23 November 2022 |
| 86. | 2022 | Workshop on Haryana Horticulture vision-2030&2047 in collaboration with Department of Horticulture, govt. of Haryana | 6-7 June 2022 |
| 87. | 2022 | Online training on "Detection, Diagnosis and Management of Phytoparasitic Nematodes Associated with Agri-Horticultural Crops" | 5-11 March 2022 |
| 88. | 2022 | Nematode awareness day at KVK Fatehabad | 11 October 2022 |
| 89. | 2022 | Crop Protection through Bio-rational Approaches- Current Trends and Future Perspectives | 10 March 2022 |
| 90. | 2022 | Coordinate Training programme on "Mushroom Production Technology" for SC/ST students; sponsored by ICAR under SCSP development sub-plan. | 22 March 2022- 28 March 2022 |
| 91. | 2022 | Soil and water testing for state government teachers and lecturers | 14th- 18th February 2022 |
| 92. | 2022 | Soil and water testing for state government teachers and lecturers | 21st- 24th February 2022 |
| 93. | 2022 | Mission JRF (Soil Science) | 13th June 2022- 2nd July 2022 |
| 94. | 2022 | One Day Farmers training on "Spices production technology for farmers", SNIATTE, CCSHAU, Hisar. | 11 March 2022 |
| 95. | 2022 | Training programmes on Production technology of potato for farmers,SNIATTE, CCSHAU, Hisar. | 17 March 2022 |
| 96. | 2022 | Training programmes on Production technology of potato for farmers, SNIATTE, CCSHAU, Hisar. | 19 March 2022 |
| 97. | 2022 | Training programmes on Production technology of potato for farmers, SNIATTE, CCSHAU, Hisar. | 21 March 2022 |
| 98. | 2022 | One Day Farmers training on "Spices production technology for SCSP farmers", SNIATTE, CCSHAU, Hisar. | 30 March 2022 |
| 99. | 2022 | Seven days online training programme on "Protected cultivation of Vegetable Crops" for SC Students of College of Agriculture. | 16 March 2022- 25 March 2022 |
| 100. | 2023 | JRF Training Programme for the Students, College of Agriculture | 01 February 2023- |

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| | | Appearing in JRF Exam-2023 | 01 March 2023 |
| 101. | 2023 | World water day | 22 March 2023 |
| 102. | 2023 | Farmers awareness programme on climate change at CCSHAU Hisar | 27 March 2023 |
| 103. | 2023 | Farmers awareness programme on climate change | 28 March 2023 |
| 104. | 2023 | Expert talk and exposure visit activity on "Cordyceps mushroom & Saffron Cultivation under Laboratory Conditions: A Scalable Startup Entrepreneurship" was organized by Dept. of Soil Science, CCSHAU, Hisar for UG students under the head of India's presidency of G20. | 12 May2023 |
| 105. | 2023 | Farmers training on "*Production technology of Spice crops*, SNIATTE, CCSHAU, Hisar. | 28 March 2023 |
| 106. | 2023 | One Day Farmers training on "*Production technology of Spice crops*", SNIATTE, CCSHAU, Hisar. | 29 March 2023 |

## D) College of Agriculture, Bawal

Information regarding various events conducted/ organized at COA, Bawal furnished as per following table.

| Sl. No | Year | Name of the event | Date of organization |
|---|---|---|---|
| 1. | 2018 | Motivational Lecture by Dr. S.K. Sherawat, Directorate of Research, CCSHAU | 06 December 2018 |
| 2. | 2018 | Celebrated World Soil Day | 05 December 2018 |
| 3. | 2018 | Celebrated Agricultural Education Day | 03 December 2018 |
| 4. | 2018 | Training programme on "Personality Development" in collaboration woth Counseling and Placement Cell, Directorate of Students Welfare, CCSHAU, Hisar | 15-29 November 2018 |
| 5. | 2018 | Motivational Lecture by Dr. R.S. Balyan, Secretary Kisan Aayog, Haryana | 31 October 2018 |
| 6. | 2018 | Celebrated pollution free Dusshera without crackers | 19 October 2018 |
| 7. | 2018 | Awareness Campaign about POSCO and juvenile justice (care and protection of children) act-2015 in collaboration with child welfare committee, Rewari | 18 October 2018 |
| 8. | 2018 | Cleanliness programme | 02 October 2018 |
| 9. | 2018 | Inter class game of volleyball, Kabaddi and badminton (Boys and Girls) | 24-29 September 2018 |
| 10. | 2018 | Fresher's Day | 19 September 2018 |
| 11. | 2018 | Orientation programme | 11 September 2018 |
| 12. | 2018 | Cleanliness programme | 01 September 2018 |
| 13. | 2018 | Motiovational lecture | 15 August 2018 |
| 14. | 2019 | Agricultural Education Day | 03 December 2019 |
| 15. | 2019 | Inter College Hand Ball Tournament | 21 November 2019 |
| 16. | 2019 | *Shramdan Diwas*under *'Swachhta hi Sewa 2019*: | 02 October 2019 |
| 17. | 2019 | Hindi Pakhwara | 14-26 September 2019 |
| 18. | 2019 | Plastic Waste Free Campaign | 11-27 September 2019 |
| 19. | 2019 | Fit India Movement | 29 August 2019 |
| 20. | 2019 | Plantation Day | 01 August 2019 |
| 21. | 2019 | Yoga Camp | 06-10 March 2019 |
| 22. | 2019 | Environmental Awareness Camp | 28 March .2019 |
| 23. | 2019 | Personality Development Training Programme | 12-26 February 2019 |
| 24. | 2019 | Science Day | 28 February 2019 |
| 25. | 2019 | Energy Conservation by PCRA | 05 March 2019 |

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| 26. | 2019 | Lecture by Dr. R.K. Nanwal | 14 February 2019 |
| 27. | 2019 | Road Safety in collaboration with Lion's Club Rewari and RSO | 11 February 2019 |
| 28. | 2019 | Republic Day Celebration | 26 January 2019 |
| 29. | 2020 | Cleanliness drive | 02 October 2020 |
| 30. | 2020 | Parthenium eradication drive | 11 July 2020 |
| 31. | 2020 | Training on Effective Communication and Interpersonal Skills | 18-21 May 2020 |
| 32. | 2020 | Eight Right During Covid-19 Crisis | 15-16 May 2020 |
| 33. | 2021 | Conclave on natural farming (live) | 16 December 2021 |
| 34. | 2021 | Plantation day | 12. December.2021 |
| 35. | 2021 | Agriculture education day | 03. December.2021 |
| 36. | 2021 | Inaugural of Boys hostel | 26 November 2021 |
| 37. | 2021 | Orientation programme for fresh students | 12 November 2021 |
| 38. | 2021 | Exposure visit and orientation of fresh students at HISAR | 28 October 2021 |
| 39. | 2021 | Scientists and farmers interaction | 16 September 2021 |
| 40. | 2021 | Plantation day | 07 September 2021 |
| 41. | 2021 | Plantation day | 26 August 2021 |
| 42. | 2021 | Yoga camp (5 days) | 26-30 August 2021 |
| 43. | 2021 | Blood donation camp | 27 August 2021 |
| 44. | 2021 | Awareness rally | 28 August 2021 |
| 45. | 2021 | Cleanliness drive | 24-26 August 2021 |
| 46. | 2021 | Annual NSS camp (7 days) | 24-30 August 2021 |
| 47. | 2021 | Organised parthenium awareness week | 19 August 2021 |
| 48. | 2021 | Training on ICT for agricultural extension: New concept (National level) | 23-27 August 2021 |
| 49. | 2021 | Independence Day | 15 August 2021 |
| 50. | 2021 | Plantation day | 11 August 2021 |
| 51. | 2021 | Training on smart class room | 03 August 2021 |
| 52. | 2021 | Language lab training (2 days) | 29-30 July 2021 |
| 53. | 2021 | Van Mahotsav | 25 July 2021 |
| 54. | 2021 | Plantation day | 16 July 2021 |
| 55. | 2021 | Environment day | 05 June 2021 |
| 56. | 2021 | Birth anniversary of Dr BR Ambedkar | 14 April 2021 |
| 57. | 2021 | Training on personality development and communication skill (online) | 15-26 March 2021 |
| 58. | 2022 | Exhibition in Kisan Diwas programme | 23. December.2022 |
| 59. | 2022 | Training on cultivation, conservation and utilization of medicinal, aromatic and potential crops | 15. December.2022 |
| 60. | 2022 | Annual athletic meet | 06-07. December.2022 |
| 61. | 2022 | World Soil Day | 05. December.2022 |
| 62. | 2022 | Agricultural Education Day | 03. December.2022 |
| 63. | 2022 | Foundation training course (general topics) for ICAR-JRF (PGS) exam in agriculture | 25 November 2022 to 04. December.2022 |
| 64. | 2022 | Exhibition on Sardar Patel – The Architect of Unification | 31 October 2022 |
| 65. | 2022 | Run for Unity on Sardar Patel – The Architect of Unification | 31 October 2022 |
| 66. | 2022 | Swatchh Bharat – 2.0 campaign | 30 October 2022 |
| 67. | 2022 | Freshers' day for 2022 batch | 12 October 2022 |
| 68. | 2022 | Awareness programme on cyber crime | 10 October 2022 |
| 69. | 2022 | Awareness rally – eradication of single use plastic | 02 October 2022 |
| 70. | 2022 | Hindi Diwas | 12-14 September 2022 |

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| 71. | 2022 | Orientation programme for fresh students | 07 September 2022 |
| 72. | 2022 | Parthenium awareness and eradication | 20 August 2022 |
| 73. | 2022 | Independence Day | 15 August 2022 |
| 74. | 2022 | Plantation day | 14. August 2022 |
| 75. | 2022 | *Har GharTiranga* | 13 August 2022 |
| 76. | 2022 | Plantation day | 12 August 2022 |
| 77. | 2022 | Tiranga Motorcycle rally | 12 August 2022 |
| 78. | 2022 | Tiranga Abhiyan (boys) | 10 August 2022 |
| 79. | 2022 | Tiranga Abhiyan (girls) | 10 August 2022 |
| 80. | 2022 | Tringa Rally | 07 August 2022 |
| 81. | 2022 | Van Mahotsav | 05 August 2022 |
| 82. | 2022 | Exposure for newly appointed teachers | 22 July 2022 |
| 83. | 2022 | Hear check-up camp | 22 July 2022 |
| 84. | 2022 | Exposure visit of students (pre-final year) | 16 July 2022 |
| 85. | 2022 | ICAR foundation day | 16 July 2022 |
| 86. | 2022 | *Swachhata* compaign | 02 July 2022 |
| 87. | 2022 | Celebrated 26$^{th}$ June commemorated as international day against drug abuse and illicit trafficking | 26 June 2022 |
| 88. | 2022 | International yoga day | 21 June 2022 |
| 89. | 2022 | Yoga camp | 17-19 June 2022 |
| 90. | 2022 | Inauguration of ELP unit | 16 May 2022 |
| 91. | 2022 | Inaugurated smart class room | 16 May 2022 |
| 92. | 2022 | International bajra festival | 16 May 2022 |
| 93. | 2022 | fresher day | 19 May 2022 |
| 94. | 2022 | Dr Mukesh Kumar attended AICRP-AZF meeting at Ayodhya | 28-30 April 2022 |
| 95. | 2022 | One day CeRA training | 18 April 2022 |
| 96. | 2022 | *Poshan Pakhwara* | 04 April 2022 |
| 97. | 2022 | Blood donation camp | 26 March 2022 |
| 98. | 2022 | National Integration NSS camp | 21-27 March 2022 |
| 99. | 2022 | Mustard mela | 13 March 2022 |
| 100. | 2022 | Training on effective communication skills (for SC students) | 11-20 March 2022 |
| 101. | 2022 | International women day | 18 March 2022 |
| 102. | 2022 | Training on personality development (for SC students) | 25 February-06 March 2022 |
| 103. | 2022 | Two days training on organic farming | 07-08February 2022 |
| 104. | 2022 | Surya namaskar | 06 February 2022 |
| 105. | 2022 | Celebrated republic day | 26 Januay 2022 |
| 106. | 2022 | National girl child day | 24 Januay 2022 |
| 107. | 2022 | Farmers training (virtual mode) | 21 Januay 2022 |
| 108. | 2022 | Celebrated national youth day | 12 Januay 2022 |
| 109. | 2022 | Celebrated new year and organised Rangoli competition | 01 Januay 2022 |
| 110. | 2023 | Conducted exposure visit for UG students Masani Barrage and organic farm Dharuhera | 19 April 2023 |
| 111. | 2023 | Blood donation camp (59 units) | 13 April 2033 |
| 112. | 2023 | World Water Day | 22 March 2023 |
| 113. | 2023 | International Forest Day | 21 March 2023 |
| 114. | 2023 | International Women Day | 08 March 2023 |
| 115. | 2023 | International Millets Day at girls hostel | 14 February 2023 |
| 116. | 2023 | Exposure visit of students at IARI, New Delhi | 09 February 2023 |
| 117. | 2023 | Organic Farming training | 07-13 February 2023 |

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| 118. | 2023 | International millets day celebrated in boys hostel | 05 February 2023 |
| 119. | 2023 | Workshop on career avenues and scholarship/fellowship | 04 February 2023 |
| 120. | 2023 | Exposure visit of students in processing unit at Dhankot and Chandu (Gurugram) | 28Januay2023 |
| 121. | 2023 | Processing technology of fruits and vegetables | 27-31Januay 2023 |
| 122. | 2023 | Republic day | 26Januay2023 |
| 123. | 2023 | Exposure visit of students at IARI, New Delhi | 20 Januay 2023 |
| 124. | 2023 | Surya Namaskar | 18 Januay 2023 |
| 125. | 2023 | Training on nursery technology | 18-24 Januay 2023 |
| 126. | 2023 | National youth day | 12 Januay 2023 |
| 127. | 2023 | Celebrated International year of Millets | 07 Januay 2023 |
| 128. | 2023 | Annual NSS camp | 01-07 Januay 2023 |

## E) College of Agriculture, Kaul

| S. No. | Year | Title | Date Duration |
|---|---|---|---|
| **1** | 2018 | NCC cadets organized cleanness drive in the campus under Swachhta Hi Seva complain | 20 September 2018 |
| **2** | 2018 | Career Counselling Session on "Skill Development in English Speaking" | 29 September 2018 |
| **3** | 2018 | Celebration of Agricultural Education | 03 December 2018 |
| **4** | 2019 | Annual Atheletic Meet 2019 | 15-16 February 2019 |
| **5** | 2019 | Two week training on "Agripreneurship" | 20 September 2019 to 03 October 2019 |
| **6** | 2019 | Organized seven days NSS camp at Vill. : Derdu | 13 April 2019to 19 April 2019 |
| **7** | 2019 | The College of Agriculture Kaul organized a programme in collaboration with Super Kisan, a joint venture of IFFCO | 09 April 2019 |
| **8** | 2019 | Five day "Yoga Camp organized | 26 April 2019 to 20 April 2019 |
| **9** | 2019 | Celebrated International Yoga Day | 21 June 2019 |
| **10** | 2019 | Run for Unity event | 31 October 2019 |
| **11** | 2019 | Organized a rally under "Beti Bachao Beti Padao Abhiyan" | 18 October 2019 |
| **12** | 2019 | The College of Agriculture, Kaul, organized a "Talent Search Program" | 16 November 2019 |
| **13** | 2020 | Annual Atheletic Meet 2020 | 26-27 February 2020 |
| **14** | 2021 | Annual NSS Camp | 13-19 March 2021 |
| **15** | 2020 | Two week training on "Personality Development | 04 March 2020 to 17 March 2020 |
| **16** | 2020 | Three days NAHEP Training on " Basic of entrepreneurship development in agriculture" | 02-04 June 2020 |
| **17** | 2020 | Van Mahatosav | 18 August 2020 |
| **18** | 2021 | World Environment Day | 05 June 2021 |
| **19** | 2021 | 10 days training on Dairy Farming | 20 December 2021 to 30 December 2021 |
| **20** | 2022 | Har Ghar Tringa Yatra relly in Kaul village | 12 August 2022 |
| **21** | 2022 | 10 days training on "Post-harvest of fruits and vegetables for value addition" | 03 January 2022 to 12 March 2022 |
| **22** | 2023 | Annual Atheletic Meet 2023 | 16-17 April 2023 |
| **23** | 2023 | Celebration Earth Day | 22 April 2023 |

## F) College of Agricultural Engineering & Technology

| Sl. No. | Training details (duration) | Date(s) |
|---|---|---|
| 1. | Manufacturing better quality crop-residue management machinery | 19- 23 August 2019 |
| 2. | Robotics and Automation | 17 to 30 July 2018 |
| 3. | Campus to Corporate | 24 to 29 February 2020 |
| 4. | Campus to Corporate | 02 to 07 March 2020 |
| 5. | Robotics and Automation | 25 February to 01 March 2020 |
| 6. | Robotics and Automation | 02 to 07 March 2020 |
| 7. | UAV application of pesticides for crop protection | 21 to 23 November 2022 |
| 8. | UAV application of pesticides for crop protection | 28 to 30 November 2022 |
| 9. | Application of UAVs for crop health monitoring using hyperspectral/ multispectral imagery | 05-07, December 2022 |
| 10. | Application of UAVs for crop health monitoring using hyperspectral/ multispectral imagery | 12 December 2022 to 15 December 2022 |
| 11. | Design, Installation, Operation and Maintenance of Protected Agriculture Structures | 8 November 2021 to 18 February 2022 |
| 12. | Second generation Bio Ethanol Production | 2-4 January 2023 |
| 13. | Biogas Production from Agro- Waste Residue | 5-7 January 2023 |
| 14. | Second generation Bio Ethanol Production | 16-18 January 2023 |
| 15. | Biogas Production from Agro- Waste Residue | 19-21 January 2023 |
| 16. | Installation of Electrical appliances for Farming | 9-11 Jan 2023 |

## G) I.C. College of Home Sciences

| S.No. | Title | Date |
|---|---|---|
| 1. | Workshop on issues related to old age | 10 April 2018 |
| 2. | Workshop on issues related to old age | 13 April 2018 |
| 3. | World Breast Feeding week | 3 to 4 August 2018 |
| 4. | Organized training on 'Rakhi Making' | 20 August 2018 |
| 5. | Organized training on 'Bead Jewellery Making' | 16 to 17 August 2018 |
| 6. | Organized Creation-2018 | 24 October 2018 |
| 7. | Organized event on Karwa Choth | 26 October 2018 |
| 8. | Organized event on Haryana Day | 2 November 2018 |
| 9. | Awareness Campaign on Hygiene and Sanitation | 26 to 29 November 2018 |
| 10. | Celebrated Inter State Harmony Day | 27 November 2018 |
| 11. | Jewellery and Bag Making | 24 to 30 January 2019 |
| 12. | Training on Mindfulness-A path towards psychological well-being for girl students of CCSHAU | 20 February to 5 March 2019 |
| 13. | Seminar on "Professional opportunities in Home science" for school children | 21 February 2019 |
| 14. | Consumer Day was celebrated in village Mangali | 15 March 2019 |
| 15. | Five days training on Eco Friendly Utility Articles | 29 March to 3 April 2019 |
| 16. | Best out of waste utility and decorative articles | 29 March 2019 |
| 17. | Decorative glass bangles | 03 April 2019 |
| 18. | Save Environment Save Earth | 21 to 24 February 2019 |
| 19. | Nursery Raising | 25 February to 1 March 2019 |
| 20. | Value Added Dairy Products | 27 February to 2 March 2019 |
| 21. | Value Added Milk Products | 27 February to 5 March 2019 |
| 22. | Decorative mud diyas | 30 March 2019 |
| 23. | Wooden bead ornaments | 01 April 2019 |

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| 24. | Decoration of earthern diyas & handmade paper envelops | 02 April 2019 |
| 25. | World Earth Day was celebrated in department of Family Resource Management | 22 April 2019 |
| 26. | Organized exhibition-cum-sale of handmade rakhis and jewellery prepared by women of Mangali village | 9 August 2019 |
| 27. | Training on Healthy Diet - Healthy Mind at COHS | 21 August 19 to 03 September 2019 |
| 28. | Organized event on Janamashtmi Utsav | 22 August 2019 |
| 29. | Swachata Pakhwada, Jalshakti janshakti abhiyan, single plastic use ban and national nutrition week | 2 to 17 September 2019 |
| 30. | Organized declamation Contest on Guru Nanak Dev Jee on occasion of celebration of 550th Birth Anniversary of Sh. Guru Nanak Dev Jee". | 2 September 2019 |
| 31. | Workshop on water conservation | 5 September 2019 |
| 32. | Organized event on Teacher's Day at department level | 6 September 2019 |
| 33. | Observed the Plastic Free Campaign (Swachhta hi Sewa) | 11 September to 27 October 2019 |
| 34. | Organized exhibition-cum-sale in deptt stall of Kisan Mela(Rabi) of eco-friendly articles prepared by women of Mangali village | 12 September 2019 |
| 35. | Organized Awareness campaign on "Harmful effects of plastic use on Environment and its management" was conducted at village Dahima. | 13 September 2019 |
| 36. | User Friendly Technologies for Farm Workers organized during Golden Jubilee Year Celebration of the University | 15 to 19 October 2019 |
| 37. | Organized event on Karwa Chauth (applying mehandi and Nail Art) at college level. | 16 October 2019 |
| 38. | Organized exhibition-cum-sale in Creations 2019 of eco-friendly articles prepared by women of Mangali village | 24 October 2019 |
| 39. | Pro tray nursery technique | 18 to 22 November 2019 |
| 40. | Making of cloth bags and eco-friendly utility items | 13 to17 December 2019 |
| 41. | Awareness generation on save environment save earth | 18 to 21December 2019 |
| 42. | Entrepreneurial development of women through value added dairy products | 20 to 23 January 2020 |
| 43. | Promotion of medicinal plants | 20 to 23 January 2020 |
| 44. | Making of cloth bags and eco-friendly utility items | 24 to 31 January 2020 |
| 45. | Promotion of medicinal plants | 17 to 20 January 2020 |
| 46. | Hands on training on 'Enhancement of Designing competencies with ICT tools' at COHS | 24 February to 04 March 2020 |
| 47. | Hands on training on 'Enhancement of Designing competencies with ICT tools' at COHS | 26 February to 06 March 2020 |
| 48. | Celebrated International Women's week Celebration in village Shahpur | 3 to 7 March 2020 |
| 49. | Organized an awareness program on women empowerment and human rights | 3 March 2020 |
| 50. | Essay writing competition on "Women and Health" was organized in Tokas village | 4 March 2020 |
| 51. | Speech competition on "Women and Health" was organized at Senior Secondary School, Shahpur | 5 March 2020 |
| 52. | A documentary on women empowerment was shown to school students and then slogan writing competition was organized for students of Senior Secondary School, Shahpur. | 6 March 2020 |
| 53. | Quiz competition on "Women in India" was organized in Senior Secondary School, Shahpur. | 7 March 2020 |
| 54. | Hands on training on 'Enhancement of Handicrafts Skills for entrepreneurship Development' at Village Budak | 6 to18 March 2020 |
| 55. | Organized event on World Earth Day in department of Family | 22 April 2020 |

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| | Resource Management. PG students made digital posters for environment conservation | |
| 56. | Organized competition on celebration of Environment day on by organizing poster and slogan writing competition | 5 June 2020 |
| 57. | Organized Webinar on Job avenues and related aspects for final year students of B.Sc. (Hons) Community Science | 24 June 2020 |
| 58. | Webinar 'Quantifying the quality traits in food' by Deptt. Of Foods & Nutrition | 27 June 2020 |
| 59. | Online Software training 'Adding meaning to nutritional data' by Deptt. of Foods & Nutrition | 05 July 2020 |
| 60. | On line Celebration of Hindi Diwas was celebrated | 14 September 2020 |
| 61. | International Webinar on 'Combating Hidden Hunger-Obstacles & Interventions for sustainability' by Deptt. Of Foods & Nutrition | 19 September 2020 |
| 62. | Webinar on 'Importance of Khadi in Present Context' | 2 October 2020 |
| 63. | Online poster making competition on "Meri Pasand Mera Garv-Swadeshi Khadi" to promote Gandhiji's thoughts on self-dependence | 2 October 2020 |
| 64. | Online poster competition on 'Role of Women in Changing Society' on the occasion of 'Mahila Kisan Diwas' | 15 October 2020 |
| 65. | Organized virtual gosthi on role of women in agriculture on the occasion of women in agriculture day | 15 October 2020 |
| 66. | Organized swachhata week on the occasion of 150th birth anniversary of Mahatama Gandhi | 2 October 2020 |
| 67. | Vigilance Awareness Week-2020 on the Theme "Satark Bharat, Samiriddh Bharat (Vigilant India, Prosperous India)" | 27 October to 2 November 2020 |
| 68. | Online slogan competition on 'Role of Women in Nation Building" and "Women Empowerment through Self-Employment' | 29 October 2020 |
| 69. | Online speech competition on 'Best Buying Practices for Clothing and Textiles' | 30 October 2020 |
| 70. | Online poem competition on 'Domestic Violence against Women' and 'Gender Discrimination' | 1 November 2020 |
| 71. | Brain Storming Workshop on 'Gender Sensitization-Issues & Challenges' (Online) | 03 December 2020 |
| 72. | Organized Online poster making competition on 'Rural Women: Backbone of Agriculture' | 03 December 2020 |
| 73. | Webinar on 'Role of women in agriculture | 04 December 2020 |
| 74. | Workshop on Management of Disability in Young Children for rural mothers | 15 to 16 December 2020 |
| 75. | Nukkad-Natak on Gender issues present in society at Village Budak, Hisar | 18 December 2020 |
| 76. | Swachta Abhiyan Budak at Village Budak, Hisar | 18 December 2020 |
| 77. | Training on Stitching of different types of face mask, face cover and cotton picking bag at village Budak, Hisar | 15 to 22 January, 2021 |
| 78. | Training on Stitching of chapati cover and different types of pouches in village Budak, Hisar | 25 to 27 January 2021 |
| 79. | Training on Stitching of different types of frocks with gathers, box pleat, inverted box pleat and layered skirts at village Budak, Hisar | 28 to 30 January 2021 |
| 80. | Training on Stitching of kameez-salwar, plazo pant, paneled plazo and different types of blouses (simple, belt, princess line) at village Budak, Hisar | 01 to12 February 2021 |
| 81. | Training on Stitching of kurta–pyjama and night suit at village Budak, Hisar | 15 to20 February 2021 |
| 82. | Organized five-day workshop on Psychological Wellbeing and Reproductive Health of rural women | 18 to 22 January 2021 |
| 83. | Organized state level Workshop on Women entrepreneurship: | 19 February 2021 |

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| | Challenges ahead under NASF project at village Budak, Hisar | |
| 84. | Nursery raising and processing & preservation of fruit and vegetable at Village Budak, Hisar | 22 to 26 February 2021 |
| 85. | Training programme on vermi-composting at Budak | 16 March 2021 |
| 86. | Training programme on poultry farming and animal husbandry from at village Budak, Hisar | 24 to 25 March 2021 |
| 87. | Bakery as an enterprise at Village Budak, Hisar | 1 to 5 March 2021 |
| 88. | Poultry Farming and Animal Husbandry at Village Budak, Hisar | 24 to 25 March 2021 |
| 89. | Training on Skill development in Handicrafts at Village Budak, Hisar | 25 to 29 March 2021 |
| 90. | Soft toys making at Village Budak, Hisar | 01 to 09 April 2021 |
| 91. | Training on Malted sorghum (Jowar) based weaning foods at Village Budak, Hisar | 15 to19 May 2021 |
| 92. | Training on Malted sorghum (Jowar) based weaning foods at Village Budak, Hisar | 20 to 23 May 2021 |
| 93. | Training on Skill development in Handicrafts at Village Budak, Hisar | 6 to10 June 2021 |
| 94. | Entrepreneurship training on Value added products of pearl millet at Village Budak, Hisar | 06 to 11 August 2021 |
| 95. | Rakhi making at Village Budak, Hisar | 16 to 18 August 2021 |
| 96. | Entrepreneurship training on Value added products of pearl millet at Village Budak, Hisar | 01 to 07 September 2021 |
| 97. | National Nutrition Month in different villages of Hisar district | 01 to 30 September 2021 |
| 98. | Entrepreneurship training on Value added products of pearl millet at Village Budak, Hisar | 13 to 18 September 2021 |
| 99. | Organized online debate competition on the topic online E learning v/s classroom learning | 21 September 2021 |
| 100. | Yoga camp at Village Budak, Hisar | 28 to 30 September 2021 |
| 101. | Organized three days Yoga training camp at village Budak, Hisar | 28 to 30 September 2021 |
| 102. | Organized Training on Food safety and Adulteration at Village Muklan, Hisar | 30 September 2021 |
| 103. | Organized Cyclothon to Promote Green Consumerism | 30 September 2021 |
| 104. | Tree plantation and Nutri garden workshop at Village Budak | 1 to 7 October 2021 |
| 105. | Organized Online Gosthi for rural women on Farm to plate, Make food safe | 12 October 2021 |
| 106. | Soft toys making at Village Budak, Hisar | 23 to 06 December 2021 |
| 107. | Organized AIDS awareness campaign for college students and organized talk lecture of Dr Bhanu Pratap Sharma, General Surgeon Agroha Medical College, Hisar | 1 December 2021 |
| 108. | Organized Brain Storming Session on Gender Sensitization: Issues and Challenges | 03 December 2021 |
| 109. | Advanced artificial jewellery making at Village Budak, Hisar | 7 to14 December 2021 |
| 110. | Organized Mahila Mela in village Tokas Patan | 09 December 2021 |
| 111. | Organized national webinar on changes in perspectives of TRE (Teaching, Research and Extension) for preparing a Post-Covid future in Home science | 13 to 15 December 2021 |
| 112. | Organized Mini Mela on Drudgery Reduction Technologies used in Home and Farm was organized at village Budak, Hisar | 18 December 2021 |
| 113. | Modern artificial Jewellery making at Village Budak, Hisar | 27 to 31 December 2021 |
| 114. | Entrepreneurship training on Different types of utility articles production at Village Budak, Hisar | 20 to 31 December 2021 |
| 115. | Bag making workshop at Village Budak, Hisar | 20 to 31 December 2021 |

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| 116. | Conducted training on Green Consumerism towards Sustainable Development | 21 to 22 December 2021 |
| 117. | Training on Vermi composting at Village Budak, Hisar | 10 to 12 January 2022 |
| 118. | Training on Garment Production at Village Budak, Hisar | 03 to 14 january 2022 |
| 119. | Organized talk on sanitary napkin and hygiene for rural women by Dr. Alka Jakhar | 27 January 2022 |
| 120. | Training on Vermi composting at Village Budak, Hisar | 11 to 12 February 2022 |
| 121. | Training on Communication skills and personality development (On line) | 7 to 16 March 2022 |
| 122. | Campaign on Nutri garden in villages of Hisar district | 1to 3 March 2022 |
| 123. | Competition on local nutritious recipes in villages of Hisar district | 5 March 2022 |
| 124. | International women Day | 8 March 2022 |
| 125. | Organized training on 'Skill Development in Textile Designing' for SC/ST students of COHS | 7 to 16 March 2022 |
| 126. | Organized training on 'Skill Development in Apparel Designing' for SC/ST students of COHS | 7 to16 March 2022 |
| 127. | Organized training on 'Fabric Embellishment Techniques' for the students of ODM College, Hisar | 20 to 21 May 2022 |
| 128. | Fabric surface enrichment techniques among rural women entrepreneur at Village Budak, Hisar | 23 to 24 May 2022 |
| 129. | Value added peanut products at Village Budak, Hisar | 25 to 27 May 2022 |
| 130. | Organized three days Yoga training camp in COHS among UG students | 17 to 19 May 2022 |
| 131. | World Cycling Day celebrated to promote Environmental Consciousness | 3June 2022 |
| 132. | Organized a Workshop on Gender Sensitization of Women Political Leaders at Grass-root Level | 27 June 2022 |
| 133. | Workshop on Capacity building of Young Researchers for carrying out nutrition research at COHS | 25 to 26 August 2022 |
| 134. | Workshop cum stakeholders' meet on Gender Sensitization: Breaking barriers and Fuelling Sender Equality' at COHS | 28 October 2022 |
| 135. | International Online lecture The fuss about food supplements | 06 February 2023 |

## H) College of basic Sciences & Humanities

| S.No. | Title | Date |
|---|---|---|
| 1. | State Eligibility Test in Computer Appreciation and Application (SETC), | 05 to 09 March 2018 |
| 2. | Seminar on Indian Constitution and Dr. B.R. Ambedkar on the occasion of 127th Birth Anniversary of Dr. Ambedkar | 13 April 2018 |
| 3. | Two days Workshop Hands-On Training Program on Basic and Advanced Instrumentation | 10 to 11 January 2019 |
| 4. | State Eligibility Test in Computer Appreciation and Application (SETC) | 04 to 08 February 2019 |
| 5. | Statistical Data Analysis for Research Scholars | 18 to 27 February 2019 |
| 6. | Fruits and Vegetables Processing for SC youth | 12 to 19 March 2019 |
| 7. | Seminar on Dr. Ambedkar's thoughts on Social and Economic Justice on the occasion of 128th Birth Anniversary of Dr. Ambedkar | 12 April 2019 |
| 8. | International Workshop on Molecular Mapping of Economic Traits using High-Throughput Technologies | 08 to 17 July 2019 |
| 9. | Statistical Data Analysis for Research Scholars at Computer Section | 14 to 24 October 2019 |
| 10. | Seminar on Role of Dr. B.R. Ambedkar on Land and Water Reform on the occasion of Constitution Day | 26 November 2019 |

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| 11. | Workshop on Recent Computational Techniques of Mathematical Sciences for Researchers to celebrate National Mathematics Day | 22 January 2020 |
| 12. | Statistical Data Analysis for Research Scholars at Computer Section | 24 February to 04 March 2020 |
| 13. | International Workshop on Plant Genomics | 25 February to 05March 2020 |
| 14. | Fruits and Vegetables Processing for SC Youth | 26 February to March 04 2020 |
| 15. | Twelve days International Indo-US-Afghanistan CAAI Workshop on Capacity Development for Agricultural Innovation Systems: Agricultural Research and Climate-Smart Agriculture Approaches | 7 to18 March 2020 |
| 16. | Two days Online Indo-US Afghanistan International Workshop on "Development of Essential Research Capabilities: Design, Implement and Perform Analysis in Applied Research | 23 & 29 June 2020 |
| 17. | Online Webinar on Computational Techniques for Applied Sciences | 06 to 07 July 2020 |
| 18. | National Level Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data for the teachers and scientists of SAUs | 08 to 28 July 2020 |
| 19. | International Workshop on Climate Change | 16, 23,30 July and 6 August 2020 |
| 20. | How to Skill Up during COVID-19 | 05 to 14 August 2020 |
| 21. | Three days Online Indo-US Afghanistan International workshop on Integrated Pest Management | 14, 15 and 22 September 2020 |
| 22. | Symposium on Connecting the World with Data we can Trust | 20 October 2020 |
| 23. | National e-seminar entitled Mathematical Sciences: Repositories of Logical Thoughts and Analytical Tools | 22 December 2020 |
| 24. | Food Processing and Value Addition for ABIC Incubatees | 15 to 16 January 2021 |
| 25. | Two days Online International Webinar on Deep learning for Detection and Management of Plant Disease | 8 and 12March 2021 |
| 26. | Two days Online Indo-US Afghanistan International Workshop on Training on Agribusiness Experiential Learning | 5 and 6 April 2021 |
| 27. | Food Processing for students from Amritsar Group of Colleges, Amritsar, Punjab | 08 to 14April 2021 |
| 28. | Three days Online Indo-US Afghanistan International workshop on Basic and Advance Laboratory/Farm Technologies in Agriculture | 28 to 30 June 2021 |
| 29. | Webinar on Evaluation of Zero Budget Natural Farming (ZBNF) Model under different Cropping Systems in Haryana | 10 August 2021 |
| 30. | Webinar on Sustainable technologies for crop residue management | 24 August 2021 |
| 31. | Basic Level Computer Appreciation Course | 13 to 22 September 2021 |
| 32. | International Webinar in the celebration of AzadikaAmritMahotsava on topic of What can the Microbiome tell us about the Conditions in Agricultural Soil | 29 September 2021 |
| 33. | State Eligibility Test in Computer Appreciation and Application (SETC) | 22 to 26 December 2021 |
| 34. | National Conference entitled Mathematical Sciences for Applied and Agricultural Research in blended mode | 22 February 2022 |
| 35. | Seminar on Dr. B.R. Ambedkar: SamajikSamrastaKeAgradoot on the occasion of 131st Birth Anniversary of Dr. Ambedkar | 13 April 2022 |
| 36. | Food Processing and Value Addition for Progressive and Innovative Farmers/Lady Farmers of Haryana | 25 to 29 April 2022 |
| 37. | International Webinar in the celebration of AzadikaAmritMahotsava on topic of Antibiotic Resistance in Agro environments between: Epidemiology and Microbial Ecology | 24 May 2022 |
| 38. | Online webinar entitled Reducing Carbon Emissions- Simple Solutions | 03 June 2022 |

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| | to Complex Problems on through Zoom Meeting | |
| 39. | World Environment Day | 4 June 2022 |
| 40. | State Eligibility Test in Computer Appreciation and Application (SETC) | 05 to 09 September 2022 |
| 41. | International Webinar in the celebration of AzadikaAmritMahotsava on topic of Your Future after Undergraduate or Postgraduate Degree | 9 September 2022 |
| 42. | Basic Level Computer Appreciation Course (BLCA) | 16 to 29 November 2022 |

### 6.6.6. Student Development

**6.6.6.1. Scholarships/Stipends:** *Is the University offering any scholarship programme for meritorious students? How many students are receiving competitive scholarships/fellowships for each College? How many passed out students have been selected for scholarships/fellowships in other universities*.

Education is one of the most essential and expensive assets in today's world. Students look for financial assistance to pursue the career of their dreams. In such a scenario, scholarships come up as the desired form of financial assistance. CCSHAU helps the students in empowering their academic and career goals by removing their financial barriers. This University offers **scholarships and stipends** to the meritorious U.G. & P.G. students of the University. Ten per cent of the students get the Merit fellowship. Details of the scholarships are as follow:

**Details of scholarships of UG Courses:**

| **COLLEGE OF AGRICULTURE, HISAR** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sr.No.** | **Name of Fellowship** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Amount per month (Rs.)** | |
| | | | | | | | **Boys** | **Girls** |
| | HAU Merit Scholarship | 255 | 206 | 262 | 190 | 80 | 800 | 1200 |
| | Merit-cum-Means Scholarship | 16 | 17 | 19 | 9 | 16 | 1000 | 1000 |
| | NTS Scholarship | 2 | 16 | 4 | 18 | 15 | 3000 | 3000 |
| **COLLEGE OF AGRICULTURAL ENGINEERING & TECHNOLOGY** | | | | | | | **Boys** | **Girls** |
| **1.** | HAU Merit Scholarship | 31 | 36 | 39 | 40 | 31 | 800 | 1200 |
| **2.** | NTS Scholarship | 3 | 2 | 6 | 7 | – | 3000 | 3000 |
| **3.** | READY Scholarship | Started from 2020-21 | | 29 | 34 | 37 | 9000 (State) 3000(ICAR) | |
| **COLLEGE OF HOME SCIENCE** | | | | | | | **Girls** | |
| **1.** | NTS for ICAR to UG students | 2 | 4 | 4 | 6 | 5 | 3000 | |
| **2.** | HAU Merit Scholarship (UG) | 99 | 103 | 85 | 80 | 76 | 1200 | |
| **3.** | PMS to UG students | 29 | 24 | 27 | 22 | 9 | 1000 | |
| **4.** | Saroj Kashyap Scholarship to UG students | 4 | 4 | 4 | 3 | 1 | 300 | |
| **5.** | RAWE/Internship allowance | 150 | 163 | 170 | 156 | 134 | 9000 (State) 3000(ICAR) | |
| **6.** | Central Sector Scheme of Scholarship (NSP) to UG students | – | 2 | 5 | 6 | 5 | 10,000 (per year) Revised 12000 w.e.f. 2022-23 | |
| **COLLEGE OF AGRICULTURE, KAUL** | | | | | | | **Boys** | **Girls** |
| **1.** | HAU Merit Scholarship | 89 | 87 | **84** | **86** | – | 800 | 1200 |
| **2.** | Merit-cum-Means Scholarship | 8 | 21 | – | – | – | 1000 | 1000 |
| **COLLEGE OF AGRICULTURE, BAWAL** | | | | | | | **Boys** | **Girls** |
| **1.** | HAU Merit Scholarship | 66 | 95 | 126 | 153 | 77 | 800 | 1200 |

**Details of scholarships for PG Courses:**

| Sr. No. | Name of Fellowship | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|
| 1. | P.G. Scholarship to M.Sc. students | - | 19 | 35 | 39 | 38 |
| 2. | ICAR JRF/SRF to Ph.D. students | - | 12 | 15 | 17 | 17 |
| 3. | National Fellowship for SC Ph.D. students | 1 | - | 7 | 8 | 10 |
| 4. | UGC NET JRF to Ph.D. students | 10 | - | 47 | 49 | 91 |
| 5. | INSPIRE Fellowship to Ph.D. students | 3 | - | - | - | 3 |
| 6. | Indo-Africa and Afghan Fellowship to foreign students | - | 6 | 8 | - | - |
| 7. | CSIR NET JRF to Ph.D. students | 4 | 18 | 29 | 32 | 39 |
| 8. | HSCST JRF Scholarship to Ph.D. Students | - | - | 3 | 4 | 8 |
| 9. | UGC Maulana Azad National Fellowship to Ph.D. students | - | - | 1 | 1 | 2 |
| 10. | ICAR NTS (PGS) | - | 23 | 45 | 41 | 40 |
| 11. | ICAR Nepal Aid fund scholarship | 1 | - | - | - | - |
| 12. | National fellowship for OBC Ph.D. students | 11 | - | 8 | 9 | 13 |
| 13. | National fellowship for ST students | - | - | 1 | 1 | - |
| 14. | D.B.T JRF (Department of Bio-Tech.) | - | - | 2 | 5 | 6 |
| 15. | ICMR JRF/SRF | - | - | 2 | 3 | 3 |
| 16. | National Tribal Fellowship | - | - | - | - | 3 |
| 17. | HAU Stipend/Merit Stipend (M.Sc.) | 352 | 350 | 377 | 376 | 368 |
| 18. | HAU Stipend/Merit Stipend (Ph.D.) | 230 | 297 | 348 | 397 | 386 |

**Stipends and Scholarships to PG students:**

| Sr. No. | Name of Fellowship | Ammount per month (Rs.) | Funding Agency |
|---|---|---|---|
| **M.Sc.** | | | |
| **1.** | HAU Merit stipend | 6000 | CCSHAU, Hisar |
| **2.** | HAU stipend | 3000 | CCSHAU, Hisar |
| **3.** | ICAR JRF | 12640 | ICAR, New Delhi |
| **4.** | ICAR NTS | 5000 | ICAR, New Delhi |
| **5.** | HSTC POSE Scholarship | 6000 | Department Of Science & Technology. Govt. of Haryana |
| **6.** | Indo-Afghan Fellowship to M.Sc. foreign students | 15000 | DARE, New Delhi |
| **7.** | Indo-Africa Fellowship to M.Sc. foreign students | 18000 | DARE, New Delhi |
| **8.** | ICAR Nepal Aid fund scholarship | 4800 | DARE, New Delhi |
| **Ph.D** | | | |
| **9.** | HAU Merit stipend | 10000 | CCSHAU, Hisar |
| **10.** | HAU stipend | 5000 | CCSHAU, Hisar |
| **11.** | ICAR SRF | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | ICAR, New Delhi |

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|---|---|---|---|
| **12.** | National fellowship for SC students | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | UGC, New Delhi |
| **13.** | National fellowship for OBC students | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | UGC, New Delhi |
| **14.** | UGC NET JRF | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | UGC, New Delhi |
| **15.** | DST INSPIRE fellowship | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | Govt. of India Ministry of Science & Technology, New Delhi |
| **16.** | Indo-Africa Fellowship to Ph.D. foreign students | 22000 | DARE, NEW Delhi |
| **17.** | CSIR NET JRF | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | CSIR, Head HRD, New Delhi |
| **18.** | HSTC JRF Scholarships | Rs.18000 for 1st and 2nd year<br>19Rs.21000 for 3rd year | Department Of Science & Technology. Govt. of Haryana |
| **19.** | UGC Maulana Azad National fellowship | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | UGC, New Delhi |
| **20.** | ICMR | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | ICMR, New Delhi |
| **21.** | DBT, JRF | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd year | Department of Biotechnology, Govt. of India |
| **22.** | National Fellowship for ST students | Rs.31000 for 1st and 2nd year<br>Rs.35000 for 3rd | UGC, New Delhi |

**6.6.6.2. Extra and Co-Curricular Activities:** *Whether the sports/games/cultural activities/NSS/NCC/ programmes are being organized? If yes, then give the list of events in last five years in tabular form. Participation of students in ICAR sponsored events (Agri-unifest/ Agri-sports/ any other) and award/medals received in last five years may be given in Tabular form. How the students practice sports and games daily?*

The CCSHAU is dedicated to facilitate students to acquire various skills, participate in various co-curricular activities other than the academic work and take care of their welfare for all-around development of students. There are number of options for the students to participate in any of the activities going on in the campus *viz.* sports, cultural, literary, workshops, skill improvement trainings, concerts, photography, picnic, excursions, cultural trips, etc. The Directorate of the Students Welfare of the University serves as a hub of students' guidance, counseling and placement activities for all its constituent colleges. The faculty helps CCSHAU graduates to get suitable placements in various nationalized banks, agro-based companies/industries/MNC/NGO's etc. It facilitates students to pursue their higher education in India and abroad too by conducting coaching classes, motivational lectures, mock group discussions, interview simulations etc. To accomplish the goal, 25 Clubs and Societies have been established at the University by the Directorate of Students' Welfare (DSW) with faculty serving as advisors and mentors to the students. Each undergraduate student must participate in one of the approved games or cultural activities.

**Sports Activities**

Value of sports and physical activities has become essential nowadays. Keeping in view the modern life style, people have become more dependent on the gazettes that provide more luxuries to life. This kind of life style leads to diseases and people are prone to injuries.

A healthy life leads to physical fitness, psychological and emotionally balanced, mentally strong and socially well-behaved citizens. A physically active person achieves many attributes like hard work, sincerity, discipline, dedication, devotion, courage, stress bearing ability, emotional balance, mental strength and socially well behaved. Games and sports teach us to be humble in victory and modest in defeat. This University has the glorious tradition of sports. The University has produced many international levels of sports persons. The students are attracted to sports and automatically acquire the best attributes of sports. A compulsory option of sports activity also helps the students to involve in sports which lead them to live happy, healthy and tension-free life.

**Achievements in All India Inter Agricultural Sports Meet**

| Sr. No. | Event | Achievement |
|---|---|---|
| **1.** | 19th All India Inter- Agricultural University Games & Sports Meet held at PAU, Ludhiana from 02.01.2019 to 05.01.2019 | **Position in Athletics:**<br>Gold Medal - 7<br>Silver Medal - 4<br>Bronze Medal - 4<br>**Position in Volleyball**<br>Silver Medal<br>**Position in Badminton**<br>Silver Medal<br>**Position in Kabaddi**<br>Bronze Medal<br>**Position in Basketball**<br>Bronze Medal |
| **2.** | 20th All India Inter- Agricultural Universities Sports & Games Meet, 2019-20 held at Sri Venkateswara Veterinary University, Tirupati, Andhra Pradesh from 01.03.20201 to 05.03.2020 | **Position in Athletics:**<br>Gold Medal -1<br>Silver Medal -6<br>Bronze Medal -1<br>**Position in Volleyball**<br>Silver Medal<br>**Position in Basketball**<br>Silver Medal |
| **3.** | 21st All India Inter- Agricultural University Games & Sports Meet, 2022-23 held at CCSHAU, Hisar from 20.02.2023 to 24.02.2023 | 1.) Gold Medal in Football<br>2.) Gold Medal in Kabaddi<br>3.) Gold medal in Basketball<br>4.) Silver Medal in Volleyball (M&W)<br>5.) **Position in Athletics:**<br>Gold Medal -11<br>Silver Medal - 3<br>Bronze Medal -8 |

**Inter University level Sports Events**

| S. No. | Name of the Event/ Activity | Achievement |
|---|---|---|
| **1.** | QUASAR tournament on 24.10.2018 held at Pilani | 1st position |
| **2.** | QUASAR tournament from 14.10.2019-16.10.2019 held at Pilani | 2nd position |
| **3.** | All India Inter-University Pencak Silat Championship held at G.N.D. University, Amritsar from 19.03.2019 to 23.03.2019. | Silver Medal -2<br>Bronze Medal -3 |

| | | |
|---|---|---|
| **4.** | Khelo India University Games held at Bengaluru from April 24.04.2022 to 03.05.2022 | Silver Medal -1 |
| **5.** | Participation in Karate team participated in All India Inter-University Karate Championship to be organized by Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur (Chhattisgarh) | Gold Medal -1 |
| **6.** | 18th All India Vice- Chancellor Cricket Cup T-20 Tournament from 3.11.2022 to 16.11.2022 at CCSHAU, Hisar | 1st position |

**Events organized by CCSHAU, Hisar**

| S. No. | Name of the Event/ Activity | Dates/Duration |
|---|---|---|
| **1.** | North Zone Inter- University Cricket Women tournament at CCSHAU, Hisar | 02.12.2019 to 10.12.2019 |
| **2.** | 18th All India Vice- Chancellor Cricket Cup T-20 Tournament on 3-16.11.2022 at CCSHAU, Hisar | 03.11.2022 to 16.11.2022 |
| **3.** | XXI All India Inter- Agricultural University Games & Sports Meet, 2022-23 held at CCSHAU, Hisar 20-24.2.2023 | 20.2.2023 to 24.2.2023 |
| **4.** | International Yoga day is organized by the Directorate of Students' Welfare | 21st June (every year) |
| **5.** | National Sports Day is organized by the Directorate of Students' Welfare | 29th August (every year) |

**Participation in Various Events held at other Universities/institutes:**

| S. No. | Name of the Event/ Activity | Dates/Duration |
|---|---|---|
| **1.** | Shooting Championship held at PU, Chandigarh | 31.10.2018 to 05.11.2018 |
| **2.** | Inter- University Athletic tournament held at Manglore University | 24.11.2018 to 28.11.2018 |
| **3.** | Inter- University Cricket tournament held at MDU, Rohtak | 15.12.2018 to 25.12.2018 |
| **4.** | Inter- University Archery tournament held at KIIT, Bhubneshwar | 26.12.2018 to 29.12.2018 |
| **5.** | Annual Athletic Meet, CCSHAU, Hisar | 05.02.2019 to 06.02.2019 |
| **6.** | Inter- University Hockey tournament held at JMI, University, Delhi | 05.10.2019 to 11.10.2019 |
| **7.** | Inter- University Chess tournament held at Chandigarh University, Mohali | 05.11.2019 to 09.11.2019 |
| **8.** | Inter- University Cricket tournament held at AMU, Aligarh | 21.11.2019 to 12.12.2019 |
| **9.** | Athletic Meet held at KIIT Bhubneshwar | 21.02.2022 to 24.2.2022 |
| **10.** | Inter- University Handball tournament held at CRSU, Jind | 11.03.2022 to15.03.2022 |
| **11.** | Inter- University Karate tournament held at KUK | 14.03.2022 to17.03.2022 |
| **12.** | Inter- University Wushu tournament held at Punjabi University, Patiala | 28.03.2022 to31.03.2022 |
| **13.** | Inter- University Cricket tournament, CAMPSJM, University , Kanpur | 06.06.2022 to 16.06.2022 |
| **14.** | Khelo India University Games held at Bangaluru | 24.04.2022 to 03.05.2022 |
| **15.** | 50th Annual Athletic, CCSHAU, Hisar | 08.12.2022 to 09.12.2022 |
| **16.** | Karate team participated in All India Inter-University Karate Championship to be organized by Atal Bihari Vajpayee Vishwavidyala, Bilaspur (Chhattisgarh | 17.01.2023 to 22.01.2023 |
| **17.** | North Zone Inter- University Cricket Tournament held at Kurukshetra, Kurukshetra | 23.02.2023 to 03.03.2023 |
| **18.** | All India Inter- University Gymnastic Championship held at Punjab University, Chandigarh | 10.03.2023 to 14.03.2023 |








Various Sports Activities at Giri Centre




International Yoga Day

**Cultural, Literary and Other Co-curricular Activities:**

As per the statutory provisions of the University, the Cultural activity is co-curricular activity which aims at developing the personality of the students of the university. Students who get themselves registered in cultural activities perform in cultural programmes of the University. In addition to the University level functions, they also participate in various youth festivals organized at State/ National levels.

Since its inception, HAU Music & Drama Club, has been actively engaged in fulfilling its primary objectives of strengthening of the teacher-taught relationship by way of promoting the cultural activities with special emphasis on music, dance and drama. Such activities are source of inspiration for students to develop their personality and channelize their youth energy. The club got recognition of regular credit activity in 1973 and since then it has been continuously engaged in searching, promoting, cultivating and developing the talent in music, drama, and dance among the university students. Music & Drama Club trains and provides opportunities to the talented and deserving students to perform at state and national levels. Another pioneering step that the Directorate has recently taken is staging of Haryanvi *Swangs* in a bid to revitalize our folk traditions. All these efforts have succeeded in acquainting the students with the rich cultural heritage of the country and the State.

**Accomplishments in Cultural Activities**

University students have won Gold, Silver and Bronze medals in Theatre, Dance and Music activities in the Inter Agri Youth festivals. Special workshops have been designed in Folk Dance, Folk Theatre, Folk music in which maestros and Gurus are invited to interact with the students. *Swang* is Haryana's most ancient theatre art form. A special effort was made to introduce the university students to Indian Art and Culture and values with special focus on our rich heritage.

**Achievements in All India Inter Agricultural Unifests**

| Sr. No. | Event | Achievement |
|---|---|---|
| 1. | All India Inter-Agricultural Unifest – 2019 was held at Sardarkrushinagar Dantiwada Agricultural University Sardarkrushinagar from 03.02.2019-07.02.2019 | Fourth Position in group Dance |

| | | |
|---|---|---|
| **2.** | All India Inter-Agricultural Unifest – 2020 was held at IGKV Raipur , Agricultural University Raipur from 08.02.2020-12.02.2020 | Silver Medal in Light Vocal Solo |
| **3.** | Inter University Competition in Central University of Haryana (Mahendergarh) SPANDAN from 25.02.2020 - 26.02.2020 | Gold Medal in Photography |
| **4.** | Inter University Competition in Central University of Haryana (Mahendergarh) SPANDAN from 25.02.2019 - 26.02.2019 | Second Position in Photography<br>Second Position in Collage<br>Third Position in *Rangoli*<br>Third Position in *Mehandi* |

**VARIOUS cultural events and activities organised at University:**

| S. No. | Name of the Event/ Activity | Dates/Duration |
|---|---|---|
| **1.** | Music and Dramatics club organized voting awareness campaign | 14-16.10.2019 |
| **2.** | Performance in Golden Jubilee International conference on New Millennia Agriculture Novel Trends & Future Scenario, CCSHAU Hisar | 6-8.11. 2019 |
| **3.** | Online Inter College Competition for best Singer, Dancer and Actor (Battle against Covid-19) | 28-30.04.2020 |
| **4.** | Inter college Patriotic song & Patriotic Dance Competition on India's 74 Independence day celebration | 15.08.2020 |
| **5.** | Haryanvi Kala Utsav (Haryana Ek- Haryanvi Ek) under the celebration of *Azadi ka Amrut Mahotsav* in collabration with Haryana kala Parishad | 20.09.2021 |
| **6.** | Cultural competitions on the occasion of world Student day in CCSHAU Hisar | 15.10. 2021 |
| **7.** | Cultural programme on National Unity Day under the celebration of *Azadi ka Amrut Mahotsav* | 24.10. 2021 |
| **8.** | Cultural activities on World Food Day | 31.10.2021 |
| **9.** | The Ramayana in Swang Shelly in Collabration with *Haryana Kala Parishad* by the Students of CCSHAU Hisar | 02.11.2021 |
| **10.** | Celebrating Maharishi Dayanand Saraswati Jayanti by organizing Folk Dance Competition Collabration with NAHEP (Under the celebration of *Azadi Ka Amrut Mahotsav*) | 26.02. 2022 |
| **11.** | Celebration of International Women Day organized by Music & Dramatics Club & Young Journalism Cell of CCSHAU Hisar (Under the celebration of *Azadi Ka Amrut Mahotsav*) and organized Inter college Slogan Writing, Poem Recitation ,Extempore Speech and Dance Competitions. | 08.03. 2022 |
| **12.** | Celebration of World Poetry Day organized by Music & Dramatics Club & Young Journalism Cell CCSHAU Hisar in Collabration with NAHEP(Under the celebration of *Azadi Ka Amrut Mahotsav*) Organized Poem Recitation Competition | 22.03.2022 |
| **13.** | Cultural program in 65$^{th}$ Annual Maize Workshop | 19.04.2022 |
| **14.** | Celebration of National Loyalty Day by Music & Dramatic Club & Young Journalism Cell CCSHAU Hisar (Under the celebration of *Azadi Ka Amrut Mahotsav*) | 04.05.2022 |
| **15.** | Celebration of National Anti Terrorism Day by organizing a Motivational Lecture on Art and Meditation (Under the celebration of *Azadi Ka Amrut Mahotsav*) | 21.05.2022 |
| **16.** | Celebration of Teachers' Day by organizing a play 'Chanakya' organized by Music & Dramatics Club CCSHAU Hisar (Under the celebration of *Azadi Ka Amrut Mahotsav*) by Directorate of Students' Welfare. | 05.09.2022 |
| **17.** | Lohri Celebration in HAU | 13.01.2023 |
| **18.** | Organized a Gazal Nite in the International conference on Climate Resilient Agriculture for food Security and Sustainability. | 17.02.2023 |

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|---|---|---|
| **19.** | Cultural Evening in the International conference on Climate Resilient Agriculture for food Security and Sustainability. | 18.02.2023 |
| **20.** | Cultural programme on the opening ceremony on All India Agricultural Sports Meet | 20.02.2023 |
| **21.** | Cultural Evening in All India Agricultural Sports Meet. | 21.02.2023 |

**Workshops**

1. Two Week online Folk Music Workshop during 15.07.2021 to 28.07.2021 for the students of CCSHAU, Hisar.








Cultural Activities during the Workshop

2. Fifteen days Music, Dance & Theatre workshops for the Students of CCSHAU Hisar from 18.10.2021 to 01.11.2021.











कल्चरल इवनिंग • राजस्थानी, पंजाबी, गुजराती गानों पर कार्यक्रम भी किए प्रस्तुत

बोल तेरे मीठे मीठे... से दर्शकों का मनमोहा

• एचएयू ऑल इंडिया इंटर एग्रीकल्चरल यूनिवर्सिटीज स्पोर्ट्स एंड गेम्स मीट 2022-2023 का शुभारंभ

कलाकारों ने गुजराती, पंजाबी, राजस्थानी व हरियाणवी वेशभूषा में दी सांस्कृतिक प्रस्तुति

Cultural Activities during the Workshop

**Literary and Debating Society**

The Literary and Debating Society of the University organized competitions and events so as to mould the students into well-informed individuals with all round development and good communication skills. The Society regularly organized inter-college debating, declamation, essay writing competitions in a bid to hone the skills of students, and train them for competitions at the State and National level.

The Literary and Debating Society of the University provides a platform to the students to express themselves through various communication skills, *viz.*, speaking & writing. The Society works to achieve the objective of moulding the students into well-informed individuals. It regularly organizes debate and declamation contests for the students of the University in various constituent colleges to promote the students in making confident and fluent in their expression on public platforms. The Society also strives to improve the writing skills of the students and to achieve this aim, it organizes essay writing competitions. The Society also conducts the quizzing activities. The Society, on a regular basis, organizes inter-college debating, declamation, Essay Writing competitions, and Brainstorming Sessions in a bid to hone the skills of students, and train them for competitions at the State and National level.

**Achievements in All India Inter Agricultural Unifests/ Interuniversity events etc.**

| Sr. No. | Event | Achievement |
|---|---|---|
| **1.** | Mr. Vatsal Arora, CoA, Hisar participated in Nav Bharat Nirman activity under climate Action Plan for sustainable future category (for his project on Precision Farming). In India International Science Festival 2019, organised by Ministry of Earth Sciences, Government of India in Kolkata. 05-08,11,2019 and won the first prize. |  |
| **2.** | Mr. Bhushan Mehta, CoA, Hisar participated in State Level Declamation Contest by Sri Sathya Sai Seva Organization, Haryana & Chandigarh at Mani Majra, Punjab on 11.10.18 and won the first prize. State Level NSS Declamation Contest (cash Prize of 51000/-) on 22.09.2018 and won the first prize. District level Inter-College Declamation Contest, by Sri Sathya Sai Seva Organization, Haryana & Chandigarh at Hisar on 07.10.18 and won the second prize. |  |
| **3.** | Mr. Harihara, B. Sc. (Hons.) participated in International Day against Drug abuse and Illicit Trafficking an inter-college story writing competition on HIV/AIDS; Drug Abuse on the theme "Be Smart Don't Start" for further participation at District level. The University entry represented by, student of won first prize at the District level on 26.06.2021 and won the first prize. |  |
| **4.** | Mr. Sachin Garg, a student of third year, B. Sc. (Hons.) participated in All India Essay Writing Competition-2022 held annually by Aligarh Muslim University, Aligarh on 17.10.2020 and was the State topper (Along with the memento and certificate, Sachin also received a cash award Rs. 51,000/-). |  |
| **5.** | Mr. Ankush from CoA, Kaul participated in 15th National Inter-University Debate Competition UDBHAV, 2022 organized by G.B. Pant University of Agriculture & Technology, Pantnagar held on 12.01. 2022 to 14.01. 2022 and won the Consolation prize. |  |
| **6.** | Mr. Praduman of COAE&T participated in Debate Competition in State Level Youth Red Cross Training Camp at Haridwar on 29.01.2022 and won the first prize. |  |

| | | |
|---|---|---|
| **7.** | Ms. Anu, from CoA won the best Rebuttal Award at YUVA, G.B. Pantnagar University of Agricluture & Technology, Pantnagar on 29.10. 2023. |  Best Rebuttal Award |
| **8.** | Mr. Rupit Goel, CoA, Hisar, participated in District Level Youth Parliament at GJUS&T, Hisar on 26.10.2019 and won the second prize. |  Second Prize |
| **9.** | Ms. Shweta Chhabra, CoBS&H, Hisar, participated in District Level Youth Parliament at GJUS&T, Hisar. on 26.10.2019 and won the third prize. |  Third prize |

**Various literary events and activities organised at University level are as follow:**

| S. No. | Name of the Event/ Activity | Dates |
|---|---|---|
| **1.** | Declamation Contest to celebrate National Unity Day and Haryana Day | 31.10.2018 |
| **2.** | Literary Activities of Poem Recitation, Declamation, Debate, Extempore Speech, and Elocution in Inter College (MHU & LUVAS inclusive) Golden Jubilee Youth Conclave--Alive ( Awareness, Leadership, Innovativeness, Vitality, Empowerment) | 24.04.2019-26.04.2019 |
| **3.** | Online Essay Competition on the occasion of International Yoga Day | 21.06.2019 |
| **4.** | Online Elocution Competition, Online Poem writing - Hindi, Online Poem writing - English, Online Poem recitation - Hindi, Online Poem recitation - English | 22.01.2020-23.01.2020 |
| **5.** | Literary Fest – 2020 (Online)<br>Competitions of Poem Recitation, Poem Writing, Elocution, Declamation and Essay Writing were held in the Fest. The competitions were held in both Hindi and English.<br>Essay, Poem, Poster and slogan writing competitions. | 27.04.2020-30.04.2020 |
| **6.** | Online slogan competition- English, Hindi & Poster competition- English | 26.06.2020 |
| **7.** | World Population Day was celebrated by organizing Essay Writing Competition – English and Hindi, Poem writing, English and hindi. (Online) | 11.07.2020 |
| **8.** | Online Quiz | 29.07.2020 |

| | | |
|---|---|---|
| **9.** | World Friendship Day, by organizing quiz competition | 01.08.2020 |
| **10.** | Quit India Movement Day (Online), Essay writing competition | 09.08.2020 |
| **11.** | World Youth Day Online Poem Writing Competition- English and Hindi was organized. | 12.08.2020 |
| **12.** | Independence Day was celebrated and an Elocution contest was organized online | 15.08.2020 |
| **13.** | World Humanitarian Day was celebrated by organizing Online Brainstorming Session on various aspects related to humanity | 19.08.2020 |
| **14.** | National Sports Day was celebrated by organizing online Quiz Competition. | 29.08.2020 |
| **15.** | Gandhi Jayanti was celebrated by organizing Essay Writing Competition on the topic Gandhi ji and his Philosophy | 02.10.2020 |
| **16.** | World Water Day was celebrated by organizing:<br>A) *Kisan Goshthi* (offline)-- two expert lectures about judicious use of irrigation water and ground water management<br>B) PPT Presentation Competition (Online) on the topic World Water Day: Making Habits to Save Water. | 22.03.2021 |
| **17.** | Martyrs' Day was celebrated by organizing Essay writing Competition | 23.03.2021 |
| **18.** | World Environment Day was celebrated by organising<br>a. Essay writing<br>b. Quiz competition | 05.06.2021 |
| **19.** | International Yoga Day was celebrated by organizing Declamation Contest and Quiz for the students of CCSHAU. | 21.06.2021 |
| **20.** | International Day against Drug abuse and Illicit Trafficking was celebrated by organizing online District level inter college story writing competition on HIV/AIDS & Drug Abuse organized by the District Administration. CCSHAU entry was adjudged the best. | 26.06.2021 |
| **21.** | Webinar on "Media Literacy at the time of Infodemic" | 27.07.2021 |
| **22.** | International Youth Day was celebrated by organizing online Quiz competitions on the topics (i) Basics of HIV/AIDS (ii) Blood donation (iii) Testing of HIV (iv) Sexually transmitted diseases and (v) HIV Act. in collaboration with CCSHAU Youth Red Cross/Red Ribbon Club to celebrate International Youth Day. | 12.08.2021 |
| **23.** | Independence Day was celebrated by organizing online Inter College Poem Recitation competition | 15.08.2021 |
| **24.** | Teachers' Day Celebration was celebrated by organizing online Students' talks on Dr S. Radhakrishnan and Dr A.P.J. Abdul Kalam | 06.09.2021 |
| **25.** | International Literacy Day was celebrated by organizing online Essay writing event in collaboration with Young Journalist Club, DSW, CCSHAU Hisar | 08.09.2021 |
| **26.** | Hindi *Diwas* was celebrated by organizing online Declamation Contest | 14.09.2021 |
| **27.** | *Gandhi Jayanti* was celebrated by organizing online Seminar on the topic "Gandhi in the Present Context". | 02.10.2021 |
| **28.** | "World Students' Day" was celebrated by organizing online Elocution competition to commemorate the birthday of the country's eleventh President Dr. APJ Abdul Kalam. | 15.10.2021 |
| **29.** | World Food Day was celebrated by organizing online Poster making and Slogan Writing competition on the theme "Our actions are our future- Better production, better nutrition, a better environment and a better life". | 16.10.2021 |
| **30.** | Foundation Day of the United Nations was celebrated by organizing<br>a. online talk on the topic 'Importance of United Nations Organization'<br>b. quiz competition | 24.10.2021 |
| **31.** | National Unity Day was celebrated by organizing online Declamation Contest on the topic "Relevance of Sardar Patel in Modern India". | 29.10.2021 |
| **32.** | Haryana Day was celebrated by organizing Essay writing competition on the topic Challenges and Issues in Modernization of Haryana (हरियाणा के आधुनिकीकरण में चुनौतियाँ और मुद्दे) | 01.11.2021 |
| **33.** | National Youth Parliament 2022 ( University Level) | 19.01.2022 |
| **34.** | International Women's Day was celebrated by organizing Poem Recitation, | 08.03.2022 |

| | | |
|---|---|---|
| | Extempore Speech and Slogan Writing Competitions | |
| **35.** | Inter college Debate Competition was celebrated by organizing on the topics 'Employment and situation of youth in India' (रोजगार और भारत में युवाओं की स्थिति) 'Religious harmony in India' (भारत में धार्मिक समरसता) | 29.06.2022 |

The students also participated in various other prestigious competitions organized by other universities/institutes such as:

- Spandan 2019, the Inter-university, Youth Festival organised by Central University of Haryana, Mahendergarh on 25.01.2019 to 26.01.2019.
- Yuvaforia organized by Guru Nanak Dev University, Amritsar on 26.02.2019
- Elocution Competition in the 4$^{6th}$ Kamalnayan Bajaj Memorial National Elocution Competition on 22.01.2020 to 23.01.2020, organised by *Shiksha Mandal.*




Participants of Elocution Competition at Wardha (Maharashtra)

- Participation in YUVA 2020- Fourteen students participated in the different events in the YUVA 2020- National Youth Conclave held from 20.02.2020 to 23.02.2020 at GBPAU&T, Pantnagar.
- AIU Inter-University National Seminar on the topic "Higher Education in the Era of innovation, entrepreneurship and disruptive technology with a focus on human values inthe age of Disruption" organised at LPU, Jalandhar.
- 12$^{th}$ National Inter-University Debate held at GBPUA &T, Pantnagar on 14.01.2019 to 15.01.2019.
- 45$^{th}$ Kamalnayan Bajaj Memorial All-India Inter-University Elocution Competition on the theme Gandhian Alternatives for Tomorrow/ कल के लिए गाँधीवादी पर्याय held by *Shiksha Mandal*, Wardha on 22.01.2019 to 23.01.2019. One student participated and reached the final round of the competition.
- Participation in "Kabir *Doha* and Speech Competition" organised at CDLU, Sirsa on 6.02.2019 to 07.02.2019.

**CCSHAU Mountaineering Club**

CCSHAU Mountaineering Club provides avenues for the campus youth to take up the challenges inherent in this sport and encourages the students for adventures activities like high altitude trekking in the Himalayan and High Mountain Regions. It also imparts trainings in parasailing, skiing, rock climbing, desert safari, night trekking, artificial wall climbing, water sports and other related activities, etc. Since inception in 1971, this Club has been flourishing day and night with significant achievements to its credit. The members of the clubs have trekked more than 2000 km in Himalayas. The Club had successfully completed three peak climbing expeditions (2018, 2019 and 2022) and other trekking expeditions during this period.

The club organized a peak climbing expedition to Mt. Kanamo in Spiti valley of H.P. from 25.06.2018 to 4.07.2018. Twenty students of the club participated along with President, Mountaineering club Dr. Mukesh Kumar and Dr. Subhash Chander, Advisor from College of Agriculture. During the expedition the group visited the Key Monastery, one of the main monasteries of the Kaza region. The members of the expedition visit the local houses to learn/ experience the way of living in this harsh conditions. The group also visited the school of the college as well as the field to have knowledge about the agriculture of the spiti region. The group started the expedition from Kibber Village and summit Mt. Kanamo. Thirteen members of the team and President, Mountaineering club Dr. Mukesh Kumar scale the summit (19600 feet). A few members could not attempt due to poor health.



Peak Climbing Expedition to Mt. Kanamo



The base of Mt. Kang Yaste-II (6253M)



The group who summit the Mt. Kanamo

The club organized another high altitude trekking cum peak climbing expedition to Mt. Yunam in Lahul valley of H.P. from 07.09.20191 to 5.09.2019. Twenty students of the club participated along with President of Mountaineering club. During the expedition the group had a glimpse of two high altitude passes *i.e*. Rohtang Pass and Baralacha LA and a beautiful lake Suraj Tal. The group started the expedition from Baratpur Tent Colony, a remote and Barron destination in the Lahul valley and

summit Mt. Yunam. Twelve members of the team and President, Mountaineering club Dr. Mukesh Kumar scaled the summit (6114 M).

The toughest expedition of the CCSHAU Mountaineering Club so far was organised to Mt. Kang Yatse-II (6253M) from 11.08.2022 to 21.08.2022. Total 20 students (15 boys and 05 girls) participated and successfully completed the expedition under the leadership of President, CCSHAU Mountaineering club and Dr. Sanjay. The group started the expedition from Skiu and trek to Sara. The next day trekking was almost 20 Km long and view of the Markha valley was breath taking. The trek was along the markha river. After full day trekking reached at Onmling. The group trekked through the steep mountains to the Thochugste and set up the base c. The group rested the whole day at base camp for acclimatization and equipment checking. At the night around 11.00 PM, the group began the summit ascent and after the endless efforts the flag of CCSHAU was hoisted on the peak at 8.30 AM by five students, Aden, Sumit, Shivam, Abhilekh & Sooraj along with Dr. Mukesh Saini.








Mankiani Peak




Team at the top of Mt. Yunam




Group at the top of Mt. Kang Yaste-II

**Low altitude trekking in Himachal Pradesh**

A low altitude trek was organized at Indrahaar Pass of H.P. from 14.04.2018 to 18.04.2018. Twenty five students of the club participated along with President of Mountaineering club and Advisor from College of Agricultural Engineering and Technology. The group started the expedition from Mc Cleodganj and able to climb up to base of Pass (14350 feet). The team had to forcefully retreat due to bad weather and shortage of time.




Low Altitude Trek Indrahaar Pass of H.P.

Another low altitude trekking expedition to Mankiani peak and KareriLake (H.P.) was organized from 12.04.2019 to 17.04.2019. Total 25 students (15 boys and 10 girls) participated and successfully completed the expedition under the leadership of Dr. C.S. Dagar. The first cing was in the forest of Kareri village. The first day trek was up to Raoti through the lush green mountains. After full day trekking reached at Raoti which was the starting point of snowline. The group trekked through the snow laden mountains to the Kareri Lake which was mostly covered with snow and keeping it as base camp the summit to Mankiani Peak was started. After the endless efforts the flag of CCSHAU was hoisted on the peak.



Group at the base of Indrahaar Pass

**Water sports camp at Pong Dam**

The club organizes a basic water sports camp at pong Dam from 10.06.2022 to 14.06.2022. The group had hands on training of various water sports activities like kayaking, canoeing, rafting, sailing, water skiing etc.



Various Activities at Pong Dam

| Sr. No. | Name of event/activity | Dates/Duration |
|---|---|---|
| | **2018** | |
| **1.** | Low altitude trekking at Indrahaar Pass (H.P.) | 14.04.2018 to 18.04.2018 |
| **2.** | Peak climbing expedition to Mt. Kanamo (H.P.) | 25.06.2018 to 04.07.2018 |
| | **2019** | |
| **3.** | Low altitude trekking at Mankiani peak and Kareri Lake (H.P.) | 12.04.2019 to 17.04.2019 |
| **4.** | Peak climbing expedition to Mt. Yunam, 6114M (H.P.) | 07.09.2019 to 15.09.2019 |
| | **2022** | |
| **5.** | Basic water sports c, Pong dam, (H.P.) | 10.06.2022 to 14.06.2022 |
| **6.** | Peak climbing expedition to Mt. Kang Yatse-II, 6253M (Ladakh) | 11.08.2022 to 21.08.2022 |

**National Service Scheme (NSS)**

National Service Scheme in academic institutes is the idea of Mahatma Gandhi and the scheme was introduced in educational Institutes during the centenary birth year of Mahatma Gandhi during 1969. NSS in College of Agriculture, CCS Haryana Agricultural University came into operation during 1970. Since then, it is offered as a course of 2 credit hours in the first semester under the guidance of NSS programme officer. In this programme, two classes per week are taken. In one class the students are exposed to various NSS activities like – aim, objective, motto etc. these classes are mainly taken by NSS programme officer and renowned personalities in various fields of social reforms. In the second class, the volunteers are engaged in various competitions on the current social events i.e. debate competition, poster making competition, essay writing, slogan writing, poem and song competitions etc. to increase the personality development of the volunteers. Besides these, the volunteers are inspired to come forward for the service of the nation by organizing lectures, competitions on various important days like *Sadbhawna Diwas*, *Van Mahotsav*, International Blood Day, Non Violence Day, UNO Day, AIDS Day, International Volunteers Day, Youth Day, Republic Day etc. Besides, these activities, volunteers clean their surroundings in the Colleges, hostels, etc. All these activities performed by the volunteers make them disciplined soldiers of the country and play important role in increasing the personality of the students with helping attitude and positive thinking.

This course of NSS is compulsory for the undergraduate students of College of Agriculture in the first two years of the programme and optional in third and fourth year of the degree programme. Besides this, every NSS volunteer is supposed to attend a 7 day annual NSS camp at village level. In this programme, the volunteers are deputed to some nearby village where they live together, interact with the village people, study the living standard of ruralites and record the problems faced by them. This interaction programme of the students with ruralites motivates and inspires the youth to come forward and do something for the upliftment of the rural people. The annual camp provides opportunities to the student volunteers for their integrated personality development.

NSS plays an important role in mobilizing the students in community participation, group living and sharing. Some of the important achievements and activities performed by NSS volunteers of CCSHAU, Hisar under the guidance of Director Students' Welfare, CCSHAU, Hisar are as below:

**Achievements of NSS volunteers at National Level**

**National Awards**

| Year | Name | Award | Photo |
|---|---|---|---|
| **2018-19** | Mr. Charan Singh | National Service Scheme Award received from Honourable President of India for the year 2018-19 |  |

| | | | |
|---|---|---|---|
| | Mr. Rohit Kumar | National Service Scheme Award received from Honourable President of India for the year 2018-19 |  |
| **2019-20** | Mr. Rahul Dabur | National Youth Award by Honourable Minister of Youth Affairs and Sports, GOI Shri Kiren Rijiju on the occasion of International Youth Day at New Delhi. (12.08.2019) |   |
| **2020-21** | | | |
| | Mr. Abhishek | National Service Scheme Award received from Honourable President of India for the year 2019-20 in volunteer category. (24.09.2021) |  |
| **2021-22** | Mr. Axay Mehta | National Service Scheme Award received from Honourable President of India2020-21 in volunteer category. (24.09.2022) |   |

**Participation of NSS Volunteers in Republic Day Parade camp at New Delhi**

| Year | Name | Description | Photo |
|---|---|---|---|
| **2018-19** | Mr. Firdos Malik, College of Agriculture, CCSHAU, Hisar | Republic Day Parade 2020 organised by Government of India at New Delhi from 1.01.2019 to 31.01.2019. |  |

| | | | |
|---|---|---|---|
| | Mr. Sumit Lega, College of Agriculture, CCSHAU, Hisar | | |
| **2019-20** | Mr. Chetan Gupta | Republic Day Parade 2020 organised by Government of India at New Delhi from 01.01.2020 to 31.01.2020. |  |
| **2020-21** | Mr. Ankit Yadav | Republic Day Parade 2020 organised by Government of India at New Delhi from 01.01.2021 to 31.01.2021 |  |
| **2021-22** | Ms. Ruchika | Republic Day Parade 2020 organised by Government of India at New Delhi from 01.01.2022 to 31.01.2022 |  |
| **2022-23** | Mr. Umesh Kumar | Republic Day Parade 2020 organised by Government of India at New Delhi from 01.01.2023 to 31.01.2023 |  |

**Participation of NSS volunteers in International Youth Exchange programme**

| Year | Name | Description | Photo |
|---|---|---|---|
| **2018-19** | Mr Charan Singh | Participated in International Youth exchange programme 2018 at China organised by Ministry of Youth Affairs and Sports, Delhi from 03.07.2018 to 10.07.2018. |  |
| **2019-20** | Mr.Firdos Malik | Participated in International Youth Exchange programme from November 11.11.2019 to 22.11.2019 at South Korea |  |

**State Awards received by NSS Volunteers/ Programme officer**

| Year | Name | Description | Photo |
|---|---|---|---|
| **2017-18** | Dr. Bhagat Singh, NSS Programme Officer, COA, Hisar | State NSS Award 2017-18 for Best NSS Programme Officer |  |
| | Mr. Charan Singh, NSS Volunteer of COA, Hisar | State NSS Award 2017-18 for best NSS volunteer in Haryana |  |
| **2018-19** | Mr. Abhishek NSS Volunteer of COA, CCSHAU, Hisar | State NSS Award 2018-19 |  |

| | | | |
|---|---|---|---|
| **2019-20** | Mr. Jinkle<br>NSS Volunteer of COA, CCSHAU, Hisar | State NSS Award 2019-20 |  |

**National Level Camps/ programme attended by NSS Volunteers**

| Year | Name | Description |
|---|---|---|
| **2018-19** | Mr. Ankur Gupta and Mr. Vishal Soni | Attended National Integration Camp organized by the MoYA&S, GOI at Jamia Millia Islamia Central University, New Delhi from 23.12.2018 to 29.12.2018 |
| | Mr. Jinkle and Mr. Aman Madan | National Adventure Camp organized by the MoYA&S, GOI at ABVIMAS Hat Koti- Kharapather from 12.09. 2018 to 21.09. 2018 |
| **2019-20** | Mr. Abhishek | National Integration Camp at Bangalore Central University, Bangalore from 2.10.2019 to 8.10.2019. |
| | Mr. Manoj Saini | NIC at Jammu University, Jammu (J&K) from 22.02.2020 to 28.02. 2020. |
| | Four NSS Volunteers (Mr. Jinkle, Mr. Sharad, Mr. Akshay Mehta and Ms. Kanika) | 23rd National Youth Festival organized at Lucknow (UP) from 12.01. 2020 to 16.01. 2020. |
| **2020-21** | Mr. Ansh and<br>Ms. Ritika | National Integration Camp held at MJP Rohilkhand University, Bareilly, Uttar Pradesh during 10.03.2021 to16.03.2021. |
| **2021-22** | 10 NSS Volunteers | National Integration Camp held at Kurukshetra University, Kurukshetra from 18.11. 2020 to 24.11. 2021 |
| | 10 NSS Volunteers | National Integration Camp held at MDU, Rohtak from 19.11. 2021 to 25.11. 2021. |










Glimpse of NSS volunteers attended National Integration Camps at different parts of country

**Participation of NSS Volunteers in State NSS Camp**

| Year | Name | Description | Remarks |
|---|---|---|---|
| **2018-19** | Six volunteers (Mr. Manoj Saini, Mr. Deepak, Mr. Rupit Goel, Ms. Sonia, Ms. Priyanka Gupta and Mr. Deepak Kumar) from COA, CCSHAU, Hisar | State NSS Camp-2019 was organized by State NSS cell, Directorate of Higher Education, Haryana at GJUS&T, Hisar from 22.03.2019 to 28.03. 2019 |  |
| **2021-22** | Thirty NSS volunteers attended NSS State level camps | State NSS Camp organized by State NSS cell, Directorate of Higher Education, Haryana at CRSU, Jind from 19.10.2021 to 25.10.2021, at CBLU, Bhiwani from 16.11.2021 to 22.11.2021 and at GJUS&T, Hisar from November 17.11.2021 to 23.11.2021 |  |

**National /State level Programme organised by NSS Cell, CCSHAU, Hisar**

| Year | Programme | Photographs |
|---|---|---|
| **2021-22** | Organised NSS National Integration Camp at CCSHAU, Hisar from 16-22.12.2021. Total 200 NSS volunteers from 18 states of India participated. |  |
| **2021-22** | State Level NSS Award Distribution Function organised at CCSHAU, Hisar on 09.03.2022. |  |
| **2022-23** | Organised NSS National Integration Camp sponsored by Ministry of Youth Affairs and Sports, New Delhi at CCSHAU, Hisar from 26.02.2022 to 04.03.2022. |  |

**Programmes organized at University/ College levels**

Each NSS unit organized NSS Special Camps in adopted village of the NSS unit. The camps consist of various events for overall development of youths including physical fitness (yoga, meditation, exercises), personal care (general hygiene and sanitation), educational and motivational lectures by experts and competitions like debate, essay writing, speech, slogan, poster, quiz on the current topics etc. The aim of the camps was that the young students are exposed to the rural people and interact with them. This opportunity helps the students to understand the problems of rural people and helps them in making need based effective programmes for the upliftment of the ruralites. Secondly, living together also inculcates the fellow feelings and also teaches the volunteers to work jointly in team spirit and also inspires them to do something selflessly for the service of mankind.

**Activities performed during the camp**

- Yoga/ Prayer
- *Shramdan* including cleanliness in village, construction of Paccka road in school/ Village
- Tree Plantation and management of trees including weeding, pruning of branches etc.
- Awareness in villagers through *Prabhat feri, Rallis/ Nukkar Nataks* etc.
- Lectures for villagers on various topics like Crop production, related to animal diseases and management, first aid, blood/eye donation, Government schemes of welfare department for villagers, Tips for better health etc.
- Lectures on Awareness and personality development for Volunteers by eminent persons.
- Competitions for volunteers like speech, poster making, slogan writing, quiz, debate etc.
- Games for volunteers
- Cultural competitions like patriotic song, dances, skit, mono acting, mime etc.

**Youth Red Cross Activities**

| | | | |
|---|---|---|---|
| 2021-22 | Students attended NSS State level camps | CRSU, Jind (19.10.2021 to 25.10.2021 2021), CBLU, Bhiwani (16.11.2021 to 22.11.2021) and GJUS&T, Hisar (17.11.2021 to 23.11. 2021). |   |
| | State level Youth Red Cross training camp for boys | Five students participated in State level Training camp for boys at Kurukshetra during 11.03. 2022 to 16.03. 2022 |   |
| | State level Youth Red Cross training camp for girls | Ten girl students participated in State level Training camp for girls at Haridwar during 23.03. 2022 to 28.03. 2022 | |

**Young Journalism Cell**

1. Seven day training was from 27.06.2022 to 3.07.2022 for U.G and P.G. students.

2. International Youth Day celebrated in 10.08.2022 to recognize the contribution of youth for the country. The theme was "Youth Engagement for Global Action".

3. International Translation Day was celebrated on 30.09.2022.

**National Cadet Corps (NCC) Unit**:

NCC boosts confidence in individuals and brings out their hidden qualities, makes Cadets not only physically fit but also mentally strong with leadership qualities. Cadets with 'C' certificate are eligible for directly commissioned to vacancies in armed forces without appearing for written exam. Girl Cadets of I.C. College of Home Sciences are enrolled in second semester in each academic session to be a part of NCC (Air and Army wing). Cadets are enrolled under unit "1HAR R&V SQN NCC, HISAR", "NCC 1(Air) Haryana Bn. Hisar" and "3 Haryana Girls BN NCC", NCC group- Rohtak and Directorate "Punjab, Himachal Pradesh, Haryana and Chandigarh." Girl cadets have come out in shining colors in all fields of NCC. Girl Cadets regularly participate in various events like:

- Republic day parade at CCSHAU
- ATC camps
- Guard of honour at COHS
- 'B' and 'C' certificate examinations
- Poem and declamation contests
- Trekking Camps
- Adventure Camps
- Flying Camps
- Shooting Camps

**National Cadet Corps (Boys)**

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| **1.** | 2018-19 | C-Certificate Exam cleared | 14 cadets |
| **2.** | 2019-20 | C-Certificate Exam cleared | 16 cadets |
| **3.** | 2020-21 | C-Certificate Exam cleared | 23 cadets |
| **4.** | 2021-22 | C-Certificate Exam cleared | 17 cadets |
| **5.** | 2022-23 | C-Certificate Exam cleared | 14 cadets |

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| **1.** | 2018 -19 | B-Certificate Exam cleared | 20 cadets |
| **2.** | 2019 -20 | B-Certificate Exam cleared | 24 cadets |
| **3.** | 2020-21 | B-Certificate Exam cleared | 18 cadets |
| **4.** | 2021-22 | B-Certificate Exam cleared | 16 cadets |
| **5.** | 2022-23 | B-Certificate Exam cleared | 16 cadets |

**Training Camps**

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| **1.** | 2018 -19 | ATC-173 | 33 +ANO in HAU |
| **2.** | 2018-19 | ATC-179 | 03 cadets |
| **3.** | 2019-20 | ATC-171 | 25 in SKPS Siwani |

| | | | |
|---|---|---|---|
| **4.** | 2019-20 | ATC-183 | 9 in SKPS Siwani |
| **5.** | 2020-21 | ATC-156 | 17 in HAU |
| **6.** | 2020-21 | R&V CORE in LUVAS | 23 in HAU |
| **7.** | 2021-22 | ATC-172 | 16 + ANO in SKPS Siwani |
| **8.** | 2021-22 | ATC-173 | 17 in SKPS Siwani |
| **9.** | 2022-23 | ATC-198 | 30 in SKPS Siwani |

**Training Camps**

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| **1** | July, 2018 | Shooting Camp Ropar Competition | 01 |
| **2** | October, 2018 | Army Attachment Camp | 02 |
| **3** | October, 2018 | ESEB Jaiselmer | 02 |
| **4** | January, 2019 | Republic Day Camp Delhi Cantt | 01 |
| **5** | January, 2019 | EBSB-II, Ropar | 02 |
| **6.** | March, 2019 | CATC-194, Bhiwani | 03 |
| **7.** | April, 2019 | Inter Group Firing Competition | 02 |
| **8.** | August, 2019 | Basic Leadership Camp | 01 |
| **9.** | December, 2019 | Advanced Leadership Camp | 01 |



NCC activities of students

**National Cadet Corps (Girls)**

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| **1.** | 2018 -19 | C-Certificate Exam cleared | 10 cadets |
| **2.** | 2019 -20 | C-Certificate Exam cleared | 10 cadets |
| **3** | 2020-21 | C-Certificate Exam cleared | 15 cadets |
| **4** | 2021-22 | C-Certificate Exam cleared | 15 cadets |
| **5** | 2022-23 | C-Certificate Exam cleared | 13 cadets |

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| **1.** | 2018 -19 | B-Certificate Exam cleared | 12 cadets |
| **2.** | 2019 -20 | B-Certificate Exam cleared | 12 cadets |
| **3.** | 2020-21 | B-Certificate Exam cleared | 12 cadets |
| **4.** | 2021-22 | B-Certificate Exam cleared | 14 cadets |
| **5.** | 2022-23 | B-Certificate Exam cleared | 21 cadets |

**Combined/Annual Training Camps**

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| **1.** | 2018 -19 | CATC | 30 cadets |
| **2.** | 2018 -19 | CATC | 14 cadets |
| **3.** | 2019-20 | ATC | 46 cadets |
| **4.** | 2020-21 | CATC | 46 cadets |
| **5.** | 2021-22 | CATC | 48 cadets |
| **6.** | 2022-23 | ATC-173 | 03 cadets |
| **7.** | 2022-23 | ATC-190 | 19 cadets |

**Achievements**

- National Unity Day was celebrated on 31.10.2022 to commemorate the teachings of Sardar Ballabh Bhai Patel on his birth anniversary in I.C. College of Home Sciences, CCSHAU, Hisar in which 30 cadets participated and took Rashtriya Ekta Diwas Pledge.
- Celebrated *Kargil Vijay Diwas* on 22.08. 2022 at IC College of Home Sciences.
- Two platoons of NCC girls' wing did the parade on Republic Day celebration 26.01.2020, at Giri Centre.
- One platoon of NCC girls' wing did the parade on Republic Day celebration 26.01.2020, at Giri Centre.
- All NCC cadets attended the Exhibition of Military equipments and band display on 17.02.2018 to 18.02.2018 at gate No. 3 of CCSHAU, organized by 33 Armoured Division.
- *Ek Bharat Shreshth Bharat* (EBSB) was held online with KARGO Directorate. Students from different groups interacted with each other through an online platform.
- SUO Ms. Mamta Chahal 2017HS33BIV, COHS from 1HAR R&V SQN NCC, HISAR, got Gold medal in Show Jumping Girls and Bronze medal in Hacks Girls in 2018 at Gurugram Horse Show. She got Gold medal in Show Jumping Girls Novice, Bronze medal in Dressage Girls Novice and Bronze medal in Hacks Girls Novice in 2019 at Inter Directorate Equestrian Competitions. She got Gold medal in Show Jumping Girls Veteran in 2020 at Inter Directorate Equestrian Competitions and participated in Prime Minister's Rally.

- Two students *i.e.* Cadet Simran (HR/16/SWF/268789) and CPL Diksha (HAR/SW/2015/10029) attended the Annual Republic Day Camp and Prime Minister's Rally held at New Delhi from 01.01.2018 to 29.01.2018.
- SUO Diksha (HAR/SW/2015/10029) won one Gold Medal, one Silver Medal, one Bronze Medal and Best Rider Girls Trophy Runner up during RDC-2018. Inter Directorate Equestrian Competitions in January, 2018
- Show Jumping Novice Girls Competition, Second
- Hacks Novice Girls Competition, Third
- Dressage Novice Girls Competition, Fourth
- Best Rider Girls Trophy, Runner up
- Cadet Mansi Mor got appreciation certificate for participating in EBSB camp conducted online by 1 Karnataka Girls Battalion from 18.10.2021 to 23.10.2021.
- Cadet Bhawna got Appreciation Certificate for performing exceptionally well during NCC camp activities and her performance was excellent in Annual Training Camp -173 at St. Joseph's International School, Hisar from 03 June to 12 June, 2022.
- SUO Annu 2016A1BIV, COA got Bronze medal in Dressage Girls Veteran in 2019 in Inter Directorate Equestrian Competitions
- SUO Shweta Sabharwal 2015A56BVI, COA, received Bronze medal in Dressage Girls Novice and Bronze medal in Show Jumping Girls Novice in 2020 in Inter Directorate Equestrian Competitions.
- Under Officer Sakshi Chugh 2019AE36BIV, COAE&T, 2021-22 secured Best rider award and Best firer award at ATC 2022 (January, 2022), represented NCC at Bhiwani horse fair, secured best speaker and best cadet award in 12 days camp from 04.06.2022 to 15.06.2022 National camp *Ek Bharat Shreshth Bharat*, received bronze medal in ARMY EQUESTRIAN CHAMPIONSHIP (National games)



Under Officer Sakshi Chugh 15.06.2022




National Unity Day 31.10.2022





Celebrating Kargil *Vijay Diwas* 22.08.2022



NCC Girls doing Parade on Republic Day



NCC Girls Shooting Practice

**6.6.6.3. Health Facilities:** *Provide the brief information about medical facilities available in the head quarter and off campuses. A brief about Health Insurance scheme being implemented at the University may be provided.*

University Health Service provides comprehensive primary health clinic for students, faculty, staff and other residents. The University has a fully functional 20 bed Campus Hospital providing medical care and health cover to students, employees and their dependents and retired employees of the university. At present medical staff includes four medical officers and one dental surgeon. The post of senior medical officer is presently vacant and its charge is being dispensed by one of lady medical officer. There are three field dispensaries located at Kaul (Kaithal), Uchani (Karnal) and Bawal (Rewari) providing first aid to the students and employees of the University. Daily OPD at Hisar is about 150-220 (Nos.). Indoor facility is also being extended to the admitted patients. On an average, about 35 cases per month are being given indoor treatment. The Campus hospital also provides complete dental care with X-ray facility. Immunization schedule is being followed as per national policy. Complicated cases are referred to various empanelled hospitals for better and comprehensive treatment.

The present health care workforce at the main campus:

- Four medical officers (two lady medical officers and two medical officers)

    1. One Medical Officer is on call duty every day & night (including holidays) for any emergency care or patient admission in the campus hospital.
    2. Minor OT procedures are also being performed by the well trained and passionate team of doctors.

    These medical officers have different medical backgrounds such as anatomy, pharmacology, General Medicine and industrial safety & occupational health.

- One dental surgeon is also present in the campus hospital also takes care of almost all kind of dental health needs of the campus community.
- The pharmacy staff.
- Adequate number of staff nurses.
- A laboratory in the campus hospital with a lab technician on duty to perform basic blood tests *viz.* CBC, Blood Sugar, Malaria parasite detection test etc.
- Well trained male health worker, helpers and attendants.

Medical Camps organized by different hospitals in Campus hospital are mentioned below: -

| Sr. No. | Camps | Date | No. of beneficiaries |
|---|---|---|---|
| **1** | Blood Donation Camp | 25.11.2018 | 52 |
| **2** | C.M.C. Hospital (Health checkup camp) | 19.10.2019 | 65 |
| **3** | Blood Donation Camp | 21.11.2019 | 50 |
| **4** | Sarvodya Hospital (Health checkup camp) | 29.11.2019 | 65 |
| **5** | MedicityMedanta Hospital (Health checkup camp) | 13.12.2019 | 50 |
| **6** | Eye Q Hospital (Eye Checkup camp) | 17.01.2020 | 163 |
| **7** | Rajan Eye Hospital | 04.08.2022 | 160 |

- During the COVID-19, Covid-19 checkup camps and vaccination camps were organized by the Civil Hospital in Campus Hospital.

**COVID-19 Vaccination Camps**

| Sr. No. | Date | No. of beneficiaries |
|---|---|---|
| **1.** | 16.03.2021 | 200 |
| **2.** | 22.03.2021 | 130 |
| **3.** | 30.03.2021 | 86 |
| **4.** | 05.04.2021 | 143 |
| **5.** | 12.04.2021 | 116 |
| **6.** | 19.04.2021 | 140 |
| **7.** | 26.04.2021 | 180 |
| **8.** | 03.05.2021 | 175 |
| **9.** | 04.05.2021 | 159 |
| **10.** | 07.05.2021 | 311 |
| **11.** | 15.05.2021 | 171 |
| **12.** | 28.05.2021 | 66 |
| **13.** | 08.06.2021 | 135 |
| **14.** | 21.06.2021 | 516 |
| **15.** | 02.07.2021 | 470 |
| **16.** | 24.08.2021 | 429 |
| **17.** | 13.09.2021 | 460 |
| **18.** | 04.12.2021 | 214 |
| **19.** | 11.12.2021 | 97 |
| **20.** | 24.12.2021 | 241 |
| **21.** | 03.01.2022 | 162 |
| **22** | 04.01.2022 | 245 |
| **23** | 05.01.2022 | 198 |
| **24** | 06.01.2022 | 120 |
| **25** | 07.01.2022 | 140 |
| **26** | 08.01.2022 | 122 |
| **27** | 20.01.2022 | 40 |
| **28** | 08.02.2022 | 55 |
| **29** | 22.03.2022 | 42 |
| **30** | 06.05.2022 | 60 |

| | | |
|---|---|---|
| **31** | 13.05.2022 | 9 |
| **32** | 21.05.2022 | 55 |
| **33** | 30.05.2022 | 15 |
| **34** | 22.08.2022 | 34 |




Medical Camp

The hospital also possesses facilities of two ambulance vans and one well trained driver remains on duty day & night. Information charts are displayed on the hospital walls for knowledge about ante-natal and post-natal care, vaccination schedule for children, care of new born, basic cleanliness and sanitary habits etc. to make it easy for the patients to understand them.

**Health Insurance Scheme**

"*Amartya Shiksha Yojana Policy*" & "Personal Accident Policy" from New India Assurance Company are made available for the benefit of the students which ensure very smooth claim experience. We make health insurance affordable for the students by paying the premium of Rs. 102/- per year. In case of accidental death, an amount of Rs. 1,00,000/- is disbursed as an insurance compensation. Three persons are insured i.*e.* student, his/her father and his/her mother.

**6.6.6.4. Sports and Cultural Facilities:** *Give detailed report of sports and games facilities and auditoriums available for cultural events.*

Sports and Cultural facilities are looked after by the Directorate of Students' Welfare at the University. CCSHAU constantly improves the infrastructure through the up gradation and proper maintenance of playgrounds. All playgrounds have netted walls around them. CCSHAU is the first University of the country to have synthetic track. World Athletics has given this track as "Class 1 Athletic Facility Certificate" Number of National, International and Inter University tournaments have been hosted at this Track. This track has produced many athletes of National and International repute. The Badminton & Volleyball Courts and Hockey ground have been provided with added facilities of global standards. This improved infrastructure is amply utilized through various sports activities organized for the students. Regular Athletic Meets are organized annually. The University has the following infrastructural facilities for organizing games and sports.

**Sports infrastructure**

**I. Indoor facilities**

i. Badminton Hall with two synthetic turfs

ii. Squash Courts – 2 Nos.

iii. Multi-purpose Hall with two Boxing ring

iv. Wrestling Hall
v. Gymnasium Hall
vi. Table Tennis Hall
vii. Hall for Multigame (Weight training)
viii. Shaheed Madan Lal Dhingra Multipurpose Hall
ix. Two Synthetic Tennis Courts
x. Indoor Multi-Purpose Hall
xi. Indoor Shooting Hall

**II. Outdoor facilities**

i. Synthetic Turf (Olympic standard 400 Mts. With 8 lanes)
ii. Volleyball Courts – 2 Nos.
iii. Football ground – 2 Nos.
iv. Hockey ground
v. Cricket ground
vi. Tennis courts – 2 Nos.
vii. Handball ground
viii. Basketball Court – 2 Nos.
ix. Synthetic Athletic Track

**Auditoriums for Cultural Events**

The University has four well equipped modern auditoriums on it's for undertaking cultural and literary activities:

1. **Indira Gandhi Auditorium**: Indira Gandhi Auditorium is a central facility at University with a seating capacity of more than 1953 persons. There is also a facility of Committee Hall/rooms for conducting meetings.
2. **COHS Auditorium:** The college has its own beautiful air-conditioned auditorium with ultra modern sound and light system which was constructed in the year 1978 and has seating capacity of 284 students. It is being used for college functions, motivational lectures and other cultural activities and used almost fortnightly for these activities. In order to have linkages with the local administration at the society, the college often gives facility of auditorium to different colleges, bodies and association for organizing seminars and functions.
3. **COA Auditorium**: The college auditorium was constructed in the year 1975. It is an air-conditioned hall equipped with the necessary modern sound and light system and has seating capacity of 514 persons. It is used fortnightly for various college functions, and other cultural and educational events.
4. **COBS&H Auditorium:** The auditorium of the college was constructed in1976 which is used for college functions such as holding large scale meetings, conferences, seminars, workshops, Fresher's Day etc. It has seating capacity of 315 persons. The auditorium is air conditioned and

has state of art sound system, podium etc. The auditorium is used regularly and on an average one event is organized on monthly basis.

5. **COA, Kaul Auditorium**: The auditorium of the college was constructed in the year 2001-02 with seating capacity of 500 and this auditorium is being used for various functions/programmes for celebration Fresher's day, Teachers' day, seminars, cultural programme, farewell parties, annual college functions etc.

**6.6.6.5. Student Counselling and Placement Cell:** *Give detailed report on placement cell and provide the report for recruitment of students by firms in last five years. What is the mode and mechanism of counseling being followed at the University level?*

The Counseling & Placement Cell has been associated with multifaceted development of the Students in an effort to make available to them the possibility of developing their personalities and face the challenges of future with greater confidence. Realizing the present day need to further strengthen these efforts, the directorate has initiated an ambitious programme to ameliorate the managerial, administrative, communicative, technical and self-employment oriented skills of the students. The centre in the Directorate of Students Welfare has been assigned four mandates *viz.* imparting trainings, placements, liaison with leading industries and guidance to university students.

**Objectives of Placements Cell:**

- To place the students at their areas of interest in organizations/institutes.
- To guide the students for the development of soft skills.
- To develop a bridge between colleges and industries.
- To increase awareness amongst current students about placement opportunities in industries and various skill-sets required.

**Placement Mechanism**

University has Placement Cell for UG and PG students. Variety of activities are arranged under the placement cell like conducting aptitude tests, seminars, group discussion, guest lecturers by Industrial Experts and Soft Skill Workshops.

The placement cell takes efforts to call the companies for campus placement. The student data base is forwarded to the Industry or Company as per their requirement. Some of them provide Industrial Training and Campus requirement. They shortlist the students as per their policy. After finalization of date and time, the company conducts campus drive in the college premises or they call the students at their premises. Those students who are through the aptitude test, they are qualified for next round like technical and HR Interview. Once a student is placed in one company then he/she is not allowed for the other companies drive.

The details of the activities undertaken by the Students C&P Cell during the period under report are as follows:

**Placement in the last five years through Campus Interview/IBPS:**

| Sr.No. | Year | Name of the Firm | No. of Students Placed |
|---|---|---|---|
| **1.** | 2018-19 | Escort Ltd. | 5 |
| **2.** | | Axis Bank | 2 |
| **3.** | | Mahindra & Mahindra | 4 |
| **4.** | | TAFE | 2 |
| **5.** | | Bayer Crop Sciences | 3 |

| | | | |
|---|---|---|---|
| **6.** | | NABCONS | 3 |
| **7.** | | Total | 19 |
| **8.** | 2019-20 | HDFC Bank | 10 |
| | | Shaktivardhak Seed Pvt. Ltd. | 3 |
| **9.** | | Bayer Crop Science | 1 |
| **10.** | | IBPS | 22 |
| | | Asstt. Prof., CCSHAU | 31 |
| **11.** | | Total | 67 |
| **12.** | 2020-21 | KEGGFARMS Ltd. | 3 |
| **13.** | | Total | 3 |
| **14.** | 2021-22 | Mother Dairy | 5 |
| **15.** | | Zydex Industries Pvt. Ltd. | 1 |
| **16.** | | Mawana Sugar Mills | 3 |
| **17.** | | DS Group | 2 |
| **18.** | | Trucks Buses.Com | 2 |
| **19.** | | Mahindra Agri. Solution | 2 |
| **20.** | | Q&Q Research Company | 1 |
| **21.** | | Louis Dreyfus Company of India | 1 |
| **22.** | | Total | 17 |
| | 2022-23 | Jindal Stainless Ltd. | 02 |
| **23.** | | TAFE Ltd. | 06 |
| | | Mahindra & Mahindra | 01 |
| **24.** | | HDFC Bank | 25 |
| **25.** | | Star Agri Seeds Pvt. Ltd | 06 |
| **26.** | | LT Foods | 01 |
| **27.** | | Automat | 04 |
| **28.** | | Total | 45 |

**Student Development Programme**

**Career Counseling Activities**

| Sr. No. | Activities | Date |
|---|---|---|
| **1.** | Motivational Lecture on "Enhancement of working efficiency and Productivity of Youth" | 02.04.2018 |
| **2.** | Career Counselling Session on "Computer Aided Design (CAD) in Landscaping" | 20.04.2018 to 21.04.2018 |
| **3.** | Pre Placement Talk for Campus Interview | 23.04.2018 |
| **4.** | Career Counseling Session on "Empowerment of Farmers and Agripreneurs to Horticulture & Agriculture" | 08.06.2018 |
| **5.** | Motivational Lecture on "*Durga* Mob. App. for Girl Students" by Deptt. of Police, Hisar | 13.08.2018 |
| **6.** | Career Counselling Session on "Present Status in Crop Protection and Future Challenges in Indian Agriculture" by Dr. Rajeshekhar Sakhalkar , Head Bayer Crop Science Product Development" and "New Innovation in Plant Protection" by Dr. Rahul Edoliya, Head , Innovation, Pl. India. | 20.08.2018 |
| **7.** | Career Counselling Session on "Robotic & Automation in Agriculture" by Mr. Anurag and Mr. Vikas, Faculty in Rob species, Noida | 28.08.2018 |
| **8.** | Motivational Lecture on "Ill Effects of over Population" by Mr. Manu Gaur, President, TAXAB | 18.09.2018 |
| **9.** | Motivational Lecture on "Avenues in SKF for Engineers and Management Graduates" By Ms. Jaya Arora, Channel Development Manager | 15.09.2018 |

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| **10.** | Motivational Lecture on "Expectations of Corporate Sector from Budding Engineers" by Mr. Ankur Bali, Product Manager-Escorts | 15.09.2018 |
| **11.** | Career Counselling Session on "Skill Development in English Speaking" at COA, Kaul by Dr. (Mrs.) Vinita, Assoc. Prof. CISKMU, Dhand (Kaithal) | 29.09.2018 |
| **12.** | Motivational Lecture on "Parenting & Education" by Dr. Devener Balhara, Director Expanding Horizons | 29.09.2018 |
| **13.** | Motivational Lecture on "IGNITE Your Mind" (Goal Setting; Career/Life Goals) in Boys Hostel:<br>1. Kailash Hostel<br>2. Varindavan Hostel<br>3. Ajanta Hostel<br>4. Vindhyachal Hostel | 03.10.2018<br>04.10.2018<br>05.10.2018<br>22.10.2018 |
| **14.** | Motivational Lecture on "IGNITE Your Mind" (Goal Setting; Career/Life Goals) in Girls Hostel:<br>1. Yamunotri & Narmada Hostel<br>2. Gangotri (Old & New Wing) Hostel | <br><br>25.10.2018<br>30.10.2018 |
| **15.** | Career Counselling Session on " Use of Spatial Meteorological Data for Precision Agriculture" by Mr. S.C.Bhan, Regional Co-ordinator, Indian Meteorological Department | 02.11.2018 |
| **16.** | Career Counselling Session on " Indian Ancient View For Modern Higher Education" Dr. Atul Kothari | 14.11.2018 |
| **17.** | Motivational Lecture on "Publishing in International Journals & Study Opportunities in Australia" By Dr. Bhagirath Chauhan, Assoc. Prof., Univ. of Queensland, Australia | 26.11.2018 |
| **18.** | Career Counselling Session on "Future Prospects in Escorts" by Mr. Aniket Rajawat, Executive, Escorts Ltd. | 01.12.2018 |
| **19.** | Career Counselling Session on "Alumni Batch of 1973" | 04.2.2019 |
| **20.** | Motivational Lecture on "Drug Free India" by Mr. Sameer Jolly (MBA), Sr. International Faculty Member of the Art of Living | 12.02.2019 to 14.02.2019 |
| **21.** | Career Counselling Session on "Global-Scale Innovation and Enterprise in Agriculture: Role of current and past students" by Dr. Madan Thangavelu, Retired Scientist Cambridge university, United Kingdom | 12.02.2019 |
| **22.** | Career Counselling Session on "Capacity Building, Imparting Soft Skills, Personal Grooming & Right attitude" by Ms. Nitasha Agarwal from Subhash Chandra Foundation | 20.2.2019 |
| **23.** | Career Counselling Session on "Entrepreneurial opportunities in Horticulture Sector" by B.S. Negi, Former director of Horticulture, Uttrakhand | 05.03.2019 |
| **24.** | Career Counselling Session on "How to prepare for Competitive Examinations" by Dr. S.P. Goyal, Prof. (Retired) | 26.08.2019 |
| **25.** | Pre –dinner Talk on "Etiquettes & Social Behaviour" Boys Hostel: Varindavan Hostel No. 2 | 06.09.2019 |
| **26.** | Pre –dinner Talk on "Etiquettes & Social Behaviour"<br>Boys Hostel: Varindavan Hostel No. 2 | 06.09.2019 |
| **27.** | Career Counselling Session on "Feminine Hygiene" by Shweta Ladha, Women Children Welfare and Rural Dev. Society | 18.10.2019 |
| **28.** | Career Counselling Session on "Agriculture Management" and Launching of Book 'The Agriculture Man' by Mr. K.K. Unni, 1967 Agriculture graduate | 07.01.2020 |
| **29.** | Career Counselling Session on "How to get Success in Life" by Dr. Satyajeet Singh | 12.03.2021 |
| **30.** | Online Career Counselling Session on "Civil Services Preparation" by Dr. Sunil Dhaka, IFS, CCSHAU Alumnus | 05.04.2021 |
| **31.** | Online Counselling Session on "Psychological Manifestation in COVID Era" by Dr. Narender Gupta, M.D. (Psychiatrist) | 10.05.2021 |
| **32.** | Online Career Counselling Session on "Pros and Cons of ICAR-JRF & Foreign Universities Admissions" by Mr. Vipin Kumar, Graduate Research Assistant, Virginia, USA | 08.06.2021 |
| **33.** | Career Counselling Session on "Opportunities in Pharma Industries" by Mankind | 02.08.2021 |

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| | Pharma Ltd. | |
| **34.** | Lecture on "Entrepreneurship to generate employment opportunities in Agriculture Sector" for Agricultural Students of University. | 20.12.2021 |
| **35.** | Lecture on Management and Placement issues by Mr. Bijender, ICAR NAARM | 30.06.2022 |

**Trainings Conducted:**

| S. No. | Activities | Date |
|---|---|---|
| **2018-19** | | |
| **1.** | Post Harvest Handling of Horticultural Produce | 28.08.2018 to 10.09.2018 |
| **2.** | Life Skills-Facet to lead a dynamic Life | 10.09.2018 to 22.09.2018 |
| **3.** | Awareness and Use of Library Resources and Services in Digital Era | 15.09.2018 to 26.09.2018 |
| **4.** | Workshop on Career Opportunities: Awards/Fellowships/Job-Opportunities | 16.10.2018 to 17.10.2018 |
| **5.** | Specialized Course on Comprehensive Learning Program in Agriculture (for preparation to various competitive examinations) | 29.10.2018 to 24.11.2018 |
| **6.** | Training Programme for the preparation of UGC/CAMPSIR NET-2018 | 24.11.2018 to 01.12.2018 |
| **7.** | Personality Development Training | 04.10.2018 to 23.10.2018 |
| **8.** | Personality Development Training | 30.10.2018 to 20.11.2018 |
| **9.** | Personality Development Training for the students of COA, Bawal | 15.11.2018 to 29.11.2018 |
| **10.** | Awareness and Use of Library Resources and Services in Digital Era | 15.10.2018 to 27.10.2018 |
| **11.** | Training Programme on Agripreneurship" for SC/ST students | 12.11.2018 to 24.11.2018 |
| **12.** | "Awareness and Use of Library Resources and Services in Digital Era" | 12.11.2018 to 22.11.2018 |
| **13.** | Training on "Protected Cultivation of High Value Flower Crops" for PG students | 26.11.2018 to 06.12.2018 |
| **14.** | ICAR-JRF (PGS) Admission Exam in Home Science' for UG Students during 07.01.2019 to 05.02.2019. | 07.01.2019 to 05.02.2019 |
| **15.** | Post Harvest Handling of Horticultural Produce | 14.1.2019 to 28.1.2019 |
| **16.** | Training on "Awareness and Use of Library Resources and Services in Digital Era" | 01.02..2019 to 13.02.2019 |
| **17.** | Training on "Agriprenurship" | 11.02.2019 to 27.02.2019 |
| **18.** | "Personality Development" Training for the students of COA, Bawal | 12.2.2019 to 26.02.2019 |
| **19.** | Training on "Statistical Data Analysis for Research Scholars" | 18.02.2019 to 27.02.2019 |
| **20.** | Training on "Mindfulness- A path towards psychological well being | 20.02.2019 to 05.03.2019 |
| **21.** | Training on "Enhancement of Handicrafts Skills for entrepreneurships Development" | 25.02.2019 to 05.03.2019 |
| **22.** | Training on awareness in developing and managing intellectual property rights | 11.04.2019 to 22.04.2019 |
| **23.** | UGC/CAMPSIR NET-2019 Exam | 18.04.2019 to 30.04.2019 |
| **24.** | Training on Mushroom production technology | 22.04.2019 to 01.05.2019 |
| **2019-20** | | |
| **25.** | Training on "Preparation of JRF and other graduates level competitive examination" | 19.08.2019 to 29.08.2019 |
| **26.** | Training on "Healthy Diet-Healthy Mind" | 21.08.2019 to 04.09.2019 |
| **27.** | Training on "Agripreneurship" for students of COA, Kaul | 20.09.2019 to 03.10.2019 |
| **28.** | Training on "Enhancement of Handicrafts and Jewelry making Skills for Entrepreneurship development" for Home Science students | 11.09.2019 to 23.10.2019 |
| **29.** | Training on "Computer Aided Designing" for students of COHS. | 14.10.2019 to 23.10.2019 |
| **30.** | Training on "Statistical Data Analysis for Research Scholar" | 14.10.2019 to 23.10.2019 |
| **31.** | Training on "Computer Aided Designing" for SC/ST students | 05.11.2019 to 14.11.2019 |
| **32.** | Workshop on " Eminent Alumni-Student Interaction on Employability and Career Enhancement" | 13.11.2019 |

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| **33.** | Training on "Auto-CAD Application in Design of Agricultural Machinery" | 04.11.2019 to 18.11.2019 |
| **34.** | Training on " Mushroom Production Technology" | 23.01.2020 to 01.02.2020 |
| **35.** | Training on "Personality Development" for SC students | 12.02.2020 to 26.02.2020 |
| **36.** | Training on "Personality Development" Training for students of COA, Bawal | 17.02.2020 to 29.02.2020 |
| **37.** | Training on "Personality Development" Training for students of COA , Kaul | 14.02.2020 to 28.02.2020 |
| **38.** | "Communication Skills for Effective Public Speaking" Training for UG students of CCSHAU, Hisar by IDP-NAHEP Project | 17.02.2020 to 29.02.2020 |
| **39.** | Training on "Statistical Data Analysis for Research Scholars" | 24.02.2020 to 04.03.2020 |
| **40.** | Training on " Mushroom Production Technology" for UG students of CCSHAU, Hisar by IDP-NAHEP Project | 29.02.2020 to 01.03.2020 |
| **41.** | Training on "Design Your Future" for UG students of CCSHAU, Hisar by IDP-NAHEP Project, CCSHAU, Hisar | 28.02.2020 to 29.02.2020 |
| **42.** | Training on "Design Your Future" for UG students of CCSHAU, Hisar by IDP-NAHEP Project, CCSHAU, Hisar | 04.03.2020 to 05.03.2020 |
| **2020-21** | | |
| **43.** | Communication Skills & Personality Development Training | 15.03.2021 to 25.03.2021 |
| **2021-22** | | |
| **44.** | Online training on "Dairy Farming" for COA, Kaul students | 20.12.2021 to 30.12.2021 |
| **45.** | Online training on "Beekeeping" for COA Students. | 16.12.2021 to 27.12.2021 |
| **46.** | Online training on "Post harvest procession of fruits and vegetables for value addition" for COA, Kaul students | 03.01.2022 to 12.01.2022 |
| **47.** | Online training on "Communication Skills in competitive era" | 17.03.2022 to 30.03.2022 |
| **2022-23** | | |
| **48.** | Personality Development: Key to Success | 17.09.2022 to 28.09.2022 |
| **49.** | Automation in Textile Apparel Industry | 27.09.2022 to 10.10.2022 |
| **50.** | Advances in Textile Apparel Industry | 27.09.2022 to 10.10.2022 |
| **51.** | Enhancement of Competencies for UG Students on Information Comm. Tech. | 01.10.2022 to 12.10.2022 |
| **52.** | Research Project Management | 01.10.2022 to 12.10.2022 |
| **53.** | JRF training for UG students appearing in Plant Sciences | 01.10.2022 to 20.10.2022 |
| **54.** | Valorisation of Crop Residue and its management | 10.10.2022 to 20.10.2022 |
| **55.** | Foundation Course for ICAR –JRF (PGS), for COA, Bawal, Students | 25.11.2022 to 04.12.2022 |
| **56.** | Training of students of I.C. College Home Science appearing in JRF exam | 14.11.2022 to 10.12.2022 |
| **57.** | Enhancement of Competencies of UG students on information and communication technology ($2^{nd}$ ) | 07.02.2023 to 20.02.2023 |
| **58.** | Communication Skills for Personality Development ($2^{nd}$ ) | 08.02.2023 to 17.02.2023 |
| **59.** | Enhancement of Handicrafts skills for Entrepreneurship Development | 13.02.2023 to 19.02.2023 |
| **60.** | Communication Skills for personality Development | 13.02.2023 to 22.02.2023 |
| **61.** | Training Program of Agri. Students appearing in JRF Exam | 01.02.2023 to 01.03.2023 |

**ICT based initiatives**

The students counseling, placement and skill integrated learning has long been supported by paper based systems. The use of ICT based technologies *viz.*, Internet and the World Wide Web have revolutionized the provision of information and the facility for the user to take action on the information obtained. In today's fast moving world most of the placement/recruitment agencies, private sector's and other stake holders require relevant information of students online, their databases

through spreadsheets and Email communications. Therefore, for effective and result oriented functioning of Students C&P Cell, following ICT based initiatives have been undertaken.

**Web Resources for Career Opportunities**

Taking cue from Digital India drive, now the Students' C&P Cell in the Directorate of Students Welfare has devised a dedicated web portal http://hau.ernet.in/dsw/dccp.php. The web portal is excellent source of relevant information related to career opportunities for the students. The portal has been widely acclaimed and visited by many people since its launch in January, 2015.

**6.6.6.6. Disabled Friendly Facilities:** *What kind of facilities is available for differently abled persons in the campus? Give a brief report.*

Following facilities are available in the campus for differently abled persons:

- There is lift, ramp and wheel chair facility in the College of Agriculture.
- Ramp and wheel chair facility is also available at College of Agricultural Engineering and Technology.
- The College of Basic Sciences and Humanities has ramp, wheel chair as well as lift to facilitate movement.
- The ramp and wheel chair facility is available at I.C. College of Home Sciences.
- University hospital is friendly for differently abled and takes care of them for medical aid.
- There is lift and ramp facility in Nehru Library.
- There are separate washrooms in the I.C. College of Home Sciences and College of Agriculture, Hisar. The facility is being created in other constituent colleges and offices of the University.

### 6.6.7 Infrastructure

**6.6.7.1. Physical facilities including administrative building and lands:** *Give comprehensive report on the administrative buildings, academic blocks, College's research units, instructional farms, seed production units etc. for each College and University Head Quarter.*

The CCSHAU's development strategy is based on the idea of a central campus with academic buildings for different colleges, schools, and departments as well as residential, recreational, and community facilities like Faculty House and Faculty Club, Farmers' Hostel, Students' Hostel, Hospital, Shopping Centre, etc. Gandhi Bhawan, Nehru Library, Indira Gandhi Auditorium, and the Fletcher Bhawan housing the Administrative Block are the main structures. They are located on three sides of the vast Plaza, with the majority of them rising four feet above the ground.

When this University was created by an Act of Parliament in February, 1970, the Colleges of Veterinary Medicine, Agriculture, and Basic Sciences & Humanities were already in existance. The first two were housed in their own respective buildings and the third one in a part of the building of College of Agriculture, Hisar. There were five hostels for male students. About 358 units of staff housing, 132 for class IV employees, 88 for class III employees and 38 for the faculty and the administrative officers of the University had been provided. A Teachers' Home with 36 suites had been built and was in use. Community facility such as hospital, shopping center, school for children and recreational facilities for employees were built later on.

In the year 2010, a separate University named as Lala Lajpat Rai University of Veterinary & Animal Sciences was carved out of CCSHAU by transferring the College of Veterinary Sciences & Animal Sciences along with other allied sections.

At present, the capital assets of CCSHAU Hisar are as under: -

**A. Land: -**

The University has 7609.15 acres of land, out of which 5358 acres land is under farming. In 736 acres land the main campus at Hisar is situated; 1515.15 acres of land is for outstations KVKs/ regional stations i.e., Krishi Vigyan Kendras, Regional Research Stations and Agriculture Colleges at Kaul & Bawal.

**A Details of land**

| Sr. No. | Station | Land (In Acres) |
|---|---|---|
| A | Hisar | **6094** |
| | ➢ Land under building and road i.e., main campus | 736 |
| | ➢ Land under seed production/ research farms | 5358 |
| B | **Out stations (KVKs & Research Stations)** | |
| 1. | Devigarh (Kaithal) | 50 |
| 2. | Bhopani (Faridabad) | 23 |
| 3. | Jagdishpura (Sonipat) | 50 |
| 4. | Sadalpur (Hisar) | 50 |
| 5. | Pandu Pindara (Jind) | 40 |
| 6. | Ujha (Panipat) | 41 |
| 7. | Yamunanagar | **85** |
| | ➢ At Damla | 59 |
| | ➢ At Buria | 26 |

| | | |
|---|---|---|
| 8. | Rohtak<br>➢ At Rohtak<br>➢ At Samargopalpur | **61**<br>3<br>*58* |
| 9. | Ambala | 38 |
| 10. | Sirsa<br>➢ At Sirsa<br>➢ At Natar | **107**<br>80<br>27 |
| 11. | Bhiwani<br>➢ At Bhiwani<br>➢ At Kohlawas | **66**<br>5<br>61 |
| 12. | Bawal (Rewari) | 245 |
| 13. | Fatehabad | 25 |
| 14. | Pinjore | 25 |
| 15. | Jhajjar | 26 |
| 16. | Mohendergarh<br>➢ At Mohindergarh<br>➢ At Pali | **58**<br>7<br>51 |
| 17. | Mandkola (Mewat) | 47 |
| 18. | Kurukshetra<br>➢ At Kurukshetra<br>➢ At Durala | **46**<br>3<br>43 |
| 19. | Karnal<br>➢ At Uchani<br>➢ At Khrindwa | **113**<br>98<br>15 |
| 20. | Kaul | 174 |
| 21. | Balsamand | 51 |
| 22. | Gokulpura (Bhiwani) | 62 |
| 23. | Chhapera (Nuh) | 32 |
| 24. | Panchkula | 0.15 |
| | | **1515.15 Acres** |

| **B** | **Buildings** | |
|---|---|---|
| I. | **Institutional/Administration Buildings/Blocks/Space:** | **Area (sq. m.)** |
| 1. | College of Agriculture (including IATTE building, Central Lab., Plant Clinic lab., Mushroom Training Unit, Field labs.) | 29298 |
| 2. | College of Agriculture, Kaul | 9692 |
| 3. | College of Agriculture, Bawal (Phase-I Academic block ground floor) | 2040 |
| 4. | I.C. College of Home Sciences, Hisar | 16030 |
| 5. | College of Basic Sciences & Humanities (including Biofertilizer production laboratory). | 12717 |
| 6. | College of Agricultural Engineering & Technology (including Field Lab.) | 8309 |
| 7. | Center for Food Science and Technology | 1026 |
| 8. | Gandhi Bhawan (Directorate of Extension Education, including University Press, Museum, Community Radio Station) | 8176 |
| 9. | Kisan Seva Kendra (ATIC) | 727 |
| 10. | Admn. Block (Fletcher Bhawan) (including Offices of Vice Chancellor, Registrar, Comptroller, Directorate of Research) | 4472 |
| 11. | Academy of Agricultural Research, Education and Management (Directorate of HRM) | 1608 |
| 12. | Buildings at outstations (KVKs/Research Stations) | 41738 |

| | | |
|---|---|---|
| 13. | Farm Buildings (Offices, Stores, Sheds) | 5664 |
| 14. | Students' Welfare and Activity Center (Giri Center) | 8946 |
| 15. | Nehru Library | 9076 |
| 16. | Dean Postgraduate Studies Block | 702 |
| 17. | Indira Gandhi Auditorium (capacity 2000 seats) | 9011 |
| 18. | Student Counseling and Placement Center (DSW office) | 1077 |
| 19. | Buildings of RDS Farm | 7188 |
| 20. | Seed testing laboratory for the Department of Seed Science & Technology | 1088 |
| 21. | Estate Office | 1519 |
| 22. | Govt. High School | 1211 |
| 23. | Faculty House (Teachers' Home) | 5267 |
| 24. | Farmers' Hostel | 1370 |
| 25. | Kishan Ashram | 951 |
| 26. | Faculty Club | 1882 |
| 27. | Community Center | 911 |
| 28. | Shopping Center (including space for Banks & post office etc.) | 1829 |
| 29. | Campus School | 6357 |
| 30. | University Hospital | 1864 |
| 31. | Sewage Treatment Plant (2.50 MLD capacity) | |
| 32. | Synthetic Track in Giri Centre | 6800 |
| 33. | Modern seed stores for breeding material and quality seed | 365 |
| 34. | Gate No. 4 | 101 |
| 35. | Central Laboratory for PG Research (Bio-Nanotechnology Laboratory) | 711 |
| 36. | Innovation centre for Agriwaste Management | 483 |
| 37. | Agri. Business Management Institute & Faculty Transit House at Daultabad (Gurugram) | 16670 |
| 38. | University Line Department Coordination Centre at Panchkula | 1200 |
| 39. | Office building of DDUCEOF (Likely to be completed by March 2024) | 1986 |
| 40. | Various sheds, stores & rooms of DDUCEOF (Likely to be completed by March 2024) | 1712 |
| 41. | College of Agriculture (Phase-II) i.e., 1st& 2nd floor of Academic Block at Bawal | 4101 |
| 42. | College of Agriculture (Phase-III) i.e., library, examination hall & auditorium at Bawal | 2778 |
| 43. | Development of Mela Ground | 18233 |
| 44. | Agritourism Centre | 32413 |
| 45. | College of Biotechnology (Building of Centre for Research & Application in Plant Tissue for Haryana State Council for Science & Technology) | 2132 |
| **II.** | **HOSTELS** | |
| a. | **Boys' Hostels at Hisar** | |
| 46. | Kailash Hostel (capacity 202 students) | 4834 |
| 47. | Varidavan Hostel (capacity 211 students) | 5265 |
| 48. | Ajanta Hostel (capacity 160 students) | 3979 |
| 49. | Vindhyachal Hostel (capacity 211 students) | 5265 |
| 50. | Triveni Hostel for international students (capacity 48 students) | 3037 |
| b. | **Girls' Hostel at Hisar** | |
| 51. | Gangotri Hostel (capacity 340 students) | 12261 |
| 52. | Godawari Hostel (capacity 144 students) | 3999 |
| 53. | Yamunotri Hostel (capacity 50 international students) | 1332 |
| 54. | Narmada Hostel (capacity 125 students) | 2999 |

| | | |
|---|---|---|
| 55. | Girls' Hostel (capacity 150 students) (Likely to be completed by December 2023) | 4844 |
| 56. | New Girls' Hostel (capacity 177 students) (Likely to be completed by March 2024) | 5187 |
| 57. | International Scientists Hostel (capacity 22 rooms) | 1698 |
| 58. | Hostel for married PG students at Hisar (capacity/Unit 36) | 1713 |
| 59. | Boys' Hostel at Kaul (capacity 204 students) | 3808 |
| 60. | Girls' Hostel at Kaul (capacity 58 students) | 1331 |
| 61. | Boys' Hostel at Bawal (Phase-I) (capacity 33 students) | 1161 |
| 62. | Girls' Hostel at Bawal (Phase-I) (capacity 23 students) | 1040 |
| 63. | Boys' Hostel at Bawal (Phase-II) (capacity 70 students) | 1146 |
| 64. | Girls' Student Hostel at Bawal (Phase-II) (capacity 28 students) | 911 |
| 65. | Boys' Student Hostel at Bawal (capacity 201 students) (under bidding stage for construction) | 5520 |
| 66. | Girls' Student Hostel at Bawal (capacity 176 students) (Likely to be completed by December 2024) | 5520 |
| **III** | **RESIDENTIAL HOUSES** | |
| a. | At Hisar 996 houses/staff quarters | 82421 |
| b. | At Hisar 240 houses/staff quarters (Likely to be completed by December 2024) | 36108 |
| c. | At outstations, i.e., KVKs/research stations 241 houses/staff quarters. | 15829 |

## PHYSICAL FACILITIES AND SUPPORT UNITS

### Administrative Blocks

- Vice-Chancellor's office
- Registrar's office
- Comptroller's office
- Store Purchase office
- Engineering Unit & Estate office
- Audit department
- Security office

### Office of Dean, Post Graduate Studies

### Directorates

- Research
- Extension
- Farms
- Human Resource Management
- Publications
- Students Welfare
- Seed Farm

### Colleges

1. College of Agriculture, Hisar
2. I.C. College of Home Sciences
3. College of Basic Sciences & Humanities
4. College of Agricultural Engineering & Technology
5. College of Fisheries Science
6. College of Biotechnology
7. College of Agriculture, Kaul

8. College of Agriculture, Bawal

**Support facilities**

- ♦ Library
- ♦ Faculty Club
- ♦ Campus Hospital
- ♦ Community Centre
- ♦ Shopping Complex
- ♦ Landscaping
- ♦ Campus School

**Support facilities at outstations**

- ◊ Regional Research Stations at Uchani (Karnal), Bawal, Rohtak, Sirsa, Kaul.
- ◊ Sub-Research Stations: Buria (Yamunanagar), Balsamand (Hisar)
- ◊ Nutri-Cereal Research Station: Gokulpura (Bhiwani)
- ◊ Krishi Vgyan Kendra (KVK): Sirsa, Bawal, Ambala, Bhiwani, Jind, Kurukshetra, Sonepat, Kaithal, Panipat, Sadalpur (Hisar), Yamunanagar, Mandkola, Faridabad, Jhajjar, Fatehabad, Mohindergarh, Rohtak, Panchkula, Karnal
- ◊ Soil testing laboratories: Hisar, Rohtak, Karnal, Ambala, Sirsa, Bhiwani

**Administration Block**

The Administration Buildings including Administrative Block, Estate Office, Post-Graduate Studies Block, ABIC, Exhibition Hall are located within the core centre which are easily accessible from different colleges, hostels and other community facilities. A separate administrative building has been built centrally in the campus core area to house the offices of Vice-Chancellor, Registrar, Comptroller and Directorate of Research.



Administrative Block, CCSHAU, Hisar




Directorate of Research, CCSHAU, Hisar

Offices of the Deans are located in their respective colleges having an office chamber of Dean with an area of 500 sq. ft.

The Offices of the Directorate of Extension Education, Dean, Post-Graduate Studies, Directorate of Human Resource Management and the Estate Officer-cum Superintending Engineer are located in separate buildings.



Directorate of Human Resource Management



Estate office, CCSHAU, Hisar

The Sports Complex, Directorate of Students Welfare, Guest House, workshops and University Hospital are also centrally located.



**Directorate of Students' Welfare**



Giri centre sports complex

**Colleges**

The University has well planned spacious institutional buildings to accommodate the constituent eight colleges as per the following facilities

| College | Classrooms | Laboratories | Seminar rooms |
|---|---|---|---|
| College of Agriculture, Hisar | 15 | 60 | 11 |
| College of Agriculture, Kaul | 4 | 12 | 1 |
| College of Agricultural Engineering & Technology | 4 | 11 | 1 |
| College of Basic Sciences & Humanities | 8 | 52 | 3 |
| IC College of Home Sciences | 7 | 30 | 4 |
| College of Agriculture, Bawal | 6 | 5 | 1 |
| College of Fisheries Science | 2 | 3 | 1 |
| College of Biotechnology | 5 | 8 | 1 |




I.C. College of Home Sciences



College of Agriculture, Hisar



College of Agricultural Engineering & Technology



College of Basic Sciences & Humanities



College of Agriculture, Bawal




College of Agriculture, Kaul




College of Biotechnology



College of Fisheries Science

**Classrooms and laboratories**

CCS Haryana Agricultural University has well equipped class rooms and laboratories. Teaching work in the undergraduate laboratories is performed in the groups of 20 students. Laboratories have, therefore, been planned at a rate of 40 sq. ft. per student. Average size of an undergraduate laboratory for scientific experiments is 24'x36'. In case of departments from College of Basic Sciences and Humanities, the laboratory size is 24'x24'. In college of Home Sciences, the laboratories of preservation, weaving and tailoring are in the size of 40'x24'. For postgraduate students, the laboratory size is based on 5 and 12 students', space and average size is 24'x'24' and 24'x36', respectively. In the College of Basic Sciences & Humanities, some laboratories have been classified as light proof and dust proof and these have been suitably located. Normally, the laboratories meant for undergraduates have been restricted to ground floor and first floor. Some of the special laboratories need air conditioning, so necessary space has been reserved where air conditioning equipment has been installed. The Central Instrumentation Cell has been provided in the Agricultural Engineering Workshop Unit. A Central Laboratory has also been provided at the University which caters to the requirement of high-end analytical equipments for various research activities. To ensure uninterrupted power supply to the laboratories for conducting experiments, stand by generators have been provided. The optimum number of undergraduate students for a lecture is between 50 to 60 whereas the class rooms have been designed to accommodate 60-70 students. Each department has a seminar room and each college has an auditorium with the capacity of 300 persons in the College of Basic Sciences & Humanities, and IC College of Home Sciences. The College of Agriculture, Hisar has an auditorium with a capacity of 500 persons.

**Instructional farms and poly houses**

In 113-hectare land, instructional farms/ areas of various departments are located namely Vegetable Science, Forestry, Agronomy, Agril. Metereology, Nemotology, Plant Pathology, Horticulture, Forage Section, Medicinal & Aromatic Plant Section, and College of Agricultural Engineering & Technology. The farming practical classes and research work are carried out there.

To facilitate experiments and research work, 76 poly houses/net houses/screen houses are in existence for the Departments of Forestry, Agronomy, Nemotology, Entomology, Plant Pathology, Soil Science, Horticulture, Wheat & Barley Sections, Oil Seeds Section, Medicinal & Aromatic Plants Section and College of Basic Science & Humanities.

**Seed farm/Seed production units**

Department of Seed Science & Technology at CCS Haryana Agricultural University, Hisar came in to existence in February, 2000. In 1977, Govt. of India (ICAR) selected this centre during the first phase of National Seed Project to strengthen the breeder seed production and seed technology research

programme under the World Bank Project. Department of Seed Science and Technology has about 72 hectares area under breeder seed production where more than thousand quintals of breeder seed of about 35 varieties of 15 crops is produced every year against GOI indent.

Directorate of Farms in 367 hectares is continuously producing quality seeds since the inception of the University. Ram Dhan Singh Seed Farm in the University was established 1999 with the objective to produce quality seed or planting material of major field and horticultural crops in an area of 1500 hectares approximately.

**Hostels**

To accommodate the students (boys & girls), 14 Hostels (7 hostels for boys, 6 hostels for girls & 1 hostel for married PG students) are there for 1845 students (1069 boys, 740 girls & 36 married PG students). Four more hostels (1 hostel for boys & 3 hostels for Girls) are under construction for 704 students.

**Agri Business Incubation Centre (ABIC)**




CCSHAU, Hisar has taken initiative to set up "Agri Business Incubation Centre (ABIC)" for supporting startups in Agri and Allied Sectors, supported by National Bank for Agriculture and Rural Development (NABARD) and Rashtriya Krishi Vikas Yojana (RKVY, MOA&FW).

**Deendayal Upadhyaya Centre of Excellance for Organic Farming**




Deendayal Upadhyay Centre of Excellence for Organic Farming was established on October 31, 2017 in an area of about 150 acres at CCSHAU, Hisar for addressing the need of farmers towards organic farming This farm is well equipped with an automated micro-irrigation system with ample water storage capacity.

**Agricultural Technology Information Centre (Kisan Seva Kendra)**





ATIC, CCSHAU provides a single window delivery system for the products and species available from CCSHAU to the farmers and other interested groups and also facilitates direct access to the farmers to the institutional resources available in terms of technology, advice, technology products etc., for reducing technology dissemination losses. A telephonic helpline service is provided to farmers for addressing their queries.

**Dr Mangal Sein Agricultural Science Museum**




The Dr. Mangal Sain Museum is located inside the Gandhi Bhawan building, CCSHAU, Hisar. It was upgraded and inaugurated in 2022. The museum houses the collection of antiquities showcasing development of agriculture and rural society in Haryana. The museum has a scale model of central complex of CCSHAU, a mixed reality studio, different soil samples from Haryana, digital platform showcasing pioneering projects of CCSHAU, traditional and folklores of Haryana, a library, and a lot more.

**Innovation Centre for Agri waste Management**




The University has established an Innovation Centre for Agri waste Management (ICAWM) with an aims to identify, synergistically develop and propagate circular economy based innovative technologies for conversion of crop residue into eco- friendly, technically efficient and economically viable Bio-waste value added products.

**Agri-tourism Center**





Agri-tourism Centre was established in 10.5 Acres and it is in the process of continuous upgradation and expansion to aid students, farmers and entrepreneurs in their respective ventures. Annual Flower Shows were organized in the Botanical Garden and Agri-tourism Centre. The flower shows were open to public for participation in different competitive categories also.

**Maintenance Cell**

To provide facilities to the students, staff and to maintain the University infrastructure, there is Maintenance Cell under the control of Engineering Unit of this University which provides day to day maintenance, annual & special repair/maintenance of institutional/administrative buildings and hostels, this cell also ensures water supply, sewerage system, power supply & emergency/generator power supply etc. through its regular/outsourced staff.

**Waste Management system**

The sewage disposal of the whole campus including farm areas is treated through Sewage Treatment Plant (STP) of 2.50 MLD capacity installed in farm area to re-use the water after treatment for irrigation purposes.







Sewage treatment plant at CCSHAU, Hisar

As far as solid waste/household waste is concerned its segregation is done in three categories i.e. (i) Organic waste, (ii) Dry waste, (iii) Reject waste at the level of each unit and it is collected with the help of rickshaws/mechanical means. Then dry waste is re-cycled and organic waste is fed to the animals or is composted. Rest of the waste is filled in dumper placers and is disposed off at the site where municipal waste of the city is dumped.




Solid waste management system at CCSHAU, Hisar

**Landscape Unit**

Landscape Unit (LSU) is very important unit of CCSHAU which maintains landscaping in campus of University. Landscape area comprises of residential as well as offices/colleges/sports complex (Giri center) etc. Unit maintains lawns, grasses and shrubs, arranges and organizes plantation drives in the University campus on various occasions. Nursery of landscape unit is having rich biodiversity of about 200 species including, trees, shrubs, herbs, climbers, aquatic plants, seasonal flowers and plants etc. LSU have various implements/instruments like, brush cutters, shrub master, JCB, tractors, grass cutting machines and hydraulic lift for maintaining and managing the canopy of trees.

**6.6.7.2. IT Infrastructure:** *A brief report on University ARIS Cell shall be given. Give the information on LAN connectivity, Wi-Fi/internet facilities in campus and hostels; Computer based library management, video conferencing facilities, smart class rooms and workshops etc.*

The University has ARIS Cell-cum-Computer Centre at COBS&H with modern facilities which includes LAN connectivity, Wi-fi services in campus and hostels, Servers, Robotics Lab & workshop, computer laboratory in each college, Nehru library and Directorate of Human Resourse Management. The cell is looking after *e-portal* management, website management and provides support to students and faculty for internet, *e-portal* and other computer related issues. The faculty and students are provided with login credentials by the Cell for access to *e-portal* and University website.

- **LAN Connectivity**

  The installation of Campus-wide GIGABIT Network has been implemented with the funds from AHRD project. The Campus wide network is spread over more than 18 km through fiber optic cables and is providing Internet facility to the stakeholders through 1 GBPS (Shared) leased line provided by National Knowledge Network (NKN). A firewall (Sophos) has been installed to check the internet security.

- **Wi-Fi Internet Facility**

  Wi-Fi facility has been provided to students at their hostels as well as at colleges/offices for all the stakeholders.

- **University Servers**

  One workstation – Intel ® Xeon Silver 4316 CPU is used for online statistical analysis and one Dell server running Linux and Windows server operating system is being used for application server and radius server.

- **Computer based library management at Nehru Library**

  There is an excellent computer-based library management at Nehru Library. It possesses a rich collection of books, bound volumes of journals and other documents. The Users can borrow and return the books at issue/return counter through RFID Kiosks at their own using RFID enabled identity cards. Koha and RFID softwares are being used for all automated services. OPAC (Online Public Access Catalogue) helps users to access the books and other documents so that they could easily locate their desired documents in the library. Web version of OPAC can also be accessed using Internet to search catalogue of local library as well as all agricultural libraries of India. The library provides internet surfing facility to students and teachers of the University for academic and research purposes. For this purpose, the library has a well-equipped computer lab consisting of 32 latest PCs with internet facility. Whereas, provision of 32 internet points has been provided for laptop users. Library has a well-equipped smart classroom for teaching M.Sc. and Ph.D. students. A well-equipped conference room is also being used in library for academic purposes.



Inner view of Nehru Library

- **Video conferencing facility**

  The University has installed the video conferencing facility at 10 locations of the University (College of Basic Sciences & Humanities, College of Agriculture, College of Agricultural Engineering and Technology, I.C. College of Home Science, Directorate of Human Resource Management, University Library, Directorate of Research, Dean Post Graduate Studies office, Registrar's office along with Vice Chancellor's Secretariat) to facilitate and enhance communication with educational/technical institutions at National/International levels.

- **Smart class rooms**

  Smart class rooms with audio visual facilities for teaching the students have been provided to each college of the University as well as in the University Library. It is also used for delivering lectures/interactions during trainings/workshop etc. Further, almost all the smart classrooms are equipped with 4 K ultra interactive flat panel (IFP) with operating system, which empower teachers as well as inspires students to learn more, share their knowledge and interact with others.

**6.6.7.3. Students and Staff Amenities:** *Give brief report on the sporting and recreational activities, employment and career advice, child care, financial advice and food services, entertainment avenues etc. available in the campus.*

**Sporting and recreational facilities**

The University has an excellent facility for sports and recreational activities. Giri Centre, a student welfare and activity centre is a distinguising component of the University. Two indoor badminton courts with seating for 600 spectators, two indoor squash courts, a shooting range, a multipurpose indoor gymnasium with seating for more than a thousand spectators that can also be used for gymnastics, wrestling, boxing, badminton, volleyball, basketball, debates, and student meetings, a cricket pavilion, and an athletic stadium with synthetic track are the facilities offered in this complex. On campus, there are sufficient facilities for students interested in music, art, photography, debating, trekking etc.

Further details are given in Sports and Cultural Facilities **secion 6.6.6.4.**




Combat Hall, CCSHAU, Hisar



Madan Lal Dhingra Multipurpose Hall

**Guest Houses & Food Services**

The University has modern and well-equipped Guest Houses. A Faculty House (74 rooms), Farmers Hostel (48 rooms for 96 persons) & Kisan Ashram (capacity of 40 persons), International Scientists Hostel (22 rooms) are in perfect existance.

For easy availability of food services, there is separate canteen facility in each college for staff and students. The Faculty House has mess facility with catering services. Food services are available in all hostels also in addition to food facilities at shopping complex of the University. On order catering services are available in Faculty Club for the event like marriages, personal and private family events of faculty members.

**Shopping complex, banks and post office**

The University has the facilities of shopping centre, banks and post office located in the heart of office of the campus which cater to the daily needs of students and staff.

**Faculty Club**

There is well functional Faculty Club with all the facilities of recreation and entertainment. Regular get-togethers of the faculty and their families are held in the Club. The Club also has the facility of indoor games like Squash, Table Tennis, Billiards and Badminton etc. There is a Swimming Pool of international standards in the Club.



Faculty Club, CCSHAU, Hisar

**Community Centre**

Community Centre has facility for University Staff for family functions and social activities. This is also equipped with indoor game facility.

**Employment and career advice through Counselling and Placement Cell**

The Counselling & Placement Cell of the Directorate of Students' Welfare in association with the Department of Employment, Haryana, has set up a University Employment Information and Guidance Bureau which provides information to the students on job opportunities, competitive examinations, scholarships/fellowships etc. It also conducts trainings/coaching classes for various entrance examinations, and explores the job opportunities in the public and private sectors and arranges the campus interviews. Besides, the Centre brings out Career Bulletin, a fortnightly magazine for students of the University to keep them abreast information on job opportunities, admissions, scholarships, fellowships etc. in India & abroad. The cell has been assigned four mandates *viz*., imparting trainings, placements, liaison with leading industries and guidance to University students. The Students C&P Cell coordinates the task of organizing campus interviews for the outgoing students. Various activites and achievements by the cell are given under student development activities section **6.6.6.3**.

**Health Facility**

University Health Service provides comprehensive primary health clinic for students, faculty, staff and other campus residents. The University has a fully functional 20 bedded Campus Hospital providing medical care and health cover to students, employees and their dependents and retired employees of the University.




Campus Hospital, CCSHAU, Hisar

**Childcare facilities**

Childcare facilities are available in the University in the I.C. College of Home Sciences. The Department of Human Development and Family Studies runs a pre-school laboratory which provides day-care to children and counseling to parents.

Campus School caters to educational requirements of the children of the University staff upto Higher Secondary standard education.

**Financial advice**

The financial advice to the University and faculty members is provided by Chartered Accountant hired by the University for the said purpose. In addition, specific lectures are also delivered by experts

from banks located in the University. The financial management of the University is being taken care by the office of Comptroller, CCSHAU.

**Cultural & entertainment avenues**

The University has four well equipped modern auditoriums on its campus for undertaking cultural and entertainment activities. A variety of cultural activities, seminars, exhibitions, international/national symposia/conferences/workshops, and lectures are held on a regular basis in the Indira Gandhi Auditorium and the auditoriums of the colleges. Each hostel has a Reading Hall-cum-TV Room for recreation of the students. Indoor games facilities are also available in hostels.

## 6.6.8 Financial Resource Management

**6.6.8.1. Budget allocation:** *Give the budget allocation (College wise) for salary, contingency and amount received through the ICAR development grant during last five years. Give a note on the sufficiency of the fund to meet the academic requirement in last five years.*

**ICAR Development Grant (2018-19 to 2022-23) – Rs. In Lakh**

| Sr. No. | Year | COA, Hisar | COA, Kaul | COAE&T | COBS&H | COHS | Others* | Total |
|---|---|---|---|---|---|---|---|---|
| **1.** | 2018-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **0.00** |
| **2.** | 2019-20 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 | 117.00 | **130.00** |
| **3.** | 2020-21 | 14.00 | 14.00 | 14.00 | 20.00 | 14.00 | 50.82 | **126.82** |
| **4.** | 2021-22 | 42.65 | 20.20 | 9.35 | 23.45 | 9.35 | 65.00 | **170.00** |
| **5.** | 2022-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 153.00 | **153.00** |

| **Detail of ICAR funds utilization (Rs. In lacs)** | |
|---|---|
| **2018-19** | **ICAR** |
| Opening balance | 1226.74 |
| Grant Received | 4902.33 |
| Income | 3.49 |
| Total | 6132.56 |
| Expenditure | 5080.79 |
| Closing balance | 1051.77 |
| **Total Percentage of Utilization** | **82.85** |
| **2019-20** | **ICAR** |
| Opening balance | 1051.77 |
| Grant Received | 4773.21 |
| Income | 36.66 |
| Total | 5861.64 |
| Expenditure | 4687.00 |
| Closing balance | 1168.64 |
| **Total Percentage of Utilization** | **79.96** |
| **2020-21** | **ICAR** |
| Opening balance | 1168.64 |
| Grant Received | 4727.62 |
| Income | 35.98 |
| Total | 5932.24 |
| Expenditure | 5108.34 |

| | |
|---|---|
| Closing balance | 823.90 |
| **Total Percentage of Utilization** | **86.11** |
| **2021-22** | **ICAR** |
| Opening balance | 823.89 |
| Grant Received | 5255.63 |
| Income | 6.14 |
| Total | 6085.67 |
| Expenditure | 5514.14 |
| Closing balance | 571.53 |
| **Total Percentage of Utilization** | **90.61** |
| **2022-23** | **ICAR** |
| Opening balance | 571.53 |
| Grant Received | 5200.00 |
| Income | 06.00 |
| Total | 5777.53 |
| Expenditure | 5652.00 |
| Closing balance | 125.53 |
| **Total Percentage of Utilization** | **98.00** |
| * Expenditure (/) Sanction (*)100 | |

The above information in respect of ICAR schemes based on Grant Utilization Certificate of concerned financial years.

Overall budget of the University is available as SD IX.

**6.6.8.2. Finance Committee:** *Provide the schedule of the meetings of the financial committee held in last five years.*

| S. No. | No. of Meeting | Date | Year |
|---|---|---|---|
| 1. | 2 | 08.08.2018, 28.12.2018 | 2018 |
| 2. | 3 | 05.03.2019, 25.05.2019, 18.12.2019 | 2019 |
| 3. | 2 | 24.08.2020, 21.12.2020 | 2020 |
| 4. | 2 | 28.04.2021, 24.12.2021 | 2021 |
| 5. | 1 | 29.03.2022 | 2022 |
| 6. | 1 | 18.01.2023 | 2023 |
| Total | **11** | | |

**6.6.8.3. Internal Resources Generation:** *Give a comprehensive report (College wise) internal resource generation through different sources for last five years. How this money is being utilized for the academic programmes and research work of students? Give a brief note.*

College wise internal resources generated have been given as under:

## College of Agriculture

| Section/ Department/ College | Name of the Project | Amount (Rs. in Lakh) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | | Total |
| Agronomy | Practical Crop Production programme (earn while learn ) | 2.32 | 3.25 | - | - | On going | | **5.57** |
| | Testing of Agro-chemicals | 33.00 | 41.94 | 11.47 | 27.00 | 7.59 | | **121.00** |
| Bajra Section, Genetics & Plant Breeding | Revolving Fund Scheme | 2.18 | 2.75 | 1.44 | 1.24 | - | | **7.61** |
| Cotton Section, Genetics & Plant Breeding | Revolving Fund Scheme | 30.71 | 9.95 | 6.10 | 11.64 | 10.00 Anticipated | | **68.40** |
| Oilseeds Section, G&PB | Self-finance scheme (Revolving Fund Scheme) | 10.29 | 6.17 | 7.26 | 12.24 | - | | **35.96** |
| Pulses Section, Genetics & Plant Breeding | Nucleus seed production and creation of new breeding material (Pulses) | 11.46 | 13.93 | 11.46 | 14.07 | - | | **50.92** |
| Wheat Section Genetics & Plant Breeding | Revolving Fund Scheme | 2.17 | 2.75 | 1.45 | 1.24 | | | **7.61** |
| Entomology | Production and sale of Honey | 0.55 | 0.40 | 0.46 | 0.30 | 0.37 | | **2.08** |
| Plant Pathology | Production of mushroom spawn, vegetables etc. | 0.10 | 0.20 | 0.47 | 0.17 | 0.09 | | **1.03** |
| Seed Science & Technology | Revolving Fund Scheme | 11.00 | 14.00 | 15.40 | 8.00 | 12.00 | | **60.40** |
| | Revolving Fund Scheme | 17.60 | 20.00 | 22.00 | 9.33 | 15.00 | | **83.93** |
| | Revolving Fund Scheme | 16.00 | 18.00 | 19.80 | 18.00 | 18.00 | | **89.80** |
| Department of Vegetable Science | Revolving Fund Scheme | 11.22 | 13.23 | 14.71 | 16.03 | 15.04 | | **70.23** |
| Department of Horticulture | Self Finance | 3.17 | 22.54 | 43.99 | 18.71 | 12.88 | | **101.29** |
| Department of Horticulture | Revolving Fund Scheme | 0.02 | 0.28 | The scheme has been closed on 11.11.2021 | | | | **0.30** |
| **Total** | | **151.79** | **169.39** | **156.01** | **137.97** | **90.97** | | **706.13** |

**College of Basic Sciences & Humanities**

**Bio fertilizer sale**

| Type | Amount (Rs. in Lakh) | | | | | |
|---|---|---|---|---|---|---|
| | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** |
| Rhizoteeka | 1.67 | 3.37 | 11.74 | 1.07 | 0.38 | 18.23 |
| Azoteeka | 12.35 | 8.09 | 11.24 | 3.61 | 3.55 | 38.84 |
| Phosphoteeka | 19.06 | 15.55 | 8.42 | 4.71 | 3.93 | 51.67 |
| Bioteeka | 5.49 | 9.20 | 0.51 | 7.78 | 10.56 | 33.54 |
| **Total** | **38.57** | **36.21** | **31.91** | **17.17** | **18.42** | **142.28** |

**College of Home Sciences**

| **Section/ Department/ College** | **Name of the Project/scheme** | **Amount (Rs. in Lakh)** | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | | Total |
| Foods and Nutrition | SF-14 scheme | 0.71 | ---- | ---- | ---- | ---- | | 0.71 |
| | EL-1 (ICAR) Bakery and Confectionery Products | 0.50 | 1.00 | 0.50 | 0.50 | 3.00 | | 5.50 |
| Family Resource Management | Domestic Farm Unit | 0.07 | 0.13 | 0.21 | 0.25 | 0.16 | | 0.82 |
| Human Development and Family Studies | Self-Financing | 0.98 | 0.97 | ---- | ---- | ---- | | 1.95 |
| Textiles and Apparel Designing | EL-2 (ICAR) Product Design: Digital Embroidered Home Furnishings | 0.40 | 2.12 | ----- | 1.69 | 0.70 | | 4.91 |
| Extension Education and Communication Management | EL-3 (ICAR) (Experiential Learning on Designing and Production of Information Material) | 0.19 | 0.13 | ---- | 0.01 | 0.24 | | 0.57 |
| **Grand Total** | | **2.85** | **4.35** | **0.71** | **2.45** | **4.10** | | **14.46** |

**College of Agricultural Engineering & Technology**

**Farm Machinery Testing Centre** **(Rs. in Lakh)**

| **S. No.** | **Year** | **Revenue earned (Without GST)** | **Expenditure** | **Net Income** |
|---|---|---|---|---|
| 1. | 2018-19 | 122.90 | 31.72 | 91.18 |
| 2. | 2019-20 | 127.30 | 43.42 | 83.88 |
| 3. | 2020-21 | 134.56 | 41.52 | 93.04 |
| 4. | 2021-22 | 114.14 | 37.42 | 76.72 |
| 5. | 2022-23 | 140.38 | 23.92 | 116.46 |
| **Total** | | **639.28** | **178.00** | **461.28** |

The amount generated is utilized for the development of facilities for students and teachers as per requirements and university norms. The details are mentioned in the academic support 6.6.2.

**6.6.8.4. External Funding:** *How much resources the University has mobilized from the external sources (give the list) based on the competitive mode in last five year*?

**College of Agriculture**

| Section/ Department/ College | Name of the Project | Name of external funding agency | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|---|---|---|
| Agricultural Economics | Resource Use Planning for Sustainable Agriculture | ICAR -NIAP | 12.03 | 08.36 | 0.92 | 0.00 | 0.00 | 21.31 |
| | Studying the cost of cultivation of Principal Crops in Haryana Region | Ministry of Agri. & Farmers Welfare, Govt. of India | 235.00 | 217.37 | 246.82 | 197.00 | 305.00 | 1201.19 |
| **Total** | | | **247.03** | **225.73** | **247.74** | **197.00** | **305.00** | **1222.50** |
| Agricultural Meteorology | Forecasting Agricultural output using space, agro meteorology and land based observations (FASAL) | Ministry of Earth Sciences, GOI | 4.12 | 5.90 | 6.30 | 6.29 | 2.95 | 25.56 |
| | Strengthening of Climate Smart Agriculture System for the farming community of Haryana State | Ministry of Agriculture and Farmers Welfare (RKVY) | 30.00 | 0.00 | 0.00 | 0.00 | 0.00 | 30.00 |
| | AICRP on Agro meteorology | Central Institute for Dry land Agriculture | 26.98 | 22.77 | 38.63 | 38.90 | 37.05 | 164.33 |
| | National Initiative on Climate Resilient Agriculture | Central Research Institute for Dry land Agriculture | 4.64 | 6.60 | 6.84 | 5.97 | 3.74 | 27.79 |
| **Total** | | | **65.74** | **35.27** | **51.77** | **51.16** | **43.74** | **247.68** |
| Agronomy | AICRP on Integrated Farming System | Indian Institute of Farming Systems Research (ICAR), Modipuram, MEERUT | 80.73 | 76.99 | 64.20 | 93.27 | 126.52 | 441.71 |
| | AICRP on Weed Control | Directorate of Weed Science Research, Maharajpur, Adhartal, JABALPUR | 48.86 | 38.39 | 40.68 | 32.81 | 26.33 | 187.07 |
| | ICAR-Emeritus Professor - Scheme in respect of Dr. R.K. Pannu at CCSHAU, Hisar. | Krishi Bhawan, New Delhi - 110 001. | 8.91 | 7.75 | 5.07 | 1.27 | 0.00 | 23.00 |
| | AICRP on Weed Control | Directorate of Weed Science Research, Maharajpur, Adhartal, JABALPUR | 0.00 | 0.00 | 0.00 | 0.00 | 0.50 | 0.50 |
| **Total** | | | **171.50** | **165.07** | **121.42** | **154.35** | **160.94** | **773.28** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Entomology | Morphometry and Phylogeography of Honey Bees and Stingless Bees in India Phase-II | DST | 4.72 | 0.00 | 0.00 | 0.00 | 0.00 | 4.72 |
| | Testing of insecticides of private companies (paid trials) | Private Pesticides Companies | 9.00 | 10.89 | 45.88 | 57.64 | 8.00 | 131.41 |
| | AICRP on Honey Bees and Pollinators (Coordinated Centre) | Division of Entomology, IARI, New Delhi | 25.50 | 55.26 | 34.00 | 34.00 | 38.00 | 186.76 |
| | All India Network Project on Pesticide Residue. | IARI, New Delhi | 24.11 | 28.88 | 36.00 | 25.00 | 25.00 | 138.99 |
| | Centre of Advance Faculty Training in Entomology | Krishi Anusandhan Bhawan-II, Pusa, New Delhi-110 012. | 11.42 | 11.42 | 0.00 | 0.00 | 9.28 | 32.12 |
| **Total** | | | **74.75** | **106.45** | **115.88** | **116.64** | **80.28** | **494.00** |
| Forestry | AICRP on Agroforestry | Central Agro forestry Research Institute, Near : Pahuj Dam, GWALIOR ROAD, JHANSI | 43.10 | 36.70 | 40.05 | 40.10 | 35.95 | 195.90 |
| | ICAR-Emeritus Professor - Scheme in respect of Dr. K.S. Bangarwa at CCSHAU, Hisar. | Krishi Bhawan, New Delhi - 110 001. | 7.41 | 8.41 | 6.49 | 0.00 | 0.00 | 22.31 |
| **Total** | | | **50.51** | **45.11** | **46.54** | **40.10** | **35.95** | **218.21** |
| Oilseeds Section, Genetics & Plant Breeding | Testing of mustard varieties & hybrids | Private seed companies | 4.50 | 2.25 | 9.75 | 4.50 | 0.75 | 21.75 |
| | AICRP on Oilseed, Hisar | Directorate of Rapeseed & Mustard Research, SEWAR BHARATPUR | 95.01 | 75.96 | 85.32 | 130.00 | 122.00 | 508.29 |
| | AICRP on Sunflower | Indian Institute of Oilseeds Research, Rajendranagar, Hyderabad | 32.51 | 15.77 | 13.50 | 14.45 | 8.95 | 85.18 |
| | PB-78-ICAR | ICAR, New Delhi | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.36 |
| | Research Development of AICRP - RM | Directorate of Rapeseed & Mustard Research, SEWAR, Bharatpur | 1.47 | 2.07 | 1.99 | 2.27 | 0.00 | 7.80 |
| | Molecular genetic analysis of resistance tolerance to different stress in Indian Mustard | National Rice Research Institute (ICAR), Cuttack (Odisha) | 11.30 | 13.50 | 15.50 | 24.60 | 19.50 | 84.40 |
| | AICRP on Hybrid Technology Mustard | Division of Genetics, ICAR-IARI, New Delhi | 16.45 | 20.07 | 16.80 | 19.40 | 16.10 | 88.82 |
| **Total** | | | **161.60** | **129.62** | **142.86** | **195.22** | **167.30** | **796.60** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bajra Section, Genetics & Plant Breeding | Genetically enhanced micronutrient dense Pearl Millet grains for improved human nutrition in Western Africa and India | Harvest Plus (CGIAR) and ICRISAT | 2.11 | 3.09 | 3.73 | 2.92 | 27.94 | 39.79 |
| | Synthesis of new abiotic and biotic stress tolerant gene pool through introgression of alleles from wild species into pearl millet cultivars | The Crop Trust (GCDT) and ICRISAT | 2.23 | 0.00 | 0.00 | 0.00 | 0.00 | 2.23 |
| | AICRP on Improvement of Pearl Millets. | Indian Institute of Millets Research, Rajendranagar, HYDERABAD | 76.50 | 124.62 | 111.79 | 105.75 | 86.80 | 505.46 |
| | Frontline Demonstrations on Pearl Millet under NFSM - Coarse Cereals | Agriculture University, Mandor | 1.69 | 0.00 | 1.16 | 1.45 | 1.72 | 6.02 |
| | Consortia for Research Platform (CRP) in Bio-fortification in Selected Crops (Pearl Millet) | Indian Institute of Rice Research Rajendranagar, Hyderabad | 4.75 | 6.21 | 7.25 | 7.65 | 7.25 | 33.11 |
| **Total** | | | **87.28** | **133.92** | **123.93** | **117.77** | **123.71** | **586.61** |
| Pulses Section, Genetics & Plant Breeding | AICRP on Pulses | Indian Institute of Pulses Research (ICAR), Kanpur - 208 024. | 58.83 | 50.29 | 50.01 | 44.95 | 58.81 | 262.89 |
| | C(b)PB-93-ICAR | Indian Institute of Pulses Research (ICAR), Kanpur - 208 024. | 0.00 | 0.00 | 0.00 | 0.00 | 2.93 | 2.93 |
| | AICRP on Mullarp | Indian Institute of Pulses Research (ICAR), Kanpur - 208 024. | 22.60 | 40.99 | 39.12 | 35.90 | 39.43 | 178.04 |
| | FLD on Chickpea | Indian Institute of Pulses Research (ICAR), Kanpur - 208 024. | 0.89 | 0.89 | 1.33 | 1.33 | 1.33 | 5.77 |
| | Pigeon pea Experimental trials | Indian Institute of Pulses Research (ICAR), Kanpur - 208 024. | 0.60 | 0.60 | 0.00 | 0.90 | 0.90 | 3.00 |
| **Total** | | | **82.92** | **92.77** | **90.46** | **83.08** | **103.40** | **452.63** |
| Cotton Section, Genetics & Plant Breeding | C(g)PB-92-O.A. DUS Testing fee | PPV&FRA, Ministry of Agriculture, New Delhi | 8.45 | 5.58 | 7.96 | 2.12 | 4.81 | 28.92 |
| | Testing Fee | Private Agencies | 37.50 | 37.77 | 0.00 | 0.00 | 0.00 | 75.27 |
| | Testing Fee | Private Agencies | 22.52 | 17.59 | 0.00 | 0.00 | 0.00 | 40.11 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AICRP on Cotton Improvement, Hisar Centre | Central Institute for Cotton Research, ICAR, P.Bag No.2, SHANKAR NAGAR, .Nagpur | 107.10 | 110.91 | 108.54 | 108.54 | 100.58 | 535.67 |
| | NFSM-Commercial Crop (Cotton) | Central Institute for Cotton Research, Regional Station, Shankar Nagar, Nagpur | 5.10 | 5.10 | 4.95 | 5.10 | 2.40 | 22.65 |
| | **Total** | | **68.47** | **60.94** | **121.45** | **115.76** | **107.79** | **702.62** |
| Wheat & Barley Section, Genetics & Plant Breeding | Scaling breeding and management for increasing wheat productivity and adaptation to climate change | CIMMYT | 18.98 | 0.00 | 0.00 | 0.00 | 0.00 | 18.98 |
| | Testing Fees | Private Agencies | 1.50 | 0.00 | 2.25 | 0.75 | 0.00 | 4.50 |
| | AICRP on Wheat & Barley | Indian Institute of Wheat & Barley Research, P.B. No. 158, Kunjpura Road, Karnal | 76.48 | 85.75 | 88.25 | 99.60 | 112.91 | 462.99 |
| | Consortia for Research Platform (CRP) in Bio-fortification in Wheat for Nutritional Security | Indian Institute of Rice Research, ICAR (Formerly Directorate of Rice Research), Rajendranagar, Hyderabad - 500 030, India. | 7.70 | 10.54 | 0.00 | 0.00 | 0.00 | 18.24 |
| | | **Total** | **104.66** | **96.29** | **90.50** | **100.35** | **112.91** | **504.71** |
| MAP Section, Genetics & Plant Breeding | Centrally Sponsored Scheme under National Horticulture Mission for Development of Aromatic Plants | Directorate of Arecanut and Spices Development, Calicut (Kerala) | 16.10 | 7.40 | 11.20 | 10.60 | 15.20 | 60.50 |
| | AICRP on Medicinal, Aromatic Plants & Betel vine | Directorate of Medicinal & Aromatic Plants Research, BORIAVI - 387 310, Anand, Gujarat | 49.00 | 47.67 | 65.57 | 54.50 | 62.45 | 279.19 |
| | AICRN on Potential Crops | National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi - 110 012. | 15.49 | 34.00 | 48.53 | 65.10 | 71.10 | 234.22 |
| | | **Total** | **80.59** | **89.07** | **125.30** | **130.20** | **148.75** | **573.91** |
| Forage Section Genetics & Plant Breeding | Testing Fee | Private Agency | 3.75 | 1.50 | 0.00 | 0.75 | 0.00 | 6.00 |
| | AICRP on Sorghum Improvement | Indian Institute of Millets Research (Formerly Directorate of Sorghum Research) (ICAR), | 52.55 | 60.15 | 78.51 | 83.38 | 74.30 | 348.89 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Rajendranagar, HYDERABAD | | | | | | |
| | AICRP on Forage Crops | AICRP on Forage Crops, Indian Grassland and Fodder Research Institute Gwalior Road, Jhansi | 32.60 | 43.38 | 39.60 | 39.60 | 39.60 | 194.78 |
| | AICRP on Arid Legumes | Indian Institute of Pulses Research (ICAR), Kanpur - 208 024. | 37.62 | 44.83 | 37.40 | 37.40 | 37.40 | 194.65 |
| | Rabi National Group Meeting of AICRP on Forage Crops | Indian Grassland and Fodder Research Institute, Jhansi - 284 003 (UP) | 0.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.65 |
| | Annual Sorghum Group Meeting | Indian Institute of Millet Research (IIMR), Rajendranagar - 500 030, Hyderabad | 0.00 | 1.11 | 0.00 | 0.00 | 0.00 | 1.11 |
| | Sorghum Germplasm evaluation. | Indian Institute of Millet Research (IIMR), Rajendranagar - 500 030, Hyderabad | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| | FLD Arid Legumes | Indian Institute of Pulses Research (ICAR), Kanpur - 208 024. | 0.00 | 0.35 | 0.00 | 0.26 | 0.00 | 0.61 |
| | | **Total** | **127.17** | **152.32** | **155.51** | **161.39** | **151.30** | **747.69** |
| Plant Pathology | Testing of new agrochemicals against plant diseases | Private Companies | 6.00 | 5.00 | 10.00 | 10.00 | 6.00 | 37.00 |
| | AICRP on Mushroom | Directorate of Mushroom Research (ICAR), Chambaghat, Solan (UP) - 173 213 | 9.11 | 15.70 | 26.00 | 15.70 | 15.00 | 81.51 |
| | | **Total** | **15.11** | **20.70** | **36.00** | **25.70** | **21.00** | **118.51** |
| Soil Science/COA | Study the performance of Bio-stimulant and Bio/Organic Fertilizers on wheat crop | Indo Gulf Fertilizer | 8.00 | 10.00 | 4.77 | 11.00 | 11.00 | 44.77 |
| | AICRP on Micro & Secondary Nutrients and Pollutant elements in Soil and Plants | Indian Institute of Soil Science (ICAR), Nabibagh, Berasia Road, Bhopal - 462 038. | 48.20 | 63.80 | 89.00 | 54.75 | 51.50 | 307.25 |
| | AICRP on Soil Test Crops Response | Indian Institute of Soil Science, Nabibagh, Berasia Road, Bhopal - 462 038. | 29.42 | 27.87 | 37.83 | 51.39 | 57.36 | 203.87 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AICRP on Water Management | Indian Institute of Water Management, Opp. Rail Vihar, Chandrasekharpur, Bhubaneswar - 751 023, Odisha. | 51.75 | 94.33 | 96.30 | 69.70 | 61.15 | 379.23 |
| | AICRP on Management of Salt Affected Soils and Use of Saline Water in Agriculture. | AICRP on Management of Salt Affected Soil & Use of Saline Water in Agriculture, Central Soil Salinity Research Institute, Karnal - 132 001. | 54.20 | 48.90 | 57.79 | 65.89 | 41.35 | 272.13 |
| | ICAR - Emeritus Professor Scheme in respect of Dr. V.K. Phogat | Krishi Bhawan, New Delhi - 110 001. | 6.44 | 8.50 | 8.56 | 1.06 | 0.00 | 24.56 |
| | | **Total** | **198.01** | **253.40** | **294.25** | **253.79** | **222.36** | **1231.81** |
| | AICRP Potato Improvement Project | Central Potato Research Institute (ICAR), SHIMLA - 171 001 | 44.00 | 49.39 | 64.00 | 85.60 | 62.00 | 304.99 |
| Vegetable Science | AICRP Vegetable Improvement Project | Indian Institute of Vegetable Research, Post Office Jakhini (Shahanshahpur), Varanasi - 221 305 (UP) | 50.07 | 61.33 | 51.36 | 76.17 | 68.60 | 307.53 |
| | AICRP on Spices | Indian Institute of Spices Research, (ICAR), P.B. No. 1701, Marikunnu Post, Kozhikode - 673012, Kerala, India. | 37.06 | 45.42 | 50.06 | 65.25 | 67.15 | 268.94 |
| | ICAR-Emeritus Professor - Scheme in respect of Dr. M.K. Rana at CCSHAU, Hisar. | Krishi Bhawan, New Delhi - 110 001. | 8.75 | 8.38 | 6.17 | 0.00 | 0.00 | 23.30 |
| | | **Total** | **139.88** | **164.52** | **171.59** | **227.02** | **197.75** | **904.76** |
| Horticulture | C(g)Hort.3.O.A. | National Committee on Plasticulture Application in Horticulture, Ministry of Agril. & Cooperation, GOI, New Delhi | 18.90 | 0.00 | 0.00 | 0.00 | 0.00 | 18.90 |
| | Bio-efficacy, phyto-toxicity, persistence and issiptation study of different herbicides for the control of Orobanche aegyptiaca, a parasitic weed of tomato | RKVY | 3.54 | 0.00 | 0.00 | 0.00 | 0.00 | 3.54 |

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|---|---|---|---|---|---|---|---|---|
| | (Lycopersicon esculentum Mill) | | | | | | | |
| | | **Total** | **22.44** | **0.00** | **0.00** | **0.00** | **0.00** | **22.44** |
| Seed Science & Technology | Breeder Seed Production under NSP | Indian Institute of Seed Science (ICAR) Post Box No. 11, Village Kushmaur (PO : Kaithauli) Maunth Bhanjan, MAU (UP) - 275 103. | 52.07 | 41.56 | 47.51 | 55.20 | 61.16 | 259.50 |
| | Seed Technology Research under NSP | Indian Institute of Seed Science (ICAR) Post Box No. 11, Village Kushmaur (PO : Kaithauli) Maunth Bhanjan, MAU (UP) - 275 103. | 36.39 | 45.58 | 56.96 | 68.23 | 61.95 | 273.11 |
| | | **Total** | **88.46** | **87.14** | **104.47** | **123.43** | **123.11** | **532.61** |

**College of Basic Sciences & Humanities**

Details of ongoing and completed projects and grants received during the period of report are provided department-wise 2018 onwards.

| | **Title of Project** | **Funding Agency** | **Duration** | **Status of the project Ongoing/ completed** | **Budget (Rs. in lakh)** |
|---|---|---|---|---|---|
| **Botany & Plant Physiology** | | | | | |
| | Combing rust resistance with non-structural carbohydrates (NSC) in wheat to achieve food security | IIT, Kharagpur | 2019-2022 | Completed | 71.99 |
| | Genotyping by Sequencing, Genome-wide Association Study and Genomic Selection Approaches for the Complex Trait like stress-tolerance and Yield in Soyabean | IIT, Kharagpur | 2019-2022 | Completed | 78.32 |
| | Leveraging genetic resources for accelerated genetic improvement of Linseed using comprehensive genomics and phenol typing approaches | GOI, Ministry of Science & Technology, Department of Biotechnology, New Delhi | 2020-2025 | Ongoing | 90.30 |
| | Climate Change impact studies under rainout shelter in Agro-ecosystems | Director General Agriculture & Farmers Welfare Haryana, Panchkula | 2019-2022 | Completed | 194.00 |
| **Total** | | | | | 434.61 |
| **Molecular Biology, Biotechnology & Bio-informatics** | | | | | |
| | For Improvement of S&T Infrastructure in Universities & Higher Educational Institutions | GOI, Ministry of Science & Technology, Department of Biotechnology, New Delhi | 2018-2019 | Ongoing | 55.00 |
| | Establishment of facility for virus diagnosis and genetic fidelity testing | Director Agriculture & Farmers Welfare, | 2018-2019 | Completed | 213.00 |

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|---|---|---|---|---|---|
| | of micro-propagated horticulture crops | Haryana, Panchkula. | | | |
| | Setting up of Plant Tissue Culture Unit | Mission Director Haryana State Horticulture Development Agency, Panchkula | 2018-2019 | Completed | 250.00 |
| | Application of CRISPR/Cas9genome editing techniques for development of low silicone rice suitable for paddy straw management | IIT, Kharagpur | 2018-2022 | Ongoing | 29.50 |
| | Optimization of doubled haploids development in elite F1 maize hybrids (Zea mays L) | GOI, Ministry of Science & Technology, Department of Biotechnology, New Delhi | 2020-2021 | Completed | 9.55 |
| | Emeritus Scientist Scheme to Dr. Virendra Kumar Sikka to his work on "Development of Promiscuous and Efficient Rhizobia Having Wider Host Range" | Krishi Bhawan, New Delhi - 110 001. | 2018-19 to 2021-22 | Completed | 34.43 |
| **Total** | | | | | 591.48 |
| **Microbiology** | | | | | |
| | Establishment of Centre of Excellence for Modelling of Different Crops Residue for Bio-Methanation and Organic Manure | Director General Agriculture & Farmers Welfare Haryana, Panchkula | 2019-2023 | Ongoing | 285.00 |
| | Assessment of Agri-biomass from agro-climatic zone of Haryana | M/s Fortum India Private Limited, Gurugram | 2019-2023 | Ongoing | 32.64 |
| | Evaluation of Zero Budget Natural Farming (ZBNF) model under different cropping systems in Haryana | Director General Agriculture & Farmers Welfare Haryana, Panchkula | 2020-2023 | Ongoing | 154.00 |
| | Development of Liquid Fertilizer From Agro-Industrial Waste For mitigating Climate Change and Environmental Pollution | HSCSIT, Haryana | 2022-25 | Ongoing | 30.00 |
| | Development of Iron and Zinc Nano-bio fertilizers to Improve Soil Health and Bio fortification of Wheat/Pearl millet | HSCSIT, Haryana | 2023-2024 | Ongoing | 30.00 |
| | Network Project on Bio-fertilizer | Indian Institute of Soil Science (ICAR) Nabibagh Berasia Road, BHOPAL - 462 038 | 1976 to current financial year | Ongoing | 146.84 (2018-19 to 2022-23) |
| | AICRP on Energy in Agriculture & Agro-based Industries (DRET-BCT Component). | Central Institute of Agricultural Engineering, Nabibagh, Berasia Road, BHOPAL - 462 038. | 1983-84 to current financial year | Ongoing | 122.55 (2018-19 to 2022-23) |
| **Total** | | | | | **801.03** |

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|---|---|---|---|---|---|
| **Zoology** | | | | | |
| | Strengthening and development of rodentology lab for catering services to the farmers in Haryana | Director Agriculture Haryana, Panchkula | 2016-2019 | Completed | 14.00 |
| | Workshop on Capacity Building on Aquaculture | Fisheries Department of Haryana & Haryana State | 2018-2019 | Completed | 0.90 |
| **Total** | | | | | **14.90** |

## I. C. College of Home Science

| Sr. No. | | Name of Project | Name of external funding agency | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Food & Nutrition** | | | | | | | | | |
| 1 | | Workshop on Women in Agriculture | Horticulture Department, Haryana | 0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 |
| 2 | | Development of value added products from coarse cereals blended with Tulsi (Ocimum sanctum L.) and their sensory and nutritional characteristics | ICAR, Krishi Bhawan, New Delhi - 110 001. | 9.69 | 11.30 | 13.77 | 0.00 | 1.69 | 36.45 |
| 3 | | Shelf life enhancement in millets | Indian Institute of Millet Research, Hyderabad | 0.00 | 6.25 | 5.27 | 0.00 | 0.00 | 11.52 |
| **Total** | | | | | | | | | 48.72 |
| **Extension Education and Communication Management** | | | | | | | | | |
| 4 | | Workshop on Women in Agriculture | Horticulture Department, Haryana | 0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 |
| **Total** | | | | | | | | | 0.75 |
| **Human Development and Family Studies** | | | | | | | | | |
| 5 | | Women Empowerment and Gender Sensitization – Developing a Model for Bridging Gender Gap | National Agricultural Science Fund, Room No.707, KAB-1, New Delhi - 110 012. | 0.00 | 9.48 | 42.26 | 32.89 | 20.01 | 104.64 |
| **Total** | | | | | | | | | 104.64 |
| **Textiles and Apparel Designing** | | | | | | | | | |
| 6 | | ICAR - Emeritus Professor Scheme - Dr. Saroj S. Jeet Singh | ICAR, Krishi Bhawan, New Delhi - 110 001. | 3.77 | 8.50 | 8.42 | 0.00 | 0.00 | 20.69 |
| **Total** | | | | | | | | | 20.69 |
| **This project includes FN, FRM, HDFS, TAD & EECM** | | | | | | | | | |
| 7 | | AICRP on Home Science | Central Institute for Women in | 173.25 | 163.50 | 95.12 | 129.00 | 118.05 | 678.92 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture (ICAR), Plot No. 50-51, Mouza-Jokalandi, P.O. Baramunda, Bhubaneswar | | | | | | |
| **Total** | | | | | | | | | 678.92 |

### 6.6.8.5 Financial Powers Delegation to Deans/Heads

At CCSHAU, decentralization of power is in practice and there is delegation of financial and administrative powers for smooth and seamless functioning of the University. The Deans, Directors and other Statutory Officers have been accorded considerable financial and sanctioning autonomy and administrative powers.

The list of administrative and financial powers delegated to the Officers of the University has been given in **Act and Statutes** at **CHAPTER XXIV (SD-III)**

The financial and sanctioning authority given to the Officers of the University has been given in **Act and Statutes** at **CHAPTER XXIV (SD-III)**

### 6.6.8.6 Finance Utilization: *Mention in brief about the per cent finance utilization in last five years:*

| Years | Total Budget | Total Expenditure | Per cent utilization |
|---|---|---|---|
| 2018-19 | 543.24 | 468.93 | 86.32 |
| 2019-20 | 647.52 | 498.13 | 76.93 |
| 2020-21 | 710.06 | 576.51 | 81.20 |
| 2021-22 | 788.95 | 672.09 | 85.19 |
| 2022-23 (Unaudited) | 775.67 | 721.81 | 93.06 |

### 6.6.9 Accomplishments

**6.6.9.1. Awards for the University:** *Provide the detailed list of Regional, National and International Awards received by the University in last five years.*

**Regional**

- "Haryana Kisan Ratna Award" by Government of Haryana for the year 2019
- "Krishi Shiksha Samman" on the occasion of Mahindra Samridhi India Agri Awards 2019 by Mahindra & Mahindra Ltd.

**National**

- Best AICRP Centre Award Sorghum for overall Performance (2021-22)
- Best performing ICAR-AICRP on Pearl millet Centre Award (2021-22)
- Best AICRP Centre Award on Spices ICAR (2021)
- Chaudhary Devi Lal Outstanding AICRP Award on Farm Implements and Machinery (2019)
- Best AICRP Centre Award of MULLaRP (2019)
- Best AICRP Centre Award of Weed Control (2019)
- Best AICRP Centre Award of Sugarcane (2019)
- Best NICRA KVK Award-2019 to KVK Yamunanagar of ATARI Zone II

**6.6.9.2. Accreditation Report from ICAR/Other Agencies:** *Whether the University and its Colleges were accredited by the ICAR and other agencies in the past? What was the recommendation of the accreditation agencies? Whether the University has taken the action taken report and submitted the reply to the accreditation agencies? Provide the detailed action taken report for each observation.*

**Yes, CCSHAU and its constituent colleges have been accredited by ICAR since 2001.** TheUniversity and its constituent colleges were accredited by the ICAR for five years vide ICAR letter No. 1/7/2018-EQR dated 25.10.2018. The remarks and suggestions of NAHEB of ICAR have been addressed and action take is as follow:

| Sr. No. | Recommendation of the Board | Action Taken |
|---|---|---|
| **COLLEGE OF AGRICULTURE, HISAR** | | |
| 1. | There is need to conduct practicals and hands-on-training as per guidelines. | Practicals are being conducted through real time exposure of the students to the fields. Students do practical experiments in screen houses and field. Hands-on-trainings or learning by doing is in practice through basic instructions on what students will be learning and finally integration of what is accomplished during hands on training including marketing of the end product is being imparted as per the guidelines. |
| 2. | Feedback from parents and farmers should also be collected | Regular feedback from parents is collected in the proforma devised for the purpose. Feedback from farmers is collected during RAWE visit to the villages, *Krishi Melas*, *Kisan Goshthies* and *Kisan Diwas* etc. |
| 3. | ELP should be strengthened. ELP modules need to be managed as per guidelines | ELP on Hi-tech Agriculture<br>The Experiential learning programme (ELP on Hi-tech Agriculture) funded by ICAR is running in Department of Horticulture. In this ELP students acquire the skills of plug tray |

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|---|---|---|
| | | nursery raising, propagation techniques of ornamental plants, potting media preparation and care & maintenance of potted plants, besides learning of marketing skills of nursery & potted plants.<br>ELP on Peri-Urban Agriculture<br>The ELP module Peri-Urban Agriculture (ELP-8) was started in the Department of Vegetable Science in June 2018-19. There were 14 students of undergraduate and post graduate of College of Agriculture. The HOD Department of Vegetable Science has provided one-acre area for the ELP activities. The students raised the major crop like potato and onion in the farm and the revenue earned has been deposited as a revolving funds. |
| 4. | 1CT needs to be utilized for effective course curricula delivery | The college has a total of eleven smart classrooms, which are regularly used for teaching. Besides, teachers also make use of other web resources for imparting instruction. |
| 5. | ICT may be utilized for curricula delivery. ICT facilities for teaching may be encouraged. | The University's campus is ICT-enabled, allowing for e-learning and e-connection. Each department of the college has developed a smart classroom with interactive boards.<br>Even during the era COVID-19 pandemic, teaching continued uninterrupted at CCSHAU because University campus provides an e-learning and e-connect environment through virtual class rooms and online classes. |
| 6. | Placement of students requires proper attention. | All the necessary skill enhancement trainings are being imparted to the students for better placements. Brain storming sessions are organized with industries to achieve better placement. UG final year students are being sent to reputed international institutes for trainings under NAHEP-IDP project. Corporate and alumni of the University are being contacted for better placement of students. |
| 7. | Laboratories need renovation. | Laboratories of the College have been strengthened with latest equipments after renovation. |
| 8. | Staff strength may be further increased | Over the past years both the faculty and staff have been recruited. The recruitment is a continuous process and the recruitment in various departments is going on. |
| 9. | Use of ICT for e-joumals and e-resources was found minimum. | A large number e-Journals and e-resources have been subscribed and procured by the University Library and our students are making best use of them. (Details given under section library 6.6.2.3.) |
| 10. | MBA Programme needs more interaction with industry. Experts from Industries should be invited to share their experience with students. | Industry interaction has been strengthened. Students undergo onsite industrial training and work on assigned projects. Workshop on “Agripreneurship: Transforming an Idea into a New Business” was also carried out. |
| 11. | Biological Waste Disposal facility: This facility needs to be developed in hostel area for effective waste disposal. | There is small quantity of biological waste and it is being managed appropriately. |
| 12. | The attrition rate ranges between 18 & 39%. Reasons should be analyzed & corrective action taken. | The causes of attrition rate have been analysed. The Agriculture Education Fair is organized in the schools for making awareness about the importance of agricultural education. |
| 13. | Language Laboratory: It needs to be established. | A centralized Language Laboratory in the Department of Language & Haryanvi Culture has been established. |
| 14. | Personality Development:<br>Director Students' Welfare is entrusted. Experts from various fields should be invited. | Personality Development Trainings and other skill enhancement trainings are being conducted under NAHEP-IDP projects. Director Students' Welfare also conducted regular training programmes in the filed of personality development and communication skills. Experts from outside agencies are also invited. |

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|---|---|---|
| **COLLEGE OF AGRICULTURAL ENGINEERING & TECHNOLOGY** | | |
| 1. | The class rooms and existing laboratory facilities are satisfactory. More equipment should be added to cater the need of the 5th Deans' Committee recommendations. | The laboratories of the college have been upgraded and equipment added in accordance with the 5th Deans' Committee recommendations. (Details in the College SSR) |
| 2. | Students are getting practical/hands-on training on different equipment and lab practices. ELP facilities need to be created in all departments. | At present the college has two University supported ELP's *viz*., Center for Agro Processing & Engineering Services (CAPES); Compost making and Bio-fertilizers Production in which students get registered and learn practical skills. |
| 3. | Faculty strength is sufficient for UG teaching. However, additional faculty positions for PG teaching should be provided as per norms. There should be one post of Professor | Over the past years both the faculty and staff have been recruited. The recruitment is a continuous process and the recruitment in various departments is going on. |
| **COLLEGE OF BASIC SCIENCES & HUMANITIES** | | |
| 1. | ICT application in curricula delivery should be improved. More smart classrooms need to be set up. Faculty may be trained to use the smart interactive Boards. Mobile Apps, Mails and other tools may be utilized for teaching. | The college is ICT-enabled, allowing for e-learning and e-connection. Most of the departments in the college have smart class rooms, with interactive boards.<br>The faculty is adept in the use of mobile Apps for teaching. Online resources are extensively used. The teaching work of the college did not suffer even during the pandemic and the teachers taught through online platforms like Google Meet, Zoom, Microsoft team etc. |
| 2. | Looking into the student intake in PG and Ph.D. programmes, there is needed to fill all vacant faculty positions sanctioned for the College. | Over the past years both the faculty and staff have been recruited in all departments of the college. The recruitment is a continuous process and the filling of vacant positions in various departments is in progress. |
| 3. | Students need guidance on employability. Regular counselling and coaching classes need to be conducted for personality development. Placement Cell needs to be more proactive in arranging campus interview for the students. D.S.W. and College Dean need to motivate students for their overall personality development so that they should improve their skill suitable for prospective employers. Counselling and motivation are required to pursue students to clear the National examinations. | The students are being guided for employability through various platforms. The Directorate of Students' Welfare organizes training programmes to prepare students for various competitive exams. International cell of the University organises various orientation programmes to prepare the students for international fellowships etc. The performance of the students of the college has shown considerable improvement due to the efforts of the College Dean and the faculty. Ample number of students has cleared national level exams and the recipients of various fellowship (CSIR, ICAR, DBT, RGNF, Inspire, HSCST etc.). Many students of the college got placement in different organisations. |
| 4. | There is need to establish a language laboratory. | A well equipped Language Laboratory has been established in the Department of Language and Haryanvi Culture. This lab is a centralized facility which caters to the needs of all UG & PG students of the University. |
| 5. | There is need to establish a separate examination halI for the College.<br>There is need to establish Exhibition Hall and Museum for the College. | The College has established a separate Examination Hall, Exhibition Hall and Museum. |

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| **I.C. COLLEGE OF HOME SCIENCE** | | |
| 1. | Low faculty strength and technical staff | The recruitment is a continuous process and the recruitment in various departments of the College is going on. During the last five years recruitment has been done for teaching, research and extension faculty as well as for supporting staff. |
| 2. | Faculty is good but students need to be encouraged for academic awards at various levels. | The performance of the students of the College has shown a marked improvement due to the efforts of the Dean and faculty of the College. There is an increasing trend in the number of students for achieving academic excellence in terms of various national fellowships/ awards. The College has also been ranked under 50 in All IndiaNIRF ranking for college categoryduring 2019-20, 2020-21 and 2021-22. |
| 3. | More efforts needby arranginginteractionwith industry andother govt.department. | Industry interaction has beenstrengthened by arranging stakeholdersmeet to have dialogue with them.Inplant training with industry ismandatory part of the UG degreeprogramme. The students undergoonsite industrial training of threemonths and work on assigned projects.<br>They are offered placement also. |
| **COLLEGE OF AGRICULTURE, KAUL** | | |
| 1. | ICT application needs to be strengthened. | The College has a total of 4 smart classrooms, which are regularly used for teaching. Besides, teachers also make use of other web resources like Wi-Fi facilities for online classes, trainings etc. for imparting instruction. Even during the eraCOVID-19 pandemic, teaching continued smoothly through virtual class rooms and online classes. |
| 2. | The faculty strength of the College needs to be improved by filling all vacant posts. | The faculty has been recruited fully and the process is continuing. |
| 3. | Technical and supporting staff vacant posts should be filled on priority. | Almost all the posts are filled and remaining vacant posts are going to be filled soon. |
| **UNIVERSITY** | | |
| 1. | The Vision and Mission document need to be revised with well defined goals with time bound activities. | Vision Document-2030 with clearly defined goals was framed and implemented by the University and its constituents colleges. Now, vision-2047 with clearly defined goals has been drafted in agreement with the current requirements in respect of the thrust areas of the University. |
| 2. | BiometricattendanceSystemforteachingstaffmaybeputinplace | Biometric Attendance System is installed in each office and department of all the colleges and the employees mark their attendance through Biometric instruments. CCSHAU, Hisar is a research institution and its faculty visits the research farms/labs in odd hours and also before or after office hours. Biometric attendance System for teaching staff is not there since there is a lot of mobility of teachers. Teachers go to fields or their classes in other colleges directly as the duty may demand. Thus, it is difficult to have the biometric attendance of teachers. |
| 3. | Collaboration with national and international organizations is in place. Theuniversity has signed non-exclusiveagreementwith industries. However, to improve the job prospects for the students and visibilityof the university, further coordination with industry is necessary. | i) For exposure to placement procedure and consequent placement in reputed companies, final year students have one month internship in agri. industries.<br>ii) A good coordination with different companies is established by the C&P cell for facilitating the placement of the students.<br>iii) Sessions are conducted from time to time to motivate the students to work in agriculture based industries and to take up agripreneurship.<br>iv) An International Cell has especially been established in the University to cater to the needs of foreign students for their safe, |

| | | |
|---|---|---|
| | | comfortable and useful stay in India. The University has International partnership in academics in the field of agricultural Research and Education with reputed international Institutes. Many foreign students from various countries have completed UG and PG degree programmes in various disciplines.<br>CCSHAU has MoUs with different international organizations for academic and research pursuits. Three Ph.D. students went to pursue Dual Degree programme during 2021 at Western Sydney University. Two UG students from CCSHAU have been attending International Students Summit in Tokyo University of Agri., Tokyo, Japan every year since 2019. Under USAID sponsored GRAIN project of Michigan State University, USA eleven M.Sc., three Ph.D. students have completed their degrees. |
| 4. | Moreeffortsneededforinnovationinacademicactivitieslikenew teaching methods and learning tools. | The University's campus is ICT-enabled, allowing for e-learning and e-connection. All the colleges have developed smart classrooms with interactive boards/LED projectors.<br>The faculty is adept in the use of mobile Apps for teaching. Online resources are extensively used. The teaching work of the University did not suffer even during the pandemic and the teachers taught through online platforms like Google Meet, Zoom, Microsoft Teams etc |
| 5. | Adequate infrastructure and good systems are inplace. Early installation of RFID system recommended.<br>Books published by the University Academic Staff should be displayed in the Library | 1. "RFID System was fully implemented in the Nehru Library in the year 2018. All the documents were tagged with RFID tags, RFID tagging was integrated with KOHA software under which all documents are being issued. The books are being returned using Book drop machines since 2018. Every book after cataloguing is being tagged under RFID technology. All books acquired every year are processed with RFID tagging.<br>2. Books published by the University Academic Staff are displayed in the faculty collection room situated on the third floor of the Library. |
| 6. | Research Programme Committeemeetingsmaybeconducteda nnually | Research Programme Committee meeting was conducted on 16.10.2020. Next meeting will be conducted very shortly. However, it will be conducted annually in future.<br>Nevertheless, majority of the research objectives are extensively discussed and taken up in the Technical Programme meetings of the respective departments. Mid- term appraisal meetings are also conducted regularly. |
| 7. | Technologies Developed and their Adoption<br>The university has developed about 36varieties ofdifferent crops and other field technologies for the benefit of farming community. It is desired that university should come out with a standard mechanism to study its adoption and impact. | The experiments on adoption studies have been incorporated in the Technical programmes of Departments of Extension Education, Agricultural Economics and Sociology. Moreover, adoption related studies are also being included in the research programmes of post-graduate students. |
| 8. | CSR funds from two companies are received for energy installation. University should make efforts to attract corporate groups to help its R&D programmes. | The university has constituted a CSR committee under the chairmanship of Additional Director of Research for this purpose. The committee visited several corporate offices for providing funds for R&D activities. Funds have been received at CCSHAU RRS, Bawal under CSR for strengthening research activities. Continuous efforts are being made to attract funds for R&D under CSR. The University has received funds from various agencies for developing University infrastructure. The details of CSR funding have also been given under section |

| | | |
|---|---|---|
| | | 6.6.9.6. |
| 9. | Students Counselling and Placement Cell is working at university level with Coordinators from each college. 500 students got placed during 2012-17. However, the placement activities need to be strengthened for management graduates and master's students. | i) MBA Placement Cell strengthening is being done through college coordinators.<br>ii) Collaboration with other universities is being done for the recruitment process for general MBA students, particularly GJU MBA department.<br>iii) MBA (Agribusiness) students are placed in industry for Internship Programmes so that they can be absorbed by the same company.<br>iv) Liaison with the corporate sector has been established by organizing career sessions and interactions. The placement has picked up considerably more and more students getting placed (Details have been given under section 6.6.6.5.). |
| 10. | There is need to establishment art classrooms at the departmental level | Smartclassrooms have been/are being established at the departmental level. Out of 55 lecture halls in the University 40 are having smart classrooms. |

**6.6.9.3. InterInstitutional Standings:** *Status of the University in the ranking announced by agencies for academics, research, extension, sports/games, cultural events etc.*

- ICAR 4th ranking amongst Agricultural Universities 2018
- Ranked 3rdin Atal Ranking of Institutions on Innovation Achievements (ARIIA-2020)
- Ranked 4th in Atal Ranking of Institutions on Innovation Achievements (ARIIA-2021)
- I.C. College of Home Science, CCSHAU, Hisar ranked 49th, 38thand 42th across India in NIRF ranking 2020, 2021 and 2022, respectively by MHRD

The other rankings have also been covered under point **6.6.2.9.National Ranking (ICAR/MHRD)**

**6.6.9.4. Socio-economic Impact:** *Elaborate data based impact of various activities/ recommendation on upliftment of the economics and social status of the farmers*.

**Skill Development Trainings**

Trainings are regarded as one of the integral components of the capacity building process as part of any development programme. Conducting need based and skill-oriented trainings to for farmers, farm women and rural youth is one of the major activities of the KVK. Training programmes on Mushroom Production, Bee Keeping, Vermi Compositing, Fruit and Vegetable Preservation, Nursery Production, Milk and Milk Products, Seed Production, Dairy Farming, Garment Cutting and Tailoring & Bakery have been organized by KVKs which were received well by the farmers as reflected by the participation of farmers, youth and women in large numbers. The details of various trainings organized by SNIATTE have already been covered under section 6.6.4.2 Directorate of Extension Educatoion in the sub-heading Extesnion Advisory Mechanism.

Due to presence of resources for Bee Keeping and continuous efforts of KVKs through its long duration training programmes, Bee Keeping work has flourished in the State and has been adopted by a large number of farmers. Some of best bee keepers are earning more than Rs. 10-15 lakhs/ year through Bee Keeping. They also generated 670 men days' employment. Bee Keeping has become the main income generation activity of these farmers.

Vermi composting is a supportive component of farming and is a primary source of nutrients for crop production in the direction of organic farming. Scientists of KVKs have made concerted efforts to develop knowledge and skill of rural youths regarding Vermi composting enterprise. The results of the efforts exhibited seen with significant increase in soil fertility and crop yield. At present

large number of microbial decomposition units (572) have been established under Swachhata Action Plan 2018-23. The farmers have undertaken this enterprise in the State and earning additional income of approximately Rs. 48000/- per year.

Preparation of bakery products, pickles, chutney, juices, squashes etc have been accepted by women as important income generation activity. About 20 percent of the participants of the training under this component have set up their own ventures. Most of the participants utilized skills obtained during trainings for use at household level. These skills have developed more confidence in women through saving budget of their kitchen.

Intensive coaching is given to rural women on garment construction and tailoring. About 45 percent of participants utilized the skills for their own use, whereas 25 percents of the participants have their tailoring shops in the village/nearby town.About 30 percent participants work for their own use as well as stitch for others for free time during additional income. This has provided women an alternative way to earn some extra money to improve family livelihood.

Dairy Farming is a supportive component of farming and has become primary source of income for many farm families. KVK scientists have made concerted efforts to develop knowledge and skill of rural youths regarding dairy farming. The results of the efforts can be seen with significant increase in dairy units. Income to the tune of 2.5-3.0 lakh and 10.0-12.0 lakh is obtained from small and hi-tech dairy units respectively.

Apart from the above-mentioned enterprises, the enterprises namely seed production, spray techniques, and nursery raising of fruit and vegetable crops have also been adopted at small scale. However, substantive income is being generated by adoption of these enterprises. At present farmers of the state are practising seed production programmes of vegetable and field crops.

**Impact of OFTs, FLDs and CFLDs**

One of the major tasks of the KVKs is to search for suitable solutions for solving the problems faced by the farmers in managing crops. KVK scientists rigorously followed various steps like problem identification and prioritization, problem analysis in present situation, possible solution, experimentation for finding out best solution, assessment of results, refinement if required and lastly promotion of the best suitable technology assessed. Conducting field demonstrations on farmers' fields to show worth of a new practice/ technology, "seeing is believing" is the basic philosophy. Field demonstration educated farmers through results obtained in terms of varieties resistant to disease and pest, quality of grains and overall higher yields. In addition, it also educates the farmers in terms of input– output ratio and economic gains in terms of net returns. KVKs provide the critical inputs for layout of Frontline Demonstrations. Regular field visits were made by the KVKs teams for proper monitoring of the technology demonstrated. The Field days were organized to show the impact of the technology demonstrated. The KVKs have conducted the frontline demonstrations to popularize the proven technologies. Improvement in knowledge of farmers regarding improved practices has taken place through various extension activities. Drastic reduction in gap between existing practices and improved practices has been reported as a result of which production and productivity of different crops has increased. As a result of this: the State stands first at National level in productivity of pearlmillet and mustard. The adoption of micro irrigation/ drip irrigation system has resulted in increased water use efficiency. The judicious use of available water by this technology has resulted in maintaining the level of water resources.

**Impact of SC/ST trainings being conducted at various KVKs**

| Sr. No. | Topic of training | Impact assessment |
|---|---|---|
| 1. | Fruits and vegetables preservation | A few trainees have taken the enterprise. The adoption level remains 10-12%. Most of trainees started the vocation at small scale. An income of Rs.2000-3000 per month is being generated by adoption of this vocation. But they have started making pickle, preserve, chutney, jam etc. for home consumption only. |
| 2. | Cutting, tailoring and soft toys making | Majority of participants who undertook the training course are doing work of tailoring for meeting requirement of their own family. Of the total trainings who attended the courses, 30-35% have undertaken the work as a vocation. The earning of these trainees ranges from Rs.2000-8000 per month by garment construction besides doing their household chores. Some of the respondents are preparing soft toys for gift purpose and thus, save money. There is 100% improvement in knowledge and skills. |
| 3 | Spray techniques | Some of the participants (60%) have undertaken this vocation and are earning Rs.7000-8000 per month. There is improvement in their technical know how about the agro-chemicals' use and techniques. |
| 4. | Skill development in marketing of milk and milk product | The impact assessment survey provided information that of the total 30 participants seven have been taken up this work as profession. |
| 5. | Bee keeping | Overall, about 20% adoption has been found among the SC/ST women and unemployed youth trained in bee keeping by the KVKs. More than 81 youths have adopted bee keeping after successfully attending the training. |
| 6. | Mushroom cultivation | It is a good source of income generation but the malnutrition problem of our country can also be addressed through mushroom cultivation and consumption. Marketing facilities in NCR have region has also facilitated mushroom growing. |

# SOME SUCCESS STORIES OWING TO CCSHAU MOTIVATION

## BEE KEEPING

### Success Story I

Sh. Jogender Singh s/o Shri Dharam Chand, village Mohamadpur, Rewari, (Tel. 9416673245) attended Bee Keeping training. Sh. Jogender Singh came forward to adopt the agribusiness of Bee Keeping. Earlier he was working as driver in SI India Company at Bawal. After that he started his own taxi but he was not satisfied with this job. He started Bee Keeping in the year 2017-18 after taking training from KVK,Bawal. After learning the basic principles of Bee Keeping, he started this agri-business. During 2017-18 he purchased 30 boxes, and multiplied the boxes in the later years. He shifted the boxes in the summer season due to non-availability of flora in this region in the summer season. In the first year, he earned Rs. 30,000/- and also recovered the cost of boxes (Rs. 90000/-). At present he has given employment to two persons and is earning a net profit of Rs. 600000/- per annum from beekeeping, which has become his main occupation. The details of his earnings over the years are given here under:

| **Impact factors** | **Before adoption** | **After adoption** |
|---|---|---|
| Crop/agricultural practice | Traditional farming | Bee Keeping |
| Yield of crop/product | 15q mustard in two acre | 15 q mustard and additional net income from beekeeping Rs. 600000/- |
| Total cost | Rs. 7500/- | Employment of two youth @ 5000/month=120000 |
| Net saving/profit | Rs. 37500/- | Rs. 637500/- |

**Income Details of Shri Jogender Singh from Bee Keeping**

| **Year** | **No. of boxes** | **Net income (Rs.)** |
|---|---|---|
| 2017 | 30 | 50,000 |
| 2018 | 50 | 1,00,000 |
| 2019 | 125 | 3,00,000 |
| 2020 | 200 | 6,00,000 |





## Success Story II

Sh. Om Parkash s/o Sh. Himmat Lal is a dynamic and progressive farmer having 8 acres of land. He was not satisfied with his farm income by traditional cropping pattern of wheat and cotton. He came into contact with KVK, Fatehabad in 2007 and under the technical guidance of KVK Scientists; he has adopted latest technology like laser land levelling, zero tillage and green manuring. He has also established several enterprises at his farm *viz*. Bee Keeping, Dairy farming, Bio gas, vermicompost, Organic farming, Kinnow Orchard etc.

He started Bee Keeping in 2002 with 11 boxes which he purchased from Kata Keri village of for Rs. 2200/- each box along with the bees. In 2007 he contacted with KVK Scientists and took training from KVK. Now he established himself as a honey bee grower with the trade name Ekta Honey Bee Farm. He is well known in the Fatehabad district as a honey bee entrepreneur. He also extracts honey from different flora *i.e*. Shisham, Mustard, Eucalyptus, Jandi, Ber etc. with his own machines. Now he is earning Rs. 15, 00,000/- per annum from the sale of honey with different flora as given below:

| Year | No. of Boxes | Income (Rs.) |
|---|---|---|
| 2002 | 11 | -19250 |
| 2007 | 50 | 40000 |
| 2008 | 150 | 80000 |
| 2009 | 190 | 100000 |
| 2010 | 220 | 120000 |
| 2011 | 250 | 200000 |
| 2012 | 280 | 400000 |
| 2013 | 300 | 700000 |
| 2014 | 350 | 800000 |
| 2015 | 400 | 1050000 |
| 2016 | 600 | 1300000 |
| 2017 | 700 | 1500000 |

## Success Story III

Sh. JagpalPhogatis an innovative farmer of District Jhajjar with the Brand name 'Nature Fresh Honey Group' registered under Horticulture Department, Panchkula. He has 'Phogat Bee–Apiary' at Malikpur. At present he is the owner of 1500 colonies (10 framed). Under the guidance of KVK Jhajjar, he started processing plant of honey from May 2016. During 2016 his honey production reached upto 44 metric tonnes. For his achievements he has been awarded at various platform. His enterprise is really an example of doubling the farmer's income.

**Economics/Profitability:**

| Sr.No | (A) Item Produced/Sold | Rate (Rs.) | Income (Rs.) |
|---|---|---|---|
| 1 | 18 metric tons raw honey of mustard was sold with local trader | Rs. 84 /- kg. | 1512000 |
| 2 | 8.80 metric tons honey was sold with company Kashmir Multi | Rs.110/- kg. | 968000 |
| 3 | 4.20 metric ton raw honey sold | Rs.84/- kg. | 352000 |
| 4 | 3 metric tons processed honey sold | Rs. 300/- | 900000 |
| 5 | 457 honey bee colony (Dec. 15 – Dec.16) 457 colony | (10 frames) @ Rs. 210 per frame. | 959700 |
| 6 | 1.37 metric ton raw bees wax sold | Rs. 230/ kg | 315100 |
| A | Total Income | 5006800 | |
| | 10 metric tons processed honey to in stock | Rs. 300/- | 3000000 |
| | (B)Expenditure | | 1600000 |
| 1 | Expenditure on migration/transportation | | 500000 |
| 2 | Expenditure on feed | | 500000 |
| 3 | Expenditure on miscellaneous | | 200000 |
| B | Total expenditure | | 380000 |
| | Net Income A-B | | 1206800 |

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 15833.33 | 50283.33 | 34450 | 3.17 |
| 2018-19 | 18050 | 65700 | 32650 | 3.63 |
| 2020-21 | 19500 | 100000 | 80500 | 5.12 |

## Success Story IV

Smt. Mukesh Devi w/oJagpal Singh Phogat from Malikpur, Jhajjar, did her graduation and then thought of doing something different from traditional farming to make better profits. She got training in Bee Keeping from the KVK scientists and started Bee Keeping with 30 boxes. Now, she is pursuing the value addition of honey. She has specializes in value addition of honey, and make it into a 'Neutraceutical and Therapeutic diet'. She has twelve types of value added honey, processed in her own unit. She has innovated 'Comb Honey' which is naturally processed, contains all nutrients and is better in taste and keeping quality. Besides, it fits for neutraceutical and therapeutic purposes. Her innovation has been awarded at State and National level too. She sold her products after creating awareness among rural peole about the benefits of honey.She is producing honey from different flora like Kashmiri multiflora, tulsihoney, ajwain honey, litchi, sarson, safeda, arhar,barseem honey etc. She migrates the boxes to Rajasthan, Delhi, Punjab, J&K, and Himachal Pradesh etc. for the seasonal flora.

Now about 225 farmers from other parts of Haryana and Rajasthan have started Bee Keeping after being inspired from her. Bee Keeping has added to her family income. At present she has1500 boxes and per year 500-550 q honey is produced and more than 30 people are employed with her.At present 8.8 metric tones honey is sold at the rate of Rs.110/kg.About 18 ton honey is sold to the local traders at the rate of Rs.84/kg. She is producing processed honey under brand name of nature fresh.The capacity of processing unit is 1 ton per day and she has earned profits by selling 1370 kg wax @ Rs. 230 per kg and 457 colonies @Rs. 210 per frame and 10 more farmers have started Bee Keeping.She has been awarded at different platforms. With the ambition to do something for raising her family income and the expertise from the K.V.K., Jhajjar, Mrs. Mukesh Devi has succeeded in not only starting her own enterprise but has also becomes a source of inspiration for others.





## Success Story V

Sh. Vinay Phogat of Village Malikpur, district Jhajjar an engineering graduate having land holding of 1 hectare is a successful Bee keeper who started Bee Keeping for income generation. He got Training on Bee Keeping from K.V.K, Jhajjar in 2009 and was encouraged to take up beekeeping as an enterprise.After getting know-how about Bee Keeping from the scientists of K.V.K Jhajjar, he started Bee Keeping in 2007 with his family support. Now, his enterprise is Production and marketing of branded honey (Bee-Hut) of different flora. At present he is maintaining 1050 bee colonies with an annual income worth Rs. 12.0 lakhs during 2019.

**Outcome-**

| Year | No. of bee colonies | Honey production (q) | Income (Rs. in lakhs) |
|---|---|---|---|
| 2012 | 200 | 90 | 4.5 |
| 2015 | 500 | 250 | 7.0 |
| 2019 | 1050 | 450 | 12.0 |

He is a successful bee keeper and is a source of inspiration for the other youth. Inspired by Mr. VinayPhogat, 92 rural youths have purchased Bee Keeping material from him and started beekeeping with extension of about 6000 bee colonies.







## Success Story VI

Sh. Jai Singh belongs to Village Nagal, district Kaithal. He is a 10th pass landless beekeeper. He got training on Bee Keeping from KVK, Kaithal in 2020and took up Bee Keeping as an enterprise. After getting know how about Bee Keeping from scientists, he started Bee Keeping with his family support. Now, his enterprise is Production and Marketing of branded honey (Bee Hut) of different flora, pollen.

**Success Story Bee Keeping from CCSHAU, KVK, Kaithal**



| | |
|---|---|
| Name of farmer: | Jai Singh |
| Address: | Nagal (Block: Siwan) |
| Mobile Number: | 9991741230 |
| Age: | 50 |
| Education: | 10th |
| Size of land holding (in acre): | Landless beekeeper |

The farmer faced problems like marketing and processing. With KVK interventions like vocational training and regular advice to process and marketing and sale other products like bee colonies and pollen, he is getting more annual income. In addition, there is a cost saving in the production of processed honey.



Beekeeper in apiary




Stall at Krishimela

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| **2020-21** | 29166 | 75000 | 45834 | 1.57 |
| **2021-22** | 32500 | 78100 | 45600 | 1.40 |
| **2022-23** | 50000 | 93400 | 43400 | 0.87 |

## Success Story VII

KVK Mahendergarh took initiative for promotion of beekeeping occupation. A number of extension activities such as vocational trainings, field visits, group meetings etc. were organized by this KVK for this purpose.






## Success story VIII

| Year | Investment/Month (Rs.) | Income/Month(Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 70000 | 130000 | 60000 | 1.86 |
| 2018-19 | 60000 | 140000 | 80000 | 2.33 |
| 2019-20 | 50000 | 155000 | 105000 | 3.1 |
| 2020-21 | 45000 | 170000 | 125000 | 3.78 |
| 2021-22 | 38000 | 185000 | 147000 | 4.87 |
| 2022-23 | 38000 | 195000 | 157000 | 5.13 |






Sh. Kalu Ram is a young farmer and very little land holding. After pursuing his sr. secondary he left the school and was involved in agriculture in his own land while took some land on lease. But after all efforts he was not able to meet his family needs out of his existing sources of income.He came in contact with KVK in 2013 and was imparted training on Bee Keeping. He was well supported by bank and by all efforts he purchased 50 bee boxes. He was imparted technical support from Krishi Vigyan Kendra from time to time. At the end of first year he earned good profit which he used to buy more bee colonies. By earning profit from his Bee colonies and spending the income in procuring more colonies in addition of meeting out his own family needs, Sh. Kalu Ram now has about 1000 bee colonies. He shifts his colonies in various parts of country wherever desired floers are available. He has got his product registered with FSSSI and FPO and is getting handsome profit by direct marketing of his produce to the consumers and passes by installing a portable stall near highways adjacent to bee colonies. He has also provided livelihood to four rural youths who assist him in various operations in keeping bee colonies.

## Success Story IX

After getting training from KVK Damla and other sources, Sh. Subhash started collecting bee propolis, bee venom, Bee wax and bee pollen. He has already been collecting natural and comb honey.With the addition of these products his income increased and stabilized. Now he is technically sound in rearing the honey bees, breeding them and collecting all the by-products. Bee Keeping and bee products have certainly increased profitability for Sh. Subhash. However marketing is still a problem which if solved will improve the net income further. Due to more economic viability and sustainability of this enterprise 15-16 farmers have started Bee Keeping as a profession after getting training from Sh. Subhash. He is now also imparting training to other farmers in the district as well as in other states. Sh. Subhash started Bee Keeping initially with only 6 boxes and now has progressed to 1700 boxes, besides venturing into by-products which are earning him around 20-25 lakhs/annum. He has provided training to around 1200 people out of which 16 have already started Bee Keeping as profession.




रविवार विशेष

05

गोल्डऑर एक सिल्वर मेडल मनीषा बहुरिया स्तर पर जीत चुकी है।

# लोगों के जीवन में शहद घोल रहे सुभाष

संजीव कांबोज, यमुनानगर : पंखों से क्या होता है, हौसलों से उड़ान होती है, मंजिलें उनको ही मिलती हैं, जिनके सपनों में जान होती है। हरियाणा में यमुनानगर के गांव खिजिजपुर के किसान सुभाष कांबोज पर उक्त पंक्तियां पूरी तरह चरितार्थ होती हैं। 90 के दशक में 1500-1600 रुपये की नौकरी करने वाले बीएचएड डिग्रीधारक सुभाष कांबोज मधुमक्खी पालन के जरिए खुद तो समृद्ध हुए ही है आसपास के किसानों को भी इसके लिए प्रेरित कर रहे हैं। उनकी प्रेरणा से ही दर्जनभर युवाओं ने मधुमक्खी पालन शुरू किया है। सुभाष अलग-अलग राज्यों में सैकड़ों किसानों को प्रशिक्षण भी दे चुके हैं। इतना ही नहीं 16 लोगों को रोजगार भी दे रहे हैं।

### शिक्षक नहीं, किसान बनिए

सुभाष कांबोज ने बताया कि बीएचएड का डिप्लोमा करने के बाद वर्ष 1991 में पानीपत के एक निजी स्कूल में शारीरिक शिक्षक के रूप में करियर की शुरुआत की। करीब चार वर्ष तक 1600 रुपये प्रति महीना की नौकरी की। मन में अपना व्यवसाय करने की तलब थी। लगातार सोच-विचार और आर्थिक हालत को देखते हुए एक डिब्बे से मधुमक्खी पालन शुरू कर दिया। आज विधिवत रूप से मधुमक्खी पालक है और डिब्बों की संख्या दो हजार तक पहुंच गई है।

### चुनौतियां भी कम नहीं

इस मुकाम तक पहुंचने में सुभाष को कई चुनौतियों का भी सामना करना पड़ा। सुभाष कांबोज का कहना है कि इस व्यवसाय में हर कदम पर कॉम्पिटिशन है। सबसे बड़ी चुनौती ट्रांसपोर्टेशन की है। बाजार में शहद का न्यूनतम समर्थन मूल्य तय नहीं है। अधिक उत्पादन होने की स्थिति में दामों में गिरावट आ जाती है। हाईब्रिड बीजों के कारण फूलों में मकरंद की मात्रा घट रही है और फूलों की खेती भी कम होती जा रही है। इस व्यवसाय में बीमा की सुविधा नहीं है।


सुभाष कांबोज।

### इन राज्यों में दे चुके प्रशिक्षण

- पुणे स्थित विश्व प्रतिष्ठान स्कूल ऑफ बीज-टेक्नोलॉजी में किसानों को दो दिवसीय प्रशिक्षण दिया।
- राजस्थान के कोटा स्थित कृषि विज्ञान केंद्र में रेजपाल बी-बोर्ड के सेमिनार में विचार रखे।
- उत्तर प्रदेश में वाराणसी के पांडाखेड़ी गांव समेत कई जगह किसानों को मधुमक्खी पालन के लिए प्रेरित किया।

**1600** की नौकरी के बजाय आज खुद के साथ दूसरों को दे रहे रोजगार

**1991** में एक निजी स्कूल में शारीरिक शिक्षक के रूप में करियर की शुरुआत की


किसानों को मधुमक्खी पालन का प्रशिक्षण देते यमुनानगर के किसान सुभाष कांबोज।

### ये उत्पाद भी कर रहे तैयार

सुभाष कांबोज के मुताबिक, मधुमक्खियों से केवल शहद ही प्राप्त नहीं किया जा सकता, बल्कि और भी कई उत्पाद है जिनको तैयार कर किसान आर्थिक स्थिति मजबूत कर सकता है। किसान शहद के अलावा बी-वैक्स, रॉयल जैली, बी-पॉलन, बी-वर प्रॉपलिस व कॉम्ब हनी भी तैयार कर रहे हैं। इन उत्पाद कई प्रकार की बीमारियों के उपचार में लाभकारी हैं और बाजार में इनके भाव काफी ऊंचे हैं।

### इसलिए अपनाया यह व्यवसाय

सुभाष कांबोज मूलरूप से किसान परिवार से संबंध रखते हैं। यह व्यवसाय इस लिए अपनाया, क्यों यह खेती के साथ-साथ आसानी से किया जा सकता है। इससे फसल की पैदावार भी बढ़ती है। इसे करना भी आसान है। थोड़ी मैनपावर में ही बड़े स्तर का व्यवसाय किया जा सकता है।

## Success story X



Sh. Abhishek Sharma S/o Sh. Surajmal Sharma

Village- Farmanakhas

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 13835 | 21166 | 7333 | 1.5 |
| 2018-19 | 14320 | 24550 | 10230 | 1.7 |
| 2019-20 | 14920 | 29420 | 14500 | 1.9 |
| 2020-21 | 15000 | 30500 | 15500 | 2.0 |
| 2021-22 | 14750 | 27200 | 12450 | 1.8 |
| 2022-23 | 12550 | 24000 | 11450 | 1.9 |

Mr. Abhishek Sharma s/o Shri Surajmal Sharma is a native of village FarmanaKhaas, Meham, Distt. Rohtak, Haryana. He is a diploma holder in electronics. He preferred self-occupation to a job. So, he got training in Bee-keeping at KVK Rohtak. After that he started Bee-keeping with 20 bee-boxes/ colonies worth Rs. 60,000.Due to bumper production of honey he earned the money equivalent to his cost in the same year. He earned a good profit by selling bee-boxes. He also started selling honey by doing packaging himself. He got registered his company “Abhishek Honey Agency (Pvt.) Limited. He is getting Rs. 11450/month from the sale of honey and honey bees.

# STITCHING/CUTTING AND TAILORING

## Success Story XI

### Garment construction – an Entrepreneurial activity

Garment construction is a difficult task. To be perfect in garment construction, rigorous training of at least 3-6 months is essential. It is a lucrative activity through which adding income can be generated by working at home only. Drafting technique in garment construction is a time consuming process and requires great deal of patience. It needs too many measurements and calculations for proper fit. Taking accurate measurements requires technical skill and above all, it is not feasible for women with low educational background to make so many calculations.

To overcome the tedious job of drafting, paper pattern has also been developed for children and women on the basis of standardized measurements to make garment construction an easy income generating activity a large number of rural girls and women have been trained in garment construction by KVK. Mrs. Anita who belongs to schedule caste family of village Banipur has adopted tailoring as an income generating activity after training on cutting and tailoring at KrishiVigyan Kendra, Bawal. She was also provided with sewing machine with accessories also as an input for more efficient functioning during the scheduled caste upliftment training conducted at KVK, Bawal. Her details are given below.

| **Profile of the Entrepreneur** | |
|---|---|
| Name of trainee | Anita w/o Sh. Rajesh |
| Village | Banipur |
| Family background | Middle socio- economic group |
| Year of start | 2017-18 |
| Expenditure | Rs. 500/- |
| Income before training | Rs. 1000/- per month |
| Net income after training | Rs. 5000-6000/- per month |
| Assets purchased | Cooking gas, Refrigerator, Inverter, Washing machine, Gold chain, Mobile |



## Success story XII

Lalita w/o Subhash of village Banipur opened a boutique in Dharuhera.She has been a resource person in various KVKs. Besides stitching she has also started embellishment of sarees, suits, dupattas &laanchasets. She is earning more than Rs. 15000/- per month on an average. Earliershe was earning Rs. 5000-6000 per month.

| **Profile of the Entrepreneur** | |
|---|---|
| Name of trainee | Lalita w/o Subhash |
| Village | Banipur |
| Family background | Middle socio- economic group |
| Year of start | 2018-19 |
| Expenditure | Rs. 500/- |
| Income before training | Rs. 5000-6000/- per month |
| Net income after training | Rs.15000/- per month on an average |
| Assets purchased | Cooking gas, Refrigerator, Inverter, Washing machine, Gold, Mobile |



## Success story XIII

Indra w/o Sh. Ramniwas Village: Banipuris earning Rs. 7000-8000/- per month by doing cutting and tailoring

| **Profile of the Entrepreneur** | |
|---|---|
| Name of trainee | Indra w/o Sh. Ramniwas |
| Village | Banipur |
| Family background | Middle socio- economic group |
| Year of start | 2019-20 |
| Expenditure | Rs.1000/- |
| Income before training | Rs. 1500-2000/- per month |
| Net income after training | Rs. 8000/- per month on an average |
| Assets purchased | Cooking gas, Refrigerator, Inverter, Gold, Mobile etc. |







## Success story XIV

### Transformation of Simple Housewife to a Successful Entrepreneur

| **Name** | **Amarjeet w/oRajKumar** |
|---|---|
| VPO | VillageRaccheri PO Ganeshpur |
| District | Ambala |
| Mobile No. | 8607442607 |
| Education | Under matric |
| Landholding | Landless |
| Experience | 5 years Age: 42 yrs. |



Smt. Amarjeet was a housewife doing a little stitching to help her husband for family expenditure. She came in contact with KVK Ambala in the year 2013-14 for vocational training on income generating activities with the objective to raise the family income. She knew basic stitching and attended five day training on cutting & tailoring. She continuously attended all trainings and monthly meetings of KVK for one year and improved her skill level. She started taking stitching order, naj button, interlock and pikoo work and raised her confidence level. In 2015 she imparted training to 15 girls for routine stitching work for one month in her nearby village in Maggarpura under the guidance of KVK scientist and earned Rs. 3000/-. Then she took training of tie & dye and Neel making from KVK Ambala and in addition to stitching she started both activities as income generating and got success by adding Rs. 2000-2500/- extra money in her family income. By her regular visit to KVK she became aware of health and sanitation, value added food products also. Presently taking up in all activities she is earning approx. Rs. 4000-15000/- per month.

**Other achievements to her credit**:

- Active member of Mahila Club of KVK Ambala.
- Regular visitor of KVK for technical problems and solution thereof.
- Very confident in catching Govt. facilities for her family as well as help others also to take benefit.
- Disseminating the KVK messages and inspires others to be an entrepreneur
- Act as a role model of our KVK. .
- She gained self-confidence and motivated her children for doing their best.

## Success Story XV

### Transformation of Simple Housewife to a successful entrepreneur

| **Name** | **Jaswinder w/o Manjeet Singh** |
|---|---|
| VPO | Babyal |
| District | Ambala |
| Mobile No. | 9034832334 |
| Education | Matric |
| Landholding | Landless |
| Experience | 8 years Age : 39 yrs. |
| Main Features | • Fabric enrichment techniques<br>• Opened her own boutique<br>• Give training to 4-5 girls in her boutique<br>• Earned and saved approx. Rs. 15000/- month.<br>• Regular member of all KVK Trainings<br>• Act as a channel to disseminate KVK messages. |






## Success Story XVI

### Transformation of Simple Housewife to a successful entrepreneur

| | |
|---|---|
| **Name** | Sunita w/o Lt. Naseeb Singh |
| VPO | Singhawala |
| District | Ambala |
| Mobile No. | 8053504752 |
| Education | Matric, ITI |
| Landholding | Landless |
| Experience | 11 years Age: 47 yrs. |
| Main Features | • Fabric enrichment techniques.<br>• Opened her own boutique.<br>• Give training to 4-5 girls in her boutique.<br>• Earned and saved approx. 12000/- month.<br>• Regular member of all KVK Trainings.<br>• Act as a channel to disseminate KVK messages. |






## Success Story XVII

### Transformation of Simple Housewife to a successful entrepreneur

| **Name** | **Meena w/o Ramesh Negi** |
|---|---|
| VPO | Vishnu Vihar |
| District | Ambala |
| Mobile No. | 9034915211 |
| Education | Matric, ITI |
| Landholding | Landless |
| Experience | 11 years Age: 49 yrs. |
| Main Features | • Fabric enrichment techniques and art and craft.<br>• Opened her own boutique and craft item on order.<br>• Give training to girls in her center.<br>• Earned and saved approx. Rs. 16000/- month.<br>• Regular member of all KVK Trainings.<br>• Act as a channel to disseminate KVK messages. |





## Success Story XVIII

Due to lockdown during COVID 19 pandemic situation, the activity of SHG, named, Nai Disha, formed by a SAC Member of KVK & a leading "District Woman Enterepreneur" stopped. Smt. Geeta Chauhan, the group leader also contacted the KVK. The KVK Scientists motivated and suggested her to start some activities which can contribute to upliftment of the members a of group (25 farm women). She took a loan of Rs.20000 from DRDA Faridabad under Gramin Aajivika Mission, Faridabad in the name of her group and started making cotton masks for protection from COVID-19. Her group prepared 12000 masks in the month of May and earned Rs. 40,000- 50,000/- by selling them.





**Assessment of profit in Cutting & Tailoring enterprize**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 10000 | 16000 | 6000 | 1.60 |
| 2018-19 | 12000 | 20000 | 8000 | 1.67 |
| 2019-20 | 16000 | 28000 | 12000 | 1.75 |
| 2020-21 | 17500 | 31000 | 13500 | 1.77 |
| 2021-22 | 35000 | 68000 | 33000 | 1.94 |
| 2022-23 | 40000 | 81200 | 41200 | 2.03 |

## Success Story XIX

| | | |
|---|---|---|
|  | Mrs. Shashi w/o Late Ajay<br>Vill: MadanaKalan<br>Distt: Jhajjar<br>Mobile: 7988025746 | Age: 26<br>Education: 8th<br>Land Holding: Nil<br>No. of family member: 3<br>Area of Specialization: Cutting and tailoring<br>Experience (year): 3 years |

Shashi has been associated with KVK, Jhajjar for two years and took vocational training on Cutting & tailoring from 17-21/2/2020. Singer Sewing machine, Iron & Scissor were made available by KVK Jhajjar to her at free of cost under the project "Improvement in the livelihood of SC/ST farmers of Haryana." She is a widow and belongs to low socio-economic group of SC family with no permanent income source to support herself and her family. So she got trained in cutting and tailoring from KVK and was given self-assistance kit for starting her enterprise in cutting and stitching.

Outcome of intervention in terms of Economics: Entrepreneurial activities pursued

| Sr. No. | Entrepreneurial activities | No. | Rate (Rs.) | Total earning (Rs.) per week |
|---|---|---|---|---|
| 1. | Simple suit | 6 suits | 120 | 720 |
| 2. | Salwar | 5 | 50 | 250 |
| 3. | Interlock | 4 | 20 | 80 |
| 4. | Pico | 5 | 15 | 75 |
| 5. | Plazzo/pant with lining | 3 | 250 | 750 |
| | Total | 23 | | 1875/ week |

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2020-21 | 1050 | 7550 | 6500 | 6.19 |



## Success Story XX

| | | |
|---|---|---|
|  | Mrs. Sushma w/o Jaiprakash<br>Vill: GoylaKalan<br>Distt: Jhajjar<br>Mobile: 8684060134 | Age: 34<br>Education: 8th<br>Land Holding: Nil<br>No. of family member: 4<br>Area of Specialization: Cutting and tailoring<br>Experience: 4 years |

Sushma has been associated with KVK, Jhajjar for the two years and took vocational training from KVK, Jhajjar on Cutting & tailoring from 17-21/2/2020. Singer Sewing machine, Iron & Scissor were made available by KVK Jhajjar free of cost under the project "Improvement in the livelihood of SC/ST farmers of Haryana." She belongs to low socio-economic group of SC family with no permanent income source to support herself and her family. So she got trained in cutting and tailoring from KVK and was given self-assistance kit for starting her enterprise in cutting and stitching.

| Sr. No. | Entrepreneurial activities | No. | Rate (Rs.) | Total earning (Rs.) per week |
|---|---|---|---|---|
| 1. | Simple suit | 8 suits | 150 | 1200 |
| 2. | Salwar | 5 | 50 | 250 |
| 3. | Interlock | 4 | 20 | 80 |
| 4. | Pico | 5 | 15 | 75 |
| 5. | Plazzo/pant with lining | 6 | 250 | 1500 |
| | Total | 28 | | 3105 |

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2020-21 | 2150 | 11500 | 9350 | 4.34 |

**Success Story XXI**

| | | |
|---|---|---|
|  | Mrs. Mukesh w/o Sunil Kumar<br>Vill: Lohat<br>Distt: Jhajjar<br>Mobile: 9582741999 | Age: 37<br>Education: 8th<br>Land Holding: Nil<br>No. of family member: 4<br>Area of Specialization: Cutting and tailoring<br>Experience (year): 4 years |

Mukesh has been associated with KVK, Jhajjar for the last two years and took vocational training from KVK, Jhajjar on Cutting & tailoring from 17-21/2/2020. Singer Sewing machine, Iron & Scissor were made available by KVK Jhajjar free of cost under the project "Improvement in the livelihood of SC/ST farmers of Haryana." She belongs to low socio-economic group of SC family with no permanent income source to support herself and her family so she got trained in cutting and tailoring from the KVK and was given self-assistance kit for starting her enterprise in cutting and stitching.

Outcome of intervention in terms of Economics: Enterpreneurial activities pursued

| Sr. No. | Entrepreneurial activities | No. | Rate (Rs.) | Total earning (Rs.) per week |
|---|---|---|---|---|
| 1. | Simple suit | 6 | 150 | 900 |
| 2. | Salwar | 5 | 50 | 250 |
| 3. | Interlock | 4 | 20 | 80 |
| 4. | Pico | 5 | 15 | 75 |
| 5. | Plazzo/pant with lining | 4 | 250 | 1000 |
| 6. | Chunni dying | 3 | 50 | 150 |
| | TOTAL | 27 | | 2455 |

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2021-22 | 1980 | 9500 | 7520 | 4.79 |



## Success Story XXII

| | | |
|---|---|---|
|  | Mrs. Urmila w/o Rakesh<br>Vill: Lohat<br>Distt: Jhajjar<br>Mobile: 9306139491 | Age: 37<br>Education: 12th<br>Land Holding: Nil<br>No. of family member: 4<br>Area of Specialization: Cutting and tailor<br>Experience: 5 years |

Urmila has been associated with KVK, Jhajjar for the last two years and took vocational training from KVK, Jhajjar on Cutting & tailoring from 17-21/2/2020. Singer Sewing machine, Iron & Scissor were made available by KVK Jhajjar free of cost under the project "Improvement in the livelihood of SC/ST farmers of Haryana". She belongs to low socio-economic group of SC family with no permanent income source to support herself and her family. So she got trained in cutting and tailoring from the KVK and was given self-assistance kit for starting her enterprise in cutting and stitching.

**Outcome of intervention in terms of Economics: Entrepreneurial activities pursued**

| Sr. No. | Entrepreneurial activities | No. | Rate (Rs.) | Total earning (Rs.) per week |
|---|---|---|---|---|
| 1. | Simple suit | 8 | 150 | 1200 |
| 2. | Salwar | 5 | 50 | 250 |
| 3. | Interlock | 4 | 20 | 80 |
| 4. | Pico | 5 | 15 | 75 |
| 5. | Plazzo/pant with lining | 6 | 250 | 1500 |
| 6. | Gown | 2 | 500 | 1000 |
| | TOTAL | 30 | | 4105 |

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2022-23 | 2550 | 13550 | 11000 | 5.31 |



## Success Story XXIII

Smt. Babli w/o Sandeep Kumar, belongs to V.P.O Nidani, Jind. 126102. She has cutting and tailoring ability; she is the torch bearer of women empowerment and also socially connected with the girls of the locality. Mrs. Babli is 30 years old and studied up to 10+2. Her husband is working with her. She has two daughters and they are getting good quality education from a very reputed school of the area. She is, earning Rs. 15000/- to 20000/- per month.She is very active in training programmes and very keen on learning new skills. She got training in cutting and tailoring at KVK Jind in a training held in 2019. She started with an ordinary tailoring machine but after training she got expertise in advanced tailoring machine. The advanced machine increased her income considerably.

Rates of various products on two machines:

| Product | Ordinary rate on machine (Rs.) | Advanced rate on machine (Rs.) |
|---|---|---|
| Blouse | 250 | 350 |
| Patticot | 100 | 150 |
| Suit | 150 | 200 |
| Pajami suit | 300 | 400 |
| Plazo | 200 | 250 |
| Lining suit | 400 | 500 |

She has become the role model of the area. She has encouraged 5-6 women of the area to start up their own work such as boutiques, tailoring outlets etc. She has a great impact on many women of the area; she also promotes health and she motivates women in maintaining good health. Women started taking balanced diet, proper exercise and maintaining good hygiene. She has been connected with KVK, Jind from the very beginning and she received help of every kind whenever she needed. She got trained at KVK Jind and field specific experts guided her in every aspect possible. KVK, Jindhas guided her in achieving this towering and enormous feat and also boosted her confidence so that she remains confident.





## Success Story XXIV

Smt. Reena w/o Pardeep belongs to V.P.O Pandu Pindara, Jind. She has good marketing ability. She is the torch bearer of women empowerment and also socially connected with the girls of the locality.Mrs. Reena is 34 years old and studied up to 10+2. Her husband is employed in library at Jind. She has two children and they are getting education from a very reputed school of the area. Her family holds-2.5 acres land and she owns beauty parlor cum boutique and is earning Rs. 20000 to 25000/- per month. She is experimental with new technologies related to her work and also motivates her colleagues and customers. She is committed to her work and disseminates her thoughts among the community. She promotes vocationalization and training among young girls and encourages them so that they can elevate their living standard and also help their families economically. She is very active in training programmes and very keen on learning new skills. She has become the "Role Model" of the area and has encouraged 5-6 women of the area to start up their own work such as boutique, kitchen gardening, pickle making, organic food etc. She has had a great impact on many women of the area; and under the influence she started taking balanced diet, proper exercise and maintaining good hygiene.

She was awarded as the most progressive woman of the Jind district. Vice Chancellor of CCS HAU gave her the award along with a certificate on 23 December, 2019 on the occasion of *Kisan Diwas* and encouraged her to continue her good work in uplifting and improving the society. She has been connected with KVK Jind from the very beginning and she received help of every kind whenever she needed. KVK,Jind guided her in achieving this towering and enormous feat and also boosted her confidence so that she remains confident.





## Success Story XXV

Smt. Kiran w/o Pardeep belongs to V.P.O. Brah Khurd, Jind. She has cutting and tailoring ability; she is the torch bearer of women empowerment and also socially connected with the girls of the locality. She is 30 years old and studied up to 10+2. She is earning Rs. 15000/- to 20000/- per month. She is very active in training programmes and very keen in learning new skills. She got training in cutting and tailoring at KVK Jind in a training held during 2020. She started with an ordinary tailoring machine but after training she got expertise in advanced tailoring machine. The advanced machine increased her income considerably. She has emerged as a role model for the women of the area. Taking inspiration from her 5-6 women of the area to have started their own work such as boutiques, tailoring outlets etc. She has a great impact on many women of the area; she also promotes health and she motivates women in maintaining good health.

She has been connected with KVK Jind from the very beginning and received help of every kind whenever she needed. She got trained at KVK Jind and field specific experts guided her in every aspect possible.



Smt. Kiran with stitching machine

## Success Story XXVI

Krishi Vigyan Kendra, Mahendergarh has been organising vocational trainings on cutting and stitching of five days' duration every year for scheduled caste candidates. Sewing Machine and other accessories are being provided by the university to the participants to start the enterprise. During the training Smt. Kiran was trained on various aspects of garment construction like drafting, measurement cutting, sewing & stitching. She has started the enterprise of women garments at her home along with interlocking, pico work etc. At present she has also started imparting training to other women and girls about this. She is earning more than Rs. 5000-10000/- per month from the tailoring occupation. Now they are very happy with their work at home and supplementing her family income too. She is now not only economically sound but also socially enjoying her status in the society. This enterprise is proving boon to her and empowering her socially, economically and psychologically.

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| **2017-18** | 1800 | 6500 | 4700 | 3.61 |
| **2018-19** | 2400 | 7500 | 5100 | 3.13 |
| **2019-20** | 3500 | 9600 | 6100 | 2.74 |
| **2020-21** | 3500 | 11500 | 8000 | 3.29 |
| **2021-22** | 4200 | 14400 | 10200 | 3.43 |
| **2022-23** | 5600 | 18500 | 12900 | 3.30 |



## Success Story XXVII



Mrs. Jyoti w/o Krishan Kumar

Village – GarhiBohar

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 900 | 10200 | 9300 | 11.3 |
| 2018-19 | 1150 | 12400 | 11250 | 10.7 |
| 2019-20 | 1400 | 14700 | 13300 | 10.5 |
| 2020-21 | 1650 | 17200 | 15550 | 10.4 |
| 2021-22 | 1800 | 18800 | 17000 | 10.4 |
| 2022-23 | 1950 | 20100 | 18150 | 10.3 |

Mrs. Jyoti w/o Shri Krishan Kumar is a native of village GarhiBohar, District Rohtak. She is 32 years old and studied upto 12$^{th}$ standard. She is a landless farm woman. She used to work at field of other farmers on daily paid basis. She was facing financial problems in smooth running of her family's livelihood. She came in contact with scientists of Home Science working at KVK Rohtak. She got the training on "Stitching & Cutting" at KVK, Rohtak and started tailoring work and is earning Rs. 18150/. monthly income and is fully satisfied.

## Success Story XXVIII



Mrs. Sushil w/o Vinod,

Village- Bohar

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 1050 | 11000 | 9950 | 10.47 |
| 2018-19 | 1200 | 13200 | 1200 | 11.0 |
| 2019-20 | 1450 | 15400 | 13950 | 10.62 |
| 2020-21 | 1600 | 17400 | 15800 | 10.87 |
| 2021-22 | 1800 | 19700 | 17900 | 10.94 |
| 2022-23 | 1950 | 21400 | 19450 | 10.97 |

Sushil w/o Vinod, village Bohar started doing stitching and teaching stitching skills to 10 girls & women of the village. She was apprised of the tailoring skills by the modern sewing machine. With this her life has changed altogether. She is now running a boutique where she is doing cutting & stitching suits, blouse, interlocking, pico work. She has formed three SHG's and is working hard for women empowerment.

| Year | Investment/Month | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 2000 | 4000 | 2000 | 2.0 |
| 2018-19 | 4000 | 16000 | 12000 | 4.0 |
| 2019-20 | 7000 | 25000 | 18000 | 3.57 |
| 2020-21 | 8000 | 30000 | 22000 | 3.75 |
| 2021-22 | 8000 | 32000 | 24000 | 4.0 |
| 2022-23 | 8000 | 35000 | 27000 | 4.37 |

**Success Story XXIX**

Mrs. Sonia belongs to a poor family from scheduled caste. She has taken 5 days training on cutting & tailoring from KVK, Sirsa. After training she got the latest model of sewing machine with which she is doing stitching, trick button, hemming.



Seeing her interest and skill the team of KVK, Sirsa motivated her for further trainings. Influenced with the advice she took one-month training and learned how to stitch ladies suits. By stitching suits and by picco them she is earningupto Rs. 12,000 per month. She has started a stitching centre in her village. She also providing training to other rural women and earned upto Rs. 5000/- besides her boutique work. She also started selling small stitching articles. Now, she feels self-dependent and has become a role model for other women.

# MUSHROOM CULTIVATION

## Success Story XXX





Mr. Ashu belongs to villageMehla, P.O. Sonta, Distt- Ambala. After passing 12th class in 2012, he had started work related to agriculture profession with his father in the village. In small land holdings, cultivation of wheat and paddy crop was not profitable. Mr.Ashu& his family members faced financial crisis during that period. After that, someone guided him to visit KrishiVigyan Kendra, Ambala city and got training on any important aspects. Then, he went to KVK and met the scientists of the KVK. Sr. Coordinator, Dr. Balwan Singh Mandal gave him idea and motivation for attending the training on Mushroom cultivation. He attended the training on mushroom production. Initially after getting confidence on these aspects, he started the work for compost preparation and also installed mushroom House of size 33x66 for mushroom production at investment cost of Rs. 3 lakh. After selling compost bags and mushroom, during first year he obtained double profit of Rs. 6 lakh. Now a day, he has generated employment for rural unemployed women of about 80 asagripreneur for mushroom cultivation.

## Success Story XXXI

**Mushroom products: Nutritive recipes**

Mrs. Sunita w/o Ashok Kumar, a progressive awardee woman belongs to village Igarah, Jind. Along with farming, she is managing well her household work, animal husbandry, mushroom production and organic farming. After getting various types of mushroom technical information from KVK Jind, she started her own start-up of mushroom production in 2018.

She started the work of making mushroom dishes to maintain better health of the women and youth of India, for which she got support from the hardworking scientific team of Krishi Vigyan Kendra, Jind To upscale her start-ups she also registered with the MSME Department, Government of India, At the same time, she prepares about 80-90 types of mushroom products. She is very active and enthusiastic women and actively takes part in programs organized at various places.

She is self-reliant women who also promotes and motivates other farm women to do so; she has been awarded by institutes like NDRI Karnal, for best stall vegetable products, CCSHAU Hisar. She has been awarded twice by the Governor and Deputy Commissioner, Jind, Commissioner, Hisar, Commissioner, Rohtak she is also expert to prepare products from Shree Ana to make these grains accessible to the common people. Now she is a very successful entrepreneur and independent woman.




Mrs. Sunita awarded by NDRI, Karnal

## Success story XXXII



| | |
|---|---|
| **Effect of DFI intervention** | **Name of KVK : Kaithal** |
| **Name of farmer:** | **Jagdeep Singh** |
| **Address:** | **Kailram (Block: Kalayat)** |
| **Mobile Number:** | **9991313337** |
| **Age:** | **27** |
| **Education:** | **8th** |
| **Size of land holding (in acre):** | **Landless labour** |

The farmer faced problems like finance, labour, burning of crop residues. With the interventions and help of KVK, Kaithal like adoption of agro based mushroom production unit and value addition, he is getting more annual income.



Spawn run mushroom bags



Farmer in mushroom unit

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 15000 | 19400 | 4400 | 0.30 |
| 2018-19 | 20000 | 28910 | 8910 | 0.44 |
| 2019-20 | 25000 | 50000 | 25000 | 1.00 |
| 2020-21 | 35000 | 75000 | 40000 | 1.14 |
| 2021-22 | 30000 | 82000 | 52000 | 1.73 |
| 2022-23 | 45000 | 89400 | 44400 | 1.00 |

**Success Story XXXIII**

Smt. Meera has taken vocational training under SC/ST scheme in the year 2018-19 and she continued the mushroom farming entrepreneur from the very next year. In first year, she bought 100 mushroom bags @ Rs. 100/- per bag and spent a total of Rs. 10,000/- and sold Mushroom with Rs. 30,000/- and earned Rs. 20,000/- as profit in the period of three months. In 2022-23 she bought 700 Mushroom bags @ Rs.114/- per bag and earned Rs. 2, 80,000/- as profit with in three months only. She want to do more in this field as she is looking for some permanent structure where she can start her mushroom farming without any obstacles.

## Success Story XXXIV



Sh. Bijender,

Village Mokhra,

District Rohtak

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 15720 | 30420 | 14700 | 1.9 |
| 2018-19 | 16060 | 32560 | 16500 | 2.0 |
| 2019-20 | 17060 | 35460 | 18400 | 2.0 |
| 2020-21 | 19500 | 38500 | 19000 | 1.9 |
| 2021-22 | 22050 | 40650 | 18600 | 1.8 |
| 2022-23 | 25330 | 45830 | 20500 | 1.8 |

Mushroom production is an important agri entrepreneurship for landless farmers. It can be started on a small piece of land. It is a good source of proteins, vitamins & minerals. It provides employment to rural youth. It helps in management of crop residue. It provides regular income to farmers. Mushroom contains macronutrients that support a healthy system. Bijender Malik started mushroom cultivation after getting training from KVK Rohtak. He belongs to village Mokhra district Rohtak. He is earning Rs. 20500 /month from the sail of mushroom.



## Success Story XXXV

| Year | Investment/Month | Income/Month(Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 20000 | 35000 | 15000 | 1.75 |
| 2018-19 | 10000 | 36000 | 26000 | 3.60 |
| 2019-20 | 12000 | 36000 | 24000 | 3.00 |
| 2020-21 | 15000 | 38000 | 23000 | 2.53 |
| 2021-22 | 12000 | 40000 | 28000 | 3.33 |
| 2022-23 | 12000 | 42000 | 30000 | 3.50 |

Balbir Singh from village Chaharwala had less than five acre land and his farm income was very low to support his family expenditure. He was given training on mushroom cultivation so he could use his farm waste to prepare manure and earn extra income from the same land. He started earning monthly profit of Rs. 15000/ month and after running mushroom unit successfully for five years now he is earning approximately Rs. 400000/- profit from mushroom unit apart from traditional farming.



## Success Story XXXVI

| Year | No. of Bags (10 kg Each spawned compost) | Total expenditure (Rs.) | Total income (Rs.) | Net Income (Rs.) |
|---|---|---|---|---|
| 2017 | 5700 | 357000 | 640000 | 288000 |

After completion of post-graduation from political science, Deepak Kumar started his own career after getting technical knowledge which he got during the vocational training conducted by the KVK Yamunanagar. After the initial push, he decided to continue in the profession of mushroom production. During September 2015, he got training on Mushroom cultivation from KVK, Damla, Yamunanagar, and started mushroom cultivation from October 2015 in rented old poultry shed with low cost technology (compost prepared with long method of composting).

Now he is fully satisfied and earning well from the profession of mushroom cultivation which is also serving as an example for other unemployed educated youth. Mushroom production in Yamunanagar district area is feasible and economical due to surplus paddy/wheat straw which can be easily available at very low cost.

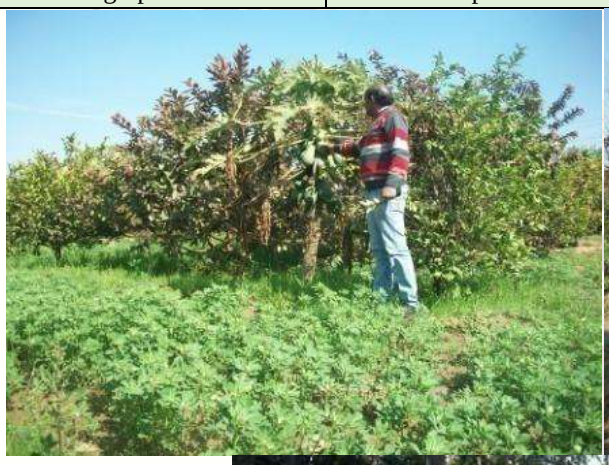


# DIVERSIFIED FARMING SYSTEM

## Success Story XXXV

Sh. Raut Singh from Nandrampur Bass, district Rewari is practising diversified and intensified farming. He has been using the improved cultivars of field crops (wheat, mustard, guar, bajra, barley) and chicory in between the mustard, vegetables (carrot, radish, onion, potato, lady finger, tomato etc), flowers (marigold) and fruits (guava, kinnow, Mosambi, bael, mango, papaya, aonla etc.). He is cultivating vegetable, flowers and papaya in between the orchard. He has also taken up agro-forestry as a wind break and shelter belt in around the orchard. He using water saving technology such as drip, sprinkler and furrow irrigation methods. He is also using the latest implements such power tiller to keep the orchard weed free. He is also using power operated spray machine for nutrients and pesticides application at his farm. He is selling his produce on advance booking, vendors, on NH – 8 and, NCR, New Delhi etc.

| Impact factors | Before adoption | After adoption |
|---|---|---|
| Crop/ agricultural practice | Fruits only | Intercropping as legumes and annual fruit and flower crops |
| Yield of crop/ product | 10 MT per acre | 10 MT per acre and additional yield from intercropping (10-12q/acre) |
| Sale value | Rs. 100000/- per acre | Rs. 150000/- per acre |
| Input cost | Rs. 25000/- per acre | Rs. 37500/- per acre |
| Labour cost | Rs. 20000/- per acre/year | Rs. 30000/- per acre/year |
| Any other cost | Rs. 5000/- | Rs. 7500/- |
| Net saving / profit | Rs. 50000/- per acre | Rs. 75000/- per acre |







**Success Story XXXVI**

A resident of village GarhiMimarpur, Sonipat, Haryana, 51-year-old Raj Kumari found her passion for fruit processing and livestock farming. Fruit processing is particularly more accessible for women as they are familiar with the different aspects of food and there are few technical aspects to learn to start this business. If chosen correctly, processed fruits have a good demand and offer the opportunity to generate good profits by adding value to raw material. Sheworked on fruit processing and dairy products with enthusiasm. At present she deals in preparation of value-added fruit products and dairy products.

She took various trainings on food processing from KVK, Sonipat and also from NDRI, Karnal. She selected different types of basic processing technologies, which are suitable for small-scale units with an affordable level of investment and collects the raw material directly from the farmers.

She smartly selected locally available fruit *i.e.* Aonla, which is available in abundant in Sonipat. Aonla is a fruit with innumerable benefits. It is also known Indian gooseberries, which not only enhance immunity but also helps in maintaining cholesterol levels. Today, under the brand name of Amrit Dhara, the woman entrepreneur sells. Aonlamurabba, pickle, candy, jam and deshi ghee of cow. She is earning around Rs. 1178314 lakhs annually. She has added some healthy sweets to her food items like, ladoos and burfi of aonla. Ayurvedic medicine retailers are her regular customers along with routine consumers. Recently she has also started nursery of common fruits, vegetables and ornamental plants.






## Success Story XXXVIII

**Integrated Farming System:**



Sh. Mukesh Kumar completed his graduation inthe subject of Arts from Bombay. After graduation he started a job inBombay but he was not satisfied with his job. He took a decision to leave the job and go to his own village where he wished to employ his farming with Scientific methods. He started searching the information sources of scientific farming. After collecting scientific information regarding the field crops and other allied fields and contacting the KVK Scientists and Officials of Deptt. ofAgri, Faridabad, he started farming by cultivationof wheat, paddy, bajra, jowarand some vegetables like brinjal and tomato from the year2000. After contacting the KVK Scientists in Year 2000, he started cultivating flowers like Gladiolus, plantation of horticultural crops like guava orchard, cultivation of vegetables, nursery raising for poplar plantation, Dairy farming, and establishment of Vermi-composting unit at his farm and started adopting improved the technologies like drip Irrigation in vegetables and horticultural crops.

**Timeline:**

I. He had sown various high yielding varieties of Paddy i.e. PB-1, Pusa Basmati - 1121, PRH -10 and obtained the yield 15 - 18 qtl. Of paddy from one acre. He also cultivated Paddy varietyPusa- 44 in 50 acres area in collaboration with IARI, New Delhi under buy back seed production programme. He had obtained 32 qtl. Yield (Paddy variety Pusa-44) from one acre.

II. He raised poplar nursery for plantation of poplar plantation at some acres of land at his farmand plantation was done on the boundaries of 20 acres of his land in the year 1998-99. After eight years, he sold 7500 poplar plants in the market and earned about Rs 7500000/- (7500 plants @Rs.1000 per plant).

III. He purchased Laser leveller from Dubai in the year 2005.

IV. He established a unit of Vermi-composting (5 metres x 3 metres unit size) and Bio-gas plant athisfarm. The bio-gas is being used by the farmer in his kitchen for cooking and other domesticpurposes.

V. He planted sugarcane crop with single bud technique during the year 2011-12 for first time.

VI. He established 5 H.P. Water Tubewell at his farm operated by Solar system with the financial help of Deptt. of Non - Conventional Energy, Govt. of Haryana. The water from this tubwell is being used through Drip irrigation for irrigating the orchards, flowers & vegetables at his farm.

VII. He started seed production of Paddy varieties viz. PB-1121 and PB -1in collaboration with KRBL, Dadri, U.P from2004-05 at his farm.

VIII. He is actively involved in seed production of wheat varieties like WH-711, PBW-343, PBW-502, PBW-226, HD-285 and HD-2894.

**Income from Integrated Farming System by Sh. MukeshKumar:**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 35000 | 50000 | 15000 | 1.43 |
| 2018-19 | 50000 | 74000 | 24000 | 1.48 |
| 2019-20 | 52000 | 81000 | 29000 | 1.56 |
| 2020-21 | 65000 | 102000 | 37000 | 1.57 |
| 2021-22 | 70000 | 119000 | 49000 | 1.70 |
| 2022-23 | 112000 | 202000 | 90000 | 1.80 |

## Success Story XXXIX

**Integrated Farming System- Way to Success**

Sh. Suresh Kumar is an engineering graduate from agricultural background with his parental agricultural 8 acre of land. He received a good job in a reputed company after graduation but for the welfare of his family and farming community, he left the job and tried to do something new and innovative.

Fortunately, he came into the contact with KVK, Fatehabad in 2012 and was impressed to know about IFS. Under the technical guidance of KVK Scientists, he has started several enterprises viz. Bee Keeping, Dairy farming, bio gas, vermi- compost, Kinnow orchard at his farm. He established himself as an Agri entrepreneur and registered with *FSSAI* and sold his products by trade name Ekta Honey Farm. He extracted honey from different flora *i.e. Shisham*, Mustard, Eucalyptus, *Jandi,Ber* etc. and processed at his own processing plant.







# CROP RESIDUE MANAGEMENT

## Success Story XXXX

Sh, Ramesh Kumar is a small and progressive farmer. He is having 4.0 acre of cultivated land of its own and leased in about 36 acres. He is growing wheat, rice, guar, moong and vegetables specially Cabbage. He emerged as Role Model for crop residue management in the district and motivated other farmers to adopt crop residue management especially in Rice. Ramesh started managing crop residues in the year 2015 by removing it from the field. Now, from the last two years, he incorporates the crop straw in soils by using CRM machineries like straw chopper, mulcher, ZT seed drill and happy seeder. He has also formed a custom hiring Centre for CRM. He emerged as a role model and created awareness among villagers about ill effects of straw burning and motivated other farmers to manage it by use of Straw chopper and happy seeder. As a result, 60 per cent villagers adopted CRM techniques and sowing of wheat was done by using happy seeder. He obtained 26 qtl/ ha wheat yield in Happy Seeder sown field as compared to 24qtl /ha obtained in a field sown by conventional method.







**Success Story XXXXI**

Sh. Sushil Kumar is a progressive farmer having 6.0 acre of cultivated land of its own and leased in about 29 acres. He is cultivating wheat &rice. He emerged as a “Role Model” for crop residue management in the area of Ratia block and motivated other farmers to adopt crop residue management by adopting happy seeder in paddy residue field. He started managing crop residues in this year by retaining as mulch in the field. He incorporates the crop straw in soils by using CRM machineries like straw chopper, mulcher and Happy seeder. He emerged as a role model and created awareness among villagers about ill effects of straw burning and motivated other farmers to mange it by use of Super SMS Combine and then by sowing wheat by Happy Seeder. As a result, 70 per cent villagers adopted CRM techniques and sowing of wheat was done by using happy seeder. He obtained 25 qtl/ ha wheat yield in Happy Seeder sown field as compared to 24 qtl /ha obtained in a field sown by conventional method.







# Integrated Farming System Model

## Success Story XXXXII



Name : Suresh Kumar S/o Omprakash
Village : JandliKalan
District : Fatehabad
State : Haryana
Age : 32 yrs
Education : B.Tech
Specialization : Integrated Farming
Mob. No. : 98131 37500

Sh. Suresh kumar is an engineering graduate from agricultural background with his 8 acre of parental agricultural land. He received a good job in a reputed company after graduation but to do good for his family and farming community, he left the job and decided to do something new in his parental agriculture of traditional cotton- Wheat cropping pattern. Fortunately, he came into the contact with KVK, Fatehabad in 2012 and was impressed to know about IFS. Under the technical guidance of KVK Scientists, he has started several enterprises viz. Bee Keeping, Dairy farming, bio gas, vermi-compost, Kinnow orchard, Micro Irrigation at his farm. He established himself as an Agri entrepreneur and registered with *FSSAI*. He sells products by trade name Ekta Honey Farm. He extracted honey from different flora i.e. Shisham, Mustard, Eucalyptus, Jandi, Ber etc. and processed at his own processing plant.

### Crop Production

| Sr. No. | Component | Area (ha.) | Crop | Productivity (qtl/ha.) | Adoption of New Variety | IPM Practices | INM Technology | RCT |
|---|---|---|---|---|---|---|---|---|
| 1. | Kharif | 0.2 | Bajra | 30 | HHB-67 improved | Yes | Yes | LLL |
| 2. | Rabi | 1.0 | Wheat | 50 | HD-2967 | Yes | Yes | LLL/ZTT |
| 3. | Rabi | 0.4 | Mustard | 18 | RH-725 | Yes | Yes | LLL |
| 4. | Cash Crop | 1.2 | Cotton | 8 | RCH - 776/773 | Yes | Yes | LLL |
| 5. | Fruit Crops | 1.6 | Kinnow | 375 | Kinnow | Yes | Yes | Drip Irrigation, Solar system. pond |
| 6. | Fodder Crops | 0.2 | Jowar, Berseem oats | 600 | Muscavi/ HJ-8 | Yes | Yes | - |

### Allied enterprises

| Component Name | Size | Production | Productivity |
|---|---|---|---|
| Bee - Keeping | 950 Bee boxes | 27000 litre/annum | 28.4 litre /Box/Year |
| Vermi - Compost | 900 Sq. feet | 100qtl/annum | 11 kg/sq. ft. |
| Dairy | 05 Milch animal | 9000 litre per annum | 10 ltr/animal/day |

**Farm Resources and investment**

| Component Name | Year of start | Area/ size | Use |
|---|---|---|---|
| Micro irrigation | 2012-13 | 1.6 Ha | Kinnow |
| Pack house | 2015-16 | 540 sq feet | Packing of kinnow |
| Water harvesting Pond | 2012-13 | 65x55 x 12 Feet | Approx. 8.5 lakh ltr. |
| Photovoltaic Water pump | 2018- 2020 | 05 KW<br>05 KW | Used for drip irrigation and other works |

**Innovative Adoptions**

| Medicinal & Aromatic plants | Packaging & selling of Turmeric & earn Rs.2000/quintal (total earning Rs. 40000/year) |
|---|---|
| Direct marketing | Direct marketing of Honey & other products through mobile van, sale counter on road side, sale through HAFED, Vita Booth, Haryana Agro and KhadiGramudhyog in Haryana.<br>Online sale |
| Crop insurance | Insurance of crops under PMFBY |
| Bio gas | Two units & gas used for home consumption |

**A. Recognition/Honours/Awards:**

- ✓ Awarded as Best Horticulture farmer in **4thAgri. Leadership Summit held at Gannour, Sonepat** from February, 15-17, 2019 and received Rs 50,000/- as cash prize.
- ✓ Acting as Board of Director in FPO namely **Atulaya Bee master producer co. Jind**from Dec.2017 onwards.
- ✓ Acting as Board of Director in FPO namely **JandliBagwani Producer Co. Jandlikalan**from April, 2019 onwards.
- ✓ Received distt. Level progressive farmer award during *Kisan Mela*held in HAU during 2019 through Sh. DushyantChautala, Honourable Deupty CM, Haryana.

**B. Farm Economics**

| Sr. No. | Component Name | Year of start | Initial Size/ unit | Status Now | Initial Expenditure (Rs) | Annual Outcome ( Rs) |
|---|---|---|---|---|---|---|
| 1 | Beekeeping | 2012 | 10 Bee Boxes | 950 Bee boxes | 30000 | 1800000 |
| 2 | Orchard | 2013 | 1.6 Ha | 1.6 ha | 140000 | 562500 |
| 3 | Vermi-Composting | 2017 | 524 Sq. Feet | 900 Sq. Feet | 40000 | 125000 |
| 4 | Dairy | 2012 | 02 Milch Animals | 05 milch Animals | 120000 | 360000 |
| 5 | Field crops (Cotton-Wheat) | traditional | 3.2 Ha | 1.6 Ha. | 28500/ha/yr. | 220750 |
| 6 | Spices (Turmeric) | 2018 | Packaging, Grading & selling | - | 12000 | 40000 |

**Action photographs of technology adoption**



Bee- keeping



Honey Processing plant



Sale counter



Dairying




Display of products



Drip irrigation



Photo volataic pump



Vermi Compost



Kinnow production



Honoured through DEE, CCSHAU Hisar during CRM Kisanmela






Progressive farmer award during kisanmela held in HAU on dated 22 Dec., 2019

## Success Story XXXXIII

### Adoption of Crop Residue Management after harvesting of paddy using different machineries

Sh. Radhe Shyam is a progressive farmer. He has 20 acre of cultivated land of its own. He is growing wheat, rice, guar moong and other crops. He emerged as a "Role Model" for crop residue management in the Block Bhuna and motivated other farmers to adopt crop residue management especially in Rice. He started managing crop residues in the year 2017 by removing it from the field. Now for the last two years, he has been incorporating the crop straw in soils by using CRM machineries like straw chopper, mulcher, ZT seed drill and happy seeder. He emerged as a role model and created awareness among villagers about ill effects of straw burning and motivated other farmers to manage it by use of Straw chopper and happy seeder. As a result, 75 per cent villagers adopted CRM techniques and sowing of wheat was done by using CRM machineries. He obtained 50 qtl/ ha wheat yield in Happy Seeder sown field as compared to 47.5 qtl /ha obtained in a field sown by conventional method








Different activities on the Farmer's field

## Success Story XXXXIV

**Integrated farming System (IFS)**



Name of farmer: Poonam

Address: Ikkas

Mobile Number: 9896102755

Age: 29 years

Education -BA

Size of land holding (in acre): 5 .5 Acre

Mrs. Poonam Devi w/o Vijay Kumar, village -Ikkash belonging to agricultural family has been associated with agriculture since childhood. In the beginning, her family had neither profit nor loss from agriculture, so being an educated woman, she started bringing agriculture on the path of making it profitable. She contacted the scientists of KVK,Jind and after that she acquired knowledge by participating in various trainings related to agriculture, cutting and tailoring and animal husbandry etc. In 2018 she has taken vocational training on cutting and tailoring from KVK, Pandu Pindara, Jind.

After getting proper information about modern and beneficial agricultural techniques from the KVK, Pandu PindaraJind. From time to time she kept increasing her knowledge through medium and acquired proficiency in her knowledge and skills in organic agriculture. Mrs. Poonam started production of organic vegetables like okra, peas, chillies, garlic, onion etc. by acquiring knowledge and skills from modern and profitable organic farming techniques under the auspices of Krishi Vigyan Kendra. With this she started animal husbandry work and and with help of her family members she also tried hand cutting and tailoring at village level. Now she is earning profit of more than Rs. 5-6 lakh rupees by sale of organic vegetables and profit of more than 4 lakh rupees from animal husbandry and Rs. 2-3 lakh from cutting and tailoring. Now she is a very successful entrepreneur and independent woman.

| Sr. No. | Activity | Total production cost (Rs.) | Income (Rs.) | Net profit (Rs.) |
|---|---|---|---|---|
| 1. | Stitching | 60800 | 259200 | 230000 |
| 2. | Vegetables Rabi | 36300 | 241600 | 205300 |
| 3 | Vegetables Kharif | 75000 | 252000 | 177000 |
| 4. | Buffalo Rearing | 30600 | 87400 | 56800 |
| Total | | 202700 | 840200 | 669100 |

# FISH FARMING

**Success Story XXXXV**

District- Panchkula

| | | |
|---|---|---|
|  | Address of farmer:– Sh. Jitender Singh, Village Bagwala, M.no. 8901023946 | Age:- 38 years<br>Education: Senior Secondary<br>Land Holding: 30 acres<br>No. of family member: 8<br>Area of Specialization: Fish culture<br>Experience (year): 15 |

**Title of Intervention:** Doubling farmer income through adoption of fish farming

**Detailed comparative income generated from Intervension V/S Traditional system**

| | Intervention (Fish Culture) | Traditional (wheat-paddy) |
|---|---|---|
| Area | 1 ha. | 1 ha. |
| Yield (q/ha) | 85 | Wheat (37q) Paddy (63q) |
| Cost of cultivation (Rs./ha) | 365000 | 140000 |
| Net income (Rs./ha) | 315000 | 41000 |
| B: C ratio | 1.86 | 1.29 |





## Success Story XXXXVI

**Title of Specialization:** Sustainable agriculture



**Vikram Singh S/o Bhim Singh**
**Village** : Mallah
**Block** : Pinjore
**District** : Panchkula
**State** : Haryana
**Mobile No.** : 9068533909
**e-mail** : vraghav6333.vrr@gmail

**Age:** 35 yrs
**Education:** Post Graduate
**Land Holding:** 7 acre
**No. of family member:** 8
**Area of Specialization:** Integrated farming System (IFS)
**Experience (years):** 3

**Title of Intervention:** - Integrated Farming System (IFS) approach

**Detailed comparative income generated from Intervention V/s Traditional system**

| Traditional | Intervention | |
|---|---|---|
| **Area(ha)** | Wheat - 0.8 ha<br>Maize - 0.6 ha<br>Forage - 1.2 ha<br>Colocasia - 0.4 ha<br>& Chilli - 0.2 ha | Dairy - 6 animals(5450 sq.ft)<br>Poultry - 1000 birds(2200 sq.ft)<br>Vermi-composting - 600 sq.ft.<br>Crop (Maize-Wheat) - 1.4 ha<br>Vegetable crop - 0.6 ha<br>Medicinal (Ginger and Turmeric) - 0.2 ha |
| **Yield (q /ha)** | Wheat - 47<br>Maize - 20<br>Forage - 850<br>Colocasia - 100<br>& Chilli – 200 | Dairy - 1200ltr. per month<br>Vermi-composting 45 qt.<br>Crop (Maize-Wheat) - 22 qt , 48 qt<br>Vegetables (Colocasia&Chilli)- 115qt , 205qt<br>Medicinal (Ginger and Turmeric) – 155qt, 200qt |
| **Cost of cultivation (Rs. /ha.)** | Wheat - 38000 / -<br>Maize - 20000 / -<br>Fodder - 22000 / -<br>Colocasia- 42000 / -<br>& Chilli - 32000 /- | Dairy: - 40,000 per month<br>Poultry: - 115000 per batch<br>Vermi-composting: - Rs 8000 per year<br>Crop (Maize-Wheat): - Rs 38000 & 20000/-<br>Vegetable crop: - Rs 45000 & 30000/-<br>Medicinal (Ginger and Turmeric): - Rs 70000/- |
| **Net income (Rs./ha)** | Wheat - 48950 / -<br>Maize - 15200 / -<br>Fodder - 105500 / -<br>Colocasia 95000 / -<br>& Chilli 110800 / - | Dairy: - 20,000 per month<br>Poultry: - 25000 per batch<br>Vermi-composting: - Rs 9000 per year<br>Crop (Maize-Wheat): - Rs.67000/-<br>Vegetable crop: - Rs 198000/-<br>Medicinal (Ginger and Turmeric): - Rs 115000/- |
| B: C ratio | 1.39 | 1.86 |





# QUALITY VEGETABLE PRODUCTION UNDER CROP DIVERSIFICATION

## Success Story XXXXVI



**Amar Singh S/o Sant Ram**
**Village** : Tabar
**Block** : Raipur Rani
**District** : Panchkula
**State** : Haryana
**Mobile No.** :9466853244
**e-mail** :NA

**Age:** 60 yrs
**Education:** Sr. Secondary
**Land Holding:** 22 acre
**No. of family member:** 8
**Area of Specialization:** Diversification
**Experience (years):** 25

**Detailed comparative income generated from Intervention V/s Traditional system**

| | **Intervention** | **Traditional** |
|---|---|---|
| **Area (ha)** | Wheat: 3.2<br>Paddy 3.2<br>Sunflower 2.0<br>Potato 4.0<br>Onion 1.6<br>Coriander 0.4 | Wheat: 8.0<br>Paddy: 8.0<br>Fodder : 0.8 |
| **Yield(q/ha)** | Wheat 55<br>Paddy 50<br>Sunflower 25<br>Potato 340<br>Onion 310<br>Coriander 325 | Wheat: 52.5<br>Paddy: 47.5<br>Fodder: 625 |
| **Cost of cultivation (Rs/ha)** | Wheat: 45000/-<br>Paddy: 60000/-<br>Sunflower: 62000/-<br>Potato: 150000/-<br>Onion: 87500/-<br>Coriander: 67500/- | Wheat: 42000/-<br>Paddy: 54000/-<br>Fodder: 25000/- |
| **Net income (ha)** | Wheat: 60875/-<br>Paddy: 33400/-<br>Sunflower: 79250/-<br>Potato: 162500/-<br>Onion: 150000 /-<br>Coriander: 95000 /- | Wheat: 55125/-<br>Paddy: 21525/- |
| B: C ratio | 1.80 | 1.45 |





## Success Story XXXXVII

**Title of Specialization:** High-Tech Farming



**Sh. Kartik Malik S/o Sh. Ajay Malik**
**Village** : Batour
**District** : Panchkula
**State** : Haryana
**Mobile No.** : 7888687133
**e-mail** : kartikmalik1996@gmail.

**Age:** 24 yrs.
**Education:** Post Graduate(MBA)
**Land Holding:** 6.25 acre
**No. of family member:** 4
**Area of Specialization:** High-Tech Farm
**Experience (years): Two years**

**Detailed comparative income generated from Intervention V/s Traditional system**

| | Intervention (Vegetables under Net house) | Traditional (Open) |
|---|---|---|
| Area (ha) | Wheat: 0.4<br>Paddy: 0.4<br>Cucumber: 0.4<br>Capsicum: 0.4 | Wheat: 0.4<br>Paddy: 0.4<br>Onion: 0.4<br>Garlic: 0.2<br>Broccoli 0.2<br>Flower: 0.48 |
| Yield(q/ha) | Wheat: 56<br>Paddy: 58<br>Cucumber 750<br>Capsicum 875 | Wheat: 53<br>Paddy: 56<br>Onion: 300<br>Garlic: 115<br>Broccoli 200<br>Flower: 200 |
| Cost of cultivation (Rs/ha) | Wheat: 45000/-<br>Paddy: 55000/-<br>Cucumber: 625000/-<br>Capsicum: 375000/- | Wheat: 41000/-<br>Paddy: 52000/-<br>Onion: 125000/-<br>Garlic: 135000/-<br>Broccoli 125000/-<br>Flower: 75000/- |
| Net income (ha) | Wheat: 62800/-<br>Paddy: 53344/-<br>Cucumber: 710000/-<br>Capsicum: 237500/- | Wheat: 57000/-<br>Paddy: 37000/-<br>Onion: 120000/-<br>Garlic: 135000/-<br>Broccoli: 165000/-<br>Flower: 63000/- |
| B: C ratio | 1.91 | 1.38 |





## Success Story XXXXVIII

Sh. Rajinder of village Halalpur, district Sonipat is a live example who took up diversified farming to ensure regular and lucrative returns. His family was involved in traditional rice-wheat cultivation, as a result the returns were not very good in terms of money as well as over exploitation of natural resources like soil and water. He decided to switch to diversified farming and changed his traditional agriculture system into modern agriculture by adopting, fruit and vegetable cultivation, livestock farming and improved agricultural practices like, good quality seed, drip irrigation system, low tunnel, mulching, and custom hiring centre with the help of many government schemes. He put his land into fruit and vegetable cultivation where he grows coloured capsicum and seedless cucumber, cherry tomato, guava and mustard along with traditional wheat and rice crop. Although he faced many problems in the beginning but, now he has reached a destination where he is satisfied and is a live example to the farmer community to follow. He is getting good production of fruits and vegetables along with significant returns from livestock farming and custom hiring centre. He started his journey in 2011-12 and now he has a turnover of 551700 lakhs per annum.

## Success Story XXXXIX

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month(Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2021-22 | 20,000 | 3,98,965 | 3,78,965 | 19.94 |
| 2022-23 | 2,00,000 | 33,33,333 | 31,33,333 | 16.66 |

## DAIRY FARMING

Mr. Siddharth is a resident of village Silani, district Jhajjar. He is a post graduate having land holding of 15 acre and is a successful dairy farmer who started dairy farming for income generation.

Earlier Mr. Siddharth used to take two crops namely wheat and bajra from his field and had one buffalo to meet home needs of milk and milk products. Mr. Siddharth came in contact with the scientists of K.V.K, Jhajjar in 2016 and KVK scientists encouraged him to take up Dairy farming as an enterprise.

After getting know how about Dairy farming from scientists of K.V.K, Jhajjar, in 2016-17, he started Dairy farming with his family support. Now, he is growing wheat in only 2.00 acres and bajra and oatseed production on 3.5 acres each. At present he is having dairy farm unit of 62 animals and a chilling plant with an annual income worth Rs. 4787580 lakhs from all the sources during 2021.

**Outcome-**

| **Component Description** | | **Period 2020-21** | | | |
|---|---|---|---|---|---|
| **Components** | **Names** | **Area (Acre)/No** | **Production (Q/Liter/No.)** | **GrossIncome (Rs.)** | **Net Income (Rs.)** |
| Field Crop 1 | Wheat | 2 | 39.2 | 77420 | 44820 |
| Field Crop 2 | Bajra | 3.5 | 36.4 | 78260 | 50610 |
| Livestock 1 | Cow | 62 | 168800 | 16880000 | 4615000 |
| Livestock 2 | | | | | |
| Other enterprise (Specify) | Oat seed production | 3.5 | 26 | 130000 | 77150 |
| Total | | | | | 4787580 |





# DIVERSIFIED FARMING THROUGH HORTICULTURAL CROPS

## Success Story L

Mrs. Salochana Rani Nehra is successfully doing diversified farming with cultivation of horticultural crops for income generation. Earlier she used to take crops namely wheat, mustard and bajra from her field. Mrs.Salochana Rani Nehra came in contact with the scientists of K.V.K, Jhajjar in 2015 and KVK scientists encouraged her to take up scientific cultivation of horticultural crops for higher income.

Her achievement are:

- Established orchard of kinnow, mango and jamun.
- Successfully raising vegetable crops namely carrot, okra, cucumber, watermelon and bottle gourd.
- Vegetable seed production of pea and radish.
- Grones moong, bajra, mustard, wheat and sorghum fodder.
- Working as Director of a FPO 'Jhajjar Vegetables Producers Company' having 1100 members.

She is earning net income worth Rs.16 lakhs per annum from all the sources and providing employment to 20-30 farm labourers preferably women at her farm round the year.Mrs. Salochana Rani Nehra used to get annual net income of Rs.5.25 lakhs from wheat, bajra and mustard. She faced problems low returns. Now, with crop diversification, she is getting annual net income of Rs 16 lakhs. She is a successful diversified farmer and is a source of inspiration for the other youth. Mrs. Salochana Rani Nehrahas motivated farmers of Matanhail block and played an instrumental role in converting around 500 acres of land under horticultural crops.






## FRUIT AND VEGETABLE PRESERVATION

### Success Story LI



**Success story of progressive women farmer of district Ambala**

Meena Kumari resident of village-Nagla Rajputana, District-Ambala. She was engaged for the work like cutting and tailoring at her home before creating keen interest in adopting the agripreneurship in promotion of fruit and vegetable preservation with specialization in making pickles, murabba and chutney with value added products. With the passage of time expenses of her family members increased and she was uncomfortable to bear these heavy expenses in day to day life. For increasing her income, initially first time she went to Horticulture Training Institute, Uchani (Karnal) in 2015 and got training on fruits and vegetable preservation. After that, she started making pickles at small scale. After earning of some profit with this vocation, she visited at Krishi Vigyan Kendra, Ambala City in year 2020-21 for taking depth knowledge in the field of fruit and vegetable preservation. Again, she got training in fruit & vegetable preservation from KVK experts. After that, she feels most comfortable and confident. Now, she increased her business from small scale to commercial level. She had exhibited her work and praised in different events *viz.Kisan Mela*, Gosthies and other district and state level programmes at district-Kaithal, Kurukshetra, Ambala and Panchkula through her stall. She also provides regular employment to 2 women throughout the year. After adopting this vocation, she is in good financial condition and caters the needs of her family in a better way.

## Success Story LII

**Title of Specialization: Income generation through Floriculture**

| | | |
|---|---|---|
|  | Address of farmer: – Sh. Vikram Singh,<br>Village Badona, M.no. 9896454086 | Age:- 62 years<br>Education: Graduate<br>Land Holding: 8.5 acres<br>No. of family member: 6<br>Area of Specialization: Floricultur<br>Experience (year): 8 |

**Title of Intervention:** Crop diversification through floriculture- Marigold

**Detailed comparative income generated from Intervention V/s Traditional system**

| | **Intervention(Floriculture)** | **Traditional(wheat-paddy)** |
|---|---|---|
| Area | 1 ha. | 1 ha. |
| Yield (q/ha) | 185 | Wheat(37q) Paddy(63q) |
| Cost of cultivation (Rs./ha) | 390000 | 140000 |
| Net income (Rs./ha) | 350000 | 41000 |
| B: C ratio | 1.89 | 1.29 |





# VALUE ADDED PRODUCTS OF BAJRA AND CANDLE MAKING

## Success Story LIII

| | |
|---|---|
| **Name** | **Renoo Singh w/oSarvendraVikram Singh** |
| **VPO** | Baldev Nagar |
| **District** | Ambala City |
| **Mobile No.** | 7988457676 |
| **Education** | M.A. B.Ed. |
| **Landholding** | Landless |
| **Experience** | 7 years Age : 49 yrs. |
| **Main Features** | Value added food products<br>Her own order basis work-value added cakes, biscuits, namkeens, chutneys, pickles etc.<br>Earned and saved approx. 6000/-to 7000/-per month.<br>Regular member of all KVK Trainings<br>Act as a channel to disseminate KVK messages . |




Farm women are constantly in the search of other additional works to fulfill the domestic requirements. Empowerment of rural women is inconceivable without gainful employment and income for women. The scope of self-employment is more in the field of small scale industries at local level. KVK Mahendergarh concentrated on developing the women's knowledge skill and Entrepreneurship attributes based on fruit and vegetable preservation. Self help groups have great significance in term of employment, income generation, poverty alleviation. Hence, emerging challenges and livelihood security necessitate for mobilization of community in rural system. It is evident that working together throws formation of self help group members become self-reliant confident and more empowered economically.

### Assessment of profit

| Year | Investment/Month (Rs.) | Income/Month(Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 8500 | 24300 | 15800 | 2.85 |
| 2018-19 | 12000 | 37500 | 25500 | 3.13 |
| 2019-20 | 21500 | 64800 | 43300 | 3.01 |
| 2020-21 | 37500 | 106875 | 69375 | 2.85 |
| 2021-22 | 55000 | 189750 | 134750 | 3.45 |
| 2022-23 | 80500 | 268065 | 187565 | 3.33 |





## Success Story LIV

### Nutri-Cereals (Pearlmillet)

Along with the climate-resilient nature of the crop and the lack of the requirement of harmful pesticides for cultivation purposes, the nutritional properties of millets are unmatchable. The grain is rich in both soluble and insoluble dietary fiber making it excellent for improving the functioning of the digestive system. To counter the monocropping culture that is prevalent in Mahendergarh many young farm women and youth are returning to millet. Pearl millets have always been a traditional and sustainable crop in the region of Mahendergarh.

**Assessment of profit**

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2020-21 | 34500 | 60500 | 26000 | 1.75 |
| 2021-22 | 75000 | 236250 | 161250 | 3.15 |
| 2022-23 | 100500 | 326625 | 226125 | 3.25 |






## Success Story LV

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 10000 | 20000 | 10000 | 2.00 |
| 2018-19 | 15000 | 32000 | 17000 | 2.13 |
| 2019-20 | 16000 | 34000 | 18000 | 2.13 |
| 2020-21 | 18000 | 39000 | 21000 | 2.17 |
| 2021-22 | 18000 | 40000 | 22000 | 2.22 |
| 2022-23 | 18000 | 41000 | 23000 | 2.28 |

Ritu Soni from Sirsa city was a housewife before starting her business. She attended vocational training from KVK, Sirsa on fruit and vegetable preservation. After training she started making fruit and vegetable product at small level with a profit of Rs. 10,000/month. Later she expanded her business and started giving training to other women after running the unit successfully for five years now she is earning approximately Rs 3,00,000/- profit.



**Success Story LVI**

Name: Smt. Geeta Devi

Husband's Name: Sh. Narender Singh Dhankar

Village/District: Jhajjar

State: Haryana

**Achievement -Preparing and selling multigrain nutritive laddoos**

Linkage with KVK-Received 4 days vocational training on 'Food Processing' for the first time at KVK, Jhajjar in Oct, 2018 and specialized in preparing value added bajraladdoos.

Smt. Geeta Devi came in the contact with KVK-Jhajjar through Smt. Mukesh Devi, innovative farm woman engaged inBee Keeping and having long association with KVK Jhajjar regarding vocational training imparted by PES (Home Science) on value-added multigrain nutritive food items. Smt. Geeta Devi attended 4 days' vocational training in Oct, 2018 and under the guidance of PES (Home Science) prepared and sold bajraladdoos worth Rs. 62,000/- at India International Trade Fair-2018 at New Delhi. Since then, there has been no looking back. She took further training at KVK to prepare laddoos made of flax seeds, til, groundnut, chana, wheat flour, etc. There is a great demand for her products. She has sold these laddoos at various farm fairs across the country at places like Hyderabad, Gujarat, Gannaur, Karnal, etc. There is a huge demand and she gets personal ordersupto 50 Kg laddoos from individuals who have tasted the laddoos prepared by her.

Though there has been no regular monthly income, yet she is earning huge sum of money by selling laddoos alone at different fairs and exhibitions organized in the State and outside State. Till date, she has sold laddoos worth approx. Rs. 1,37,000/-.

Smt. Geeta Devi has teamed up with Smt. Mukesh Devi, the innovative farmer engaged in Bee Keeping. While Smt, Geeta Devi prepares nutritive laddoos, Smt. Mukesh Devi helps her sell them at fairs as her present family conditions don't permit her to go to such fairs and exhibitions.

## Success Story LVII

Smt.NeelamArya w/o Sh. Parveen is a resident of village Nogama, districtJhajjar.She is a 35 years old post graduate woman having total land holding of 10 acres. She was interested in doing organic farming. So, she came in contact with K.V.K, Jhajjar to get the required information and skill.

KVK intervention –Smt. Arya in contact with the scientists of K.V.K., Jhajjar in the year 2009.She was guided by the scientists of the KVK, Jhajjar on organic farming and value addition of different food crops. She got training on value added products of bajra from KVK, Jhajjar and COE (Pearl millet), COHS, CCSHAU, Hisar in 2016. Now, she is doing organic farming and value addition of cereals, pulses, oilseeds and bajra with the support of her family members.She is doing organic farming on 10 acre since 2016 under guidance of team KVK, Jhajjar and producing organically different food crops viz., wheat, moong, arhar, chana, urad and masoor, raya, til, groundnut and vegetables. They make and use jeevamrit, ghanjeevamrit and organic manure. Organically produced and registered food items viz., moongdaal, arhardaal, chanadaal, urad and masoor daal, mustard oil, wheat dalia, suji, besan are sold under the brand name- Arya natural farm products. They are certified by PGS, India.Value added bajrabiscuits, ladoos and namkeen are also made and sold since 2017. Smt. Arya earning approximately Rs.4.20 lakhs in a year from organic farming and value addition. She is doing profitable farming by growing different crops organically and making value added products.Item wise income during 2020 was as below-

| Organic Products | | Income (Rs.in lakhs) |
|---|---|---|
| 1. | Organic cereals, pulses, atta, daal, suji, besan, oil | 4.00 |
| 2. | Value added bajra products | 0.20 |

- Achievements Awarded Krishi Rattan Award in 2016 at World Cultural fest, New Delhi.
- Awarded PragatisheelMahilaKisan Award on 23.12.16 at CCSHAU, Hisar.
- Awarded JaivikMahilaKisan Award on 15.10.18 at MahilaDiwas, Pusa, and New Delhi.
- Awarded JaivikMahilaKisan Award on 7.6.19 at Jhajjar.
- Awarded Progressive Farm Woman Award on 15.10.20 on the occasion of MahilaDiwas at Jhajjar.





## Success Story LVIII



**Mrs. Veerpal with seasonal vegetable pickle**

### Pickle making: an entrepreneurship for economic development

Smt. Veerpal w/o Gurtej Singh is educated and has good managerial skills. She is making different types of vegetable pickles. She is now expert in all types of pickle making from mixed vegetable and mango pickles to fruit jams and seasonal juices, which are sold at local shops.

An expert in preparing pickle the traditional way; the training taught her new methods and techniques from the training at KVK that she is now incorporating. She is able to produce a variety of vegetable pickles, jams and juices and preserve a good quantity so that she can may sell them to earn extra money for her families and children's education.

Smt. Veerpal has shown great enthusiasm during the sessions. She has learned how to manufacture a variety of pickles and juices using seasonal home grown crops and available.

In future she can expand her pickle production and sales and can inspire other women to be a successful and independent woman.

## Success Story LIX



| | |
|---|---|
| Name of farmer: | Rajesh Kheri |
| Address: | Kheri Sikandar (Block: Pundri) |
| Mobile Number: | 9254444442 |
| Age: | 40 |
| Education: | 10th |
| Size of land holding (in acre): | 4 |

Value Addition from CCSHAU, KVK, Kaithal faced problems like weeds, lower market price, burning of crop residues and labour etc. With KVK interventions like crop diversification, protected vegetable cultivation, INM, IPM, RCT, DSR, etc., he has increased his annual income. In addition, there is a cost saving in the production of vegetables.



Farmer in protected (low tunnel) vegetable field



Organic radish production

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2019-20 | 17920 | 41400 | 23480 | 1.31 |
| 2020-21 | 23800 | 56700 | 32900 | 1.38 |
| 2021-22 | 55000 | 127900 | 72900 | 1.32 |
| 2022-23 | 51000 | 119000 | 68000 | 1.33 |

## Success Story LX



| | |
|---|---|
| Name of farmer: | Pooja Arya |
| Address: | Kalasar (Block: Kalayat) |
| Mobile Number: | 8221046206 |
| Age: | 28 |
| Education: | 10th |

**Brief**: The lady farmer faced problems like diseases, labour, burning of crop residues. With KVKinterventions like crop diversification, RCT, protected cultivation, grading, marketing, etc.,she is getting more annual income. In addition, there is a cost saving in the production of vegetables.

| Year | Investment/Month (Rs.) | Income/Month (Rs.) | Profit/Month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2019-20 | 8500 | 25956.25 | 17456.25 | 2.05 |
| 2020-21 | 12000 | 26700 | 14700 | 1.22 |
| 2021-22 | 16000 | 37900 | 21900 | 1.36 |
| 2022-23 | 21000 | 49000 | 28000 | 1.33 |

# VERMICOMPOSTING

## Success Story LXI



**Name of farmer: Aditya Jindal S/o Dr. Ramesh Chand Jindal,**
**Address: Ambala City,**
**Unit at village-Khatouli, Ambala**
**M: 9996838397**

Aditya Jindal is qualified Civil Engineer from CCET Chandigarh under Punjab University. After graduation, she worked in NCR region and planned her M.S. from abroad in 2018. During Covid-19 Pandemic there was lockdown and he saw lot of people's suffering all over India, neighbours and own family. His father who is a doctor suffered severe acute respiratory distress due to professional exposure. He is very sensitive and keen observer. Experience of life and death in family and society forced Aditya to rethink about his aims. He decided in favour of giving better life to people by helping farmers to grow healthy, pure and real food free from harmful chemicals. During lock down periods. she meditated and listened to his inner voice. He felt as if Mother Earth and nature called him for help. Lifeless soil from sustained used of chemical fertilizers and pesticides over decades called for rejuvenation. He read a lot and came to know about alarming levels of contamination of food chain with harmful chemicals. Listening to his inner voice and call of Mother Nature he pledge to rejuvenate soil and return life to soil, thus helping farmers to grow healthy food.He started his own research and successfully bred earthworms in a vermin bed at his home and produced first lot of Vermi compost. Encouraged by good results he decided to set up a project for vermi culture and vermi compost at-village Khatauli (Ambala) Haryana under banner of SATT Organic.SATT is actually Sanskrit Pharase representing Satvi.e. Absolute Truth and Reality.

SATT Organic is now 2 years old. ISO certified MSME start up, in field of agri-waste management, with an aim to convert Agri waste into natural enhanced food for plants, with a capacity of 50,000 kg/month vermicompost.

SATT Organic now processes about 2000-3000 tons of dairy waste and converts it to organic fertilizer and manure. SATT Organic is now helping many startups in this field by providing vermiculture and consultation in neighbouring towns and villages. It has future plans to produce Organic spices + Edible seeds, processed food as well.





## Success Story LXII

Sh. Jai Karan s/o Sh. Kapoor SinghV.P.O.-KharakJatan, District Rohtak

Assessment of profit

| Year | Investment/Month(Rs.) | Income/Month(Rs.) | Profit/Month(Rs.) | B: C ratio |
|---|---|---|---|---|
| | | | | |
| 2017-18 | 2800 | 6750 | 3950 | 2.4 |
| 2018-19 | 3500 | 8100 | 4600 | 2.3 |
| 2019-20 | 5250 | 13500 | 8250 | 2.5 |
| 2020-21 | 5250 | 13500 | 8250 | 2.5 |
| 2021-22 | 5250 | 14400 | 9150 | 2.7 |
| 2022-23 | 5250 | 14400 | 9150 | 2.7 |

Vermicompost plays an important role in improving soil health along with quality of the farm produce. It helps in avoiding environmental pollution making use of farm waste. It is also helpful in adoption of natural farming. It contains more quantity of nutrients as compared to farm yard manure. It provides proper aeration in soil.

| Year | Investment/Month(Rs.) | Income/Month(Rs.) | Profit/month (Rs.) | B: C ratio |
|---|---|---|---|---|
| 2017-18 | 5000 | 10000 | 5000 | 2.0 |
| 2018-19 | 8000 | 20000 | 12000 | 2.5 |
| 2019-20 | 10000 | 24000 | 14000 | 2.4 |
| 2020-21 | 11000 | 26000 | 15000 | 2.36 |
| 2021-22 | 14000 | 32000 | 18000 | 2.3 |
| 2022-23 | 15000 | 35000 | 20000 | 2.33 |

# LIST OF AWARDEE FARMERS

**KVK Ambala**

1. Sh. Gurnam Singh, Village-Fazailpur for organic farming & Horticulture during *Kisan Mela* on 21.03.2018
2. Sh. Parduman Singh, Village-Paplotha on a sugarcane grower held on 4-5.10.2018
3. Sh. Rohit Kumar, Village-Mandhaour during *Kisan Diwas* on 23.12.2019 for excellent contribution in the field of organic and dairy farming.
4. Sh. Shamsher Singh, Village-Haldari for contribution in the field of integrated farming during *Kisan Diwas* on 23.12.2020
5. Smt. Reeta Devi, Village-Holi for mushroom cultivation during *Kisan Diwas* on 23.12.2020
6. Sh. Jasbir Singh, Village-Hamidpur for integrated farming during *Kisan Mela* on 8-9.09.2021.
7. Smt. Meena, Village-Nagla Rajputana for fruit and vegetable preserved products during *Kisan Diwas* on 23.12.2021
8. Shikha Mittal, Village-Khatouli for organic farming and mushroom cultivation during *Kisan Mela* on 15-16.03.2022.
9. Aditya Jindal, Village-Khatouli for Vermi compost, vermin wash and grow media during *Kisan Mela* on 13-14.09.2022.
10. Ashu, Village-Mehla for mushroom cultivation during *Kisan Mela* on 23.12.2022

**KVK Faridabad**

1. Mukesh KumarS/o Sh. Ram Sharan, Village– Manjhawali, P.O.-Tigaon, Distt.- Faridabad, is a progressive farmer and received IARI Fellow Farmer Award- 2018 during Krishi Unnati Mela, organized by IARI, New Delhi from March 16-18, 2018. He has received District level Progressive farmer Award by CCSHAU, Hisar in the year 2019. He also received State Level Award under Mukhya Mantri Pragatisheel Kisan Samaan (3rdPrize) in the form of Rs. 3 Lakh cash and a certificate from Hon'ble CM, Haryana, Sh. Manohar Lal Khattar during Haryana Krishi Vikas Mela 2023 organised by Deptt. of Agriculture and Farmers Welfare, Govt. of Haryana and CCSHAU, Hisar jointly from March 10-12,2023.

2. Sh. Surender Kant S/o Sh. Trilok Chand, Village & P. O.- Mohna, Tehsil- Ballabgarh, District Faridabadis a progressive farmer. He received Progressive farmer Award in the IARI *Krishi Mela* 5-7, March 2019.

3. Smt. Geeta Chauhan W/o Sh. Naresh Kumar, Village -Bhopani, P.O.– Bhaskola, Tehsil - Faridabad, District -Faridabad is a Leader of SHGs formation and also a small scale woman entrepreneur. She received Mahila Kisan Award by DD Kisan, Delhi on 22.11.2018.

4. Mrs. RajaniW/oSh. Shiv Kumar, Village -Tigaon, P.O.- Tigaon, Distt. - Faridabad is a Leader of SHGs formation and also a small scale woman entrepreneur and farm woman. She received District level Progressive farmer (Farm Woman) Award by CCSHAU, Hisar on the occasion of *Kisan Diwas* celebration on 23.12.2019.

5. Gopichand Rawat S/o Sh. Pooran Singh, Village- Bhankar, P.O- Gadpuri, Distt. - Faridabad is a progressive farmer. He received a Progressive farmer Award by CCSHAU, Hisar for the vegetable cultivation in *Krishi Mela* Kharif 2021.

6. Sh. Lakhanpal S/o Sh. Sisram, Village- Tajupur, P.O- Tigaon, Distt.- Faridabadis a progressive farmer. He has received Progressive farmer Award by CCSHAU, Hisar for Water conservation through cultivation of Vegetable crops in Polyhouse in *Krishi Mela* Rabi 2021.

7. Sh. Kuldeep Kaushik S/o SH. Lakhmi chand, Village- Bahadurpur, Tehsil- Dayalpur, is a progressive farmer. He has received Progressive farmer Award by CCSHAU, Hisar for Vegetable cultivation through Organic Means Cabbage, Carrot, Turnip, Raddish in *Krishi Mela* Rabi 2022.
8. Sh. Subhash Chand BhatiS/o Sh. Fateh Singh, Village- Arua, PO- Chandpur, Block –Tigaon, Tehsil - Ballabgarh, Distt. -Faridabad is a progressive farmer. He has received Progressive farmer Award by CCSHAU, Hisar for the Diversified farming on the occasion of Kisan Samman Diwas on 23.12.2022.
9. Smt. Rekha W/O Sh. Ganpat, VPO- Panhera Khurd, Block&Tehsil: Ballabgarh, Distt- Faridabad is a Woman Entrepreneur and she received a Lady Woman Entrepreneur Award by CCSHAU, Hisar, for work in areas of Handicrafts, cutting, tailoring and painting on the occasion of Kisan Samman Diwas on 23.12.2022.

**KVK Fatehabad**

1. Smt. Kanta Bishnoi a mushroom cultivation entrepreneur belonging to Dholu village, was honored by CCSHAU, Hisar on the occasion of Krishi Divas organized in December, 2022 for successful cultivation of mushroom.
2. Sh. Rajpal a flower cultivation entrepreneur belonging to Dholu village, was honored by CCSHAU, Hisar on the occasion of Krishi Divas organized in December, 2022 for successful cultivation of flowers.
3. Sh. Ramesh belonging to Dhani Maghowali village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in March, 2023 for adoption of resource conservation technologies.
4. Sh. Surajbhan belonging to Chandrawal village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in March, 2023 for adoption of crop diversification in agriculture.

**KVK Jhajjar**

1. Bhim Singh Received Innovative Farmer Award in *Krishi Mela* (Kharif) 2018 organized by CCS, HAU, Hisar.
2. Mrs.Salochna Rani was facilitated on 23rd December, 2020 on the occasion of *Kisan Diwas* at KVK, Jhajjar.
3. Mr. Vinay Phogat was facilitated on 23rd December, 2020 on the occasion of *Kisan Diwas* at KVK, Jhajjar.
4. Mrs.Gomti Deci was facilitated on 23rd December, 2021 on the occasion of *Kisan Diwas* at CCSHAU, Hisar.
5. Mrs. Pinki was facilitated on 23rd December, 2022 on the occasion of *Kisan Diwas* at CCSHAU, Hisar.
6. Mr. Siddhartha Malhan was facilitated on 23rd December, 2022 on the occasion of *Kisan Diwas* at CCSHAU, Hisar.

**KVK Kaithal**

1. Sh. Mahinder Singh S/oMani Ram, Progressive Farmer belonging to Rasina village, was honoured by Sh. Narender Singh Tomer(Agri.Farmer welfare Minister) Krishi Rattan Award on the Occasion of 5$^{th}$ National Agri Vision Conference New Delhi organized in 6-7 March 2021.

2. Sh. Garudyal Singh S/o Vakil Singh Progressive farmer belonging to Malikpur Village was honoured by Sh. Narender Singh Tomer(Agri. Farmer welfare Minister) on dated 1st November 2022.

3. Sh. Mahinder Singh S/oMani Ram, Progressive Farmer belonging to Rasina village, was honoured by Sh. Manohar Lal Khattar Hon'ble Chief Minister on *Kisan Mela* at CCSHAU, Hisar as Cash Award of Rs. One Lakh on dated 12 March 2023.

**KVK Mahendergarh**

1. Smt. Neetu Yadav village Gudha was honored and received Rs. 20000-00/- Best Woman Dairy Farmer award by Indian Dairy Association (North Zone) at Kochi (Kerla).

2. Sh. Gajraj Singh village Mori was honored by Retd. Lieutenant General, D. P. Vats, Member of Rajya Sabha and Dr. A. K. Singh, DDG (Agri. Ext.) for his contribution towards Horticulture and Organic Farming on the occasion of *Kisan Mela* on 27.03.2018 at CCSHAU, Hisar.

3. Smt. Neetu Yadav was honored with Haryana Krishi Ratna award in 4th Agri Leadership Summit – 2019 carrying a cash price of Rs. 1.0 lakh and a citation.

4. Sh. Raj Kumar received best district farmer award in 4th Agri Leadership Summit – 2019 held at Ganaur, Sonipat in March, 2019.

5. Sh. Kisan Lal S/o Sh. Nagar Mal of Nanwan Village (Satnali Block) of Mahendergarh district got Kisan Ratan Award on the occasion of *Kisan Diwas* on 23.12.2020 at CCSHAU, Hisar. The award was given to him on the basis of adoption of integrated farming system model comprising of different enterprises. The university felicitated him with the prize money of Rs. 21000/. Sh. J.P. Dalal, Hon'ble Minister of Agriculture and Farmers Welfare, Govt. of Haryana was Chief Guest at this occasion and announced a prize money Rs. 21000/- on his part.

6. Sh. Mahaveer S/o Sh. Mool Chand of Karira village (Block Kanina) of Mahendergarh district got first prize in Horticultural Crop Production Technology (Mushroom Pickle) in 6th Vegetable Mela held on 26-28 January, 2020 at Center of Excellence for Vegetables, Gharonda.

7. Sh. Gajraj Singh S/o Sh. Mahaveer Singh of Palri village (Block Mahendergarh) of Mahendergarh district got first prize for Murrah Breed 2-4 teeth Bull in All India Animal Exhibition held on 31st October and 1st November, 2020 at village Tajpur (Ateli) by Animal Welfare Organization, Haryana.

8. Bawania Pickle PCL got Ideal Women Achievement Award– 2021 on 07th March 2021 by BMG Yuva Club (NGO), Kanina for contribution to the society in the field of Self Employment and Social Work.

9. Progressive farmer Smt. Neetu Yadav village Gudha was honored with Best Animal Award at state level in 38th Animal Expo organized by Department of Animal Husbandry and Dairying from 25-27.02.2022.

10. Progressive farmer Sh. Ravi Parakash village: Bharaf was honored by Sh. Manohar Lal, Hon'ble Chief Minister, Govt. of Haryana with state level first prize of Rs. 5.0 lakh for excellent contribution in agriculture and allied fields under Mukhymantri Pragataisheel Kisan Samman Yojna during Haryana Krishi Vikas Mela-2023 organized from March 10-12, 2023 at CCSHAU, Hisar

**KVK Mandkola**

1. Mr. Jaidev Sharma, farmer belonging to Hasanpur village, was honoured by CCSHAU, Hisar on the occasion of *Kisan Diwas* organised in 23rd Dec.2019 for adoption and promotion of organic farming as enterprise.
2. Mrs. Sunita Dagar, Bag making entrepreneur belonging to Saroli village, was honoured by CCSHAU, Hisar on the occasion of *Kisan Diwas* organised in 23rd Dec.2020 for adoption and promotion of Bag making as enterprise.
3. Mr. Surender Yadav, farmer belonging to Barota village, was honoured by CCSHAU, Hisar on the occasion of *Kisan Diwas* organised in 23rd Dec, 2021 for adoption and promotion of multi-cropping and dairy farming as enterprise.
4. Mr. Budhram, farmer belonging to Kishorpur village, was honoured by CCSHAU, Hisar on the occasion of *Kisan Diwas* organised in 23rd Dec.2022 for adoption and promotion of Bee Keeping and medicinal plantfarming as enterprise.

**KVK Rohtak**

1. Mr. Sandeep Mohan s/o Sh. Azad Singh a progressive farmer belongs to Marodhi Jatan Village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* (Kharif) March, 2018 for adoption and promotion of Integrated Farming System.
2. Sh. Sandeep s/o Sh. Jagbir a progressive farmer belongs to Sanghi village, was felicitated at CCSHAU, Hisar on the occasion of *Krishi Mela* (Rabi)-September, 2018 for adoption and promotion of DSR and farm Mechanisation.
3. Sh. Jagbir Singh s/o Sh. Kapoor Singh, a progressive farmer belongs to Balb village, was felicitated at CCSHAU, Hisar on the occasion of *Krishi Mela* (Rabi)- September, 2019for adoption and promotion of Horticulture and vegetable with drip irrigation.
4. Mrs. Anita w/o Sh Dinesh Kumar a progressive farm woman belongs to Maina village, was facilitated on 23rd December, 2019 on the occasion of *Kisan Diwas* at CCSHAU Hisar for adoption of Enterprise - Cutting & tailoring and Bangle Maker.
5. Sh. Sandeep s/o Sh. Jagbir Singh,a progressive farmer belongs to Sanghi village was facilitated on 23rd December, 2019 on the occasion of *Kisan Diwas* at CCSHAU Hisar for adoption and promotion of Integrated Farming System.
6. Sh. Joginder Singh s/o Sh. Ishwar Singh, a progressive farmer belongs to Samargopalpur Khurd village, was facilitated on 23rd December, 2020 on the occasion of Virtual *Kisan Diwas* at KVK Rohtak for adoption and promotion of Integrated Farming System.
7. Mrs. Surajbala, w/o Sh. Sombir, a progressive farm woman belongs to Bhainisurjan village, was facilitated on 23rdDecember, 2020 on the occasion of Virtual *Kisan Diwas* at KVK Rohtak for adoption of Enterprise- Cutting and tailoring, boutique and training centre for stitching.
8. Sh. Abhishek s/o Sh. Surajmal a progressive farmer belongs to Farmana Khas village, wasfacilitated on Virtual *Krishi Mela* (Kharif)-2021 at KVK, Rohtak for adoption of enterprise-Bee Keeping.
9. Mrs. Kamlesh, w/o Sh. Ram Jiwan, a progressive farm woman belongs to Ismaila village, was facilitated on 23rd December, 2021 on the occasion of *Kisan Diwas* at CCSHAU Hisar for adoption of crop diversification.

10. Sh. Devi lal,s/o Sh. Jagat Singh, a progressive farmer belongs toBainsi village, was facilitated atCCSHAU Hisar during *Krishi Mela* (kharif) -March-2022 for adoption and promotion of Resource Conservation Technology.

11. Sh. Rajkumar s/o Sh. Balbir, a progressive farmer belongs to Marodhi village, was facilitated at CCSHAU Hisar during *Krishi Mela* (Rabi) -September 2022 for adoption and promotion of Crop diversification.

12. Bansilal s/oSh. Bhagat Singh, a progressive farmer belongs toChiri village, was facilitated at CCSHAU Hisar on 23rd December, 2022 on the occasion of *Kisan Diwas*for adoption and promotion of Organic Farming.

13. Mrs. Jyoti w/o Sh. Krishan Kumar,a progressive farmer belongs to Garhi Bohar village, was facilitated at CCSHAU Hisar on 23rdDecember, 2022 on the occasion of *Kisan Diwas* for adoption of Enterprise- Stitching & Cutting.

**KVK Yamunanagar**

1. Sh. Mange Ram s/o Sh. Ram Chandar Saini, a progressive farmer belongs to Uncha Chandna village, Yamunanagar was honored by Govt. of Haryana for Kisan Rattan Award on 17.2.2019 for adoption and promotion of Direct Seeded Rice (DSR) and resource conservation technologies.

2. Sh. Gurmail Singh S/o Sh. Jaswant Singh, a progressive farmer belongs to Talakaur village, Yamunanagar was honored with State level Kisan Rattan Award on 23.11.21 for adopting and promoting laser land leveling, mechanical transplanting, zero tillage, crop diversification at large scale across Yamunanagar district.

**KVK Bhiwani**

1. Sh. Ramehar s/o Ramnarayan, Progressive farmer belongs to Dhanasari village, was honored by Kisan Ratan Award in 2018 for in by CCSHAU, Hisar.

2. Sh. Krishan s/o Sh. Abhay Ram, Progressive farmer belongs to Bisalwas village, was honored by Bagwani kisan sammelan puraskar in 2019 for promotion of horticultural crops.

3. Sh. Dayanand s/o Sh. Munshi Ram, Progressive Farmer belongs to Biran village, was honoured by Kisan Rattan Award on the occasion *Kisan Diwas* by CCSHAU for Integrated Farming System in 2021.

4. Smt. Rekha w/o Sh. Rakesh, Progressive farmer belongs to village Badala was honoured byKisan Rattan Award on the occasion *Kisan Diwas* by CCSHAU for Integrated Farming System in 2022.

5. Sh. Pawan s/o Sh. Bhana Ram, Progressive farmer belongs to village Surpura was honoured byKisan Rattan Award on the occasion *Kisan Diwas* by CCSHAU for Integrated Farming System in 2023.

**KVK Sirsa**

1. Sh. Sukhwinder, a progressive farmer belonging to Sultanpuria village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2018 for adoption and promotion of *in-situ* crop residue management techniques.

2. Sh. Samsher, a progressive horticulture farmer belonging to Matdadu village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2018 for adoption and promotion of horticultural crops and crop diversification.
3. Sh. Virender Sahu, a progressive farmer belonging to Gigorani village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2019 for adoption and promotion of innovative nursery production techniques for horticultural crops.
4. Sh. Kalu Ram, a Bee Keeping entrepreneur belonging to Bhuratwala village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2018 for adoption and promotion of Bee Keeping enterprise.
5. Smt. Manju Rani, a progressive female farmer belonging to Begu village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2021 for adoption and promotion of latest farming practices.
6. Smt. Sonia, an entrepreneur belonging to Odhan village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2022 for adoption and promotion of self-help group activities and stitching enterprise among rural women.
7. Sh. Deepak, a progressive farmer belonging to Jhorar Nali village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2022 for adoption and promotion of better water management practices and good nursery production techniques.
8. Dr. Mukesh Kamboj, a progressive farmer belonging to Jhorar Nali village, was honored with Krishi rattan award by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2022 for adoption and promotion of natural farming techniques.
9. Sh. Mohan Lal, a progressive farmer belonging to Farwain Kalan village, was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* organized in 2023 for adoption and promotion of crop residue management, direct seeded rice and latest technologies.

**KVK Sonipat**

1. Sh. Neeraj, s/o Sh. Jai Bhagwan Village Sitawali, Sonipat was honored by CCSHAU, Hisar on the occasion of *Kisan Diwas* 2021 for adoption and promotion Custom Hiring Centre and Resource conservation.
2. Smt. Sunita Ahuja, w/o, Sh. Rakesh Kumar resident of Khanna Colony, Sonipat was honored by CCSHAU, Hisar on the occasion of *Kisan Diwas* 2021for adoption and promotion Value Addition of fruits and vegetables.
3. Sh. Shivank Dahiya s/o Satish Kumar resident of Village Mandora Sonipat was honored by CCSHAU, Hisar on the occasion of *Krishi Mela* (Kharif) 2022 for adoption and promotionvermi composting and vegetable production.
4. Sh. Rajinder s/o Sh. Sh. Hoshiyar Singh village Halalpur Sonipat was honored by CCSHAU, Hisar on the occasion of *Kisan Diwas* 2022 for adoption and promotion Diversified Farming & Custom Hiring Centre.
5. Smt. Raj Kumari w/o Sh. Hari Om Village Garhi Mimarpur was honored by CCSHAU, Hisar on the occasion of *Kisan Diwas* 2022 for adoption and promotion of Livestock farming & Fruit processing

**KVK Kurukshetra**

1. Sh. Sultan Singh, Progressive farmer, Village-Bakhli received "Mushroom Ratan" award with a cash prize of Rs.1,00,000/- in 3rd Agri Leadership Summit 2018, Rohtak.
2. Sh. Harbir Singh, Progressive farmer, Village-Dadlu received "Nursery Ratan" award with a cash prize of Rs.1,00,000/- in 3rd Agri Leadership Summit 2018, Rohtak.
3. Sh. Jeet Ram, Progressive farmer, Village-Lotni received "Wheat Ratan" award with a cash prize of Rs.1,00,000/- in 3rd Agri Leadership Summit 2018, Rohtak for highest wheat productivity (7404 kg/ha) in the state.
4. Sh. Gurmail Singh, Progressive farmer, Village- Dhanora Jattan received State award for protected cultivation with a cash prize of Rs. 51,000/- in 3rd Agri Leadership Summit 2018, Rohtak.
5. Sh. Sahib Singh, Progressive farmer, Village-Chajjupur received State award with a cash prize of Rs. 21,000/- in 3rd Agri Leadership Summit 2018, Rohtak for getting 2nd position in Haryana in wheat productivity (7164 kg/ha).
6. Sh. Roshan Lal, Progressive farmer, Village-Tikri received State award with a cash prize of Rs. 21,000/- in 3rd Agri Leadership Summit 2018, Rohtak for getting 3rd position in Haryana in wheat productivity (7125 kg/ha).
7. Sh. Raj Kumar Arya, Progressive farmer, Village-Mehra received State award for organic farming with a cash prize of Rs. 21,000/- in 3rd Agri Leadership Summit 2018, Rohtak.
8. Sh. Rajbir Singh, Progressive farmer, Village-Dhangali received State award for Climate Smart Agriculture with a cash prize of Rs. 21,000/- in 3rd Agri Leadership Summit 2018, Rohtak.
9. Sh. Gurvinder Singh, Progressive farmer, Village-Barna received State award for straw management with a cash prize of Rs. 21,000/- in 3rd Agri Leadership Summit 2018, Rohtak.
10. Sh. Karambir Singh, Village-Sunariya received State award for Murrah Baffalo with a cash prize of Rs. 21,000/- in 3rd Agri Leadership Summit 2018, Rohtak.
11. Sh. Prithvi Singh, Village-Kanipla received State award for Fishries Cultivation with a cash prize of Rs. 21,000/- in 3rd Agri. Leadership Summit 2018, Rohtak.

16-18 Three State level awards were received by Sh. Harbir Singh, Sh. Karan Sikri and Sh. Ravi Mathana in 2018 in field of Hi-Tech nursery, Vermi Compost and Dairying respectively by Chief Minister Haryana Sh. Manohar Lal Khattar at Karnal.

19. Smt. Kusum Gupta, Prgressive Mushroom Grower from Ismailabad got first prize of Rs.1,00,000/- during 4th Agri Leadership Summit 2019 organized tat Ganaur.
20. Sh. Parag Dhawan, Prgressive Mushroom Grower from Pehowa got first prize of Rs.1,00,000/- from Directorate of Mushroom Research at Chamba Ghat, Solan during the National level Musroom Mela being organized on 10-September-2019.
21. Sh. Kulbir Singh, Village-Mangoli Jattan, District-Kurukshetra got Haryana Kisan Ratan Award-2019 from Sh. Dushyant Chautala, Deputy Chief Minister, Haryana on 22-December-2019 at CCS Haryana Agricultural University Hisar.
22. Sh. Sukhwinder Singh, Progressive farmer, Village-Gumthala Garhu received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 10,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

23 Sh. Dharamveer Singh, Progressive farmer, Village-Mirzapur received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 10,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

24 Sh. Rahul Kumar, Progressive farmer, Village-Rawa received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 10,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

25 Sh. Dharamveer Singh, Progressive farmer, Village-Bir Kalwa received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 10,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

26 Sh. Paramjeet Singh, Progressive farmer, Village-Gumthala Garhu received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 50,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

27 Sh. Joginder Singh, Progressive farmer, Village-Pindarsi received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 50,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

28 Sh. Virender Singh, Progressive farmer, Village-Mangoli Jattan received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 50,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

29 Sh. Raj Kumar, Progressive farmer, Village-Mehra received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award with a cash prize of Rs. 50,000/- in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

30 Sh. Satbir Singh, Progressive farmer, Village-Rampur received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

31 Sh. Balkar Singh, Progressive farmer, Village-Bakhli received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

32 Sh. Balkishan, Progressive farmer, Village-Ramgarh received "Mukhya Mantri Pragatisheel Kisan Samman Yojana" award in *Haryana Krishi Vikas Mela* 2023, March 10-12,2023.

**6.6.9.5. International Collaboration:** *Mention the list of collaboration taken place during last five years with international agencies/universities/institutes for academic, research and others.*

This point has already been covered under points**6.6.1.11Collbaoration with Academic Institutions and Industry& 6.6.3.8 Global Support.**

**6.6.9.6. Fund Raising through CSR:** *How much fund the university has collected from corporate sector for on- farm research and extension and other related activities in last five years?*

- RenovationworkforCombathall, GymbuildingandBoyshostel, *i.e.*, CivilWork, Electricalwork, Landscaping, PathwayWorkKotastone, Office Air conditioner, Hostelfurnishings, Boxing punching bags, Hostelfurnitutre, Ventilation&coolingsystem, Officefurniture, OutdoorLighting, Physioroom renovation, Watercooler&RO, GymAirconditioning, TechnicalEquipment was carried out by the Financial Assistant from JSW Ltd. All above mentioned sports building fall under the GiriCentre, CCSHAU Hisar and with the assistance of JSW Ltd. Total expenditure to meet out all these renovation was **Rs. 8.42 Crores**which was fully sponsored by JSW Ltd.

- University has raised funds for XXI All India Inter Agricultural Universities Sports and Games Meet-2022-23 (Agri-Sports), amounting to Rs. 2 lacs from Yes Bank.
- University has raised funds of Rs. 73.90 lacsfor various CSR projects incldiung stainless steel dual drum dustbins with SS satnd; solar lights (Installed at COA, Bawal; 100 lights); Solar lights (Installed at COA, Kaul; 75 lights); incinerators and sanitary napkin dispenser covered and sponsored by HPCL, ONGC, IREDA and ONGC companied, respectively.
- A fund of Rs. 2 lacs were raised for sponsoring workshop covered by ONGC Company.
- COA&ET has raised fund of Rs. 70, 000/- for Development of HAU type Hempseed sponsered by Canapure Pvt. Ltd. Bhopal.
- University also raised funds of Rs. 2.03 Crores for infrastructure development i.e., Potato Grading Line, Vegetable Seed Packing Machine and Vegetable Grafting Unit installed at Department of Vegetable Science, COA.
- University had organized an International Conference on GINMA, 2019 & fund of Rs. 16.93 lacs was raised which were sponsored by various corporate like Coromandel, Corteva, PI industries, Bayer, FMC, Syngenta, UPL etc.
- Recently, University had organized an International Conference on INTCLIMATE & fund of Rs. 11.63 lacs wasraisedwhich were sponsored by various corporate such as Bayer Crop Science limited, Rasi seeds, Corteva etc.

**6.6.9.7. Alumni Support:** *Does the University have the active alumni association. How much fund the Association has raised for the development of the University? What the other areas where the Association is supporting to the University?*

The University has an active Alumni Association to support the parent organization's goals and to strengthen the ties between CCSHAU alumni, the community and the parent organization. The ex-officio President, Secretary and Treasurer are from Directorate of Students Welfare. The Alumni Association has remained dynamic largely due to the efforts of the Directorate. The Association felicitates its illustrious alumni who came from diverse walks of life. The association has raised Rs. 78,29,854 /- for the university. The association is supporting the University in the following ways:

1. To communicate on regular basis with the members of the Alumni and the University keeping mutually informed the developments of the Alumni as well as the University.
2. To foster more extended relationships between present students and staff and others associated with the University.
3. Generate funds for the development and betterment of the University and also for the promotion of the objectives of the association.
4. To provide continuing education enrichment experience for alumni and present students of the University.
5. To provide Alumnia platform to connect to University and to assist recent graduates and current students in shaping their career.
6. To provide financial assistance to the needy students in the shape of travel assistance for attending seminars to PG students, providing registration fee for attending National Seminar, providing tuition fee to PG students so as to continue their higher study without any hardship and also sports related financial help to promising and needy students to excel in sporting event.

During the periods under report the following Alumni Meets were organised:

| Dates | Alumini attended | Venue |
|---|---|---|
| 25.5.2019 | 76 | CCSHAU, Hisar |
| 24.11.2019 | 65 | COA, Kaul |
| 7.11.2021 | 37 | Jaipur |
| 12.3.2022 | 32 | Hisar |
| 24.9.2022 | 155 | Chandigarh |
| 2.4.2023 | 45 | COA, Hisar |
| 5.3.2023 | 35 | COA, Hisar |




A Glimpse of various Alumini meet

**6.6.9.10. Certificate** *(Application when SSR is submitted for Programmes, Colleges and Agricultural University).*

I, the **Registrar** of the Agricultural University **Dr. Balwan Singh Mandal** hereby certifies that the information contained in the sections6.4, 6.5 and 6.6.1 to 6.6.9.7 are furnished as per the records available in the University.

**Signature of Registrar with date and seal**



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## COLLEGE OF AGRICULTURE
## HISAR

# SELF STUDY REPORT





2023

## Chaudhary Charan Singh Haryana Agricultural University
## Hisar, Haryana-125004

# FOREWORD



With 4.4 million hectares of land, Haryana is one of India's smallest States and accounts for 1.4% of the nation's total agricultural land. Haryana is the Nation's top state for agricultural productivity and a major supplier of food grains to the national supply. A thoughtfully designed and diligently given agricultural education has made breakthroughs in food and agriculture feasible. In the age of digitalization and technological growth, we at CCSHAU are paying close attention to the rising sectors of agriculture, creating connections between university entrepreneurs and industry, and motivating students and farmers to pursue agriepreneurship.

The College of Agriculture at Hisar came into existence on July 17, 1962 as Government Agriculture College. The College was initially affiliated to Punjab University, Chandigarh. The College became the integral part of Punjab Agricultural University, Ludhiana with its creation on December 20, 1962 College of Agriculture at Hisar has come a long way and has broadened its horizons. Along with imparting agricultural education of a very high standard it continues to serve farmers with the cutting edge research and advanced techniques developed by its scientists. The College offers a wide range of undergraduate courses and postgraduate programmes as per ICAR guidelines that integrate agricultural sciences and humanities to provide a holistic education to our students. Our faculty members, experts and technical staff, are committed in delivering high-quality instructions, promoting research-driven learning, and fostering an environment conducive to critical thinking and innovation among students. The faculty of the college has recently collaborated with the international institute IRRI, Philipines for rice research.

With foreign Memorandums of Understanding (MoU) and a wider student reach, the institution is in reality opening up new vistas in the subjects of agriculture. Accreditation is the process of authorising or formally endorsing an institution's profile, points of strength, and accomplishments. Self-Study Reports provide us the chance to remind stakeholders of our commitment to giving students a well-rounded education. I am delighted to present the self study report of college of agriculture. This report represents a comprehensive assessment of our academic programs, infrastructure, and overall institutional development.

I appreciate the dedicated efforts of all the faculty members, staff who helped in the preparation of this Self Study Report.

.

**Prof. B. R. Kamboj**
Vice Chancellor
CCSHAU, Hisar

# PREFACE

The College of Agriculture at Hisar came into existence on July 17, 1962 as Government Agriculture College. The College was initially affiliated to Punjab University, Chandigarh. It became the integral part of Haryana Agricultural University, Hisar with its creation in February 2, 1970. The college of agriculture, a citadel of agricultural education, research and extension, is one of the most important and largest constituent colleges of CCS Haryana Agricultural University. The college continuously caters into the needs of agricultural research and education of the students and stakeholders from the state as well as from other states and countries.

The College of Agriculture, Hisar is proud of its upgraded facilities, which include modern classrooms, well-equipped departmental libraries, laboratories, seminar rooms, examination hall and student farms. College is having well qualified and experienced faculty. College has 14 departments covering every aspect of agriculture education as per ICAR guidelines,

The central facilities of the university allow the college to produce brilliant graduates and postgraduates who are well prepared for the future endeavours in the field of contemporary agriculture. The college gives equal importance on co-curricular activities, such as cultural, sports, NCC, and NSS, in addition to curricular ones, as these activities help students grow into better human beings. Through these activities, students' general growth, interpersonal skills, and sense of patriotism are fostered.

The best theoretical and practical education is given to the students with the assistance of highly educated instructors. The unique exposure to practical and classroom education, followed by a year of practical crop production and six months of Rural Agriculture Work Experience (RAWE) helps to develop future-ready agriculture graduates in a variety of agricultural disciplines. To develop the students' entrepreneurial skills and prepare them for future ventures into production and marketing, a special focus is placed on agro-based skill-oriented activities such as organic farming, sustainable agriculture, beekeeping, mushroom cultivation, vermi-composting, dairying, and horticulture. The college promotes and supports international exposure to its students. Additionally, the college is effective at educating students from other nations.

These congenial conditions of the college equip students for the future, enabling them to achieve academically and better serve the farming community, as seen by the majority of gold medals won by students at this college as well as representation our students at national and international level. This graduates of the college are serving universities, banks, armed forces, cooperative sector and other public and private sectors successfully.



**Dr. Surender K. Pahuja**
Dean, College of Agriculture, Hisar

# CONTENT


| Sr. No. | Particulars | Page (s) |
|---|---|---|
| **1.** | **Self Study Report of College of Agriculture** | |
| 6.5.1 | College administration | 3 |
| 6.5.2 | Faculty | 58 |
| 6.5.3 | Learning resources | 122 |
| 6.5.4 | Student development | 133 |
| 6.5.5 | Physical facilities | 142 |
| 6.5.6 | Research facilities | 145 |
| 6.5.7 | Outcome/Output | 156 |
| **2.** | **Self Study Report of Programme - 1 (UG)** | |
| 6.4.1 | Brief history of the degree programme | 165 |
| 6.4.2 | Faculty strength | 167 |
| 6.4.3 | Technical and supporting staff | 168 |
| 6.4.4 | Classrooms and laboratories | 169 |
| 6.4.5 | Conduct of practical and hands-on-training | 170 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 175 |
| 6.4.7 | Feedback of stakeholders | 175 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 175 |
| 6.4.9 | ICT application in curricula delivery | 181 |
| **3.** | **Self Study Report of Programme - 2 Agril. Economics (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 192 |
| 6.4.2 | Faculty strength | 193 |
| 6.4.3 | Technical and supporting staff | 194 |
| 6.4.4 | Classrooms and laboratories | 194 |
| 6.4.5 | Conduct of practical and hands-on-training | 195 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 200 |
| 6.4.7 | Feedback of stakeholders | 200 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 201 |
| 6.4.9 | ICT application in curricula delivery | 201 |
| **4.** | **Self Study Report of Programme - 3 Agronomy (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 215 |
| 6.4.2 | Faculty strength | 216 |
| 6.4.3 | Technical and supporting staff | 217 |
| 6.4.4 | Classrooms and laboratories | 217 |
| 6.4.5 | Conduct of practical and hands-on-training | 219 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 220 |
| 6.4.7 | Feedback of stakeholders | 221 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 221 |
| 6.4.9 | ICT application in curricula delivery | 221 |
| **5.** | **Self Study Report of Programme - 4 Agril. Meteorology (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 243 |
| 6.4.2 | Faculty strength | 149 |

| | | |
|---|---|---|
| 6.4.3 | Technical and supporting staff | 249 |
| 6.4.4 | Classrooms and laboratories | 249 |
| 6.4.5 | Conduct of practical and hands-on-training | 250 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 252 |
| 6.4.7 | Feedback of stakeholders | 252 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 253 |
| 6.4.9 | ICT application in curricula delivery | 253 |
| **6.** | **Self Study Report of Programme - 5 Bussiness Managt. (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 265 |
| 6.4.2 | Faculty strength | 266 |
| 6.4.3 | Technical and supporting staff | 266 |
| 6.4.4 | Classrooms and laboratories | 266 |
| 6.4.5 | Conduct of practical and hands-on-training | 267 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 268 |
| 6.4.7 | Feedback of stakeholders | 268 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 269 |
| 6.4.9 | ICT application in curricula delivery | 269 |
| **7.** | **Self Study Report of Programme - 6 Ento. (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 282 |
| 6.4.2 | Faculty strength | 283 |
| 6.4.3 | Technical and supporting staff | 283 |
| 6.4.4 | Classrooms and laboratories | 283 |
| 6.4.5 | Conduct of practical and hands-on-training | 286 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 295 |
| 6.4.7 | Feedback of stakeholders | 295 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 296 |
| 6.4.9 | ICT application in curricula delivery | 296 |
| **8.** | **Self Study Report of Programme - 7 Ext. Edu. (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 315 |
| 6.4.2 | Faculty strength | 316 |
| 6.4.3 | Technical and supporting staff | 317 |
| 6.4.4 | Classrooms and laboratories | 317 |
| 6.4.5 | Conduct of practical and hands-on-training | 318 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 321 |
| 6.4.7 | Feedback of stakeholders | 322 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 322 |
| 6.4.9 | ICT application in curricula delivery | 322 |
| **9.** | **Self Study Report of Programme - 8 Forestry (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 335 |
| 6.4.2 | Faculty strength | 336 |
| 6.4.3 | Technical and supporting staff | 337 |
| 6.4.4 | Classrooms and laboratories | 337 |
| 6.4.5 | Conduct of practical and hands-on-training | 338 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 341 |
| 6.4.7 | Feedback of stakeholders | 342 |

| | | |
|---|---|---|
| 6.4.8 | Student intake and attrition in the programme for last five years | 342 |
| 6.4.9 | ICT application in curricula delivery | 342 |
| **10.** | **Self Study Report of Programme - 9 G&PB (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 358 |
| 6.4.2 | Faculty strength | 359 |
| 6.4.3 | Technical and supporting staff | 360 |
| 6.4.4 | Classrooms and laboratories | 360 |
| 6.4.5 | Conduct of practical and hands-on-training | 364 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 371 |
| 6.4.7 | Feedback of stakeholders | 371 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 371 |
| 6.4.9 | ICT application in curricula delivery | 372 |
| **11.** | **Self Study Report of Programme - 10 Horticulture (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 403 |
| 6.4.2 | Faculty strength | 404 |
| 6.4.3 | Technical and supporting staff | 405 |
| 6.4.4 | Classrooms and laboratories | 405 |
| 6.4.5 | Conduct of practical and hands-on-training | 406 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 414 |
| 6.4.7 | Feedback of stakeholders | 414 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 415 |
| 6.4.9 | ICT application in curricula delivery | 415 |
| **12.** | **Self Study Report of Programme – 11 Nematology (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 431 |
| 6.4.2 | Faculty strength | 432 |
| 6.4.3 | Technical and supporting staff | 433 |
| 6.4.4 | Classrooms and laboratories | 433 |
| 6.4.5 | Conduct of practical and hands-on-training | 435 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 438 |
| 6.4.7 | Feedback of stakeholders | 438 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 438 |
| 6.4.9 | ICT application in curricula delivery | 438 |
| **13.** | **Self Study Report of Programme – 12 Plant Pathology (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 448 |
| 6.4.2 | Faculty strength | 449 |
| 6.4.3 | Technical and supporting staff | 450 |
| 6.4.4 | Classrooms and laboratories | 450 |
| 6.4.5 | Conduct of practical and hands-on-training | 452 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 454 |
| 6.4.7 | Feedback of stakeholders | 455 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 455 |
| 6.4.9 | ICT application in curricula delivery | 455 |
| **14.** | **Self Study Report of Programme – 13 Seed Science & Tech. (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 473 |
| 6.4.2 | Faculty strength | 474 |

| | | |
|---|---|---|
| 6.4.3 | Technical and supporting staff | 475 |
| 6.4.4 | Classrooms and laboratories | 475 |
| 6.4.5 | Conduct of practical and hands-on-training | 476 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 480 |
| 6.4.7 | Feedback of stakeholders | 480 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 480 |
| 6.4.9 | ICT application in curricula delivery | 480 |
| **15.** | **Self Study Report of Programme – 14 Soil Science (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 489 |
| 6.4.2 | Faculty strength | 490 |
| 6.4.3 | Technical and supporting staff | 491 |
| 6.4.4 | Classrooms and laboratories | 491 |
| 6.4.5 | Conduct of practical and hands-on-training | 493 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 495 |
| 6.4.7 | Feedback of stakeholders | 496 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 496 |
| 6.4.9 | ICT application in curricula delivery | 496 |
| **16.** | **Self Study Report of Programme – 15 Veg. Science (M.Sc. & Ph.D.)** | |
| 6.4.1 | Brief history of the degree programme | 511 |
| 6.4.2 | Faculty strength | 512 |
| 6.4.3 | Technical and supporting staff | 513 |
| 6.4.4 | Classrooms and laboratories | 513 |
| 6.4.5 | Conduct of practical and hands-on-training | 514 |
| 6.4.6 | Supervision of students in PG/Ph.D. programmes | 518 |
| 6.4.7 | Feedback of stakeholders | 519 |
| 6.4.8 | Student intake and attrition in the programme for last five years | 519 |
| 6.4.9 | ICT application in curricula delivery | 519 |
| **17.** | ***Annexures*** | |
| | College of Agriculture | 184 |
| | Agricultural Economics | 202 |
| | Agronomy | 223 |
| | Agricultiral Meterology | 255 |
| | Business Management | 271 |
| | Entomology | 297 |
| | Extension Education | 324 |
| | Forestry | 344 |
| | Genetics & Plant Breeding | 373 |
| | Horticulture | 417 |
| | Nematology | 440 |
| | Plant Pathology | 457 |
| | Seed Science & Technology | 482 |
| | Soil Science | 498 |
| | Vegetable Science | 521 |

# SELF STUDY REPORT OF COLLEGE OF AGRICULTURE

## HISTORY

The College of Agriculture at Hisar came into existence on July 17, 1962 as Government Agriculture College. The College was initially affiliated to Punjab University, Chandigarh. The College became the integral part of Punjab Agricultural University, Ludhiana with its creation on December 20, 1962. Dr. H. S. Dhindsa was the first Principal of the College of Agriculture (COA). He later became the Dean and was succeeded by Dr. L. S. Negi, Dr. J. S. Kanwar and Dr. D. Sundaresan who administered it in addition to his duties till the regular Dean Dr. D. R. Bhumbla was appointed in July 1966 and he continued till February 1969. It became the integral part of Haryana Agricultural University, Hisar with its creation in February 2, 1970. The college has all facilities for students including smart classrooms, fully equipped laboratories, library, computer section, cafeteria, examination hall, seminar hall etc. The College of Agriculture, a citadel of agricultural education, research and extension, is one of the most important and largest constituent colleges of CCS Haryana Agricultural University.



The CCSHAU has three Colleges of Agriculture located at Hisar, Kaul and Bawal in which the COA Kaul and Bawal comes under the administration of COA, Hisar. College of Agriculture, Kaul situated on the outskirts of village Kaul, district Kaithal, Haryana (29.8498$^{o}$ N latitude, 76.6615$^{o}$ E longitude) is an important constituent college of Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar. College of Agriculture, Kaul has its beginning as a constituent college of Kurukshetra University, Kurukshetra in the erstwhile state of joint Punjab. After creation of the state of Haryana in 1966, Haryana Agricultural University came into being at Hisar in the year 1970. The College of Agriculture, Kaul was integrated into the Haryana Agricultural University in 1974 with the motto to impart quality and scientific education to students in the field of agriculture.

Initially, the academic session was started for B.Sc. (Hons.) Agri. having both *i.e.* 4 year and 5 year programmes at Kaul campus. The classes for 1$^{st}$ year under 4-year programme, and 1$^{st}$ and 2$^{nd}$

year under 5-year programme were initiated at Kaul campus and the rest of classes were conducted at the main campus of HAU, Hisar. Dr. M.S. Chaudhary was the founder Principal who served the college from 28-7-1974 to 11-5-1977 and thereafter eighteen eminent Professors headed the post of Principal till date, under whose leadership the college has made significant achievements in the field of academics, sports, NCC/NSS and other co-curricular activities. College of Agriculture, Kaul was upgraded to a full-fledged college in 1983 and the first batch completed their graduation in 1986. During this long journey of 49 years, a total of 1513 students have completed their B.Sc. (Hons) Agri. degree from this esteemed college. Presently, 211 students including 107 girls are enrolled for B.Sc. (Hons) Agri. 4- year programme. Later, postgraduate programme of M.Sc. (Agriculture) and Ph. D. was initiated in three disciplines of Agronomy, Soil Science and Genetics & Plant Breeding in the year 2019-20. Presently, 12 M.Sc. students and 9 Ph. D. students are enrolled in this college.

The College of Agriculture, Bawal was established in 2015 as one of the constituent colleges of Chaudhary Charan Singh Haryana Agricultural University, Hisar on 21.08.2015. The foundation stone of the college building was laid down on February 25, 2017 by Shri Manohar Lal, Hon'ble Chief Minister of Haryana. Bawal is a municipality in Rewari district of Haryana state and lies in the National Capital Region (NCR) of India. It is located on national highway NH 48, about 14 km from Rewari city, 100 km from Delhi and 200 km from the main campus of the University at Hisar. Bawal is located at 28.09°N 76.59°E at an elevation of 266 m above mean sea level. The college has all facilities for students including smart classrooms, fully equipped laboratories, library, computer section, cafeteria, examination hall, seminar hall etc. The College of Agriculture, a citadel of agricultural education, research and extension, is one of the most important and largest constituent colleges of CCS Haryana Agricultural University.

## OBJECTIVES

The College adopts the following goals and objectives which permeate in offering of various curricula and, undertakes research and extension activities by its departments to:

- Provide world-class education to our students.
- Maintain a strong basic and applied research programme to support all segments of agriculture and allied sectors through enhanced agricultural productivity and environmental sustainability.
- Serve the rural society through extension activities by disseminating research-based knowledge.
- Assist stakeholders through value-added endeavors, bio-based products, bio-processing, crop diversification etc.
- Monitor climate change impacts on agricultural systems and develop mitigation strategies adopting interdisciplinary approaches.







*Different views of College of Agriculture, CCSHAU, Hisar*

## SELF STUDY REPORT FOR COLLEGE

### 6.5.1. College Administration

**6.5.1.1. College Dean's office establishment:** *Weather the Dean's post sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines? Date of selection of present Dean, mode of selection, tenure etc. shall be mentioned. Clearly mention the staff and infrastructure/facilities available in the Dean's Secretariat.*

The Dean's post is sanctioned by the appropriate authority as per ICAR Model Act. The Dean is appointed on a tenure basis for a period of four years through open selection on all India bases.

**Staff available in the Dean's Secretariat:**

| | | |
|---|---|---|
| Dean's Name | Dr. Surender K. Pahuja | |
| Whether the Dean's post sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines | Yes | |
| Date of Selection of Present Dean | 27.12.2021 | |
| Mode of Selection | Direct selection | |
| Tenure | 4 years | |
| STAFF | **Sanctioned** | **In position** |
| AAO | 1 | 1 |
| Personal Sec./Personal Assistant | 1 | 1 |
| Office Assistants (No.) | 7 | 6 |
| Clerks (No.) | 5 | 3 |
| Storekeeper (No.) | 1 | 1 |
| Messengers (No.) | 3 | 1 |
| INFRASTRUCTURE *(Give the details of the infrastructure available such as furniture, computer etc.)* | | |

| | | |
|---|---|---|
| Dean's Office | Yes. Dean's chamber is fully furnished with Executive table, Sofa sets and visitors' chairs. Computer with Windows 10 OS is provided with Laser printer and UPS system. The whole room is connected to an UPS system to prevent data loss in- case of electrical breakdown. Air conditioning equipments are also provided for climate control. False roofing is provided to improve lighting. All lights are LED as per the latest norms. The college is monitored from the Dean"s chamber through the CCTV monitor connected to cameras installed at various key points. | |
| PS Office | Yes. Separate provision for Personal Assistant (PA) with Computer and printer is provided for assisting the Dean. | |
| AAO Office | Yes. Independent office room, furniture and computer are available. | |
| Cashier Chamber | Yes. Separate Chamber with Computer facility and accounting software with printer for documenting the accounts are available. Sufficient number of steel shelves with locking provision is available to keep the office records. | |
| Store (s) | Yes | |
| Committee Room | Yes. The Committee Room has a long table with 50 executive chairs. False roofing with LED lighting is provided. The room also has air conditioning. A LCD projector with screen facility is available for conducting meetings and video conferencing. | |
| Waiting Lounge / Hall for Visitors | Yes; The Reception with seating arrangements is available for the visitors and also has drinking water facility | |
| Common room for girl students | Yes | |
| Washrooms/Toilets | Yes (24 in no.) One toilet for physically challenged | |
| Auditorium | Yes. Completely furnished Auditorium installed with audio visual aids with a seating capacity of 514 is available to conduct College day to day functions. Annual function day, Seminars, Guest lectures, Motivational speeches and Agriculture Officers' Workshop are also conducted in the Auditorium. | |
| Computer Centre (College Level) | 01, No. of computers: | 60 |
| Departments | No. 14<br>**Names:**<br>1. Agricultural Economics<br>2. Agronomy<br>3. Agricultural Meteorology<br>4. Business Management<br>5. Entomology<br>6. Extension Education<br>7. Forestry<br>8. Genetics and Plant Breeding<br>9. Horticulture<br>10. Nematology<br>11. Plant Pathology<br>12. Seed Science and Technology<br>13. Soil Science<br>14. Vegetable Science | |
| Lecture Halls (No.) | 15 (One lecture room for each department) | |

| | | |
|---|---|---|
| Facilities in the lecture hall like seating capacity, LCD Projector, Computer, CC Camera, Blackboard, screens etc. | Each lecture hall has seating capacity of 70. Ten lecture rooms have smart class room facilities. Rest of the lecture rooms have LCD projector, Computer. All lecture rooms are fitted with CCTV Camera, Blackboard, screens etc. | |
| Smart Class rooms (No.) | 10 | |
| Seminar Rooms (No.) | 14 (In all Departments) | |
| Committee Room (No.) | 5 | |
| Exhibition Hall / Wings | 01 | |
| College Library | Nil | |
| Departmental Library | 14 | |
| Departmental Computer facility | Each faculty member has computer with all the accessories. | |

**6.5.1.2. Monitoring Mechanism for Quality Education (on-line):** *Whether the College is having an internal quality assurance system, with appropriate structure and processes, and with enough flexibility to meet the diverse needs of the stakeholders which is required for planning, guiding and monitoring quality assurance and quality enhancement activities of the Colleges. If yes, how effectively monitoring of teaching, research and extension across the departments is being conducted. Mention the impact of monitoring of the outcome of the College with reference to students' excelling in academics, research and extracurricular activities.*

Yes, the College has an Internal Quality Assurance Cell (IQAC).

**Composition of Internal Quality Assurance Cell (IQAC)**

(a) Chairperson: Dr. S. K. Pahuja, Dean College of Agriculture

(b) Senior teachers and administrative official:

1. Dr. S. K. Thakral, Professor & Head, Department of Agronomy
2. Dr. Manoj Sharma, Professor & Head, Department of Soil Science
3. Dr. A. K. Godara, Professor & Head, Department of Extension Education
4. Dr. D. P. Malik, Professor & Head, Department of Agricultural Economics
5. Dr. T. P. Malik, Professor & Head, Department of Vegetable Science
6. Mr. Yadvender, AAO, Dean College of Agriculture

(c) External Experts:

1. Dr. S. S. Pahuja Professor (Retd.), Department of Agronomy, CCSHAU, Hisar
2. Dr. R. K. Behl, Professor (Retd.), Department of GP&B, CCSHAU, Hisar

(d) Director/Coordinator: Member Secretary

1. Dr M. L. Khichar, Associated Dean, COA

The IQAC started working towards realizing the goals of quality enhancement and sustenance. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the performance of college. The IQAC is playing a significant role in maintaining and channelizing the efforts and measures of the college towards academic excellence.

**Functions of IQAC**

- Implementing and improving choice based credit system for curricula of the campus courses
- Monitoring the teaching-learning process
- Emphasizing on filling of vacant teaching and non teaching posts
- Encouraging organization of conferences/seminars/workshops *etc.* by the departments

- Supporting and encouraging the research projects sponsored by the university and outside agencies
- Strengthening trainings and placement of students
- Facilitating alumni interactions at department level
- Suggesting new inter-disciplinary programmes in the departments
- Capacity building and trainings for faculty and staff competence
- Organizing trainings for skill development and entrepreneurship
- Ensuring extra guidance to students of SC/ST, OBC and weaker section
- Reviewing internal quality assurance at the end of the year
- Improving teaching based on feedback from the students, teachers and parents
- Quick redressal of common complaints and women empowerment
- A non-smoking and zero tolerance for ragging college

**Monitoring of teaching:**

**Tutorial System:** Tutorial system has been introduced in the college. This is a system which addresses the groups of students attached to the faculty throughout their stay in the degree programme. Each group of students typically comprises of ten students in each class. One faculty is exclusively attached to this group and the meeting of tutorial group is convened every week to discuss students activities during the week, their performance, difficulties if any faced during the lectures, hostel life, sports and cultural activities etc., The faculty also communicate to the parents of their tutors and discuss about the feelings of their wards regarding the course, teaching, campus life etc.

- Self-appraisal report of individual teachers is evaluated by respective Head, controlling officer (Dean, DR, DEE) and VC.
- Evaluation of teachers through feedback proforma from students.
- To provide quality education to the students, all the e-content in form of text, video, images, presentations etc. are uploaded online on university website
- All the class in-charges are responsible to report all the academic activities periodically to the Dean.
- Programme of work, synopsis and thesis work of PG students are approved in Advisory Committee, then by HOD and finally approved by the Dean, PGS.
- PG students deliver synopsis seminar in their departments to get feedback from the departmental faculty. The synopsis is evaluated internally before submission to the Dean, PGS for final approval.
- CCTV cameras have been installed in each lecture room for regular surveillance.

**Monitoring of research:**

- The Professors & Heads make frequent visits to the research field and laboratories.
- The Annual Technical Programme meetings are held under the chairmanship of Director of Research along with ADR, Dean COA and HODs of the concerned and related departments to review and monitor the research work carried out in all the departments.
- Action plan of teachers for research work is discussed in the Technical committee meetings.
- Mid-term appraisal meetings are held to review the research work.

**Monitoring of extension:**

- Extension activities to be conducted by faculty members are planned in the Departmental Committee. The extension activities are also monitored by the respective KVK, Scientific Advisory Committee.
- Prof. & Head convene regular meetings of different DESs, Ext. Specialists and also maintains liaisoning through telephone system for pest survey & surveillance.

**Impact:**

- **Year wise number of students passed out are given below**

| **Students passed out during:** | | | | | | |
|---|---|---|---|---|---|---|
| **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **TOTAL** |
| **79** | 66 | 86 | 99 | 87 | - | **417** |

## Achievements of Students in Academic Activities

### a) Award of Gold Medal

| Year | Name | Admission No. | Name of Award |
|---|---|---|---|
| **2017-18** | Isha | 2014A32BIV | HAU gold medal |
| | Bhawana | 2012A11BVI | |
| **2018-19** | Jyotsna | 2013A13BVI | HAU gold medal, P. S. Lamba gold medal, A. L. Fletcher gold medal |
| **2019-20** | Anjali Rana | 2016A08BIV | HAU gold medal, P. S. Lamba gold medal |
| | Pragati Verma | 2014A37BVI | |
| | Simran | 2014A51BVI | A. L. Fletcher gold medal |
| **2020-21** | Prerna Pilania | K2017A22BIV | HAU gold medal, P. S. Lamba gold medal |
| | Shubham Grover | 2015A54BVI | |
| **2021-22** | Parmod | B2018A19BIV | HAU gold medal, P. S. Lamba gold medal |
| | Surbhi | 2016A56BVI | |

### b) UG Students awarded ICAR National Talent Scholarship

| Sr. No. | Admission No. | Name of students |
|---|---|---|
| **2017-18** | 2016A51BIV | Manish Kumar |
| | 2014A62BIV | Preeti Chaudhary |
| | 2014A02BIV | Abhijeet Singh |
| | 2015A31BIV | Jasdeep Singh |
| | 2017A22BIV | Bipul Jee |
| | 2017A36BIV | Harsita |
| | 2017A44BIV | Jibin Jose |
| | 2017A45BIV | Jitendra Chopra |
| | 2017A70BIV | Pankaj Kumar Dayma |
| | 2017A71BIV | Poonam Balodia |
| | 2017A86BIV | Sachin Garg |
| | 2017A99BIV | Shailendra Partap Lodhi |
| | 2017A103BIV | Shiv Rattan |

| | | |
|---|---|---|
| | 2017A125BIV | Swati Singh |
| | 2017A129BIV | Virendra Choudhary |
| **2018-19** | 2015A31BIV | Jasdeep Singh |
| | 2017A36BIV | Harshita |
| **2019-20** | 2017A36BIV | Harshita |
| | 2019A24BIV | Ankita Tiwari |
| | 2019A02BIV | Aayushi Pareek |
| | 2019A17BIV | Anaam Ahmad |
| | 2019A11BIV | Akanksha Kumari |
| **2020-21** | 2019A24BIV | Ankita Tiwari |
| | 2019A02BIV | Aayushi Pareek |
| | 2019A17BIV | Anaam Ahmad |
| | 2019A11BIV | Akanksha Kumari |
| **2021-22** | 2020A06BIV | Achyut Anant |
| | 2020A36BIV | Harihara Prasad Rath |
| | 2020A80BIV | Pooja Bishnoi |
| | 2020A97BIV | Rumais Panampuzha |
| | 2020A105BIV | Shalini Kumari |
| | 2020A63BIV | Monu Meena |
| | 2020A108BIV | Shruti Setia |
| | 2019A24BIV | Ankita Tiwari |
| | 2019A06BIV | Aditi |
| | 2019A02BIV | Aayushi Pareek |
| | 2019A17BIV | Anaam Ahmad |
| | 2019A80BIV | Nilanchal Nishan |
| | 2019A11BIV | Akanksha Kumari |
| | K2019A27BIV | Suman Baidya |

- **READY (RAWE+AIA) :**The Rural Entrepreneurial Awareness Development Yojana [READY] programme is a flagship activity for the final year B.Sc. (Hons.) The basic objective of the programme is building self-confidence in the agricultural graduates by developing their professional skills. RAWE focuses on strengthening capacity of individual students so that they can respond to the farmers' need and promote solutions related to such needs in their service career. It includes: orientation and basic training (1week); rural experience through village placement (10 weeks); agro-industrial attachment (6 weeks); project report preparation; presentation and evaluation of report (1week).

- **Basic Training:** One week orientation at Hisar and two days basic training of crop production and protection at respective KVK's, ATIC, Hisar and COA, Kaul is being carried out.

- **Rural Experience:** Students undertake full responsibility to operate individually and in small groups to interact with farmers during stay in villages for 70 days. They prepare survey schedule, identify issues and constraints in farming system and analyze factors involved in the sustainability of overall system in the village. Students learn how farmers determine and manage their resources. They also prepare a document, which is presented and submitted to the course faculty at the end of the course. This helps students to develop and maintain cooperation among the group and with farmers. A total of 211 students of B.Sc. (Hons.) Ag. final year including students from

COA, Kaul were provided hands on training for RAWE programme with the help of experts from CISA during 2022-23. Students were placed in 30 villages in the surrounding of RRS/KVK, Bawal and ATIC, Hisar.

- Preparation of report: During the last 2 weeks of RAWE programme, students learn to prepare report on rural experience, agro-industrial training attained, self-employment training received, programmes and activities of various institutions visited, major constraints in crop production and suggestions for improving income of farmers; presentation. The interns are evaluated through presentation and submission of report, viva- voce, punctuality, enthusiasm, conduct, leadership qualities, sincerity and devotion displayed by the interns.

- **Agro-Industrial Attachment:** The students gain a substantial experience through six weeks interaction with agro-based industries. The experience of commercial environment further advances their practical knowledge in communication skills and working in a team. Some students got direct interaction with perspective employer and got the job according to individual capability. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project. During the period under report, students were placed in 20 agro-based industries.

- **CSISA (Cereal Systems Initiatives in South Asia) ODK (Open data Kit ) a landscape diagnostic survey (LDS):** The CSISA (Cereal Systems Initiatives in South Asia) ODK (Open data Kit) -RAWE program in collaboration with Chaudhary Charan Singh Haryana Agriculture University (CCSHAU) was launched with a vision to understand the existing production practices of farmers in major cropping systems (Rice-Wheat, Cotton-Wheat and Pearl Millet-Mustard) prevalent in the state. The detailed survey with respect to landscape diagnostics for Rice-Wheat Cropping System (RWCS) was carried out in the district of Panipat, Kurukshetra and Yamunanagar, for Cotton-Wheat Cropping System (CWCS), the target districts were Hisar and Sirsa, and for Pearl Millet-Mustard Cropping System Mahendergarh and Rewari were the districts. The second, aspect of getting this survey implemented through the RAWE program was for the in-depth understanding of the prevalent practices and the existing gaps by the research scientists, extension agents, and policymakers and capacity building of agriculture students at the undergraduate level through rigorous field training to strengthen their base and give them an understanding of their future clientele i.e., the farmers. Thirty villages from each district were selected for the survey and random sample of ten farmers was used for the study. The students collected agricultural data of the farmers about their particular crop rotations with the help of Android software named ODK COLLECT v2022.3.6. Data collected through the questionnaires were thoroughly analyzed using different analytical tools and techniques.

  During RAWE programme students participated in following training/ awareness days for farmers organized through concerned KVK.

**Training**

- Organic Farming
- Management of insect pests in organic farming
- Vermicomposting
- Importance of seed treatment
- Management of kitchen waste
- Mushroom Cultivation

**Awareness**

- About toll-free number of university and e-Mausam HAU app
- Environment day

**Modules for Skill Development and Entrepreneurship:** The final year students of degree programme are given hands on training in various skill-oriented modules. During the training, students "learn by doing" various aspects of techniques and their management strategies. Students have to register 20 credits opting for two modules of 10 credits each from the nine modules in last semester of degree programme. The modules include Agro advisory services, Organic Production Technology, Bee Keeping, Mushroom Cultivation, Seed Production and Technology, Soil Plant Water and Fertilizer Testing Services, Commercial Vegetable Production, Bio-agents and Biofertilizers Production and Food Processing. Students learn entrepreneurship skills in the field of agriculture through practical learning under various skill-oriented modules. The students are exposed to deep practical learning by involving themselves to agri entrepreneurship environment through exposure visits and personal learning.



Visit of RAWE group leaders with CIMMYT member to Dhansu Village for ODK demonstration



Interaction with RAWE students at ATIC Hisar



RAWE students during orientation programme



RAWE students at HAIC, Murthal


Motivational lecture by RAWE students


Evaluation of the students by evaluating team


Weed identification by the farmers during ODK survey by the RAWE students


Weed identification by the farmers during ODK survey by the RAWE students


Weed identification by the farmers during ODK survey by the RAWE students


Uploading of the ODK proforma by the students at Farmer's field


Uploading of the ODK proforma by the students at Farmer's field


Uploading of the ODK proforma by the students at Farmer's field



Uploading of the ODK proforma by the students at Farmer's field



Collection of information by the students under RAWE Programme




Senior Co-ordinator, KVK Jhajjar interacting with farmers during RAWE training



Monitoring team with RAWE students at village Gangwa ( Hisar)




Training to the farmers on vermicomposting at village Nahar (Rewari)



Lecture by the students on vermicomposting to the farmes under RAWE programme



कृषि विभाग की स्कीमों के बारे में किया जागरूक

बावल। चौधरी चरण सिंह कृषि विश्वविद्यालय के विद्यार्थियों की ओर से गांव नाहड़ में एक दिवसीय किसान प्रशिक्षण गोष्ठी का आयोजन किया। कार्यक्रम कृषि विज्ञान केंद्र बावल के वरिष्ठ समन्वयक प्रो. जोगिंद्र सिंह यादव के निर्देशन में आयोजित किया गया। उन्होंने बताया कि कार्यक्रम का मुख्य उद्देश्य वर्तमान समय के अनुसार कृषि एवं कृषि संबंधित विषयों में पढ़ाई करने वाले छात्रों को रोजगारोन्मुखी बनाना है कृषि विकास अधिकारी डॉ. संतोष इंदौरा ने किसानों को कृषि एवं किसान कल्याण विभाग की सभी स्कीमों के बारे में अवगत कराया। केंद्र के कीट विज्ञान विशेषज्ञ डॉ. बलबीर सिंह व सहायक वैज्ञानिक डॉ. सत्यजीत यादव ने किसानों को कृषि से संबंधित महत्वपूर्ण जानकारी उपलब्ध कराते हुए पोषक तत्वों की पूर्ति के लिए केंचुआ खाद के बारे में विस्तार से



वर्मिकम्पोस्टिंग से होने वाले लाभ बताए

कृषि की सभी योजनाओं की किसानों को दी जानकारी

प्रशिक्षण

Training on vermicomposting at ATIC and COA Bawal



Traing to the interns by faculty
at RRS Karnal



Weed management in Rabi crops
at RRS Karnal



Training on seed treatment through ATIC Hisar





Training on vermicompost preparation at village Ludas through ATIC Hisar



RAWE students at village Ludas



Involvement of the RAWE students in the trainings organised by the KVKs





Awareness about environment at village Kaimri (Hisar)













Training on various aspect of agriculture at village Tokas ( Hisar)




Awareness by RAWE students in school regarding the streams after completing school education

## c) Extra-Curricular Activities

**NCC, NSS & Other Activities**

**NSS UNIT College of Agriculture, CCS Haryana Agricultural University, Hisar**
**Awards/Achievements of NSS Volunteers (2018-22)**

National Service Scheme (NSS) came into existence in College of Agriculture since inception of the university in February 1970. It is considered as a part of academic studies for the undergraduate students of College of Agriculture, Hisar. It is offered as a course of two credits in the first semester every year and is playing an important role in mobilizing the students in community participation; group living, sharing and ultimately imparting the value education to the students. Some of the important activities performed by NSS volunteers of College of Agriculture, CCSHAU, Hisar during the period under report are described as below:

### Achievements of NSS Volunteers during 2018-19

**NATIONAL LEVEL**

**National Award**

- Mr. Rahul Dabur NSS volunteer was awarded National Youth Award for the year 2018-19 by Ministry of Youth Affairs & Sports, Government of India

**National Republic Day Parade**

- Two NSS volunteers Mr. Firdoos Malik and Mr. Sumit Lega from College of Agriculture, Hisar participated in Republic Day Parade on 26$^{th}$ January 2019 marched at New Delhi.

**National Integration Camp**

- Two NSS volunteers Mr. Ankur Gupta and Mr. Vishal Soni of College of Agriculture, Hisar participated in NSS National Integration Camp organized by the Ministry of Youth Affairs and Sports at Jamia Millia Islamia Central University, New Delhi during December 23-29, 2018.

**National Adventure Camp**

- Two NSS volunteers Mr. Jinkle and Mr. Aman Madan from College of Agriculture, Hisar participated in NSS National Adventure Camp organized by the Ministry of Youth Affairs and Sports at ABVIMAS Hat Koti- Kharapather during September12-21, 2018.

**STATE LEVEL**

**State Level NSS Award**

- Mr. Abhishek NSS volunteer was awarded State NSS Award by Department of Higher Education, Haryana for the year 2018-19.
- Dr. Bhagat Singh, NSS Programme Officer of College of Agriculture, Hisar was awarded the Best NSS Programme Officer in Haryana.
- Mr. Charan Singh, NSS Volunteer of College of Agriculture, Hisar was awarded the Best NSS Volunteer in Haryana.

**State Level NSS Camp**

- Six NSS Volunteers of College of Agriculture, CCSHAU, Hisar participated in State level NSS Camp organized by State NSS cell, Directorate of Higher Education, Haryana at GJUS&T, Hisar from March 22-28, 2019.

**Achievements of NSS Volunteers during 2019-20**

***International level***

- Mr. Firdos Malik participated in International Youth Exchange programme from November 11-22, 2019 at South Korea.

***National level***

**National Award**

- Dr. Bhagat Singh was awarded NSS National Award by Honorable President of India for the year 2019-20 in Programme Officer/NSS Unit category for his contribution in various NSS activities.
- Mr. Abhishek from College of Agriculture, Hisar was awarded NSS National Award by Honorable President of India for the year 2019-20 in Volunteers (Male) category for his contribution in various social activities.

***National Youth Award***

- Mr. Abhishek Kumar NSS volunteer of College of Agriculture, Hisar received **Swami Vivekanand National Youth Award 2020** for exemplary contribution in the social welfare by Sanskruti Foundation NGO, Maharashtra.

**National Republic Day Parade**

- Mr. Chetan Gupta from College of Agriculture, Hisar participated in Republic Day Parade on 26$^{th}$ January 2020 held at New Delhi.

**National Integration Camp**

- Mr. Abhishek from College of Agriculture, Hisar participated in National Integration Camp organized by the Ministry of Youth Affairs and Sports at Bangalore Central University, Bangalore from October 2-8, 2019.

- Mr. Manoj Saini from College of Agriculture, Hisar participated in National Integration Camp organized by Jammu University, Jammu (J&K) from February 22-28, 2020.

**National Youth Festival**

- Four NSS Volunteers (Jinkle, Sharad, Akshay Mehta and Kanika) participated in 23rd National Youth Festival organized at Lucknow (UP) from January 12-16, 2020.

***State level***

**State NSS Award**

- Mr. Jinkle NSS volunteer was awarded the State NSS Award by Department of Higher Education, Haryana for the year 2019-20.

**Achievements of NSS Volunteers during 2020-21**

***National level***

**National Award**

- Mr. Akshay Mehta from College of Agriculture, Hisar was awarded NSS National Award by Honorable President of India for the year 2020-21 in Volunteers (Male) category for his contribution in various social activities.

**National Republic Day Parade**

- Mr. Ankit Yadav from College of Agriculture, Hisar participated in Republic Day Parade on 26th January 2021 marched at New Delhi.

**National Integration Camp**

- Two NSS volunteers Mr. Ansh and Ms. Ritika participated in NSS National Integration camp held at MJP Rohilkhand University, Bareilly, Uttar Pradesh during March 10-16, 2021.

**Achievements of NSS Volunteers during 2021-22**

***International level***

- Mr. Vatsal Arora represented India and won Best Discussion Awards in 20th International Students Conference organized by Tokyo University from 9th July 2021 to 17th September 2021.
- Ms. Shakshi represented India and won Best Learner Award in 20th International Students Conference organized by Tokyo University from 9th July 2021 to 17th September 2021.

***National level***

**National Republic Day Parade**

- Ms. Ruchika from College of Agriculture, Hisar participated in Republic Day Parade on 26th January 2022 held at New Delhi.
- Mr. Umesh from College of Agriculture, Hisar participated in Republic Day Parade on 26th January 2023 held at New Delhi.

**National Integration Camp**

- Organised NIC at CCSHAU, Hisar during 16-22 December, 2021. Atotalof 200 NSS volunteers from 18 states of India participated.

- NSS volunteers attended National Integration Camp at Kurukshetra University, Kurukshetra during 18-24 November, 2021.
- NSS volunteers attended National Integration Camp at Maharishi Dayanand University, Rohtak during November 19-25, 2021.
- NSS volunteers attended National Integration Camp at Maharishi Markandeshwar University, Mulana (Ambala) during March 22-28, 2022.
- Organised NIC at CCSHAU, Hisar during 26th February to 4th March 2023. A total of 200 NSS volunteers from 13 states of India participated.

***State level***

**State NSS Award Distribution function**

- State Level NSS Award Distribution Function for 2018-19 & 2019-20 was organized at CCSHAU, Hisar on 9th March 2022.

**State NSS Camp**

- NSS volunteers attended NSS State level camps at CRSU, Jind (Oct 19-25, 2021), CBLU, Bhiwani (Nov 16-22, 2021) and GJUS&T, Hisar (Nov 17-23, 2021).

**State Youth Red Cross Camp**

- Five boy volunteers participated in State level Training camp for boys at Kurukshetra during March 11-16, 2022.
- Ten girl volunteers participated in State level Training camp for girls at Haridwar during March 23-28, 2022.

## GLIMPSES OF NSS ACTIVITIES




NSS National Award (Mr. Rahul Dabur; 2018-19)



Participation in Republic Day Parade (Mr. Firdoos Malik & Mr.Sumit Lega; 2019)



State NSS Award (Mr. Abhishek; 2018-2019)



Best NSS Programme Officer Award in State (Dr. Bhagat Singh; 2018-2019)



Best NSS Volunteer Award (Mr. Charan Singh; 2018-2019)



Participation in International Youth Exchange programme at South Korea (Mr. Firdos Malik; 2019)



Participation in International Youth Exchange programme at South Korea (Mr. Firdos Malik; 2019)



NSS National Award (Dr. Bhagat Singh, Programme Officer/NSS Unit category 2019-20)



NSS National Award (Mr. Abhishek in Volunteer category 2019-20)




Swami Vivekanand National Youth Award (Mr. Abhishek Kumar; 2020)



Participation in Republic Day Parade (Mr. Chetan Gupta; 2020)



Participation in NSS National Integration Camp at Bangalore (Mr. Abhishek; 2019)




Participation in NSS National Integration Camp at Jammu(Mr. Manoj Saini; 2020).



Participation in National Youth Festival at Lucknow (UP) (Mr. Jinkle, Mr. Sharad, Mr. Akshay Mehta &Ms. Kanika; 2020)



State NSS Award (Mr. Jinkle; 2019-2020)

युवा कार्यक्रम एवं खेल मंत्रालय
MINISTRY OF YOUTH AFFAIRS AND SPORTS
NATIONAL SERVICE SCHEME AWARDS 2020-21



NSS National Award (Mr. Abhishek in Volunteer category 2020-21)





Participation in Republic Day Parade (Mr. Ankit Yadava; 2021)



Participation in NSS National Integration Camp at Uttar Pradesh (Mr. Ansh & Ms. Ritika; 2021)



Participation in Republic Day Parade (Ms. Ruchika; 2022)




NSS National Integration Camp organized at CCSHAU, Hisar during December 2021




Participation in NSS National Integration Camp at Kurukshetra, Haryana (2021)



Participation in NSS National Integration Camp at Rohtak, Haryana (2021)




Participation in NSS National Integration Camp at Ambala, Haryana (2022)





State Level NSS Award Distribution Function organized at CCSHAU, Hisar on 9th March, 2022




Participation in NSS State Level Camp at Hisar, Haryana (2021)




Participation in State Level Training Camp at Kurukshetra, Haryana (2022)




Participation in State Level Training Camp at Haridwar, Uttrakhand (2022).

**CELEBRATION OF IMPORTANT DAYS:**

NSS units celebrated different important days such as, National Youth Day, Republic Day, Sadhbavna Day, International Literacy Day, International Peace Day, NSS Day, National Blood Donation Day, Mahatma Gandhi's Birthday, National Integration Day, Teachers Day, International Day of Yoga *etc*.

Different competitions and lectures were organized for the volunteers on these days. Volunteers plan and carry out different social activities such as tree plantation, cleanliness campaign, rallies etc. NSS volunteers also participated in the Pulse Polio Campaign initiated by the Government.

The world is changing and becoming more unpredictable especially for women. Women's education is important for their empowerment. Equally important is the issue of their safety. Today's high time requires that women must be ready to protect themselves. So, the self-defense becomes an important priority for women. Taking cognizance of this need, the trainings on self-defense for girl students is being orgranized through professionally qualified experts.

In every first quarter of the year, annual camp was organized in the village by NSS unit of college. NSS volunteers participated in the camp and organized several motivational lectures and useful training for the villagers. During camp, they also participated in various social activities like tree plantation, cleanliness drive and holding rallies on various topics/themes such as *Beti Bachao*, *Swach Bharat, Rastriye ekta, Nasha Mukt Bharat Abhiyan, HIV/AIDS awareness etc*.

**NCC unit:** *Existence and functioning of NCC unit and how it is benefiting the student development (A brief report)*

**National Cadet Corps Unit: COA, CCSHAU, Hisar**

NCC boosts confidence in individuals and brings out their hidden qualities, makes Cadets not only physically fit but also mentally strong with leadership qualities. Cadets with 'C' certificate are eligible for directly commissioned to vacancies in armed forces without appearing for written exam. Girl Cadets of College of Agriculture are enrolled in second semester in each academic session to be a part of NCC (Air and Army wing). Cadets are enrolled under unit "1HAR R&V SQN NCC, HISAR", "NCC 1(Air) Haryana Bn. Hisar" and "3 Haryana Girls BN NCC", NCC group- Rohtak and Directorate "Punjab, Himachal Pradesh, Haryana and Chandigarh." Girl cadets have come out in shining colours in all fields of NCC. Girl Cadets regularly participate in various events like:

- Republic day parade at CCSHAU
- ATC camps

- Guard of honour at Campus
- 'B' and 'C' certificate examinations
- Poem and declamation contests
- Trekking Camps
- Adventure Camps
- Flying Camps
- Shooting Camps

**National Cadet Corps (Boys)**

| S. No. | Year | Name of the Event/ Activity | No. of Cadets |
|---|---|---|---|
| **1.** | 2018-19 | C-Certificate Exam cleared | 14 |
| **2.** | 2019-20 | C-Certificate Exam cleared | 16 |
| **3.** | 2020-21 | C-Certificate Exam cleared | 23 |
| **4.** | 2021-22 | C-Certificate Exam cleared | 17 |
| **5.** | 2022-23 | C-Certificate Exam cleared | 14 |
| **S. No.** | **Year** | **Name of the Event/ Activity** | **No. of Cadets** |
| 1. | 2018 -19 | B-CertificateExam cleared | 20 |
| 2. | 2019 -20 | B-Certificate Exam cleared | 24 |
| 3. | 2020-21 | B-Certificate Exam cleared | 18 |
| 4. | 2021-22 | B-Certificate Exam cleared | 16 |
| 5. | 2022-23 | B-Certificate Exam cleared | 16 |

**Annual Training Camp**

| S. No. | Year | Name of the Event/ Activity | No. of Students |
|---|---|---|---|
| 1. | 2018 -19 | ATC-173 | 33 +ANO in CCSHAU |
| 2. | 2018-19 | ATC-179 | 03 |
| 3. | 2019-20 | ATC-171 | 25 in SKPS Siwani |
| 4. | 2019-20 | ATC-183 | 9 in SKPS Siwani |
| 5. | 2020-21 | ATC-156 | 17 in CCSHAU |
| 6. | 2020-21 | R&V CORE in LUVAS | 23 in CCSHAU |
| 7. | 2021-22 | ATC-172 | 16 + ANO in SKPS Siwani |
| 8. | 2021-22 | ATC-173 | 17 in SKPS Siwani |
| 9. | 2022-23 | ATC-198 | 30 in SKPS Siwani |

**Training Camp**

| S. No. | Year | Name of the Event/ Activity | No. of Cadets |
|---|---|---|---|
| **1** | July 2018 | Shooting Camp Ropar Competition | 01 |
| **2** | October 2018 | Army Attachment Camp | 02 |
| **3** | October 2018 | ESEB Jaiselmer | 02 |
| **4** | January 2019 | Republic Day Camp Delhi Cantt | 01 |
| **5** | January 2019 | EBSB-II, Ropar | 02 |
| **6.** | March 2019 | CATC-194, Bhiwani | 03 |
| **7.** | April 2019 | Inter Group Firing Competition | 02 |
| **8.** | August 2019 | Basic Leadership Camp | 01 |
| **9.** | December 2019 | Advanced Leadership Camp | 01 |



NCC cadets participated in March-past on Republic Day celebration, 2023









Glimpses of NCC activities of NCC cadets of COA, Hisar

## ANNUAL NCC REPORTS (JULY, 2018 TO MARCH, 2023)

### 2018-19

**Total Cadet Strength:** 62
**B- Certificate Exam cleared**: 20 cadets
**C-Certificate Exam cleared**: 14 cadets

1. Enrolment and regular classes were conducted as per procedure.
2. One ATC at Siwani was conducted by the Battalion from October 8-17, 2018 where three students namely – Mr. Sumit (2014A55BVI), Mr. Sachin Mohar (2017A89BIV) and Mr. Bikram Sharma (B17A27BIV) participated.
3. Mr. Harshvardhan, 2014A18BVI and Mr. Mukesh, 2014A30BVI attended Army Attachment Camp from 15th to 27th October, 2018 at Abohar Cantonment.
4. CPL Prateek, 2014A38BVI and Mr. Deepak Kumar, 2015A18BVI participated in trial for Group RDC Team 2019 at Rohtak on 15th June, 2018. Subsequently, Mr. Prateek was selected for Pre RDC-cum-CATC-183 run at 1 Har Bn NCC Rohtak held on.October 13-22, 2018. Mr. Prateek was again promoted for selection for Pre RDC from 25 October to 3 November, 2018 held at Rajiv Gandhi Stadium, Rohtak (CATC-186) by 1 Har Bn NCC, Rohtak. In continuation Mr. Prateek was uplifted for Pre RDC/DCATC, Ropar held on November 10-21, 2018. He attended Pre RDC-1, II, III at Ropar from 22.11.18 to 1.12.18, from 10.12.2018 to 19.12.18 and from 20.12.18 to 29.12.18 respectively. Finally he attended the Republic Day Camp organized at Delhi Cantt. from January 1-29, 2019.

5. Second NCC Star student, CPL Harsh Dagar, 2017A35BIV was selected for Firing Competition which was held at NCC Academy, Ropar from June 22, 2018 to July 2, 2018. He was selected for Inter-Directorate Firing Competition *w.e.f.* 18-27 July, 2018 at 2 Chandigarh Bn, Sector 31-D, Chandigarh. He was again selected for Pre TSC-1 run at 14 Har Bn NCC from July 28 to August 6, 2018. Mr. Harsh Dagar was promoted for Inter-Directorate Shooting Competition Camp at NCC Academy Ropar from 7-18 August, 2018.
6. UO Mr. Sunny Maanjhu, 2014A57BVI and ANO, COA attended EBSB camp at Jaisalmer from October 12-23, 2018 conducted by 7 Raj Bn NCC Bikaner under the aegis of Rajasthan Directorate.
7. Mr. Sachin (2014A5BVI) and Mr. Sunny Maanjhu UO. (2014A57BVI) attended EBSB-II at NCC Academy, Ropar from January8-19, 2019 supervised by 2 Pb (G) Bn NCC Jullundhar. Rohtak group team won Tug of War competition which was supplemented by our cadets.
8. Seventeen students appeared on February 10, 2019 for 'C' certificate examination at MDU Campus, Rohtak and 21 for 'B' Certificate examination on February 3, 2019 at CCSHAU Campus.
9. Republic Day parades were conducted on the eve of Republic Day and the same was celebrated zestfully.
10. One CATC-194 was held at Bhiwani where three cadets *i.e.* Mr. Ankit, 2016A9BVI, Mr. Abhishek Beniwal, 2016A1BVI and Mr. Deepak Kumar, 2015A8BVI participated from March 6-15, 2019.
11. NCC students participated in Blood Donation Camp organized by DSW in the IC College of Home Science on March 28, 2019.
12. Two students *i.e.* Mr. Harsh Dagar (2017A35BIV) and Mr. Deepak Kumar (2015A18BVI) participated in Inter Group Firing Competition Practice held in the campus from April 22 to May 1, 2019. These students also attended IGSC-2019 held at NCC Academy Ropar from June 1-10, 2019 and side by side there from, they attended CATC (Naval) organized by 2Pb Naval Unit.
13. Twenty five students of NCC boy cadets attended ATC -171 held at SKPS Siwani Mandi from June, 2019. Our Contingent stood first in Basketball Game and 3rd in Drill Competition conducted during the camp.
14. Two students Mr.Shubham (2015A55BVI) and Mr. Samar Vijay Singh (2015A48BVI) attended EBSB-1 (NIC) held at Amritsar from June 4-15, 2019

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**2019-20**

**Total Cadet Strength:** 62
**B- Certificate Exam cleared**: 24 cadets
**C-Certificate Exam cleared**: 16 cadets

1. Twenty fresh students were enrolled in NCC by adopting all NCC Parameters.
2. One student, Mr. Paras, 2016A36BVI, sucessfully attended basic leadership camp at Malout, Punjab from August 16-27, 2019.
3. Mr. Harsh Dagar, 2017A35BIV, appeared for Best cadets Commander Interview on August 13, 2019 at GH, Rohtak.
4. Mr. Abhishek Beniwal, 2016A01BVI, attended CATC-190 from Sepetember 21-30, 2019 at GH, Rohtak. It was a Pre- RDC camp and student was selected for further screening camp/ training camp for RDC.

5. One student, Mr. Paras, 2016BVI, successfully attended basic leadership camp at Malout, Punjab from August 16-27, 2019. Later, he attended advance leadership camp at Coimbatore, Tamilnadu from December 6-17, 2019.

## 2020-21

**Total Cadet Strength:** 62
**B- Certificate Exam cleared**: 18 cadets
**C-Certificate Exam cleared**: 23 cadets

1. Twenty four fresh students were enrolled in NCC by adopting all NCC Parameters. Regular parades are being conducted
2. National flag was unfurled in campus school by the Vice Chancellor on republic day escorted by Captain Krishan Sehrawat.
3. Online classes were conducted due to Covid-19 pandemic situations.
4. A three day annual training camp was held at Giri Centre by the battalion from February 01- 03 Feb. 2021, where 17 students participated
5. A five day annual training camp was held at LUVAS by R&V Squad from February 22 – 26, 2021, where 23 students participated . Subsequently, these students appeared for B&C certificate examinations conducted by Battalion and Group Headquarter

## 2021-22

**Total Cadet Strength:** 54
**B- Certificate Exam cleared**: 16 cadets
**C-Certificate Exam cleared**: 17 cadets

1. Enrolment of fresh students (18) was made on 30 Oct., 2021 .by adopting all procedures of NCC.
2. Sixteen students/Cadets successfully attended annual training camp at Shri Krishana Parnami School, Siwani from November 11-17,.2021. In this camp Mr. Nitin Jangra a second year student anchored the stage on closing day of the camp. ANO, COA attended the camp and delivered the lectures. Continuously 2$^{nd}$ camp was held at the same place where seventeen students participated.
3. Regular parades were held from December .2021 to Jan. 26, 2022.
4. National flag was unfurled in the campus by the Vice- Chancellor escorted by Caption Krishan Sehrawat.
5. Seventeen cadets appeared for ‘C’ certificate examination on 27.2.2022 out of which fifteen students got ‘A’ grade in the said examination and remaining two students stood in ‘B’ grade ranking
6. Sixteen students appeared in ‘B’ certificate examination on 5.3.2022. Ten students cleared the examination with ‘A’ grade and remaining six achieved B grade.The result was 100% having good ranking.
7. World Environment day was celebrated on June 5, 2022.
8. International yoga day was observed by NCC cadets jointly with university employees in I.G Auditorium on June 21, 2022.

**2022-23**

**Total Cadet Strength:** 54
**B- Certificate Exam cleared**: 16 cadets
**C-Certificate Exam cleared**: 14 cadets

1. Twenty three fresh students (17 boys and 6 Girls) were enrolled on 30th October 2022 by adopting all parameters of NCC.
2. Regular classes were held from November 16, 2022 to January 26, 2023.
3. Republic day was celebrated at Giri Centre with great enthusiasm, where our platoon led the march-past under the command of Captain Krishan Sehrawat, ANO of the College.
4. An ATC was held from 07-14 October 2022 at SKPPS, Shiwani. Total 30 students participated in the camp, where our students excelled in different performances.
   - Mr. Rohit Dhariwal (2020A96BIV) was the camp senior.
   - Guard of Honour was presented by Mr. Rohit Dhariwal (2020A96BIV), Mr. Gourav Beniwal (20A33BIV), Mr. Nitin Jangra (2020A73BIV), Mr. Kashish (2020A51BIV), Mr. Gourav Jangra (2021A46BIV), Mr. Adan (2021A04BIV), Mr. Dinesh (2020A28BIV), Mr. Rohan (2020AE34BIV).
   - In shooting competition
     - First –Mr. Rohit Dhariwal (20A96BIV)
     - Second –Mr. Shubham Basor (2021A121BIV)
   - Mr. Nitin Jangra (2020A73BIV) and Mr. Shubham Basor (2021A121BIV) were the company senior.
   - First position in Hangar was secured by our team comprising, Mr. Dinesh (2020A28BIV), Mr. Rohan (2020AE34BIV), Mr. Sameer (2021A112BIV), Mr. Shubham Basor (2021A121BIV) and Mr. Harish (2021AE11BIV).
   - In Tent pitching best performance was given by our team comprising Mr. Sandeep (2021A102BIV), Mr. Gourav Beniwal (2020A33BIV), Mr. Rohan (2020AE34BIV), Mr. Gourav Patwa (2020A34BIV), Mr. Kashish (2020A51BIV), Mr. Prabhat (2020A82BIV), Mr. Sudhanshu (2020A117BIV), Mr. Akshay (2020A12BIV)
   - Mr. Darshan (2021AE05BIV) was awarded gold medal in singing competition, whereas silver medal in Haryanvi Folk dance was awarded to Sudhanshu (2020A117BIV) and Mr. Ankush Dalal (2021A18BIV)
   - Hitesh Saini (2020A39BIV) excelled in weapon handling
5. Sixteen students appeared in 'B' certificate examination on 12 February, 2023
6. Fourteen students appeared in 'C' certificate examination on 19 February, 2023

**Mountaineering Club:** Youth and adventure are two faces of the same coin. In fact youth is not measured in terms of the years that one has lived, but by the spirit of adventure that one vibrates with. It has, therefore, been rightly said that the nation that fosters adventure, remains young and proves it invincible. Adventure sports unravel the challenges of nature before man and make person bold and energetic. It inculcates spirit of adventure among the youth and takes away from their minds the fear of the unknown.



**The base camp of Mt. Yunam**

CCSHAU Mountaineering Club provides avenues for the campus youth to take up the challenges inherent in this sport. The affinity of youth for the adventure has guided us to have our motto as "Youth for Adventure". Since its inception in 1971, the Club is flourishing day and night with significant achievements to its credit. The adventurous activities of the Club are usually confined to the semester/annual breaks and vacations when the students are free from their studies and look forward for a change and a new learning. Efforts were made to send the maximum number of members during these breaks on various adventure programmes organized by the Club itself and other clubs/organizations. The Club has successfully completed three peak climbing expeditions (2018, 2019 and 2022) and other trekking expeditions during this period. The students of College of Agriculture actively participated in all the activities of the club.

| Sr. No. | Name of event/ activity | Dates/ Duration |
|---|---|---|
| | **2017-18** | |
| **1** | Low Altitude trekking at Indrahaar Pass (H.P.) | 14 - 18 April, 2018 |
| **2** | Peak climbing expedition to Mt. Kanamo (H.P.) | 25 June- 4 July, 2018 |
| | **2018-19** | |
| **4** | Low Altitude trekking at Mankiani peak and Kareri Lake (H.P.) | 12-17 April, 2019 |
| | **2019-20** | |
| **5** | Peak climbing expedition to Mt. Yunam, 6114M (H.P.) | 07 -15 September, 2019 |
| | **2021-22** | |
| **6** | Basic water sports camp, Pong dam, (H.P.) | 10- 14 June, 2022 |
| **7** | Peak climbing expedition to Mt. Kang Yatse-II, 6253M (Ladakh) | 11-21 August, 2022 |




The group at the top of Mt. Kang Yatse-II

**Peak climbing expedition to Mt. Kanamo (5975m ), Mt. Yunam (6,114m) and Mt. Kang Yatse-II (6253m)**

The club organized a peak climbing expedition to Mt. Kanamo in Spiti valley of H.P. from 25th June to 4th July, 2018. Twenty students of the club participated along with President, Mountaineering club Dr. Mukesh Kumar and Dr. Subhash Chander, Advisor from College of Agriculture. During the expedition the group visited the Key Monastery, one of the main monasteries of the Kaza region. The members of the expedition visited the local houses to learn/ experience the way of living in these harsh conditions. The group also visited the school, college as well as the field to have knowledge about the agriculture of the spiti region. The group started the expedition from Kibber Village and summit Mt. Kanamo. Thirteen members of the team and President, Mountaineering club Dr. Mukesh Kumar scaled the summit (5975m). Few members could not be able to attempt due to poor health.



The group at the summit of Mt. Kanamo

The club organized another high altitude trekking cum peak climbing expedition to Mt. Yunam in Lahul valley of H.P. from 07 -15 September 2019. Twenty students of the club participated along with President, Mountaineering club, Dr. Mukesh Kumar. During the expedition the group had glimpses of two high altitude passes *i.e*. Rohtang Pass and Baralacha LA and a beautiful lake Suraj Tal. The group started the expedition from Baratput Tent Colony, a remote and Barron destination in the Lahul valley and summit Mt. Yunam. Twelve members of the team and President, Mountaineering club Dr. Mukesh Kumar scaled the summit (6114 M).



The team at the top of Mt. Yunam

The toughest expedition of the CCSHAU Mountaineering Club so far was organised to Mt. Kang Yatse-II (6253M) from 11-21 August, 2022. A total of 20 students (15 boys and 05 girls) participated and successfully completed the expedition under the leadership of Dr. Mukesh Kumar and Dr. Sanjay. The group started the expedition from Skiu and trek to Sara. The next day trekking was almost 20 km long and view of the Markha valley was breath-taking. The trek was along the markha river. After full day trekking the group reached at Onmling. The group trekked through the steep mountains to the Thochugste and set up the base camp. The group took rest whole day at base camp for acclimatisation and equipment checking. In the night around 11.00 PM, the group began the summit ascent and after the endless efforts the flag of CCSHAU was unfurled on the peak at 8.30 AM by five students, Aden, Sumit, Shivam, Abhilekh& Sooraj along with Dr. Mukesh Kumar.



The group at Mt. Kang Yatse-II

**Low altitude trekking in Himachal Pradesh**

A low altitude trek was organized at Indrahaar Pass of H.P. from 14th April to 18th April, 2018. Twenty five students of the club participated along with President, Mountaineering club (Dr. Mukesh Kumar) and Dr. Mukesh Dandi, Advisor from College of Agricultural Engineering and Technology. The group started the expedition from McCleodganj and was able to climb upto base of Pass (14350 feet). The team had to forcefully retreat due to bad weather and shortage of time.



**Indrahaar Pass**



The group at the base of Indrahaar Pass

Another low altitude trekking expedition to Mankiani peak and Kareri Lake (H.P.) was organized from 12-17 April, 2019. Total 25 students (15 boys and 10 girls) participated and successfully completed the expedition under the leadership of Dr. C.S. Dagar. The first camping was in the forest of Kareri village. The first day trek was up to Raoti through the lush green mountains. After full day trekking the members reached at Raoti which was the starting point of snowline. The group trekked through the snow laden mountains to the Kareri lake which was mostly covered with snow and keeping it as base camp the summit to Mankiani Peak was started. After the huge efforts the flag of CCSHAU was hoisted on the peak.



Mankiani peak

## Sports Activities of CCSHAU, Hisar

I. 4th International Day of Yoga was celebrated on 21.6.2018.

**2018-19:**

I. **National Sports Day** function was organized by the Directorate of Students' Welfare in the memory of Hockey Wizard "Major Dhyan Chand" on 29.8.2018 at Giri Centre Sports Complex.

i) The Cross Country Race for Men (5 km) and Women (3 km) was conducted. About 250 students actively participated in this function. On this occasion, Dr. D.S. Dahiya, DSW was the chief guest who gave away the prizes to the winners. In Men section Mr. Rakesh and Mr. Anand, students of COA secured 1st and 2nd position, respectively, and in women section Ms. Sudesh, student of COA secured 2nd position.

ii) A Hockey match was also organized between CCSHAU Girls and SAI girls team and SAI team won the match.

iii) A Basketball match was also played by CCSHAU girl students and CCSHAU teachers (female) and students won the match.

II. **Inter-college tournaments (2018-19):**

| Sr.No | Game | Dates | Winner | Runners-up |
|---|---|---|---|---|
| 1. | Cross Country (M) | 11/10/2018 | COA, Hisar | COAE&T |
| 2. | Cross Country (W) | 11/10/2018 | COHS | COA, Hisar |
| 3. | Squash Racket (M) | 11-12/10/2018 | COA, Hisar | COVS, LUVAS |
| 4. | Volleyball (M) | 15-17/10/2018 | COA, Hisar | COVS, LUVAS |
| 5. | Volleyball (W) | 15-17/10/2018 | COA, Hisar | COHS |
| 6. | Table Tennis (M) | 19-22/10/2018 | COA, Hisar | COVS, LUVAS |
| 7. | Table Tennis (W) | 19-22/10/2018 | COHS | COA, Hisar |
| 8. | Kabaddi (M) | 25-27/10/2018 | COA, Hisar | COVS, LUVAS |

| | | | | |
|---|---|---|---|---|
| 9. | Badminton (M) | 29-31/10/2018 | COA, Hisar | COVS, LUVAS |
| 10. | Badminton (W) | 29-31/10/2018 | COA, Hisar | COBS&H |
| 11. | Yoga (M) | 14/11/2018 | COA, Hisar | COA, Kaul |
| 12. | Yoga (W) | 15/11/2018 | COA, Kaul | COA, Hisar |
| 13. | Cricket (M) | 13-16/11/2018 | COA, Hisar | COAE&T |
| 14. | Basketball (M) | 13-16/11/2018 | COAE&T | COA, Hisar |
| 15. | Basketball (W) | 13-16/11/2018 | COA, Hisar | COHS |
| 16. | Hockey (M) | 17/11/2018 | COA, Hisar | COAE&T |
| 17. | Football (M) | 19-21/11/2018 | COA, Hisar | COVS, LUVAS |
| 18. | Handball (M) | 22-24/11/2018 | COA, Hisar | COAE&T |
| 19. | Handball (W) | 22-24/11/2018 | COHS | COAE&T |
| **M: Men; W: Women** | | | | |

III. CCSHAU Cricket team participated in QUASAR, 2018 held at BK Birla Institute of Engineering & Technology, Pilani from October 24-27, 2018. The team got 1st position and also awarded Fair Play Trophy.

IV. The CCSHAU Shooting team (M&W) participated in All India Inter-University Shooting Championship organized by Panjab University, Chandigarh from October 31 to November 5, 2018.

V. The CCSHAU Shooting team participated in Open National Shooting Championship held at Kerala from Nov.15-30, 2018.

VI. The CCSHAU Athletic team participated in All India Inter-University Athletic Championship organized by Mangalore University from November 24-28, 2018.

VII. The CCSHAU Cricket team participated in North Zone Inter-University Cricket Championship organized by MDU, Rohtak from December 15-25, 2018.

VIII. The CCSHAU Archery team participated in All India Inter-University Archery Tournament held at Kalinga Institute of Industrial Technology, Bhubaneswar from December 26-29, 2018

IX. The CCSHAU teams participated in 19th All India Inter Agricultural University Games & Sports Meet held at PAU, Ludhiana from January 2-5, 2019. In this Meet, our students secured 13 Gold medals, 21 silver medals and 24 bronze medals. Mr. Amit was declared Best Athlete in this Meet. Our university was declared overall champion in Athletics (Men) and runners up in Athletics (Women).

X. The CCSHAU Football team participated in Haryana State Inter-college Football Tournament organized by CRM Jat College, Hisar from January 15-18, 2019 and secured 3rd position.

XI. The Directorate of Students' Welfare organized CCSHAU Annual Athletic meet on February 5-6, 2019 and Dr. K.P. Singh, Vice-Chancellor, CCSHAU, Hisar was the chief guest on opening and closing ceremony. Sh. Ajay Pal Tomar, Addl. Deputy Commissioner of Delhi Police, Delhi was the Guest of Honour on the opening ceremony of this Meet and Dr. Rajesh Yadav, Regional Veterinary Officer, Navalgarh, Rajasthan was the Guest of Honour on the closing ceremony of the said Meet. Vice-Chancellor Prof. B. R. Kamboj gave away the prizes to the winners and runners up.

XII. The Directorate of Students' Welfare organized "Golden Jubilee All India Vice-Chancellor Cup Cricket T-20 Tournament- 2019" at Giri Centre Cricket ground from February 7-14, 2019 and Vice-Chancellor, CCSHAU, Hisar was the chief guest.

XIII. The CCSHAU Karate team participated in All India Inter-University Karate organized by MDU, Rohtak from February 20-25, 2019.

XIV. CCSHAU Football team participated in Sportech-2019 held at IIT, Delhi from March 1-4, 2019 and secured 3rd position.

XV. CCSHAU Wushu teams participated in All India Inter-University Wushu Tournament organized by Panjab University, Chandigarh from March 12-16, 2019

**2019-20:**

I. A marathon race was organized on 11.8.2019 on the occasion of water saving programme.

II. The Directorate of Students' Welfare, CCSHAU, Hisar organized National Sports Day in the memory of Hockey Wizard Major Dhyan Chand on 29-08-2019 at Giri Centre Sports Complex. About 300 students of CCSHAU, LUVAS and SAI participated in this function. On this occasion, the following sports events were conducted:

1. Basketball (W)
2. Hockey (W)
3. Cross Country Race (M&W)

In Basketball show match our following female faculty members of under and above 40 years age group participated in which the above 40 years group team won the match by 6-10 scores.

| Sr.No. | Above 40 yrs. | Below 40 yrs. |
|---|---|---|
| **1.** | Dr. Kiran Singh | Dr. Krishna Rulania |
| **2.** | Dr. Meena Sehwag | Dr. Jyanti Tokas |
| **3.** | Dr. Jatesh Kathpalia | Dr. Poonam Mor |
| **4.** | Dr. Jyotsna | Dr. Meenakshi Jatana |
| **5.** | Dr. Veenu Sangwan | Dr. Promila Chahal |
| **6.** | Ms. Indu Chaudhary | Dr.Urvashi Nandal |

Similarly, in female Hockey Show match, the senior and junior teams comprising of CCSHAU and SAI combined players participated. The result was in favour of senior team as this team won the match by 0-2 goals. The team members have been mentioned mentioned hereunder:

| Sr.No. | Senior team | Junior team |
|---|---|---|
| 1. | Kritika | Rekha |
| 2. | Neelam | Nitika |
| 3. | Kiran | Kajal |
| 4. | Manita | Pooja |
| 5. | Rekha | Shefali |
| 6. | Rajni | Manisha |
| 7. | Monika Sihag | Monu |
| 8. | Manisha | Manju |
| 9. | Sonia | Rani |
| 10. | Mohini | Seema |
| 11. | Manjeeta | Sheekha |
| 12. | Sheetal | Pinki |

| | | |
|---|---|---|
| 13. | Mukesh | Sanjana |
| 14. | Jyoti | Pooja |
| 15. | Meenakshi | Kirti |
| 16. | Santosh | Santosh |

The cross country race of 5 km and 3 km for Men & Women respectively was also conduced. About 80 students participated in this race. The following students secured position

**Men: - 5 Km Cross-Country-Results**

| Position | Name | Adm.No. | Father Name | College |
|---|---|---|---|---|
| 1st | Rakesh Sheoran | 2017A19D | Ramesh Kumar | COA Hisar |
| 2nd | Anand | 2016A08BVI | Ramesh Kumar | COA Hisar |

**Women: - 3 Km Cross-Country-Results**

| Position | Name | Adm.No. | Father Name | College |
|---|---|---|---|---|
| 2nd | Sudesh | 2016A107BIBV | Rajinder Singh | COA |
| 5th | Jashanpreet | 2018A36BIV | Karnail Singh | COA |
| 6th | Preeti | 2018A75BIV | Sunil Kumar | COA |

On this occasion, Dr. D.S. Dahiya, Director Students' Welfare was the chief guest and Dr. S.K. Sehrawat, Director of Research; Dr. Rajvir Singh, Dean, COBS&H; Sh. Bhupender Singh, EO-cum-CE; Dr. Satish Khokhar, PD; sports faculty members, SAI and sports lovers were present to grace the function.

III. The Directorate of Students' Welfare organized Inter-College Championships in the following games:

| Sr.No. | Game | Dates | Winner | Runners-up |
|---|---|---|---|---|
| 1. | Cross Country (M) | 2.9.2019 | COA | COAE&T |
| 2. | Cross Country (W) | 2.9.2019 | COHS | COA |
| 3. | Volleyball (M) | 4-6.9.2019 | COA | COAE&T |
| 4. | Volleyball (W) | 4-6.9.2019 | COHS | COA |
| 5. | Squash Racket (M) | 7.9.2019 | COAE&T | COA |
| 6. | Kabaddi (M) | 16-18.9.2019 | COA, Hisar | COA, Kaul |
| 7. | Badminton (M) | 19-21.9.2019 | COA | COVS |
| 8. | Basketball (W) | 7-11.10.2019 | COA | COHS |
| 9. | Hockey (M) | 14.10.2019 | COAE&T | COA |
| 10. | Handball (M) | 15-17.10.2019 | COA, Bawal | COA, Hisar |
| 11. | Handball (W | 15-17.10.2019 | COA | COHS |
| 12. | Yoga (M) | 23.10.2019 | COA, Hisar | COA, Kaul |
| 13. | Yoga (W) | 24.10.2019 | COA, Kaul | COA, Hisar |
| 14. | Tennis (M) | 25.10.2019 | COA | CODST |

| | | | | |
|---|---|---|---|---|
| 15. | Football (M) | 18-20.11.2019 | COA | COVS |
| **M: Men; W: Women** | | | | |

IV. The CCSHAU Hockey team participated in the North Zone Inter-University Hockey Championship held at Jamia Millia Islamia University, Delhi from October 5-11, 2019.

V. The CCSHAU Cricket team participated in QUASAR, 2019 held at BK Birla Institute of Engineering & Technology, Pilani from October 14-16, 2019.

VI. The CCSHAU students participated in Khel Mahakumbh, 2019 held at Mahabir Stadium, Hisar from 31.10.2019 to 2.11.2019.

VII. The CCSHAU Chess team participated in North Zone Inter-University Chess Tournament held at Chandigarh University, Mohali from 5.11.2019 to 9.11.2019.

VIII. The CCSHAU Cricket team participated in North Zone Inter-University Cricket Championship organized by Aligarh Muslim University, Aligarh from 21.11.2019 to 5.12.2019.

IX. XX All India Inter-Agricultural Universities Sports & Games Meet, 2019-20 was held at Sri Venkateswara Veterinary University, Tirupati, Andhra Pradesh from March 1-5, 2020. The following students secured medals:

| Sr. No. | Name | Admn.No. | Position/Medals/Events |
|---|---|---|---|
| 1. | Dinesh | 2018A02M | Silver Medal in Long Jump |
| 2. | Mukul | 2016A30BVI | Gold Medal in Javelin Throw |
| 3. | Vipul | 2016A120BIV | Silver medal in Badminton |
| 4. | Avishi | 2019A30BIV | Silver medal in Volleyball |
| 5. | Priyanka | 2019A75D | Silver medal in Volleyball |

**2020-21:** No sports activity was organized during 2020-21 due to Covid-19 pandemic.

**2021-22:** The CCSHAU indoor shooting range was inaugurated by the Vice- Chancellor on 04.08.2021 at Giri Centre, CCSHAU, Hisar.

I. A function was organized in the Hockey ground, Giri Centre on the arrival of Ms. Udita, hockey player who represented India in the Tokyo Olympic, on 12.08.2021.

II. The CCSHAU Athletic team participated in the All-India Inter- University Athletic Meet held at KIIT University Bhubneswar from Feb. 21-24, 2022.

III. The CCSHAU Handball team participated in the North Zone Inter-University Handball Championship held at Chaudhary Ranbir Singh University, Jind from March 11-15, 2022.

IV. The CCSHAU Karate team participated in the All-India Inter-University Karate Championship held at Kurukshetra University, Kurukshetra from March 14-17, 2022. A bronze medal was secured by Ms. Riya Malik, student of 1$^{st}$ year COA Bawal in the said championship.

V. The CCSHAU Wushu team participated in All India Inter- University Wushu Championship held at Punjabi University, Patiala from March 28-31, 2022.

VI. The CCSHAU students participated in Khelo India University Games held at Jain University, Bangaluru from April 24 to 03 May, 2022, and our student Ms. Riya Malik student of 1st year COA Bawal secured 2nd position in Karate.

VII. The CCSHAU Cricket team participated in North Zone Inter-University Cricket Championship held at Chhatrapati Shahu Ji Maharaj University, Kanpur from June 16-24, 2022

VIII. The Directorate of Students' Welfare, CCSHAU, Hisar organized 8th International Day of Yoga on 21.6.2022 at Indira Gandhi Auditorium, CCSHAU, Hisar. The Vice-Chancellor was the chief guest. Students from the college participated in the event.

**2022-23:**

I. The Directorate of Students' Welfare, CCSHAU, Hisar organized National Sports Day in the memory of Hockey Wizard Major Dhyan Chand on 29-08-2022 at Giri Centre Sports Complex. On the occasion a Hockey match was also organised by CCSHAU, Hisar.

II. The 18th All India Vice Chancellor Cricket Cup T-20 Tournament was organized by CCSHAU, Hisar from 3-16 November, 2022. The CCSHAU Employees Cricket team won the tournament.

III. The 50th Annual Athletic Games and Sports meet was organized on 8-9 December, 2022 at the Synthetic Athletic Track. The Vice-Chancellor was the chief guest of the opening and closing ceremony. In this athletic meet winner in both the men and women section was COA, Hisar.

IV. The Directorate of Students' Welfare, CCSHAU, Hisar organized XXI All India Inter-Agri Sports meet during 20th to 24th February, 2023. Overall winner of this sports meet was CCSHAU, Hisar. Deatils of the participants from COA, Hisar who secured positions in this event are given below.

| Sr.No. | Events | Name | Admission ID | Position/Medal |
|---|---|---|---|---|
| 1 | Athletics (M) | Yugvinder | 2020A81D | Gold medal |
| 2 | Athletics (W) | Priti<br>Sudesh | 2022A88BIV<br>2022A68D | Gold and<br>Silver medal |
| 3 | Kabaddi | Sonu Kumar | 2022A46D | Gold medal |
| | | Pradeep Kumar | 2021A16D | |
| | | Aditya | 2020A13M | |
| 4 | Basket ball (M) | Yogesh Rajrana | 2021A12M | Gold medal |
| | | Vishal Tanwar | 2022A125BIV | |
| | | Rakshit Mehala | 2021A102BIV | |
| 5 | Basket ball (W) | Nishu | 2020A72BIV | Silver medal |
| | | Jyoti | 2022A09D | |
| | | Manisha | 2019A61BIV | |
| 6 | Foot ball (M) | Aditya | 2022A13M | Gold medal |
| | | Rohit | 2020A96BIV | |

| | | | | |
|---|---|---|---|---|
| | | Kashish | 2020A51BIV | |
| | | Jony Kumar | 2022A05MBA | |
| 7 | Volleyball (M) | Chaman | 2020A76D | Silver medal |
| | | Raj Kumar | 2021A20D | |
| | | Himanshu | 2019A34BIV | |
| | | Vaibhav Kumar | 2022A69M | |
| | | Akshay Kumar | 2022A31M | |
| 8 | Volleyball (W) | Avishi | 2019A30BIV | Silver medal |
| | | Kirti | 2020A54BIV | |
| | | Preet Kaur | 2020A84BIV | |
| | | Jahnavi Yadav | 2022A39BIV | |
| **M: Men; W: Women** | | | | |



Lighting of sports flame at the inaugural session of XXI All India Inter-University sports meet, 2023



March-past: Inaugural session of XXI All India Inter-University sports meet, 2023



COA, Hisar (winner) of 49th Annual Athletic Meet




COA, Hisar (winner) of 50th Annual Athletic Meet




Prize distribution: 50th annual athletic meet

## Cultural Activities

**2018-19:**



Student performing Haryanvi folk dance during Fresher's Day and talent search programme, 2018

a) Fresher's Day and talent search programme was organized for first year students of College of Agriculture on 20th September, 2018. Different events like Haryanvi group dance, bhangra,

choreography, skit, western dance were performed by first year students whereas a guest bhangra was presented by second year students. Mementos were also distributed among the students by Dean, COA.

b) National Science Day was organized by CCSHAU Science Forum in College of Basic Sciences & Humanities on Feb. 28, 2019. Mamta Phogat (2016A20D) of College of Agriculture was awarded second position in declamation (Hindi).

c) Thirty students participated in "Inter College Golden Jubilee Youth Conclave" organized by Directorate of Students Welfare, CCSHAU Hisar, during April 24-26, 2019. Different activities i.e. Debate, Declamation, Poem, Extempore Speech, Elocution, Clay Modeling, Rangoli, Photography, Poster Making and Cartooning *etc* were organized during the programme. Twelve students of College of Agriculture secured first and second position in different events. Subham Sachdeva (2017A111BIV), Rupit Goel (2017A84BVI), Jyoti Rani (2014A22VI), Sumit Jangra (2015A58VI), Sindhu (2018A38M) and Deepti Sehrawat (2018A27BIV) secured first position in Elocution, Clay modeling, Cartooning, Photography, Essay writing and Group discussion, respectively. Mamta Phogat (2016A20D), Jyoti Rani (2014A22VI), Sumay Malik (2014A53BVI), Bhawna (2017A19BIV), Priyanka (2018A81BIV) and Harshita (2017A36BIV) secured second position in declamation, Poster making, Photography, Group discussion and Essay Writing, respectively.




Glimpses of Fresher's Day and talent search programme, 2018

**2019-20:**

a) College of Agriculture students participated in cultural events during Golden Jubilee foundation day celebration of CCSHAU, Hisar on 2nd February, 2020.

b) NSS volunteers celebrated Youth Day, on January 12, 2020.




Students performing Bhangra folk dance during Golden Jubilee foundation day celebration, 2020



Youth day celebration by NSS volunteers, 2020

c) College of Agriculture students participated in cultural programme during 13th National Symposium-2019, Vice Chancellors' conference on Ranking of Agricultural universities in India on September 19-20, 2019.




Students performing different folk dances during 13th National Symposium-2019




Patriotic song and Kathak dance performance during during 13th National Symposium-2019

**2020-21: Activities could not be carried out due to COVID 19 pandemic**

**2021-22: Activities could not be carried out due to COVID 19 pandemic**

**2022-23:**

a) Fresher's Day and talent search programme was organized for first year students of College of Agriculture, on July 18, 2022.




Glimpses of Fresher's Day and talent search programme, 2022

## Counseling and Placement Cell

**Student Counseling and Placement Cell:** *Give detailed report on placement cell and provide the report for recruitment of students by firms in last five years. What is the mode and mechanism of counseling being followed at the University level?*

The Students C&P Cell has been established in the Directorate of Students' Welfare to keep the university students informed about potential job opportunities and help them in making prudent decisions for their future academic/professional career. The Students' Counselling & Placement Cell has been associated with multifaceted development of the students in an effort to develop their personalities and face the challenges of future with greater confidence. Realizing the present day need to further strengthen these efforts, the directorate has initiated an ambitious program to upgrade the managerial, administrative, communicative, technical and self- employment oriented skills of the students. The centre in the Directorate of Students' Welfare has been assigned four mandates *viz.*, imparting trainings, placements, liaison with leading industries and guidance to university students. The Students C&P Cell coordinates the task of organizing campus interviews for the outgoing students. In addition to help students in seeking employment, the cell has been involved in guiding

the students appearing for competitive examinations and getting admissions, scholarships/fellowships in the recognised institutes of India and abroad.

The present-day world of work is marked by two distinct features. On one hand, there are meagre chances of getting employment in Public Sector and on the other hand there are numerous avenues of jobs/placements in private banking/insurance/agri-input sector more than ever before, in wake of globalization and liberalization of economy.

Concerted efforts are made to explore the possibility of placement of the graduates in Rural Development/Banking/Insurance/Agri-Input Sectors and the University has succeeded as seen by the recent placements in this domain. It was made possible because of the efforts put by various sectors dealing in rural development/banking/insurance/agri- sector for giving preference to university graduates in different rural developments areas. This way, we took advantage of it and College of Agriculture graduates have been placed in these new emerging vistas of specialization. Further, these sectors require some specific skills in order to land in any gainful employment. In the changed scenario, the Students' C&P Cell at CCSHAU, realizing the importance to equip the students with managerial, administrative, communicational and self-employment skills, has undertaken a massive training campaign to enhance these skills among the students of all streams/disciplines.

The details of the activities undertaken by the Students C&P Cell during the period under report are as follows:

**Placement in the last five years through Campus Interview/IBPS**

| Sr.No. | Year | Name of the Firm | No. of Students Placed |
|---|---|---|---|
| 1. | 2018-19 | Escort Ltd. | 5 |
| 2. | | Axis Bank | 2 |
| 3. | | Mahendera & Mahendera | 4 |
| 4. | | TAFE | 2 |
| 5. | | Bayer Crop Sciences | 3 |
| 6. | | NABCONS | 3 |
| | | **Total** | **19** |
| 7. | 2019-20 | HDFC Bank | 10 |
| 8. | | Shaktivardhak Seed Pvt. Ltd. | 3 |
| 9. | | Bayer Crop Science | 1 |
| 10. | | IBPS | 22 |
| | | **Total** | **36** |
| 11. | 2020-21 | KEGGFARMS Ltd. | 3 |
| | | **Total** | **3** |
| 12. | 2021-22 | Mother Dairy | 5 |
| 13. | | Zydex Industries Pvt. Ltd. | 1 |
| 14. | | Mawana Sugar Mills | 3 |
| 15. | | DS Group | 2 |
| 16. | | Trucks Buses.Com | 2 |
| 17. | | Mahindra Agri. Solution | 2 |
| 18. | | Q&Q Research Company | 1 |
| 19. | | Louis Dreyfus Company of India | 1 |
| | | **Total** | **17** |
| 20. | 2022-23 | Jindal Stainless Ltd. | 2 |

| | | | |
|---|---|---|---|
| 21. | | HDFC Bank | 19 |
| 22. | | LT Foods | 1 |
| 23. | | Star Agri Seeds | 6 |
| | | **Total** | **28** |

| Sr. No | Departmrnt | Assistant Professor/equivalent | No. of Students Placed in other sectors | Total |
|---|---|---|---|---|
| 1. | Agricultural Economics | 12 | 07 | 19 |
| 2. | Agronomy | 30 | 07 | 37 |
| 3. | Agricultural Meteorology | 02 | 15 | 17 |
| 4. | Business Management | - | 51 | 51 |
| 5. | Entomology | 14 | 23 | 37 |
| 6. | Extension Education | 10 | 04 | 14 |
| 7. | Forestry | 03 | 04 | 07 |
| 8. | Genetics and Plant Breeding | 19 | 20 | 39 |
| 9. | Horticulture | 08 | 48 | 56 |
| 10. | Nematology | 06 | 02 | 08 |
| 11. | Plant Pathology | 11 | 07 | 18 |
| 12. | Seed Science and Technology | 04 | 09 | 13 |
| 13. | Soil Science | 17 | 14 | 31 |
| 14. | Vegetable Science | 11 | 46 | 57 |
| | **Total** | **147** | **257** | **404** |

## Student Development Program

### Career Counselling Activities

| Sr.No. | Activities | Date | No. of Participants |
|---|---|---|---|
| **1.** | Motivational Lecture on "Enhancement of working efficiency and Productivity of Youth" | 02.04.2018 | 75 |
| **2.** | "Computer Aided Design (CAD) in Landscaping" | 20,21-4-2018 | 20 |
| **3.** | Pre Placement Talk for Campus Interview | 23.04.2018 | 12 |
| **4.** | "Empowerment of Farmers and Agripreneurs to Horticulture & Agriculture" | 08.06.2018 | 16 |
| **5.** | Motivational Lecture on "Durga Mob. App. for Girl Students" by Deptt. of Police, Hisar | 13.08.2018 | 150 |
| **6.** | "Present Status in Crop Protection and Future Challenges in Indian Agriculture" by Dr. Rajeshekhar Sakhalkar , Head Bayer Crop Science Product Development" and "New Innovation in | 20.08.2018 | 56 |

| | | | |
|---|---|---|---|
| | Plant Protection" by Dr. Rahul Edoliya, Head , Innovation, Pl. India. | | |
| **7.** | "Robotics & Automation in Agriculture" by Mr. Anurag and Mr. Vikas, Faculty in Robospecies, Noida | 28.08.2018 | 45 |
| **8.** | Motivational Lecture on "Ill Effects of over Population" by Mr. Manu Gaur, President, TAXAB | 18.09.2018 | 800 |
| **9.** | Motivational Lecture on "Parenting & Education" by Dr. Devener Balhara, Director Expanding Horizons | 29.09.2018 | 60 |
| **10.** | Motivational Lecture on "IGNITE Your Mind" (Goal Setting; Career/Life Goals)<br>Boys Hostel:<br>• Kailash<br>• Varindavan<br>• Ajanta<br>• Vindhyachal | <br><br><br>3.10.2018<br>4.10.2018<br>5.10.2018<br>22.10.2018 | <br><br><br>60<br>80<br>85<br>100 |
| **11.** | Motivational Lecture on "IGNITE Your Mind" (Goal Setting; Career/Life Goals)<br>Girls Hostel :<br>Yamunotri & Narmada<br>Gangotri (Old & New Wing) | <br><br><br><br>25.10.2018<br>30.10.2018 | <br><br><br><br>70<br>250 |
| **12.** | " Use of Spatial Meteorological Data for Precision Agriculture" by Mr. S.C.Bhan, Regional Co-ordinator, Indian Meteorological Department | 2.11.2018 | 50 |
| **13.** | " Indian Ancient View For Modern Higher Education" Dr. Atul Kothari | 14.11.2018 | 200 |
| **14.** | Motivational Lecture on "Publishing in International Journals & Study Opportunities in Australia" By Dr. Bhagirath Chauhan, Assoc. Prof., Univ. of Queensland, Australia | 26.11.2018 | 70 |
| **15.** | "Alumni Batch of1973" | 04.02.2019 | 100 |
| **16.** | Motivational Lecture on "Drug Free India" by Mr. Sameer Jolly (MBA), Sr. International Faculty Member of the Art of Living | 12- 14.02.2019 | 350 |
| **17.** | "Global-Scale Innovation and Enterprise in Agriculture: Role of current and past students" by Dr. Madan Thangavelu, Retired Scientist Cambridge university, United Kingdom | 12.02.2019 | 80 |
| **18.** | "Capacity Building, Imparting Soft Skills, Personal grooming & right attitude" by Ms. Nitasha Agarwal from Subhash Chandra Foundation | 20.2.2019 | 110 |
| **19.** | "Entrepreneurial opportunities in Horticulture Sector" by B.S. Negi, Former Director of Horticulture, Uttrakhand | 05.03.2019 | 50 |
| **20.** | "How to prepare for Competitive Examinations" by Dr. S.P. Goyal, Prof. (Retired) | 26.08.2019 | 50 |
| **21.** | Pre –dinner Talk on "Etiquettes & Social Behaviour"Boys Hostel: Varindavan Hostel No. 2 | 06.09.2019 | 60 |
| **22.** | Pre –dinner Talk on "Etiquettes & Social Behaviour"<br>Boys Hostel: Varindavan Hostel No. 2 | 06.09.2019 | 60 |
| **23.** | "Feminine Hygiene" by Shweta Ladha, Women Children Welfare and Rural Dev. Society | 18.10.2019 | 80 |

| | | | |
|---|---|---|---|
| **24.** | "Agriculture Management" and Launching of Book 'The Agriculture Man' by Mr. K.K. Unni, 1967 Agriculture graduate | 07.01.2020 | 200 |
| **25.** | "How to get Success in Life" by Dr. Satyajeet Singh | 12.03.2021 | 26 |
| **26.** | Online "Civil Services Preparation" by Dr. Sunil Dhaka, IFS, CCSHAU Alumnus | 05.04.2021 | 61 |
| **27.** | Online Counselling Session on "Psychological Manifestation in COVID era" by Dr. Narender Gupta, M.D. (Psychiatrist) | 10.05.2021 | 120 |
| **28.** | Online "Pros and Cons of ICAR-JRF & Foreign Universities Admissions" by Mr. Vipin Kumar, Graduate Research Assistant, Virginia, USA | 08.06.2021 | 100 |
| **29.** | "Opportunities in Pharma Industries" by Mankind Pharma Ltd. | 02.08.2021 | 13 |
| **30.** | Lecture on "Entrepreneurship to generate employment opportunities in Agriculture Sector" for Agriculture Students of University. | 20.12.2021 | 200 |
| **31.** | Lecture on Management and Placement issues by Mr. Bijender, ICAR NAARM | 30.06.2022 | 39 |

## Trainings Conducted:

| Sr. No. | Activities | Date | No. of Participants |
|---|---|---|---|
| | **2018-19** | | |
| **1.** | Post Harvest Handling of Horticultural Produce | 28.08.2018 to 10.09.2018 | 25 |
| **2.** | Life Skills-Facet to lead a dynamic Life | 10.09.2018 to 22.09.2018 | 36 |
| **3.** | Awareness and Use of Library Resources and Services in Digital Era | 15.09.2018 to 26.09.2018 | 30 |
| **4.** | Workshop on Career Opportunities: Awards/ Fellowships/Job-Opportunities | 16.10.2018 to 17.10.2018 | 715 |
| **5.** | Comprehensive Learning Program in Agriculture (for preparation to various competitive examinations) | 29.10.2018 to 24.11.2018 | 24 |
| **6.** | Training Programme for the preparation of UGC/CSIR NET-2018 | 24.11.2018 to 1.12.2018 | 22 |
| **7.** | Personality Development Training | 4.10.2018 to 23.10.2018 | 30 |
| **8.** | Personality Development Training | 30.10.2018 to 20.11.2018 | 31 |
| **9.** | Personality Development Training for the students of COA, Bawal | 15.11.2018 to 29.11.2018 | 30 |
| **10.** | Awareness and Use of Library Resources and Services in Digital Era | 15.10.2018 to 27.10.2018 | 26 |
| **11.** | Training Programme on Agripreneurship" for SC/ST students | 12.11.2018 to 24.11.2018 | 30 |

| | | | |
|---|---|---|---|
| **12.** | "Awareness and Use of Library Resources and Services in Digital Era" | 12.11.2018 to 22.11.2018 | 28 |
| **13.** | "Protected Cultivation of High Value Flower Crops" for PG students | 26.11.2018 to 6.12.2018 | 40 |
| **14.** | Post Harvest Handling of Horticultural Produce | 14.1.2019 to 28.1.2019 | 24 |
| **15.** | "Awareness and Use of Library Resources and Services in Digital Era" | 01.02..2019 to 13.02.2019 | 47 |
| **16.** | "Agripreneurship" | 11.02.2019 to 27.02.2019 | 37 |
| **17.** | "Personality Development" Training for the students of COA, Bawal | 12.2.2019 to 26.02.2019 | 30 |
| **18.** | "Statistical Data Analysis for Research Scholars" | 18.02.2019 to 27.02.2019 | 34 |
| **19.** | "Mindfulness- A path towards psychological well being | 20.02.2019 to 05.03.2019 | 31 |
| **20.** | "Enhancement of Handicrafts Skills for entrepreneurships Development" | 25.02.2019 to 05.03.2019 | 31 |
| **21.** | awareness in developing and managing intellectual property rights | 11.04.2019 to 22.04.2019 | 40 |
| **22.** | UGC/CSIR NET-2019 Exam | 18.04.2019 to 30.04.2019 | 15 |
| **23.** | Mushroom production technology | 22.04.2019 to 01.05.2019 | 50 |
| | **2019-20** | | |
| **24.** | "Preparation of JRF and other graduates level competitive examination" | 19.08.2019 to 29.08.2019 | 66 |
| **25.** | "Healthy Diet-Healthy Mind" | 21.08.2019 to 04.09.2019 | 45 |
| **26.** | " Agripreneurship" for COA, Kaul students | 20.09.2019 to 03.10.2019 | 30 |
| **27.** | "Statistical Data Analysis for Research Scholar" | 14.10.2019 to 23.10.2019 | 36 |
| **28.** | "Computer Aided Designing" for SC/ST students | 05.11.2019 to 14.11.2019 | 20 |
| **29.** | Workshop on " Eminent Alumni-Student Interaction on Employability and Career Enhancement" | 13.11.2019 | 600 |
| **30.** | "Auto-CAD Application in Design of Agricultural Machinery" | 04.11.2019 to 18.11.2019 | 28 |
| **31.** | " Mushroom Production Technology" | 23.01.2020 to 01.02.2020 | 20 |
| **32.** | "Personality Development" for SC students | 12.02.2020 to 26.02.2020 | 20 |
| **33.** | "Statistical Data Analysis for Research Scholars" | 24.02.2020 to 04.03.2020 | 32 |
| | **2020-21** | | |
| **34.** | Communication Skills & Personality Development Training | 15.03.2021 to | 22 |

| | | | |
|---|---|---|---|
| | | 25.03.2021 | |
| | **2021-22** | | |
| **35.** | 21 days "Application of Statistical and Econometric Techniques in Agriculture" | 24.11.2021 to 14.12.2021 | 29 |
| **36.** | Online "Beekeeping" for COA Students. | 16.12.2021 to 27.12.2021 | 80 |
| **37.** | "Role of Agribussiness in Self Reliance of India" for SC students | 17.02.2022 to 24.02.2022 | 25 |
| **38.** | Online "Communication Skills in competitive era" | 17.03.2022 to 30.03.2022 | 45 |
| **39.** | "Agripreneurship: Transforming an idea into a new business" | 29.03.2022 | 18 |
| **40.** | Ten days short course on "Scientific management of *Apis mellifera* colonies for nutritional and economic security | 25.01.2022 to 03.02.2022 | 23 |
| **41.** | Communication skills for effective public speaking training | 08.03.2022 to 17.03.2022 | 29 |

## ICT Based Initiatives

The students counselling, placement and skill integrated learning has long been supported by paper-based systems. The use of ICT based technologies viz., Internet and the World Wide Web have revolutionized the provision of information and the facility for the user to take action on the information obtained. In today's fast-moving world most of the placement/recruitment agencies, private sectors and other stake holders require relevant information of students online, their databases through spreadsheets and Email communications. Therefore, for effective and result oriented functioning of Students C&P Cell, following ICT based initiatives have been undertaken

**Web Resources for Career Opportunities:** Taking cue from Digital India drive, the Students' C&P Cell in the Directorate of Students Welfare has devised a dedicated web portal http://hau.ac.in/dsw/dccp.php. The web portal is excellent source of relevant information related to career opportunities for the students. The portal has been widely acclaimed and visited by many people since its launch in January, 2015.

**6.5.1.3. CC/Board of Studies:** *Whether the CC in the Department level and Board of Studies at the College is in place? The composition of the BoS and date of conduct of meetings for last five years and major recommendations made by the BoS should be given in tabular form.*

The College of Agriculture has **Departmental Advisory Committee (**DAC) at the Department level and **Board of Studies** at College level.

**Departmental Advisory Committee:** The Departmental Advisory Committee (DAC) is constituted with the approval of competent authority for management of teaching, research and extension within each department of the college.

**Composition of DAC:**

1. HOD (Chairperson)
2. Professor (Member)
3. Associate Professor/Scientist (One Member each from teaching, research & extension stream)
4. Assistant Professor/Scientist (Member Secretary nominated by the HOD amongst the members)

**Board of Studies:** The college has a Board of Studies which has the responsibility of managing academic affairs such as proposing new courses of studies, curricula modification etc. for various programs offered by the College. The Board of Studies also reviews the standards of teaching regularly.

**Composition of BoS:** The Dean of the College is the Chairperson and all Heads of the departments of the college are members. One HOD of any department is nominated as the Vice-Chancellor's nominee and one of the HODs is the Member Secretary.

- Dean, COA (Chairperson)
- Associate Dean, COA (Member Secretary)
- HOD, Agricultural Economics (Member)
- HOD, Agronomy (Member)
- HOD, Agricultural Meteorology (Member)
- HOD, Business Management (Member)
- HOD, Entomology (Member)
- HOD, Extension Education (Member)
- HOD, Forestry (Member)
- HOD, Genetics and Plant Breeding (Member)
- HOD, Horticulture (Member)
- HOD, Nematology (Member)
- HOD, Plant Pathology (Member)
- HOD, Seed Science and Technology (Member)
- HOD, Soil Sciences (Member and Vice-Chancellor's nominee)
- HOD, Vegetable Science (Member)

| Date | Major Recommendations of Board of Studies |
|---|---|
| **25.04.2018** | • Scholarship for MBA students<br>• Starting of Rattan Lal Gold Medal for Ph. D. students in the department of soil science<br>• Gold medal for overall best graduate student in Agriculture on the name of Dr P.S. Lamba |
| **20.08.2018** | • Increasing the number of M.Sc. and Ph. D. seats in department of SST, forestry, G&PB and Agronomy. |
| **11.12.2018** | • Admission policy for the year 2019-20<br>• No. of seats of different programmes<br>• Change of qualifications, if any (Minimum qualifications for admission of fresh as well as in-service candidates) |
| **24.01.2019** | • Qualifications for admission in PG programme |
| **04.02.2020** | • Admission policy for the year 2020-21 for Business Management<br>• Change of qualification for Ph. D. admission<br>• Institution of Gold Medal in the memory of Rao Bahadur Dr. Ram Dhan Singh for Ph. D. students<br>• To launch Rural Management Curriculum for Bachelor's and Master's Degree |
| **26.02.2020** | • Admission to MBA (General/Agribusiness) in the Institute of Business Management & Agripreneurship, Gurugram for the Session 2020-21 including Dept. of Business Management, CCSHAU, Hisar. The courses and admission criteria were also approved. |
| **28.07.2020** | • Courses along with course contents for Masters in Rural Management proposed by Department of Business Management were recommended for approval |
| **21.08.2020** | • M.Sc. & Ph. D. Classes in Horticulture at COA, Bawal<br>• M.Sc. & Ph. D. Classes at COA, Kaul |

| | |
|---|---|
| | • Academic Support Programme for SC students |
| **21.10.2020** | • Placement of students for Rural Agricultural Work Experience under READY Programme The matter regarding placement of students for Rural Agricultural Work Experience under READY Programme was discussed thoroughly and approved. |
| **11.02.2021** | • Number of seats in admission of different programmes<br>• Minimum qualification for admission in different programmes for fresh as well as in service candidates.<br>• Admission policy for the session 2021-22 of department of business management.<br>• Reduction of seats in PGDC-3 diploma<br>• Crosslisting of AGM courses of UG, PG and PG diploma. |
| **25.02.2021** | • Increase in 10% seats in admissions of all the UG and PG programmes from the academic session 2020-21 |
| **15.04.2021** | • Gold Medal in the memory of Rao Bahadur Dr. Ram Dhan Singh for students of Ph. D. of CCSHAU, Hisar. |
| **09.08.2021** | • Proposal for creation of teaching posts for Institute of Business Management and Agripreneurship, Gurugram,CCSHAU, Hisar. The department wise detail of the proposed teaching and non- teaching posts along with their nomenclature was approved. |
| **17.02.2022** | • Finalization of course curriculum for M.Sc. and Ph. D. programme under BSMA.<br>• Admission policy for the year 2022-23 |
| **15.04.2022** | • The revised proposal for creation of teaching posts for Institute of Business Management and Agripreneurship, Gurugram, CCSHAU, Hisar. The department wise detail of the proposed teaching and non- teaching posts along with their nomenclature was approved<br>• Cross listing of BSMA courses |
| **25.04.2022** | • Admission policy for the session 2022-23<br>• Matter regarding the revision of syllabus of entrance examination of 6 year programme was discussed and approved<br>• Matter regarding the revision of syllabus of entrance examination of 4 year programme was discussed and approved<br>• Review of classes of PG students admitted at COA, Kaul and COA, Bawal<br>• Implementation of BSMA courses<br>• Admission under category Land Donation Villages should be limited |
| **20.06.2022** | • Starting of B.Sc. (Hons.) Agri-business Management programme at College of Agriculture, CCSHAU, Hisar from the Academic Session 2022-23 with initial intake of 12 seats.<br>• The eligibility qualification for admission in B.Sc. (Hons.) Agri-business Management as under:<br>"10+2 or equivalent having passed with Physics, Chemistry, Biology/ Mathematics or Agriculture stream from a recognized University/Board with 50% marks in 10+2 (relaxable upto 47.5% for Scheduled Caste and Person with Disability (PwD) candidates)"<br>• The course structure as per ICAR/BSMA will be adopted |
| **22.07.2022** | • The matter of Broad Subject Matter Area (BSMA) at PG and Ph. D. level of different departments was discussed and recommended for approval<br>• Changes in fee structure, minimum seats and provision of honorarium for supporting staff in one year course on "Diploma in Agrochemicals and Fertilizers" |

**6.5.1.4. Anti-Ragging Cell:** *In pursuance to the Judgment of the Hon'ble Supreme Court of India dated 08.05.2009 in Civil Appeal No. 887/2009, the University Grants Commission has framed "UGC Regulations on curbing the menace of ragging in higher educational institutions, 2009" which have been notified on 4th July, 2009 in the Gazette of India. Does the College follow this regulation and subsequent guidelines issued in the matter in letter and spirit? Give details.*

Yes; the college follows the regulation and subsequent guidelines issued in the matter. There is an Anti-ragging committee constituted by the Dean. The composition of the committee alongwith details of the members is given as under:

**B. Activities of the Committee**

**A .Composition of committee: Chairman : Dr. S K Pahuja**

**A. Faculty Members**

| Sr.No. | Name of Teacher | Departments | Telephone No. | |
|---|---|---|---|---|
| | | | Office | Mobile |
| 1. | Dr. S. K. Thakral, Prof. & Head | Deptt. of Agronomy | 5268 | 9416488668 |
| 2. | Dr. T.P. Malik, Prof. & Head | Deptt. of Vegetable Science | 5207 | 9416961826 |
| 3. | Dr. Manoj Kumar, Prof. & Head | Deptt. of Soil Sciences | 5278 | 9416926729 |
| 4. | Dr. Sunita Yadav, Head | Deptt. of Entomology | 5285 | 8930930874 |

**B. Non-Teaching Staff**

| Sr.No. | Name of Staff Member | Departments | Telephone No. | |
|---|---|---|---|---|
| | | | Office | Mobile |
| 1. | Sh. Yadvender Singh, AAO | Dean's Office, COA | 5260 | 9253070633 |
| 2. | Sh.Parveen kumar. P.S. | Dean's Office, COA | 5260 | 8199981964 |
| 3. | Sh. Harish Chander, Asstt. | Dean's office, COA | 5401 | 9466060871 |
| 4. | Ms. Deepika, Asstt. | Dean's office,COA | 5401 | 9034971671 |
| 5. | Sh. Anil Duhan Asstt. | Dean's office,COA | 5260 | 8930162744 |

**C. Students**

| Sr. No. | Name and Admn. No. | Class | Mobile No. |
|---|---|---|---|
| 1. | Archita , 2022A15BIV | B.Sc. (Hons.) Agri.1st Yr. (4 Yr.) | 9350410117 |
| 2. | Vikarm Singh, 2022A166BIV | B.Sc. (Hons.) Agri. 1st Yr. (4 Yr.) | 9896641733 |
| 3. | Ankit 2021A14BIV | B.Sc. (Hons.) Agri. 2nd Yr. (4 Yr.) | 8279208603 |
| 4. | Jyoti 2021A55BIV | B.Sc. (Hons.) Agri. 2nd Yr. (4 Yr.) | 9896297694 |
| 5. | Aanad 2020A14BIV | B.Sc. (Hons.) Agri. 3rd Yr. (4 Yr.) | 7015061912 |
| 6. | Diksha 2020A27BIV | B.Sc. (Hons.) Agri. 3rd Yr. (4 Yr.) | 9812221592 |

The committee monitors the events involving ragging, enquires into and report to the Dean, and works out modalities of functioning, frequency of visits, meetings etc. The committee checks the ragging menace during the college hours in and around the college premises and also makes surprise raids on hostels and other places vulnerable to incidents of ragging.

Ragging is banned in the University. The University has adopted the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009 as well as the directions of the Hon'ble Apex Court. The Haryana Prohibition of Ragging in Educational Institution Ordinance/Rule 2012 has also been adopted by the University *w.e.f.* 27.9.2012. Rules on curbing the menace of Ragging 2012 are at Chapter-IX of this Prospectus.

The application form for admission, enrolment or registration contains an undertaking by the students and parents, mandatorily in English and in Hindi and/or in one of the regional languages known to the parents/guardians of the applicant, as provided in the Proforma II to these Rules, to be filled up and signed by the parents/guardians of the applicant to the effect that he/she has read and understood the provisions of these Rules as well as the provisions of any other law for the time being

in force, and is aware of the prohibitions of ragging and the punishments prescribed, both under penal laws as well as under these Rules and also affirm to the effect that his/her ward has not been expelled and or debarred by any institution and further ever that his/her ward would not indulge, actively or passively, in the act or abet the act of ragging and if found guilty of ragging and/or abetting ragging, his/her ward is liable to be proceeded against under these Rules or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of his/her ward.

**6.5.1.5. Biological waste disposal facility:** *Whether wastes (chemical, biological, radioactive, universal, and recyclable) are generated by a variety of research, clinical, service, maintenance, and cleaning operations at the college level? If yes, then mention the disposal mechanism being adopted as per the government guidelines.*

The College Chemical and Biosafety Committee (CCBC) is responsible for reviewing projects and research activities that involve possible biological, chemical, and physical hazardous at the laboratories. The CCBC also monitor the fire safety arrangements and waste management practices including storage and disposal of chemicals, biological and other materials. The committee conduct training programs to educate students and faculty about laboratory safety issues to avoid any unwanted event. The overall motto of CCBC is to ensure the safety of students, faculty and staff, mitigate environmental pollution and eventually improve the research standard.

Yes, chemical, biological and recyclable wastes are generated through research, service, maintenance, and cleaning operations.

Dean, College of Agriculture, constituted the committee to assess the ways of disposing waste in various departments of the College**.** Committee comprised of following members:

- Professor & Head, Department of Soil Science
- Professor & Head, Department of Genetics and Plant Breeding
- Professor & Head, Department of Entomology
- Professor & Head, Department of Plant Pathology
- Professor & Head, Department of Nematology
- Professor & Head, Department of Horticulture

Training on "Chemical and Biosafety Practices in the Laboratory" for the newly admitted M.Sc. and Ph. D. students of the college during 10-20 October 2022 was organized in the university. This training involved lectures on Laboratory Safety Practices pertaining chemical, biological, fire, electric hazardous among the others. Hands-on training was also provided to the students from various departments of college.

**6.5.1.6. Institutional Ethics Committee for Experiment on Animals:** *Whether the institute/College is following CPCSEA guidelines and constituted an Institutional Animal Ethics Committee (IAEC), get their animals house facilities inspected and get their project cleared by CPCSEA and IAEC before commencing them? If Yes, the college should make statement that it is adhering all guidelines in the matter.*

Yes, the college has constituted Ethics Committee which follows regulation and animals are maintained in a proper and healthy manner and are not subjected to unnecessary pain or suffering before, during and after performance of experiments on them.

1. Dr. S. K. Pahuja, Dean College of Agriculture, Chairman
2. Professor & Head, Department of Entomology, Member
3. Professor & Head, Department of Plant Pathology, Member
4. Professor & Head, Department of GPB, Member

**6.5.1.7. Committee for Prevention of Sexual Harassment of Women at Work Places:** *Does the institution is adhering the sexual harassment of women at workplace (Prevention, Prohibition and Redressal Act, 2013) in letter and spirit. If yes, mention the constitution of sexual harassment committees and date of proceedings conducted in last five years in tabular form:*

Yes, there is a committee constituted for prevention of sexual harassment of women at work placed under the chairmanship of the Dean. The composition of the committee is given below:

| | | |
|---|---|---|
| **1.** | **Dr. S. K. Pahuja, Dean, COA** | **Chairman** |
| **2.** | Dr. M. L. Khicher, Assoc. Dean, COA | Convenor |
| **3.** | Dr. J. S. Malik, Prof. Ext. Education | Member |
| **4.** | Dr. Amita Girdhar, Business Management | Member |
| **5.** | Ms. Deepika O/o Dean, COA | Member |
| **6.** | Ms. Kavita, 2022 A59D, Deaprtment of Agronomy | Member |
| **7.** | Ms. Monika, 2022 A 36M, Department of Horticulture | Member |
| **8.** | Ms. Anchal, 2021A01BIV | Member |
| **9.** | Ms. Diksha, 2020A27BIV | Member |

**However, no case of sexual harassment has been reported during this period of report.**

## 6.5.2 Faculty:

**6.5.2.1. Faculty Strength:** *Mention the Faculty position (both in sanctioned and in-position) at the College.*

The sanctioned posts of Professors/equivalent, Associate Professors/equivalent and Assistant Professor/equivalent in the college are 26, 73 and 307, respectively. During the period under report from April, 2018 to March, 2023, there has been superannuation every month.

The details of faculty strength are given as under:

| Designation | Sanctioned | In place* |
|---|---|---|
| **Professor and equivalent*** | 26 | 30 |
| **Associate Professor and equivalent*** | 73 | 07 |
| **Assistant Professor and equivalent** | 307 | 175 |
| **Total** | **406** | **212** |

**Note:** *Faculty in place includes Professors and Associate Professors promoted as a measure personal to them under CAS.

**6.5.2.2. Faculty Profile:** *Mention department wise faculty profile in tabular form and mention whether present profile is sufficient to meet the academic requirement of the College.*

The College has well qualified and experienced faculty members having vast experience and international exposure. Department wise profile of the faculty is given as under:

## Agricultural Economics

| Sr. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual | Annual/ research reports |
| 1 | Dr. D. P. Malik | Prof. & Head | Farm Management and Agricultural Marketing | 27 | 17 | - | 5 | 1 | 5 |
| 2 | Dr. V. P. Luhach | Principal Scientist | Farm Management & Agricultural Marketing | 6 | - | - | - | - | - |
| 3 | Dr. R.S. Pannu | Principal Scientist | Agricultural marketing Farm Management and Production Economics | 11 | 8 | - | 3 | - | - |
| 4 | Dr. Anil Rathi | Sr. ES/Sr. Coordinator | Agricultural Policy | 2 | - | - | - | - | - |
| 5 | Dr. R. S. Chauhan | Sr. ES/Sr. Coordinator | Finance and Agricultural Marketing | 10 | 16 | - | - | 4 | 9 |
| 6 | Dr. U. K. Sharma | Sr. ES (FM) | Farm Management and Land Resource Management | 5 | 5 | - | - | - | - |
| 7 | Dr. K. K. Kundu | Associate Professor | Farm Management | 11 | - | - | - | - | - |
| 8 | Dr. Neeraj Pawar | Assistant Scientist | Farm Management and Agricultural Marketing | 14 | 6 | - | - | - | 3 |
| 9 | Dr. Ashok Kumar | DES (FM) | Farm Management and Agricultural Marketing | 9 | 3 | - | - | - | - |
| 10 | Dr. Parminder Singh | DES (FM) | Farm Management and Agricultural Marketing | 10 | - | - | - | - | - |
| 11 | Dr. Sanjay Kumar | Assistant Professor | Agricultural Marketing | 4 | 1 | - | 1 | - | - |
| 12 | Dr. Jitender Kumar Bhatia | Assistant Scientist | Agricultural Marketing & Price Analysis | 13 | 9 | - | 7 | - | 3 |
| 13 | Dr. Gurnam Singh | DES (FM) | Agricultural Marketing | 9 | 2 | - | 1 | - | 3 |
| 14 | Dr. Dalip Kumar Bishnoi | Assistant Scientist | Agricultural Marketing & Price Analysis | 14 | 10 | - | 6 | - | 5 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **15** | Dr. Nirmal Kumar | Assistant Scientist | Farm Management and Agricultural Marketing | 1 | - | - | - | - | - |
| **16** | Dr. Gulab Singh | DES (FM) | Agricultural Marketing | - | - | - | - | - | - |
| **17** | Dr. Nitin Bharadwaj | Assistant Scientist (Statistics) | Reliability Theory | 1 | - | - | - | - | - |

## Agronomy

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conferenc/ symposium | Books | Book chapters | Manual | Annual/ research reports |
| **1.** | Prof. B. R. Kamboj | Vice Chancellor | RCT, Crop Production | 12 | 6 | 1 | 1 | - | - |
| **2.** | Dr. S. K. Thakral | Prof. & Head | Crop Production & DLA | 10 | 2 | - | - | - | - |
| **3.** | Dr. Satish Kumar | Project Director | Crop Production | 83 | - | 2 | - | 2 | 10 |
| **4.** | Dr. Bikram Singh | Principal Scientist | Crop Production | 6 | - | - | - | - | - |
| **5.** | Dr. O. P. Lathwal | Professor | Agronomy | 4 | 4 | - | - | - | - |
| **6.** | Dr. Anil Kumar Mehta | Principal Scientist | Crop Production | 5 | 2 | - | - | - | - |
| **7.** | Dr. Rajender Kumar | PES Agronomy | Crop Production | 4 | 5 | - | - | - | - |
| **8.** | Dr. Rajbir Garg | Professor/ Equ. | Extension professional in agronomy | 42 | 27 | - | - | 3 | 108 |
| **9.** | Dr. Dharam Bir Yadav | Principal Scientist | Agronomy | 35 | 29 | 1 | 4 | - | 5 |
| **10.** | Dr. Ramesh Kumar | Principal Extension Specialist | Agronomy | 23 | 3 | - | - | 2 | 28 |
| **11.** | Dr. Mehar Chand | Professor | Agronomy (Sugarcane) | 19 | 21 | - | 10 | - | 13 |
| **12.** | Dr. Pawan Kumar | Principal Scientist | Crop Production, Farming System, Organic Farming & MAP Crops | 4 | 3 | 2 | - | - | 5 |
| **13.** | Dr. Anil Kumar | Principal Scientist | Agronomy | 19 | 9 | 1 | 6 | - | 5 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Yadav | | | | | | | | |
| **14.** | Dr. Suresh Kumar | Joint Director (Crops) | Agronomy | 38 | 33 | 5 | - | - | 2 |
| **15.** | Dr. Karmal Singh | Associate Professor | Agronomy | 21 | 2 | - | - | - | 3 |
| **16.** | Dr. Satyajeet | Assistant Scientist | Agronomy | 6 | 5 | - | 2 | - | 4 |
| **17.** | Dr. S. K. Sharma | Assistant Scientist | Agronomy | 10 | 6 | - | - | - | 5 |
| **18.** | Dr. Anil Duhan | Assistant Scientist | Herbicide Residues Testing | 43 | 25 | - | - | - | - |
| **19.** | Dr. Meena Sewhag | Assistant Scientist | Crop production | 40 | 5 | - | 1 | 1 | - |
| **20.** | Dr. Parveen Kumar | Assistant Professor | Crop Production | 10 | 3 | - | - | - | - |
| **21.** | Dr. Bhagat Singh | Assistant Scientist | Wheat & Barley Agronomy | 42 | 3 | 0 | 1 | 4 | |
| **22.** | Dr. A. K. Dhaka | Assistant Professor | Crop Production | 18 | 8 | 2 | 2 | - | - |
| **23.** | Dr. V.S. Hooda | Assistant Scientist | Weed Management & RCT | 46 | 25 | 2 | 2 | 2 | 2 |
| **24.** | Dr. Amarjeet | Assistant Scientist | Crop Management | 15 | 5 | - | - | - | 5 |
| **25.** | Dr. Shweta | Assistant Scientist | Crop production | 18 | 4 | - | 4 | - | - |
| **26.** | Dr. Vinod Kumar | DES (Agronomy) | Crop Production | 11 | 8 | - | - | - | - |
| **27.** | Dr. Rajesh Kathwal | Assistant Scientist (Agronomy) | Crop Production | 5 | 3 | - | 5 | 3 | - |
| **28.** | Dr. Nitin Bhardwaj | Assistant Scientist (Statistics) | Reliability Theory | 20 | 15 | - | 10 | - | - |
| **29.** | Dr. Satpal | Assistant Agronomist | Agronomy | 70 | 24 | - | 6 | - | 17 |
| **30.** | Dr. Jitender Kumar | Assistant Scientist | Agronomy | - | 2 | - | - | - | 3 |
| **31.** | Dr. Narender Singh | Assistant Scientist | Agronomy | 20 | 15 | - | 11 | - | 5 |
| **32.** | Dr. Neelam | Assistant Scientist | Crop Production | 20 | 4 | - | - | - | - |
| **33.** | Dr. R. S. Dadarwal | Assistant Scientist | Farming System Agronomist | 8 | 4 | 1 | 1 | 1 | 3 |
| **34.** | Dr. Ram Dhan Jat | Assistant Scientist | IFS | 7 | 2 | - | 1 | - | 4 |
| **35.** | Dr. Sushil Kumar Singh | Assistant Scientist | Irrigation Water Management | 5 | 5 | - | - | - | - |
| **36.** | Dr. Muli Devi | Assistant Scientist | Irrigation water management | 8 | 3 | - | 1 | - | 5 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **37.** | Dr. Vandana | DES(Agronomy) | Medicinal Plant | 15 | 2 | - | - | - | - |
| **38.** | Dr. Yogita Bali | DES (Agronomy) | Agronomy | 5 | 5 | - | - | - | 1 |
| **39.** | Dr. Ashish Shivran | DES (Agronomy) | Agronomy | 7 | 5 | 0 | 0 | 2 | 3 |
| **40.** | Dr. Meenakshi | DES (Agronomy) | Agronomy | 15 | 14 | - | 1 | 2 | - |
| **41.** | Dr. Parvinder Kumar | Assistant Professor | Crop Production | 7 | 3 | - | - | - | - |
| **42.** | Dr. Uma Devi | Assistant Scientist | Agronomy | 8 | 7 | 1 | - | - | 2 |
| **43.** | Dr. Sandeep Rawal | DES (Agronomy) | Agronomy | 10 | 5 | - | - | - | - |
| **44.** | Dr. Todar Mal | Assistant Scientist | Weed Control | 20 | 23 | - | 1 | - | 2 |
| **45.** | Dr. Ankur Chaudhary | Assistant Scientist | Weed Control | 22 | 10 | - | 3 | - | - |
| **46.** | Dr. Sunil Kumar | DES (Agronomy) | Agronomy | 5 | 3 | 5 | 2 | - | 4 |
| **47.** | Dr. Amit Kumar | Assistant Scientist | Agronomy | 15 | 8 | - | 2 | l | - |
| **48.** | Dr. Naveen Kumar | Assistant Scientist | Agronomy | 10 | 5 | - | 4 | - | - |
| **49.** | Dr. Navish Kumar Kamboj | Assistant Scientist | Cotton Agronomy | 6 | 12 | - | 1 | - | - |
| **50.** | Dr. J. M. Sutaliya | Junior Agronomist | MAP Crops | 14 | 14 | 1 | - | - | 4 |
| **51.** | Dr. Kavita | Assistant Scientist | Agril. Economics | 7 | 2 | - | - | - | 3 |
| **52.** | Dr. Pattam Keerthi | Assistant Professor | Agronomy | 15 | 8 | 2 | 2 | - | - |

## Agricultural Meteorology

| **Sr. No.** | **Name** | **Designation** | **Specialization** | **Publications in number during the period under report** | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Full paper** | **Conference/ symposium** | **Books** | **Book chapters** | **Manual** | **Annual/research reports** |
| **1** | Dr. M .L. Khichar | Prof & Head | Weather forecasting applications in Agriculture, Micrometeorology, Climatology | 7 | 2 | - | 2 | - | 3 |
| **2** | Dr. Raj Singh | Principal Scientist | Agrometeorology, Micrometeorology, Crop Modelling | 19 | 2 | - | 2 | - | - |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **3** | Dr. Ram Niwas | Professor (Retd. On 30.4.2022) | Remote Sensing and Crop modelling | 20 | 1 | - | 2 | - | - |
| **4** | Dr. Surender Singh | Principal Scientist | Agrometeorology, regional monsoon & drought dynamics, climate resilient farming | 25 | 5 | - | - | - | - |
| **5** | Dr. C. S. Dagar | Asstt. Scientist | Agrometeorology | 18 | 6 | - | 4 | - | 7 |
| **6** | Dr. Anurag | Asstt. Scientist | Cartography, GIS, Remote Sensing | 17 | 5 | - | 6 | - | - |
| **7** | Dr. Anil Kumar | Assistant Scientist | Micrometeorology/Agricultural Meteorology | 20 | 4 | - | 5 | - | 4 |
| **8** | Dr. Naresh Kumar | Assistant Scientist | Agrometeorology, Weather forecasting applications in Agriculture | 12 | - | | 2 | | - |

## Business Management:

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conferenc/ symposium | Books | Book chapters | Manual | Annual/research reports |
| **1** | Dr. Atul Dhingra | Professor& Head | Marketing, MIS | 3 | 3 | - | - | - | - |
| **2** | Dr. S. K. Goyal | Professor | Agril. Econ, Agribusiness | 4 | 2 | - | - | - | - |
| **3** | Dr. Sunita Mehla | Professor | Finance, Accounts | 5 | - | - | - | - | - |
| **4** | Dr. Suman Ghalawat | Assistant. Professor | HRM, Marketing | 16 | 5 | - | - | - | - |
| **5** | Dr. Amita Girdhar | Assistant. Professor | HRM, Marketing | 6 | 3 | - | - | - | - |
| **6** | Mr. Subodh Agarwal | Assistant. Professor | Agribusiness Management | 10 | 5 | - | - | - | - |
| **7** | Dr. Megha | Assistant. Professor | Statistics Quantitative Method | 13 | 5 | - | - | - | - |

## Entomology

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual | Annual/research reports |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **1.** | Dr. Sunita Yadav | Senior Scientist | Economic Entomology | 12 | 15 | - | 3 | 2 | 4 |
| **2.** | Dr. Krishna Rolania | Assistant Scientist | Economic Entomology | 33 | 10 | - | 2 | - | - |
| **3.** | Dr. Sushil | Assistant Chemist | Analytical Chemistry | 25 | 7 | - | 4 | - | - |
| **4.** | Dr. Deepika Kalkal | Assistant Scientist | Economic Entomology and Biological Control | 6 | 12 | - | - | - | - |
| **5.** | Dr. Harish Kumar | Assistant Scientist | Apiculture | 2 | 1 | - | - | - | 1 |
| **6.** | Dr. Lomash Kumar | Assistant Professor | Economic Entomology | 7 | 21 | - | - | 1 | - |
| **7.** | Dr. Ankit Jood | Assistant Scientist | Economic Entomology | - | 3 | - | 2 | - | - |
| **8.** | Dr. Manoj Kumar Jat | Assistant Scientist | Apiculture and Economic Entomology | 4 | 2 | - | 1 | - | 2 |
| **9.** | Dr. Swati Mehra | Assistant Professor | Economic Entomology | 6 | 7 | 0 | 3 | - | - |
| **10.** | Dr. Yogesh Kumar | Consultant faculty | Apiculture and Economic Entomology | 22 | 7 | 1 | 6 | - | 5 |
| **11.** | Dr. Dalip Kumar | Assistant Scientist | Oilseed Entomology | 28 | 1 | - | - | 7 | 14 |
| **12.** | Dr. Anil | Assistant Entomologist | Economic Entomology | 15 | 2 | - | 4 | - | - |
| **13.** | Dr. Surender Singh Yadav | Assistant Director PP | Economic Entomology | 15 | 6 | - | 1 | 3 | 5 |
| **14.** | Dr. Tarun Verma | DES (Entomology) | Pulse Entomology | 18 | - | - | 4 | - | - |
| **15.** | Dr. Bhupender Singh | Asst. Director (Entomology) | Economic Entomology | 8 | 3 | - | - | - | - |
| **16.** | Dr.Bajrang Lal Sharma | Assistant Scientist | Economic Entomology | 14 | 3 | - | 2 | - | 2 |
| **17.** | Dr. Jai Lal Yadav | DES (Entomology) | Economic Entomology | 8 | - | - | - | - | - |
| **18.** | Dr. Dilbag Singh Ahlawat | Assistant Scientist | Applied Entomology | 16 | - | - | - | - | - |
| **19.** | Dr. Dilbag Gahlawat | DES (Entomology) | Biocontrol | 6 | - | - | - | - | - |
| **20.** | Dr. Maha Singh | DES (Entomology) | Sugarcane & Maize Entomology | 10 | 06 | - | 03 | - | 12 |
| **21.** | Dr. Rajesh Kumar | DES (Entomology) | Economic Entomology | 8 | 5 | 0 | 3 | 0 | 5 |
| **22.** | Dr. Narender Kumar | KVK Coordinator | Natural Farming | 6 | 1 | - | 1 | - | 14 |
| **23.** | Dr. Ram Karan | DES (Entomology) | Economic Entomology | 10 | 4 | - | 1 | - | - |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **24.** | Dr. Chitralekha | Assistant Scientist | Cotton Entomology | 5 | 26 | - | 5 | - | - |
| **25.** | Dr. Meenu | DES (Entomology) | Agril. Entomology | 3 | 5 | - | - | - | 1 |
| **26.** | Dr. Varun Saini | Assistant Professor | Insect Taxonomy | 2 | 1 | - | - | - | - |

## Extension Education

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ Symposium | Books | Book chapters | Manual | Annual/research reports |
| **1.** | Dr. Ashok Kr. Godara | Professor | Agril. Extension Education | 20 | - | - | - | - | - |
| **2.** | Dr. Pardip Singh Shehrawat | Principal scientist | Sustainable Agriculture Development | 34 | - | - | - | - | - |
| **3.** | Dr. Joginder Singh Malik | Professor | Transfer of Technology | 56 | 40 | - | 13 | - | - |
| **4.** | Dr. Pardeep Kr. Chahal | Assistant Professor | Agril. Extension Education | 21 | 20 | - | - | - | - |
| **5.** | Dr. Rati Mukteshawar | Assistant Professor | Agril. Extension Education | 20 | 15 | 01 | 02 | - | - |
| **6.** | Dr. Krishan Yadav | Associate Director (Extension) | Mass Communication | 23 | 03 | - | - | - | - |
| **7.** | Dr. Ashok Kunar | Assistant Director (Extension) | Agril. Extension Education | 19 | 02 | - | - | - | - |
| **8.** | Dr. Sube Singh | Assistant Director | Agril. Extension Education | 15 | 12 | - | - | - | - |
| **9.** | Dr. Sandeep Bhakar | Assistant Professor | Extension Communication | 10 | 03 | - | - | - | 04 |
| **10.** | Dr. Nasib Singh | Professor | Agril. Extension Education | - | - | - | - | - | - |
| **11.** | Dr. Bharat Singh | Assistant Professor | Agril. Extension Education | 13 | 14 | - | 7 | - | 5 |
| **12.** | Dr. Jasvinder Kaur | Assistant Professor | Agril. Extension Education | 07 | - | - | 01 | - | 01 |
| **13.** | Dr. Anil Kr. Rohila | Assistant Professor | Agril. Extension Education | 17 | 20 | - | 01 | - | - |
| **14.** | Dr. Ajay Kumar | Assistant Professor | Mass Communication | 08 | - | - | - | - | - |
| **15.** | Dr. Sukh Ram Verma | Assistant Professor | ICT application in Agriculture | 05 | 01 | - | - | 10 | 03 |
| **16.** | Dr. Vijay Pal Yadav | Professor | Agril. Extension Education | 12 | 14 | - | - | - | - |
| **17.** | Dr. Joginder Singh | Associate Professor | Agril. Extension Education | 15 | 10 | - | - | - | - |
| **18.** | Dr. Satpal Singh | DES (Ext. Education) | Rural Development | 08 | 09 | - | - | - | 16 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **19.** | Dr. Renu | DES (Extension Education) | Agril. Extension Education | 03 | - | - | - | - | - |
| **20.** | Dr. Rupender | DES (Extension Education) | Agril. Extension Education | 06 | 05 | - | - | - | - |
| **21.** | Dr. Pawan | DES (Extension Education) | Agril. Extension Education | 06 | 03 | - | 07 | - | - |

## Forestry

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual | Annual/research reports |
| **1** | Dr. R. S. Beniwal | Professor & Head | Tree Physiology/ Agroforestry | 7 | - | - | - | - | - |
| **2** | Dr. R. S. Dhillon | Professor | Tree Improvement/ Agroforestry | 5 | - | - | - | - | - |
| **3** | Dr S. K. Dhanda | Professor | Agroforestry | 8 | - | - | - | - | - |
| **4** | Dr. Sandeep Arya | Associate Professor | Agroforestry | 20 | 10 | - | 2 | 1 | - |
| **5** | Dr. Karan Singh Ahlawat | Assistant Scientist | Agroforestry | 7 | 4 | - | - | - | - |
| **6** | Dr. Virender Dalal | Assistant Scientist | Agroforestry | 4 | 3 | - | - | - | - |
| **7** | Dr. Chhavi Sirohi | Assistant Scientist | Agroforestry | 13 | 8 | 1 | 5 | - | 11 |
| **8** | Dr. Pawan Kumar Poonia | Assistant Professor | Forestry | 11 | 6 | - | 2 | - | - |
| **9** | Dr. Sushil Kumari | Assistant Professor | Forestry | 4 | 2 | - | - | - | - |
| **10** | Dr. Amandeep Singh | Assistant Scientist | Soil & Water Engineering | 01 | - | - | - | - | - |

## Genetics & Plant Breeding

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual | Annual/ research reports |
| **1.** | Dr. S. K. Pahuja | Principal Scientist | Plant Breeding | 33 | 6 | - | 2 | - | - |
| **2.** | Dr. Mukesh Kumar | Assistant Professor | Molecular Genetics and Biotechnology | 27 | 8 | - | - | 1 | - |
| **3.** | Dr. Ravika | Assistant Professor | Genetics &Plant Breeding | 18 | 15 | - | 3 | 1 | - |
| **4.** | Dr. Dev Vart | Assistant Scientist | Plant Breeding | 24 | 4 | 1 | 2 | - | - |
| **5.** | Dr. K. D. Sehrawat | Assistant Scientist | Plant Breeding | 10 | 5 | - | - | - | - |
| **6.** | Dr. Somveer | Assistant Scientist | Genetics and Plant Breeding | 34 | 17 | - | 2 | 5 | - |
| **7.** | Dr. Shiwani Mandhania | Assistant Biochemist | Biochemistry | 19 | - | 02 | - | - | 10 |
| **8.** | Dr. Sandeep Kumar | Assistant Cotton Botanist | Genetics and Plant Breeding | 08 | 10 | - | 02 | - | - |
| **9.** | Dr. Minakshi Devi | Assistant Scientist | Genetics and Plant Breeding | 16 | 09 | - | 07 | - | - |
| **10.** | Dr S. R. Pundir* | Consultant faculty | Genetics and Plant Breeding | 05 | 07 | 01 | 01 | - | - |
| **11.** | Dr. Rajesh Yadav | Assistant Scientist | Plant Breeding | 24 | 29 | - | 4 | - | 15 |
| **12.** | Dr. Sunil | Assistant Scientist | Plant Breeding | 6 | 5 | - | 1 | - | 5 |
| **13.** | Dr. Lakshmi Chaudhary | Assistant Scientist | Plant Breeding | 12 | 5 | - | 1 | - | 5 |
| **14.** | Dr. Ram Avtar | Assistant Scientist | Plant Breeding and biotechnology | 29 | - | - | 2 | - | 5 |
| **15.** | Dr. Subhash Chander | Assistant Scientist | Plant Breeding and biotechnology | 14 | 4 | - | 1 | - | 5 |
| **16.** | Dr. Nisha Kumari | Assistant Scientist | Biochemistry | 12 | 4 | - | 4 | - | 4 |
| **17.** | Dr. Vinod Kumar Goyal | Assistant Scientist | Plant Physiology | 8 | 5 | - | 3 | - | 5 |
| **18.** | Dr. Neeraj Kumar | Assistant Scientist | Plant Breeding and biotechnology | 8 | 1 | - | 1 | - | 4 |
| **19.** | Dr. D.S. Phogat | Consultant Faculty | Plant Breeding | 21 | 3 | - | 2 | - | 10 |
| **20.** | Dr. Yogesh Jindal | Assistant Scientist | Plant Breeding | 20 | 11 | 6 | 4 | - | - |
| **21.** | Dr. Satyawan Arya | Assistant Scientist | Plant Breeding | 5 | 1 | 1 | 1 | - | 2 |
| **22.** | Dr. Pummy Kumari | Assistant Scientist | Plant Breeding | 6 | 4 | - | 2 | - | 5 |
| **23.** | Dr. Ravish Panchta | Assistant Scientist | Genetics and Plant Breeding | 7 | 3 | 1 | 1 | - | 2 |
| **24.** | Dr. Neeraj Kharor | Assistant | Biochemistry | 5 | - | - | 1 | - | 2 |

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|---|---|---|---|---|---|---|---|---|---|
| | | Biochemist | | | | | | | |
| **25.** | Dr. G. S. Dahiya | Principal Scientist | Plant Breeding | 8 | 1 | - | 1 | 2 | 5 |
| **26.** | Dr. R. K. Arya | Assistant Scientist | Plant Breeding | 25 | 5 | 2 | 5 | 2 | 5 |
| **27.** | Dr. Ravi Kumar | Assistant Scientist | Chemistry | 12 | 3 | - | 1 | 2 | 8 |
| **28.** | Dr. Vipan Kumar | Assistant Scientist | Chemistry | 7 | 2 | - | - | - | 1 |
| **29.** | Dr. O. P. Bishnoi | Assistant Scientist | Plant Breeding | 12 | 5 | - | 4 | - | - |
| **30.** | Dr. Divya | Assistant Scientist | Wheat Breeding | 25 | 25 | - | 5 | - | 5 |
| **31.** | Dr. Yogender Kumar | Assistant Scientist | Plant Breeding | 25 | 2 | - | 1 | - | - |
| **32.** | Dr. Renu Munjal | Principal Scientist | Wheat Physiology | 50 | 12 | - | 10 | - | - |
| **33.** | Ms. Priyanka | Junior Nematologist | Economic Nematology | 6 | 3 | - | - | - | - |
| **34.** | Dr. Vikram Singh | Assistant Scientist | Wheat improvement | 50 | 15 | | | | 2 |
| **35.** | Dr. M. C. Kamboj | Assistant Scientist | Maize Breeding | 26 | 25 | 5 | - | 3 | 20 |
| **36.** | Dr. Preeti Sharma | Assistant Scientist | Maize Breeding | 19 | 26 | - | 2 | - | - |
| **37.** | Dr. Vijeta Gupta | Assistant Scientist | Maize Breeding | 8 | 8 | - | 3 | - | - |
| **38.** | Ms. Kiran | Assistant Scientist | Maize Breeding | 11 | 7 | - | 5 | - | - |
| **39.** | Dr. Harshdeep | Assistant Scientist | Genetics and Plant Breeding | 9 | 4 | - | 1 | - | - |
| **40.** | Harsh Chaurasia | Assistant Scientist | Genetics and Plant Breeding | 6 | 4 | - | 8 | - | - |
| **41.** | Dr. Pawan Kumar | Assistant Scientist | Genetics and Plant Breeding | 20 | 8 | - | 3 | - | - |
| **42.** | Dr. Y.P.S. Solanki | Assistant Scientist | Plant Breeding | 13 | 12 | - | 2 | 2 | 5 |
| **43.** | Dr. Ashok Kumar Dehinwal | Assistant Scientist | Plant Breeding | 10 | 8 | - | - | - | - |
| **44.** | Dr. Atman Poonia | Assistant Scientist | Plant Breeding | 10 | 8 | - | 5 | - | - |
| **45.** | Dr. Ankit Yadav | Assistant Scientist | Plant Breeding | 12 | 6 | - | 4 | - | - |

## Horticulture

| **S. No.** | **Name** | **Designation** | **Specialization** | **Publications in number during the period under report** | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Full paper** | **Conference/ Symposium/ abstract** | **Books** | **Book chapters** | **Manual** | **Annul/research reports** |
| **01** | Dr. D. S. Dahiya | Professor | Floriculture | 8 | 4 | - | 1 | - | - |
| **02** | Dr. S. K. Sehrawat | Professor | Floriculture | 15 | 7 | 3 | 1 | - | - |
| **03** | Dr. Jeeet Ram Sharma | Principal Scientist | Fruit Science | 9 | 4 | | 2 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **03** | Dr. G. S. Rana | Principal Scientist | Fruit Science | 16 | - | - | - | - | - |
| **04.** | Dr. B. S. Beniwal | Professor | Floriculture | 20 | 07 | - | 01 | - | - |
| **05** | Dr. Raj Pal Singh Dalal | Senior Scientist | Fruit Production Technology | 21 | 1 | - | 1 | - | - |
| **06** | Dr. Sonu Kumari | Assistant Fruit Breeder | Horticulture – Floriculture & Landscape Architecture | 08 | 08 | - | 03 | - | - |
| **07** | Dr. Arvind Malik | Assistant Professor | Floriculture | 22 | 5 | - | 1 | 2 | - |
| **08** | Dr. Suresh Kumar | Assistant Scientist | Fruit Science | 10 | 2 | - | - | - | - |
| **09** | Dr. Satpal Baloda | Assistant Horticulturist | Fruit Science | 21 | 17 | - | 03 | - | - |

## Nematology

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual | Annual/research reports |
| **1** | Dr. R. S. Kanwar | Principal Scientist | Economic Nematology | 88 | 20 | 2 | 24 | 3 | **5** |
| **2** | Dr. Sewak Ram | Principal Scientist | Economic Nematology | 38 | 4 | - | - | - | **6** |
| **3** | Dr. K. K. Verma | Principal Scientist | Economic Nematology | 16 | 4 | - | 1 | - | **4** |
| **4** | Dr. Anil Kumar | Nematologist & Head | Economic Nematology/ /Biological Control | 56 | 08 | | 11 | 1 | **5** |
| **5** | Dr. Prakash Banakar | Assistant Professor | Moleculer Nematology | 25 | 2 | | 1 | - | - |
| **6** | Dr. Jaydeep Patil | Assistant Scientist | Economic Nematology | 40 | 26 | | 7 | - | **4** |
| **7** | Dr. Vinod Kumar | Assistant Scientist | Economic Nematology | 22 | 17 | - | 6 | - | **3** |
| **8** | Dr. Saroj Yadav | Assistant Professor | Economic Nematology | 29 | 19 | - | 4 | - | - |
| **9** | Dr. Chaitra G. Bhatt | Assistant Scientist | Entomopathogenic nematodes and molecular nematology | 15 | 7 | 1 | - | - | - |
| 10 | Dr. Lochan Sharma | Assistant Scientist | Economic Nematology | 8 | 7 | - | 8 | - | - |

## Plant Pathology:

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual | Annul/ research reports |
| 1 | Dr. H.S. Saharan | Principal Scientist | Fungal Pathology | 5 | - | - | 1 | - | 6 |
| 2 | Dr. Kushal Raj | Assistant Scientist | Plant Pathology | 39 | 83 | | 07 | - | 10 |
| 3 | Dr. Satish Kumar | Assistant Director (PP) | Extension Pathology, ADT | 21 | 24 | - | 09 | 01 | 14 |
| 4 | Dr. Rakesh Kumar Chugh | Assistant Scientist | Vegetable Pathology | 15 | 27 | 1 | 10 | 01 | 29 |
| 5 | Dr. Rajender Singh | Assistant Plant Pathologist | Plant Pathology | 3 | 01 | - | 04 | - | 12 |
| 6 | Dr. Vinod Malik | Assistant Scientist | Bajra Pathology | 25 | 10 | 1 | 02 | 01 | 50 |
| 7 | Dr. Mamta | Assistant Professor | Plant Pathology | 05 | 11 | - | 02 | - | 11 |
| 8 | Dr. Pooja Sangwan | Assistant Scientist | Plant Pathology | 05 | 22 | - | 02 | 01 | 16 |
| 9 | Dr. Kishor Chand Kumhar | Junior Pathologist | Biological control of Plant Disease | 40 | 08 | - | 07 | - | - |
| 10 | Dr. Man Mohan | Assistant Scientist | Cotton Pathology | 12 | 06 | - | 01 | 01 | 05 |
| 11 | Dr. Anil Kumar Saini | Assistant Pathologist | Cotton Pathology | 04 | 03 | - | 02 | - | - |
| 12 | Dr. Manjeet Singh | Assistant Professor | Plant Pathology | 04 | 04 | - | - | 01 | 13 |
| 13 | Dr. Jagdeep Singh | Assistant Scientist | Mushroom Pathology | 07 | 04 | - | 01 | 01 | 09 |
| 14 | Dr. Rakesh Mehra | Principal Scientist | Sugarcane Pathology | | - | 1 | - | - | - |
| 15 | Dr. Mahaveer Bochalya | Assistant Plant Pathologist | Rice Pathology | 8 | 9 | - | - | - | 5 |
| 16 | Dr. Promil Kapoor | Assistant Scientist | Pulses Pathology | 06 | 05 | 01 | 06 | - | 10 |
| 17 | Dr. Rakesh | Junior Plant Pathologist | Oilseeds Pathology | 35 | 11 | - | 03 | 01 | 15 |
| 18 | Dr. Prashant Kumar Chauhan | Assistant Pathologist | Maize Pathology | - | - | - | - | - | - |
| 19 | Dr. Ravinder Singh Chauhan | DES | Extension Plant Pathology | 04 | 04 | 1 | - | - | 23 |

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|---|---|---|---|---|---|---|---|---|---|
| **20** | Dr. Ashwani Kumar | Assistant Professor | Plant Pathology | - | - | - | - | - | - |
| **21** | Dr. Manoj Kumar | Assistant Plant Pathologist | Fruit Pathologist | 5 | 8 | - | 1 | 0 | 4 |
| **22** | Dr. Narender Kumar | DES | Extension Plant Pathology | - | - | - | - | - | - |
| **23** | Dr. Naresh Kumar Yadav | Assistant Scientist | Cotton Pathology | 20 | 35 | - | - | - | - |
| **24** | Mrs. Pavitra Kumari | Assistant Professor | Plant Pathology | 19 | 05 | - | 01 | - | 15 |
| **25** | Dr. Fateh Singh | DES | Biological Control | 10 | - | - | 01 | - | - |
| **26** | Dr. Rakesh Sangwan | DES | Plant Pathology | 11 | - | - | - | - | - |
| **27** | Dr. Dalvinder Pal Singh | Assistant Plant Pathologist | Forage Pathology | 08 | 06 | - | 01 | - | 03 |
| **28** | Dr. Harbinder Singh | Assistant Scientist | Maize Pathologist | 10 | 09 | | 01 | - | 12 |
| **29** | Dr. Narender Singh | Assistant Scientist | Fruit Pathology | 7 | - | | 02 | - | - |
| **30** | Dr. Annu | DES | Plant Pathology | 11 | - | | 04 | - | - |
| **31** | Mr. Satish Chalia | DES | Plant Pathology | 6 | - | - | 01 | - | - |
| **32** | Dr. Manjunath S. Hurakadli | Assistant Scientist | Plant Virology | 3 | 1 | - | 02 | - | |
| **33** | Dr. Amoghavarsha Chittaragi | Assistant Scientist | Molecular Plant Pathology | 15 | 5 | - | 2 | - | 4 |
| **34** | Dr. Pawan Kasniya | Assistant Scientist | Fungal Pathology | 5 | 4 | - | 4 | 1 | 6 |
| **35** | Dr. Jagmohan SIngh | Assistant Scientist | Fungal Pathology & Biocontrol | 19 | 10 | - | 5 | 1 | 8 |

## Seed Science & Technology

| S. No. | Name | Designation | Specialization | Publications in number during the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual | Annul/research reports |
| **1** | Dr. V. S. Mor | Senior Scientist | Seed Science & Technology | 60 | 48 | 2 | 2 | - | 4 |
| **2** | Dr. Axay Bhuker | Assistant Scientist | Seed Science & Technology | 62 | 12 | 3 | 5 | - | 4 |

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|---|---|---|---|---|---|---|---|---|---|
| **3** | Dr. S. S. Jakhar | Assistant Seed Research Officer | Seed Pathology | 25 | 5 | 2 | 2 | - | 4 |
| **4** | Dr. Puneeth Raj M. S | Assistant Scientist | Seed Science & Technology | 5 | 2 | - | - | - | 2 |

## Soil Science

| S. No. | Name | Designation | Specialization | Publications in numberduring the period under report | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference/ symposium | Books | Book chapters | Manual/ Tech. Folders | Annul/ research reports |
| **1** | Dr. Manoj Kumar | Principal Scientist | Soil Fertility | 05 | - | - | - | - | 03 |
| **2** | Dr. Dev Raj | Assistant Soil Chemist | Soil Fertility | 08 | 10 | 1 | 1 | 2 | - |
| **3** | Dr. Ram Prakash | Assistant Scientist | Soil Salinity | 10 | 12 | 01 | 02 | 01 | 06 |
| **4** | Dr. Dinesh | Junior Pedologist | Pedology | 07 | 04 | - | - | - | 03 |
| **5** | Dr. Rohtash Kumar | Assistant Scientist | Soil Fertility/ Micro-Nutrient | 05 | - | - | - | 12 | 04 |
| **6** | Dr. Dhram Prakash | Junior Soil Chemist | Soil Salinity | - | 05 | - | - | - | - |
| **7** | Dr. Mukesh Kumar Jat | Assistant Scientist | Soil Fertility | 12 | 02 | - | - | - | - |
| **8** | Dr. Parmod Yadav | Assistant Scientist | Soil Fertility | 08 | 04 | - | - | - | 05 |
| **9** | Dr. Abha Kachru | Scientist | Soil Fertility | 05 | - | - | - | - | 05 |
| **11** | Dr. Devender Jakhar | DES | Soil Fertility | 04 | 06 | - | - | - | 10 |
| **13** | Dr. Rajpaul | DES | Soil salinity | 03 | 6 | - | - | 02 | 04 |
| **14** | Dr. Kiran Khokhar | Assistant Scientist | Soil Fertility | 02 | 05 | 01 | - | - | - |
| **15** | Dr. Pooja Rani | DES | Soil Fertility | 04 | - | - | - | - | - |
| **16** | Dr. Santosh | DES | Soil Fertility | 06 | - | - | - | - | - |
| **17** | Dr. N. K. Goyal | DES | Soil Fertility | 03 | - | - | - | - | 05 |
| **18** | Dr. Rameshwar | DES | Soil Fertility | 06 | - | - | - | - | - |
| **19** | Dr. S. K. Sharma | Principal Scientist | Soil Fertility | 07 | 15 | - | 04 | - | 04 |
| **20** | Dr. Shubham Lamba | Assistant Scientist | Soil Science | 02 | 08 | - | 04 | - | - |
| **21** | Dr. Ankush | Assistant Scientist | Soil salinity & fertility | 07 | 08 | - | 04 | - | - |
| **22** | Dr. Sonia Rani | Assistant Scientist | Soil salinity and Fertility | 02 | - | - | - | - | - |
| **23** | Dr. Seema | Assistant Scientist | Soil physics | 01 | - | - | - | - | - |

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| **24** | Dr. Vikas | Assistant Scientist | Soil Science | 06 | - | - | - | - | - |
| **25** | Dr. Sushil | Assistant Scientist | Soil Science | - | - | - | - | - | - |
| **26** | Dr. Deepika | Assistant Scientist | Soil Science | - | - | - | - | - | - |
| **27** | Ms. Ritambhara | Assistant Scientist | Soil Science | - | - | - | - | - | - |
| **28** | Dr. Hardeep Singh Sheoran | Assistant Professor | Soil Fertility, Remote Sensing & GIS | - | - | - | - | - | - |
| **29** | Dr. K. K. Bhardwaj | Assistant Chemist | Soil Science | 9 | 7 | - | - | - | - |
| **30** | Dr. Narender Yadava | Assistant Scientist | Soil Fertility and Chemistry, Micronutrients, Organic Farming | - | - | - | - | - | - |
| **31** | Dr. Sunita Sheoran | Assistant Professor | Soil Fertility & Chemistry | - | 4 | - | - | - | - |
| **32** | Pankaj Kumar | Assistant Professor | Pedology | - | - | - | - | - | - |
| **33** | Dr. Usha Vasisth | Assistant Scientist | Soil Fertility & Chemistry | 1 | - | - | - | - | - |

## Vegetable Science

| **S.no** | **Name** | **Designation** | **Specialization** | **Publications in number during the period under report** | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Full paper** | **Conference/ symposium** | **Books** | **Book chapters** | **Manual** | **Annul/research reports** |
| **1** | Dr. T. P. Malik | Principal Scientist and Head | Vegetable Production | 22 | 4 | - | 3 | - | - |
| **2** | Dr. A. K. Bhatia | Consultant Faculty | Vegetable Production | 12 | 7 | - | - | - | - |
| **3** | Dr. V. K. Batra | Consultant Faculty | Vegetable Production | 17 | 5 | - | - | - | - |
| **4** | Dr. S. K. Tehlan | Principal Scientist | Vegetable Breeding | 41 | 6 | - | 3 | - | - |
| **5** | Dr. S. K. Dhankhar | Principal Scientist | Vegetable Breeding | 14 | 4 | - | 2 | - | - |
| **6** | Dr. D. S. Duhan | Assistant Scientist | Vegetable Breeding | 23 | 8 | - | 4 | - | - |
| **7** | Dr. V. P. S. Panghal | Assistant Scientist | Vegetable Production | 24 | 7 | - | 4 | - | - |
| **8** | Dr. Makhan Lal | Assistant Scientist | Vegetable Production | 8 | 9 | - | 0 | - | - |
| **9** | Dr. Lila Bora | Assistant Scientist | Vegetable Breeding | 9 | - | - | - | - | - |
| **10** | Dr. Kuldeep Kumar | Assistant Scientist | Vegetable Breeding | 11 | 4 | - | 4 | - | - |
| **11** | Dr. Indu Arora | Assistant Scientist | Research | 7 | 7 | - | 1 | - | - |
| **12** | Dr. Hansraj | Assistant Scientist | Vegetable | 7 | 6 | - | 1 | - | - |

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| | | | Production | | | | | | |
| **13** | Dr. Sumit Deswal | Assistant Scientist | Vegetable Production | 18 | 2 | - | - | - | - |
| **14** | Dr. Sanjay Kumar | Assistant Professor | Vegetable Production | 10 | 2 | - | 1 | - | - |
| **15** | Dr. Amit Kumar | Assistant Scientist | Vegetable Production | 8 | 3 | - | 3 | - | - |
| **16** | Dr. Archana | Assistant Professor | Vegetable Production | 6 | 1 | - | 6 | - | - |
| **17** | Dr. Davinder Singh | Assistant Scientist | Vegetable Breeding | 6 | 4 | - | 3 | - | - |
| **18.** | Dr. Preeti Yadav | Assistant Scientist | Vegetable Breeding | 04 | 04 | - | - | - | - |
| **19.** | Dr. Vikash Kumar | Assistant Scientist | Vegetable Production | 15 | 09 | - | 06 | - | - |
| **20.** | Dr. Vikram | Assistant Scientist | Vegetable Production | 10 | 07 | - | 05 | - | - |

### 6.5.2.3. Credential of the Faculty

### Agricultural Economics

| S. No. | Name | Designation | Highest qualification | Honours/awards | Any other achievement that contributes to effective teaching and student learning and outcome |
|---|---|---|---|---|---|
| **1.** | Dr. K. K. Kundu | Associate Professor | Ph. D. | 1. Appreciation Letter<br>2. Appreciation Letter<br>3. Appreciation Letter<br>4. Certification of Appreciation | 1. Prepared of strategy document on Doubling Farmers Income in Haryana by 2022 – A strategy Document<br>2. By Secretary to Governor, Raj Bhawan Haryana, for preparation of draft note on the issue of "Approach to Agriculture – A Holistic Overview.<br>3. By Vice-Chancellor, for preparation of draft note on the issue of "Approach to Agriculture – A Holistic Overview.<br>4. By Shri Mata Vaishno Devi University, J&K for acting as Session Chair in the panel discussion in the international seminar on sustainable rural development in India: Issues, Opportunities & Challenges, organized by School of Economics, SMVDU, in collaboration with NABARD |
| **2.** | Dr. Nirmal Kumar | Assistant Scientist | Ph. D. | Young Scientist Award | |
| **3.** | Dr. J. S. Papang | Assistant Professor | Ph. D. | Best poster award | 30th annual conference "Institutional changes for inclusive and sustainable |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | development" Agricultural Economics Research Association |
| **4.** | Dr. D. P. Malik | Professor | Ph. D. | Member of Task Force | By Haryana Government "Task Force for preparation of Kisan Kalyan /Farmers Welfare Policy with Vision 2047" |
| **5.** | Dr. Dalip Bishnoi | Assistant Scientist | Ph. D. | Selected for 3 Months Training under Foreign Institution under NAHEP-IDP | Texam A&M University, Texas, USA |

## Agronomy

| **S. No.** | **Name** | **Designation** | **Highest qualification** | **Total Experience (Years)** | **Honours /awards** | **Any other achievement that contributes to effective teaching and student learning and outcome** |
|---|---|---|---|---|---|---|
| **1.** | Prof. B. R. Kamboj | Vice Chancellor | Ph. D. | 28 | - | 1. Vice-Chancellor of CCSHAU, Hisar and also served as Vice- Chancellor of GJUS&T, Hisar .<br>2. International exposure to CIMMYT, Mexico.<br>3-year experience as hub Coordinator in International project of CIMMYT-IRRI-CSISA.<br>3. He also served CCSHAU, Hisar as Chief Scientist-cum-Head, Sr. Coordinator & Registrar. He is also the Esteemed President of CCSHAU Agri-Business Incubation Centre (ABIC).<br>4. He has the experience of working with various international Institutions and Universities like Western Sydney University- Australia, Michigan State University-USA, CIMMYT-Mexico, IRRI-Philippines etc. |
| **2.** | Dr. S. K. Thakral | Professor | Ph. D. | 28 | - | - |
| **3.** | Dr. Satish Kumar | Principal Scientist | Ph. D. | 34 | - | Serving as Project Director in Directorate of research, CCSHAU, Hisar |
| **4.** | Dr. Bikram Singh | Principal Scientist | Ph. D. | 30 | - | - |
| **5.** | Dr. O. P. Lathwal | Regional Director, Rice | Ph. D. | 30 | - | Online teaching during Corona period, Smart class room teaching |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Research Station, Kaul | | | | |
| **6.** | Dr. Anil Kumar Mehta | Principal Scientist | Ph. D. | 30 | 1 | - |
| **7.** | Dr. Rajender Kumar | DES Agronomy | Ph. D. | 30 | - | - |
| **8.** | Dr. Rajbir Garg | Professor/Equ. | Ph. D. | 28 | - | - |
| **9.** | Dr. Dharambir Yadav | Regional Director, Bawal | Ph. D. | 28 | 3 | He served as a Project Director in Directorate of Research, CCSHAU |
| **10.** | Dr. Ramesh Kumar | Principal Extension Scientist | Ph. D. | 29 | Agritech Outlook Best KVK Award at National level | - |
| **11.** | Dr. Mehar Chand | Principal Scientist | Ph. D. | 29 | - | - |
| **12.** | Dr. Pawan Kumar | Principal Scientist | Ph. D. | 27 | Best Oral Presentation Award in national Seminar during 2014 | 1. Prepared Six teaching anuals on different courses of Agronomy.<br>2. Prepared Course content on Integrated Farming System<br>3. IFS model developed on one ha for students teaching & learning.<br>4. Controller of Examinations and landscape officer of the University. |
| **13.** | Dr. Anil Kumar Yadav | Principal Scientist | Ph. D. | 27 | 1. Best Researcher award in the Department of Agronomy in January 30-31, 2020<br>2. As a team member two times received Best Pearl millet centre award at National | Director of Deen Dayal Upadhyay centre of excellence for organic farming |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | level during 2018 & 2021 | |
| **14.** | Dr. Suresh Kumar | Joint Director (Crops) | Ph. D. | 13 | - | Serving as joint director crops in Directorate of Research, CCSHAU, Hisar |
| **15.** | Dr. Karmal Singh | Senior Scientist | Ph. D. | 11 | - | Young scientist Academic Award in 2018 ; Young scientist Award in Department of Agronomy, CCSHAU, Hisar in 2020 |
| **16.** | Dr. Satyajeet | Assistant Scientist | Ph. D. | 12.6 | Best Poster Presentation Award (Second Prize) during the "*National Seminar on Socio-Digital Approaches for Transforming Indian Agriculture* " organized by Indian Society of Extension Education, ICAR-IARI, New Delhi at CCS Haryana Agricultural University, Hisar (India) held during November 20-22, 2019.<br><br>Best Extension Worker Award during Agronomist Meet and Students' Weed | |

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| | | | | | Contest organized by Department of Agronomy, CCSHAU, Hisar In collaboration with Haryana Agronomists Association &<br><br>International Weed Science Society held during January 30-31, 2020 at Hisar. | |
| **17.** | Dr. S. K. Sharma | Assistant Scientist | Ph. D. | 12.5 years | - | - |
| **18.** | Dr. Anil Duhan | Assistant Scientist | Ph. D. | 12 | 05 | Availed endeavour research fellowship (PDF) offered by Deptt. of Higher Education, Govt. of Australian, 2018 |
| **19.** | Dr. Meena Sewhag | Assistant Scientist | Ph. D. | 12 | - | - |
| **20.** | Dr. Parveen Kumar | Assistant Professor | Ph. D. | 12 | - | - |
| **21.** | Dr. Bhagat Singh | Assistant Scientist | Ph. D. | 12 | National Service Award 2019-20 from GOI Young Scientist Award 2020-21 from HAA | - |
| **22.** | Dr. Anil Kumar Dhaka | Assistant Professor | Ph. D. | 12 | 5 | - |
| **23.** | Dr. V. S. Hooda | Assistant Scientist | Ph. D. | 12 | 1 | - |
| **24.** | Dr. Amarjeet | Assistant Scientist | Ph. D. | 12.5 | - | - |
| **25.** | Dr. Shweta | Assistant | Ph. D. | 11 | - | - |

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|---|---|---|---|---|---|---|
| | | Scientist | | | | |
| **26.** | Dr. Vinod Kumar | DES | Ph. D. | 11 | 1 (Best paper presented ) | - |
| **27.** | Dr. Rajesh Kathwal | Assistant Scientist | Ph. D. | 11 | - | R-Project software, SAS, PPT, Typing, SPSS etc. |
| **28.** | Dr. Nitin Bhardwaj | Assistant Scientist (Statistics) | Ph. D. | 10 | - | - |
| **29.** | Dr. Satpal | Assistant Agronomist | M.Sc. | 9 | - | 1. Recommendations of perennial sorghum cultivation<br>2. Recommendation regarding organic farming in sorghum-berseem cropping system.<br>3. Collaborated in the development of three sorghum varieties viz., CSV 53F, HJ 1514 and Hybrid HJH 1513. |
| **30.** | Dr. Jitender Kumar | Assistant Scientist | Ph. D. | 14 | - | - |
| **31.** | Dr. Narender Singh | Assistant Scientist | Ph. D. | 9 | 1 | - |
| **32.** | Dr. Neelam | Assistant Professor | Ph. D. | 8 | 1 | - |
| **33.** | Dr. R. S. Dadarwal, | Assistant Scientist | Ph. D., PDF | 9 | 1 | - |
| **34.** | Dr. Ram Dhan Jat | Assistant Scientist | Ph. D. | 6 | - | - |
| **35.** | Dr. Sushil Kumar | Assistant Scientist | Ph. D. | 5 | - | - |
| **36.** | Dr. Muli Devi | Assistant Scientist | Ph. D. | 5 | - | - |
| **37.** | Ms.Vandana | DES Agronomy | M.Sc. | 5 | - | - |
| **38.** | Ms. Yogita Bali | DES | M.Sc. | 5 | - | - |
| **39.** | Dr. Ashish Shivran | DES | Ph. D. | 5 | - | - |
| **40.** | Ms. Meenakshi | DES | M.Sc. | 5 | 3 | - |
| **41.** | Dr. Parvinder Kumar | Assistant Professor | Ph. D. | 5 | - | - |
| **42.** | Dr. Uma Devi | Assistant Scientist | Ph. D. | 5 | - | |
| **43.** | Dr. Sandeep Rawal | DES | Ph. D. | 5 | 2 | - |
| **44.** | Dr. Todar Mal | Assistant Scientist | Ph. D. | 5 | 1. Young Scientist Award by Haryana | - |

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| | | | | | Agronomists Association and International Weed Science Society<br><br>2. Best Poster Award<br><br>3. Young Scientist Award by Indian Society of Weed Science | |
| **45.** | Mr. Ankur Chaudhary | Assistant Scientist | M. Sc. | 4 | - | - |
| **46.** | Dr. Sunil Kumar | DES | Ph. D. | 4 | - | - |
| **47.** | Dr. Amit Kumar | Assistant Scientist Rice Research Station, Kaul | Ph. D. | 4.8 | - | Online teaching during Corona period, Smart class room teaching |
| **48.** | Dr. Naveen Kumar | Assistant Scientist | Ph. D. | 4.5 | 5 | - |
| **49.** | Dr. Navish Kumar Kamboj | Assistant Scientist | Ph. D. | 4 | - | - |
| **50.** | Dr. J. M. Sutaliya | Junior Agronomist | Ph. D. | 8 | - | - |
| **51.** | Dr. Kavita | Assistant Scientist | Ph. D. | 3.5 | - | - |
| **52.** | Dr. Pattam Keerthi | Assistant Professor | Ph. D. | 1.9 | - | Smart class room teaching |
| **53.** | Dr. Kautilya Chaudhary | Assistant Scientist | Ph. D. | 5 | 1 | Smart teaching class room setup |

## List of retired faculty

| Sr. No. | Name | Retired on |
|---|---|---|
| 1. | Dr. Jagdev Singh | 31.03.2018 |
| 2. | Dr. Sube Singh | 31.03.2018 |
| 3. | Dr. Ran Singh Rinwa | 31.03.2019 |
| 4. | Dr. D. P. Nandal | 30.04.2019 |
| 5. | Dr. Ashok Yadav | 04.08.2019 |
| 6. | Dr. Samunder Singh | 31.01.2020 |
| 7. | Dr. Ishwar Singh | 30.04.2020 |

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| 8. | Dr. Satyawan | 31.01.2021 |
| 9. | Dr. Naresh Sangwan | 31.01.2021 |
| 10. | Dr. S. S. Punia | 28.02.2021 |
| 11. | Dr. Mangat Ram | 31.03.2021 |
| 12. | Dr. Joginder Singh Yadav | 31.10.2021 |

## Agricultural Meteorology

| S. No. | Name | Designation | Highest qualification | Total Experience | Honours/ awards | Any Other Achievement that contributes to effective teaching and student learning and outcome (in bullet form) |
|---|---|---|---|---|---|---|
| **1** | Dr. Raj Singh | Principal Scientist | Ph. D. | 33 years | • Designated as Associate Dean PGS since Feb. 2020<br>• Dr Raj Singh visited ETH (Swiss Federal Institute of Technology), one of the world's leading universities in science and technology at Zurich, Switzerland during November 14-29, 2019 under the Scheme for Promotion of Academic and Research Collaboration (SPARC) funded by Ministry of Human Resource Development (MoHRD), Govt. of India. | • Chairman, Assoc of Agrometeorologists-India Hisar Chapter (2014-16, 2017-2021)<br>• Editor, Journal of Agrometeorology 20 (Spl issue, August 2018)<br>• External Examiner and Paper Setter for UG/PG Students of other SAUs/GJUS&T/ICAR/ASRB<br>• Convener, Flying Squad for Examination, CoA, CCSHAU Hisar |
| **3** | Dr. Surender Singh | Principal Scientist | Ph. D. | 32 years | • Visited ETH (Swiss Federal Institute of Technology), one of the world's leading universities in science and technology at Zurich, Switzerland for two weeks during November 14-29, 2019 under the Scheme for Promotion of Academic and Research Collaboration (SPARC) funded by Ministry of Human Resource Development (MoHRD), Govt. of | • Managing Editor, Journal of Agrometeorology (NAAS rating 6.55) *w.e.f.* 01.01.2021<br>• Member, Executive Committee, Association of Agrometeorologists-India w.e.f. 01.01.2021<br>• Founder Member, South Asian Forum on Agro-Meteorology (SAFOAM).<br>• Chairman, Association of Agrometeorologists – Hisar Chapter<br>• Expert Member in Standing Committee on Drought of Switzerland based World Meteorological Organization's (WMO) Service Commission (2021-25) representing regional association of WMO (RA-II) |

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| | | | | | India.<br>• Appreciation Certificate from Hon'ble Vice Chancellor, CCSHAU Hisar received on 1st July, 2019 for grateful recognition and remarkable efforts in the field of research for award of SPARC, MoHRD, Govt of India sponsored project as Indian Principal Investigator<br>• Appreciation Certificate during Alumni Convention and National Seminar on Indian Agriculture: Challenges and Opportunities at CCSHAU Hisar (April, 2016)<br>• Appreciation Certificate during National Youth Week at CCSHAU Hisar (January, 2016)<br>• Appreciation Certificate during Celebration of 475th Maharana Pratap Jayanti at CCSHAU Hisar (May, 2015)<br>• Appreciation Certificate for conducting training program on ICAR-JRF (PGS) Exam in Agriculture at CCSHAU Hisar (October, 2014)<br>• Appreciation Certificate during 44th Annual Athletic Meet of CCSHAU and LUVAS Hisar (February 2013)<br>• | • Convener, Flying Squad for Examination, CoA, CCSHAU Hisar<br>• Coordinator, Answer Sheets Evaluation on External Pattern – UG & MBA for CoA, CCSHAU<br>• Program Coordinator for Winter Fog Experiment (WIFEX) to understand the physical and thermodynamical and chemical features of Fog under MoU between CCSHAU & IITM, Pune<br>• Scientist Incharge cum Nodal Officer, Black Carbon Aerosol (BCA) Analyzer under LoA between IMD, MoES, New Delhi & CCSHAU Hisar<br>• Program Coordinator, Lightening Location Network (LLN) under National Network Data facility; IITM, Pune<br>• Editor, Journal of Agrometeorology 20 (Spl issue, August 2018)<br>• External Examiner and Paper Setter for UG/PG Students of other SAUs/GJUS&T/ICAR/ASRB<br>• Best Paper Award in International Symposium on Advances in Agrometeorology for Managing Climatic Risks of Farmers held at JNU, New Delhi, India, February, 2019<br>• Expert Member of Switzerland based World Meteorological Organization's (WMO) Commission on Agricultural Meteorology (CAgM) for four years (2019-22) RA-II<br>• Vice President, Assoc of Agrometeorologists-India (2017-19) |
| **4** | Dr. M. L. Khichar | Prof & Head | Ph. D. | 32 years (as Professor / Scientist at HAU) | • Nominated as a member of Advisory Committee of All India Radio Hisar.<br>• Associate Dean, College of | • National Award of Excellence for outstanding dissemination of Agromet Advisories on the occasion of 7th Annual Review Meeting of *Gramin Krishi Mausam Seva* at MPUAT Udaipur on 20.11.2013 from |

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| | | | | | Agriculture, CCS Haryana Agricultural University, Hisar w.e.f. 18.04.2022<br>• Principal Nodal Officer, GKMS Project funded by IMD, GoI<br>• Principal Investigator-FASAL Project funded by IMD, GoI<br>• Nodal Officer Geo-tagging RKVY Projects<br>• Nodal Officer Crop Residue Management<br>• Chairman Department Advisory Committee<br>• Secretary, Board of Studies, College of Agriculture<br>• Member Academic Council, CCSHAU Hisar<br>• Member of Selection Committees for SRF/Scientists as Subject Expert<br>• Advisory Committee of All India Radio Chairman of the Committee to finalize the Criteria and Methodology for verification of Impact Based Weather Forecast for Agriculture by Director General Indian Meteorological Department Govt of India w.e.f. 26.10.2022. | India Meteorological Department, Ministry of Earth Sciences, Govt of India.<br>• 1st prize in Best poster presentation of Research Paper "*Weather based Agro-Advisories using ICT for enhancing farm productivity*" in National Seminar on Reorientation of Agricultural Research to Ensure National Food Security at CCSHAU Hisar (Haryana) during January 6-7 2014 under Theme II.<br>• Principal Investigator, Strengthening of climate smart agriculture system for farming community of Haryana under RKVY (2016-17 to 2020-21)<br>• Principal Investigator, Dissemination of weather based Agro- Advisories to the farmers in the state under ATMA project (2010-11 to 2013-14)<br>• Co-Principal Investigator, Forecasting Agricultural output using Space,<br>• Agrometeorology and land-based observations (FASAl) Project, IMD-MoES, Govt ofIndia (2010-11 to continue)<br>• Co- Principal Investigator, Rural Bio-resource complex project in the selected villages of Hisar and Sonipat districts. DBT, GoI (2005-2010)<br>• Principal Investigator, Weather based Agro-advisory SMS services to farmers of Haryana State (2010 to continue)<br>• 90 Field Experiments conducted regarding Crop Weather relationship, Remote Sensing studies and Economic Impact studies of Weather Forecasting etc<br>• 18 training organized and delivered lectures on weather forecasting and its applicationin for farmers at different Krishi Vigyan Kendra/ Regional Research Station<br>• 22 Information Kiosks established at different Krishi Vigyan Kendra/ Regional Research Station of CCS Haryana Agricultural University for farming community of Haryana |

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| | | | | | | • 2nd position for oral presentation during International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) from 17-19 February, 2023. |
| **5** | Dr. C. S. Dagar | Assistant Scientist | Ph. D. | 20.5 years | • Appreciation letter for organising AGMET 2017 organised by Association of Agrometeorologist during 12-14 Oct 2017 at CCSHAU, Hisar<br>• Nominated as president of the CCSHAU CycleYatri Club | • Advisor, Mountaneering club to COA, Kaul and accompanied the Adventure Sports Tour of 30 UG students (boys and girls). During the tour the students accomplished various adventure activities such as jungle camping, mountain trekking, rock climbing, rappelling, swimming, cliff jumping and river rafting etc.<br>• On the occasion of Haryana Day the club organised a cycle tour with a theme "Physical & Mental Fitness" to Agroha Dham in collaboration with Society for Rural Mental Health, Haryana. In this tour 62 students and 17 faculty members of CCSHAU participated. |
| **6** | Dr. Anurag | Assistant Scientist | Ph. D. | 18 years | • Appreciation letter for organising AGMET 2017 organised by Association of Agrometeorologist during 12-14 Oct 2017 at CCSHAU, Hisar<br>• Designated as Warden of PG Married Hostel, CCSHAU Hisar | • Associated in the development of the course module of PG courses under BSMA.<br>• Conducted trainings on Geoinformatics for Agricultural research.<br>• External Examiner and Paper Setter for UG/PG Students of other universities.<br>• In-charge PG Diploma in Remote Sensing and GIS applications<br>• Member of Literary and Debating society of DSW, CCSHAU Hisar<br>• 1st position for Poster presentation during International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) from 17-19 February, 2023.<br>• |

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| **7** | Dr. Anil Kumar | Assistant Scientist (Agrimet) | Ph. D. | 17 years | • Appreciation Certificate as Rapporteur in National symposium Climate Driven Food Production Systems Agrometeorological Interventions, during 20-22 December, 2016 at TNAU, Coimbatore.<br>• Appreciated as Rapporteur in 11th Annual Review Meeting of GKMS, IMD during 15th to 17th Nov., 2017 at IGKV, Raipur | • 1st prize in Best poster presentation of Research Paper entitle "Computation of agrometeorological indices in Barley cultivars under different growing environments at Hisar" in AGMET 2017 at CCSHAU Hisar (Haryana) during 12-14 October 2017 under ST- II. |
| **8** | Dr. Naresh Kumar | Assistant Scientist (Agrimet) | Ph. D. | 13.5 years | | 1st position for Poster presentation during International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at Chaudhary Charan Singh, Haryana Agricultural University, Hisar (India) from 17-19 February, 2023. |

## List of retired faculty

| Sr. No. | Name | Retired on |
|---|---|---|
| **1.** | Dr. Ram Niwas, Principal Scientist | April 2022 |

## Business Management

| S. No. | Name | Designation | Highest qualification | Total Experience | Honours/awards/ Patents/ Certifications | Any Other Achievement that contributes to effective teaching and student learning and outcome |
|---|---|---|---|---|---|---|
| **1.** | Dr. Atul Dhingra | Professor | Ph. D. | 27 | - | Serving as OSD and DSW. Served as DPGS and DHRM, CCSHAU, Hisar |
| **2.** | Dr. S. K. Goyal | Professor | Ph. D. | 34 | - | - |
| **3** | Dr. Sunita Mehla | Professor | Ph. D. | 24 | Appreciation Letter from Hon'ble Vice-Chancellor | - |
| **4.** | Mr. Satyakaam Malik | Assistant Professor | MBA | 15 | - | - |
| **5.** | Dr. Suman Ghalawat | Assistant Professor | Ph. D. | 13 | - | - |
| **6** | Dr. Amita Girdhar | Assistant Professor | Ph. D. | 13 | - | - |

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| **7.** | Mr. Subodh Agarwal | Assistant Professor | MBA (Agribusiness) | 12 | - | - |
| **8.** | Dr. Megha | Assistant Professor | Ph. D. | 03 | - | - |

## Entomology

| S. No. | Name | Designation | Highest qualification | Total Experience (in Years) | Honours/awards | Any Other Achievement that contributes to effective teaching and student learning and outcome (in bullet form) |
|---|---|---|---|---|---|---|
| **1.** | Dr. Sunita Yadav | Senior Scientist | Ph. D. | 14 | Member of BIS | • Conducted 21 days Centre of Advanced Faculty Training (CAFT) as Course coordinator on "Advances in Biology, Conservation, Rearing and Management of *Apis*& non-*Apis* bees" from 4th -24th October, 2019 in Department of Entomology, CCSHAU, Hisar.<br>• Organized 10 days short course as coordinator on "Scientific management of *Apismellifera* colonies for nutritional and economic security" from 25th Jan. to 3rd Feb., 2022 at Department of Entomology, CCSHAU, Hisar.<br>• Member technical committee: Apiary industry, FAD 03 of Bureau of Indian Standards |
| **2.** | Dr. Krishna Rolania | Assistant Scientist | Ph. D. | 12 | -<br><br><br><br><br><br><br><br><br><br>- | • Awarded first prize in oral presentation in theme-vii during the National seminar on "Agrometeorological Interventions for Enhancing Farmers' Income" held at college of Horticulture, Kerala Agricultural University, Thrissur during 20-22 January, 2020<br>• Awarded best presentation award in National conference on "Mathematical Sciences for Applied and Agricultural Research" for presentation a paper entitled "Impact analysis of weather parameter on population build-up of whitefly, *Bemisia tabaci* on Bt and non Bt cotton" organized by Department of Mathematics & Statistics, COBSH, CCSHAU, Hisar (Haryana) on February 22, 2022.<br>• Conducted 21 days Centre of Advanced Faculty Training (CAFT) as Course coordinator on "Recent trends in pests status, pesticide usage and pest |

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| | | | | | | management Strategies in Agriculture" from 5th -25th October, 2018 in Department of Entomology, CCSHAU, Hisar. |
| **3.** | Dr. Sushil | Assistant Chemist | Ph. D. | 11 | NABL Lab<br><br>-<br><br>- | • Pesticide residue laboratory has been accredited by Quality Council of India an NABL<br>• Appreciation letter from Haryana Agricultural Management and Extension Training Institute (HAMETI)<br>• Nodal Officer for Haryana Horticultural Department Panchkula for accreditation |
| **4.** | Dr. Deepika Kalkal | Assistant Scientist | Ph. D. | 9 | - | • Conducted 21 days Centre of Advanced Faculty Training (CAFT) as Course coordinator on "Advances in Biology, Conservation, Rearing and Management of Apis& non-Apis bees" from 4th -24th October, 2019 in Department of Entomology, CCSHAU, Hisar. |
| **5.** | Mr. Harish Kumar | Assistant Scientist | M.Sc. | 9 | - | • Conducted 21 days Centre of Advanced Faculty Training (CAFT) as Course coordinator on "Recent trends in pests status, pesticide usage and pest management Strategies in Agriculture" from 5th -25th October, 2018 in Department of Entomology, CCSHAU, Hisar.<br>• Conducted 10 days short course as coordinator on "Scientific management of *Apismellifera* colonies for nutritional and economic security" from 25$^{th}$ Jan. to 3$^{rd}$ Feb., 2022 at Department of Entomology, CCSHAU, Hisar. |
| **6.** | Dr. Lomash Kumar | Assistant Professor | Ph. D. | 4 | <br><br>- | • Conducted 21 days Centre of Advanced Faculty Training (CAFT) as Course coordinator on "Current Scenario of Pesticide Toxicology and its Impact on Future Agriculture" at CCSHAU, Hisar from 03$^{rd}$ to 23$^{rd}$ Nov., 2022 in Department of Entomology, CCSHAU, Hisar.<br>• Certificate of Appreciation to conduct Indo-US-Afghanistan International Training Workshop on "Capacity development for agricultural innovation systems: |

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| | | | | | | Agricultural research and climate-smart agriculture approaches" from 7-18 March 2020 at CCSHAU, Hisar. |
| **7.** | Dr. Ankit Jood | Assistant Scientist | Ph. D. | 3 | - | • Dr. V. D. Kashyap Gold Medal for best thesis from CCSHAU, Hisar |
| **8.** | Dr. Manoj Kumar Jat | Assistant Scientist | Ph. D. | 3 | - | • Best poster presentation award in International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" held on February 17-19, 2023 at Chaudhary Charan Singh Haryana Agricultural University, Hisar 125 004<br>• Conducted 10 days short course as coordinator on "Scientific management of *Apis mellifera* colonies for nutritional and economic security" from 25th Jan. to 3rd Feb., 2022 at Department of Entomology, CCSHAU, Hisar. |
| **9.** | Dr. Swati Mehra | Assistant Professor | Ph. D. | 5 | - | • 2nd Best Poster Presentation Award at National Conference on "Priorities in Crop Protection for Sustainable Agriculture" at CAU, Imphal. |
| **10.** | Dr. Yogesh Kumar | Consultant faculty | Ph. D. | | - | • Excellence in Research Award |
| **11.** | Dr. Dalip Kumar | Assistant Scientist | Ph. D. | 8 | - | • Conducted Training for farmers on Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue |
| **12.** | Dr. Anil | Assistant Entomologist | Ph. D. | 5 | Appreciation letter from Vice Chancellor, CCSHAU, Hisar | • Certificate of Appreciation to conduct Indo-US-Afghanistan International Training Workshop on "Capacity development for agricultural innovation systems: Agricultural research and climate-smart agriculture approaches" from 7-18 March 2020 at CCSHAU, Hisar. |
| **13.** | Dr. Surender Singh Yadav | Assistant Director Plant Protection | Ph. D. | 12 | - | • Conducted 21 days Centre of Advanced Faculty Training (CAFT) as Course coordinator on "Recent trends in pests status, pesticide usage and pest management Strategies in Agriculture" from 5th -25th October, 2018 in Department of Entomology, CCSHAU, Hisar.<br>• Conducted 21 days Centre of Advanced Faculty Training (CAFT) as Course coordinator on "Current Scenario of Pesticide Toxicology and its |

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| | | | | | | Impact on Future Agriculture" at CCSHAU, Hisar from 03rd to 23rdNov., 2022 in Department of Entomology, CCSHAU, Hisar. |
| **14.** | Dr.Tarun Verma | DES | Ph. D. | 13 | 1. Appreciation letter from VC, CCSHAU, Hisar (No. VC/2020/ 357 dated 8/9/2020)<br>2. Appreciation letter from VC, CCSHAU, Hisar (No. VC/2020/ 617-687 dated 1/2/2020) | • Team Member as collaborator in newly released variety of mungbean MH 1142<br>• Team Member as collaborator in newly released variety of fieldpea HFP 1428 |
| **15.** | Dr. Bhupender Singh | Assistant Director | Ph. D. | 9 | --- | • Organized 72 trainings (2546 beneficiaries) |
| **16.** | Dr. Bajrang Lal Sharma | Assistant Scientist | Ph. D. | 5 | - | • Team member of best AICRP Centre on Sorghum |
| **17.** | Dr. Jai Lal Yadav | DES | Ph. D. | 30 | - | - |
| **18.** | Dr. Dilbag Singh Ahlawat | Assistant Scientist | Ph. D. | 13 | - | • Organized 41 trainings (1050 beneficiaries) |
| **19.** | Dr. Dilbag Gahlawat | DES | Ph. D. | 28 | - | • Organised 4 trainings |
| **20.** | Dr. Maha Singh | DES | Ph. D. | 13 | - | • Best paper (oral) presentation award for scientists in Golden Jubilee International Conference on "Global Perspectives in Crop Protection for Food Security" organized by Department of Agricultural Entomology, Sericulture, Plant Pathology, Nematology and Centre for Plant Protection Studies, Tamil Nadu Agricultural University, Coimbatore at TNAU, Coimbatore from December 8-10, 2021. |
| **21.** | Dr. Rajesh Kumar | DES | Ph. D. | 13 | - | • Received Appreciation Certificate on being adjudged First in evaluation tests and training performance in the ICAR sponsored 21 days training programme on "Recent Advances and Innovations in Modern Organic Agriculture" on |

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| | | | | | | Sept. 5-25, 2018 at MPUAT, Udaipur. |
| **22.** | Dr. Narender Kumar | DES | Ph. D. | 13 | - | • 2nd prize in best poster presentation award in International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" held on February 17-19, 2023 at Chaudhary Charan Singh Haryana Agricultural University, Hisar 125 004 |
| **23.** | Dr. Ram Karan | DES | Ph. D. | 13 | - | • Organized 30 trainings (600 beneficiaries) |
| **24.** | Dr. Chitralekha | Assistant Scientist | Ph. D. | 5 | - | • Young Women Scientist Award on the occasion of 2nd International conference on Recent Advances in Agricultural, Environmental & Applied Sciences for Global Development, Sept.27-29, 2019, Dr. Y. S. Parmar University of Horticulture and Forestry, Solan, Himachal Pradesh<br>• Organized 3 trainings (150 beneficiaries) |
| **25.** | Dr. Meenu | DES | Ph. D. | 6 | - | • Organized 10 vocational trainings (300 beneficiaries) |
| **26.** | Dr. Varun Saini | Assistant Professor | Ph. D. | 6 months | - | • Delivered lecture on role of pollinators for quality seed production in training programme on "Quality Seed Production and Testing" at KVK, Bhiwani |

## Extension Education

| S. No. | Name | Designation | Highest qualification | Experience (in years) | Honours/awards | Any other achievement that contributes to effective teaching and student learning and outcome (in bullet form) |
|---|---|---|---|---|---|---|
| **1.** | Dr. Ashok Kr. Godara | Professor | Ph. D. | 30 | - | - |
| **2.** | Dr. Pardip Singh Shehrawat | Principal scientist | Ph. D. | 32 | - | - |
| **3.** | Dr. Joginder Singh Malik | Professor | Ph. D. | 30 | 04 | - |
| **4.** | Dr. Pardeep Kr. Chahal | Assistant Professor | Ph. D. | 12 | 01 | - |
| **5.** | Dr. Rati Mukteshawar | Assistant Professor | Ph. D. | 03 | 01 | - |
| **6.** | Dr. Krishan Yadav | Associate Director (Extension) | Ph. D. (Mass Communication) | 22 | - | - |

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| **7.** | Dr. Ashok Kunar | Assistant Director (Extension) | Ph. D. | 10 | - | - |
| **8.** | Dr. Sube Singh | Assistant Director | Ph. D. | 05 | 01 | - |
| **9.** | Dr. Sandeep Bhakar | Assistant Professor | Ph. D. | 05 | 01 | - |
| **10.** | Dr. Nasib Singh | Professor | Ph. D. | 26 | - | - |
| **11.** | Dr. Bharat Singh | Assistant Professor | Ph. D. | 12 | 03 | - |
| **12.** | Dr. Jasvinder Kaur | Assistant Professor | Ph. D. | 05 | - | - |
| **13.** | Dr. Anil Kr. Rohila | Assistant Professor | Ph. D. | 03 | 01 | - |
| **14.** | Dr. Ajay Kumar | Assistant Professor | Ph. D. (Mass Communication) | 01 | - | - |
| **15.** | Dr. Sukh Ram Verma | Assistant Professor | Ph. D. | 05 | - | - |
| **16.** | Dr. Vijay Pal Yadav | Professor | Ph. D. | 30 | - | - |
| **17.** | Dr. Joginder Singh | | Ph. D. | 16 | - | - |
| **18.** | Dr. Satpal Singh | DES | Ph. D. | 03 | - | - |
| **19.** | Dr. Renu | DES | Ph. D. | 01 | - | - |
| **20.** | Dr. Rupender | DES | Ph. D. | 01 | - | - |
| **21.** | Dr. Pawan | DES | Ph. D. | 01 | - | - |

## List of retired Faculty

| Sr. No. | Name of Teachers | Date of retirement |
|---|---|---|
| **1.** | Dr. Labh Singh | 30.06.2020 |
| **2.** | Dr. R. S. Hudda | 30.06.2021 |
| **3.** | Dr. S. K. Mehta | 30.09.2021 |

## Forestry

| S. No. | Name | Designation | Highest qualification | Total Experience (Years) | Honours/ Awards | Any Other Achievement that contributes to effective teaching and student learning and outcome (in bullet form) |
|---|---|---|---|---|---|---|
| **1** | Dr. R. S. Beniwal | Professor & Head | Ph. D. | 30 | - | Organized "Communication skills and personality development program" for placement of students<br><br>Conducted various career counselling session such as<br>• How to get success in life,<br>• Civil services preparation,<br>• Psychological manifestation in COVID Era,<br>• Pros and cons of ICAR-JRF & foreign Universities admissions |

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| **2** | Dr. R. S. Dhillon | Principal Scientist | Ph. D. | 30 | - | Best AICRP presentation Award, 2018 at AGM Ranchi<br><br>Member of BSMA Committee |
| **3** | Dr. R. S. Dhanda | Principal Scientist | Ph. D. | 30 | - | Serving as ADFAS |
| **4** | Dr. Sandeep Arya | Associate Professor | Ph. D. | 12 | - | Convener, Flying Squad for Examination, CoA, CCS HAU Hisar |
| **5** | Dr. Karan Singh Ahlawat | Assistant Scientist | Ph. D. | 12 | - | Member of Indian society of Agroforestry, Jhansi |
| **6** | Dr. Virender Dalal | Assistant Scientist | Ph. D. | 6 | - | Organized webinar on Diversification in agriculture: Innovative Programme to improve livelihood of farmers on 22.08.2020 at CCSHAU, Hisar |
| **7** | Dr.Chhavi Sirohi | Assistant Scientist | Ph. D. | 6 | Best Paper Award, 2022<br><br>Best oral presentation award , 2021<br><br>Young Scientist Award, 2020 by The Society for the Science of Climate Change and Sustainable Environment, New Delhi | Member of Indian society of Agroforestry, Jhansi |
| **8** | Dr. Pawan Kumar Poonia | Assistant Professor | Ph. D. | 7 | NESA Junior Scientist Award, 2020<br><br>Best Oral presentation award, 2023 during international conference on INTCLIMATE 2023 held at CCSHAU Hisar on 17-19 Feb., 2023 | External Examiner and Paper Setter for UG/PG Students of Other SAUs/central Universities etc<br><br>Co-chairperson in technical session during GRISAAS 2021 held at Bikaner, 13-15 Dec 2021.<br><br>Resource person/Guest Faculty of HIPA Panchkula (HR)<br><br>Co-chairperson in technical session during International conference on ICAAAS-2022 at HPU, Shimla on date 12-14 June 2022 |
| **8** | Dr. Sushil | Assistant | Ph. D. | 4 | ➢ Best Oral presentation | Member of Indian society of Agroforestry, Jhansi |

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| | Kumari | Professor | | | award, 2021 (GRISAAS 2021) held at Bikaner, 13-15 Dec 2021. | |
| **9** | Dr. Amandeep Singh | Assistant Scientist | Ph. D. | 6 months | - | - |



Dr. Pawan kr Poonia receiving NESA Junior Scientist Award 2020 from DDG Education during 33rd Annual Meet of NESA Annual Conference (TSCSSP-2021) held at ICAR- IASRI, New Delhi on January 29-30, 2021

| Sr. No. | Name of teachers | Date of retirement |
|---|---|---|
| **1.** | Dr. K. S. Bangarwa, Professor | 31.10.2017 |
| **2.** | Dr. Bimlendra Kumari, Professor | 30.11.2021 |

## Genetics & Plant Breeding

| S. No. | Name | Designation | Highest qualification/ experience | Honours/awards | Any other achievement that contributes to |
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| | | | **(Years)** | | **effective teaching and student learning and outcome (in bullet form)** |
| **Teaching Section** | | | | | |
| **1.** | Dr. S. K. Pahuja | Principal Scientist | Ph. D. / 33yrs | • Member of Board of Management of CCSHAU, Hisar for the year 2022-23<br>• Member of Board of Management of IARI, New Delhi for period of two years w.e.f. 13.02.2023<br>• Chairman of Online Teaching Committee of CCSHAU<br>• Chairman of Board of Studies-College of Agriculture and IBM&A, Gurugram<br>• Member of Deans Committee<br>• Acting as Chairman/Member of various committees in the capacity of Dean, COA/HOD<br>• Member of Central Purchase Committee<br>• Member in Enquiry Committees<br>• Member in the meetings of Screening of Career Advancement Cases<br>• Attending meetings of IQAC/grant of ACP scales<br>• Member in the selection committee of the Assistant Scientists, Deptt. of Entomology & GPB.<br>• Member Secretary, Committee of Unfair Means Cases and Penalties thereof<br>• Member Admission Policy<br>• Nodal officer, NEP 2020<br>• Nodal Officer, National Academic Depository (NAD) of UG & PG programmes<br>• Member, MoU Committee<br>• Member, Tender Evaluation & Finalization Committee (TEFC)<br>• Handling Secrecy work of Entrance Tests held for admission to various programmes in the University and for semester end external examinations. | • Actively associated in development of 11 high yielding varieties of various crops *viz.*, forage sorghum (CSV44F, HJ1514, HJ1515 and CSV53F), Oats (HF0707, HFO806, HFO529 and HFO611), Field pea (HFP1428), Pearl millet (HHB311 and HHB67 improved 2)<br>• During 53rd Annual Pearl-millet Workshop held at Agriculture University, Jodhpur (Raj.) from March 22-24, 2018, Pearl Millet team of CCSHAU was conferred with the Appreciation Certificate for the Best ICAR-AICRP Centre on Pearl Millet for the period 2013-18<br>• Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Pearl Millet Improvement in the 57th Annual Group Meeting of All India Coordinated Research Project on Pearl Millet held online from March 02-03, 2022, attended by Scientists of the Section. The award was virtually |

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| | | | | | presented by Dr. Trilochan Mohapatra, Secretary, DARE & Director General, ICAR, New Delhi during the plenary session of the workshop.<br>• Outstanding Partnership Award – Asia for Pearl Millet Bio fortification Research and Development Partnership for Improved Human Nutrition in India by ICRISAT on 11.12.2017.<br>• Best ICAR-AICRP Centre (2021-22) for the significant contribution in the field of forage sorghum. |
| **2.** | Dr. Mukesh Kumar | Assistant Professor | Ph. D. PDF (USA)/12yrs | Letter of appreciation received from Prof. Samar Singh, Vice Chancellor, CCSHAU, Hisar for contribution in the development of Wheat variety WH 1270. | • Selected for three months international training under NAHEP-IDP on "Molecular Breeding" funded by ICAR |
| **3.** | Dr. Ravika | Assistant Professor | Ph. D./9 yrs | Letter of appreciation by Vice Chancellor, CCSHAU, Hisar for properly laid out trials on Pigeon pea and best work undertaken.<br>Letter of appreciation by Vice Chancellor, CCSHAU, Hisar for contribution in the development of mungbean variety MH 1142 | • AICRP on MULLaRP, IIPR, Kanpur conferred BEST CENTRE AWARD-2018 for Outstanding Contribution in Development of High Yielding Varieties of Greengram |
| **Bajra Section** | | | | | |
| | **Varieties released:** | | | | The Bajra Section has successfully |

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| | | | | | released and officially notified three Hybrids *viz*., -HHB 299, HHB 311 and HHB 67 improved 2 |
| **4.** | Dr. Dev Vart | Assistant Scientist | Ph. D./12yrs | Outstanding Scientific Article BY ICRISAT | • During 53rd Annual Pearl-millet Workshop held at Agriculture University, Jodhpur (Raj.) from March 22-24, 2018, Pearl Millet Team of CCSHAU was conferred with the Appreciation Certificate for the Best ICAR-AICRP Centre on Pearl Millet for the period 2013-18.<br>• Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Pearl Millet Improvement in the 57th Annual Group Meeting of All India Coordinated Research Project on Pearl Millet held online from March 02-03, 2022, attended by Scientists of the Section. The award was virtually presented by Dr. Trilochan Mohapatra, Secretary, DARE & Director General, ICAR, New Delhi during the plenary session of the workshop.<br>• Outstanding Partnership Award – Asia for Pearl Millet |

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| | | | | | Bio fortification Research and Development Partnership for Improved Human Nutrition in India by ICRISAT on 11.12.2017. |
| **5.** | Dr. K. D. Sehrawat | Assistant Scientist | Ph. D./12yrs | - | • During 53rd Annual Pearl-millet Workshop held at Agriculture University, Jodhpur (Raj.) from March 22-24, 2018, Pearl Millet Team of CCSHAU was conferred with the Appreciation Certificate for the Best ICAR-AICRP Centre on Pearl Millet for the period 2013-18.<br>• Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Pearl Millet Improvement in the 57th Annual Group Meeting of All India Coordinated Research Project on Pearl Millet held online from March 02-03, 2022, attended by Scientists of the Section. The award was virtually presented by Dr.Trilochan Mohapatra, Secretary, DARE & Director General, ICAR, New Delhi during the plenary session of the workshop.<br>• Outstanding |

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| | | | | | Partnership Award – Asia for Pearl Millet Bio fortification Research and Development Partnership for Improved Human Nutrition in India by ICRISAT on 11.12.2017. |
| **6.** | Dr. Vinod Kumar | Assistant Plant Pathologist | Ph. D./9yrs | Best oral Presentation:1<br>Letter of Appreciation: 2 | • During 53rd Annual Pearl-millet Workshop held at Agriculture University, Jodhpur (Raj.) from March 22-24, 2018, Pearl Millet Team of CCSHAU was conferred with the Appreciation Certificate for the Best ICAR-AICRP Centre on Pearl Millet for the period 2013-18.<br>• Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Pearl Millet Improvement in the 57th Annual Group Meeting of All India Coordinated Research Project on Pearl Millet held online from March 02-03, 2022, attended by Scientists of the Section. The award was virtually presented by DrTrilochan Mohapatra, Secretary, DARE & Director General, ICAR, New Delhi during the plenary session of the |

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| | | | | | workshop. Outstanding Partnership Award – Asia for Pearl Millet Bio fortification Research and Development Partnership for Improved Human Nutrition in India by ICRISAT on 11.12.2017. |
| **Cotton section** | | | | | |
| **7.** | Dr. Somveer | Assistant Scientist | Ph. D./ 12 yrs | Letter of appreciation received from Prof. Samar Singh, Vice Chancellor, CCSHAU, Hisar for contribution in the development of Wheat variety WH 1270. | |
| **8.** | Dr. Shiwani Mandhania | Assistant Biochemist | Ph. D./10yrs | - | - |
| **9.** | Dr. Sandeep Kumar | Assistant Cotton Botanist | Ph. D./ 4 yrs | - | - |
| **10.** | Dr. Minakshi Devi | Assistant Scientist | Ph. D./ 4yrs | Letter of appreciation received from Prof. Samar Singh, Vice Chancellor, CCSHAU, Hisar on 01.02.2021 for contribution in the development of Forage oat variety HFO 607.<br>Certificate of appreciation received during Annual Group Meet *Kharif*-2022 from Dr. A. K. Roy, Project coordinator, AICRP on FCU for contribution towards development of Oat varieties HFO 707 (Multi-cut) and HFO 806 (Single-cut) identified during 2021. | - |
| **Pulse section** | | | | | |
| | **Varieties released:** | | | | Plulse section developed Varieties namely,<br>MH 1142 (Mungbean)-2020<br>HC 7 (chickpea)-2020<br>HFP 1428 (Fieldpea)-2021<br>HC 6 (chickpea)-2022 |
| **11.** | Dr. Rajesh Yadav | Assistant Scientist | Ph. D./30yrs | • AICRP on MULLaRP, IIPR, Kanpur conferred BEST | |

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| | | | | CENTRE AWARD-2018 for Outstanding Contribution in Development of High Yielding Varieties of Greengram | |
| **12.** | Dr. Lakshmi Chaudhary | Assistant Scientist | Ph. D./4yrs | • Received 3rd Best poster award for the poster entitled "Determination of LD50 and effect of sodium azide on seed germination and seedling parameters of different cultivars of pigeonpea [*Cajanus cajan* (L.) Millspaugh]" in National Web Conference on "Sustaining Pulse Production for Self Sufficiency and Nutritional Security" (pulses Webcon2021), Feb 9-11, 2021. Indian Society of Pulses Research and Development and IIPR, Kanpur in collaboration with ICAR-New Delhi. | |
| **Forage section** | | | | | |
| **13.** | **Varieties released:** | | | | The forage Section has successfully released and officially notified varieties *viz*., Oats:-HFO 707, HFO 806, HFO 529 and HFO 611 Sorghum: CSV 44F, HJ 1514, HJH 1515 and CSV 53F |
| **14.** | Dr. Yogesh Jindal | Assistant Scientist | Ph. D./12yrs | Certificates of Appreciation | • Team of "All India Co-ordinated Research Project on Forage Crops & Utilization", CCSHAU, Hisar has appreciated Dr. Yogesh Jindal for outstanding performance in the field of Forage Resource Development at the National Group |

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| | | | | | Meet (Rabi 2017-18) on AICRP on Forage Crops & Utilization held at University of Agricultural Sciences, GKVK Campus, Bengaluru from September 4-5, 2017.<br>• The team of scientists of Forage Section, Dept. of Genetics and Plant Breeding, CCSHAU, Hisar was awarded two Certificates of Appreciation for the development of fodder oats varieties HFO 707 and HFO 806 during NGM, 2022 of AICRP on Forage Crops held at SKUAST-Srinagar from June 13-14, 2022. |
| **15.** | Dr. D. S. Phogat | Consultant Faculty | Ph. D. | Certificates of Appreciation: 3 | • Team of "All India Co-Ordinated Research Project on Forage Crops & Utilization", CCSHAU, Hisar has been appreciated for outstanding performance in the field of Forage Resource Development at the National Group Meet (Rabi 2017-18) on AICRP on Forage Crops & Utilization held at University of Agricultural Sciences, GKVK Campus, Bengaluru from September 4-5, 2017. |

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| | | | | | • The team of scientists of Forage Section, Dept. of Genetics and Plant Breeding, CCSHAU, Hisar was awarded two Certificates of Appreciation for the development of fodder oats varieties HFO 707 and HFO 806 during NGM, 2022 of AICRP on Forage Crops held at SKUAST-Srinagar from June 13-14, 2022. |
| **16.** | Dr. Satyawan Arya | Assistant Scientist | Ph. D./11 | Certificates of Appreciation = Two<br>Appreciation for the development of fodder oats varieties HFO 707 and HFO 806 during<br>NGM, 2022 of AICRP on Forage Crops held at SKUAST-Srinagar from June 13-14, 2022 | |
| **17.** | Dr. Ravish Panchta | Assistant Scientist | Ph. D./9 yrs | Certificates of Appreciation = Two<br>Appreciation for the development of fodder oats varieties HFO 707and HFO 806 during<br>NGM, 2022 of AICRP on Forage Crops held at SKUAST-Srinagar from June 13-14, 2022 | |
| **18.** | Dr. Pummy Kumari | Assistant Scientist | Ph. D./9 | Certificates of Appreciation = Four<br>Award= One<br>Letter of appreciation received from Vice Chancellor, Prof. Samar Singh for release of single cut forage sorghum<br>variety CSV44F.<br>Letter of appreciation received from Dr. S. K. Sherawat, Director of Research, CCSHAU Hisar | |

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| | | | | for identification of stem rot in pearl millet atglobal level. Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Forage Sorghum Improvement in the 52nd Annual Group Meeting of All India Coordinated Research Project on Sorghum and Small Millets held online from April 28-29, 2022 attended by Scientists of the Section. The award was virtually presented by Dr. Trilochan Mohapatra, Secretary, DARE & AMP; Director General, ICAR, New Delhi during the plenary session of the workshop.<br>The team of scientists of Forage Section, Dept. of Genetics and Plant Breeding, CCSHAU, Hisar were awarded Two Certificates of Appreciation for the development of fodder oats varieties HFO 707 and HFO806 during NGM, 2022 of AICRP on Forage Crops held at SKUaST-Srinagar from June 13-14, 2022. | |
| **19.** | Mr. Neeraj Kharor | Assistant Biochemist | M.Sc. (pursuing Ph. D.) | Certificates of Appreciation = Two<br>Award= One<br>□ Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Forage Sorghum Improvement in the 52nd Annual Group Meeting of All India Coordinated Research Project on Sorghum and Small | |

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| | | | | Millets held online from April 28-29, 2022 attended by Scientists of the Section. The award was virtually presented by Dr. Trilochan Mohapat ra, Secretary, DARE & Director General, ICAR, New Delhi during the plenary session of the workshop.<br>□ The team of scientists of Forage Section, Dept. of Genetics and Plant Breeding, CCSHAU, Hisar was awarded Two Certificates of appreciation for the development of fodder oats varieties HFO 707 and HFO 806 during NGM, 2022 of AICRP on Forage Crops held at SKUAST-Srinagar from June 13-14, 2022. | |
| **MAP Section** | | | | | |
| **20.** | Dr. G. S. Dahiya | Principal Scientist | Ph. D. | - | Two varieties: Contributed in the development of faba bean variety HFB-2 and Asalio variety HLS-4 released and notified vide S. No. S.O. 8(E). dated 24th Dec, 2021 |
| **21.** | Dr. R. K. Arya | Assistant Scientist | Ph. D. | Appreciation award received on "Screening of Aloe bardadensis promissing genotypes for leaf yield and gel content" in 12th International Conference on Sept. 14-16, 2022 at Gottingen, Germany.<br>2. Received best paper award on "Studies on genetic parameters, correction andpath coefficient analysis | Two varieties: Contributed in the development of faba bean variety HFB-2 and Asalio variety HLS-4 released and notified vide S. No.S.O. 8(E). dated 24th Dec, 2021 |

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| | | | | in cowpea" published in Range Management & Agroforestry 40:49-58. | |
| **22.** | Dr. Ravi Kumar | Assistant Scientist | Ph. D. | Best poster award (3rd place) in poster presented by Ms. Sarita (Coauthor) in the 1st international l conference on Recent Advances in Chemical Sciences 2023 (ICRACS 2023) held at Mohan Lal Sukhadia University,Udaipur, Rajasthan from Jan 16th – 18th, 2023 | One variety: Contributed in the development of faba bean variety HFB-2 released and notified videS. No. S.O. 8(E). dated 24th Dec 2021 - |
| **23.** | Dr. Vipan Kumar | Assistant Scientist | Ph. D. | - | - |
| **Wheat &Barley Section** | | | | | |
| | **Variety released:** | | | | Team of this section received Appreciation letter from Vice-Chancellor, CCSHAU, Hisar, Prof. Samar Singh in recognition of development Wheat variety WH 1270 for early sown, high fertility and irrigated conditions of North Western Plain Zone, India during 2021  Wheat and Barley Section felicitated during 60th Research Workers'meet of AICRP on wheat and barley by Director IIWBR, Karnal for developing WH 1270 Wheat variety |
| **24.** | Dr. Vikram Singh | Assistant Scientist | Ph. D./12.5yrs | | |
| **25.** | Dr. Yogender Kumar | Assistant Scientist | Ph. D./11 years & 10 months | - | |
| **26.** | Dr. Renu Munjal | Principal Scientist | Ph. D./ 27 years | DUO India Professor, 2020 | Appreciation letter from Vice-Chancellor, CCSHAU, Hisar, Prof. Samar Singh in |

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| | | | | | recognition of development Wheat variety WH 1270 for early sown, high fertility and irrigated conditions of North Western Plain Zone, India during 2021 |
| **27.** | Dr. O. P. Bishnoi | Assistant Scientist (Wheat Breeder) | Ph. D./ 9 years & 7 months | - | - |
| **28.** | Dr. Divya | Assistant Scientist | Ph. D./ 4 years & 5 months | - | Editorial Board Member of the Journal of Cereal Research (JCR) for 2023-24 period Life member of SAWBAR, Karnal, Vide receipt no. 321/2023. Appreciation letter from Professor and Head, GPBin recognition of technical work for SSR |
| **29.** | Dr. Harsh Deep | Assistant Scientist | Ph. D./ 43 days | - | - |
| **Oil Seed Section** | | | | | |
| | **Varieties released:** | | | | The Oilseeds Section has successfully released and officially notified four new varieties of Indian mustard, including RH-725, RH-761,RH 1424,and RH(0E)-1706. |
| **30.** | Dr. Ram Avtar | Assistant Scientist | Ph. D./29.8 yrs | - | - |
| **31.** | Dr. Subhash Chander | Assistant Scientist | Ph. D./11.3 yrs | - | - |
| **32.** | Dr. Nisha Kumari | Assistant Scientist | Ph. D./10yrs | Received "Young Scientist Award" in International Conference on "Recent Advances In Agricultural, Environmental | - |

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| | | | | & Applied Sciences for Global Development "held on September 27-29, 2019 at Dr.Yashwant Singh Parmar University of Horticulture and Forestry, Nauni,Solan, Himachal Pradesh | |
| **33.** | Dr. Vinod Kumar Goyal | Assistant Scientist | Ph. D./5.5yrs | Awarded ASEM-DUO-FELLOWSHIP with Prof. Arthur Korte, University,Würzburg, Hubland North, Würzburg, Germany, 2020 | - |
| **34.** | Dr. Neeraj Kumar | Assistant Scientist | Ph. D./4.4yrs | - | - |
| **35.** | Dr. Preeti Sharma | Assistant Scientist | Ph. D./ 2 months | - | - |
| **36.** | Dr. Vijeta Gupta | Assistant Scientist | Ph. D./ 2 months | - | - |
| **37.** | Ms. Kiran | Assistant Scientist | M. Sc/2 months | - | - |
| **38.** | Dr. Ankit Kumar | Assistant Scientist | Ph. D./30 days | - | - |
| **39.** | Dr. Ashok Kumar Dehinwal | Assistant Scientist | Ph. D./4.6yrs | - | - |
| **40.** | Dr. Atman Poonia | Assistant Scientist | Ph. D./8 months | - | - |
| **41.** | Dr. Ankit Yadav | Assistant Scientist | Ph. D./ 1 month | - | - |

**Faculty of Dept. of Genetics & Plant Breeding:**

Department of Genetics & Plant Breeding, CCSHAU, Hisar has been adjudged as the Best Department for the period 2010-2014 in view of its significant contributions in teaching, Research in Crop Improvement, and Extension Education Programmes which transferred Haryana State as model in India for Agricultural Technology development and its adoption. The trophy of "Best Department Award" year 2010-2014 has been presented by Vice-Chancellor, CCSHAU, Hisar on 26.07.2015 at the 24th convocation.

## List of retired Faculty

| Sr. No. | Name | Date of retirement |
|---|---|---|
| **1.** | Dr. S. S. Siwach | 31.03.2018 |
| **2.** | Dr.N. K.Thakral | 30.04.2018 |
| **3.** | Dr. S.S. Dhanda | 31.05.2018 |
| **4.** | Dr. P. K. Verma | 30.11.2018 |
| **5.** | Dr.Naresh Kumar | 31.03.2019 |
| **6.** | Dr. A. K. Sarial | 30.04.2019 |

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| **7.** | Dr. R. S. Khatri | 30.06.2019 |
| **8.** | Dr. K.S. Narania | 31.08.2019 |
| **9.** | Dr. S. K. Sethi | 30.09.2019 |
| **10.** | Dr. Y. P. Yadav | 30.11.2019 |
| **11.** | Dr.R. K.Sheoran | 31.12.2019 |
| **12.** | Dr. I. S. Panwar | 31.01.2020 |
| **13.** | Dr. R.S. Sangwan | 31.01.2020 |
| **14.** | Dr. Khushi Ram | 31.03.2020 |
| **15.** | Dr. S. R. Pundir | 31.03.2020 |
| **16.** | Dr. A. K. Chhabra | 30.06.2021 |
| **17.** | Dr. D. S. Phogat | 30.06.2021 |
| **18.** | Dr. Ramesh Kumar | 30.04.2022 |

## Horticulture

| S. No. | Name | Designation | Highest qualification | Total experience (Years) | Honours/awards | Any Other Achievement that contributes to effective teaching and student learning and outcome (in bullet form) |
|---|---|---|---|---|---|---|
| **1** | Dr. D. S. Dahiya | Professor | Ph. D. | 33 | NSS award, 2019-20 as programme officer from Hon'ble President of India on 24th Sept., 2021 (Owner award) | 1.Organised National Integration Camp funded by Govt. of India on the theme "Atam Nirbhar Bharat" at CCSHAU campus from 16-22 Dec., 2021.<br>2.Awareness campaign against Drug Abuse and Illicit Trafficking and launching of "DHAKAD Programme" in the universities and Colleges of Haryana state in collaboration with Haryana state Narcotics and Control Bureau (HSNCB) on 20th July, 2022 at CCSHAU campus<br>3. Delivered lecture on the topic "Empowering Agri-students: Some Innovative Ways" in the regional workshop on "Motivating and Attracting Youth in Agriculture (MAYA) "28-29 Feb., 2020 organised by Punjab Agricultural University, Ludhiana in collaboration with Trust for Advancement of Agricultural Sciences (TAAS and ATARI-ICAR, Zone -1.<br>4. Organised two courses of three months duration |

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| | | | | | | as PI, NAHEP (IDP-ICAR) 1. Design, Installation, Operation and Maintenance o f Protected Structures 2. Value addition and post Harvest Technology of horticultural crops<br>• Additional Charges: Dean, College of Horticulture, MHU, Karnal; Technical member, BOM, MHU, Karnal and P.I. (NAHEP-ICAR) |
| **2** | Dr. S. K. Sehrawat | Professor | Ph. D. | 31 | Nation Builder Award 2020 by Rotary International, Hisar | • Strengthening of research lab for PG student's research.<br>• Co chairman of institutional ethical committee (IEC) for faculty and students research.<br>• As P.I. of IDP NAHEP guided students for quality education and skill development. Placed students at Massey University, New Zealand and University of Sydney Australia.<br>• Organised online lectures on various topics for students by renowned faculty from world universities.<br>Organised two International Conferences wherein PG students presented research paper.<br>• Served as Directorate of Research (2017-2021).<br>• Additional charges<br>Directorate of Research, MHU, Karnal<br>Dean, College of Horticulture, MHU, Karnal<br>Dean, COA, CCSHAU, Hisar. |
| **3** | Dr. Jeet Ram Sharma | Principal Scientist | Ph. D. | 29 | - | Serving as Directore of Research<br><br>Served as ADSW, CCSHAU, Hisar |
| **4** | Dr. G.S. Rana | Principal Scientist | Ph. D. | 29 | - | - |
| **5** | Dr. B.S Beniwal | Professor | Ph. D. | 20 | - | - |

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| **6** | Dr. Rajpal Dalal | Senior Scientist | Ph. D. | 12 | Best Poster presentation award - two | P.I. RKVY Project Co-P.I. Farmers First Project (FFP). |
| **7** | Dr. Satpal Baloda | Assistant Horticulturist | Ph. D. | 12 | - | - |
| **8** | Dr. Arvind Malik | Assistant Scientist | Ph. D. | 09 | Best Poster presentation award -Two<br><br>Outstanding Achievement Award | |
| **8** | Dr. Sushil Sharma | Assistant Scientist | Ph. D. | 05 | - | - |
| **9** | Dr. Suresh Kumar | Assistant Scientist | Ph. D. | 05 | - | - |
| **10** | Dr. Sonu Kumari | Assistant Fruit Breeder | Ph. D. | 05 | - | - |

## Nematology

| S. No. | Name | Designation | Highest qualification | Total experience (in Years) | Honours/awards | Any Other Achievement that contributes to effective teaching and student learning and outcome |
|---|---|---|---|---|---|---|
| **1** | Dr. R S. Kanwar | Principal Scientist | Ph. D. | 25 | | • 3 Documentaries, 4 Bulletin, 86 extension articles<br>• Four Recommendations in Package of Practices |
| **2** | Dr. Sewak Ram | Principal Scientist | Ph. D. | 32 | | • Four Recommendations in Package of Practices |
| **3** | Dr. K. K. Verma | Principal Scientist | Ph. D. | 33 | | • Four Recommendations in Package of Practices |
| **4** | Dr. Anil Kumar | Nematologist | Ph. D. | 8 | Poster Presentation awards | • Six Recommendations in Package of Practices |
| **5** | Dr. Prakash Banakar | Assistant Professor | Ph. D. | 6 | | • Two Recommendations in Package of Practices |

| | | | | | | |
|---|---|---|---|---|---|---|
| **6** | Dr. Jaydeep Patil | Assistant Scientist | Ph. D. | 5 | Poster Presentation award | • One Recommendations in Package of Practices<br>• Two Trichoderma strains isolated and registered |
| **7** | Dr. Vinod Kumar | Assistant Scientist | Ph. D. | 5 | Poster Presentation award | • Two Recommendations in Package of Practices |
| **8** | Dr. Saroj Yadav | Assistant Professor | Ph. D. | 4 | Poster Presentation award, 2019-Young scientist award | • Radio-talk, extension lectures and popular articles<br>• Two *Trichoderma* strains isolated and registered |
| **9** | Dr. Chaitra G. Bhat | Assistant Scientist | Ph. D. | 6 months | Oral Presentation award | - |
| **10** | Dr. Lochan Sharma | Assistant Scientist | Ph. D. | 6 months | - | - |

## List of retired Faculty

| Sr. No. | Name of the Teacher | Date of retirement |
|---|---|---|
| **1.** | Dr. K. K. Verma | 31/10/2019 |
| **2.** | Dr. R. S. Kanwar | 31/12/2021 |

## Plant Pathology:

| S. No. | Name | Designation | Highest qualification | Total Experience (Years) | Honours/awards | Any other Achievement that contributes to effective teaching and student learning and outcome |
|---|---|---|---|---|---|---|
| **1** | Dr. H. S. Saharan | Head | Ph. D. | 31 years | - | - |
| **2** | Dr. Kushal Raj | Assistant Scientist | Ph. D. | 28 years | - | - |
| **3** | Dr. Satish Kumar | Assistant Director (PP) | Ph. D. | 9 years | - | |
| **4** | Dr. Rakesh Kumar Chugh | Assistant Scientist | Ph. D. | 9 years | - | - |
| **5** | Dr. Rajender | Assistant | Ph. D. | 11 years | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Singh | Plant Pathologist | | | | |
| **6** | Dr. Vinod Malik | Assistant Scientist | Ph. D. | 9 years | Received letter of appreciation by the Directorate of Research, CCSHAU, Hisar for the Identification a new disease, i.e. Stem rot of Pearl millet caused by *Klebsiella aerogenes*" on16.12.2021 | - |
| **7** | Dr. Mamta | Assistant Professor | Ph. D. | 4 years | - | - |
| **8** | Dr. Pooja Sangwan | Assistant Scientist | Ph. D. | 4 years | Received letter of appreciation by the Directorate of Research, CCSHAU, Hisar for the Identification a new disease, i.e. Stem rot of Pearl millet caused by Klebsiella aerogenes" on 16.12.2021 | - |
| **9** | Dr. Kishor Chand Kumhar | Junior Pathologist | Ph. D. | 5 years | - | - |
| **10** | Dr. Man Mohan | Assistant Scientist | Ph. D. | 5 years | - | - |
| **11** | Dr. Anil Kumar Saini | Assistant Pathologist | Ph. D. | 3 years | - | - |
| **12** | Dr. Manjeet Singh | Assistant Professor | Ph. D. | 3 years | Received letter of appreciation by the Directorate of Research, CCSHAU, Hisar for the Identification a new disease, i.e. | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Stem rot of Pearl millet caused by Klebsiella aerogenes on16.12.2021 | |
| **13** | Dr. Jagdeep Singh | Assistant Scientist | Ph. D. | 3 years | - | - |
| **14** | Dr. Rakesh Mehra | Principal Scientist | Ph. D. | 31 years | - | - |
| **15** | Dr. Mahaveer Bochalya | Assistant Scientist | Ph. D. | >5 years | - | - |
| **16** | Dr. Promil Kapoor | Assistant Scientist | Ph. D. | 5 years | 02 | - |
| **17** | Dr. Rakesh | Junior Plant Pathologist | Ph. D. | 5 years | Received letter of appreciation by the Directorate of Research, CCSHAU, Hisar for the identification a new disease, i.e. Stem rot of Pearl millet caused by Klebsiella aerogenes" on 16.12.2021. Wheat variety WH 1270 (as collaborator). Two raya varieties RH 1424 and RH 1706 (as collaborator) | |
| **18** | Dr. Prashant Kumar Chauhan | Assistant Pathologist | Ph. D. | >4 years | - | - |
| **19** | Dr. Ravinder Singh Chauhan | DES | Ph. D. | | - | |
| **20** | Dr. Ashwani Kumar | Assistant Professor | Ph. D. | 9 years | - | |
| **21** | Dr. Manoj Kumar | Assistant Plant Pathologist | Ph. D. | 4 years | Best Oral Presentation in IPSCONF2022 held at SKNAU, Jobner (Raj.) India | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| **22** | Dr. Narender Kumar | DES | Ph. D. | 9 years | - | |
| **23** | Dr. Naresh Kumar | Assistant Scientist | Ph. D. | 29 years | - | - |
| **24** | Mrs. Pavitra Kumari | Assistant Professor | M.Sc. | 3 years | - | - |
| **25** | Dr. Fateh Singh | DES | Ph. D. | 11 Years | - | - |
| **26** | Dr. Rakesh Sangwan | DES (Plant Pathology) | Ph. D. | 11 years | - | - |
| **27** | Dr. Dalvinder Pal Singh | Assistant Plant Pathologist | Ph. D. | 5 years | 01 | - |
| **28** | Dr. Harbinder Singh | Assistant Scientist | Ph. D. | 5 years | - | |
| **29** | Dr. Narender Singh | Assistant Scientist | Ph. D. | 5 years | - | - |
| **30** | Dr. Annu | DES | Ph. D. | 1 years | - | |
| **31** | Mr. Satish Chalia | DES | M.Sc. | 1 years | - | |
| **32** | Dr. Manjunath S. Hurakadli | Assistant Scientist | Ph. D. | 5 Months | | |
| **33** | Dr. Amoghavarsha Chittaragi | Assistant Scientist | Ph. D. | 5 Months | | |
| **34** | Dr. Pawan Kasniya | Assistant Scientist | Ph. D. | 5 Months | | |
| **35** | Dr. Jagmohan Singh | Assistant Scientist | Ph. D. | 5 Months | | |

## List of retired Faculty

| Sr. No. | Name of Teacher | Date of Retirement |
|---|---|---|
| **1.** | Dr. Anil Kumar, Professor | 31-06-2020 |
| **2.** | Dr. A.S. Rathi, Professor | 30-01-2021 |

## Seed Science & Technology:

| S. No. | Name | Designation | Highest qualification | Total experience (in years) | Honours/awards | Any Other Achievement that contributes to effective teaching and student learning and outcome (in bullet form) |
|---|---|---|---|---|---|---|
| **1** | Dr. V.S. Mor | Senior Scientist | Ph. D. | 14 | • Best Oral Presentation Award in 10th National Seed Congress, organized by IARI, Delhi along with NSRTC, UP on October 14-16, 2019.<br>• Certificate of Appreciation received from Vice-Chancellor, CCSHAU, Hisar on 01.07.2019. | - |
| **2** | Dr. Axay | Assistant Scientist | Ph. D. | 12 | • Principal Investigator of International project | Published three text books<br>• Bhuker A., Mor V.S. and |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Bhuker | | | | (SPARC) in collaboration with Massey University New Zealand<br>• Awarded with Excellence in Teaching award in international conference from 21-24 December, 2018 in Thailand. | Jakhar S.S. 2018. Complete competitive Solution for Seed Technology. *Kalyani Publishers*. ISBN No. 9789327286748<br>• Bhuker A., Mor V.S. and Jakhar S.S. 2018. "mUur cht mRiknu rduhd". *Kalyani Publishers* .pp 332. ISBN No. 9789327298369<br>• Bhuker, A., Chhabra, A. K. and Panghal, V.P.S. 2020. Seed Science & Technology. *Kalyani Publishers*. Pp. 447, ISBN No. 9789389987485 |
| **3** | Dr. S.S. Jakhar | Assistant Scientist | Ph. D. | 12 | - | - |
| **4** | Dr. Puneeth Raj M.S | Assistant Scientist | Ph. D. | 3 | - | - |

## List of retired Faculty

| Sr. No. | Name of the teacher | Date of retirement |
|---|---|---|
| 1. | Dr. O. S. Dahiya, Principal Scientist | 31-03-2018 |
| 2. | Dr. R. C. Punia, Principal Scientist | 28-02-2019 |
| 3. | Dr. V. P. Sangwan, Principal Scientist | 29-02-2020 |

## Soil Science

| S. No. | Name | Designation | Highest qualification | Total Experience (Years) | Honours/awards | Any other achievement that contributes to effective teaching and student learning and outcome |
|---|---|---|---|---|---|---|
| **1** | Dr. Manoj Kumar Sharma | Principal Scientist | Ph. D. | 23 | - | |
| **3.** | Dr. Dev Raj | Assistant Soil Chemist | Ph. D. | 12 | • Best Paper award by FAI (2013)<br>• Best Paper award by Association of Agrometeorologist of India (2017) | |
| **4.** | Dr. Dinesh | Jr. Pedologist | Ph. D. | 12 | • Dhirubhai Memorial FAI Award (2016) | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | • Best Paper Award in National Conference (2016) | |
| **5.** | Dr. Kiran Khokhar | Assistant Scientist | Ph. D. | 7 | • Received II prize for best paper award (Shri Ram Puraskar) from FAI for hindi article in '*Khad Patrika'* for the year 2012-13 | - |
| **7.** | Dr. Ram Prakash | Assistant Scientist | Ph. D. | 12 | - | - |
| **8.** | Dr. Rohtash Kumar | Assistant Scientist | Ph. D. | 9 | - | - |
| **9.** | Dr. Dhram Prakash | Junior Soil Chemist | Ph. D. | 5 | - | - |
| **10.** | Dr. Mukesh Kumar Jat | Assistant Scientist | Ph. D. | 8 | - | - |
| **11.** | Dr. Parmod Yadav | Assistant Scientist | Ph. D. | 12 | - | - |
| **12.** | Dr. Devender Jakhar | DES | Ph. D. | 12 | - | - |
| **14.** | Dr. Rajpaul | DES | Ph. D. | 4 | - | - |
| **15.** | Dr. Kiran Khokhar | Assistant Scientist | Ph. D. | 7 | - | - |
| **16.** | Dr. Pooja Rani | Assistant Scientist | M.Sc. | 5 | - | - |
| **17.** | Dr. Santosh | DES | Ph. D. | 1 | - | - |
| **18.** | Dr. N. K. Goyal | DES | Ph. D. | 23 | - | - |
| **19.** | Dr. Rameshwar | DES | Ph. D. | 1 | - | - |
| **21** | Dr. Shubham Lamba | Assistant Scientist | Ph. D. | <1 | - | - |
| **22** | Dr. Ankush | Assistant Scientist | Ph. D. | < 1 | - | - |
| **23** | Dr. Sonia Rani | Assistant Scientist | Ph. D. | <1 | - | - |
| **24** | Dr. Seema | Assistant Scientist | Ph. D. | <1 | - | - |
| **25** | Dr. Vikas | Assistant Scientist | Ph. D. | < 1 | - | - |
| **26** | Dr. Sushil | Assistant | Ph. D. | <1 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Scientist | | | | |
| **27** | Dr. Deepika | Assistant Scientist | Ph. D. | < 1 | - | - |
| **28** | Ms. Ritambhara | Assistant Scientist | M.Sc. | <1 | - | - |
| **29** | Dr. Hardeep Singh Sheoran | Assistant Professor | Ph. D. | 3 | - | - |
| **30** | Dr. K. K. Bhardwaj | Assistant Chemist | Ph. D. | 9 | - | - |
| **31** | Dr. Narender Yadava | Assistant Scientist | Ph. D. | 3 | - | - |
| **32** | Dr. Sunita Sheoran | Assistant Professor | Ph. D. | 3 | - | - |
| **33** | Pankaj Kumar | Assistant Professor | M. Sc. | 3 | - | - |
| **34** | Dr. Usha Vasisth | Assistant Scientist | Ph. D. | 3 | - | - |
| **35** | Dr. R. S. Garhwal | Assistant Professor | Ph. D. | 9 | - | - |

## List of retired faculty

| S. No. | Name | Date of Supernuation |
|---|---|---|
| **1** | Dr. V. K. Phogat, Principal Scientist | 31.03.2018 |
| **2** | Dr. R. S. Malik, Principal Scientist | 28.02.2019 |
| **3** | Dr. S. S. Yadav, Professor | 31.10.2018 |
| **4** | Dr. V. K. Arora, Principal Scientist | 30.09.2020 |
| **5** | Dr. O. P. Sagwal, Professor | 31.03.2018 |
| **6** | Dr. K. S. Grewal, Professor cum Dean | 31.07.2019 |

## Vegetable Science

| S. No. | Name | Designation | Highest qualification | Total Experience (in years) | Honours/awards | Any Other Achievement that contributes to effective teaching and student learning and outcome (in bullet form) |
|---|---|---|---|---|---|---|
| **1.** | Dr. T. P. Malik | Principal Scientist and Head | Ph. D. | 33 | •Best AICRP Centre Award: AICRPS Centre at CCS Haryana Agricultural University, Hisar was awarded as the best AICRPS Centre for the year 2020-21 in XXXII Workshop/ Group Meeting of AICRP on spices held at ICAR-Indian Institute of Spices Research during September 22-24, 2021. | |
| **2.** | Dr. A. K. Bhatia | Consultant | Ph. D. | | | Dr. A. K. Bhatia was associated for |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Faculty | | | | release of three potato varieties *Kufri Ganga*, Kufri Leema and Kufri Neel Kanth which were notified by Central Sub Committee on Crop Standards, Notification and Release of Varieties for Horticultural rops, New Delhi during year 2018-19. |
| **3.** | Dr. V. K. Batra | Consultant Faculty | Ph. D. | | Appreciation Letter for Convenor, Seating Arrangement Committee from Convener & Organizing Secretary of National Start-up summit, CCSHAU, Hisar duing year 2017-18. | |
| **4.** | Dr. S. K. Tehlan | Principal Scientist | Ph. D. | 28 | • Best AICRP Centre Award: AICRPS Centre at CCS Haryana Agricultural University, Hisar was awarded as the best AICRPS Centre for year 2020-21 in XXXII Workshop/ Group Meeting of AICRP on spices held at ICAR- Indian Institute of Spices Research during September 22-24, 2021.<br>• Admitted as Fellow (2021) of the Society for Horticultural Research and Development for significant contribution in Vegetable Science. | |
| **5.** | Dr. S. K. Dhankhar | Principal Scientist | Ph. D. | 24 | • Certification of appreciation and Presentation on Actual Problem in Vegetable Cultivation in 21st Centuary in International On-Line Conference held by T. University of Pavlodar State University, Pavlodar, Kazakhstan on 30.10. 2020<br>• Certificate of Appreciation awarded by State Biodiversity Board of Haryana for presentation on vegetables and spices of Haryana in the workshop on "Skill development on Biodiversity Documentations and Preparation of People's Biodiversity Registers (PBRs) of Haryana State Biodiversity Board on October 21-22, 2021 at Sector-1, Punchkula, Haryana. | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | • Nominated as an International Expert Member of Editorial Board of the Bulletin of Toraighyrov University. Chemistry and Biological Series Scientific Journal. Pavlodar State University, Kazaksthan.<br>• Best Poster presentation Award for poster presentation of Ph. D. student research work on topic entitled "Effect of ZnO and CuO nanoparticles on growth parameters in okra in the International web Conference on Global Research Initiatives for sustainable agriculture and allied sciences organised by Astha Foundation, Meerut, UP, India from December 13-15, 2021. | |
| **6.** | Dr. D. S. Duhan | Assistant Scientist | Ph. D. | 11 | • Certificate of Honor by Director of student welfare and International students Association, CCSHAU, Hisar for meritorious service as advisor of International student during academic year 2017-18 | |
| **7.** | Dr. V.P.S. Panghal | Assistant Scientist | Ph. D. | 11 | • Certificate of Honor by Director of student welfare and International students Association, CCSHAU, Hisar for meritorious service as advisor of International student during academic year 2017-18.<br>• Certificate of Honor by Director of student welfare, CCSHAU, Hisar for DSW-cum-Chairman of the organizing committee for successful organization of XVII All India Inter Agricultural Universities Sports & Games Meet, 2016-17.<br>• Best poster presentation award in Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario, organized by CCS Haryana Agricultural University, Hisar from November 6-8, 2019. | |
| **8.** | Dr. Makhan Lal | Assistant Scientist | Ph. D. | 11 | | |
| **9.** | Dr. Lila Bora | Assistant Scientist | Ph. D. | 11 | Reviewer excellence award by ARCC Journals on dated | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | 07/04/2021 | |
| **10.** | Dr. Kuldeep Kumar | Assistant Scientist | Ph. D. | 5 | | |
| **11.** | Dr. Indu Arora | Assistant Scientist | Ph. D. | 5 | • Best Oral (3rd) Presentation Award on Hi-valued Vegetable Crops, Navsari Agricultural University, Navsari- Gujarat.<br><br>• Best poster (3rd) presentation award in International Symposium on *Innopreneurship: A Need of Sustainable Agriculture*, organized by Directorate of Research, CCS Haryana Agricultural University, Hisar from February 2-3, 2019.<br><br>• Young Scientist Award-2021 in International Conference on "Advances in Agriculture, Environmental and Biosciences for Sustainable Development (AAEBSD-2021)" held on August 05-07, 2021 and organized by Agro Environmental Development Society (AEDS), in collaboration with College of Horticulture and Forestry, Central Agricultural University Imphal, National Bank For Agriculture and Rural Development (NABARD) and Centre for Agribusiness Incubation and Entrepreneurship, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh) India.<br><br>• Secured Best oral presentation in Vegetable grafting: Surgical tool for yield and quality enhancement and root knot nematode resistance for greenhouse tomatoes. International conference on climate resilient agriculture for food security and sustainability, held at CCS Haryana Agricultural University, Hisar, on February 17-19, 2023.<br><br>• Best poster (3rd) presentation award on Grafting cucurbits for mitigating biotic stresses under climate change. International conference on climate resilient agriculture for food security and sustainability, held at CCS Haryana Agricultural University, | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Hisar, on February 17-19, 2023. | |
| **12.** | Dr. Hansraj | Assistant Scientist | Ph. D. | 4 | Best oral paper presentation award in International conference on Food security through Agriculture and allied sciences, held at Tribhuwan University, Kathmandu, Nepal from 27-29 May 2019. | |
| **13.** | Dr. Sumit Deswal | Assistant Scientist | Ph. D. | 4 | Young scientist award by Astha foundation, Meerut on 28-30, December, 2020 in International Web Conference on Global Research Initiative for sustainable agriculture and allied science, Meerut | |
| **14.** | Dr. Sanjay Kumar | Assistant Professor | Ph. D. | 4 | | |
| **15.** | Dr. Amit Kumar | Assistant Scientist | Ph. D. | 4 | | |
| **16.** | Dr. Archana | Assistant Professor | Ph. D. | 3 | | |
| **17.** | Dr. Davinder Singh | Assistant Scientist | Ph. D. | 3 | | |
| **18.** | Dr. Preeti Yadav | Assistant Scientist | Ph. D. | 3 | | |
| **19.** | Dr. Vikash Kumar | Assistant Scientist | Ph. D. | 4 months | | |
| **20.** | Dr. Vikram | Assistant Scientist | Ph. D. | 4 month | | |

**6.5.2.4. Technical and Supporting Staff:** *Whether the College has appointed (in place) sufficient technical/laboratory/farm staff to cater the need of practical and field experiments. Mention department wise distribution of technical, supporting and field staff in the tabular form*

| Sr. no. | Departments | I. Technical | II. Supporting Staff | III. Field Staff |
|---|---|---|---|---|
| **1.** | Agricultural Economics | - | 5 | 29 |
| **2.** | Agronomy | 17 | 4 | 10 |
| **3.** | Agricultural Meteorology | 2 | 1 | 2 |
| **4.** | Business Management | - | 3 | - |
| **5.** | Entomology | 12 | 4 | 4 |
| **6.** | Extension Education | 1 | - | - |
| **7.** | Forestry | 1 | 6 | 5 |
| **8.** | Genetics and Plant Breeding | 9 | 16 | 34 |
| **9.** | Horticulture | 1 | 4 | 12 |
| **10.** | Nematology | 1 | 2 | 1 |
| **11.** | Plant Pathology | - | 8 | 1 |
| **12.** | Seed Science and Technology | 5 | 3 | 4 |
| **13.** | Soil Science | 20 | 11 | 10 |
| **14.** | Vegetable Science | 3 | 4 | 17 |
| | **Total** | **72** | **70** | **129** |

### 6.5.3. Learning resources:

**6.5.3.1 College Library:** *Location of the library, Present staff position (in place facility), Availability of the following in library, Wi-Fi, No. of books and other reading materials, No. of periodicals and research journals, No. of internet points with number of computers, Seating capacity in library, Employing the latest technology in library sciences, Stocking arrangements of books, Collection of volumes on different subjects, Latest publications in the fields of relevant subjects, Automation and user services through computer, Opening hours, Subscription of journals of national and international repute, national dailies, magazines etc.*

There is digital library in the College. Each faculty member and students have access to the digital library. Most of the departments of the college have departmental libraries with good collection of books and theses which are accessible to students and faculty.

- CCS Haryana Agricultural University has a centrally located Nehru Library with Library Advisory Committee to decide the guidelines for its smooth functioning.
- The Committee comprises Vice-Chancellor as its Chairman and University Librarian as its Member-Secretary. All the Deans/Directors, Registrar, Comptroller, Principal- College of Agriculture, Kaul and President of HAUTA are its ex-officio members, while one HOD, one faculty member and one PG student from each College are nominated by the Vice-Chancellor for two academic years.
- Students are encouraged to consult the library which is well equipped with a large number of books and other facilities like *Krishikosh*, CeRA(Consortium for e-resources in Agriculture), BOLAE(Britannica Online Academic Edition), Scopus database, DELNET (Developing Library Network) database, NDL (National Digital Library) resources and video conferencing. The library provides access to e-dictionary, Thesaurus, Biography of world great personalities and e-books. It is the hub of academic and research activities of the University; housed in a centrally located elegant building.
- It provides information support to teachers, scientists, extension specialists, students, and other members including non-teaching staff and general public.
- Library regularly conducts training programmes for faculty and students and gets feedback. Suggestions are incorporated in creating better facilities to its users.
- Videoconferencing facility and multimedia service are other important facilities provided to Library users. Entire collection of library has been made bar-coded for automated circulation activities.
- Library security has been monitored by CCTV Security System.
- Implementation and maintenance of Anti-Plagiarism software (Turnitin)
- Implementation of IUMS/ERP modules for the Digitization of University Work.

**6.5.3.2. Laboratories, Instructional farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc.:** *Cleary mention about laboratories, instructional farm, workshop, dairy plant, veterinary clinic, hatchery, ponds etc facilities available in the college with its numbers, space, speciality to conduct practical/hands on training*

Department wise information regarding lab facilities in various departments of the College is given as under:

**Agronomy**

| | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical | Speciality to conduct hands on training |
|---|---|---|---|---|---|
| **i)** | Laboratories | i) Weed Control<br>ii) Irrigation<br>iii) Residue Management<br>iv) Farming System | 15'x 20' | • To analyse herbicide and pesticide residue in crop. Nutrient analysis of crop produce | Yes |

| | | | | | |
|---|---|---|---|---|---|
| **ii)** | Instructional farm | One | 5.6 ha | PCP | Yes |
| **iii)** | Workshops | Nil | Nil | Nil | Yes |
| **iv)** | Ponds | 2 | One -10000$m^3$ (NARP) One-1900000 lit (Dry land) | Research Purpose | Yes |
| **v)** | Farm area | One | 25 ha | Research Area | Yes |
| **vi)** | Green houses | - | - | - | Yes |
| **vii)** | Net houses | - | - | - | Yes |
| **viii)** | Any other | - | - | - | - |

## Agricultural Meteorology

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 1 | 4 m x6 m | GIS and Remote Sensing (Software & Hardware)/ 10 workstation including peripheral devices-printer etc. |
| **2.** | Farm area | 1 | 45 kanals | Farm experiments |
| **3.** | Any other- Meteorological Observatory | 1 | 36 m x 55 m | Practical exercises to measure different weather parameters from various instruments and Meteorological Data Collection |

## Entomology

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 9 | 10 m x 6 m | Yes |
| **2.** | Instructional farm | 1 | 150 m x 70m | Yes |
| **3.** | Workshops | - | - | - |
| **4.** | Ponds | 1 | 3 m x 3 m | - |
| **5.** | Farm area | 1 | 10500 $m^2$ | Yes |
| **6.** | Green houses | - | - | - |
| **7.** | Net houses | 6 | - | - |
| **8.** | Any other | Apiary-1 | 15 m x 12 m | Yes |

**Extension Education:** Audio Visual Lab: 5A

## Forestry

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 2 | 20'x30' | UG:1; PG:1; For analytical work |
| **2.** | Instructional farm & nursery | 10 acre | - | For demonstration and nursery plant production |

| | | | | |
|---|---|---|---|---|
| **3.** | Ponds | 1 | 20K litres | Nursery production, water management |
| **4.** | Farm area | 80 acre | | Agro-forestry models and experimental |
| **5.** | Green houses | 1 | 15 m x 12 m | Research purpose |
| **6.** | Net houses | 1 | 15 m x 30 m | |

## Genetics & Plant Breeding

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **Laboratories** | | | | |
| | | | | |
| **1.** | Teaching section | 3 | 7.95 m x 7.35 m<br>7.95 m x 7.35 m<br>7.95 m x 3.69 m | UG practical's& research<br>PG practical's& research<br>Molecular breeding work for different crops |
| **2.** | Bajra Section | 2 | 7.95 m x 7.35 m<br>7.95 m x 3.69 m | Quantitative estimation of nitrogen, proteins, fat, phenols, enzymes, phytate, micronutrients (Fe and Zn) Shelf life of pearl millet flour<br>Enzyme purification and characterisation |
| **3.** | Forage Section | 2<br>i) Biotec. Lab.<br>ii) Biochemical analysis Lab. | 7.95 m x 7.35 m<br>7.95 m x 3.69 m | Research & Practical |
| **4.** | MAP Section | 1<br>1<br>1 | 9.7 m x 7.2 m<br>3.2 m x 7.2 m<br>4.0 m x 5.0 m | Research & Practical<br>Research & Practical<br>Research & Practical |
| **5.** | Pulses Section | 1 | 8 m x 5m | Field Lab Data recording of seed and plant traits |
| **6.** | Wheat & Barley Section | 2 | 7.95 m x 7.35 m<br>7.95 m x 3.69 m | Quality analysis and physiological efficiency of Wheat and Barley |
| **7.** | Cotton Section | 2 | 7.25 m x 3.70 m<br><br>11.0 m X 7.25 m | Research & Practical on biotechnology (DNA extraction, PCR, Gel electrophoresis etc.)<br>Research & Practical on biochemistry (HPLC, 2-D spectrophotometry ect.) |
| **8.** | Oilseeds Section | 2 | 7.32 m x 7.25 m<br><br>7.62 m x 7.25 m | Estimation of oil content in different oilseed crops.<br>To analyse the different quality parameters of oilseed crops. |

## Horticulture

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 3 | 25' x 20' | UG, PG practicals & research |

## Nematology

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 5 | 35'x25' each | For UG teaching, Biological control, |

| | | | | |
|---|---|---|---|---|
| | | | | Taxonomy, Nematode Management, Processing of field samples. |
| **2.** | Farm area | 1 | One ha. | To carry out experiments of research. |
| **3.** | Net houses/Screen house | 5 | 20'x10' | Maintenance of nematode pure cure and experiments of student research. |
| **4.** | Any other/Mushroom Lab. | 1 | 20'x12' | To carry out experiments regarding nematode problems of mushroom. |

## Plant Pathology

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training | |
|---|---|---|---|---|---|
| **1.** | Laboratories | 8 | 7.4m x7.4m (Lab. No. 173)<br>7.4m x7.4m (Lab. No. 172)<br>7.4m x7.4m (Lab. No. 276)<br>7.4m x 11.4m (Lab No. 277)<br>7.4m x 11.4m (Lab. No. 177)<br>7.4m x 3.4m (Lab. No. 178A)<br>7.4m x 7.4 (Lab. No. 178)<br>7.4m x 3.4 (Lab. No. 174) | Plant Bacteriology, Plant Virology, Molecular Biology, Biological control, UG & PG lab. | Basics and advance studies on Bacterium, virus, fungus, molecular studies of different pathogens and production of biocontrol agents |
| **2.** | Instructional farm | 1 | 10 acre | For experimental purpose | - |
| **3.** | Ponds | 1 | 20'x20'x10' | Life saving irrigation | - |
| **4.** | Farm area | 1 | 10 acre | Sick plot of various diseases | Integrated plant disease management, Mushroom production technology |
| **5.** | Green houses | 2 | 15'x15' each | Screening of different crop entries against major diseases | Screening at the initial stage |
| **6.** | Net/Glass houses | 2 | 15'x15' each | Screening of different entries at controlled conditions | Screening of different entries against major diseases and epidemiological studies |

## Seed Science & Technology

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 6 | 10 m x 6m | Seed quality testing, seed health testing, seed vigour & viability testing, varietal identification. |
| **2.** | Farm area | 72 ha. | 75m x 72m each | Breeder seed production & research trials. |

## Soil Science

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 13 | 25m x 15m each | pH, EC, NPK, micro and secondary nutrient and heavy metals |
| **2.** | Ponds | 1 | 12m x 10m x 6m | Research trials |

| | | | | |
|---|---|---|---|---|
| **3.** | Farm area | 37.8 ha | 75m x 72m each | Research trials |
| **4.** | Green houses | 5 | 20m x 10m each | Research trials |

### Vegetable Science

| S. No. | Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical /hands on training |
|---|---|---|---|---|
| **1.** | Laboratories | 2 | 25m x 15m each | For analytical work |
| **2.** | Ponds | 2 | 1 acre each | For nursery and water management |
| **3.** | Farm area | 2 | 24 acres for research+ 38 acres for seed production | Seed production and research |
| **4.** | Green houses | 1 | 20m x 10m | Research project |
| **5.** | Net houses | 2 | 100 sq. each | Research project |
| **6.** | Grafting unit | 1 | 1.5 acre approx. | Research project |

### 6.5.3.3. Student READY/RAWE/In-Plant Training/Internship/Experiential Learning Programmes:

| S. No. | | Yes | No | Learning Outcomes | Profit sharing (amount) | |
|---|---|---|---|---|---|---|
| **i)** | **Implementation** | | | | **Student (%)** | **College (%)** |
| | a) Student READY | Yes | -Nil- | - | - | - |
| | b) RAWE | Yes | 947 | Report of survey published in a book form during 2022-23* (Copy attached) | -Nil- | -Nil- |
| | c) In-plant training/AIA | Yes | -Nil- | - | -Nil- | -Nil- |
| | d) Internship Programme | -Nil- | -Nil- | - | -Nil- | -Nil- |
| | e) Experiential Learning programmes | -Nil- | -Nil- | - | -Nil- | -Nil- |

*During READY programme, students in final year of B.Sc. (Hons.) Ag. Programme were placed in different villages for a period of ten weeks. During this period students visited the fields of host farmers to learn about the adoption of recommended practices of crop production aspects and to get feedback regarding various problems being faced by farmers and also to improve their knowledge on practical aspects regarding implementation of production technologies. They observed that the variety RH 725 covered maximum area under rapeseed and mustard group in Haryana. They also observed the problems of rust, smut and nematode infestation in wheat and barley fields. After getting feedback regarding various constraints of agriculture suggested the farmers to follow the recommendations made by CCSHAU Hisar and nearby KVKs by demonstrating the use of different inputs and technologies on the farmers fields to persuade them to follow the same. Villagers were registered on e- *mausam* website of meteorology dept. of CCSHAU for getting free SMS facility regarding weather forecasting to help the farmer for proper, timely and precise management of agronomical inputs to make the crop production programmes economically viable and environmentally sustainable. Farmers were acquainted with the popular magazine (*Haryana Kheti*) to

update the farmers to carry out different agricultural operations according to latest recommendations made by university experts.

In the state, as the sugarcane based cropping systems were being followed by farmers, so, students trained the farmers regarding latest technologies for sowing of sugarcane and other crops suitable to their ecological conditions. They elaborated the relative advantages of ring and pit system, bud eye chip method and mechanical planters compared to conventional method of sowing. Students demonstrated the seed treatment methodology at framers fields. To revert the adverse effects of prevailing climate change in agriculture, various lectures on different adaptive and mitigating strategies like intercropping, conservation agriculture, agro forestry, recycling of agriculture waste and crop residues were delivered to farmers gatherings to bring the sustainability in agriculture. Various methods to prepare the vermicompost and organic sources of fertilizers were also demonstrated to the farmers. The information on various government and private sources to get the credit, technical and infrastructure facilities for farmers was also shared. As the resources available with farmers are scarce and further declining with time, so farmers were made aware about the use of different precision tools (viz. laser land leveller, leaf color chart, zero tillage and happy seeder) and various schemes for horticultural and vegetable crops released for the welfare of farmers. Students of different groups organized training for farmers of their respective villages on current issues viz. organic farming, precision agriculture, protected agriculture and, climate smart agriculture more particularly in context with Haryana agriculture situation. As the production level of horticulture and vegetable crops has been surpassing production level of field crops, so keeping the potential of these crops in mind, students disseminated various information regarding the immediate need to diversify the existing crop rotations and farming systems for upliftment of socio-economic conditions of farmers.





**RAWE students organizing farmer meeting  RAWE students organizing Kisan Goshti**

**Integrated Learning Systems (Experiential Learning):** A total of two Experiential Learning Programmes (ELP) are functional in the college, out of which one is ICAR funded and one is functioning with university funds. One ELP (Processing of fruits, vegetables and some other food items) that is functional in college if Basic Sciences and Humanities is conducted during the last semester of final year students of undergraduate programme i.e.,B.Sc. (Hons.) Agriculture. The ELP seek to advance professional abilities and knowledge through practical application, foster self-assurance and the capacity for project-based work, and develop entrepreneurship and enterprise management skills among the students. The ELP have given students a very good foundation with an approach of "Learning by Doing" and "Seeing by Believing". The ELPs functioning in the various colleges of the University has been successful in developing skilled, human resource in the area of agriculture and other related disciplines. Separate bank account for each EL unit has been created and the seed money of Rs. 50,000/- has been deposited in Bankof Baroda, CCSHAU in the form of revolving fund. In these programmes, students were also trained for calculating cost of production,

GST and profit sharing along with maintenance of records. The entire scheme of experiential learning follows the established system of "Earn While You Learn". The objectives of the ELPs is to promote professional graduates.

### Hi-Tech Agriculture

The ELP on "Hi-Tech Agriculture" is run by Department of Horticulture, College of Agriculture, and CCSHAU Hisar. This ELP is funded by ICAR and started in the year 2006. Major facilities created under ELP include Green-house, fertigation unit and irrigation, equipment's. Depending on the requirement and availability, space at Agri-Tourism Centre is also used by the students, after taking consent from the Centre In-charge.

### Activities Under Taken:

- Nursery of seasonal flowers and different vegetables In plug tray
- Potted plants of chrysanthemum, strawberry, other flowering annuals & exotic vegetables
- Cuttings of ornamental plants chrysanthemum, bougainvillea, philodendron etc.
- Protected cultivation of fruits flower and vegetables

### Expertise Gained:

- Techniques of ornamental plants propagation
- Seedling raising in soil less media in working and operation of green house

### Peri-urban Agriculture

For this ELP, one-acre area at Vegetable Research Farm is allotted to the students and major vegetable crops such as potato, onion etc. which are one time harvested, is being grown. The students sell their products from the HAU Mart.

### Processing of fruits, vegetables and some other food items

Experiential Learning Programme on Processing of fruits, vegetables and some other food items is operating in Centre of Food Science & Technology, CoBS&H. The ELP imparts proactive training, to students in agriculture and allied enterprises. With an aim to develop entrepreneurial skills in students. The ELP is conducted during the last semester of final year students of Undergraduate Programme i.e., B.Sc. (Hons.) Agriculture.

The students were imparted practical demonstrations for development of following value-added food products from fruits, vegetables and grain crops:

- Ready-to-serve (RTS) drink from pineapple, guava, mango, ber, papaya and bael;
- Squashes from mango, pineapple, orange, bael, guava and papaya;
- Syrups from pomegranate, orange, raw mango-mint, rose and almond;
- Preserve/murrabba and candy from aonla, bael, ber, karonda and carrot;
- Sauces/Ketchup, chutneys, pickles, confectioneries and dehydrated products
- Biscuits, cakes, muffins and instant mixes

## The Experiential Learning Units Sanctioned by ICAR:

| Sr. No. | Title of the ELP Unit | Location (College Name, Place) | Date of Start | Total Amount sanctioned by ICAR (In lakhs) | Status of ELP Unit |
|---|---|---|---|---|---|
| **College of Agriculture** | | | | | |
| **1.** | **Hi-Tech Agriculture** | **Department of Horticulture, College of Agriculture** | **2006-07** | **40.00** | **Functional** |

## The Experiential learning units Supported by University:

| Sr. No | Title of the ELP Unit | Location (College, Name, Place) | Date of Start | Total Amount sanctioned/ allocated By University | Status of ELP Unit |
|---|---|---|---|---|---|
| **College of Agriculture, Hisar** | | | | | |
| 1. | Peri Urban Agriculture | College of Agriculture, Hisar | 2018-19 | 50,000/- | Functional |

## Details of students trained, revenue generation and other activities under report period

| Sr. No. | College /Discipline | Title of the EL Unit where the students were enrolled | EL Unit wise number of Students trained | Revenue generated (Rs.) | Expertise gained |
|---|---|---|---|---|---|
| 1. | **College of Agriculture** | Hi Tech Agriculture | 41 | 56,700 | Nursery raising of horticultural plants, Propagation of ornamental plants, Care and management of potted plants; Greenhouse management for nursery raising; Marketing skills |



Demonstrations of ELP activities

| | | | | | |
|---|---|---|---|---|---|
| | College of Agriculture, Hisar | Peri Urban Agriculture | 46 | 67,434 | Potato and Onion crops |







Sale of ELP Produce at HAU mart

**6.5.3.4. Curricula Delivery Through IT (Smart Class Rooms/ Interactive Board etc.):** *Whether the college is using smart class room/ interactive board etc. for teaching and practicals. Number of classrooms upgraded as smart classrooms should be mentioned. ICT Application in Curricula Delivery:*

| Smart class rooms for teaching and practical | Interactive board for teaching and practical | Class rooms upgraded as smart class rooms |
|---|---|---|
| Yes (9) | Yes (14) | Yes( 9) |

The power point (PPT) presentation is used to teach the courses by the respective teacher. Additionally, during COVID-19 pandemic period online classes were taken using Microsoft Team, Google Meet and Zoom meeting. Doubt clearing sessions were also conducted through WhatsApp/ video call/ voice calls etc.

**Use of ICT application in teaching and practical for curricula delivery**

| Courses | Total Courses | Theory | Practical | Use of ICT Application |
|---|---|---|---|---|
| **B. Sc. (Hons.) Agri.** | 60 | 1. AGM-101<br>2. BIOCHEM 101<br>3. SOILS 101<br>4. FOR 101<br>5. ENG101<br>6. AGRON101<br>7. MATH 101/BIO 101<br>8. AGRON-103<br>9. SOC 101<br>10. GP 102<br>11. MICRO 102<br>12. SWE 101<br>13. PL PHY 102<br>14. AG.ECON1025<br>15. PL PATH 102 | 1. AGM-101<br>2. BIOCHEM 101<br>3. SOILS 101<br>4. FOR 101<br>5. ENG101<br>6. AGRON101<br>7. MATH 101/ BIO 101<br>8. GP 102<br>9. MICRO 102<br>10. SWE 101<br>11. PL PHY 102<br>12. PL PATH 102<br>13. ENT 102<br>14. EXT 102<br>15. STAT 102 | All the teachers from different department involved in UG teaching make use of power point presentation in almost all the courses. Smart class room panel has been installed in nine lecture room of the college |

| | | | | |
|---|---|---|---|---|
| | | 16. ENT 102<br>17. EXT 102<br>18. STAT 102<br>19. AG ECON 201<br>20. AGRON 201<br>21. AGRON 202<br>22. GP 201<br>23. HORT 201<br>24. PL PATH 201<br>25. SOILS 201<br>26. VSC 201<br>27. AG ECON 202<br>28. AGRON 203<br>29. AGRON 204<br>30. ENT 201<br>31. EXT 201<br>32. GP 202<br>33. HORT 202/VSC 202/AGRON 205<br>34. PL PATH 202<br>35. AG ECON 301<br>36. AGRON 301<br>37. AGRON 302<br>38. AGRON 303<br>39. ENT 301<br>40. GP 301<br>41. HORT 301/VSC 301<br>42. PFE 304<br>43. SWE 304<br>44. EXT 301<br>45. AG ECON 302<br>46. AGRON 304<br>47. AGRON 305<br>48. SST 302<br>49. EXT 302<br>50. FMPE 303<br>51. HORT 302<br>52. FOR 301<br>53. NEMA 301<br>54. PFE 305<br>55. PL PATH 301<br>56. AGRON 491<br>Besides the above 56 courses, 7 courses of module are also to be taken by the students. | 16. AG ECON 201<br>17. AGRON 201<br>18. AGRON 202<br>19. GP 201<br>20. HORT 201<br>21. PL PATH 201<br>22. SOILS 201<br>23. VSC 201<br>24. AG ECON 202<br>25. AGRON 203<br>26. AGRON 204<br>27. ENT 201<br>28. EXT 201<br>29. GP 202<br>30. HORT 202/VSC 202/ AGRON 205<br>31. PL PATH 202<br>32. AG ECON 301<br>33. AGRON 301<br>34. AGRON 302<br>35. AGRON 303<br>36. ENT 301<br>37. GP 301<br>38. HORT 301/VSC 301<br>39. PFE 304<br>40. SWE 304<br>41. EXT 301<br>42. AG ECON 302<br>43. AGRON 304<br>44. AGRON 305<br>45. SST 302<br>46. EXT 302<br>47. FMPE 303<br>48. HORT 302<br>49. FOR 301<br>50. NEMA 301<br>51. PFE 305<br>52. PL PATH 301<br>53. AGRON 491<br>Besides the above courses, 7 courses of module are also being taken by the students. | |

## Agricultural Economics

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 18 | 18 | 10 | Smart Class room /PPT |
| Ph. D. | 10 | 10 | 8 | Smart Class room /PPT |

## Agronomy

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 13 | 13 | 11 | Smart Class room /PPT |
| Ph. D. | 9 | 9 | 4 | Smart Class room /PPT |

## Agricultural Meteorology

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 11 | 11 | 9 | Smart Class room /PPT |
| Ph. D. | 13 | 13 | 8 | Smart Class room /PPT |

## Business Management

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| MBA | 15 | 15 | - | PPT, YouTube, CD ROM, Websites, Email, Google Drive |
| Ph.D. | 6 | 6 | 2 | PPT, YouTube, CD ROM, Websites, Email, Google Drive |

## Entomology

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 20 | 19 | 19 | Smart Class room /PPT |
| Ph. D. | 13 | 13 | 9 | Smart Class room /PPT |

## Extension Education

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 12 | 12 | 11 | PPT |
| Ph. D. | 9 | 9 | 8 | PPT |

## Forestry

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 11 | 11 | 9 | Smart Class room /PPT |
| Ph. D. | 8 | 8 | 6 | Smart Class room /PPT |

## Genetics & Plant Breeding

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 19 | 19 | 16 | Smart Class room /PPT |
| Ph. D. | 14 | 14 | 6 | Smart Class room /PPT |

## Horticulture

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc.-Fruit Science | 13 | 13 | 12 | Smart Class room /PPT |
| M.Sc.- F.L.A. | 8 | 8 | 8 | Smart Class room /PPT |
| Ph. D.- Fruit Science | 5 | 5 | 5 | Smart Class room /PPT |
| Ph. D.- F.L.A | 5 | 5 | 5 | Smart Class room /PPT |

### Nematology

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 16 | 15 | 12 | PPT, LED and Smart screen facility for showing documentaries on nematodes to students. |
| Ph. D. | 7 | 7 | 4 | -do- |

### Plant Pathology

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 21 | 20 | 17 | The e-Books relevant to various courses are being provided to the students and the students are also motivated for e-learning by the uses of ICT application and interacting on each topic |
| Ph. D. | 7 | 7 | 4 | -do- |

### Seed Science & Technology

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 16 | 16 | 15 | Smart Class room /PPT |
| Ph. D. | 5 | 5 | 4 | Smart Class room /PPT |

### Soil Science

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 15 | 15 | 12 | Smart Class room /PPT |
| Ph. D. | 6 | 6 | 0 | Smart Class room /PPT |

### Vegetable Science

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 11 | 11 | 11 | Smart Class room /PPT |
| Ph. D. | 5 | 5 | 4 | Smart Class room /PPT |

**6.5.4. Student Development:** *Student Development at the College directs its educational efforts at fostering the intellect and character of students by integrating in-class and co-curricular experiences. To accomplish this, the college provides a wide range of educational experiences through programs and activities that complement and support the academic experience in the classroom.*

**6.5.4.1. Student Intake and attrition:** *The information about student intake and attrition, for the college as a whole but separated in UG, PG and Ph. D. categories shall be provided in tabular form for last five year*

| Name of the degree programme | Actual students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **B.Sc. (Hons.) Ag.-4 yr.** | 136 | 162 | 152 | 154 | 168 | 19.85 | 24.07 | 37.5 | 31.16 | 17.26 |
| **M.Sc.** | 118 | 138 | 155 | 117 | 121 | 21.6 | 26.5 | 19.3 | 18.6 | 15.1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Ph. D.** | 66 | 81 | 65 | 66 | 53 | 22.5 | 15.2 | 16.8 | 13.5 | 20.4 |

**6.5.4.2. Average number of students in Theory and Practical Classes:** *Mention the degree programme-wise number of students seating in a class for theory and practical, separately in tabular form.*

| Year | Theory | | | | Practical | | | |
|---|---|---|---|---|---|---|---|---|
| | 1st year | 2nd year | 3rd year | 4th year | 1st year | 2nd year | 3rd year | 4th year |
| 2018-19 | 55 | 55 | 55 | 8 (One each for professional elective) | 28 | 28 | 28 | 8 (One each for professional elective) |
| 2019-20 | 57 | 57 | 57 | 8 (One each for professional elective) | 28 | 28 | 28 | 8 (One each for professional elective) |
| 2020-21 | 60 | 60 | 60 | 8 (One each for professional elective) | 30 | 30 | 30 | 8 (One each for professional elective) |
| 2021-22 | 60 | 60 | 60 | 8 (One each for professional elective) | 30 | 30 | 30 | 8 (One each for professional elective) |
| 2022-23 | 60 | 60 | 60 | 8 (One each for professional elective) | 30 | 30 | 30 | 8 (One each for professional elective) |

**Mention theory and practical batches for PG Programmes**

**Agricultural Economics**

| Sr. No. | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

**Agronomy**

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-21 | 2018-19 | 2019-20 | 2020-21 | 2021-22 |
| 1. | PG | | One | One | One | One | One | One | One | One |
| 2. | Ph. D. | | One | One | One | One | One | One | One | One |

## Agricultural Meteorology

| Sr. No. | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Business Management

| Sr. No. | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | PG/MBA (Agribusiness) Program | One | One | One | One | One | NA | NA | NA | NA | NA |
| 2. | PG/MBA (General) Program | One | One | One | One | One | NA | NA | NA | NA | NA |
| 3. | Ph. D.(Agribusiness) | One | One | One | One | One | NA | NA | NA | NA | NA |
| 4. | Ph. D. (General) | One | One | One | One | One | NA | NA | NA | NA | NA |

## Entomology

| Sr. No. | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Extension Education

| Sr. No. | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Forestry

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

Value in parentheses is no. of student per batch

## Genetics & Plant Breeding

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Horticulture

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Nematology

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Plant Pathology

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Seed Science & Technology

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Soil Science

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

## Vegetable Science

| Sr. No | Name of the Degree programme | Batch of students in Theory Class | | | | | Batch of students in Practical class | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1 | M.Sc. | One | One | One | One | One | One | One | One | One | One |
| 2 | Ph. D. | One | One | One | One | One | One | One | One | One | One |

**6.5.4.3. Admission process:** *Clearly give complete mechanism of admission for UG, PG and Ph. D. programmes, fee payment mechanism, registration procedure, academic schedule publication at the start of the semester etc. Write information in one page only.*

| Sr. No. | Name of degree programme | Mechanism of Admission (Through written exam/ICAR nominee/ Foreign students) | Fee payment mechanism (Cash/Online) | Registration procedure (On-site/Online) | Academic schedule at the start of session |
|---|---|---|---|---|---|
| 1 | UG | On the basis of merit in written entrance exam | Online through CCSHAU admission portal | On-line registration | 1st Semester (August to December) 2nd Semester (January to May) Uploaded on the website |
| 2 | PG | On the basis of merit in written entrance exam | Online through CCSHAU admission portal | On-line registration | 1st Semester (August to December) 2 nd Semester (January to May) Uploaded on the website |
| 3 | Ph. D. | On the basis of merit in written entrance exam | Online through CCSHAU admission portal | On-line registration | 1st Semester (August to December) 2nd Semester (January to May) Uploaded on the website |

**5.5.4.4. Conduct of Practical and Hands on training** *(mention brief report of one page on practical and hand on training in different courses)*

In every academic year Practical Crop Production course Agron.303 (Practical crop production-I) and Agron.304 (Practical crop production-II) were offered during first and second semester respectively. In these courses a field of seven kanal was allotted to a group of 7-8 students for one year. Generally, two crops one during *Kharif* and other during *Rabi* season were produced by the students. Every operation such as pre sowing irrigation, field preparation, sowing, fertilizer, irrigation, herbicide applications, weeding, harvesting, threshing, winnowing, deposition of the produce with Directorate farm were carried out by the students. Net profit after deducting the expenditure from gross income is distributed among the students every year. The main aim of this course is to enhance the skills of students about scientific crop production. This helps the students to understand basic problems faced by the farmers.

| Sr. No | Hands on training conducted year wise (Numbers) | | | | |
|---|---|---|---|---|---|
| Departments | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1. Agricultural Economics | 5 | 5 | 5 | 5 | 5 |
| 2. Agronomy | 11 | 11 | 11 | 11 | 11 |
| 3. Agricultural Meteorology | 5 | 5 | 5 | 5 | 5 |
| 4. Business Management | 13 | 21 | 11 | 12 | - |

| | | | | | |
|---|---|---|---|---|---|
| 5. Entomology | 19 | 19 | 19 | 19 | 19 |
| 6. Extension Education | 2 | 2 | 2 | 2 | 2 |
| 7. Forestry | 15 | 15 | 15 | 15 | 15 |
| 8. Genetics & Plant Breeding | 19 | 19 | 19 | 19 | 19 |
| 9. Horticulture | 27 | 27 | 27 | 27 | 27 |
| 10. Nematology | 3 | 3 | 3 | 3 | 3 |
| 11. Plant Pathology | 11 | 11 | 11 | 11 | 11 |
| 12. Seed Science and Technology | 12 | 12 | 12 | 12 | 12 |
| 13. Soil Science | 12 | 12 | 12 | 12 | 12 |
| 14. Vegetable Science | 16 | 16 | 16 | 16 | 16 |

**6.5.4.5. Examination and evaluation process:** *The evaluation of students' performance is a central task of College administration. A brief report on examination and evaluation process for UG, PG and Ph. D .be given separately mentioning external/internal components .System of evaluation should clearly be mentioned for UG, PG and Ph. D.*

| Name of degree programme | Examination pattern | | | Evaluation process | | | |
|---|---|---|---|---|---|---|---|
| | Theory (External/ Internal) | Practical (External/ Internal) | Viva-voce | Theory (External/ Internal) | Practical (External/ Internal) | Comprehensive written | Viva-voce (Thesis and comprehensive) |
| **B.Sc. (Hons.) Ag.** | External as well as internal | Internal | Internal | External as well as internal | Internal | NA | NA |
| **M.Sc. (Ag.)** | Internal | Internal | Internal | Internal | Internal | NA | External |
| **Ph.D.** | Internal | Internal | Internal | Internal | Internal | Internal | External |

I. Examination and Evaluation system: Examination and Evaluation system of Under Graduate programmes of college has been given below:
   a) External Theory: 50%
   b) Internal Theory + Practical: 50%

II. Courses with Theory and Practical: Mid-term Exam (30%) + Assignment (5%) + Practical (15%).
The assignment may be included with practical.

III. Courses with only Theory: Mid-term Exam (40%) + Assignment (10%)

IV. Courses with only Practical: 100% Internal

The mid-term examinations are being conducted during mid-term examination week prescribed in the academic calendar in the college through fixing the dates by concerned course teacher after consultation with Principal. The practical examinations (internal) are conducted during the practical examination week as prescribed in the academic calendar. For final examination (External), date sheet is provided by the Dean of the respective colleges during final examination schedule as prescribed in the academic calendar of the university circulated by the Assistant Registrar Academics (ARA), CCSHAU, Hisar.

Allotment of marks for various examination of each course is as per given below.

| Name of Examination | Nature of course | | |
|---|---|---|---|
| | Courses with Theory and Practical | Courses with only Theory | Courses with only Practical |
| Midterm (Theory) | 60 | 80 | NA |
| Midterm (Practical) | NA | NA | 60 |
| Assignment | 10 | 20 | 20 |
| Final (Practical) | 30 | NA | 120 |
| Final (Theory) | 100 | 100 | NA |
| **Total** | **200** | **200** | **200** |

After adding marks of all the examinations, the total marks divided by two for converting total marks out of 100 and combined (Theory+Practical) grade of each course is awarded.

1. The Course Catalogue, Examination and Evaluation system is being followed as per the recommendation of 5$^{th}$ Deans' Committee implemented with effect from academic year 2017-18.
2. Examination system is external for 50 % (Theory of final examination), whereas, remaining 50% (Theory of midterm + Practical) is internal. The following guidelines are to be followed for this internal examination. The weightage of mid-term, final and practical examination are followed as per table given below:

| Credit Hours | Weightage/Marks | | |
|---|---|---|---|
| (Theory & Practical) | Mid-term | Final | Practical |
| 1+0 | 40 | 60 | - |
| 1+1 | 20 | 30 | 50 |
| 2+1 | 25 | 45 | 30 |
| 2+2 | 20 | 30 | 50 |
| 3+1 | 30 | 45 | 25 |
| 3+2 | 25 | 35 | 40 |
| 2+0 | 40 | 60 | - |
| 3+0 | 40 | 60 | - |
| 1+2 | 10 | 20 | 70 |

- For a course only with practical: Practical examinations are conducted twice, mid-term and final.
- Distributions of marks are in the ratio of 40:60.
- There is one examination date-sheet each for mid-term and final examinations within the examination schedule.

### 6.5.4.6. NCC/NSS units

**NSS Unit:** *Existence and functioning of NSS unit and how it is benefiting the student development (A brief report).* NCC unit of COA has been functioning from the very beginning of the University itself. It is offered for three years to undergraduate students of the College of Agriculture. The students are trained to develop among them the character, discipline, leadership, secular outlook, spirit of adventure and ideals of selfless service. NCC teaching is doing to create a human resource of organised, trained and motivated youth for providing leadership in all walks of life and personnels who are always available for the service of the nation. NCC unit is providing an environment for motivating the youth to take up a career in the Defence Forces of the country. Duty and discipline disinculcated amongst the youth of the College. The students undergo a rigorous training by doing drill, weapon training, sports and cultural activities, social activities, blood donations etc. The students participate in different kinds of camps i.e. Army Attachment Camp, Basic Leadership Camp, Advance Leadership Camp, National Integration Camp, Annual Training Camp, Thal Sena Camp etc.

At least two camps are the pre-requisite for obtaining 'C'Certificate. For the last five year there is nearly cent-per cent pass result in'B'&'C'Certificate examinations with almost good grading. Apart from military training, non-military subjects just like history and culture of India, health and hygiene, religions customs, traditions, social and moral values of Indian society are also taught. The students are made to be well-versed in the legacy of freedom movement. They are taught about the personalities/heroes of Indian history like Maharana Pratap, Chhatrapati Shivaji, Rani Laxmi Bai, Guru Gobind Singh and other revered characters such as Netaji Subhash Chander Bose & his INA, Lal-Bal-Pal, Poet Ravinder Nath Tagore, Allama Iqbal etc. are also made known to the cadets. Any current issue of social, moral, scientific, environmental and national importance is discussed with students time to time.

National Service Scheme (NSS) came into existence in College of Agriculture since inception of university in February 1970. It is considered as a part of academic studies for the undergraduate students of College of Agriculture, Hisar. It is offered as a course of two credits in the first semester every year and is playing an important role in mobilizing the students in community participation, group living and sharing.

**Annual Camps**

Each year in the month of February annual camp is organized in different villages. About 100 NSS Volunteers took part in the camp and also organized many motivational lectures and useful trainings for the villagers. They had participated in various social activities such as plantation, cleanliness drive and also carried out rallies on different topics such as *Beti Bachho*, *Swachh Bharat*, *Rastriye ekta* etc.

**Important day's celebration and activites**

NSS unit of College of Agriculture celebrated different important days such as:

- National Youth Day
- Republic Day
- Sadhbavna Day
- International Literacy Day
- International Peace Day
- NSS Day
- National Blood Donation Day
- Mahatma Gandhi's Birthday
- National Integration Day
- Teachers Day etc.

Different competitions and lectures were organized for the volunteers on these days. Volunteers planned and carried out different social activities such as plantation, *swachta abhiyan*, rallies etc. NSS Volunteers of College of Agriculture also participated in the Pulse Polio Campaign initiated by the Government in huge number every year.

**6.5.4.7. Language laboratory:** *It is required of any student to have a good command of the language for communication purposes, with clarity and accuracy being vital for effective and efficient communication. What helps one to acquire such proficiency in a language is the process and the method of learning that language. Mention which of these type of Conventional, Lingua Phone, Computer Assisted Language Laboratory and Multimedia Hi-Tech Language Laboratory are being used for language teaching in the college.*

Computer facility exists at the college level. We have the facility of language laboratory in the Department of Languages and Haryanvi Culture. This language laboratory caters the need of the students of college.

**6.5.4.8. Cultural Centre:** *Does the college have cultural centre to empower student leaders to explore, celebrate, and educate the campus community about the diversity among them? Does the college offers and inclusive and reflective space, multicultural programming and support services that encourage positive interaction, academic, persistence, and growth among students, faculty, and staff*

The college have cultural centre to empower student leaders to explore, celebrate and educate the campus community about the diversity among them. The college offers inclusive and reflective space, multi cultural programming and support services that encourage positive interaction, academic persistence and growth among students, faculty and staff. There is cultural committee comprising of faculty members and students organise and coordinate cultural activities for students during celebration of different important days, hostel functions, NSS camp, fresher's day, farewell party etc. Students are being motivated for participation in different cultural events. The students of this college are also participating in the events organised at university level as well as in inter university programmes.

***6.5.4.8.*** **Personality Development:** *Personality development programme is aimed at increasing employability of the students. Whether the college has provisions for inclusion of functional grammar in standard English, speaking skills, reasoning, group discussions interview skills, personal interviews, quantitative ability, verbal ability, mock tests and some special sessions to promote the personality development in the students?*

The Students C&P Cell in the Directorate of Students' Welfare has been established to keep the university students informed about potential job opportunities which help them in making prudent decisions for their future academic/professional career. The Students Counselling & Placement Cell has been associated with multifaceted development of the Students in an effort to make available to them the possibility of developing their personalities and face the challenges of future with greater confidence. Realizing the present day need to further strengthen these efforts, the directorate has initiated an ambitious program to ameliorate the managerial, administrative, communicative, and technical and self- employment oriented skills of the students. The centre in the Directorate of Students Welfare has been assigned four mandates viz., imparting trainings, placements, liaison with leading industries and guidance to university students. The Students C&P Cell coordinates the task of organizing campus interviews for the outgoing students. In addition to helping students seek employment, the cell has been involved in guiding the students appearing for competitive examinations and in getting admissions, scholarships/fellowships in institute of recognition in India and abroad.

| Whether the college has provisions for inclusion of the following | | |
|---|---|---|
| Functional Grammar in standard English | Yes | The medium of instruction is English and teachers provide instruction in functional grammar and standard English. They use effective teaching techniques and encourage interactive sessions to improve students' proficiency and confidence in the language. Students are also encouraged for trainings on writing skills organized by Directorate of Student's welfare. |
| Speaking skills | Yes | Students are regularly assigned topics to speak during class sessions to develop their communication skills. Students are also encouraged for trainings on communication skills organized by Directorate of |

| | | |
|---|---|---|
| | | Student's welfare. |
| Reasoning | Yes | The students have been provided guidance and support in developing their reasoning skills for competitive exams. Various initiatives such as workshops and trainings sessions are taken up by the university to prepare them for various competitive exams to achieve their academic and professional goals. On the eve of special days debate programme are also conducted to envisage the thinking. |
| Group Discussion | Yes | There is a strong emphasis on involving students in group discussions focused on current national and international issues of significance, promoting their active engagement and critical thinking skills. Group discussions are also conducted on in classrooms to remove the hesitation among students and improve their logical thinking. |
| Interview skills | Yes | The specialized sessions for improving the interview skills are organized in the university. The sessions on interview skills are conducted on trainings on personality development and students are encouraged for their active participation. |
| Personal Interviews | Yes | The university provides training and guidance for interview skills through counselling and placement cell. |
| Quantitative ability | Yes | The college encourages and supports students in their efforts to enhance their quantitative aptitude by providing access to competitive books and resources. This helps them to excel in their studies and future endeavours in careers, improving their overall academic and professional success. |
| Verbal Ability | Yes | The college fosters a strong sense of association between students and faculty, with regular mutual interactions between them. There is a visible and positive bond between students and faculty members that generates a supportive and collaborative learning environment. |
| Mock Test | Yes | Mock tests are regular part of training on language skills. |

### 6.5.5. Physical facilities

**6.5.5.1 Hostels:** *Clearly mention the number of hostels available for the College students for boys and girls, separately with its total capacity, students per room accommodated in each hostel, mess facility, drinking water, indoor games specially for girls, cleaning of hostel premises, transport facility, emergency medical facility etc.*

| | **Boys*** | **Girls*** |
|---|---|---|
| **No of Hostels** | 05 | 07 |
| **Total capacity** | Kailash: 212 | Gangotri (Old): 108 |
| | Varindavan: 214 | Gangotri (New): 139 |
| | Vindayachal: 223 | Gangotri (Additional): 129 |
| | Ajanta: 159 | Godavari: 144 |
| | Triveni: 84 | Narmada: 114 |
| | | Women scholar: 30 |
| | | Yamunotri: 43 |
| **Students per room** | For PG: Cubical; For UG: Dormitory | For PG: Cubical; For UG: Dormitory |
| **Mess facility** | Cooperative mess managed by | Cooperative mess managed by |

| | | |
|---|---|---|
| | students (Two in each hostel) | students (Two in each hostel) |
| **Drinking water** | With RO in each hostel | With RO in each hostel |
| **Indoor games** | Table tennis, Chess, Carrom and others | All |
| **Transport facility** | Yes | Yes |
| **Emergency medical facility** | Yes | Yes |
| **Cleaning of hostel premises** | Well | Well |

**Include students of various colleges*

The hostels at present are sufficient to meet the accommodation requirement of the registered students. There are dormitory and cubicle rooms in all the hostels and allotted to the students as per rules. Students' rooms have the facility of almirah, study table, bed and chair. Hostel wardens are assisted by student hostel prefects. The hostels are equipped with all modern amenities and facilities including Wi-Fi, LCD TV with dish antennae, Gym, Volleyball court facility of inverter in mess and common area, water cooler with water purifier, mosquito catcher, solar water heating system, LPG supply in mess, furniture, magazines and national dailies. There are facilities of air conditioned night reading halls, indoor sports facilities including table tennis, canteen, desert cooler in the common room are as and well ventilated cubical and dormitory rooms fitted with electric fans. The students are also allowed to use the desert cooler in their rooms during summer. There are cooperative mess in all the hostels which are managed by students under the guidance of hostel wardens. Due attention is given to the cleanliness of hostel premises.

## Transport Facility

Central transport facility is available for students as and when required. The vehicles can be obtained from the transport office of the university for visits under different courses and educational tours. There is facility of e-rickshaw for girls and boys separately for transportation with in the campus.

## Medical Facilities

- There is a well-equipped 50 bed Campus Hospital. The Hospital has one Senior Medical Officer, four Medical Officers, one Dental Surgeon, two Pharmacists, and four staff nurses along with other supporting staff. Round the clock medical aid is provided to the students, University Employee and their dependants and other trainees/visitors.
- Causality services are run round the clock. Special Immunization Clinic, T.B. Clinic, Diabetic and Antenatal Clinic is run once every week. For Chronic disease patient's medicines for two weeks are being provided and supervised. The outdoor/emergency patients are attended by the Senior Medical Officer and Medical Officers and Indoor facility is also available in the hospital round the clock.
- The Dental Surgeon also provides the service of RCT and Dental surgical procedure of the patient and dental unit has been made Air-conditioned for better care facility of the patients. X-rays of the employees and their dependents of CCSHAU/LUVAS are being done in the department of Vet. Clinics. Facility i.e. ICU, X-Rays of Dental and lab tests are performed in the Campus Hospital.
- There is *Amartya Shiksha Yojana* and Personal Accident Policy for which Rs 100/- is charged at the time of admission which covers and accidental insurance of Rs. 1, 00,000/-
- There is on-call facility in emergency cases. Ambulance facility is available in the Campus Hospital for emergency cases.

**6.5.5.2 Examination Hall:** *Mention the availability of number of examination halls, its capacity etc. for the college.*

The college has one Examination hall with a capacity of 514 students. The lecture rooms of the college are also used for conducting UG and PG examination as per requirement

| Examination Hall | Number | Total capacity |
|---|---|---|
| **1** | 1 | 514 |

**6.5.5.3. Sports and recreation facilities:** *Clearly mention the number of indoor and outdoor sports facilities available for the College students. A brief note on day to day management and use of these facilities shall be provided in the report.*

Participation and prizes of students in North zone inter university, All India Inter -University and All India Inter-Agriculture University tournaments.

XVI. **Inter-college tournaments**

| Reno | Game | Dates | Winner | Runners-up |
|---|---|---|---|---|
| **1** | Cross Country (M) | 11/10/2018 | COA, Hisar | COAE&T |
| **2** | Cross Country (W) | 11/10/2018 | COHS | COA, Hisar |
| **3** | Squash Racket (M) | 11-12/10/2018 | COA, Hisar | COVS, LUVAS |
| **4** | Volleyball (M) | 15-17/10/2018 | COA, Hisar | COVS, LUVAS |
| **5** | Volleyball (W) | 15-17/10/2018 | COA, Hisar | COHS |
| **6** | Table Tennis (M) | 19-22/10/2018 | COA, Hisar | COVS, LUVAS |
| **7** | Table Tennis (W) | 19-22/10/2018 | COHS | COA, Hisar |
| **8** | Kabaddi (M) | 25-27/10/2018 | COA, Hisar | COVS, LUVAS |
| **9** | Badminton (M) | 29-31/10/2018 | COA, Hisar | COVS, LUVAS |
| **10** | Badminton (W) | 29-31/10/2018 | COA, Hisar | COBS&H |
| **11** | Yoga (M) | 14/11/2018 | COA, Hisar | COA, Kaul |
| **12** | Yoga (W) | 15/11/2018 | COA, Kaul | COA, Hisar |
| **13** | Cricket (M) | 13-16/11/2018 | COA, Hisar | COAE&T |
| **14** | Basketball (M) | 13-16/11/2018 | COAE&T | COA, Hisar |
| **15** | Basketball (W) | 13-16/11/2018 | COA, Hisar | COHS |
| **16** | Hockey (M) | 17/11/2018 | COA, Hisar | COAE&T |
| **17** | Football (M) | 19-21/11/2018 | COA, Hisar | COVS, LUVAS |
| **18** | Handball (M) | 22-24/11/2018 | COA, Hisar | COAE&T |

**College of Agriculture every year organize its Annual Athletics meet.**

College of Agriculture, Hisar being the largest college of CCSHAU Hisar, its students utilize the sports facility in the university consisting of International standard synthetic track, football, hockey basketball, cricket, handball, and Table tennis and Badminton hall. Students are being facilitated by well-trained coaches of different games.

**6.5.5.4. Auditorium:** *Does the college has auditorium? Mention its year of construction, seating capacity and how frequently being used for the College functions.*

| | |
|---|---|
| **Year of construction** | **1975** |
| **Seating capacity** | 504 |
| **Frequency being used for College Functions** | Fort nightly |

**6.5.5.5. Exhibition Hall/Museum (description of events):** *Does the college have the Exhibition Hall/Museum? Mention about its use and special events being conducted in these units*

| | |
|---|---|
| **Exhibition Hall** | **Yes**<br>• **Display of Teaching, Research, Extension and Extra co-curricular activities of the college.**<br>• **Technologies developed, publications; and showcase of work done under professional elective courses.** |
| **Museum** | No |

**6.5.6. Research Facilities:** *Clearly mention the department wise PG laboratories and equipment housed in individual laboratory in the College along with any other research unit.*

**6.5.6.1. Postgraduate laboratories and Equipments**

**Agricultural Economics**

| S. No. | Name of equipment | Location/Lab No. |
|---|---|---|
| 1 | DLP projector-one | Seminar Room (Room No. 269) |
| 2 | DLP projector-one | Department Store (Room No. 272) |
| 3 | Computer with accessories ( Five) | Computer Lab.(Room No.256) |

**List of Major equipments (Equipments costing more than Rs. 50,000)**

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1 | Computer with accessories | Deptt of Agril. Economics |
| 2 | Multimedia | Deptt of Agril. Economics |
| 3 | Computer with accessories | Deptt of Agril. Economics |
| 4 | Furniture | Deptt of Agril. Economics |

**Agronomy**

| No. of P.G. Labs | Major Equipments Housed in each PG Lab |
|---|---|
| **Lab No. 208** | pH meter |
| | EC meter |
| | Spectrophotometer |
| | Kel Plus Automated Nitrogen Estimation |
| | Rotary Shaker |
| | TDS meter |
| **Lab No. 206** | pH meter |
| | Conductivity meter |
| | Spectrophotometer |
| | Flame photometer |
| | AAS |
| | Microwave digestion |

| | |
|---|---|
| | Water purification system |
| | |
| **Other Research Labs / Units** | **Major Equipments Housed in Research Labs / Units** |
| **Crop Residue lab** | GC-MS/MS |
| | HPLC-PDA |
| | Rotary-evaporator |
| | Funnel shaker |
| | Solvent distillation unit |
| | Nitrogen evaporator |
| **Weed Control (Lab No. 206)** | Hot air Oven |
| | Seed germinator |
| | Deep freezer |
| | Humidity Chamber |
| | Green Seeker |

**List of Major equipments (Equipments costing more than Rs. 50,000)**

| Name of equipment | Location/Lab |
|---|---|
| Atomic Absorption Spectrophotometer | 207 |
| Microwave Digestion System | 207 |
| Spectrophotometer | 207 |
| Flame photometer | 207 |
| Water Distillation Unit | 207 |
| **Hot air Oven** | 216 |
| **Growth Chamber Seed germinator** | 216 |
| **Deep freezer** | 216 |
| **Humidity Chamber** | 216 |
| **Green Seeker** | 216 |

## Agricultural Meteorology

| No. of P.G. Labs. | Major Equipments Housed in each PGLab |
|---|---|
| **1. Meteorological Observatory** | • Single & double stevension Screen<br>• Ordinary and self recording rain gauge<br>• Open pan evaporimeter<br>• Due gauge plates<br>• Sun shine recorder<br>• Anemometer<br>• Wind vane<br>• Grass and soil thermometers<br>• Automatic weather station |
| **2. Field Lab.** | • Leaf area meter<br>• Porometer<br>• Chlorophyll meter<br>• Weighing balance<br>• Quantum Sensor<br>• PAR Sensor |

| | |
|---|---|
| | • GPS<br>• IR Thermometer<br>• Spectral radiometer |
| **3. GIS Lab.** | Workstations, Remote Sensing and GIS Software, GPS |

**List of Major equipments (Equipments costing more than Rs. 50,000)**

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| **1** | Epson workforce format scanner | Lab 109 |
| **2** | Four HP Z640 Work Station | Lab 109 |
| **3** | One HP 400 non touch all in one Desktop | Office |
| **4** | One ENVI 5.4 mini lab Software | Lab 109 |
| **5** | 10 KVA Online UPS | Lab 109 |
| **6** | Line Quantum Sensor | Field Lab |
| **7** | Hp 600 G4MT i7 | Office |
| **8** | HPZU Work Station | Office |
| **9** | Sony Smart LED TV 43" | Department gallery |
| **10** | Infrared Thermometer | Field Lab |
| **11** | Keptron 5 kva Online UPS | Store |
| **12** | Sony Led TV 75" | Gate no 4 |
| **13** | Interactive Panel | Seminar room |
| **14** | Three hp 280 G3MT Desktop | Office |
| **15** | Spectral radiometer | Field Lab |
| **16** | Assmann Psychrometer | -do- |
| **17** | HP Desktop Computer | Office |
| **18** | Plant Canopy Analyzer | Field Lab |
| **1** | Self recording grain gauge | Field lab |
| **2** | Two hygrothermometer | Do |
| **3** | One canon printer | Office |
| **4** | One multifunctional printer | Office |
| **5** | One hp Printer Pro MFP M126nw | Office |
| **6** | One Panasonic 43 "HD Smart LED TV | Lab 107 |
| **7** | One Sony Multimedia Projector | Seminar room |
| **8** | ONE Oven NSW-143 | Field Lab |
| **9** | Webcam | Office |
| **10** | Eight maximum thermometer | Store |
| **11** | Eight minimum thermometer | Store |
| **12** | Four grass minimum thermometer | Store |
| **13** | 2KVA online UPS | Store |
| **14** | Two canon Printer MF244 DW | Office |
| **15** | One canon Printer | Office |
| **16** | Dew gauge | Store |

## Entomology

There is one PG Laboratory to take PG students' practical classes. Besides this, there are:

- NABL Accredited Residue Lab.: For residual analysis of insecticide in Agricultural Produce/Commodities
- Insect culture Lab.: To maintain insect cultures

- Biocontrol Lab: Rearing of biocontrol agents
- Insect Pathology Lab.: Culturing of Insect Pathogens
- Storage Entomology Lab: Rearing of stored grain insect pests
- Apiculture Lab.: To take UG & PG students' practicals.

**List of equipments at present available in the Department**

| S. No. | Name of equipment | Location/Lab No. |
|---|---|---|
| **1.** | Sony SLR camera | Honeybee Lab. |
| **2.** | Oxygen trap | Lab. No. 133 |
| **3.** | Blixer 6 KVA | Lab. No. 133 |
| **4.** | Whirlpool AC-2 | Lab. No. 133 |
| **5.** | Computer | Lab. No. 132 |
| **6.** | NSW-134 Chiller | Lab. No. 133 |
| **7.** | Electronic balance-2 | Lab. No. 135 |
| **8.** | Magnus zoom stereoscope trinocular microscope | Lab. No. 73 |
| **9.** | BOD incubator-2 | Lab. No. 73 |
| **10.** | Remi incubator | Lab. No. 136 |
| **11.** | Centrifuge with 2 roters | Lab. No. 136 |
| **12.** | Computer-3 | Room No. 139,140 and 151 |
| **13.** | Microscope with accessories | Lab. No. 136 |
| **14.** | Hot air oven | Lab. No. 136 |
| **15.** | Autoclave vertical | Lab. No. 136 |
| **16.** | Multimedia project Sony-2 | Lab. No. 135 &Room No. 6 |
| **17.** | GCMS T.Q.8040 | Room No. 142 |
| **18.** | Refrigerator Samsung | Lab. No. 136 |
| **19.** | Microwave oven | Lab. No. 136 |
| **20.** | Deep freezer-3 | Lab. No. 133 |
| **21.** | Remi BOD incubator | Lab. No. 136 |
| **22.** | Whirlpool AC-2 | Lab. No. 133 |
| **23.** | Computer | Lab. No. 132 |
| **24.** | Refrigerator Samsung | Lab. No. 136 |
| **25.** | Microwave oven | Lab. No. 136 |
| **26.** | Humidifier with humid controller | Lab. No. 136 |
| **27.** | Balance | Lab. No. 136 |
| **28.** | Digital magnetic hot plate | Lab. No. 136 |
| **29.** | Distillation unit | Lab. No. 136 |
| **30.** | Haemocytometer | Lab. No. 136 |
| **31.** | Stage micrometer | Lab. No. 136 |
| **32.** | Ocular micrometer | Lab. No. 136 |
| **33.** | Sony SLR camera | Honeybee Lab. |
| **34.** | Oxygen trap | Lab. No. 133 |
| **35.** | Blixer 6 KVA | Lab. No. 133 |
| **36.** | Whirlpool AC-2 | Lab. No. 133 |
| **37.** | NSW-134 Chiller | Lab. No. 133 |
| **38.** | Electronic balance-2 | Lab. No. 135 |
| **39.** | Magnus zoom stereoscope trinocular microscope | Lab. No. 73 |
| **40.** | BOD incubator-2 | Lab. No. 73 |
| **41.** | Remi incubator | Lab. No. 136 |
| **42.** | Centrifuge with 2 roters | Lab. No. 136 |
| **43.** | Microscope with accessories | Lab. No. 136 |

| | | |
|---|---|---|
| **44.** | Hot air oven | Lab. No. 136 |
| **45.** | Autoclave vertical | Lab. No. 136 |
| **46.** | GCMS T.Q.8040 | Room No. 142 |
| **47.** | Refrigerator Samsung | Lab. No. 136 |
| **48.** | Microwave oven | Lab. No. 136 |
| **49.** | Deep freezer-3 | Lab. No. 133 |
| **50.** | Remi BOD incubator | Lab. No. 136 |

**List of Major equipments (Equipments costing more than Rs. 50,000)**

| S. No. | Name of equipment | Date of purchase | Cost (in Rupees) | Location/Lab |
|---|---|---|---|---|
| 1. | GLC | 2017-18 | 18,50,000 | Pesticide Residue Lab |
| 2. | Stereo Zoom Bionocular Microscope | 2020-21 | 700000 | Bio-control Lab |
| 3. | Digital Electronic balance | -do- | 99500 | Pesticide Residue Lab |
| 4. | Smart Android LED | -do- | 497000 | Seminar Room |
| Equipment's costing Less than Rs. 50,000 | | | | |
| 1. | Bee Venom Extractor | 2019-20 | 36000 | Apiary |

## Extension Education

| No. of PG Labs | Major Equipments Housed in PGLab. |
|---|---|
| **1** | LCD |

## Forestry

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Compound microscope with USB Camera | Store |
| 2. | Chlorophyll content meter | lab |
| 3. | 65" LED | Class room |
| 4. | BOD incubator (2 No.) | lab |
| 5. | Analytical balance | lab |
| 6. | Soil moisture sensor | lab |
| 7. | Time lapse camera | lab |
| 8. | Seed Germinator | lab |
| 9. | Canopy Analyzer | lab |

## Genetics & Plant Breeding

| No. of PG Labs | Major Equipments Housed in each PGLab |
|---|---|
| **1. Molecular Breeding lab(Teaching Section)** | Trinocular microscope |
| | Bioanalyser |
| | Gel documentation |
| | Millipore purification system |
| | Fridge dryer |
| | Spectrophotometer |
| | Deep fridge |
| | PCR machine (3) |
| | Agrose gel elctrophoresis with Power Supply |
| | Mini protein tetra |

| | |
|---|---|
| | Deep fridge |
| | Refrigerated centrifuge |
| | RT-PCR |
| | Nano -Spectrophotometer |
| | Ice flaker |
| | Water purification |
| | Chlorophyll meter |
| | NDVI |
| | Infrared thermometer |
| **2. Cotton Section** | Digital Plant Canopy analyser, Solvent Extraction System, Ultra Pure Water Purification System, Vertical PCR Machine 96x0.2 ML, Electrophoresis Unit, NSW-227 vertical Auto Clave, Automatic Seed Counter, Vertical Laminar Airflow cabinet, Electrophoresis Protein ® 12 TN IFF System, Portable Ethylene Gas Analyze, Sample Concentrator with parts centrifugal vacuum centrator, Refrigerated Circulating Liquicel C-20°-100°), Perfect Blue Max Gel, Water Bath Shaker K-210, Round Top Digital Hot Plate, PH Meter PH 700, Electronic weighing scale Cap 100 kg., Wile 55 Grain Moisture Meter, Ultra Sonic Bath Shaker, Cryocan, Constant Voltagation Stomer, Refractor meter |
| **3. One Research Lab. (MAP Section)** | Gas Liquid Chromatography (GLC), UV-Visible Spectrophotometer, Defridge, Refrigerator, Soxhlet Extraction Apparatus, Ovens (2), BOD incubator, Rotary Vaccum Evaporator, Centrifuge, Furnace, Electronic Balances (3), pH meter (2), Vaccum pumps (2), Paraffin Embedding Bath, Water bath, Heating Mentals (6), Clevenger Apparatus, Hot plates (2), Mechanical Shaker, Gas Purification Pannel, Gas cylinders, Mechanical stirrer, Warring Blender, Regulators, Computers, Printer, Scanner, UV Fluorescence Cabinet, CVT |

## List of other major equipments

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Plant growth chamber | Lab no. 76 |
| 2. | Hot air oven | Lab no. 76 |
| 3. | Deep Freezer | Lab no. 75 |
| 4. | Microscope (compound) | Lab no. 76 |
| 5. | Digital Balance | Lab no. 75 |
| 6. | Dry bath | Lab no. 75 |
| 7. | BOD incubator | Lab no. 75 |
| 8. | Spectrophotometer UV Visible | Cotton Section Lab No. 153 |
| 9. | Refrigerated Centrifuge FACI 9906 | Cotton Section Lab No. 153 |
| 10. | Millipore water purification system | Cotton Section Lab No. 153 |
| 11. | Solvent Extraction System | Cotton Section Lab No. 153 |
| 12. | Portable Ethylene Gas Analyze | Cotton Section Lab No. 153 |
| 13. | Vacuum Concentrator chiller | Cotton Section Lab No. 153 |
| 14. | UPLC | Cotton Section Lab No. 153 |
| 15. | Electrophoresis System 2D | Cotton Section Lab No. 153 |
| 16. | Chiller | Cotton Section Lab No. 153 |
| 17. | Linear Shaker | Cotton Section Lab No. 153 |
| 18. | Leaf Area Meter | Cotton Section Lab No. 153 |
| 19. | Water Potential Meter/Psychrometer | Cotton Section Lab No. 153 |
| 20. | Deep fridge (-20) | Cotton Section Lab No. 152 |
| 21. | PH meter | Cotton Section Lab No. 152 |

| | | |
|---|---|---|
| 22. | Hot Air oven | Cotton Section Lab No. 152 |
| 23. | Water Bath | Cotton Section Lab No. 152 |
| 24. | Water Bath | Cotton Section Lab No. 152 |
| 25. | Electronic Balance | Cotton Section Lab No. 152 |
| 26. | UV-VIS | Cotton Section Lab No. 153 |
| 27. | PCR Machine | Pulses Lab |
| 28. | Deep Freezer | Pulses Lab |
| 29. | Digital Analytical Balance | Oil Seed Lab |
| 30. | Horizontal Electrophoresis Unit | Oil Seed Lab |
| 31. | Leaf Area Meter | Oil Seed Lab |
| 32. | Electronic Balance (2) | Oil Seed Lab |
| 33. | Hand Held Crop Sensor (NDVI) | Oil Seed Lab |
| 34. | Deep Freezer (-80$^0$C) | Oil Seed Lab |
| 35. | Deep Freezer (-20$^0$C) | Oil Seed Lab |
| 36. | Refrigerator (2) | Oil Seed Lab |
| 37. | PCR Machine | Oil Seed Lab |
| 38. | Water Purification System | Oil Seed Lab |
| 39. | Tractor (John Deere) | Oil Seed Lab |
| 40. | LCD Infrared Optical | Oil Seed Lab |
| 41. | Display Panel Touch Screen | Oil Seed Lab |
| 42. | Plant Growth Chamber | Oil Seed Lab |
| 43. | Gas Chramatography Unit | Oil Seed Lab |
| 44. | pH cum EC Meter | Oil Seed Lab |
| 45. | Gel Doc System | Oil Seed Lab |
| 46. | Automated Liquid Handling Machine | Oil Seed Lab |
| 47. | Rotary Shaker | Oil Seed Lab |
| 48. | Sub cell (model – 192 cell system) | Forage Biotechnology Lab |
| 49. | T-100 thermal cycler | Forage Biotechnology Lab |
| 50. | Gel Documentations System | Forage Biotechnology Lab |
| 51. | Automatic Kjeldahl with Accessory | Forage Quality Lab |
| 52. | Automatic Fiber Analyzer | Forage Quality Lab |
| 53. | Fat Extractor | Forage Quality Lab |
| 54. | Automatic distillation unit | Forage Quality Lab |
| 55. | Spectrophotometer | Forage Quality Lab |
| 56. | pH-meter (quantity 2) | Forage Quality Lab |
| 57. | Automatic Universal Oven 500 liter | Forage Quality Lab |
| 58. | Automatic Universal Oven 1000 liter | Forage Quality Lab |
| 59. | Electronic Balance | Forage Quality Lab |
| 60. | Water bath | Forage Quality Lab |
| 61. | Magnetic stirrer with hot plate | Forage Quality Lab |
| 62. | Autoclave | Forage Quality Lab |
| 63. | High speed centrifuge with temperature control | Forage Quality Lab |
| 64. | Refrigerator | Forage Quality Lab |
| 65. | Automated Kjeldahl distillation with digestion unit | MAP Quality Lab |
| 66. | Refrigerator | MAP Quality Lab |
| 67. | Deep Freezer | MAP Quality Lab |
| 68. | Laboratory Grinding Mill | MAP Quality Lab |
| 69. | Analytical Balance | MAP Field Lab |
| 70. | Rotatory Evaporator | MAP Quality Lab |
| 71. | Automated Solvent Extraction System | MAP Quality Lab |

| | | |
|---|---|---|
| 72. | Recirculating Chiller | MAP Quality Lab |
| 73. | Automatic Titrator | MAP Quality Lab |
| 74. | Microplate Reader | MAP Quality Lab |
| 75. | Microplate Thermomixer/Shaker | MAP Quality Lab |
| 76. | Test tube rotator | MAP Quality Lab |
| 77. | Vacuum Pump | MAP Quality Lab |
| 78. | Automated Flash Chromatography (01) | MAP Quality Lab |
| 79. | Fume Hoods (02) | MAP Quality Lab |

## List of other equipments

| S. No. | Name of Instrument/Equipment | Location/Lab no. |
|---|---|---|
| **1** | Hot Air Oven | Bajra Quality Lab No. 207 |
| **2** | Rectangular Muffle Furnace | Bajra Quality Lab No. 207 |
| **3** | Serological Water bath, | Bajra Quality Lab No. 207 |
| **4** | Serological Water bath | Bajra Quality Lab No. 207 |
| **5** | Micro Tissue Homogenizer | Bajra Quality Lab No. 207 |
| **6** | Power supply 150W | Bajra Quality Lab No. 207 |
| **7** | Midi Horizontal unit with accessories | Bajra Quality Lab No. 207 |
| **8** | Micropipette, 2-20ul | Bajra Quality Lab No. 207 |
| **9** | Micropipette, 1-100ul | Bajra Quality Lab No. 207 |
| **10** | Micropipette, 1-100ul | Bajra Quality Lab No. 207 |
| **11** | Micropipette, 5-50ul | Bajra Quality Lab No. 207 |
| **12** | Micropipette, 100-1000ul | Bajra Quality Lab No. 207 |
| **13** | Micropipette, 200-1000ul | Bajra Quality Lab No. 207 |
| **14** | Micropipette, 1000-5000ul | Bajra Quality Lab No. 207 |
| **15** | Centrifuge Rotors | Bajra Quality Lab No. 207 |
| **16** | Refrigerator | Bajra Quality Lab No. 207 |
| **17** | pH Meter | Bajra Quality Lab No. 207 |

## Horticulture

| Research Labs/Units | Major Equipments Housed in Research Labs / Units |
|---|---|
| **Tissue Culture Lab** | Laminar Flow |
| | Autoclave |
| | Temperature Controller |
| | Electronic Balance (Afcoset) |
| | Photo periodic simulation digital |
| | Electronic Balance (Indosaw) |

## List of major equipments

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Pilot plant for sorting & grading of fruits | Director Farm Shed |
| 2. | Refrigerator | Farm Lab |
| 3. | Camera | Room No. 234 |
| 4. | Chain saw | Farm store |
| 5. | UV-Vis Spectrophotometer | Lab No.238 |
| 6. | Digital weighing balance | Lab No.238 |
| 7. | Digital weighing balance | Room No. 234 |
| 8. | Moisture Analyser | Lab No.238 |
| 9. | Chlorophyll Concentration meter | Room No. 234 |
| 10. | Hydraulic lifting device along with tractor | Farm |
| 11. | D.G. Set 62.5 KVA AMF | Farm lab |
| 12. | Computer set | Room No. 248 |

| | | |
|---|---|---|
| 13. | Ripening chamber | Farm lab |

## Nematology

| No. of PG Labs | Major Equipments Housed in each PG Lab |
|---|---|
| **3** | BOD, Refrigerator, Oven, Laminar Flow, PCR, Spectrophotometer, Gel Electrophoresis, Autoclave, Laminar air flow, refrigerator -20 $^{o}$ c |
| **Other Research Labs / Units** | **Major Equipments Housed in Research Labs / Units** |
| **1** | Field lab area with well-equipped lab for processing of soil and plant samples |

## Plant Pathology

| No. of P.G. Labs | Major Equipments Housed in each PG Lab |
|---|---|
| **1** | BOD Incubator, Refrigerator, Vertical Autoclave, Laminar Flow, Hot air oven, Balance, Gel documentation system, PCR Proflex, pH meter |
| **Other Research Labs / Units** | Major Equipments Housed in Research Labs / Units |
| **3** | BOD Incubator, Refrigerator, Vertical Autoclave, Laminar Flow, Hot air oven, Balance, Gel documentation system, PCR Proflex, pH meter, T-100 Thermal Cycle system, Deep freeze, Electrophoresis Unit, Micro processor based micro plate reader Shimadzu double beam spectrophotometer |

## List of Major Equipments

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1 | Balance Model FX 400 G | Lab. No. 276 |
| 2 | Autoclave vertical 550x350 ml | Lab. No. 177 |
| 3 | BOD 875X570X550 mm | Lab. No. 276 |
| 4 | BOD NSW 152 | Lab. No. 176 |
| 5 | Refrigerator 585 lt. | Room No. 160 |
| 6 | BOD NSW 152 | Lab. No. 177 |
| 7 | Gel Documentation System | Lab. No. 276 |
| 8 | Laminar Flow NSW | Lab. No. 279 |
| 9 | Oven NSW 143 | Lab. No. 177 |
| 10 | PCR Proflex (3x32) wall | Lab. No. 276 |
| 11 | T-100 Thermal Cycle System | Lab. No. 276 |
| 12 | Gel Documentation system | Lab. No. 276 |
| 13 | Afcoset Balance (Model No FX 200G) | Lab. No. 177 |
| 14 | Computer notebook Lenovo | Room No. 169 |
| 15 | pH meter w/pH and ATC Probes S.No. 2688267 | Lab. No. 177 |
| 16 | pH meter w/pH and ATC Probes S.No. 2688262 | Lab. No. 177 |

## Seed Science and Technology

| Name of the Department | Seed Science and Technology |
|---|---|
| **P.G. Labs** | Major Equipments Housed in each PG Lab |
| **Seed Testing and Quality control** | Seed Germinators, Moisture meters, Seed blower and Table top balance etc. |
| **Seed Pathology** | Magnus microscope and Autoclave etc. |
| **Seed Physiology** | E.C cum pH meter and hot air oven |
| **Seed Biotechnology Lab** | Thermocycler, spectrophotometer and distillation unit etc. |

## List of Major Equipments

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1 | View Sonic-Interactive Panel Board | UG Lab |
| 2 | pH Meter PC 700 | Seed physiology lab |
| 3 | Refrigerator double door | Seed Quality & Testing Lab |

| | | |
|---|---|---|
| 4 | Seed germinator single chamber | Seed Quality & Testing Lab |
| 5 | Seed germinator dual chamber | Seed Quality & Testing Lab |
| 6 | Vertical autoclave | Seed Pathology Lab |
| 7 | Hot air oven | Seed physiology lab |
| 8 | Multi grain winnower | Stores & Implement Shed |
| 9 | Hydraulic trolley | Stores & Implement Shed |
| 10 | Seed cum fertilizer drill | Stores & Implement Shed |
| 11 | Rotary tiller with blade | Stores & Implement Shed |
| Equipments costing Less than Rs. 50,000 | | |
| 1 | Seed drill | Stores & Implement Shed |
| 2 | Digital balance | Seed Quality & Testing Lab |
| 3 | Table top balance | Seed Quality & Testing Lab |
| 4 | Magnus microscope | Seed Pathology Lab |
| 5 | Camera for microscope | Seed Pathology Lab |

## Soil Science

| No. of P.G. Labs | Major Equipments Housed in each PG Lab |
|---|---|
| 1 | Automatic Nitrogen analyzer, Spectrophotometer, Ion analyzer, Centrifuge, Shaker, Balance, Muffle furnace, Hot plates, Oven, Freeze, Distillation Unit |

## List of major equipments

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | UV Spectrometer | Lab No. 16 |
| 2. | Orbital Shaker | Lab No. 11 |
| 3. | Electronic Weighing Balance | Lab No. 112 |
| 4. | Electronic Weighing balance | Lab No. 16 |
| 5. | Digital Flame photometer | Lab No. 114 |
| 6. | Double distillation water unit | Lab No. 114 |
| 7. | Spectrophotometer | Lab No. 11 |
| 8. | Conductivity meter | Lab No. 16 |

## Vegetable Science

## List of major equipments

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Inverter with accessory (1) | Lab. No. 233 |
| 2. | Oven (1) | Lab. No. 233 |
| 3. | Digital Specto Photometer | Lab. No. 233 |
| 4. | Hot Plate NSW-255 | Lab. No. 233 |
| 5. | Juicer Mixer & Grinder | Lab. No. 233 |
| 6. | Oven-(1) | Lab. No. 233 |
| 7. | Shaker (1) | Lab. No. 233 |
| 8. | Research Centrifuse (REMI) | Lab. No. 233 |
| 9. | Weighing Balance (1) | Lab. No. 233 |
| 10. | Distilation Unit | Lab. No. 233 |
| 11. | Seed Counter | Lab. No. 233 |

## List of Major equipments (Equipments costing more than Rs. 50,000)

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1 | Dell OptiPlex Computer (R-104) | Scientist Room |
| 2 | DIGITAL Burette (P-110) | Lab No.114 |
| 3 | DIGITAL Burette (P-110) | Lab No.117 |
| 4 | Genesys 180 double beam spectrophotometer (P-79) | Lab No. 6,116,112,114 |
| 5 | EutechPh meter (P-84) | Lab No. 117 |
| 6 | Digital EC pH meter (P-84) | Lab No. 117 |
| 7 | Reomi Research Centrifuge (P-101) | Lab No. 6<br>Lab No. 15<br>Lab No. 114 |
| 8 | Dell Desktop Computer (P-104) | Office Soil Science |
| 9 | Dell Desktop Computer (P-104) | Scientist Room |
| 10 | HP Desktop Computer (P-105) | Scientist Room |
| 11 | Toshiba AC Split type (P-117) | LR No-1 |
| 12 | View Sonic IFP6550 65” cpnt (P-118) | LR No-1 |
| 13 | Conductivity Meter(P-120) | Lab No.114 |
| 14 | Weighing Balance(P-121) | Lab No.113 (Dr.Tomar) |
| 15 | RefrigeratedCentrifuge (P-126) | Lab No.117 |
| 16 | Rotatory shaker (P-127) | Lab No.117 |
| 17 | Flame Photometer Elico(P-129) | Lab No.6,<br>Lab No.16 |
| 18 | Deep Freezer Vertical (P-131) | Lab No.105 (Dr. Devraj) |
| 19 | Vestfrost Deep Fridge (P-131) | Lab No.117 (Dr. Dharam Prakash) |
| 20 | Remi RLR-400 Front Opening Fridge (P-132) | Lab No.112 |
| 21 | 23 Interactive Panel (P-134) | L R No-108 Smart Class Room |
| 22 | Bluestar AC (P-135) | Lab No-105 (2)<br>Lab N0-16 (1) |
| 23 | BOD Incubator (P-138) | Lab No.117 |
| 24 | Double Distillation Water Unit (P-141) | Lab No.116 |
| 25 | Hot Air Oven (P-142) | Lab No. 117 |
| 26 | NSW Incubator (P-143) | Lab No.117 |
| 27 | Single Distillation Water Unit (P-145) | Lab No.15,<br>Lab No.10B |
| 28 | Sartorius Balance (P-146) | Lab No.6,<br>Lab No.16 |
| 29 | Steam Sterilized Autoclave (P-152) | Lab No.117 |
| 30 | Biosafety Cabinet (P-153) | Lab No.117 |
| 31 | Hot Air Oven (MAC)P-154 | Lab No.117 |
| 32 | Laboratory Refrigerator (P-165) | Lab No.117 |
| 33 | Electronics Weighing (P-166) | Lab No.117 |
| 34 | Water Bath(P-75) | Lab No- 16<br>Lab No-105<br>Lab No-15 |
| 35 | Portable Water Purification (P-139) | Lab No-117 |
| 36 | Double BEAM Spectrophotometer (P-140) | Lab No-117 |
| 37 | Kjeldahl Distillation Unit (P-147) | Lab No-117<br>Lab No-113<br>Lab No-114<br>Lab No-10 B |
| 38 | Rotary Evaporator (P-148) | Lab No-114 |
| 39 | Microwave Distillation | Lab No-117 |

| | | |
|---|---|---|
| 40 | Pressure Plate Apparatus | Lab No-113 |
| 41 | Penetrometer (P-156) | Lab No-113 |
| 42 | Atomic Absorption Spectrophotometer (P-157) | Lab No-10 B |
| 43 | Atomic Absorption Spectrophotometer PERKIN (P No. 159-163 | Lab No-105 (Dr.Rohtas) |
| 44 | FUME-HOOD (MAC) (P-168) | Lab No-111DOP-27/3/21 |
| Equipments costing Less than Rs. 50,000 | | |
| 1 | SARTORIOUS Proline P(U) Pipette (P-106) | Lab No-16 Testing Lab |
| 2 | Revolving Chair Wipro (P-107) | LR No. 108 Soil Science |
| 3 | HP Laser Jet Printer(P-109) | Scientist Room |
| 4 | For AASExide battery 26AH (P-112) | Lab No. 105 |
| 5 | Hot plate (P-76) | Lab No.6, 11, 12, 105, 10B, 117, 10A, 114 |
| 6 | Usha Drinking Water Cooler (P-128) | 1st Floor Department Of Soil Science |
| 7 | pH Meter Systronices (P-133) | Lab No.117 |
| 8 | pH Meter Systronices (P-133) | Lab No.117 |
| 9 | pH Meter Systronices (P-133) | Lab No.117 |
| 10 | Air Curtain (P-136) | Lab No.117 |
| 11 | Water Bath Stirrbd (P-137) | Lab No.117 |
| 12 | Double door L.G. 300 liter Refrigerator (P-132) | Installed in Dean COA |

### 6.5.6.2. Research Contingency

| Name of the Department | Research Contingency (Rs. In Lakhs) | | | | | |
|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 (till date) | G. Total |
| 1. Agricultural Economics | 17.18 | 16.92 | 36.66 | 77.15 | 17.68 | 165.59 |
| 2. Agronomy | 46.26 | 61.24 | 49.19 | 56.34 | 77.90 | 290.93 |
| 3. Agricultural Meteorology | 132.22 | 138.69 | 123.94 | 65.15 | 146.02 | 606.02 |
| 4. Entomology | 5.68 | 5.83 | 6.62 | 6.18 | 6.18 | 30.49 |
| 5. Extension Education | 1.08 | 4.43 | 0.34 | 0.26 | 0.37 | 6.48 |
| 6. Forestry | 22.42 | 9.06 | 11.79 | 12.39 | 10.50 | 66.16 |
| 7. Genetics and Plant Breeding | 59.19 | 82.29 | 61.44 | 55.44 | 156.48 | 414.84 |
| 8. Horticulture | 14.30 | 37.48 | 37.93 | 21.52 | 26.85 | 138.08 |
| 9. Nematology | 6.48 | 7.32 | 9.00 | 9.12 | 10.61 | 42.53 |
| 10. Plant Pathology | 16.45 | 16.80 | 33.18 | 26.37 | 40.18 | 132.98 |
| 11. Seed Science and Technology | 47.92 | 61.36 | 95.68 | 86.77 | 85.77 | 377.50 |
| 12. Soil Science | 54.79 | 45.84 | 33.61 | 28.13 | 10.60 | 172.97 |
| 13. Vegetable Science | 85.84 | 63.27 | 38.42 | 10.21 | 61.29 | 259.03 |

Whether it meets the students demand: Yes

### 6.5.7. Outcome/Output

**6.5.7.1. Student Performance in National Examination:** *Students Performance in JRF/SRF/NET/ARS and other National Examinations. No. of Students receiving Fellowships be mentioned*

| Sr. No. | Name of Examination | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | Total |
|---|---|---|---|---|---|---|---|
| 1. | NTS | 15 | 02 | 05 | 04 | 14 | 40 |

| Sr. No. | Name of Examination | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|
| **1.** | **JRF** | | | | | |
| | 1. Agricultural Economics | 1 | 2 | 2 | 1 | 2 |
| | 2. Agronomy | - | - | 1 | - | 1 |
| | 3. Agricultural Meteorology | 1 | 1 | - | - | - |
| | 4. Business Management | - | - | 2 | - | 2 |
| | 5. Entomology | - | 4 | 1 | 2 | 2 |
| | 6. Extension Education | - | - | 1 | - | - |
| | 7. Forestry | - | - | 1 | - | 1 |
| | 8. Genetics and Plant Breeding | - | - | - | - | - |
| | 9. Horticulture | - | - | - | - | - |
| | 10. Nematology | - | - | - | - | 1 |
| | 11. Plant Pathology | - | 1 | - | 1 | 1 |
| | 12. Seed Science and Technology | - | - | - | - | - |
| | 13. Soil Science | - | - | - | - | - |
| | 14. Vegetable Science | - | 2 | 1 | 1 | 2 |
| | **Total** | **2** | **10** | **9** | **5** | **12** |
| **2.** | **SRF** | | | | | |
| | 1. Agricultural Economics | - | - | - | - | - |
| | 2. Agronomy | - | 1 | - | 2 | 1 |
| | 3. Agricultural Meteorology | 1 | 1 | 1 | 1 | - |
| | 4. Business Management | - | - | - | - | - |
| | 5. Entomology | - | 1 | - | 2 | - |
| | 6. Extension Education | - | 1 | - | - | - |
| | 7. Forestry | - | - | - | - | - |
| | 8. Genetics and Plant Breeding | - | 1 | 1 | 1 | - |
| | 9. Horticulture | - | - | - | - | - |
| | 10. Nematology | - | - | - | - | - |
| | 11. Plant Pathology | - | - | - | - | - |
| | 12.Seed Science and Technology | - | - | - | - | - |
| | 13. Soil Science | - | - | - | - | - |
| | 14. Vegetable Science | 1 | 1 | 1 | 1 | - |
| | **Total** | **2** | **6** | **3** | **7** | **1** |
| **3.** | **NET** | | | | | |
| | 1. Agricultural Economics | 2 | 2 | 2 | 12 | 2 |
| | 2. Agronomy | - | 1 | 27 | 2 | 1 |
| | 3. Agricultural Meteorology | 6 | 6 | 4 | 3 | - |
| | 4. Business Management | - | - | 2 | 3 | 2 |
| | 5. Entomology | 6 | 12 | 5 | - | 15 |
| | 6. Extension Education | 3 | - | - | 3 | 3 |
| | 7. Forestry | 5 | 2 | 1 | 3 | - |
| | 8. Genetics and Plant Breeding | 15 | 8 | 7 | 20 | - |
| | 9. Horticulture | 5 | 3 | 15 | 12 | 5 |
| | 10. Nematology | 1 | 5 | - | - | - |
| | 11. Plant Pathology | 1 | - | - | - | - |
| | 12.Seed Science and Technology | 1 | 2 | 6 | 3 | 1 |
| | 13. Soil Science | 6 | 7 | - | 10 | - |
| | 14. Vegetable Science | 6 | 6 | 5 | 5 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Total** | 57 | 54 | 74 | 76 | 29 |
| **4.** | **ARS** | | | | | |
| | 1. Agricultural Economics | - | - | - | - | 1 |
| | 2. Agronomy | - | - | 3 | 2 | 1 |
| | 3. Agricultural Meteorology | - | - | - | 1 | - |
| | 4. Business Management | - | - | - | - | - |
| | 5. Entomology | - | - | - | - | - |
| | 6. Extension Education | - | - | - | - | - |
| | 7. Forestry | - | - | - | - | - |
| | 8. Genetics and Plant Breeding | 2 | - | - | - | - |
| | 9. Horticulture | - | - | - | - | - |
| | 10. Nematology | - | - | - | - | - |
| | 11. Plant Pathology | - | - | - | - | - |
| | 12.Seed Science and Technology | - | - | - | - | - |
| | 13. Soil Science | - | 1 | - | - | - |
| | 14. Vegetable Science | - | - | - | 1 | - |
| | **Total** | **2** | **1** | **3** | **4** | **2** |
| **5.** | **Other National Examinations** | | | | | |
| | 1. Agricultural Economics | 4 | 8 | 2 | 5 | - |
| | 2. Agronomy | - | - | - | - | - |
| | 3. Agricultural Meteorology | - | - | - | - | 1 |
| | 4. Business Management | - | - | - | - | - |
| | 5. Entomology | - | - | 1 | 2 | 2 |
| | 6. Extension Education | - | - | - | - | - |
| | 7. Forestry | 1 | 3 | - | 1 | 4 |
| | 8. Genetics and Plant Breeding | - | 1 | 2 | 1 | - |
| | 9. Horticulture | - | - | - | - | - |
| | 10. Nematology | - | - | - | - | - |
| | 11. Plant Pathology | - | - | - | - | - |
| | 12.Seed Science and Technology | - | - | 2 | - | - |
| | 13. Soil Science | - | - | - | - | - |
| | 14. Vegetable Science | 5 | 4 | 12 | 5 | 6 |
| | **Total** | **10** | **16** | **19** | **14** | **13** |

### 6.5.7.2. Students Placement Profile

| Sr. No. | Placement through Examination | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|
| **1.** | ARS | 2 | 1 | 3 | 4 | 2 |
| **2** | Other National Examinations | 23 | 23 | 26 | 19 | 3 |
| **3.** | State Level Examinations or Equivalent | 1 | 1 | - | 5 | 0 |
| **4.** | Placement through Interviews | 8 | 10 | 14 | 12 | 14 |

**6.5.7.3. Awards/Recognitions/Certificates:** *Provide information on awards/recognitions/ certificates in tabular form for last five years separately for students and faculty.*

| Sr. No. | Awards/Recognitions/Certificates | | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|---|---|
| 1. | Name of the Awards | By No. of Students | 1 | 1 | 4 | 4 | 4 | 8 |
| 2 | Name of the Awards | By No. of Faculty | - | 2 | 3 | 1 | 1 | 1 |

**6.5.7.4. Employability:** *What are the set of achievements such as skills, understandings and personal attributes that make college students more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy? Provide one page note on the subject.*

Promotion of innovation in application of information communication technology in agriculture and dissemination of knowledge plays a critical role in knowledge-based growth of agriculture. Therefore, it is imperative to update the professional skills of teachers, researchers, extension specialists and students in the latest knowledge and techniques in the field of their specialization to bring about the desired qualitative improvement and necessary orientation to contemporary problems to make research and education more relevant. The basic objective in the competency framework of the college of agriculture is not only to have the required competencies for the job but they should also be able to promote development and delivery of need based research and educational programmes for the students that would enhance the livelihood security and build up an easy, accessible and cost effective knowledge. Career progression of students is also linked with periodic exposure to capacity building programmes. The college of agriculture provide a complete package of facilities to the students for building up their career. The UG students learn a lot of practical/ farm exercise through the practical crop production (PCP) during their course. Under PCP, a field is allotted to the group of students. The students grow the crops on their own field for two seasons. After the harvest of the crop, benefit of the produce is distributed among the students. In this way the students apply the techniques learnt in their theory and practical classes during this three years programme.

| S. No. | Name | Designation | Highest qualification | Total Experience (Years) | Honours/awards | Any other achievement that contributes to effective teaching and student learning and outcome |
|---|---|---|---|---|---|---|
| 1 | Dr. Manoj Kumar Sharma | Principal Scientist | Ph. D. | 23 | - | |
| 3. | Dr. Dev Raj | Assistant Soil Chemist | Ph. D. | 12 | • Best Paper award by FAI (2013)<br>• Best Paper award by Association of Agrometeorologist of India (2017) | |
| 4. | Dr. Dinesh | Jr. Pedologist | Ph. D. | 12 | • Dhirubhai Memorial FAI Award (2016)<br>• Best Paper Award in National Conference (2016) | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| **5.** | Dr. Kiran Khokhar | Assistant Scientist | Ph. D. | 7 | • Received II prize for best paper award (Shri Ram Puraskar) from FAI for hindi article in 'Khad Patrika' for the year 2012-13 | - |
| **7.** | Dr. Ram Prakash | Assistant Scientist | Ph. D. | 12 | - | - |
| **8.** | Dr. Rohtash Kumar | Assistant Scientist | Ph. D. | 9 | - | - |
| **9.** | Dr. Dhram Prakash | Junior Soil Chemist | Ph. D. | 5 | - | - |
| **10.** | Dr. Mukesh Kumar Jat | Assistant Scientist | Ph. D. | 8 | - | - |
| **11.** | Dr. Parmod Yadav | Assistant Scientist | Ph. D. | 12 | - | - |
| **12.** | Dr. Devender Jakhar | DES | Ph. D. | 12 | - | - |
| **14.** | Dr. Rajpaul | DES | Ph. D. | 4 | - | - |
| **15.** | Dr. Kiran Khokhar | Assistant Scientist | Ph. D. | 7 | - | - |
| **16.** | Dr. Pooja Rani | Assistant Scientist | M.Sc. | 5 | - | - |
| **17.** | Dr. Santosh | DES | Ph. D. | 1 | - | - |
| **18.** | Dr. N. K. Goyal | DES | Ph. D. | 23 | - | - |
| **19.** | Dr. Rameshwar | DES | Ph. D. | 1 | - | - |
| **21** | Dr. Shubham Lamba | Assistant Scientist | Ph. D. | <1 | - | - |
| **22** | Dr. Ankush | Assistant Scientist | Ph. D. | < 1 | - | - |
| **23** | Dr. Sonia Rani | Assistant Scientist | Ph. D. | <1 | - | - |
| **24** | Dr. Seema | Assistant Scientist | Ph. D. | <1 | - | - |
| **25** | Dr. Vikas | Assistant Scientist | Ph. D. | < 1 | - | - |
| **26** | Dr. Sushil | Assistant Scientist | Ph. D. | <1 | - | - |
| **27** | Dr. Deepika | Assistant Scientist | Ph. D. | < 1 | - | - |
| **28** | Ms. Ritambhara | Assistant Scientist | M.Sc. | <1 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| **29** | Dr. Hardeep Singh Sheoran | Assistant Professor | Ph. D. | 3 | - | - |
| **30** | Dr. K. K. Bhardwaj | Assistant Chemist | Ph. D. | 9 | - | - |
| **31** | Dr. Narender Yadava | Assistant Scientist | Ph. D. | 3 | - | - |
| **32** | Dr. Sunita Sheoran | Assistant Professor | Ph. D. | 3 | - | - |
| **33** | Pankaj Kumar | Assistant Professor | M. Sc. | 3 | - | - |
| **34** | Dr. Usha Vasisth | Assistant Scientist | Ph. D. | 3 | - | - |
| **35** | Dr. R.S. Garhwal | Assistant Professor | Ph. D. | 9 | - | - |

In addition to this, the students participate in Student Ready programme which consists of two components, RAWE (Rural Agricultural Work Experience) including Agro-Industrial Attachment (AIA) and students choose two modules for practical training. This student ready programme helps the students to learn the practical aspects of agriculture before joining the service in a public or private sector. Under this programme focuses on strengthening capability of individual students so that they can respond to the farmers' need and promote issues related to such needs in their service career. It includes: orientation and basic training; rural experience through village placement; agro-industrial attachment; self-employment training. Students prepare survey schedule under rural experience, identify issues and constraints in farming system and analyse factors involved in the sustainability of overall system in the village. The students gain a substantial experience through interaction with agro-based industries. The experience of commercial environment further advances their practical knowledge in communication skills and working in a team. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project. The Plant Clinic has been established as a mission to impart exhaustive practical field problems to the students and serves the farmers in quick diagnosis of problems in the plants and recommending remedial measures. Plant Clinic has interdisciplinary approaches for solving the complex problems in major crops in which experts from disciplines of Plant Pathology, Entomology, Soil Science, Agronomy and Nematology actively participate. The Directorate of student's welfare organized training for the students on different aspects such as mushroom production technology with special emphasis on commercial spawn production, basic and advance computer training, personality development course etc.

On the basis of these overall exposure/experiences, students get opportunity in private sectors, government sectors (as a teacher, researcher, extension specialist, Horticulture Development Officers, Agriculture Development officers) and banking sectors (as Agriculture Officer). Some of the students start their own business in Agriculture sector. Hence, the product of this college serves for the farmers directly and indirectly in many ways.

**6.5.8.** SSR of the College must have the SSR of all its Degree Programmes (following section 6.4), then the report of the Colleges shall be considered.

**6.5.9.** Certificate (Applicable when SSR is submitted for Programmes & College).

I, the Dean, Surender K. Pahuja hereby certify that the information contained in Sections 6.4 and Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the college and degree awarding university.



**Signature of the Dean of the college with Date & Seal**

**6.5.10.** Each college shall submit SSR as mentioned in 6.5.8. It shall be prerequisite for the SSR of the Agricultural University.

# Programme - 1



## B. Sc. (Hons.) Ag. 4 Year Programme

# SELF STUDY REPORT FOR PROGRAMMES

## 6.4 About the College

College of Agriculture at Hisar came into existence on July 17, 1962 as Government Agriculture College. The College was initially affiliated to Punjab University, Chandigarh. The College became the integral part of Punjab Agricultural University, Ludhiana with its creation on December 20, 1962. Dr. H. S. Dhindsa was the first Principal of the College of Agriculture. He later became the Dean and was succeeded by Dr. L. S. Negi, Dr. J. S. Kanwar and Dr. D. Sundaresan who administered it in addition to his duties, till the regular Dean Dr. D. R. Bhumbla was appointed in July 1966 and he continued till February 1969. It became the integral part of Haryana Agricultural University, Hisar with its creation in February 2, 1970. The College of Agriculture at Hisar has registered tremendous progress since its inception till now in terms of generation of innovative technologies, human resource development, teaching, research methodology and infrastructure facilities.

### Objectives of the College

The College adopts the following goals and objectives which permeate in offering of various curricula, and undertake research and extension activities by its departments to:

- Provide world-class education to our students.
- Maintain a strong basic and applied research programme to support all segments of agriculture and allied sectors through enhanced agricultural productivity and environmental sustainability.
- Serve the rural society through extension activities by disseminating research based knowledge.
- Assist stakeholders through value added endeavours, bio-based products, bio-processing, crop diversification etc.
- Monitor climate change impacts on agricultural systems and develop mitigation strategies adopting inter disciplinary approaches.

### College of Agriculture

Degree Programme offered by the college: **B. Sc. (Hons.) 4 Year Programme**

**Specialization: Agriculture**

**Year of Start: 1962**

| Year | No. of Seats | No. of Students Passed Out |
|---|---|---|
| 2018-19 | 124 | 66 |
| 2019-20 | 124 | 86 |
| 2020-21 | 124 | 99 |
| 2021-22 | 135 | 87 |
| 2022-23 | 135 | --- |
| Total | 642 | 338 |

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objectives and accomplishments.*

**Objectives of initiating UG programme:**

The College adopts the following goals and objectives which permeate in offering of various curricula and undertake research and extension activities by its departments to:

- To impart knowledge on agriculture and allied sciences.
- To impart hands on and practical knowledge in agriculture.
- To disseminate technologies developed by the university through various extension activities.
- To identify the problems faced by the farmers reading agriculture and to solve them.
- To impart skills and knowledge on commercial agricultural production practices.

**Accomplishments of UG programme:** B.Sc. (Hons.) Agri 4-Year Programme

In College of Agriculture, admissions in under graduate programme *i.e.* B.Sc. ( Hons.) Agriculture 4 year are made every year and based on the overall performance over 4 years a Gold Medal is awarded to a student having highest OGPA in the degree programme every year.

**a) Award of Gold Medal**

| Year | Name | Adm No | Name of Award |
|---|---|---|---|
| 2018-19 | Bhawana | 2012A11BVI | HAU GOLD MEDAL |
| | Jyotsna | 2013A13BVI | |
| 2019-20 | Anjali Rana | 2016A08BIV | HAU GOLD MEDAL |
| | Pragati Verma | 2014A37BVI | |
| 2020-21 | Prerna Pilania | K2017A22BIV | HAU GOLD MEDAL |
| | Shubham Grover | 2015A54BVI | |
| 2021-22 | Parmod | B2018A19BIV | HAU GOLD MEDAL |
| | Surbhi | 2016A56BVI | |

**b) UG Students awarded ICAR National Talent Scholarship**

| Year | Name of students | Admn. No |
|---|---|---|
| 2018-19 | Preeti Chaudhary | 2014A62BIV |
| | Abhijeet Singh | 2014A02BIV |
| | Jasdeep Singh | 2015A31BIV |
| | Bipul Jee | 2017A22BIV |
| | Harsita | 2017A36BIV |
| | Jibin Jose | 2017A44BIV |
| | Jitendra Chopra | 2017A45BIV |
| | Pankaj Kumar Dayma | 2017A70BIV |
| | Poonam Balodia | 2017A71BIV |
| | Sachin Garg | 2017A86BIV |
| | Shailendra Partap Lodhi | 2017A99BIV |
| | Shiv Rattan | 2017A103BIV |
| | Swati Singh | 2017A125BIV |
| | Virendra Choudhary | 2017A129BIV |
| | Jasdeep Singh | 2015A31BIV |
| | Harshita | 2017A36BIV |
| 2019-20 | Harshita | 2017A36BIV |
| | Ankita Tiwari | 2019A24BIV |

| | | |
|---|---|---|
| | Aayushi Pareek | 2019A02BIV |
| | Anaam Ahmad | 2019A17BIV |
| | Akanksha Kumari | 2019A11BIV |
| 2020-21 | Ankita Tiwari | 2019A24BIV |
| | Aayushi Pareek | 2019A02BIV |
| | Anaam Ahmad | 2019A17BIV |
| | Akanksha Kumari | 2019A11BIV |
| 2021-22 | Achyut Anant | 2020A06BIV |
| | Harihara Prasad Rath | 2020A36BIV |
| | Pooja Bishnoi | 2020A80BIV |
| | Rumais Panampuzha | 2020A97BIV |
| | Shalini Kumari | 2020A105BIV |
| | Monu Meena | 2020A63BIV |
| | Shruti Setia | 2020A108BIV |
| | Ankita Tiwari | 2019A24BIV |
| | Aditi | 2019A06BIV |
| | Aayushi Pareek | 2019A02BIV |
| | Anaam Ahmad | 2019A17BIV |
| | Nilanchal Nishan | 2019A80BIV |
| | Akanksha Kumari | 2019A11BIV |
| | Suman Baidya | K2019A27BIV |

**Mention theory and practical batches for UG Programme**

| Year | Theory | | | | Practical | | | |
|---|---|---|---|---|---|---|---|---|
| | (1st year) | (2st year) | (3st year) | (4st year) | (1st year) | (2st year) | (3st year) | (4st year)/ Final year |
| **2018-19** | 3 | 3 | 3 | 3 | 6 | 6 | 6 | 6 |
| **2019-20** | 2 | 3 | 3 | 3 | 4 | 6 | 6 | 6 |
| **2020-21** | 2 | 2 | 3 | 3 | 4 | 4 | 6 | 6 |
| **2021-22** | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 6 |
| **2022-23** | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 |
| **Total** | **11** | **12** | **13** | **14** | **22** | **24** | **26** | **28** |

**6.4.2. Faculty Strength**: *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Sanctioned | | | In position | | | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|---|---|---|---|
| | | Teaching | Research | Extension | Teaching | Research | Extension | |
| 1. | Professor and equivalent | 12 | 14 | - | 10 | 45* | 10* | 65 |
| 2. | Associate Professor and equivalent | 17 | 47 | 9 | 01 | 04 | - | 05 |
| 3. | Assistant Professor and equivalent | 78 | 215 | 14 | 45 | 97 | 12 | |
| 4. | Guest faculty (specify) | - | - | - | - | - | - | |
| 5. | Contractual faculty (specify) | | - | - | 00 | - | - | 00 |
| 6. | Adjunct faculty (specify) | 00 | - | - | 00 | - | - | 00 |
| 7. | Placement officer (specify) | - | - | - | - | - | - | |
| 8. | Any other (specify) | - | - | - | - | - | - | |
| 9. | Consultant faculty | | | | | | | |
| Total | | 107 | 276 | 23 | 56 | 146 | 22 | 70 |

**Note:** The position has been occupied by the faculty as personal measure to the post.
*Including Emeritus Professor (ICAR)

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| Sr. No. | Sanctioned | In place | Vacant | Technical and Supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1. | **Office Staff** | **78** | **57** | - |
| | AO/Superintendent | 2 | 1 | - |
| | Assistant | 22 | 22 | - |
| | Clerk | 23 | 11 | - |
| | PA/Steno | 15 | 15 | - |
| | Messenger | 15 | 7 | - |
| | Peon | 1 | 1 | - |
| 2. | **Lab. Staff** | **27** | **6** | - |
| | Lab. Assistant | 25 | 6 | - |
| | Lab. Attendant | 0 | 0 | - |
| | Any other (VLDA) | 2 | 0 | - |
| 3. | **Field Staff** | **32** | **11** | - |
| | Beldar | 16 | 3 | - |
| | Farm and field worker (A.I., WPO) | 2 | 0 | - |
| | Any other (Mail, Head Mali ) | 14 | 8 | - |
| 4. | Driver | 3 | 0 | - |
| 5. | Lift Man | 1 | 0 | - |

| | | | | |
|---|---|---|---|---|
| **6.** | Computer Operator | 0 | 0 | - |
| **7.** | Technician | 0 | 0 | - |
| **8.** | **Any other** | | | |
| | Project Operator | 1 | 0 | - |
| | Mate | 1 | 0 | - |
| | Daftri | 2 | 0 | - |
| | Plant Observer | 2 | 0 | - |
| | Security Guard | 17 | 13 | - |
| | Sweeper | 22 | 9 | - |
| | School Teacher | 5 | 2 | - |
| | Pharmacist | 1 | 1 | - |
| | Lib. Assistant | 2 | 1 | - |
| | Game Organizer | 1 | 0 | - |
| | Lib. Attendant | 1 | 0 | - |
| | Electrician | 2 | 1 | - |
| | Cook-cum-Chowkidar | 1 | 0 | - |
| | Attendant | 5 | 1 | - |
| | Animal Attendant | 3 | 0 | - |
| | Helper | 2 | 2 | - |
| | Vehicle Attendant | 1 | 0 | - |
| | Part time Doctor | 1 | 0 | - |

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of class rooms and functional laboratories:**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | Twenty one with sitting capacity of 70 |
| No. of lecture rooms with LCD facility | Eight |
| No. of smart class-rooms | Nine |
| No. of labs under Dean's office with specialized purpose | Fifteen Under graduate Labs with all standard facilities |
| Farm facilities | Yes (166 acre) |
| Workshops | Computer lab, Exhibition Hall |
| Any other instructional units being utilized for the award of the Degree Programme | Seminar Rooms and examination hall with five hundred seating capacity |

**List of major equipments at present**

| S. No. | Name of equipments | Location/Lab |
|---|---|---|
| 1 | Amplifiers | Fitted in COA Auditorium |
| 2 | LED TV | Computer Centre, COA |
| 3 | H P Desktop | Dean's office |
| 4 | Swift Dzire (HR20AB9253) | Dean ,COA |

### 6.4.5. Conduct of Practical and Hands-on-Training

| Implementation | Yes | Learning Outcomes | Profit sharing (amount) | |
|---|---|---|---|---|
| | | | Student (%) | College (%) |
| **a) Student (RAWE)** | Yes | Orientation and basic training; rural experience through village placement; agro-industrial attachment; self-employment training. Students prepare survey schedule under rural experience, identify issues and constraints in farming system and analyse factors involved in the sustainability of overall system in the village. The students gain substantial experience through interaction with agro-based industries. The experience of commercial environment further advance their practical knowledge, communication skills and working as a team. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project. During 2022-23 studenst of CCS HAU, Hisar also adopted a Open data Kit (ODK) based Landscape Diagnositic Survey (LDS). The survey was carried out in those areas where the cropping patterns *viz*. Rice- Wheat; Cotton- Wheat; Bajra-Mustard were followed. | Nil | Nil |
| **b) In-plant training** | Yes | - | Nil | Nil |
| **c) Internship Programme** | Yes | - | 100 | Nil |
| **d) Experiential Learning programmes** | Yes | - | 40% | 50% |

### Rural Agricultural Work Experience (RAWE) Programme

- **READY (RAWE+AIA) :**The Rural Entrepreneurial Awareness Development Yojana [READY] programme is a flagship activity for the final year B.Sc. (Hons.) The basic objective of the programme is building self-confidence in the agricultural graduates by developing their professional skills. RAWE focuses on strengthening capacity of individual students so that they can respond to the farmers' need and promote solutions related to such needs in their service career. It includes: orientation and basic training (1week); rural experience through village placement (10 weeks); agro-industrial attachment (6 weeks); project report preparation; presentation and evaluation of report (1week).

- **Basic Training:** One week orientation at Hisar and two days basic training of crop production and protection at respective KVK's, ATIC, Hisar and COA, Kaul is being carried out.

- **Rural Experience:** Students undertake full responsibility to operate individually and in small groups to interact with farmers during stay in villages for 70 days. They prepare survey schedule, identify issues and constraints in farming system and analyze factors involved in the sustainability of overall system in the village. Students learn how farmers determine and manage their

resources. They also prepare a document, which is presented and submitted to the course faculty at the end of the course. This helps students to develop and maintain cooperation among the group and with farmers.A total of 211 students of B.Sc. (Hons.) Ag. final year including students from COA, Kaul were provided hands on training for RAWE programme with the help of experts from CISA during 2022-23. Students were placed in 30 villages in the surrounding of RRS/KVK, Bawal and ATIC, Hisar.

- **Preparation of report**: During the last 2 weeks of RAWE programme, students learn to prepare report on rural experience, agro-industrial training attained, self-employment training received, programmes and activities of various institutions visited, major constraints in crop production and suggestions for improving income of farmers; presentation. The interns are evaluated through presentation and submission of report, viva- voce, punctuality, enthusiasm, conduct, leadership qualities,sincerity and devotion displayed by the interns.

- **Agro-Industrial Attachment:** The students gain a substantial experience through six weeks interaction with agro-based industries. The experience of commercial environment further advances their practical knowledge in communication skills and working in a team. Some students got direct interaction with perspective employer and got the job according to individual capability. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project. During the period under report, students were placed in 20 agro-based industries.

- **CSISA (Cereal Systems Initiatives in South Asia) ODK (Open data Kit ) a landscape diagnostic survey (LDS):**The CSISA (Cereal Systems Initiatives in South Asia) ODK (Open data Kit) -RAWE program in collaboration with Chaudhary Charan Singh Haryana Agriculture University (CCSHAU) was launched with a vision to understand the existing production practices of farmers in major cropping systems (Rice-Wheat, Cotton-Wheat and Pearl Millet-Mustard) prevalent in the state. The detailed survey with respect to landscape diagnostics for Rice-Wheat Cropping System (RWCS) was carried out in the district of Panipat, Kurukshetra and Yamunanagar, for Cotton-Wheat Cropping System (CWCS), the target districts were Hisar and Sirsa, and for PearlMillet-Mustard Cropping System Mahendergarh and Rewari were the districts.The second, aspect of getting this survey implemented through the RAWE program was for the in-depth understanding of the prevalent practices and the existing gaps by the research scientists, extension agents, and policymakers and capacity building of agriculture students at the undergraduate level through rigorous field training to strengthen their base and give them an understanding of their future clientele i.e., the farmers. Thirty villages from each district were selected for the survey and random sample of ten farmers was used for the study. The students collected agricultural data of the farmers about their particular crop rotations with the help of Android software named ODK COLLECT v2022.3.6. Data collected through the questionnaires were thoroughly analyzed using different analytical tools and techniques.

During RAWE programme students participated in following training/ awareness days for farmers organized through concerned KVK

**Training**

- Organic Farming
- Management of insect pests in organic farming
- Vermicomposting
- Importance of seed treatment

- Management of kitchen waste
- Mushroom Cultivation

**Awareness**

- About toll-free number of university and e-Mausam HAU app
- Environment day

**Modules for Skill Development and Entrepreneurship:** The final year students of degree programme are given hands on training in various skill-oriented modules. During the training, students "learn by doing" various aspects of techniques andtheir management strategies. Students have to register 20 credits opting for two modules of 10 credits each from the nine modules in last semester of degree programme. The modules include Agro advisory services, Organic Production Technology, Bee Keeping, Mushroom Cultivation, Seed Production and Technology, Soil Plant Water and Fertilizer Testing Services, Commercial Vegetable Production, Bio-agents and Biofertilizers Production and Food Processing. Students learn entrepreneurship skills in the field of agriculture through practical learning under various skill-oriented modules. The students are exposed to deep practical learning by involving themselves to agri entrepreneurship environment through exposure visits and personal learning.



Visit of RAWE group leaders with CIMMYT member to Dhansu Village for ODK demonstration



Interaction with RAWE students at ATIC Hisar



RAWE students attending orientation programme



RAWE students at HAIC, Murthal



Motivational lecture by RAWE students



Evaluation of the students by evaluation team



Weed identification by the farmers during ODK survey by the RAWE students



Weed identification by the farmers during ODK survey by the RAWE students



Uploading of the ODK proforma by the students at Farmer field



Students uploading the ODK proforma at Farmers' field



Students uploading the ODK proforma during RAWE programme.



Collection of information by the students under RAWE Programme

**Integrated Learning Systems (Experiential Learning):** A total of two Experiential Learning Programmes (ELP) are functional in the college, out of which one is ICAR funded and one is functioning with university funds. One ELP (Processingof fruits,vegetablesandsome otherfooditems) that is functional in college if Basic Sciences and Humanities is conducted during the last semester of final year students of undergraduate programme i.e.,B.Sc.(Hons.) Agriculture. The ELP seek to advance professional abilities and knowledge through practical application, foster self-assurance and the capacity for project-based work, and develop entrepreneurship and enterprise management skills among the students. The ELP have given students a very good foundation with an approach of "Learning by Doing"and "Seeing by Believing". The ELPs functioning in the various colleges of the

University has been successful in developing skilled, human resource in the area of agriculture and other related disciplines. Separate bank account for each EL unit has been created and the seed money of Rs. 50,000/- has been deposited in Bankof Baroda, CCSHAU in the form of revolving fund. In these programmes, students were also trained for calculating cost of production, GST and profit sharing along with maintenance of records. The entire scheme of experiential learning follows the established system of "EarnWhileYou Learn".The objectives of the ELPs is to promote professional

### Hi-Tech Agriculture

The ELP on "Hi-Tech Agriculture" is run by Department of Horticulture, College of Agricultur, and CCSHAU Hisar. This ELP is funded by ICAR and started in the year 2006. Major facilities created underELP includes Green-house, fertigation unit and irrigation, equipment's. Depending on the requirementand availability, space at Agri-Tourism Centre is also used by the students, after taking consent from the Centre In-charge.

**Activities Under Taken**:

- Nursery of seasonal flowers and different vegetables I nplug tray
- Potted plants of chrysanthemum, strawberry, other flowering annuals & exotic vegetables
- Cuttings of ornamental plants chrysanthemum, bougainvillea, philodendron etc.
- Protected cultivation of fruits flower and vegetables

**Expertise Gained**:

- Techniques of ornamental plants propagation
- Seedling raising in soil less media in working and operation of green house

### Peri-urban Agriculture

For this ELP, one-acre areaatVegetableResearch Farm is allotted to the students and major vegetable crops such as potato, onion etc. which are one time harvested, is being grown. The students sell their products from the HAUMart.

### Processing of fruits,vegetables and some other food items

Experiential Learning Programme on Processing of fruits, vegetables and some other food items is operating in Centre of Food Science & Technology, CoBS&H. The ELP imparts proactive training, to students in agriculture and allied enterprises. With an aim to develop entrepreneurial skills in students.The ELP is conducted during the last semester of final year students of Undergraduate Programme i.e., B.Sc.(Hons.) Agriculture.

The students were imparted practical demonstrations for development of following value-added food products from fruits, vegetables and graincrops:

- Ready-to-serve (RTS) drink from pineapple, guava, mango, ber, papaya and bael;
- Squashes from mango, pineapple, orange, bael, guavaand papaya;
- Syrups from pomegranate, orange, raw mango-mint, rose and almond;
- Preserve/murrabba and candy from aonla, bael, ber, karonda and carrot;
- Sauces/Ketchup,chutneys, pickles, confectioneries and dehydrated products
- Biscuits, cakes, muffins and instant mixes

### 6.4.6. Supervision of students:

A group of ten UG students has been made as tutorial group and one faculty member has been assigned the duty to act as Advisor (UG students) during his/her degree programme. One hour tutorial period has been scheduled on each Monday from 12 to 13 hrs.

### 6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.): *Mention the feedback mechanism*

A feed back proforma has been designed by the college and each class teacher (UG course) has also been assigned duty to get it filled from the UG students and their parents before the onset of final examination. The proforma is evaluated and necessary instructions are given to the faculty for improvement of teaching.

### 6.4.8 Student intake and attrition in the programme for last five years: *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

**Student intake and attrition in the programme for last five years**

| Year | No. of Students admitted | No. of Students left | Attrition Rate (%) |
|---|---|---|---|
| 2018-19 | 125 | 32 | 25.6 |
| 2019-20 | 140 | 35 | 25.0 |
| 2020-21 | 138 | 30 | 21.8 |
| 2021-22 | 149 | 42 | 28.1 |
| 2022-23 | 160 | 45 | 28.1 |
| Total | 712 | 184 | 25.8 |

**Batch /Average number of students in Theory and Practical Classes**

| Year | No. of Batch in Theory Classes | No. of Students in Theory Classes | No. of Batch in Practical Classes | No. of Students in Practical Classes |
|---|---|---|---|---|
| 2018-19 | 12 | 708 | 24 | 708 |
| 2019-20 | 11 | 605 | 22 | 605 |
| 2020-21 | 10 | 500 | 20 | 500 |
| 2021-22 | 9 | 522 | 18 | 522 |
| 2022-23 | 8 | 488 | 16 | 488 |
| Total | **50** | **2823** | **100** | **2823** |

**Admission process**

The admission process to the B.Sc. Hons. (Agriculture 4 year) programme is through competitive entrance examination. The fee payment as well as registration of the courses is online. The students are also admitted as ICAR nominee for an opportunity to the students at all India level and also from foreign countries. Every year during entrance examination, more than 15000 candidates compete for seeking admission in B.Sc. Hons. (Agri.).

## 4 year Programme

| Name of degree programme | Mechanism of Admission (Through writer exam/ ICAR nominee/ Foreign students) | Fee payment mechanism (Cash/ Online) | Registration procedure (On-site / Online) | Academic schedule at the start of session |
|---|---|---|---|---|
| **UG** | Entrance Exam/ICAR nominee | Online | Online | Academic calendar ***(Annexure UG-I)*** |

## Examination and evaluation process

| Sr. No | Name of degree programme | Examination pattern | Evaluation process |
|---|---|---|---|
| **1** | B.Sc. (Hons.) Ag. 4-Year Programme (Theory) | External | External |
| **2** | B.Sc. (Hons.) Agri 4- Year Programme (Practical) | Internal | Internal |

**NAHEP-IDP Project:** Under NAHEP, CCS Haryana Agricultural University (HAU), Hisar is implementing the Institutional Development Plan (IDP) for the UG students. The project is improving efficiency of Agricultural education through enhanced faculty competence, innovative partnerships with industry & international universities and strengthening/ renovation/modernization of existing physical facilities. It has been intended to initiate innovative courses and training programs in partnership with industry and universities abroad to enhance employability and nurturing entrepreneurial skills to produce the next generation of graduates and leaders for climate resilient market driven sustainable agriculture in a global context. Specific activities undertaken include institutional capacity building and global knowledge partnerships through faculty development, curriculum enhancement, student and faculty exchanges, internships and experiential learning with industry, skill development activities, alumni networks, agribusiness incubation centre and university industry conclave.

## Accomplishment of the project:

- During 2018-19, twelve students of college of agriculture, hisar were sent to Czech University of Life Sciences, Prague, for Strengthening Institutional Capacity to produce skilled professional for Market Driven Agriculture.
- During 2019-20, six students were deputed to The University Of Sydney (Plant Breeding Institute), Australia and 6 students have been deputed to Massey University, New Zealand for Strengthening Institutional Capacity to produce skilled professional for Market Driven Agriculture during March, 2020.
- During 2022-23, twenty one students have been deputed to the Czech University of Life Sciences, Prague, Asian Institute of Technology (AIT), Bangkok, Thailand and Can Tho University ,Can Tho City, Vietnam for a period of two months under NAHEP-IDP.

**Students training at Czech University of Life Sciences, Prague**









**Students at Massey University, New Zealand**














Students at University of Sydney (Plant Breeding Institute), Australia








International training of students at University of Sydney (Plant Breeding Institute), Australia

**Efforts made for academic excellence by organizing lectures/ workshops/ trainings/ webinars/ seminars/brain storming session organized (offline/online)**

| S. No. | Activities |
|---|---|
| 1. | Launch Workshop of the Institutional Development Plan (IDP) sub-project entitled "Strengthening Institutional Capacity to Produce Skilled Professionals for Market Driven Agriculture" at Haryana Raj Bhavan, Chandigarh on 31st May, 2018. |
| 2. | Brainstorming Workshop on 'Identification of Industry Needs and Skill Gaps for Market Driven Agriculture' on 14-15 September, 2018 |
| 3. | Lecture on "Opportunities for Higher Education in Canada" by Prof. Malcom M. Campbell, University of Guelph on 28th Nov, 2019. |
| 4. | Interactive Session On "Seed Quality Testing and Opportunity For Higher Education in New Zealand" by Dr. Craig McGill and Dr.SvetlaSofkova, Massey University, New Zealand on 30th Nov, 2019. |
| 5. | Lecture on "Biomass conversion: Technology based Agripreneural opportunities" by Prof. ShabaddineSokhansanj, University of British Columbia, Canada on 30th Nov,2019 |
| 6. | Demonstration on "Use of Drone Technology in Agriculture" by Bayers Crop Science (Pvt. Ltd.) on 9th Dec, 2019. |
| 7. | Guest lecture on "Weeding, Precision Agricutlure, Automation and Robotics" by Dr.Vijiya Singh University of Virginia Tech, USA on 20th Dec, 2019. |
| 8. | Industrial Conclave- New Placement Avenues in Agriculture (IC-2020) on 13-14, Feb, 2020. |
| 9. | Interactive session on Opportunities for higher education in United Kingdom by Dr. Ratan Yadav Aberystwyth University, UK on 14th Feb, 2020. |
| 10. | Skill and Entrepreneurship Development Programmes/ Training organized during Feb and March, 2020<br>a) Communication skill for effective public speaking<br>b) Enhancement of designing competence with ICT tools<br>c) Campus to corporate<br>d) Robotics and automation<br>e) How to make successful startup<br>f) How to setup New Enterprise |

| | |
|---|---|
| | g) Design for Future<br>h) Success factor for an Enterprise<br>i) Enhancement of Handicrafts skills for Entrepreneurship Development<br>j) Agro forestry system<br>k) Organic Agriculture<br>l) Mushroom Cultivation<br>m) Talk for change<br>n) Morals and Ethics in Agribusiness |
| **11.** | National webinar on "locust: A serious threat to Agriculture" was conducted on 29 May, 2020. |
| **12.** | Webinar on Impact of COVID-19 on Agricultural Education "was conducted on 01 June,2020 |
| **13.** | International webinar on "International Funding for Young Researchers- an Opportunity" on July 11, 2020 for Scientists and students. |
| **14.** | "Online International training on climate change" was conducted in lecture series on 16, 23, 30 July and 6th August 2020. |
| **15.** | Webinar on "Nematode problem in horticultural crops and their management" was organized on 09th August, 2020. |
| **16.** | Three days Virtual workshop on "Digital Library Frame Work for Strengthening Agricultural Knowledge" on 17-19th Feb, 2021 through Zoom platform. |
| **17.** | One day awareness workshop was organized at Directorate of Students Welfare, CCS HAU on Development of soft skills for entrepreneurship among agri-graduates in collaboration of ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad on 2nd Dec. 2021 |
| **18.** | International Webinar " Reducing Carbon Emissions-Simple Solutions to Complex Problems" on 3.6.2022. |
| **19.** | Orientation programme of newly admitted UG students at COA, CCS HAU, Hisar on 17.9.22 |
| **20.** | Lecture on Antibiotics resistance in agro environment: between epidemiology and microbial ecology |
| **21.** | Webinar was organised on "The Genotype-Phenotype map" on 7.9.22 |
| **22.** | Training on Genomics and Metabolomics for food security from 21.7.22-27.7.22 |
| **23.** | International Conference on "Climate resilient agriculture for food security and sustainability" at CCSHAU, Hisar from 17.2.23-19.2.23. |

### 6.4.9. Use of ICT application in teaching and practical for curricula delivery

| Smart class rooms for teaching and practical | Interactive board for teaching and practical | Class rooms upgraded as smart class rooms |
|---|---|---|
| Yes (9) | Yes (14) | Yes ( 9) |

The power point (PPT) presentation is used to teach the courses by the respective teacher. Additionally, during COVID-19 pandemic period online classes were taken using Microsoft Team, Google Meet and Zoom meeting. Doubt clearing sessions were also conducted through WhatsApp/ video call/ voice calls etc.

| Courses | Total Courses | Theory | Practical |
|---|---|---|---|
| **B. Sc. (Hons.) Agri 4- Year Programme** | **67** | AGM 101 | AGM 101 |
| | | AGRON 101 | AGRON 101 |

| | | | |
|---|---|---|---|
| | | AGRON 103 | -- |
| | | BIOCHEM 101/MBB 101 | BIOCHEM 101/MBB 101 |
| | | BOT 101/ZOO 101 | BOT 101/ZOO 101 |
| | | ENG 101 | ENG 101 |
| | | FOR 101 | FOR 101 |
| | | MATH 101 | MATH 101 |
| | | SOC 101 | -- |
| | | SOILS 101 | SOILS 101 |
| | | AG ECON 102 | -- |
| | | ENT 102 | ENT 102 |
| | | EXT 102 | EXT 102 |
| | | GP 102 | GP 102 |
| | | MICRO 102 | MICRO 102 |
| | | PL PHY 102 | PL PHY 102 |
| | | PL PATH 102 | PL PATH 102 |
| | | STAT 102 | STAT 102 |
| | | SWE 101 | SWE 101 |
| | | AG ECON 201 | AG ECON 201 |
| | | AGRON 201 | AGRON 201 |
| | | FMPE 202 | FMPE 202 |
| | | FOR 201/AGM 201/SOILS 201/AG ECON 203/CHEM 201 | -- |
| | | GP 201 | GP 201 |
| | | HORT 201 | HORT 201 |
| | | LPM 201 | LPM 201 |
| | | VSC 201 | VSC 201 |
| | | AG ECON 202 | AG ECON 202 |
| | | AGRON 202 | AGRON 202 |
| | | AGRON 204 | -- |
| | | EXT 202 | EXT 202 |
| | | HORT 202 | HORT 202 |
| | | HORT 204 | HORT 204 |
| | | RBEE 202 | RBEE 202 |
| | | SOILS 202 | SOILS 202 |
| | | SOILS 204/AGRON 206/MICRO 204 | SOILS 204/AGRON 206/MICRO 204 |
| | | SST 202 | SST 202 |
| | | -- | AGRON 301 |
| | | AGRON 303 | AGRON 303 |
| | | AGRON 305 | AGRON 305 |
| | | COMP 301/AGRON 307/AGM 301 | COMP 301/AGRON 307/AGM 301 |
| | | ENT 301 | ENT 301 |
| | | EXT 301 | EXT 301 |
| | | GP 301 | GP 301 |
| | | NEMA 301 | NEMA 301 |
| | | PL PATH 301 | PL PATH 301 |
| | | SOILS 301 | -- |
| | | AG ECON 302 | AG ECON 302 |
| | | | AGRON 302 |

| | | | |
|---|---|---|---|
| | | AGRON 304 | AGRON 304 |
| | | AGRON 306 | AGRON 306 |
| | | ENT 302 | ENT 302 |
| | | FST 302 | FST 302 |
| | | GP 302 | GP 302 |
| | | HORT 302/VSC 302 | HORT 302/VSC 302 |
| | | PFE 305 | PFE 305 |
| | | PL PATH 302 | PL PATH 302 |
| | | -- | AGRON 491/AG ECON 491/EXT 491 |
| | | | Agro-advisory Services |
| | | | Organic Production Technology |
| | | | Beekeeping |
| | | | Mushroom Cultivation |
| | | | Seed Production and Technology |
| | | | Soil, Plant, Water and Fertilizer Testing Services |
| | | | Commercial Vegetable Production |
| | | | Bioagents and Biofertilizers Production |
| | | | Food Processing |

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph. D. Degree programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore, the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, Surender K. Pahuja hereby certify that the information contained in the

Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure UG- I*

## COLLEGE OF AGRICULTURE, CCSHAU, HISAR
## ACADEMIC CALENDAR 2017-18

**Programme: B.Sc. (Hons.) Agriculture - 6 year Programme (I$^{st}$ and 2$^{nd}$ year)**

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.7.2017 to 28.7.2017 | 3.1.2018 to 4.1.2018 |
| Commencement of classes | 29.7.2017 | 5.1.2018 |
| Mid-term examinations | 27.9.2017 to 9.10.2017 | 7.3.2018 to 17.3.2018 |
| Final examinations | 11.12.2017 to 21.12.2017 | 19.5.2018 to 29.5.2018 |
| Last date for submission of grades | 27.12.2017 | 2.6.2018 |
| Announcement of results | 19.1.2018 | 27.6.2018 |
| Class tours and breaks | 22.12.2017 to 2.1.2018 | 30.5.2018 onwards |

**Programme: B.Sc. (Hons.) Ag. 4-Year and 3$^{rd}$ year onwards of 6-Year Programme (External pattern of Exam.)**

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.7.2017 to 28.7.2017 | 3.1.2018 to 4.1.2018 |
| Commencement of classes | 29.7.2017 | 5.1.2018 |
| Mid-term examinations | 27.9.2017 to 9.10.2017 | 7.3.2018 to 17.3.2018 |
| Final examinations | 11.12.2017 to 21.12.2017 | 19.5.2018 to 29.5.2018 |
| Last date for submission of grades | 27.12.2017 | 2.6.2018 |
| Announcement of results | 19.1.2018 | 27.6.2018 |
| Class tours and breaks | 22.12.2017 to 2.1.2018 | 30.5.2018 onwards |

**Programme: Master's, Ph.D. Programme (except MBA)**

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.7.2017 to 28.7.2017 | 3.1.2018 to 4.1.2018 |
| Commencement of classes | 29.7.2017 | 5.1.2018 |
| Mid-term examinations | 27.9.2017 to 9.10.2017 | 7.3.2018 to 17.3.2018 |
| Final examinations | 11.12.2017 to 22.12.2017 | 19.5.2018 to 29.5.2018 |
| Last date for submission of grades | | |
| Announcement of results | 19.1.2018 | 27.6.2018 |
| Class tours and breaks | | |

## COLLEGE OF AGRICULTURE, CCSHAU, HISAR
## ACADEMIC CALENDAR 2018-19

### Programme: B.Sc. (Hons.) Agriculture - 6 year Programme (I$^{st}$ and 2$^{nd}$ year)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.07.2018 & 28.07.2018 | 03.01.2019 to 04.01.2019 |
| Commencement of classes | 30.07.2018 | 05.01.2019 |
| Mid-term examinations | 27.09.2018 to 09.10.2018 | 07.03.2019 to 17.03.2019 |
| Final examinations | 11.12.2018 to 21.12.2018 | 20.05.2019 to 30.05.2019 |
| Last date for submission of grades | 27.12.2018 | 03.06.2019 |
| Announcement of results | 19.01.2019 | 27.06.2019 |
| Class tours and breaks | 22.12.2018 to 02.01.2019 | 31.05.2019 onwards |

### Programme: B.Sc. (Hons.) Ag. 4-Year and 3$^{rd}$ year onwards of 6-Year Programme (External pattern of Exam.)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.07.2018 & 28.07.2018 | 03.01.2019 to 04.01.2019 |
| Commencement of classes | 30.07.2018 | 05.01.2019 |
| Mid-term examinations | 27.09.2018 to 09.10.2018 | 07.03.2019 to 17.03.2019 |
| Final examinations | 26.11.2018 to 07.12.2018 | 06.05.2019 to 18.05.2019 |
| Last date for submission of grades | | |
| Announcement of results | 19.01.2019 | 27.06.2019 |
| Class tours and breaks | 23.12.2018 to 02.01.2019 | 31.05.2019 onwards |

### Programme: Master's, Ph.D. Programme (except MBA)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.07.2018 to 28.07.2018 | 03.01.2019 to 04.01.2019 |
| Commencement of classes | 30.07.2018 | 05.01.2019 |
| Mid-term examinations | 27.09.2018 to 09.10.2018 | 07.03.2019 to 17.03.2019 |
| Final examinations | 11.12.2018 to 22.12.2018 | 20.05.2019 to 30.05.2019 |
| Last date for submission of grades | | |
| Announcement of results | 19.01.2019 | 27.06.2019 |
| Class tours and breaks | | |

## COLLEGE OF AGRICULTURE, CCSHAU, HISAR

## ACADEMIC CALENDAR 2019-20

### Programme: B.Sc. (Hons.) Agriculture - 6 year Programme (I$^{st}$ and 2$^{nd}$ year)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 25.07.2019 & 26.07.2019 | 03.01.2020 to 04.01.2020 |
| Commencement of classes | 29.07.2019 | 06.01.2020 |
| Mid-term examinations | 24.09.2019 to 05.10.2019 | 06.03.2020 to 16.03.2020 |
| Final examinations | 07.12.2019 to 18.12.2019 | 18.05.2020 to 27.05.2020 |
| Last date for submission of grades | 24.12.2019 | 02.06.2020 |
| Announcement of results | 17.01.2020 | 26.06.2020 |
| Class tours and breaks | 19.12.2019 to 02.01.2020 | 28.05.2020 onwards |

### Programme: B.Sc. (Hons.) Ag. 4-Year and 3$^{rd}$ Year onwards of 6-year Programme (External pattern of Exam.)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 25.07.2019 & 26.07.2019 | 03.01.2020 to 04.01.2020 |
| Commencement of classes | 29.07.2019 | 06.01.2020 |
| Mid-term examinations | 24.09.2019 to 05.10.2019 | 06.03.2020 to 16.03.2020 |
| Final examinations | 13.11.2019 | 04.05.2020 |
| Last date for submission of grades | 17.11.2019 to 24.11.2019 | 25.04.2020 to 03.05.2020 |
| Announcement of results | 25.11.2019 to 06.12.2019 | 04.05.2020 to 16.05.2020 |
| Class tours and breaks | 07.12.2019 to 18.12.2019 | 18.05.2020 to 27.05.2020 |
| | 17.01.2020 | 26.06.2020 |
| | 19.12.2019 to 02.01.2020 | 28.05.2020 onwards |

### Programme: Master's, Ph.D. Programme (except MBA)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 25.07.2019 to 26.07.2019 | 03.01.2020 to 04.01.2020 |
| Commencement of classes | 29.07.2019 | 06.01.2020 |
| Mid-term examinations | 24.09.2019 to 05.10.2019 | 06.03.2020 to 16.03.2020 |
| Final examinations | 07.12.2019 to 18.12.2019 | 18.05.2020 to 27.05.2020 |
| Last date for submission of grades | | |
| Announcement of results | 17.01.2020 | 26.06.2020 |
| Class tours and breaks | | |

## COLLEGE OF AGRICULTURE, CCSHAU, HISAR
## ACADEMIC CALENDAR 2020-21

### Programme: B.Sc.(Hons.) Agriculture - 6 year Programme (I$^{st}$ and 2$^{nd}$ year)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.07.2020 & 28.07.2020 | 04.01.2021 to 05.01.2021 |
| Commencement of classes | 29.07.2020 | 06.01.2021 |
| Mid-term examinations | 24.09.2020 to 05.10.2020 | 06.03.2021 to 16.03.2021 |
| Final examinations | 07.12.2020 to 18.12.2020 | 18.05.2021 to 27.05.2021 |
| Last date for submission of grades | 23.12.2020 | 01.06.2021 |
| Announcement of results | 16.01.2021 | 25.06.2021 |
| Class tours and breaks | 19.12.2020 to 03.01.2021 | 28.05.2021 onwards |

### Programme: B.Sc. (Hons.) Ag. 4-Year and 3$^{rd}$ year onwards of 6-Year Programme (External pattern of Exam.)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.07.2020 & 28.07.2020 | 04.01.2021 to 05.01.2020 |
| Commencement of classes | 29.07.2020 | 06.01.2021 |
| Mid-term examinations | 24.09.2020 to 05.10.2020 | 06.03.2021 to 16.03.2021 |
| Final examinations | 13.11.2020 | 04.05.2021 |
| Last date for submission of grades | 15.11.2020 to 22.11.2020 | 24.04.2021 to 02.05.2021 |
| Announcement of results | 23.11.2020 to 05.12.2020 | 04.05.2021 to 17.05.2021 |
| Class tours and breaks | 07.12.2020 to 18.12.2020 | 18.05.2021 to 27.05.2021 |
| | 16.01.2021 | 25.06.2021 |
| | 19.12.2020 to 03.01.2021 | 28.05.2021 onwards |

### Programme: Master's, Ph.D. Programme (except MBA)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 27.07.2020 to 28.07.2020 | 04.01.2021 to 05.01.2021 |
| Commencement of classes | 29.07.2020 | 06.01.2021 |
| Mid-term examinations | 24.09.2020 to 05.10.2020 | 06.03.2021 to 16.03.2021 |
| Final examinations | 07.12.2020 to 18.12.2020 | 18.05.2021 to 27.05.2021 |
| Last date for submission of grades | | |
| Announcement of results | 16.01.2021 | 25.06.2021 |
| Class tours and breaks | | |

# COLLEGE OF AGRICULTURE, CCSHAU, HISAR
# ACADEMIC CALENDAR 2021-22

## Programme: B.Sc.(Hons.) Agriculture - 4 year Programme (Final Year)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1st | 2nd |
| Meeting with advisor, registration and payment of dues | - | 01.02.2022 to 02.02.2022 |
| Commencement of classes | - | 03.02.2022 |
| Mid-term examinations | - | 15.03.2022 to 30.03.2022 |
| Final examinations | 10.01.2022 to 24.01.2022 | 06.06.2022 to 20.06.2022 |
| Last date for submission of grades | | |
| Announcement of results | 31.01.2022 | 30.06.2022 |
| Class tours and breaks | | |

## Programme: B.Sc. (Hons.) Ag. 4-Year and 3rd year onwards of 6-year Programme (External pattern of Exam.)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1st | 2nd |
| Meeting with advisor, registration and payment of dues | - | 15.04.2022 to 16.04.2022 |
| Commencement of classes | | 18.04.2022 |
| Mid-term examinations | | 25.05.2022 to 10.06.2022 |
| Final examinations | 25.01.2022 to 11.02.2022 | 25.07.2022 to 10.08.2022 |
| Last date for submission of grades | | |
| Announcement of results | 20.02.2022 | 20.08.2022 |
| Class tours and breaks | | |

## Programme: Master's, Ph.D. Programme (except MBA)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1st | 2nd |
| Meeting with advisor, registration and payment of dues | - | 05.04.2022 to 06.04.2022 |
| Commencement of classes | - | 07.04.2022 |
| Mid-term examinations | 25.02.2022 to 10.03.2022 | 16.05.2022 to 31.05.2022 |
| Final examinations | 15.03.2022 to 30.03.2022 | 07.07.2022 to 22.07.2022 |
| Last date for submission of grades | | |
| Announcement of results | 10.04.2022 | 31.07.2022 |
| Class tours and breaks | | |

## COLLEGE OF AGRICULTURE, CCSHAU, HISAR
## ACADEMIC CALENDAR 2022-23

### Programme: B.Sc. (Hons.) Agriculture - 6 year Programme (I$^{st}$ and 2$^{nd}$ year)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 01.09.2022 to 02.09.2022 | 06.01.2023 to 07.01.2023 |
| Commencement of classes | 03.09.2022 | 09.01.2023 |
| Mid-term examinations | 28.10.2022 to 11.11.2022 | 01.03.2023 to 15.03.2023 |
| Final examinations | 12.12.2022 to 30.12.2022 | 01.05.2023 to 15.05.2023 |
| Last date for submission of grades | 02.01.2023 | 25.05.23 |
| Announcement of results | 15.01.2023 | 10.06.2023 |
| Class tours and breaks | 01.01.2023 to 15.01.2023 | 15.05.2023onwards |

### Programme: B.Sc. (Hons.) Ag. 4-year and 3$^{rd}$ Year onwards of 6-year Programme (External pattern of Exam.)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 01.09.2022 to 02.09.2022 | 06.01.2023 to 07.01.2023 |
| Commencement of classes | 03.09.2022 | 09.01.2023 |
| Mid-term examinations | 28.10.2022 to 11.11.2022 | 01.03.2023 to 15.03.2023 |
| Final examinations | 12.12.2022 to 30.12.2022 | 01.05.2023 to 15.05.2023 |
| Last date for submission of grades | 02.01.2023 | 25.05.23 |
| Announcement of results | 15.01.2023 | 10.06.2023 |
| Class tours and breaks | 01.01.2023 to 15.01.2023 | 15.05.2023 onwards |

### Programme: Master's, Ph.D. Programme (except MBA)

| Event | SEMESTER WISE | |
|---|---|---|
| | 1$^{st}$ | 2$^{nd}$ |
| Meeting with advisor, registration and payment of dues | 01.09.2022 to 02.09.2022 | 06.01.2023 to 07.01.2023 |
| Commencement of classes | 03.09.2022 | 09.01.2023 |
| Mid-term examinations | 29.10.2022 to 11.11.2022 | 01.03.2023 to 15.03.2023 |
| Final examinations | 15.12.2022 | 01.05.2023 to 15.05.2023 |
| Last date for submission of grades | 07.01.2023 | 25.05.2023 |
| Announcement of results | 25.01.2023 | 30.06.2023 |
| Class tours and breaks | | |

# Programme - 2



## M.Sc. Agri. Economics

## and

## Ph.D. Agril. Economics

## 6.4. About the Department

The Department of Economics came into existence in 1962 with the formation of Punjab Agricultural University, Ludhiana at the main campus when Hisar was a sub campus of the erstwhile Punjab Agricultural University. At that time, only three persons constituted the Department at Hisar and the main thrust was towards teaching. Dr. S.S. Kahlon, Associate Professor of Economics was the Head of the Department at the Hisar Campus. Dr M.V. George was appointed as Professor and Head of Department in 1969. After the bifurcation of the erstwhile Punjab Agricultural University in 1970, The Department of Agricultural Economics became a full-fledged Department of the newly born Haryana Agricultural University, Hisar. The teaching programme of the department includes instructions at the undergraduate (U.G.) level for the students of College of Agriculture (COA), I.C. College of Home Science, College of Agricultural Engineering & Technology (COAE&T) and College of Basic Sciences and Humanities (COBS&H). The department is also awarding degree of M.Sc. and Ph.D. in Agricultural Economics. The students are trained and specialized in the area of Production Economics, Farm Management, Agricultural Finance, Agricultural Marketing, Price Analysis and Resource Economics. The post graduate course work programme of the department is categorized into compulsory courses which must be taken by all the students of the department admitted in the M.Sc./Ph.D. degree programme irrespective of their area of specialization. Additional required courses relevant to the field of the specialization within the department and supporting courses which a student may opt to study depending upon his/her research problem. The course work for M.Sc. & Ph.D. degree in Agricultural Economics is designed in such a manner that a minimum required training in economic theory, mathematics and statistics including other analytical tools is imparted to every student. The research dissertation is conducted separately under the supervision of the major advisor of the respective advisory committees constituted from the faculty of the department and related disciplines.

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the degree programme was initiated along with its objective and accomplishments.*

| | |
|---|---|
| Objectives of initiating M.Sc. programme | **Year of start 1970**<br>• To produce quality and specialized human resource in the areas of Production Economics, Farm Management, Agricultural Finance, Agricultural Marketing, Price Analysis, Resource Economics.<br>• To undertake research studies to address various issues related to socio-economic aspects of agriculture sector ranging from working out economics of different crops and enterprises to sustainability of natural resources, impact of WTO on agriculture, problem of agricultural finance and indebtedness in farming sector, constraints and possibilities of agriculture diversification, agriculture marketing and value addition<br>• To inculcate entrepreneurship abilities among the PG students. |
| Accomplishments of programmes | • 253 students have completed M.Sc. since start of the programme in 1970<br>• From year 2017 onwards, 33 students passed out M.Sc. degree programme<br>• 17 Research Papers published in reputed journals by M.Sc. students from the year 2017 onwards *(Annexure AG ECON- I)*<br>• Five foreign students completed their M.Sc. during the period under report.<br>• Thirteen students who were enrolled in Module Programme of the Department, got admitted in various PG programmes through national level entrance examination in different institutions like Institute of Rural Management Anand (IRMA), Gujarat, National Institute of Agricultural Extension Management Hyderabad (MANAGE), |

| | |
|---|---|
| | National Institute of Agriculture Marketing (NIAM), Jaipur, Indian Agricultural Statistics Research Institute (IASRI) and Indian Institute of Management (IIM), Ahmedabad during the years 2017-18, 2018-19 and 2019-20<br>• Eight PG students cleared National Eligibility Test (NET) conducted by UGC and/or ICAR<br>• Ten Post-Graduate students got job opportunities in nationalized banks and other public sectors |

| | |
|---|---|
| Objectives of initiating Ph.D. programme | **Year of start 1972**<br>• To produce quality and specialized human resource in the areas of Production Economics, Farm Management, Agricultural Finance, Agricultural Marketing, Price Analysis, Resource Economics.<br>• To undertake research studies to address various issues related to socio-economic aspects of agriculture sector ranging from working out economics of different crops and enterprises to sustainability of natural resources, impact of WTO on agriculture, problem of agricultural finance and indebtedness in farming sector, constraints and possibilities of agriculture diversification, agriculture marketing and value addition<br>• To inculcate entrepreneurship abilities among the PG students. |
| Accomplishments of programmes | • 88 students have completed Ph.D. since start of programme in 1972<br>• 13 students completed Ph.D. degree programme during the period under report<br>• 19 Research Papers published in reputed journals by Ph.D. students from the year 2017 onwards *(Annexure AG ECON- I)*<br>• One foreign student completed Ph.D. in 2021-22<br>• 01 student enrolled in Ph.D. programme through Senior Research Fellowship (SRF) of ICAR for pursuing Ph.D.<br>• 17 Ph.D. students cleared National Eligibility Test (NET) being conducted by ICAR and UGC *(Annexure AG ECON- V).*<br>• 04 Ph.D. students were awarded UGC- JRF during the period *(Annexure AG ECON- V).*<br>• 02 Ph.D. students got best paper presentation award in National Conference of Indian Society of Agricultural Economics (ISAE) during the year 2017-18.<br>• 02 Ph.D. Scholar got Rajiv Gandhi National Fellowship *(Annexure AG ECON- V).*<br>• 08 Ph.D. students got selected as Assistant Professor/DES in CCSHAU, Hisar and MHU, Karnal<br>• 03 students got placed as SRFs under different projects.<br>• 03 students got placed as Assistant Professors in different private institutions *(Annexure AG ECON- VI).* |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1. | Professor and equivalent (0) | 1 | - | - |
| 2. | Associate Professor and equivalent (1) | - | 1 | 1 |
| 3. | Assistant Professor and equivalent (32) | 23 | 8 | 5 |

**Note:** All the Faculty members are assigned the responsibilities for the multiple programmes

***The numbers of faculty under Professor and Associate Professors also include personal promotes

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | Assistant | 2 | 1 |
| | Clerk | 5 | 3+1* |
| | PA/Steno | 1 | 0 |
| | Messenger | 2 | 1* |
| 2. | Field staff | | |
| | Farm and field worker (specify)- Agriculture Inspector | 30 | 14+16* |

**Note:** All the technical and supporting staff is assigned the responsibilities of the multiple programmes; * Contractual staff

**6.4.4. Classrooms and Laboratories:***Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | L.R. No.(12) = 01 Seating capacity = 70 |
| No. of smart class-rooms- seminar room with LCD | No. = 01 and Seating capacity = 30 |
| Any other instructional units being utilized for the award of the Degree Programme<br>Computer laboratory (with five computers) | No. = 01 |

**Mention theory and practical batches for PG Programmes**

**Theory and practical batches**

- At M.Sc. level, the department offers 10 courses and all the courses have practical components. There are limited seats in M.Sc. programme with an average of 7 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 7-10 students.

- At Ph. D. level, there are on an average three students. Therefore, there is only one batch for theory classes and one batch for practical classes in all the courses. For Ph.D., the department of economics offers 9 courses and all the courses have practical components.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

| Course No. | Credit Hours | Practical and Hands – on – Training | How far students are getting desired practical and hands on training as per curriculum |
|---|---|---|---|
| **P.G. Programme (M.Sc.)** | | | |
| **Ag Econ 504*** | 2+1 | • Different forms of production functions - specification, estimation and interpretation of production functions returns to scale,<br>• Factor shares, elasticity of production - physical optima-economic optima-least cost combination<br>• Optimal product choice- cost function estimation, interpretation-estimation of yield gap<br>• Incorporation of technology in production functions- measuring returns to scale-risk analysis through linear programming. | The students are taught usage of different forms of production functions their specification estimation and interpretation of results as well as measurement of risk through linear programming which helps them analyze real world situations in detail |
| **Ag Econ 505*** | 2+1 | • Supply and demand elasticities in relation to problems in agricultural marketing.<br>• Price spread and marketing efficiency analysis.<br>• Performance analysis of regulated market and marketing societies.<br>• Market Intelligence Characters, Accessibility, and Availability Price forecasting.<br>• Online searches for market information sources and interpretation of market intelligence reports<br>• Commodity outlook-Technical Analysis for important agricultural commodities.<br>• Fundamental Analysis for important agricultural commodities | • The students are engaged in collection of rivals and prices information from markets. Thereafter estimating the trend demand and supply situation. Assessment of price spread marketing efficiency and how to present the survey results is also taught |
| **Ag Econ 506** | 1+1 | • Formulation of objective and hypotheses.<br>• Assessment of data needs sources of data methods of collection of data.<br>• Methods of sampling criteria to choose discussion on sampling under different situations.<br>• Scaling Techniques, measurement of | • Firstly, the students exercise to identify different agricultural problems. Thereafter, formulating objectives and hypothesis.<br>• There also taught about sampling procedures preparation of interview schedule and various methods of tabulation editing and analysis of |

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|---|---|---|---|
| | | scales.<br>• Preparation of interview schedule-field testing and method of conducting survey.<br>• Exercise on coding, editing, tabulation and validation of dataand data entries into computer.<br>• Hypothesis testing- Parametric and Non-Parametric Tests.<br>• Exercises on format for Thesis / Report writing. Presentation of the results | data. Finally students exercise hypothesis testing and learn about different presentation techniques for writing final reports |
| **Ag Econ 507*** | 2+1 | • Single equation two variable model specification and estimation<br>• Hypothesis testing transformations of functional forms and OLS application-estimation of multiple regression model<br>• Hypothesis testing - testing and correcting specification errors - testing and managing Multi-collinerity<br>• Testing and managing heteroscedasticity - testing and managing auto-correlation<br>• Estimation of regressions with dummy variables and with limited dependent variable<br>• Identification of equations in simultaneous equation systems. | • The students study the estimations of single equation two variable model, multiple regression model, Hypothesis testing and managing multi-collinerity, heteroscedasticity and auto-correlation<br>• Also, they learn about estimation of regression with limited dependent variable and identification of equations in simultaneous equation system. |
| **Ag Econ 508** | 1+1 | • Graphical and algebraic formulation of linear programming models.<br>• Solving of maximization and minimization problems by simplex method.<br>• Formulation of the simplex matrices for typical farm situations. | • The students are familiarized with formulation of linear programming models, simplex matrice for Maximization of profit/ minimisation of costs. |
| **Ag Econ 509** | 2+1 | • Demand and supply of institutional agricultural credit, An overview of rural lending programmes of commercial banks<br>• Lead Bank Scheme- Preparation of District Credit Plan, Rural Lending Programmes of Co-operative Lending Institutions<br>• Preparation of financial statements using farm/firm level data<br>• Farm credit appraisal techniques and farm financial analysis through financial statements<br>• Performance of Micro Financing Institutions - NGOs and SHGs<br>• Discounted Measures, Network techniques PERT and CPM for project management<br>• Crop insurance schemes, Financial instruments and methods<br>• E-banking, Kisan Credit Cards and core-banking. | • Students learn about agricultural credit lending institutions, demand and supply situations, How is the District Credit Plan prepared, Rural Lending Programmes of Co-operative Lending Institutions.<br>• Also, they prepare financial statements using farm/firm level data and learn appraisal techniques<br>• The working of Micro Financing Institutions- NGOs and SHGs, crop insurance schemes, financial instruments and core banking is also deeply understood. |

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| **Ag Econ 510/SST 514** | 2+1 | • Estimation of cost of seed production<br>• Marketing costs and margins of seeds of different crops<br>• Seed demand, supply and seed forecasting techniques<br>• Marketing plan of seed<br>• Project preparation of processing and marketing of seed.<br>• Visit to seed processing industries | • The students study the cost of seed production and marketing demand, supply, seed forecasting techniques and marketing plan<br>• Also, project preparation for processing & marketing of seed is taught by providing exposure to seed processing units |
| **Ag Econ 511** | 1+1 | • Producer's Surplus, Consumer's Surplus<br>• National Welfare under Autarky and Free Trade Equilibrium with small and large country assumption<br>• Estimation of Trade Gains, competitive and comparative measures like NPC, EPC, ERP and DRC<br>• Estimation of Offer Curve Elasticity<br>• Estimation of Effect of Tariff, Export Subsidy, Producer Subsidy, Import Quota and Export<br>• Voluntary Restraints on National Welfare Estimation of Ricardian Model<br>• Trade Creation and Diversion. | • Here the students learn about estimation of consumer's surplus. National Welfare under Autarky and Free Trade Equilibrium.<br>• Also, the effect of Tariff, Export Subsidy, Producer Subsidy, Import Quota and Export, Trade under Specific Factor Model is learnt |
| **Ag Econ 514** | 1+1 | • Exhaustible resource management optimum rate of oil extraction<br>• Renewable resource management optimum harvest of Forestry/fishery<br>• Exercise on pollution abatement and concepts in valuing the environment.<br>• Taxonomy of valuation techniques<br>• Productivity change method substitute cost method<br>• Hedonic price method - Travel cost method-Contingent valuation methods<br>• Discount rate in natural resource management.<br>• Environment impact assessment<br>• Visit to Pollution Control Board. | • The students study the exhaustible resource management optimum rate of oil extraction<br>• Renewable resource management optimum harvest of Forestry/fishery<br>• Valuation of environment by applying various methods<br>• Assessment of Environment impact<br>• A visit of students to Pollution Control Board is also mandated as part of the course. |
| **Ag Econ 599** | 20 | • Master's Research | • Students are guided for practical knowledge to conduct research in the area of Farm Management, Production Economics, Agricultural Marketing, Agricultural Finance , Resource Economics etc. |
| **Ph.D. Programme** | | | |
| **Ag Econ 601*** | 1+1 | • Problems in consumer utility maximization<br>• Estimation of income and substitution effects<br>• Estimation and comparison of Consumer's surplus, equivalent | • The doctoral students study the theory of consumer utility maximization, estimation of income and substitution effects, comparison of consumer's surplus, equivalent variation and compensating variation, of demand |

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|---|---|---|---|
| | | variation and compensating variation<br>• Derivation and estimation of labour supply equations from household models<br>• Comparative static analysis in consumption<br>• Advanced problem solving in price determination under perfect competition monopoly, oligopoly and monopolistic competition.<br>• Game theory models and problems solving in General Equilibrium<br>• Problems in public goods provision | models.<br>• They also work to study the derivation and estimation of labour supply equations from household models, price determination under perfect competition monopoly, oligopoly and monopolistic competition., Game theory models and Welfare Economics |
| **Ag Econ 603*** | 2+1 | • Estimation of multiple regression model<br>• GLS estimation methods - testing misspecification errors<br>• Testing and Managing multi-collinerity, heteroscedasticity and auto-correlation<br>• Estimation of LPM, Logit and Probit models - comparing two regressions - Chow test<br>• Panel data random and fixed effects models<br>• Indirect least squares 2SLS, SURE, 3SLS<br>• Estimation of simultaneous equation models | • The students learn to estimate multiple regression model, GLS estimation methods - testing misspecification errors, LPM, Logit and Probit models - comparing two regressions - Chow test, simultaneous equation models, panel data random and fixed effects models<br>• Also, they study the indirect least squares 2SLS, SURE, 3SLS and their practical usage. |
| **Ag Econ 604*** | 2+1 | • Estimation of different forms of production functions<br>• Optimal input and product choice from estimated functions<br>• Derivation of demand and supply functions and estimation<br>• Estimation of cost function and interpretations<br>• Optimal product and input choice under multi input and output system<br>• Decomposition analysis and incorporation of technology<br>• Estimation of efficiency measures<br>• Stochastic, probabilistic and deterministic frontier production functions<br>• Risk programming MOTAD-Quadratic programming-Simulation models for agricultural production decisions<br>• Goal programming Weighted, lexicographic and fuzzy goal programming, compromise programming | • In depth study of estimation of different forms of production functions, Stochastic, probabilistic and deterministic frontier production functions, Risk programming MOTAD-Quadratic programming-Simulation models for agricultural production decisions, Goal programming Weighted, lexicographic and fuzzy goal programming and compromise programming is done. |
| **Ag Econ 605** | 1+1 | • Review of criteria for policy evaluation<br>• Estimation of price elasticities<br>• Review of estimation of complete | • Here the students learn policy evaluation. Practical estimation of price elasticities, Nerlovian supply response model |

| | | | |
|---|---|---|---|
| | | demand systems<br>• Estimation of Nerlovian supply Response model<br>• Review of Household models, specification and estimation of household models<br>• Partial equilibrium analysis input output table<br>• Social Accounting Matrix and Construction of a SAM<br>• Computation of Multipliers Multi Market Analysis<br>• Review of Computable General Equilibrium Model. | • Reviewing complete demand systems, household models and computable general equilibrium model partial equilibrium analysis Input output table, social accounting matrix, construction of a SAM, computation of multipliers multi market analysis |
| **Ag Econ 606*** | 2+1 | • Estimation of demand/ supply forecasting<br>• Supply chain / value chain analysis for different commodities<br>• Time series analysis and market integration studies<br>• Price discovery price volatility estimation<br>• Commodity price forecasting<br>• Determination of administered prices through alternative methods | • The students learn about forecasting and price discovery supply chain / value chain analysis for different commodities, Time series analysis, Market integration, Commodity price forecasting<br>• They also learn about determination of administered prices through alternative methods |
| **Ag Econ 607** | 1+1 | • Application of Farm Management Principles and Production functions<br>• Determination of optimum farm programme under varying sets of constraints including weather and price risks | • Here the students learn details of farm management, principles and production functions. They also do exercises on optimum farm programme under varying sets of constraints including weather and price risks. |
| **Ag Econ 609** | 1+1 | • Derivation of the fundamental equation of renewable resources<br>• Estimation of growth curves and stock dynamics for fishery and forestry resources<br>• Simple two period problem of optimal resource use<br>• Numerical solution for simple two-period model of dynamic efficiency in natural resource extraction.<br>• Using Excel Solver in solving dynamic natural resource harvesting problems | • The students work out derivation of the fundamental equation of renewable resources and learn estimation of growth curves and stock dynamics for fishery and forestry resources<br>• They study the simple two period problem of optimal resource use and multi-period dynamic efficiency.<br>• Exercises are given to students for solving dynamic natural resource harvesting problems, natural resource management etc. |
| **Ag Econ 610** | 2+1 | • Criteria for evaluating the environment related projects and review of Environmental Impact<br>• Assessment (EIA) techniques - Recreation demand models of environmental valuation<br>• Contingent valuation techniques - Environmental Resource Accounting Techniques<br>• Green GDP and Green house insurance<br>• Practical considerations and comparison of instruments of environmental policy | • The students learn criteria for evaluating the environment related projects, assessment (EIA) techniques - recreation demand models of environmental valuation, contingent valuation techniques - environmental resource accounting techniques<br>• Discussion is held on the techniques dealing with air pollution and review of case studies on air pollution and its impacts, forest environment and wild life conservation and Green GDP and Green house insurance<br>• Multi-criteria methods for |

| | | | |
|---|---|---|---|
| | | • Multi-criteria methods for quantitative, qualitative and fuzzy evaluation problems related to environment<br>• Input output analysis, technology and the environment | quantitative, qualitative and fuzzy problems related to environment are evaluated. |
| **Ag Econ 699** | 45 | • Doctoral research | Students are guided to conduct research in the area of Farm Management, Production Economics, Agricultural Marketing, Agricultural Finance , Resource Economics etc. |

*** Compulsory course**

**6.4.6. Supervision of students in PG/Ph.D programmes:** *Number of students being supervised by Faculty in case of Masters/ Ph.D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of st+udents, as per the guidelines in the matter.*

**Details of M.Sc. programmes offered by the Department**

| Year | No. of students on roll | No. of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 13 | 21 | 0.62:1 |
| **2019-20** | 22 | 25 | 0.88:1 |
| **2020-21** | 20 | 25 | 0.80:1 |
| **2021-22** | 23 | 29 | 0.79:1 |
| **2022-23** | 15 | 25 | 0.60:1 |

**Details of Ph.D. programmes offered by the Department:**

| Year | No. of students on roll | No. of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 16 | 21 | 0.76:1 |
| **2019-20** | 16 | 25 | 0.64:1 |
| **2020-21** | 16 | 25 | 0.64:1 |
| **2021-22** | 15 | 29 | 0.52:1 |
| **2022-23** | 14 | 25 | 0.56:1 |

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *To know the opinion as well as suggestion of the students about the teaching techniques of the respective course instructor, feedback performa is distributed among all the students in the last theory class of respective course in each semester.*

There is a system of annual self appraisal report (SAR) with respect of all faculties. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis their results and feedback from the students. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | No. of student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 5 | 11 | 9 | 8 | 8 | 40 | 9 | 22.2 | 25 | 0 |
| Ph.D. | 4 | 4 | 4 | 2 | 5 | 25 | 0 | 50 | 0 | 0 |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

**Use of ICT application in teaching and practical for curricula delivery**

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 18 | 18 | 10 | Power Point Presentation, Google meet and Microsoft team |
| Ph.D. | 10 | 10 | 8 | Power Point Presentation, Google meet and Microsoft team |

The masters' and doctoral students are taught using Power Point presentations, Google meet, Microsoft teams and Google classroom to inculcate a habit of digital learning platforms and to make them comfortable in use of digital resources. Also, the department is driving to build a digital library of the courses containing video lectures, presentations, PDF's of the study material.

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, Surender K. Pahuja hereby certify that the information contained in theSection 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure AG ECON- I*

# LIST OF PUBLICATIONS

| S. No. | Publication details of students | NAAS Rating |
|---|---|---|
| 1. | Ashu, Bishnoi, D.K., Bhatia, J.K. and Sheoran, O.P. (2018). An economic analysis of potato seed production in Haryana. India. *Indian Journal of Economics and Development*, 14(1a): 113-119. | 5.15 |
| 2. | Ashu, Bishnoi, D.K., Bhatia, J.K., Baskaur and Sheoran, O.P. (2018). Production and marketing challenges of potato cultivation in Haryana, India. *International Journal of Current Microbiology and Applied Sciences*, 7(3): 1349-1355. | ** |
| 3. | Choudhary, K. M., Jat, H.S., Nandal, D.P., Bishnoi, D.K., Sutaliya, J.M., Choudhary, M., Singh, Y., Sharma, P.C. and Jat, M.L. (2018). Evaluating Alternatives to Rice-Wheat System in Western Indo-Gangetic Plains: Crop Yields Water, Productivity and Economic Profitability. *Field Crop Research*, 218: 1-10. | 11.22 |
| 4. | Kamal, Bhatia, J.K., Bishnoi, D.K. and Bhardwaj, Nitin. (2018). An economic analysis of pulses production in Haryana. *Indian Journal of Economics and Development*, 14(1a): 120-126. | 5.15 |
| 5. | Kumar R, Yadav J. L, Dhillon, A., Pawar, N., and Bali, Y. (2018). Realizing productivity and profitability of green gram through cluster frontline demonstrations (CFLDs). *Crop Research - An International Journal*, 53(5&6): 265-267. | 4.41 |
| 6. | Kumar, R.**,** Dhillon A., Yadav J. L, Pawar N, and Bali, Y. (2018). Increasing productivity and profitability of sesame through cluster frontline demonstrations. *Crop Research - An International Journal*, 53(5&6): 268-270. | 4.41 |
| 7. | Kumar, S., Satyavan, Bishnoi, D. K. and Kumar, N. (2018). Effect of integrated nutrient management of yield and yield attributes and economics of wheat (Triticumaestivuml.) under saline and non-non-saline irrigation water. *International Journal of Current Microbiology and Applied Sciences*, 7(5): 618-628. | ** |
| 8. | Prakash, S., Sarkar, D., Bishnoi, D.K. and Singh, R. (2018). Production and marketing challenges of strawberry cultivation in Haryana. *Indian Journal of Economics and Development*, 14(1a): 223-226. | 5.15 |
| 9. | Kumar, R., Kumar, N.,Dhillon, A.,Bishnoi, D.K., Kavita and Malik, A.K. (2019). Economic analysis of Guava (*Psidium guajava L.*) in Sonepat district of Haryana. *Economic Affairs*, 64(4): 747-752. | 5.08 |
| 10. | Kumar, R., Rathee, A.K., Kumar, N. and Luhach, V.P. (2019). Economic appraisal of mango production in Yamunanagar district of Haryana. *Journal of Pharmacognosy and Phytochemistry*, 8(2): 1298-1302. | ** |
| 11. | Kumari, N., Mehta, V.P., Bishnoi, D.K., Bhatia, J.K. and Kumar R. (2019). Contribution of Haryana state in food security of India. *Journal of Pharmacognosy and Phytochemistry*, 8(1): 2265-2268. | ** |
| 12. | Kumar, P., Sumit, Bhatia, J.K., Bishnoi, J.K., and Pawar, N. (2020). Profitability of rabi crops in Haryana. *International Journal of Education & Management Studies*, 10(4): 406-410. | 4.58 |
| 13. | Kumar, R. Bishnoi, D.K., Sumit and Singh, A. (2020). Constraints in production, marketing and processing of onion (*Allium Cepa* L.) in Nuh District of Haryana. *Economic Affairs*, 65(4): 653-657. | 5.08 |

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| 14. | Kumar, R., Dhillon, A., Kumar, N. and Kavita (2020). A study of production and marketing of onion in Nuh district of Haryana. *Indian Journal of Economics and Development*, 16 (SS): 176-182. | 5.15 |
| 15. | Kumar, R., Kumar, N., Bishnoi, D.K., Malik, A.K. and Kumar, P. (2020). A study of production and marketing of potato in Kurukshetra district of Haryana. *Indian Journal of Economics and Development*, 16 (2): 307-312. | 5.15 |
| 16. | Kumari, N., Mehta, V.P., Bishnoi, D.K., Bhatia, J.K. and Kumar, S. (2020). Trends in major food grain crops in Haryana. *Indian Journal of Economics and Development*, 16 (2): 208-220. | 5.15 |
| 17. | Mishra, P., Fatih, C., Niranjan, H.K., Tiwari, S., Devi, M. and Dubey, A. (2020). Modelling and forecasting of milk production in Chhattisgarh and India. *Indian Journal of Animal Research*, 54(7): 912-917. | 6.44 |
| 18. | Singh, A., Bishnoi, D.K., Kumar, N. and Kumar, R. (2020). Constraints faced in adoption of establishment techniques of wheat in Karnal and Kaithal districts of Haryana. *Economic Affairs*, 65(2): 179-181. | 5.08 |
| 19. | Singh, A., Bishnoi, D.K., Kumar, N. and Kumar, R., (2020). Resource use efficiency in wheat under different techniques in Karnal and Kaithal districts of Haryana. *Indian Journal of Economics and Development*, 16 (SS): 260-266. | 5.15 |
| 20. | Abdulaziz, K., Kundu, K.K. and Malik, D.P. (2021). Growth and economic profitability of rice cultivation in Haryana. *Asian Journal of Extension, Economics & Sociology*, 39 (11): 20-27. | 4.86 |
| 21. | Heena, Malik, D.P. and Tanwar, N. (2021). Growth in area coverage and production under organic farming in India. *Economic Affairs*, 66(04): 611-617. | 5.08 |
| 22. | Kaur, B., Kundu, K.K. and Sharma, N. (2021). Constraints in the diffusion of e-NAM and the policy measures. *Asian Journal of Extension, Economics & Sociology*, 39(11): 20-27. | 4.86 |
| 23. | Khine, N.A., Kundu, K.K., Malik, D.P. and Devi, M. (2021). Production and trade performance of blackgram (*Vigna mungo*) and greengram (*Vigna radiata*) in India and Myanmar. *Asian Journal of Agricultural Extension Economics & Sociology*, 39(10): 231-243. | 4.86 |
| 24. | Kumar, D., Bishnoi, D.K. and Mehla, V. (2021). Comparative analysis of laser land levelling vis-à-vis conventional land levelling in Karnal district of Haryana. *Asian Journal of Agricultural Extension, Economics & Sociology*, 39(3): 135-144. | 4.86 |
| 25. | Kumar, D., Bishnoi, D.K., Dhaka, A.K., Ritu, Rawal, S. Comparative economic analysis of laser land levelling *vis-a-vis* conventional land levelling in Sirsa district of Haryana. (2021). *Agricultural Mechanization in Asia, Africa and Latin America*, 52(01): 2113-2122. | 6.17 |
| 26. | Kumar, D., Bishnoi, D.K., Kumar, M. and Malik, A.K. (2021). Laser land levelling: a way forwards towards resource conservation in paddy–wheat cropping patterns in Haryana. *International Journal of Social Sciences*, 10(01): 69-74. | 4.38 |
| 27. | Kumar, D., Bishnoi, D.K., Kumar, R., and Bhardwaj, N (2021). Effect of laser land levelling on paddy-wheat and cotton-wheat cropping pattern in Haryana | 5.08 |
| 28. | Kumar, D., Bishnoi, D.K., Kumar, R., Sumit and Dhaka, A.K. (2021). Quantification of incremental benefits and change in input use pattern under laser land levelling in comparison with conventional land levelling in Haryana. *Economic Affairs*, 66(2): 259-263. | 5.08 |
| 29. | Kumar, D., Bishnoi, D.K., Kumar, V., Godara, A. and Singh, A. (2021). Comparative analysis of land levelling technology and conventional land levelling in cotton-wheat cropping pattern with respect to irrigation and water productivity in | 5.23 |

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| | Haryana. *The Pharma Innovation Journal*, 10(4): 263-265. | |
| 30. | Kumar, D., Bishnoi, D.K., Mehla, V. and Malik, A.K. (2021). Comparative analysis of resource use efficiency under lazer land levelling and conventional land levelling in cotton-wheat cropping patterns in Haryana. *Journal of Soils and Crops*, 31(1) 63-68. | 4.50 |
| 31. | Kumar, R., Kumar, N., Veer Sain, Sumit, Baskaur (2021). Profitability of cauliflower cultivation in Sonepat district of Haryana. *Agricultural Mechanization in Asia, Africa and Latin America*, 51(03): 1571-1580. | 6.14 |
| 32. | Kumar, R., Sanjeev, Sumit, Singh, A. and Bansal, H. (2021). Marketing and constraints faced by kinnow growers in Sirsa district of Haryana. *Agricultural Mechanization in Asia*, 51(03): 1557-1569. | 6.14 |
| 33. | Kumar, R., Sumit, Bishnoi, D.K. and Kumar, A. (2021). Economic appraisal of kinnow production in Sirsa district of Haryana. *Indian Journal of Agricultural Sciences*, 91 (3): 464–7. | 6.37 |
| 34. | Kumar, R., Veer Sain, Sumit, Kumar, P. and Kumar, A. (2021). Profitability of tomato (*Solanum lycopersicum*) cultivation in Nuh district of Haryana. *Indian Journal of Agricultural Sciences*, 91(11): 1695–1700. | 6.37 |
| 35. | Nimbrayan, P.K., Bharadwaj, N., Kumar N., Deepankar, Sumit, Kumar, A. and Kumar, R. (2021). Growth and instability analysis in wheat in India. *Agricultural Mechanization in Asia*, 51(1) 1211-1219. | 6.17 |
| 36. | Nisha, Malik, D.P. and Kundu, K.K. (2021). Inclusive growth in India and its elements: A Review. *Journal of community Mobilization and Sustainable Development*, 16(3): 833-843. | 5.67 |
| 37. | Sangwan, M., Singh, J., Pawar, N., Siwach. M., Y.P.S. and Karan, R. (2021). Evaluation of front-line demonstration on mustard crop in Rohtak district of Haryana. *Indian Journal of Extension Education*, 57(2):6-10. | 5.95 |
| 38. | Sehal, M., Pawar, N. and Malik, D.P. (2021). Economic impact of practicing IPM and INM technology in paddy (Basmati) crop in Haryana. *Economic Affairs*, 66(1): 85-92. | 5.08 |
| 39. | Singh, A., Bishnoi, D.K., Kumar, R. and Sumit (2021). Comparative economics of wheat cultivation establishment techniques in Haryana. *Economic Affairs*, 66(1):93-99. | 5.08 |
| 40. | Vani, G.K., Mishra P. and Devi, M. (2021). Dynamics of area substitution of pulses in India. *Indian Journal of Agricultural Research*, 56(3): 363-67. | 5.20 |
| 41. | Abdulaziz, K., Kundu K.K. and Malik, D.P. (2022). Rice value chain systems in Haryana: an economic analysis. *Economic Affairs*, 67(01): 133-142. | 5.08 |
| 42. | Heena, Malik, D.P. and Pant, P. (2022). Constraints faced by the farmers practicing organic farming in Haryana. *Pollution Research*, 41 (1): 158-163. | 5.10 |
| 43. | Kaur, M., Malik, D. P., Malhi, G. S., Sardana, V., Bolan, N. S., Lal, R., & Siddique, K. H. (2022). Rice residue management in the Indo-Gangetic Plains for climate and food security. A review. *Agronomy for Sustainable Development*, *42*(5), 92. | 11.83 |
| 44. | Khine, N.A., Kundu, K.K., Malik, D.P. and Papang, J.S. (2022). Production and trade of chickpea (*Cicer arietinum*) in India and Myanmar. *Indian Journal of Applied Business and Economic Research*, 3(1): 81-97. | ** |
| 45. | Khine, N.A., Kundu, K.K., Malik, D.P. and Devi, M. (2022). Pulses production and trade performance in India and Myanmar. *Agricultural Science Digest - A Research Journal*. | 4.75 |

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| 46. | Kumar, R., Godara, A.K., Saini, N., Bishnoi, D.K. and Kumar, N. (2022). Adoption extent of farmers about zero tillage seed drill technology in Haryana. *The Pharma Innovation Journal*, 11(3): 294-296. | 5.23 |
| 47. | Nisha, Malik, D.P., Kundu, K.K., Bhatia, J.K. and Ritu (2022). Economic efficiency of resource use in sugarcane production in Haryana. *Economic Affairs*, 67(3): 251-255. | 5.08 |
| 48. | Sharma, N., Pannu, R.S., Malik, D.P., Sain, V. and Kayastha R. (2022). Analysis of growth trends of production and consumption of fertilizer nutrients in India. *Economic Affairs*, 67(3): 1-8. | 5.08 |
| 49. | Sonia, D. P. Malik and Sanjay (2022). Assessment of progress of kisan credit card scheme in Haryana, India. *Asian Journal of Agricultural Extension, Economics & Sociology*, 10(10): 01-09. | 4.86 |
| 50. | Sonia, D.P. Malik and Sanjay (2022). Impact Analysis of the Factors Affecting the Adoption of the Kisan Credit Card Scheme. *Indian Journal of Economics and Development*,.18(3): 637-645. | 5.15 |
| 51. | Sonia, Malik , D.P. and Malik, J.S. (2022). Assessment on the progress of KCC scheme in Indi. *Indian Journal of Extension Education*, 58(3): 33-37. | 5.95 |
| 52. | Sunita, D.P. Malik, Kundu, K.K. and Nimbrayan, P.K. (2022). Economic cost and profit analysis of poultry industry in Mahendergarh district of Haryana. *Journal of Agriculture Research and Technology*, (1): 027-031. | 4.50 |
| | **Publication details of faculty** | |
| 53. | Devi, M., Mishra, P., Malik, D.P., Mehala, V., Mehta, V.P. and Bhardwaj, N. (2019). Study of climatic factors affecting the productivity of cotton and its instability. *Economic Affairs*, 64(4): 01-07. | 5.05 |
| 54. | Dhillon, A., Bhukar, A., Pawar, N. and Bishnoi, D.K. (2019). Economics of commercial seed vis a vis grain production of mustard (Brassica juncea L. Czern&coss) in Haryana. *Indian Journal of Economics and Development*, 15(1) 160-162. | 5.15 |
| 55. | Kumar, J., Kumar, N., Dhillon, A., Sumit and Kumar, R. (2019). Effect of socio-economic characteristics and disposal pattern of milk in Haryana. *Journal of Pharmacognosy and Phytochemistry*, 8(2) 1462-1464. | ** |
| 56. | Kumar, N., Pawar, N., Bishnoi, D.K., Bhatia, J.K., and Raj Kumar (2019). Energy usage and benefit-cost analysis of castor production in Haryana. *Economic Affairs*, 64(4): 789-794. | 5.08 |
| 57. | Kumar, N., Pawar, N., Malik, D.P., Kundu, K.K. and Sumit (2019). Economic efficiency of resource use in castor seed production in Haryana. *Green Farming*, 10 (6): 738-741. | 3.85 |
| 58. | Kumar, R., Kumar, N., Dillon, A., Bishnoi, D.K.,Kavita and Malik, A.K. (2019). Economic analysis of guava (*Psidiumguajava* L.) in Sonepat district of Haryana. *Economic Affairs*, 64(4):747-752. | 5.08 |
| 59. | Kundu, K.K., Singh, B. and Sumit (2019). An economic analysis of factor affecting seed purchase, requirement and availability of major principal crops in Haryana. *Journal of Pharmacognosy and Phytochemistry*, 8 (5): 2133-2137. | ** |
| 60. | Malik, D.P. and Pawar, N. (2019). Production, returns and policy initiatives for pearl millet in India. *Green Farming*, 10 (6) :683-689. | 3.85 |
| 61. | Malik, D.P. and Sumit (2019). Production and export potential of basmati rice in India. *Agricultural situation in India*, 76 (8): 8-19. | 4.53 |

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| 62. | Malik, D.P., Bishnoi, D.K., Kumar, N. and Sumit (2019). A study into economics of vegetable cultivation in Haryana. *Indian Journal of Economics and Development*, 15 (2): 317-321. | 5.15 |
| 63. | Malik, D.P., Pawar, N. and Swamy, H.M. (2019). Indices for measurement of diversification level in Haryana Agriculture. *Agricultural Situation in India*, 76 (2):1 – 7. | 4.53 |
| 64. | Malik, D.P., Sharma, N. and Pawar, N. (2019). Organic farming in India: status, export and certification. *Research Journal of Agricultural Sciences*, 10 (3): 581-584. | 4.50 |
| 65. | Sumit, Chauhan, R.S., Kumar, R. and Bishnoi, D.K. (2019). Constraints in production and marketing of honey in Haryana. *Journal of Pharmacognosy and Phytochemistry*, 7(4): 1110-1113. | ** |
| 66. | Bishnoi**,** D.K., Malik, D.P., Kumar, N., Singh, R., Bhatia, J.K. and Singh, D. (2020). Climate change effect on productivity of major crops in Western Haryana. *Indian Journal of Economics and Development*, 16 (SS): 512-515. | 5.15 |
| 67. | Bishnoi, D.K., Malik, D.P., Pawar, N., Kumar, N. and Sumit (2020). Resource use efficiency and constraints analysis of summer mung bean cultivation in rice – wheat cropping system. *Economic affairs*, 65(1):117-122. | 5.08 |
| 68. | Malik, D.P. and Devi, M. (2020). Diffusion and economics of Bt-cotton cultivation in Haryana. *Agricultural Situation in India*, 77 (6): 24. | 4.53 |
| 69. | Malik, D.P. and Devi, M. (2020). Global prominence of pigeon pea production with special reference to India, *African Asian Journal of Rural Development*, 53(2):64-98. | ** |
| 70. | Malik, D.P., Bishnoi, D.K., Pawar, N., Kumar, N. and Sumit (2020). Additional income generationfrom cultivation of summer mungbean in rice-wheat system of Haryana. *Legume Research-An International Journal*, 44(8): 952-955. | 6.59 |
| 71. | Pawar, N., Kumar, N., Malik, D.P., Sumit and Bishnoi, D.K. (2020). Growth and economic profitability of castor cultivation in semi – arid zone of Haryana. *Green Farming*, 11(2&3):258-262. | 3.85 |
| 72. | Pawar, N., Mehla, V., Devi, M., Malik, D.P., Sumit and Dhillon, A. (2020). Economic dimensions and resource use efficiency of wheat crop under sprinkler irrigation in southern Haryana. *Journal of Pharmacognosy and Phytochemistry*, 9(2): 54-57. | ** |
| 73. | Singh, J., Pawar, N., Raj, H., Panghal, V. P. and Duhan, D.S. (2020). Productivity and profitability of relay cropping of muskmelon (*Cucumis melo* L.) in wheat (*Triticum aestivum*). *Green Farming*, 11(6): 555-557. | 3.85 |
| 74. | Bhatia, J.K., Bishnoi, D.K., Dhingra, A. and Nimbrayan, P.K. (2022). Arrival and price behaviour of major mustard markets in Haryana. *Indian Journal of Extension Education*, 58(2):177-180. | 5.95 |
| 75. | Devi, M., Kumar, J., Malik, D. P. and Mishra, P. (2021). Forecasting of wheat production in Haryana using hybrid time series model. *Journal of Agriculture and Food Research*, *5*, 100175. | ** |
| 76. | Devi, M., Kumar, J., Malik, D.P. and Mishra, P. (2021). An inter-district analysis of instability and sustainability for major crops in Haryana, *Economic Affairs*, 66 (2): 217-223 | 5.08 |
| 77. | Devi, M., Kumar, J., Malik, D.P. and Mishra, P. (2021). Forecasting of wheat production in Haryana using hybrid time series model. *Journal of Agriculture and Food Research*, 5: 100175. | ** |

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| 78. | Devi, M., Kumar, J., Malik, D.P. and Mishra, P. (2021). Forecasting of wheat production in Haryana using hybrid time series model. *Journal of Agriculture and Food Research*, 5: 100175. | 4.54 |
| 79. | Devi, M., Rahman, U.H., Weerasinghe, C., Mishra, P., Tiwari, S. and Karakaya, K. (2021). Future milk production prospects in India for various animal species using time series models. *Indian Journal of Animal Research*, 56(9): 1170-1175. | 6.44 |
| 80. | Kumar, J., Devi, M., Verm, D., Malik, D.P. and Sharma, A. (2021). Pre-harvest forecast of rice yield based on meteorological parameters using discriminant function analysis. *Journal of Agriculture and Food Research*, 5(4):100194. | ** |
| 81. | Kumar, J., Devi, M., Verma, D., Malik, D.P. (2021). Pre-harvest forecast of rice yield based on meteorological parameters using discriminant function analysis. *Journal of Agriculture and Food Research*, 5: 100194. | ** |
| 82. | Kumar, J., Kumar, N., Bhatia, J.K., Bishnoi, D.K. and Kumar, R. (2021). An economic analysis of milk production and profitability of dairy farms in Haryana. *Indian Journal of Economics and Development*, 17 (1):104-111. | 5.15 |
| 83. | Kumar, N., Kumar, J., Bishnoi, D.K., Bhatia, J.K. and Baskaur (2021). Assessment of farm level post-harvest losses in wheat in Haryana. *Economic Affairs*, 66(04): 593-598. | 5.08 |
| 84. | Mahajan, S., Papang, J.S., Indu and Sharanagouda B. (2021). Impact of rising food prices on food security in Rajasthan and Gujarat. *Indian Journal of Agricultural Sciences*, 91(4): 559–562. | 6.37 |
| 85. | Mahajan, S., Papang, J.S., Panchal, Indu, Sharanagouda B. and Singh, Man (2021). Consumption pattern of livestock products and their nutritional contribution in northern hill states of India. *Indian Journal of Animal Sciences*, 91(9):780-785. | 6.37 |
| 86. | Malik D.P. (2021) Global chickpea production and instability with special reference to India for trade and policy options. *African-Asian Journal of Rural Development*, 54(1): 07-52. | ** |
| 87. | Malik, D.P., Pawar, N., Devi, M., and Sanjay (2021). Trailing towards self-reliance in pulses. *Agricultural Situation in India*, 77(7): 10-24. | 4.53 |
| 88. | Pawar, N., Bishnoi, N. and Malik, D.P. (2021). Resource use and economic potential of pigeon pea cultivation in Haryana. *International Journal of Agricultural Sciences*, 17(2): 239-244. | 4.73 |
| 89. | Pawar, N., Sumit and Malik, D.P. (2021). Growth performance and economic feasibility of kharifmaize vis-à-vis paddy basmati cultivation in Haryana. *Research Journal of Agricultural Sciences*, 12(2):458-461. | 4.50 |
| 90. | Pawar, N., Sumit and Malik, D.P. (2021). Resource use efficiency and constraints in cultivation ofmaize in Haryana. *Indian journal of Agricultural Sciences*, 91(2): 112-115. | 6.37 |
| 91. | Singh, J., Singh, K. and Pawar, N. (2021). Training needs of vegetable growers in Sonipat district (Haryana). *Journal of Community Mobilization and Sustainable Development*, 16(1): 185-191. | 5.67 |
| 92. | Devi, M., Kumar, J. and Malik, D.P. (2022). Statistical evaluation of regional level agricultural and socio- economic development in Haryana. *Indian Journal of Ecology*, 49(3): 938-944. (NAAS Rating 5.79) | 5.79 |
| 93. | Kumar, V. and Malik, D.P. (2022). Trends and economic analysis of chickpea (*Cicer arietinum*) cultivation in India with special reference to Haryana. *Legume* | 6.59 |

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| | *Research- An International Journal*, 45 (2):189-195. | |
| 94. | Malik, D.P., Devi, M. and Reddy, A.A. (2022). Global status of lentil production with special reference to India. *Indian Journal of Agricultural Sciences*, 92 (4):474-479. | 6.37 |
| 95. | Mehla, V., Devi, M., Supriya and Das, S.S. (2022). Gap analysis of MSP and harvest price of principal crops in Hisardistrict of Haryana. *International Archive of Applied Sciences and Technology*, 13(1):12-15. | 4.36 |
| 96. | Mehla, V., Devi, M., Supriya and Ray, S. (2022). Constraints faced by farmers and intermediaries to getting minimum support price (MSP) in Haryana. *International Archive of Applied Sciences and Technology*, 13(1):16-18. | 4.36 |
| | **Book Chapters** | |
| 97. | Kumar, R., Rathee, A.K., Luhach, V.P., Kumar, N. and Sumit (2019). Economic appraisal of ber (*ZizyphusMauritiana*Lamk.) production in Sonipat district of Haryana. In: Emerging Research Trend in Social Sciences Book chapter 14 International bloomsbury publishing Pvt. Ltd. New Delhi. 129-136. (ISBN: 978-93-89000-19-1). | - |
| 98. | Sumit, Pawar, N., Kumar, N., Dhillon, A. and Kumar, R. (2019). Impact of Beekiping enterprise on income and employment genration in Haryana. In: Emerging Research Trend in Social Sciences Book chapter 17 International Bloomsbury publishing Pvt. Ltd. New Delhi. 151-156. (ISBN: 978-93-89000-19-1) | - |
| 99. | Mahajan, S., Papang, J.S., Indu and Sharanagouda B. (2021). Role of Livestock Products in Food Security of Northern Hill States of India. In: Vulnerability to Food and Nutrition Insecurity in Mountain Regions: Unique Challenges and Niche Opportunities (Bhagat, D. and Singh, R., (eds.), New Delhi Publishers, India. | - |
| 100. | Kaur, M., Malik, D.P., Malhi, G.S., Rehmani, M.I.A. and Brar, A.S. (2022). Climate-Smart Agriculture Interventions for Food and Nutritional Security. In: Ecological Footprints of Climate Change Adaptive Approaches and Sustainability (Eds. Uday Chatterjee · Angela OyiliezeAkanwa, Suresh Kumar, Sudhir Kumar Singh, Abira Dutta Roy). Springer Nature Switzerland. 445-465. | - |
| 101. | Sonia, Bajwan, A., Mishra, A. and Malik, D.P. (2022). Crop Development Schemes in India. In: Climate Resilient Smart Agriculture: Approaches & Techniques (Eds. Kanak Saxena and ManoherSaryam). Vital Biotech Publication, Kota, Rajasthan. 178-197. | - |

*Annexure AG ECON -II*

## PROGRAMMES ORGANISED/CONDUCTED
## APRIL 2018 – MARCH 2023

| S. No. | Year | Title | Date /Duration |
|---|---|---|---|
| 1. | 2019-20 | Organized Training-cum- "**Workshop on Commodity Derivative Markets"** at DHRM, CCS HAU, Hisar in collaboration with Multi Commodity Exchange (MCX), Mumbai | 09.09.2019 |
| 2. | 2021-22 | Department in collaboration with DHRM, CCS HAU, Hisar organized 21 days training on **"Applications of Statistical and Econometric Techniques in Agriculture"** | 24.11.2021 to14.12.2021 |

*Annexure AG ECON- III*

## AWARDS/ RECOGNITIONS

| Sr. No. | Name of the Award | Year | Date of award | Whether received individually or at Department level |
|---|---|---|---|---|
| 1. | **Young Scientist Award** by GKV society on the occasion of National Conference on Managing Natural Resources for Sustainable Agriculture held at R.B.S, College, Agra (UP) | 2019 | December 8-9, 2019. | Dr.Nirmal Kumar |
| 2. | **Letter of Appreciation** by Secretary to Governor, Raj Bhawan Haryana, Chandigarh for the work assigned on preparation of draft note on the issue of "Approach to Agriculture – A Holistic Overview. | 2019 | - | Dr.K. K. Kundu |
| 3. | **Letter of Appreciation** by Vice-Chancellor, for the work assigned on preparation of draft note on the issue of "Approach to Agriculture – A Holistic Overview. | 2019 | - | Dr.K. K. Kundu |
| 4. | **Certification of Appreciation** by Shri Mata Vaishno Devi University, Jammu & Kashmir, Katra, Kakryal - 182320, for being acted as an Session Chair in the panel discussion in the international seminar on sustainable rural development in India: Issues, Opportunities & Challenges, organized by School of Economics, SMVDU, in collaboration with NABARD. | 2019 | 9th March, 2019. | Dr.K. K. Kundu |
| 5. | **Best poster award** during 30th annual conference "Institutional changes for inclusive and sustainable development" Agricultural Economics Research Association held at SKUAST-Jammu | 2022 | 21/12/22 to 23/12/2022 | Dr. J.S. Papang |
| 6. | Nominated by Haryana Government as member of the "Task Force for preparation of KisanKalyan /Farmers Welfare Policy with Vision 2047" | 2023 | 10th February 2023 | Dr. D. P. Malik |

*Annexure AG ECON- IV*

## PROJECTS COMPLETED SUCCESSFULLY

| Year | Title of Research Experiments/Projects |
|---|---|
| **2017-2020** | Resource-Use Planning for Sustainable Agriculture |
| **2019-2022** | Causes and Consequences of e-National Agricultural Markets (e-NAM) on the Economic Development of the Indian Agriculture – A Case Study |
| **Since 1970** | Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India - Haryana |

*Annexure AG ECON- V*

## STUDENTS QUALIFIED NET/JRF/SRF/ARS

| **Selection in Agricultural Research Service (ARS), ICAR** | | | |
|---|---|---|---|
| S.No | **Year** | **Name of student** | **Admission No** |
| 1 | 2023 | Manpreet Kaur | 2019A07D |

| **Qualified in NET examination (ICAR, UGC, CSIR)** | | | |
|---|---|---|---|
| **S.No** | **Year** | **Name** | **Admission No.** |
| **1.** | 2018 | Sanjay | 2016A02D |
| **2.** | | Sumit | 2014A01D |
| **3.** | 2019 | Manpreet kaur | 2019A07D |
| **4.** | | Dinesh Kumar | 2014A01D |
| **5.** | 2020 | Mandeep Kumar | 2019A03M |
| **6.** | | Mohit Sehal | 2018A03M |
| **7.** | 2021 | Manpreet Kaur | 2019A07D |
| **8.** | | Dinesh Kumar | 2020A04D |
| **9.** | | Sonia | 2021A04D |
| **10.** | | Mandeep Kumar | 2021A04D |
| **11.** | | Ritu | 2019A09D |
| **12.** | | Chenvalli Karnakar | 2020A03D |
| **13.** | | Neelam Kumari | 2018A02D t |
| **14.** | | Nisha | 2019A08D |
| **15.** | | Mohit Sehal | 2020A05D |
| **16.** | | Manoj Kumar Patil | 2019A04M |
| **17.** | | Raj Ratan Pandey | 2019A07M |
| **18.** | | Sagar Rawal | 2019A08M |
| **19.** | 2022 | Manpreet Kaur | 2019A07D |
| **20.** | 2023 | Indu | 2022A02D |

| **Fellowships awarded to PG students** | | | | |
|---|---|---|---|---|
| S. N. | **Year** | **Fellowship** | **Name of student** | **Admission No.** |
| **1** | 2018 | UGC JRF | Sanjay | 2016A02D |
| | 2019 | UGC JRF | Mousimi | 2017A01M |
| | 2019 | National Fellowship for OBC | Sunita | 2016A03D |
| **2** | 2020 | UGC JRF | Dinesh Kumar | 2014A01D |
| **3** | 2020 | UGC JRF | Manpreet Kaur | 2019A07D |

| | | | | |
|---|---|---|---|---|
| **4** | 2021 | ICAR SRF | Raj Ratan | 2019A07M |
| **5** | 2022 | ICSSR JRF | Sonia | 2021A04D |
| | 2023 | UGC JRF | Indu | 2022A02D |

***Annexure AG ECON- VI***

## PLACEMENT OF STUDENTS

| Year | S. No. | Name of student | Placement Position | Placement at (Dept./Inst. etc.) |
|---|---|---|---|---|
| **2018** | 1 | Sonu Ram | Sectional Officer | DDA, New Delhi |
| | 2 | Mohit Chauhan | Sectional Officer | DDA, New Delhi |
| **2019** | 3 | Sanjay | Assistant Professor | CCS HAU, Hisar |
| | 4 | Sumit | Assistant Professor | CCS HAU, Hisar |
| | 5 | Veer Sain | Assistant Professor | CCS HAU, Hisar |
| | 6 | KavitaYadav | Assistant Professor | CCS HAU, Hisar |
| | 7 | Neelam | Training Assistant | CCS HAU, Hisar |
| **2020** | 8 | Swamy HM | Senior Research Fellow | ICAR-NIVEDI, Bengaluru. |
| | 9 | Heena | Assistant Professor | SGT University, Gurugram, |
| **2021** | 10 | Dinesh | District Extension Specialist | CCS HAU, Hisar |
| | 11 | MohitSehal | District Extension Specialist | CCS HAU, Hisar |
| | 12 | Ajay Yadav | District Extension Specialist | CCS HAU, Hisar |
| | 13 | Raj Kumar | Assistant Professor | MPHUAT, Karnal |
| | 14 | Ritu | Assistant Professor | MMU, Mullana |
| **2022** | 15 | Manpreet Kaur | Scientist | ICAR-CIAH, Bikaner |
| **2023** | 16 | Nitin Sharma | Research Associate | IARI, New Delhi |
| | 17 | Nisha | Senior Research Fellow | IARI, New Delhi |
| | 18 | Mandeep | Technical Assistant | FCI, New Delhi |
| | 19 | Parveen Kumar | Assistant Professor | CCSHAU, Hisar |

***Annexure AG ECON- VII***

## COURSES OFFERED BY THE DEPARTMENT

| Course no. | Course title | Credits | Sem |
|---|---|---|---|
| **A. Under graduate programme at college of agriculture** | | | |
| **Ag Econ 102** | Fundamentals of agricultural economics | 2+0 | **II** |
| **Ag Econ 201** | Agricultural finance and cooperation | 2+1 | **I** |
| **Ag Econ 202** | Agricultural marketing, trade and prices | 2+1 | **II** |
| **Ag Econ 302** | Farm management, production and resource economics | 1+1 | **II** |
| **RAWE-491** | Rural agricultural work experience | 0+20 | **II** |
| **B. Under graduate programme at college of home science** | | | |
| **Ag Econ 303** | Marketing and sales management | 2+1 | **II** |
| **C. Under graduate programme at college of fisheries** | | | |

| | | | |
|---|---|---|---|
| **Fees201** | Fisheries economics | 2+1 | **I** |
| **D. Under graduate programme at coae&t** | | | |
| **For 201** | Environmental studies and disaster management | | |
| **E. Post graduate courses** | | | |
| **Ag Econ501*** | Micro economic theory and applications | 2+0 | **I** |
| **Ag Econ502*** | Macro economic theory | 2+0 | **I** |
| **Ag Econ503** | Evolution of economic thought | 1+0 | **II** |
| **Ag Econ504*** | Farm management and agricultural Production economics | 2+1 | **I** |
| **Ag Econ505*** | Agricultural marketing and price analysis | 2+1 | **I** |
| **Ag Econ506*** | Research methodology for social sciences | 1+1 | **II** |
| **Ag Econ507*** | Priniciples of econometrics | 2+1 | **I** |
| **Ag Econ508*** | Linear programming | 1+1 | **II** |
| **Ag Econ509** | Agricultural finance and project Management | 2+1 | **II** |
| **Ag Econ510/ SST514** | Seed marketing and management | 2+1 | **II** |
| **Ag Econ511** | International economics | 1+1 | **I** |
| **Ag Econ512** | Institutional economics | 1+0 | **II** |
| **Ag Econ513** | Agricultural development and policies | 2+0 | **I** |
| **Ag Econ514** | Natural resource and environmental economics | 1+1 | **II** |
| **Ag Econ515** | Intellectual property management | 1+0 | **I** |
| **Ag Econ516/ Comp501** | Computer programming in statistical research | 2+1 | **I,II** |
| **Ag Econ517** | Rural marketing | 2+0 | **I** |
| **Ag Econ518** | Commodity futures trading | 2+0 | **II** |
| **Ag Econ591** | Master's seminar | 1 | **I,II** |
| **Ag Econ599** | Master's research | 20 | **I,II** |
| **Ag Econ601**** | Advanced micro-economic analysis | 1+1 | **II** |
| **Ag Econ602**** | Advanced macro-economic analysis | 2+0 | **II** |
| **Ag Econ603**** | Advanced econometrics | 2+1 | **II** |
| **Ag Econ604**** | Advanced production economics | 2+1 | **I** |
| **Ag Econ605** | Quantitative development policy analysis | 1+1 | **I** |
| **Ag Econ606**** | Advanced agricultural marketing and price analysis | 2+1 | **II** |
| **Ag Econ607** | Farm organization and management | 1+1 | **II** |
| **Ag Econ608** | Agricultural finance and co-operation | 2+0 | **I** |
| **Ag Econ609** | Natural resource management | 1+1 | **II** |
| **Ag Econ610** | Environmental economics | 2+1 | **I** |
| **Ag Econ691** | Doctoral seminar I | 1 | **I,II** |
| **Ag Econ692** | Doctoral seminar II | 1 | **I,II** |
| **Ag Econ699** | **Doctoral research** | **45** | **I,II** |

*Compulsory for Master's programme;**Compulsory for Doctoral programme

# Programme - 3



**M.Sc. Agronomy**

**and**

**Ph.D. Agronomy**

## 6.4. About the Department

The Department of Agronomy, a constituent department of College of Agriculture of CCS Haryana Agricultural University made a humble beginning on 1st June 1964 being Dr. M. K. Moolani as its first Head. The Department has attained the distinction of one of the biggest department of the College of Agriculture with faculty strength of approximately 117 teachers/scientists including extension specialist during 80's and 90's and presently with strength of about 61 faculty members. This department is responsible for teaching, research and extension activities related to the discipline of agronomy throughout the state of Haryana. It has excellent infrastructure of well-equipped laboratories and research farm of 25 ha besides a students' farm of about 6 ha. These are well supported by laboratory and field staff for proper conduction of research both by faculty and post-graduate students as well as farm practical of undergraduate students. Since the inception of the department, 678 M.Sc. and 318 Ph.D. students have completed their degree. Practical Crop Production (PCP) Programme was started by the Department of Agronomy in the year 1974 and is offered to the students of B. Sc. (Hons.) Agri. 3rd year. Rural Agriculture Work Experience (RAWE) programme was started in 1991-92 and as of today a total of 2713 of B. Sc. (Hons.) Agri final year student's had undergone one semester training in the rural areas. Many of our post-graduate students have been selected in IAS, IFS, HCS, commissioned officers in Army and Navy and other allied services.

Many students from abroad i.e. Vietnam, Afghanistan, Bangladesh, Somalia, Ethiopia, Zimbabwe have completed their post graduation from this department. The department offers 16 Courses (60 Credit hours) to B. Sc. (Hons.) Ag. students and 27 Courses (69 Credit hours) for M. Sc. and Ph. D. students on various agronomical aspects of Crop Production, Water Management, Weed Management, Farming System and Dryland Agriculture every year. In addition, the department also offers course each to UG student for College of Home Science and College Agril. Engg. and earlier one course to B.V.Sc and AH. students. The department operated a Centre of Excellence in Soil and Water Management on Advance Studies in Soil and Water Management from 1971 to 1982 with a financial assistance from UNDP/ICAR. In 1982, the UNDP centre on soil and water management was awarded a multidisciplinary basic research project entitled "Identification of agro-physiological traits for screening the genotypes of oilseed and chickpeas for drought situations" under NARP.

**Objectives of the Department**

- To impart teaching in the field of Agronomy to under graduate and post graduate students.
- To conduct research in the field of weed science, irrigation, fertility, agro-forestry, dryland agriculture, crop ecology, agrostology and integrated farming system and in any new area depending on requirement of the state.
- Transfer of technology to farmers through KVKs and government agencies.

### 6.4.1 Brief History of the Degree Programme

- Since the inception of the department from 1964 to till date 678 M. Sc. and 318 Ph. D. students have completed their degrees. Students enrolled in M. Sc. and Ph. D. programmes have been given research problems related to weed science, irrigation, fertility, agro-forestry, dryland agriculture, crop ecology, agrostology and integrated farming system.

| | |
|---|---|
| **Objectives of initiating M. Sc. programme** | • To prepare students to enter their profession with a perspective and breadth of knowledge related to their respective fields of specialization through course work, seminars and project/thesis work, research experience and thus cater to the needs of industry, R&D organizations, government and the educational institutions.<br>• To meet the needs of students and employers by offering relevant, quality career education programmes, training and research in field of Agronomy so that the students could overcome their shortcoming and significantly commit to the expectations of our farming community. |
| **Accomplishments of M.Sc. programme** | • Till date the Department of Agronomy has conferred degree to 678 M.Sc. Students. During the period under report, 79 students have completed their Master's degree. At present 37 M.Sc. students are on roll.<br>• Thirty Four (34) students passed National Eligibility Test (NET) conducted by Agricultural Scientists Recruitment Board (ASRB) during the period under report *(Annexure AGRON-I).*<br>• During the period under report, four (04) students have joined as Agricultural Officer/PO in Public Sector Bank; *(Annexure AGRON-I).* |
| **Objectives of initiating Ph. D programme** | • To meet the needs of students and employers by offering relevant, quality career education programmes, training and research in field of Agronomy.<br>• To undertake challenges in the field of Agronomy through research activities.<br>• The objective of the Ph.D. degree is to accomplish original, valid, and important research. Since the degree is the training ground for a career in academic teaching and scholarly research, the Ph. D. candidate must demonstrate the ability to do independent research.<br>• To impart theoretical and practical value in many fields extending over the various aspects of Agronomy. |
| **Accomplishments of Ph.D. programme** | • Till date the Department of Agronomy has conferred degree to 318 Ph.D. students during the period under report, 36 students have completed their Doctorate degree. At present 56 Ph.D. students are on rolls.<br>• Two students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB) during the period under report *(Annexure AGRON-1).*<br>• During the period under report, twenty seven students have joined in different departments *(Annexure AGRON-1).*<br>• Note: List of Students Publications if given in *Annexure AGRON-II.* |

| **Specialization** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agronomy | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | **Total** | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | **Total** |
| **M.Sc.** | 13 | 13 | 17 | 17 | 18 | 89 | 17 | 6 | 18 | 17 | 27 | 102 |
| **Ph.D.** | 7 | 7 | 9 | 9 | 10 | 50 | 12 | 10 | 6 | 8 | 10 | 56 |

Y1=2018-19… Y5=2022-23(till date)

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **1.** | Professor and equivalent (14) | 13 | 1 | 1 |
| **2.** | Associate Professor and equivalent (13) | 5 | 8 | 1 |
| **3.** | Assistant Professor and equivalent (47) | 44 | 3 | 4 |

* Faculty in place under Professor and Associate Professor include Personal Promotion (PP)

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In-place* | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1 | **Office staff** | | | | |
| | AO/Superintendent | - | - | - | - |
| | Assistant | 1 | 1 | - | - |
| | Clerk | 2 | 2 | - | - |
| | PA/Steno/JSS | 1 | 1 | - | - |
| | Messenger | 1 | - | - | - |
| | Peon | - | - | - | - |
| 2 | **Lab staff** | | | - | - |
| | Lab Assistant | 6 | 2 | 4 | - |
| | Lab Attendant | - | - | - | - |
| | Any other | 1 | 1 | - | - |
| 3 | **Field staff** | | - | - | - |
| | Beldar | 14 | 3 | 11 | - |
| | Farm and fieldworker(specify) **Plant observer** | 2 | - | - | - |
| | Technical Assistant | - | - | - | - |
| | Agriculture Inspector | 8 | 5 | 3 | - |
| 4 | Driver | 2 | 1 | 1 | |
| 5 | **Liftman** | - | - | - | - |
| 6 | **Computer operator** | - | - | - | - |
| 7 | **Technician** | 1 | 1 | 0 | - |

*The technical and supporting staff of the departments assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities,*

*workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

## List of classroom and functional laboratories

| | |
|---|---|
| No. of lecture rooms with sitting capacity with smart class room facility | One (with seating capacity of 70 students) |
| No. of lecture rooms with smart class facility | 1 (Seminar Room) |
| No. of labs under Dean's office with specialized purpose | 4 (weed, residue, irrigation and farming system) |
| Farm facilities | Students farm for undergraduate and research area for PG students. |
| Any other instructional units being utilized for the award of the Degree Programme | Instructional farm for UG students |

## List of major equipments at present in the department

| S.No. | Name of Instrument/Equipment | Location/ Lab No. |
|---|---|---|
| 1 | Atomic Absorption Spectrophotometer | 207 |
| 2 | Microwave Digestion System | 207 |
| 3 | Spectrophotometer | 207 |
| 4 | Flame photometer | 207 |
| 6 | Hot air Oven | 216 |
| 7 | Growth Chamber Seed germinator | 216 |
| 8 | Deep freezer | 216 |
| 9 | Humidity Chamber | 216 |
| 10 | Green Seeker | 216 |

## Mention theory and practical courses for PG Programmes

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M. Sc. | Ph.D. | M. Sc. | Ph.D. |
| **2018-19** | 13 | 9 | 11 | 4 |
| **2019-20** | 13 | 9 | 11 | 4 |
| **2020-21** | 13 | 9 | 11 | 4 |
| **2021-22** | 13 | 9 | 11 | 4 |
| **2022-23** | 13 | 9 | 11 | 4 |

## Theory and practical batches

At UG level, the department of Agronomy offers 12 core and 5 professional elective courses, of which eleven core and all professional courses have practical components. More over two courses agron 303 and agron 304 are totally practical oriented.(Practical Crop Production)

- For theory in core courses, from 1$^{st}$ to 6$^{th}$ Semester there are two-three batches with an average of about 40-50 students in each batch.
- For theory in professional elective courses during 7$^{th}$ Semester, there is one batch in each elective courses.
- At M.Sc. level, the Department of agronomy offers 13 courses and 11 courses have practical

components. There are limited seats in M.Sc. programme. Some courses are offered as minor courses for students of other departments. There is only batch for theory classes and one batch for practical classes in all the courses.

- Similarly, at Ph.D. level there are limited seats in the programmes. Hence, there is only batch for theory classes and one batch for practical classes in all the courses. For Ph.D., the department of agronomy offers 9 courses and 4 courses has practical components**.**

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements*

| Degree programme | Total courses | Practical courses | Hands-on-training courses | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| M. Sc. | 13 | 11 | AGRON 501 | • To teach the basic concepts of soil management and crop production |
| | | | AGRON 502 | • Knowledge of fertilizers and manures as sources of plant nutrients and apprise about the integrated approach of plant nutrition and sustainability of soil fertility. |
| | | | AGRON 503 | • To familiarize the students about the weeds, herbicides and methods of weed control. |
| | | | AGRON 504 | • To teach the principles of water management and practices to enhance the water productivity |
| | | | AGRON 505/ AGM 502 | • To impart the theoretical and practical knowledge of physical processes occurring in relation to plant and atmosphere with advanced techniques. |
| | | | AGRON 506 | • To teach the crop husbandry of cereals and pulse crops. |
| | | | AGRON 507 | • To teach the crop husbandry of oilseed, fiber and sugar crops. |
| | | | AGRON 508 | • To acquaint students about different medicinal, aromatic and underutilized field crops, their package of practices and processing. |
| | | | AGRON 509 | • To teach the crop husbandry of different forage and fodder crops along with their processing |
| | | | AGRON 510 | • Crop husbandry of different forage, fodder and agro-forestry crops/trees along with their processing |
| | | | AGRON 511 | • To acquaint the students about prevailing cropping systems in the country and |

| | | | | |
|---|---|---|---|---|
| | | | AGRON 512<br><br>AGRON 513<br><br>AGRON 599 | practices to improve their productivity<br>• Practices of dry land farming and soil moisture conservation.<br>• Practices of organic farming for sustainable crop production.<br>• Masters research programme |
| Ph. D. | 9 | 4 | AGRON 601<br><br>AGRON 602<br>AGRON 603/ AGM 506<br><br>AGRON 604<br><br><br><br><br><br><br>AGRON 605<br>AGRON 606<br><br>AGRON 607<br><br><br>AGRON 608<br><br>AGRON 609<br><br>AGRON 699 | • To acquaint the students about recent advances in agricultural production.<br>• To acquaint the students about the agricultural systems, agro-ecological regions, andadaptation of crops to different agro-climatic conditions<br>• Practical knowledge of various models for estimation of crop responses.<br>• Study the physiology of vegetative and reproductive growth in relation to productivity of different crops in various environments<br>• Apprise about different enterprises suitable for different agro-climatic conditions for sustainable agriculture<br>• To teach students about optimization of irrigation in different crops under variable agroclimatic conditions<br>To teach about the changing weed flora, new herbicides, their resistance, toxicity, antidotes and residue management under different cropping systems.<br>• Various types of stresses in crop production and strategies to overcome them.<br>• Doctoral research programme |

**6.4.6. Supervision of students in PG/PhD programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programmes offered by the Department:**

| Year | No. of students on roll | No. of PG faculty | Student-teacher-Ratio |
|---|---|---|---|
| 2018-19 | 38 | 49 | 0.70:1 |
| 2019-20 | 45 | 55 | 0.81:1 |
| 2020-21 | 47 | 57 | 0.82:1 |
| 2021-22 | 43 | 59 | 0.73:1 |
| 2022-23 | 37 | 62 | 0.59:1 |

**Details of Ph.D. programmes offered by the Department:**

| Year | No. of students on roll | No. of PG faculty | Student –teacher Ratio |
|---|---|---|---|
| 2018-19 | 22 | 49 | 0.44:1 |
| 2019-20 | 34 | 55 | 0.61:1 |
| 2020-21 | 35 | 57 | 0.61:1 |
| 2021-22 | 49 | 59 | 0.83:1 |
| 2022-23 | 45 | 62 | 0.73:1 |

**Note:** The detail of courses offered by the Department is given in *Annexure AGRON-III*

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system of annual self appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis their results, feedback from the students. Students of Professional Elective course are placed in different institutions for In-plant training. Teachers visit these institutions during training period of students and conduct meetings with authorities of the institutes. Any suggestions provided by them are incorporated in the curriculum.The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree program | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 19 | 26 | 21 | 22 | 23 | 15.7 | - | 4.76 | 13.6 | 21.70 |
| Ph.D. | 09 | 12 | 15 | 20 | 13 | 33.33 | 8.33 | 13.3 | 15 | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of Department of agronomy use ICT in teaching and practical. There is one Seminar Room with smart class room facility and internet connection. One seminar room is also equipped with LCD projector. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG, PG and Ph.D. level. For PG and Ph.D. students emails are also used for assignments etc.

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weight age for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Surender K. Pahuja** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

***Annexure AGRON-I***

| **Students who cleared ICAR/UGC- NET** | | | | |
|---|---|---|---|---|
| **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** |
| Names (Admn.No.) | Names (Admn. No.) | Names (Admn. No.) | Names (Admn.No.) | |
| 1.Naveen Kumar Kamboj (2011A16M) | - | 1.Sarita Rani (2013A04D) | 1. Amit Sharma (2019A17M)<br>2. Gangadhar K. (2019A19M)<br>3. Hariom Suman (2019A20M)<br>4. Mehak Nagora (2019A21M)<br>5. Navneet (2019A25M)<br>6. Neeraj Yadav (2019A26M)<br>7. Pardeep Kumar (2019A27M)<br>8. Pragati Yadav (2019A28M)<br>9. Preetam Kumar (2019A29M)<br>10. Rahul Dhankar (2019A30M)<br>11. Raj Kumar (2019A31M)<br>12. Shital Kumar (2019A33M )<br>13. Simran Jasht (2019A34M)<br>14. Sonali (2019A35M)<br>15. Sumit Bhardwaj (2019A36M)<br>16. Sunil Dutt Vashisht (2019A37M)<br>17. Pradeep Kumar (2019A38M)<br>18. Ravi (2019A39M)<br>19. Surender Kumar (2019A40M)<br>20. Akshay (2019A41M)<br>21. Kavita (2019A42M)<br>22. Deepak loura (2020A10D)<br>23. Isha (2020A11D)<br>24. Jitender (2020A12D)<br>25. Sachin Singh (2020A18D)<br>26. Mehak Nagora (2021A11D)<br>27. Pardeep Phogat (2022A13D) | 1. Pramod Kumar (2018A12D)<br>2.Deepak Loura (2017A30M) |

| Students' Placement details | | |
|---|---|---|
| **2019-20** | **2020-21** | **2021-22** |
| 1. Suman (2018A27M) as AG-III (Technical) in FCI<br>2. Reeta (2017A19M), FCI, Hisar | **1.** Saurabh Sharma (2015A15D) as Subject Matter Specialist (Agronomy) at KVK Sirmour, HP) | 1. Sonali (2019A35M)-FCI, Manager<br>2. Savita Mehra (2018A27M) as Agriculture Field Officer JMG Scale –I in PNB, Rohtak<br>3. Amit Kumar ( 2016A10D) Assistant scientist |

***Annexure AGRON- II***

# LIST OF PUBLICATIONS

| S. No. | Publication Details | NAAS rating |
|---|---|---|
| **1.** | Devi, R., Duhan, A. and Punia, S.S. (2018). Leaching behaviour of halosulfuron-methyl in sandy loam soil. *International Journal of Chemical Studies*, 6(5): 31-3. | 5.3 |
| **2.** | Devi, R, Duhan, A, Punia, S.S. and Yadav, D.B. (2018). Degradation dynamics of halosulfuron-methyl in two textured soils. *Bulletin of Environmental Contamination and Toxicology*, 102:246-251. | 8.9 |
| **3.** | Korav, S., Dhaka, A.K., Singh R., Premaradhya N. and Reddy, G. C. (2018). A study on crop weed competition in field crops. *Journal of Pharmacognosy and Phytochemistry*, 7(4): 3235-3240. | 5.21 |
| **4.** | Kumar, M., Singh, B. and Dhaka, A.K. (2018). Impact of prevailing thermal based indices on phenology, yield attributes and yield of barley cultivars. *Journal of Agrometeorology*, 20 (Special issue): 207-212. | 6.40 |
| **5.** | Neelam, Bhagat S. and Satpal (2018). Response of malt barley genotypes to different nitrogen levels under irrigated timely sown conditions. *Forage Research*, 44(1): 63-65. | 4.48 |
| **6.** | Neeraj, Vasudeva, N., Sharma, S., Duhan, A. and Ravi (2018). HPLC standardization of ethyl acetate extract of *Fagopyrum esculentum* Moench seeds and *in-vitro* enzyme inhibitory activities. *International Journal of Pharmaceutical Sciences and Research*, 9(11) 1000-1005. | 4.0 |
| **7.** | Prasad, G., Singh, R.R. and Kumar, P. (2018). Growth and yield response in maize (*Zea mays* l.) to organic and inorganic nutrient sources under Haryana conditions. *International Journal of Pure Applied Biosciences*, 6 (6): 259-265. | 6.5 |
| **8.** | Priyanka, Sheoran, R.S, Punia, S.S. and Singh, S. (2018). Studies on chemical weed control in berseem *(Trifolium alexandrinum* L.). *International Journal of Current Microbiology and applied Sciences*, 7 (1). 2669-2673. | 5.38 |
| **9.** | Rani P. and Sharma, K.D. (2018) Evaluating the impact of bio-inoculants on growth of wheat (*Triticum aestivum* L.) at different growth stages under varying soil moisture regimes. *Journal of Agrometeorology*, 20 (SI 2): 182-187 | 6.56 |
| **10.** | Rani, B, Madan, S. Pooja, Sharma, K.D, Kumari, N and Kumar, A. (2018). Mitigating the effect of drought stress on yield and yield components in Wheat (*Triticum aestivum* L.) using arbuscular mycorrhiza fungi. *Indian Journal of Agricultural Science*, 88(12): 1903-08 | 6.23 |
| **11.** | Rani, D., Duhan, Anil, Punia, S.S., Yadav, D.B. and Duhan, S. (2018) Behaviour of pre-mix formulation of imazethapyr and imazamox herbicides in two different soils. *Environmental Monitoring and Assessment*, | 7.8 |
| **12.** | Sucheta and Punia S.S. (2018). Crop phonology and growth of zero till wheat as affected by different sowing dates and preceding cultivars of direct-seeded rice under rice-wheat system. *International Journal of Chemical Studies*, 6(6): 1478-1481. | 5.31 |

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| **13.** | Yadav, D.B., Yadav, A. and Punia, S.S. (2018). Ready mix of pinoxaden and clodinafop-propargyl for control of Phalaris minor in wheat and its residual effects on succeeding rice crop. *Indian Journal of Weed Science*, 50(1): 42-45. | 5.84 |
| **14.** | Bhardwaj, S., Bhardwaj, N. and Kumar, V. (2019). Estimation of lifespan of diesel locomotive engine. *Journal of Information & Optimization Sciences*, 40(5):1097-1108. | - |
| **15.** | Bhardwaj, S., Bhardwaj, N. and Kumar, V. (2019). The study of Reliability of Diesel Locomotive Engine using Weibull Distribution. *International Journal of Agricultural and Statistical Sciences*, 15(2). | 5.13 |
| **16.** | Bhardwaj, S., Bhardwaj, N. and Kumar, V. (2019). Weibull distribution for prediction of system reliability FIRMS *International Journal of mathematical Science*, Vol-1 published-20/07/2019 | 6.1 |
| **17.** | Devi, R., Duhan, A. and Punia, S.S. (2019). Leaching behaviour of halosulfuron-methyl in sandy loam soil. *International Journal of Chemical Studies*, 6(5): 31-34 | 5.31 |
| **18.** | Dudi, S., Neelam, Kumar, A., Satpal and Kumar, P. (2019). Growth and yield of barley (*Hordeum vulgare* L.) varieties as influenced by application of plant growth regulators *International Journal of Chemical Studies*, 7(5): 1278-1282. | 5.31 |
| **19.** | Dudi, S., Neelam, Kumar, A., Satpal and Shweta. (2019). Performance of barley varieties as influenced by the application of different plant growth regulators. *Forage Research*, 45(3): 235-239. | 4.48 |
| **20.** | Kaur, Amandeep and Singh, S. (2019). Performance of different herbicides on wheat grain yield and correlation between growth and yield attributes of wheat and weeds. *Indian Journal of Weed Science*, 51 (2): 129-132. | 5.84 |
| **21.** | Kaur, M., Punia, S.S., Singh, J., Singh, S. (2019). Pre-and post- emergence herbicide sequences for management of multiple herbicide-resistant littleseed canary grass in wheat. *Indian Journal of Weed Science*, 51(2):133-138. | 5.84 |
| **22.** | Kaur, M., Punia, S.S, Singh, J. and Singh, S. (2019). Pre- and post-emergence herbicide sequences for management of multiple herbicide-resistant littleseed canary grass in wheat. *Indian Journal of Weed Science*, 51(2):133- 138. | 5.84 |
| **23.** | Malik, P., Sewhag, M., Malik, K., Shweta and Kumar, P. (2019). Effect of fertilizer levels and different combinations of biofertilizers on phenology, canopy temperature and NDVI of barley at different growth stages. *Journal of Agrometeorology*, 21: 71- 75. | 6.64 |
| **24.** | Mohammad W., Kumar, P., Kumar, S., Sewhag, M., Kumar, A. and Manjeet (2019). Growth indices, harvest and attraction index of wheat crop as influenced by different varieties and nitrogen sources. *Journal of Plant Development Sciences*, 11(9): 531-534 | 4.57 |
| **25.** | Mohammad Wazir, Kumar, P., Kumar, S., Sewhag, M. and Kumar, J. (2019). Performance of wheatvarieties as influenced by organic and chemical sources of nitrogen undersemi-arid environment. *Indian Journal of Pure and Applied Biosciences*,7(5): 17-24. | 4.74 |
| **26.** | Rabi, F., Sewhag, M., Shweta, Kumar, P. & and Tomar, D. (2019). Impact of integrated nutrient management practices on nutrient content and uptake of wheat. *International Journal of Chemical Studies*, 7(5): 2647-2650. | 5.31 |
| **27.** | Rabi, F., Sewhag, M., Shweta, Kumar, P. and Neelam. (2019). Compensating Nitrogen Fertilizer Requirement of *desi* Wheat by Vermi-compost and *Azotobacter*. *International Journal of pure and applied biosciences, 7*(5): 117-121. | 4.74 |
| **28.** | Rabi, F., Sewhag, M., Shweta, Kumar, P., Kumar, Amit and Devi, Uma (2019). Effect of integrated nitrogen management on economics of desi wheat. *Journal of Plant Development Sciences*, 11(12): 747-750. | 4.57 |
| **29.** | *Rabi*, F., Sewhag, M., Shweta, Kumar, P., Neelam and Kumar, S. (2019). Quality Parameters and LAI of *desi* Wheat as Influenced by Various Combination of Nitrogen Fertilizer, Vermicompost and *Azotobacter International Journal of Current Microbiology and Applied Sciences*, 8(10): 2319-7706. | 5.6 |

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| **30.** | Rabi, F., Sewhag, M., Shweta, Kumar, P., Neelam and Kumar, S.(2019). Quality Parameters and LAI of *desi* Wheat as Influenced by Various Combination of Nitrogen Fertilizer, Vermicompost and Azotobacter. *International Journal of Current Microbiology Applied Sciences*, 8(10): 2503-2507. | 5.38 |
| **31.** | Rani, D., Duhan, A., Punia, S.S., Yadav, D.B. and Duhan, S. (2019). Behavior of pre-mix formulation of imazethapyr and imazamox herbicides in two different soils. *Environmental Monitoring & Assessment*, 191: 33 (1-8). | 7.63 |
| **32.** | Renu, Shweta, Malik, K. S., Meena and Priyanka (2019). Effect of sowing dates on yield of cotton genotypes under hisar condition *Journal of Cotton Research and Development*, 34(1): 72-77 | 5.5 |
| **33.** | Sharma, R., Amarjeet and Punia, S.S. (2019). Response of various chemicals, neem cake and hand pulling on growth and development of Egyptian broomrape (*Phelipanche aegyptiaca*) in Indian mustard. *Journal of Crop and Weed*,15(2): 126-131. | - |
| **34.** | Sihag, R., Kumar, P., Singh, K., Kumar, J. and Kumar, A. (2019). Growth and productivity of chickpea genotypes under different soil moisture environment. *Indian Journal of Agricultural. Research*, 53(6): 708-712. | 4.86 |
| **35.** | Singh, K., Singh S. and Pannu, R.K. (2019). Efficacy of pendimethalin and cyhalofop-butyl + Penoxsulam against major grass weeds of direct-seeded rice. *Indian Journal of Weed Science*, 51 (3): 227-231. | 5.84 |
| **36.** | Singh, R., Yadav, D.B., Ravisankar, N., Yadav, A. and Singh, H. (2019). Crop residue management in rice-wheat cropping system for resource conservation and environmental protection in north-western India. *Environment, Development and Sustainability*,1-26 pp. | 10.08 |
| **37.** | Singh, Vikram, Sharma, S.K., Thakral, S.K. and Sharma, M.K. (2019). Effect of phosphorus on the performance of green gram (*Vignaradiata*L.) varieties during summer. *Legume Research*, 42 (2): 247-249. | 6.67 |
| **38.** | Dawlatzay, Z., Kumar, S., Kumar, P. and Hooda, V. S. (2020). Productivity of bed planted wheat as influenced by irrigation and fertilizer levels. *International Journal of Agriculture Sciences*, 12(23): 10451-10453. | 4.20 |
| **39.** | Devi, S., Hooda, V.S., Singh, S., Thakral, S.K. and Mor, V.S. (2020). Germination ecology of Coronopusdidymus in western region of Haryana. *Journal of Crop and Weed*, 17 (2): 60-65. | 5.46 |
| **40.** | FazilyTamim, Thakral, S.K., Dhaka, A.K and Sharma, M.K. (2020). Evaluation of yield and economics of wheat under integrated nutrient management. *International Journal of Research and Development in Technology*, 13(1): 49-53. | 3.77 |
| **41.** | FazilyTamim, Thakral, S.K., Dhaka, A.K and Sharma, M.K. (2020). Impact of Organic and Inorganic Sources of Nitrogen on Growth Phenology, Yield and Quality of Wheat (*Triticum aestivum* L.). *Journal of Advances in Agricultural Science and Technology*, 7(2): 31-38. | 3.77 |
| **42.** | Fazily Tamim, Thakral, S.K., Dhaka, A.K and Sharma M.K. (2020). Effect of Integrated use of organic and inorganic sources of nitrogen on nutrient uptake by wheat and soil fertility. *International Journal of Current Advanced Research*, 9 (2): 21201-21204. | 3.77 |
| **43.** | FazilyTamim, Thakral, S.K., Dhaka, A.K and Sharma, M.K. (2020). Effect of Integrated Nutrient Management on Fertilizer Use Efficiency in Wheat (*Triticum aestivum* L.) under Irrigated Condition. *International Journal of Advances in Agricultural Science and Technology*, 7 (2): 1-9. | 3.77 |
| **44.** | Kumar, P., Kumar, P., Kumar, M. and Hooda, V. S. (2020). Integrated Nutrient Management in Cereal-Cereal Cropping System for higher productivity and returns. *Annals of agricultural research- new series*, 41 (2): 1-7. | 4.02 |
| **45.** | Kumar, S., Sewhag, M., Shweta and Kumar, P. (2020). Economics of *barley* as influenced by integrated nutrient management practices. *International Journal of Chemical Studies*, 8(4): 117-119. | 5.31 |
| **46.** | Nain, G., Bhardwaj, N., Jaslam, P.K.M, Deepankar and Tanwar, N. (2020). Discriminant function analysis for pre-harvest forecasting of rice yield. | 4.92 |

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| | *International Journal of Agricultural and Statistical Sciences*, 16 (S1):1075-1081. | |
| **47.** | Naseh, Nasrullah; Dhaka, A.K., Singh, B., Kumar, A. and Bhuker, A. (2020). Suitable genotype andoptimization of seed rate for late sown wheat. *International Journal of Chemical Studies*, 8(1): 515- 519. | 5.31 |
| **48.** | Rabi, F., Sewhag, M., Shweta, Kumar, P., Kumar, Amit and Devi, Uma (2020). Growth parameters and soil fertility status as influenced by nitrogen source in wheat. *Journal of Plant Development Sciences*, 12(2): 87-92. | 4.57 |
| **49.** | Saini, P., Kumar, P., Hooda, V.S., Akshit and Kumari, S. (2020). Effect of different organic and inorganic sources of nutrients on growth, yield, residual nutrient status and physiology of black gram. *Int. J. Chem. Studies*, 8(3): 2559 - 2563. | 5.31 |
| **50.** | Singh, A., Chand, M., Punia, S.S., Singh, N. and Rana, S.S. 2020 Efficacy of different herbicides on weed dynamics and productivity of *kharif*maize (*Zea mays*) and their residual effect on succeeding wheat crop *Indian Journal of Agricultural Sciences*, 90 (4): 895-899. | 6.37 |
| **51.** | Singh, R., Yadav, D. B., Ravisankar, N. Yadav, A. and Singh, H. (2020). Crop residue management in rice-wheat cropping system for resource conservation and environmental protection in north-western India. *Environment, Development and Sustainability*, 22: 3871–3896. | 7.38 |
| **52.** | Jitender, Amarjeet, Todar Mal, Kumar, P., Sandeep and Singh, C. (2021). Effect of post emergence herbicidal combinations tank mixed with zinc or/and iron sulphate on yield attributes and grain yield of wheat crop (*Triticum aestivum*L.). *Agricultural Mechanization in Asia*, 51(1): 775-783. | 6.17 |
| **53.** | Kamboj, P. Punia, S.S. and Yadav, D.B. (2021). Multiple herbicide resistance in Phalaris minor Retz. in Haryana, India. *Indian Journal of Weed Science*, 53(4): 411-416. | 5.84 |
| **54.** | Kavita, Raj, D., Hooda, V.S., Daljeet, D., Kavinder and Harender (2021). Humic substances and available nutrients influenced by tillage and weed management practices. *Indian Journal of Agricultural Sciences*, 91 (10): 1452-1456. | 6.37 |
| **55.** | Kumari, P., Duhan, Anil, Rani, N. and Tomar, D. (2021). Ultimate fate and toxicological consequences of insecticide pyriproxyfen and its metabolites in soil ecosystem. *Environmental Advances*, 4, 100040 | 11.3 |
| **56.** | Malik, A., Mor, V.S., Tokas, J., Punia, H., Malik, S., Malik, K., Sangwan, S., Tomar, S., Singh, P., Singh, Nirmal, H., Vikram, N, Singh, G., Vikram, Kumar, V., Sandhya, Karwasra, A. (2021). Biostimulant-Treated seedlings under sustainable agriculture: A global perspective facing climate change. *Agronomy*. | 8.6 |
| **57.** | Nain, G., Bhardwaj, Nitin, P.K.M., Jaslam, D., ChanderShekher and Anurag. (2021). Rice yield forecasting using Agro-Meteorological variables: A multivariate approach. *Journal of Agrometeorology*, 23(1) :100-105. | 6.47 |
| **58.** | Rafi, M., Neelam, Satpal, Chaudhary, K., Kumar, S. and Shweta (2021). Foliar nutrition effect on single cut forage sorghum varieties under summer season. *Forage Research*, 47 (2): 204-208. | 4.84 |
| **59.** | Sarbaz, S.A., Kumar, S., Kumar, S., Chaudhary, K., Kumar, J. and Malik, V.K. (2021). Effect of integrated nitrogen management on yield and economic of wheat variety WH 1184. *International Journal of Science and Research*,10 (11): 903-906. | - |
| **60.** | Sarbaz, S.A., Kumar, S., Kumar, S., Chaudhary, K., Kumar, J. and Malik, V. K. (2021). Impact of nitrogen nutrition through organic and inorganic sources of fertilizer on growth phenology and yield of wheat (*Triticum aestivum* L.). *International Journal of Advances in Agricultural Science and Technology*, 8(12): 1-10. | - |
| **61.** | Singh, R., Yadav, D. B., Yadav, A. and Punia, S. S. (2021). Characterization of herbicide use and factors responsible for herbicide resistance in Phalaris minor in wheat in Haryana, India. *Crop Protection*, 144 (1): 105581. | 8.38 |

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| **62.** | Singh, R., Yadav, D.B., Sharma, R. and Sharma, S. (2021). Current status of herbicide resistance in Phalaris minor in wheat in Haryana. *Indian Journal of Agricultural Sciences*, 91(9): 1396-1400. | 6.37 |
| **63.** | Singh, S., Chhokar, R. S. Garg, R., and Poonia, T. (2021). Herbicide resistance in weeds: Problems and management, *Indian Journal of Agronomy*, (SI, 66: S167-S183). | 5.55 |
| **64.** | Tanwar, K., Hooda, V. S., Dagar, H., Tanwar, K. and Raj, D. (2021): Long-term effects of FYM and nitrogen application on weeds, nutrient uptake,and crop productivity of wheat in subtropical north-western India, *Journal of Plant Nutrition*, 45(1): 141-151. | 7.71 |
| **65.** | Bhatti, P., Duhan, A., Pal, A., Monika, Beniwal, R.K., Kumawat, P. and Yadav D.B. (2022). Ultimate fate and possible ecological risks associated with atrazine and its principal metabolites (DIA and DEA) in soil and water environment. *Ecotoxicology and Environmental Safety*, 248:114299. | 13.1 |
| **66.** | Chaudhary A., Yadav, D.B., Singh, S., Poonia, T.M., Punia, S.S., Singh, N. (2022). Bio-efficacy of herbicides with different water volumes and spray timing under zero tillage rice residue retention scenario against Phalaris minor in wheat. *International Journal of Plant & Soil Science*, 34(20): 447-453. | 5.07 |
| **67.** | Chaudhary, C., Hooda, V.S., Isha, Singh, K., Nagora, M., Kumar, S. and Nandal, D.P. (2022). Impact of Integrated weed management practices on growth parameters, yield attributes and yield of pearl millet [*Pennisetumglaucum* L. *Br. Emend. Stuntz*.]. *The Pharma Innovation Journal*, 11(4): 687-692. | 5.23 |
| **68.** | Chawla, R., Poonia, A. and Kumar, S. (2022). Recent advances in yield and quality of dual-purpose oat. *Forage Research*, 47 (4): 383-389. | 4.84 |
| **69.** | Dawlatzay, Z., Kumar, S., Kumar, P., Kumar, P. and Satpal (2022). Influence of nitrogen and phophorus levels onN phenology growth and yield of bed planted wheat under varying irrigation levels in semi-arid conditions. *Journal of Agriculture and Ecology*, 13: 131-140. | 4.36 |
| **70.** | Dhanda S., Kaur, S., Chaudhary, A., Jugulam, M., Hunjan, M. S., Sangha, M.K., Bhullar, M.S. (2022). Characterization and management of metsulfuron-resistant Rumexdentatus biotypes in Northwest India. *Agronomy Journal*, 114(1):366-78. | 8.24 |
| **71.** | Dhanda, S., Yadav, A., Yadav, D.B. and Chauhan, B.S. (2022). Emerging issues and potential opportunities in the rice-wheat cropping system of north-western India. *Frontiers in Plant Science*, 13: 832683. | 11.75 |
| **72.** | Gill A., Dinesh, Ramprakash, Pankaj, Duhan A. and Thakur P. (2022). Pedological Development of Soils in Eastern Agroclimatic Zone of Haryana through Field Morphology Rating System. *International Journal of Plant and Soil Science*, 34(22): 835-845. | 5.07 |
| **73.** | Harender, Hooda, V. S., Dev Raj, Mal, T., Devi, S. and Akshit (2022). Suitability of wheat (*Triticumaestivum*) varieties for dual purpose under varying seed rate and fertilizer levels. *Indian Journal of Agricultural Sciences*, 92 (5): 615-18 | 6.37 |
| **74.** | Harender, Hooda, V.S., Akshit, Singh, C., Kumar, R., Sunil, Dhanker, P. (2022). Comparative productivity evaluation of dwarf and tall wheat cultivars for dual purpose under different seed rate and fertilizer levels. *Forage Research*, 48 (1): 1-10. | 4.84 |
| **75.** | Jitender, Amarjeet, Todar Mal, Akshit, Soni, S. and Kumar, P. (2022). Efficacy of herbicidal combinations tank mixed with zinc and iron sulphate against weeds in wheat (*Triticum aestivum*), *Indian Journal of Ecology*, 49(2): 417-423. | 5.79 |
| **76.** | Kakraliya, Jat, M., Kumar, H. S., S., Kakraliya, S.K., Gora, M.K., Poonia, T., Choudhary, M. and Sharma P.C. (2022). Performance of mechanically driven CA-based management practices on performance and profitability of wheat crop. *Agricultural Mechanization in Asia Africa and Latin Americ*, 53 (2): 5723-5736. | 6.14 |
| **77.** | Kaur, S., Dhanda, S., Yadav, A., Sagwal, P., Yadav, D.B. and Chauhan, B.S. (2022). Current status of herbicide-resistant weeds and their management in the rice-wheat cropping system of South Asia. *Advances in Agronomy*, 172: 307-354. | 12.92 |

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| **78.** | Kavita, Mehta, V.P. and Ekta. (2022). Performance of India's agricultural trade during WTO regime. *Frontiers in Crop Improvement Journal*, 7(5): 2195-2198. | 4.67 |
| **79.** | Kumar, P., Kumar, S., Hooda V.S., Avtar, R., Kumar, S. and Malik, K. (2022). Influence of sowing window, irrigation and fertilizer levels on growth and yield of late sown Indian mustard. *Journal of Oilseed Brassica*, 13 (1): 1-6. | 4.77 |
| **80.** | Kumar, P., Kumar, S., Kumar, A., Thakral, S.K., Kumar, S. and Kumar, P. (2022). Agro meteorological indices influenced by different sowing dates, irrigation and fertilizer levels under late sown Indian mustard in western Haryana, India. *Journal of Agrometerology*, 24 (2): 172-178. | 6.55 |
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| **84.** | Poonia, T., Singh, S.K., Chaudhary, A. and Hooda, V.S. (2022). Efficacy of different pre and post emergence herbicides in clusterbean, *Forage Research*, 48(1): 99-103. | 4.84 |
| **85.** | Qazizada, G. S., Todar Mal, Kumar, S. and Kumar, P. (2022). Pre- and post-emergence herbicides for the control of resistant *Phalaris minor* in wheat, *Biological Forum*, 14(1): 1296-1302. | 5.11 |
| **86.** | Qazizada, G.S., Todar Mal, Kumar, S. and Kumar, P. (2022). Effect of pre- and post-emergence herbicides on weed infestation, crop growth and economics of wheat, *The Pharma Innovation Journal*, 11(3): 152-157. | 5.23 |
| **87.** | Rani N., Duhan A., Kumar P. and Beniwal R.K. (2022). Persistent Organic Pollutants- A Silent Threat to the Agro-ecosystem and Surrounding Environment. *International Journal of Plant and Soil Science*, 34(24): 726-742. | 5.07 |
| **88.** | Rani, S. Kumar, S., Hooda V.S. and Parshad, J. (2022). Assessing varietal tolerance and weed control effectiveness of metribuzin-based herbicide mixtures in wheat (*Triticum aestivum*). *Indian Journal Agricultural Sciences*, 92 (6): 66-69. | 6.37 |
| **89.** | Rani, S., Kumar, S., Hooda, V.S. and Kumar, S. (2022). Bio-efficacy of metribuzin based herbicide mixtures on weeds and productivity of wheat. *Indian Journal of Agronomy*, 66 (4): 407-412. | 5.55 |
| **90.** | Rundla, S., Kumar, P. and Kumar, P. (2022). Nutrient content, uptake and nutrient use efficiency of Indian mustard as influenced by salicylic acid and nutrient sources. *Biological Forum- An International Journal*, 14(2): 921-925. | 5.11 |

*Annexure AGRON-III*

## DETAILS OF COURSES OFFERED BY THE DEPARTMENT

| Course No. | Course title | Credit hrs. | Sem. |
|---|---|---|---|
| **AGRON 501*** | Modern concepts in crop production | 3+0 | I |
| **AGRON 502*** | Principles and practices of soil fertility and nutrient management | 2+1 | II |
| **AGRON 503*** | Principles and practices of weed management | 2+1 | II |
| **AGRON 504*** | Principles and practices of water management | 2+1 | II |
| **AGRON 505 AGM 502** | Fundamentals of agricultural meteorology | 2+1 | I |
| **AGRON 506** | Agronomy of major cereals and pulses | 2+1 | I |
| **AGRON 507** | Agronomy of oil seed, fibre and sugar crops | 2+1 | II |
| **AGRON 508/ PSMA 503** | Agronomy of medicinal, aromatic plants and under utilized crops | 2+1 | II |
| **AGRON 509** | Agronomy of fodder and forage crops | 2+1 | II |
| **AGRON 510** | Agrostology and agroforestry | 2+1 | I |
| **AGRON 511** | Cropping systems and sustainable agriculture | 2+0 | I |
| **AGRON 512** | Dryland farming and watershed management | 2+1 | I |
| **AGRON 513** | Principles and practices of organic farming | 2+1 | II |
| **AGRON 591** | Master's seminar | 1 | I, II |
| **AGRON 599** | Master's research | 20 | I, II |
| **AGRON 601**** | Current trends in agronomy | 3+0 | II |
| **AGRON 602** | Crop ecology | 2+0 | II |
| **AGRON 603/AGM 506** | Crop production and system modeling | 1+2 | II |
| **AGRON 604**** | Advances in crop growth and productivity | 2+1 | II |
| **AGRON 605** | Irrigation management | 2+0 | I |
| **AGRON 606** | Advances in weed management | 2+0 | I |
| **AGRON 607** | Integrated farming systems for sustainable agriculture | 2+0 | II |
| **AGRON 608** | Soil conservation and water shed management | 2+1 | II |
| **AGRON 609** | Stress crop production | 2+1 | I |
| **AGRON 691** | Doctoral seminar I | 1 | I, II |

| | | | |
|---|---|---|---|
| **AGRON 692** | Doctoral seminar II | 1 | I, II |
| **AGRON 699** | Doctoral research | 45 | I, II |
| | **Service courses** | | |
| **ABM 520** | Management of agro-chemical industry | 2+0 | |
| **PSMA 603** | Advances inmedicinal and aromatic cropproduction technology | 2+1 | |

*Compulsory for Master's programme; **Compulsory for Doctoral programme and additional at least

*Annexure AGRON- IV*

## PROGRAMMES ORGANIZED BY THE DEPARTMENT

| S. No. | Year | Title | Date/duration |
|---|---|---|---|
| 1. | 2019 | Herbicide spray techniques in field crops | 18.01.2019 |
| 2. | 2019 | Herbicide spray technique in field crops | 22.01.2019 |
| 3. | 2019 | Weed management in *rabi* and *kharif* crops | 31.01.2019 |
| 4. | 2019 | One day kisan gosthi was organized in village Aharwan (Ratia) on the topic "Samanvit krishi parnaali se fasal vividhi karan avamaay me vridhi" | 28.02.2019 |
| 5. | 2019 | Weed management in fieldcrops | 02.03.2019 |
| 6. | 2019 | Weed management in *rabi* and *kharif* crops | 25.04.2019 |
| 7. | 2019 | Parthenium Awareness campaign | 16.08.2019 to 22.08.2019 |
| 8. | 2019 | One *Kissan* gosthi was organized in village Pilimandori (Bhattu) on role of crop diversification in crop production | 25.09.2019 |
| 9. | 2020 | One *Kissan* gosthi was organized in village Pilimandori (Bhattu) on Climate smart farming system for Haryana | 27.09.2020 |
| 10. | 2020 | Herbicide spray techniques in wheat | 15.01.2020 |
| 11. | 2020 | Herbicide spray techniques in field crops | 16.01.2020 |
| 12. | 2020 | Herbicide spray techniques in field crops | 22.01.2020 |
| 13. | 2020 | Weed management and fertilizer requirement in DSR crop | 06.06.2020 |
| 14. | 2020 | Weed management in DSR crop | 30.06.2020 |
| 15. | 2021 | Herbicide spray techniques | 28.01.2021 |
| 16. | 2021 | Herbicide spray techniques in field crops | 17.04.2021 |
| 17. | 2021 | Parthenium awareness week | 16.08.2021 to 22.08.2021 |
| 18. | 2021 | Weed management in different crops with the use of herbicide and selection of spray nozzles | 16.10.2021 |
| 19. | 2022 | Herbicide spray techniques | 10.01.2022 |
| 20. | 2022 | 10 days training programme to UG and PG students of college of agriculture on "Integrated Farming System for small and marginal Farmers" during | 14.03.2022 to 23.03.2022 through online mode. |
| 21. | 2022 | Distribution of inputs and spray techniques in field crops | 01.04.2022 |
| 22. | 2022 | Herbicide spray techniques | 06.04.2022 |
| 23. | 2022 | Three days farmers' training programme on "Exposure visit on Integrated Farming System of CCS HAU, Hisar" farmers from Samba district, J & K. | 27.06.2022 to 29.06.2022 |
| 24. | 2022 | One day training on Integrated farming system | 22.07.2022 |
| 25. | 2022 | Parthenium awareness week | 16.08.2022 to 22.08.2022 |
| 26. | 2022 | One day training on Integrated farming system | 25.08.2022 |
| 27. | 2022 | One day training on Integrated farming system | 26.08.2022 |
| 28. | 2022 | One day training on Integrated farming system | 07.12.2022 |
| 29. | 2022 | One day training on Integrated farming system | 08.12.2022 |
| 30. | 2023 | JRF Training Programme for the Students, College of Agriculture Appearing in JRF Exam-2023 | 01.02.2023 to 01.03.2023 |
| 31. | 2023 | World water day | 22.03.2023 |

## A) Parthenium Awareness campaign

With the objectives to create awareness about hazards of *Parthenium* weed among students and general public, Department of Agronomy, CCS HAU Hisar in collaboration with various KVK's of the state and Department of Agriculture, Government of Haryana celebrated 'Parthenium Awareness Week' from August 16-22, 2019 with good success and grandeur. This year *Parthenium* week celebration covered both rural and urban areas. Inauguration of this national level event was organized under the aegis of All India Coordinated Research Programme on Weed Control on 16th August, 2017 at village Dhand, Fatehabad, Haryana. Dr.S.S.Punia, Sr. Agronomist cum PI of the project delivered lecture to the farmers on ill effects of *Parthenium* to the human being, animals and environment and its integrated management. Dr Sushil Kumar Singh delivered lecture on its control using herbicides and method of compost making for better utilization. Dr.Todar Mal, Assistant Scientist (Weed Control) emphasized on use of *Zygogramma bicolarata* beetles for its control. Dr Samunder Singh, Head of the Department flagged off a rally highlighting ill effects of *Parthenium.*

During August 16-22, 2019 a series of events like lectures to students and farmers, extension officers of state department of Agriculture, documentary film on *Parthenium hysterophorus* management, exhibition on ill effects of *Parthenium* weed, distribution of literature and awareness rally on *Parthenium* management were organized in different parts of state by various KGK's located at district headquarters under the leadership of Dr.S.S. Punia, Principal Investigator of the project.










*Parthenium* Awareness Campaign organised during 16th to 22nd August, 2019.




One day kisan gosthi was organized in village Aharwan (Ratia) on the topic "Samanvit krishi parnaali se fasal vividhikaran avam aay me vridhi" during 28th February, 2019.




One day training on Integrated farming system organised on 22nd July, 2022.

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One day training on Integrated farming system organised on 26th August 2022.

## Parthenium Awareness campaign

With the objectives to create awareness about hazards of *Parthenium* weed among students and general public, Department of Agronomy, CCS HAU Hisar in collaboration with various KVK's of the state and Department of Agriculture, Government of Haryana celebrated '*Parthenium* Awareness Week' from August 16-22, 2021 with good success and grandeur. The *Parthenium week* celebration covered both rural and urban areas. Inauguration of this national level event was organized under the aegis of All India Coordinated Research Programme on Weed Control, DWR, Jabalpur on 16th August, 2021 at Agronomy Research Farm by Director of Research, CCS HAU, Hisar. Dr TodarmalPoonia delivered lecture on introduction, identification and biology of the *Parthenium*. Dr.S.S.Punia, Consultant faculty delivered lecture on ill effects of *Parthenium* to the human being, animals and environment and its integrated management using mechanical methods, herbicides.He also highlighted biological management of *Parthenium* through use of *Zygogramma bicolarata* beetles for its control. Dr S. K. Thakral, Head of the Department,emphasized on the role of combined efforts for its eradication. During August 16-22, 2021 a series of events like lectures to farmers, extension officers of state department of Agriculture, documentary film on *Parthenium hysterophorus* management, exhibition on ill effects of *Parthenium* weed, distribution of literature and awareness rally on *Parthenium* management were organized in different parts of state by various KVK's located at district headquarters under the leadership of Dr.TodarmalPoonia, Principal Investigator of the project.



समस्त हरियाणा शुक्रवार, 20 अगस्त, 2021

एचएयू के वैज्ञानिक किसानों को गाजर घास के नुकसान के प्रति कर रहे जागरूक

समस्त हरियाणा न्यूज

हिसार। गाजर घास न केवल फसलों के लिए बल्कि पर्यावरण के साथ-साथ इंसानों के स्वास्थ्य पर भी विपरीत असर डालती है। इसी को ध्यान में रखते हुए चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय हिसार के वैज्ञानिक लगातार प्रदेश भर में गाजर घास के प्रति किसानों को जागरूक कर रहे हैं। इसी कड़ी में विश्वविद्यालय के अनुसंधान क्षेत्र में गाजर घास जागरूकता सप्ताह व उन्मूलन अभियान चलाया गया। इस दौरान अनुसंधान निदेशक डॉ. एस.के. सहरावत ने कहा कि गाजर घास में फसल की पैदावार में चालीस प्रतिशत तक कमी हो सकती है। इसलिए समय रहते सचेतना प्रबंधन से इस खरपतवार पर नियंत्रण किया जा सकता है। कार्यक्रम का आयोजन सस्य विज्ञान विभाग द्वारा जबलपुर के खरपतवार अनुसंधान निदेशालय के सहयोग से किया जा रहा है। उन्होंने बताया कि इस पौधे का प्रभाव हमारे देश में अंग्रेजों से आयात होने वाले गेहूं के साथ सात 1955 में हुआ था। अब यह पौधा संपूर्ण देश के हर हिस्से में मौजूद है और लगभग 35 मिलियन हेक्टेयर क्षेत्रफल में फैल चुका है। जब यह एक स्थान पर जम जाती है, तो अपने आस-पास किसी अन्य पौधे को जमने नहीं देती है जिसके कारण अनेकों मवेलपूर्ण जड़ी-बूटियों और पेड़ागासों के नष्ट हो जाएँ की सम्भावना पैदा हो गई है। यह न केवल स्वास्थ्य व्यक्ति पर्यावरण के लिए भी हानिकारक घास है। इस घास के कारण मनुष्यों के अलावा पशुओं में भी बीमारी के लक्षण आने लगे हैं। गाजर घास के एक पौधे से लगभग 10000 से 20000 बीज पैदा होते हैं, जोकि जमीन में पुनः पनपने अंकुरित हो जाते हैं। उन्होंने आह्वान किया कि इस घास के नियंत्रण के लिए, इस सभी को सामूहिक प्रयास करने होंगे तभी हम इसे नियंत्रित कर सकते हैं और प्राकृतिक वनस्पतियों को खत्म होने से बचा सकते हैं।

**खरपतवार नियंत्रण के लिए बताए तरीके**

वैज्ञानिक डॉ. सतबीर सिंह सहरावत ने बताया कि इस घास के नियंत्रण हेतु कुछ सावधानियों के प्रयोग जैसे एट्राजिन (सेंप्रिमुरोन (0.5 प्रतिशत) व ग्लाइफोसेट (1-1.5 प्रतिशत) का प्रयोग करके इस खरपतवार को नष्ट किया जा सकता

*Parthenium* Awareness Campaign organised during 16th to 22nd August, 2021



Three days farmers' training programme on "Exposure visit on Integrated Farming System of CCS HAU, Hisar" attended by farmers from Samba district, J & K during 27th to 29th June, 2022.

## Parthenium Awareness campaign

With the objectives to create awareness about hazards of alien weed *Parthenium hysterophorus* popularly known as Congress grass, Gajarghas, Chatakchandni, **AICRP-WM, Hisar Centre**organized "**Parthenium Awareness Week**" under the aegis of **All India Coordinated Research Programme on Weed Control**, **DWR, Jabalpur** on **16-22 August, 2022**. To spread awareness regarding this weed, both rural and urban areas were covered under this programme with the Inauguration of the week by the Dean, College of Agriculture, CCS HAU, Hisar under the Chairmanship of Head, Department of Agronomy. During the occasion PG students and teaching and non-teaching staff was present and lecture was delivered and documentary film was also showed. During the week a series of events like lectures among farmers, extension officers of state department of Agriculture, students of schools and sportspersons were organized under the Chairmanship of Dr.Todar Mal, PI, AICRP-WM, Hisar Centre at different location across the Haryana State.

## Exposure Visits to IFS Model:







Visit of students and trainees to IFS Model during 2021-22




World Water Day celebration at the Department of Agronomy on 22nd March, 2023.

Training Programme for the students of College of Agriculture appearing in JRF Exam-2023 was organized from 01.02.23 to 01.03.23. This training was helpful for the students in enhancing their competency for attempting the questions related to Agriculture and allied subjects. Various topics *viz*., Package and practices of field crops, weed management, water management, principles and practices of Agronomy, organic farming etc. were well discussed. Total 28 students have completed the training successfully.



Training Programme for the students of College of Agriculture appearing in JRF Exam, 1st February to 1st March, 2023

***Annexure AGRON-IV***

## STUDENT READY PROGRAMME

### READY (RURAL ENTREPRENEURSHIP AWARENESS DEVELOPMENT YOJANA)

Agricultural education is the study of agriculture, food, and natural resources and undergoing changes in a very rapid manner to meet the need of the society in general and farmers in particular. Agricultural education is becoming more critical than ever to ensure that there will be enough food to go around. The students of agriculture are learning well on basic and applied issues of science and technology, however, possess less self-confidence in starting own commercial farming or taking other assignments in the field. The students graduating from agricultural colleges required practical field knowledge and skills for performing the agricultural profession effectively and efficiently at On Farm Level. Hence, a production oriented practical training in the form of internship was started in April 1979. HAU is the lead university in implementing internship programme in the country for its undergraduate students. To translate this concept Rural Agriculture Work Experience (RAWE)

programme is offered for the B.Sc. (Hons.) Ag. Degree. Under the changing dynamics of economical and industrial growth in the new millennium and opening of world market, agriculture will undergo sea changes with new approaches and therefore, RAWE programme in agriculture has strong potential for imparting better field training of the agricultural technocrats with high level of skill in combination with the modern out-look and management capacity to graduating agricultural students. The programme was restructured after the recommendation of V$^{th}$ Dean committee in 2017 as READY programme and first batch was passed during 2020-21. It was implemented to develop much needed skills and entrepreneurial mind-set among the graduates to take up self-employment, contribute to enhanced rural livelihood and food security, sustainability of agriculture and be propeller for agricultural transformation.

**Outcome of the programme**: The proforma supplied to the students under the programme helps in learning as under:

- The students get learned about various cropping pattern practiced in the state and major constraints faced by the farmers related to crop production.
- The students are acquainted with the budgeting techniques to work out cost of cultivation, gross returns and ultimately economic viability of the farm enterprises.
- The students are awared to collect information from various departments/stakeholders for village profile.
- The students become competitive to formulate farm plans for individual farmers for enhancing g farm income.
- The students also acquainted with the function of various organizations at village level

During RAWE programme students participated in training/ awareness dayfor farmers organized throughconcerned KVK as under

**Training**

- Organic Farming
- Management of insect pests in organic farming
- Vermicomposting
- Importance of seed treatment
- Management of kitchen waste
- Mushroom Cultivation

**Awareness**

- About toll-free number of university and e-Mausam HAU app
- Environment day






Training on vermicomposting at ATIC and COA Bawal



Traing to the interns by Dr. Narender at RRS Karnal



Weed management in Rabi crops at RRS Karnal





Training on vermicompost preparation at village LUDAS through ATIC Hisar






Traing on various aspect of agriculture at village Tokas

# Programme - 4



## M.Sc. Agricultural Meteorology

## and

## Ph.D. Agricultural Meteorology

## 6.4. About the Department

CCS Haryana Agricultural University, Hisar is one of the leading Indian Agricultural University to establish the Department of Agricultural Meteorology under College of Agriculture on February 16, 1982 as per the recommendations of the National Commission on Agriculture. Since then, an excellent infrastructure has been created for teaching/research/extension in Agrometeorology *viz*., climatology, crop weather interactions, field microclimatic modifications, weather-crop-disease and insect-pest interactions, crop growth simulation modeling, Remote Sensing & GIS applications and climate change impact assessment on crop production.The department involves in the dissemination of weather advisories through Mobile SMS, electronic, print and social media for the welfare of farmers in Haryana. In this line, department has developed Emausamhau web portal "www.emausamhau.gov.in" for dissemination of weather-based crop information/advisories to the farming community of Haryana State. At present More than 5 lakh farmers and 4100 extension officials are registered under weather SMS service. An 'Emausamhau Mobile App' has been designed for the same purpose and better access to information.

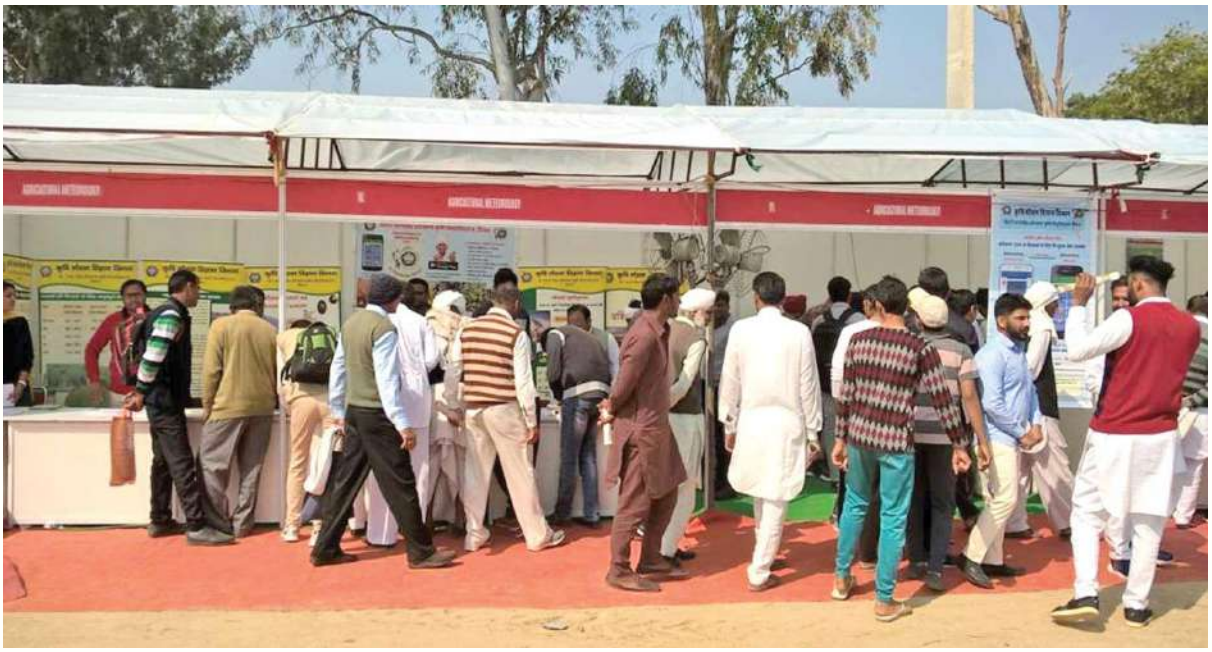
### Objectives of the Department

- To impart teaching in the field of Agricultural Meteorology to under graduate and post graduate students.
- To conduct research for understanding the interaction of physical processes occurring in ambient environment of field crops/horticulture/animals etc. and quantify their influence for increasing agricultural productivity by modifying microclimatic conditions.
- To maintain manual and automatic agricultural meteorological observatories and create meteorological database for the state of Haryana for use of students, scientists and other users.
- Agro-advisories services to the farmers of state and other stakeholders through Information and Communication technologies.
- To conduct training courses/awareness program/seminars for farmers and agricultural officers of the state and to organize conferences on various aspects of Agricultural Meteorology at National and International levels.

### 6.4.1. Brief History of the Degree Programme

The M.Sc. and Ph.D. Programme were started in the year 1984 and 1996, respectively in the department. Till date, 77 M.Sc. and 27 Ph.D. Students have completed their degrees. PG Diploma programme in Remote Sensing and GIS applications in Agriculture and Environment was started in 2013. Till date, 43 students have completed their diploma. Students enrolled in M.Sc. and Ph.D. programmes have been given research problems related to crop weather interactions, field microclimatic modifications, weather-crop-disease and insect-pest interactions, crop growth simulation modeling and climate change. The department actively takes participation in farmer awareness programs like Krishi Mela organized by CCSHAU, state govt. Besides, framer's awareness programs are also conducted by department itself for understanding the weather phenomena and adapting farming practices accordingly. For enhancing the research facilities, the department has also established an geoinformatics lab for application of remote sensing and GIS in research. Department is also engaged in providing practical exposure to visitors, PG students and the school students by showing working of agromet observatory. Other disciplines students i.e. LUVAS, COAET, different trainees of HAMETI Jind, DHRM trainees, Senior Secondary students, diploma students, and B.Sc.

(Hons.) 4 yr. Agri students are also given the exposure to agromet observatory on weather services, monitoring with agromet instruments & their uses.



The department organized three stalls at 'Krishi Mela (Kharif)' held on 12-13 March, 2019 at CCS HAU Hisar. During the mela, about 6000 farmers were registered for 'Weather Forecast SMS' and agro advisories and these stalls are conducted at every Krishi mela at CCS HAU in March and September.




Stall for farmers' awareness & registration at Rajya PashudhanPradarshani, Bhiwani, Govt. of Haryana




Department conducted Farmers awareness programme on climate change on 28th March, 2023 at KVK, Fatehabad



Geoinformatics lab in the department



Practical learning of Climatology of livestock to B.V.Sc. 2nd year LUVAS students at Agrimet observatory, Research farm CCSHAU



Practical Class on Role of weather to B.Tech. Agril. Engineering students (COAET, Hisar) at Agrimet observatory, Research farm CCSHAU



Hands on Weather measurements to trainees of HAMETI, Jind at Agrimet observatory, Research farm CCSHAU



Exposure visit of DHRM trainees at Agrimet observatory, Research farm CCSHAU



Practical class on Agrometeorological instrument and its measurement, to PG students, on 7, Nov. 2022 at Agrimet observatory, Research farm CCSHAU



Dealer diploma students (MANAGE sponsored) highlighting weather parameters in weather forecast and its influence in agriculture (5 July 2021) at Agrimet observatory, Research farm CCSHAU



Visit of agromet observatory and how to take weather observation under water logged condition (COA, UG students, 8th August 2022) at Agrimet observatory, Research farm CCSHAU

## Objectives of initiating M.Sc. programme

- To acquaint postgraduate students with physical processes occurring in the ambient environment of agricultural husbandry.
- To conduct research in different disciplines of Agricultural Meteorology including Micrometeorology,crop-weather simulation, modelling, Remote Sensing & GIS, Crop-weather relationship, Weather insect-pest-disease relationship, modelling, evapotranspiration studies, weather forecasting, Agrometeorological instrumentation, climate change and in any new area depending on the requirement of the state.
- To prepare weather based agro-advisory bulletins and real time dissemination to the farmers of the state of Haryana

## Accomplishments of M.Sc. programme

- Till date, the Department of Agricultural Meteorology has conferred degree to 77 M.Sc. Students. During the period under report, 22 students have completed their Master's degree. At present, 12 M.Sc. students are on rolls.
- Three students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB) during the period under report ***(Annexure AGM-I).***
- During the period under report, six students have joined service as Scientists/PO in Public Sector Bank ***(Annexure AGM-I).***
- One student Karan (2016A79M), stood 1st in Poster Presentation in National Seminar AGMET-2017. One student Ravi Gujjar (2015A110M) visited Australia in a training programme**..**

## Objectives of initiating Ph.D. programme

- To acquaint postgraduate students with physical processes occurring in the ambient environment of agricultural husbandry.

- To conduct research in different disciplines of Agricultural Meteorology including Micrometeorology, crop-weather simulation, modelling, Remote Sensing & GIS, Crop-weather relationship, Weather insect-pest-disease relationship,evapotranspiration studies, weather forecasting, Agrometeorological instrumentation, climate change and in any new area depending on requirement of the state.

- To prepare weather based agro-advisory bulletins and real time dissemination to the farmers of the state of Haryana

## Accomplishments of Ph. D. programme

- Till date the Department of Agricultural Meteorology has conferred degree to 27 Ph.D.Students. During the period under report, 11 students have completed their Doctoral degree. At present, 10 Ph.D. students are on roll.

- Sixteen (16) students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB)/ UGC during the period under report ***(Annexure AGM-I).***

- During the period under report, one student have joined service as Assistant Professor, Scientist/Tech. Officer at CCSHAU and IMD New Delhi, respectively. Nine students joined SMS at KVKs in HAU and other like IARI etc., and one student Navreet Bssi (2018A06D) visited Switzerland in SPARC Project ***(Annexure AGM-I).***

**Note:** List of students publications given in ***Annexure AGM-II.***

## Objectives of initiating Diploma programme

- To acquaint students with latest Geo spatial technologies and their applications in agricultural and environmental studies. conduct research in the field of agricultural meteorology and allied sciences using Geoinformatics.

## Accomplishments of Diploma programme

- Till date the Department of Agricultural Meteorology has produced 43 Diploma Students since start of this course in 2013. At present 8 students are on roll.

| Degree Programme offered by the Department | Year of start | No. of seats | | | | | | | No. of students passed out | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Total | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Total |
| **M.Sc.** | 1984-85 | 2 | 2 | 3 | 3 | 3 | 3 | 16 | 1 | 4 | 7 | 2 | 6 | 2 | 22 |
| **Ph.D.** | 1995-96 | 2 | 2 | 2 | 2 | 2 | 2 | 12 | - | 1 | 4 | 2 | 1 | 2 | 10 |
| **Diploma** | 2013-14 | 10 | 10 | 10 | 10 | 10 | 10 | 60 | 5 | 4 | 6 | 3 | 7 | 8 | 33 |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place(under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed fromthe other departments (in such case mention the name of these departments). If the DegreeProgramme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **1.** | Professor and equivalent (1) | 1 | - | - |
| **2.** | Associate Professor and equivalent (1) | 1 | - | 1 |
| **3.** | Assistant Professor and equivalent (7) | 5 | 2 | - |
| **4.** | Contractual faculty (specify) SRF (1) | 1 | - | - |

Note**:** All the faculty assigned the responsibilities for the multiple programme.

*No.of Prof. also include personal promotes

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including arm and field workers need to be mentioned for both sanctioned and in-place.*

| S.No. | Designation | Sanctioned | Inplace* | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1 | **Assistant** | 1 | 1 | - | 01 |
| | Clerk/Typist | 1 | - | 1 | = |
| | Messenger | 1 | - | 1 | - |
| | Peon/Sweeper | 1 | 1 | - | - |
| 2. | **Lab staff** | - | - | - | 03 |
| | LabAssistant | 1 | 1 | - | - |
| 3. | **Field staff** | | | | |
| | Beldar | 1 | 1 | - | - |
| | Farm and field worker (specify) Agril.Inspector | 1 | 1 | - | 01 |
| 4. | Technician (Meteorological Observer) | 2 | 1 | 1 | 02 |

**Note:**All the technical and supporting staff assigned the responsibilities for the multiple programmes.

**6.4.4. Classroom and laboratories:** *Available for the degree programme and justify if it is sufficient to meet the course curricular equirement. Lists major equipments, laboratories, farm facilities, workshops and other instruction alun its being utilized for the award of the Degree Programme may be given.Mention theory and practical batches for the Degree Programme.*

## List of classroom and functional laboratories

| | |
|---|---|
| No. of lecture rooms with seatting capacity | One with seating capacity of 70, Lec. Room No.14 |
| No. of lecture rooms with LCD | One |
| No. of labs with specialized purpose | One (GIS, Remote Sensing) Lab No. 109 |
| Farm facilities | Yes (2.25 ha) |
| Any other instruction all units being utilized for the award of the Degree Programme | Seminar Room No. 108 |

## List of major equipments at present in the Department

| S.No. | Name of Equipment | Location/Lab No. |
|---|---|---|
| 1. | Epson workforce format scanner | Lab 109 |
| 2. | Four HP 2640 Work Station | Lab 109 |
| 3. | One ENVI 5.4 mini lab Software | Lab 109 |
| 4. | Line Quantum Sensor | Field Lab |
| 5. | Infrared Thermometer | Field Lab |
| 6. | Interactive Panel | Seminar room |
| 7. | Spectral radiometer | Field Lab |
| 8. | Assmann Psychrometer | -do- |
| 9. | Plant Canopy Analyzer | Field Lab |

## Mention theory and practical batches for PG Programmes

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc. | Ph.D. | M.Sc. | Ph.D. |
| 2018-19 | 15 | 8 | 8 | 9 |
| 2019-20 | 15 | 8 | 8 | 9 |
| 2020-21 | 15 | 8 | 8 | 9 |
| 2021-22 | 15 | 8 | 8 | 9 |
| 2022-23 | 15 | 8 | 8 | 9 |

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possibleto increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

## Practical and Hands-on-Training for M.Sc. and Ph.D.

| Degree programme | Total Courses | Practical courses | Hands-on Training courses | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| **M.Sc.** | 11 | 09 | AGM 501 | • Students are exposed to the basics of meteorological data handling and making calculations within them<br>• By doing analysis of long-period data, students can draw climatic results and trends |
| | | | AGM-502 | • The course help students in learning crop |

| | | | | |
|---|---|---|---|---|
| | | | | responses with weather variations.<br>• Students can learn crop performance in different weather conditions and optimum weather requirement for crop development |
| | | | AGM-503 | • Students learn the microclimatic conditions within a plant's surroundings<br>• With instruments, students record various weather events like temperature, humidity below, within and above the canopy etc. |
| | | | AGM-504 | • Students learn to operate different instruments to observe weather phenomena<br>• Students take reading within field and use in their study |
| | | | AGM-505 | • Practical to learn soil water balances, irrigation requirements<br>• Use of instruments to check the moisture in the soil |
| | | | AGM-506 | • Students learn to analyse the interactions of weather with crop<br>• By mathematical model, various data on crop growth and daily weather conditions, they learn to predict the growth and yield |
| | | | AGM-507 | • By observing the weather variables, students learn the practices to control the adverse impact of unfavourable weather on crops |
| | | | AGM-508 | • Students learn to access satellite images, importing data to form a geo-referenced image, its interpretation, classifications etc.<br>• Student work with Geographical Information System (GIS) in the lab to analyse spatial data along with GPS |
| | | | AGM-509 | • Students learn the long term climate studies and crop weather relationships. |
| **Degree programme** | Total Courses | Practical courses | Hands-on Training courses | How far students are getting desired practical and hands-on-training as per the curriculum |
| **Ph.D..** | 13 | 08 | AGM 601 | • Students are exposed to handle long-period weather data<br>• By doing analysis of long-period data, students can derive climatic changes and trends therein |
| | | | AGM-602 | • With the help of weather analysis using daily data along with historical data, forecasts are prepared.<br>• Students learn to prepare a note/plan to recommend the agronomic practices for fames in view of coming weather i.e. advisory |
| | | | AGM-603 | • Students learn the ways for measurement and recording of pollutants, visibility in the atmosphere<br>• With the help of models, students derive the impact of pollution on crop growth and development. |
| | | | AGM-604 | • Students learn the measurement of |

| | | | | |
|---|---|---|---|---|
| | | | | temperature, humidity and net radiations<br>• They apprised of calculation of animal comfort zone index using weather variables |
| | | | AGM-605 | • Practical to learn Climatic indices, climogram and Agrometeorological indices<br>• Working with statistical models, crop yield forecasting, crop weather relationship and insect & disease forecasting models |
| | | | AGM-606 | • Students work on present land use and cropping patterns and possible alternatives from environmental point of view<br>• Recent trends in land use and cropping patterns are also carried out |
| | | | AGM-607 | • Students work on data for exploratory data analysis, Box-Cox plots, Fitting of distributions etc. |
| | | | AGM-608 | • Students get acquainted with types of instruments and data recording, AWS data retrieval, storage and transfer<br>• Exposure to different software is given for Agromet data analysis |

**Note :** The details of courses offer by the department is given (*Annexure*-AGM-II)

**6.4.6. Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M. Sc. programme offered by the department**

| Year | No. of students on roll | No. of PG faculty | Student-teacher-Ratio |
|---|---|---|---|
| 2018-19 | 13 | 7 | 1.9:1 |
| 2019-20 | 14 | 7 | 2.0:1 |
| 2020-21 | 13 | 8 | 1.6:1 |
| 2021-22 | 12 | 8 | 1.5:1 |
| 2022-23 | 12 | 7 | 1.7:1 |

**Details of Ph.D. programme offered by the Department**

| Year | Number of students on roll | Number of PG faculty | Teacher-studentratio |
|---|---|---|---|
| 2018-19 | 10 | 7 | 1.4:1 |
| 2019-20 | 8 | 7 | 1.1:1 |
| 2020-21 | 11 | 8 | 1.4:1 |
| 2021-22 | 9 | 8 | 1.1:1 |
| 2022-23 | 10 | 7 | 1.4:1 |

**Note:** Details of courses offered by the Departments is given in ***Annexure AGM-III***

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

Feedback form is available with the department and it got filled from passing out students to get their views. Overall the feedback for the department is satisfactory. Further these feedbacks are discussed among faculty and relevant steps are taken without delay to improve the teaching learning environment. The students are also advised time to time to contact their teachers or HOD for redressal of any problem they are facing.

**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise informationon sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 4 | 5 | 5 | 5 | 5 | - | 20 | 20 | - | - |
| Ph.D. | 4 | 5 | 1 | 2 | 4 | - | - | 100 | - | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical.Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

**Use of ICT application non teaching and practical for curricula delivery**

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| **M.Sc.** | 9 | AGM501, AGM502, AGM503, AGM504, AGM505, AGM507, AGM508, AGM509, PGS505 | AGM502, AGM505, AGM509 | Smart class and PPT |
| **Ph.D.** | 6 | AGM601, AGM602, AGM603, AGM604, AGM606, PGS 505 | AGM602, AGM604, AGM505, AGM509 | Smart class and PPT |

The ICT is being used extensively in the teaching of most of the courses. The department is equipped with display/interactive panel with PC in classrooms as well as seminar room, and also have conference system for online teaching (if required). All faculty members prepare presentations slides and use them for classroom teaching.

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and PhD Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, Surender K. Pahuja here by certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure AGM-I*

**No. of students who cleared NET & JRF:**

| 2018-19 | 2019-20 | 2020-21 | 2021-22 |
|---|---|---|---|
| **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** |
| **1.** Karan Chhabra (2016A79M)<br>**2.** Premdeep (2014A63D)<br>**3.** Yogesh Kuamr (2015A59D)<br>**4.** Diwesh Choudhary (2011A02D)<br>**5.** Madho Singh (2014A64D)<br>**6.** Rajesh Kumar (2018A08D) (JRF/SRF) | 1. Amanpreet (2019A10D) (JRF/SRF)<br>2. Manjeet 2019A12D<br>3. Mohit Kamboj (2018A05D)<br>4. Abhilash Chouhan (2016A55D)<br>5. Pankaj Dahiya (2018A07D)<br>6. Rahul (2019A13D) | 1. Navreet (2018A06D)<br>2. RaheshKumar (2018A08D)<br>3. Harshana (2019A11D)<br>4. Pooja Yadav (2018A07M) (JRF/SRF) | 1. Sarika (2017A120M)<br>2. Suresh (2017A124M)<br>3. Ankit Yadav (2019A12M)(JRF/SRF) |

**Placement of M.Sc. students**

| Sr No | Name | Admission No | Present status(working/pursuing higher studies at) |
|---|---|---|---|
| **1.** | Ravi Gujjar | 2015A110M | Working as Agricultural Officer in Bank (UP) |
| **2.** | Karan Chhabra | 2016A79M | Working as SMS at GKMS (DAMU) Baramula J&K |
| **3.** | Sheetal Kalia | 2017A119M | Working as Agricultural Officer in BoBBank (Raj.) |
| **4.** | Sarika | 2017A120M | Working as SMS at KVK Jhajjar, CCS HAU, Hisar |
| **5.** | Ashish kumar | 2017A123M | Working as SMS at KVK Panipat, CCS HAU, Hisar |
| **6.** | Suresh | 2017A124M | Working as Agricultural Officer in BoB Bank (Rajasthan) |

**Placement of Ph.D. students**

| Sr. No | Name | Admission No. | Present status(working/pursuinghigher studies at) |
|---|---|---|---|
| 1 | Mukesh Kumar Nayak | 2012A61D | Working as SMS at Hindon city, Rajasthan |
| 2 | Premdeep | 2014A63D | Working as SMS at KVK Sonipat, CCS HAU |
| 3 | Madho Singh | 2014A64D | Working as SMS at Bharatpur, Rajasthan |
| 4 | Yogesh Kumar | 2015A59D | Working as Assistant Professor at CCS HAU |
| 5 | Abhilash Chauhan | 2016A55D | Working as Project Scientist at IMD New Delhi. |
| 6 | Amit Singh | 2016A56D | Working as SMS at KVK Ambala |
| 7 | Mamta | 2016A57D | Working as SMS at KVK Kurukshetra, CCS HAU |
| 8 | Devi Lal | 2017A58D | Working as SMS at KVK Bhiwani, CCS HAU |

| | | | |
|---|---|---|---|
| 9 | Manjeet | 2019A12D | Working as SMS at KVK Gurugram, IARI |
| 10 | Harshana | 2019A11D | Working as Research Associate at IMD New Delhi |
| 11 | Sarika | 2017A112M | Working as SMS at KVK Jhajjar, CCS HAU |

***Annexure-AGM-II***

## List of PG Courses offered by the Department

| Sr. No. | Course No. | Course Title | Credit Hours |
|---|---|---|---|
| **Semester-I** | | | |
| 1 | AGM 501* | Fundamentals of Meteorology and Climatology | 2+1 |
| 2 | AGM-502*/[1] AGRON 505 | Fundamentals of Agricultural Meteorology | 2+1 |
| 3 | AGM-504* | Agro-Meteorological Instrumentation and Measurements | 1+2 |
| 4 | AGM-507/[1]FSC 513 | Weather Modification and Risk Management Strategies | 2+0 |
| 5 | AGM-509 | Applied Agricultural Climatology | 1+2 |
| 6 | AGM-591 | Master's Seminar | 1 |
| 7 | AGM-599 | Master's Research | 20 |
| 8 | AGM-601** | Climate Change and Sustainable Development | 2+1 |
| 9 | AGM-603 | Air Pollution Meteorology | 2+1 |
| 10 | AGM-605 | Analytical Tools and Methods for Agrometeorology | 2+1 |
| 11 | AGM-607/[3] STAT 511 | Statistical Methods for Applied Sciences | 3+1 |
| 12 | AGM-691 | Doctoral Seminar I | 1 |
| 13 | AGM-692 | Doctoral Seminar II | 1 |
| 14 | AGM-699 | Doctoral Research | 45 |

| | | | |
|---|---|---|---|
| **Semester-II** | | | |
| 1 | AGM-503* | Micrometeorology | 2+1 |
| 2 | AGM-505 | Soil Water Balance Climatology | 2+1 |
| 3 | AGM-506/[2]AGRON 603 | Crop Production and System Modeling | 1+2 |
| 4 | AGM-508 | Principles of Remote Sensing and its Applications In Agriculture | 2+1 |
| 5 | AGM-591 | Master's Seminar | 1 |
| 6 | AGM-599 | Master's Research | 20 |
| 7 | AGM-602** | Weather forecasting | 2+1 |
| 8 | AGM-604** | Weather, Climate and Livestock | 2+1 |
| 9 | AGM-606 | Strategic Use of Climatic Information | 2+1 |
| 10 | AGM-607 | Statistical Methods for Applied Sciences | 3+1 |
| 11 | AGM-608 | Database Management and Commercialization of Agrometeorological Data in E-Services | 1+2 |
| 12 | AGM-691 | Doctoral Seminar I | 1 |
| 13 | AGM-692 | Doctoral Seminar II | 1 |
| 14 | AGM-699 | Doctoral Research | 45 |

* Compulsory for Master's program in Agricultural Meteorology
** Compulsory for Ph.D. program in Agricultural Meteorology
To be taught by: [1]Agril Meteorology; [2] Agril Meteorology and Agronomy; [3] Statistics

*Annexure AGM-III*

# PUBLICATION DETAILS

| Sr. No. | Detail of Research Paper | NAAS Rating |
|---|---|---|
| **1.** | Anurag, Kumar, A., Singh, D., Singh R., Kumar, M. and Singh, S. (2018). Local impact of climate change: A case study of western Haryana, India. *Journal of Agrometeorology*, 20(SI): 135-142. | 6.56 |
| **2.** | Choudhary, D., Singh, R., Singh, S., Dagar, C.S. and Kumar, A. (2018). Influence of prevailing weather conditions on Indian mustard under Hisar Conditions. *Journal of Agrometeorology*, 20(SI): 49-54. | 6.56 |
| **3.** | Dalal, R.P.S., Kumar, A., and Singh, R. (2018). Study of weather variable influence on different phenophases of Kinnow mandarin (*Citrus nobilis Lour*Citrus deliciosa*Tenore). *Journal of Agrometeorology*, 20(SI): 235-239. | 6.56 |
| **4.** | Khichar, M.L. and Niwas, R. (2018). Verification and Usability of Medium Range Weather Forecasting for Western Agroclimatic Zone of Haryana. *Journal of Agrometeorology*, 20 (SI): 16-21. | 6.56 |
| **5.** | Kumar, A., Shekhar, C., Singh, R., Singh, S., Anurag, Kumar, P. Vijay and Kumar, Y. (2018). Weather based growth indices of rapeseeds-mustard (*Brassica* spp.) at Hisar: A Review. *Contemporary Research in India*, 8(1):114-119. | 4.34 |
| **6.** | Kumar, A., Singh, R., Singh, S., Beniwal, J., Anurag, Shekhar, C. and Singh, D. (2018). Evaluation of weather conditions conducive to leaf curl virus disease development in cotton under semi-arid conditions. *Journal of Agrometeorology*, 20(SI): 61-68. | 6.56 |
| **7.** | Kumar, P., Singh, S., Singh, R. and Dagar, C.S. (2018). Evaluation of heat unit, radiation use efficiency, thermal use efficiency and yield of mustard in different growing environments. *Journal of Agrometeorology*, 20 (SI): 240-244. | 6.56 |
| **8.** | Kumar, S., Anurag, Niwas, R., Kumar, A., Singh, R., Singh, S. and Kumari, P. (2018). Agrimet decision support system for Rice crop distribution in different climatic suitable zones in Haryana using Remote Sensing & GIS techniques. *Journal of Agrometeorology*, 20(SI): 252-256. | 6.56 |
| **9.** | Kumar, S., Niwas, R., Khichar, M.L. Premdeep, Singh, A. and Kumar, Y. (2018). Optical characteristics, growth and yield quality of cotton under different growing environments. *Mausam*, 69(3): 465-472. | 6.28 |
| **10.** | Kumar, Y., Singh, R., Kumar, A., Chhabra, K., Nayak, M.K. and Singh, S. (2018). Evaluation of InfoCrop model for simulating the performance of Indian-mustard varieties under different growing environment in western Haryana. *Journal of Agrometeorology*, 20(SI): 188-192. | 6.56 |
| **11.** | Kumar, Y., Singh, R., Kumar, A., Singh, V. and Galav, A. (2018). Climate Smart Agriculture: Approach and Perspectives for the Rice-Wheat Crop Rotation System in IGP (Indo-Gangetic Plains). *Current Journal of Applied Science and Technology*, 28(4): 1-6. | ---- |
| **12.** | Mamta, Singh, D., Kumar, A., Singh, R., Dhaka, A.K., Singh, S. and Poonam (2018). Assessment of monthly trend-slop of temperature and rainfall extremes in Haryana, India. *Journal of Agrometeorology*, 20(SI): 149-154. | 6.56 |
| **13.** | Mohammad, A., Singh, S. and Dagar, C.S. (2018). Heat Use Efficiency of Indian mustard (*Brassica juncea*) at Different Phenophases in Western Haryana, India. *International Journal of Current Microbiology and Applied Sciences*, 7(6): 1977-81. | 5.38 |
| **14.** | Nayak, M. K., Singh, R., Kumar, A. and Singh, M. (2018). Correlation and regression study on wheat (*Triticum aestivum*) under different growing environments. *International Journal of Chemical Studies*, 6(1): 745-750. | 5.31 |
| **15.** | Nayak, M.K., Singh, R., Kumar, A. and Ahatsham, M. (2018). Influence the agrometeorological indices of wheat under different growing environment and irrigation regimes. *Journal of Agrometeorology*, 20(1SI): 199-206. | 6.56 |
| **16.** | Sharma, A., Khichar, M. L., Niwas, R., Premdeep and Pandey, N. (2018). Evaluation of growth and yield parameters of cotton hybrids as influenced by different growing environments. *Ecology, Environment and Conservation*, 24(SI)): 159-163. | 4. 98 |

| | | |
|---|---|---|
| **17.** | Shekhar, C., Singh, R., Ram, L., Kumar, A., Kumar, P. and Singh, D. (2018). Influence of weather parameters on insect pests of rice in Haryana. *Journal of Agrometeorology*, 20(SI): 307-310. | 6.56 |
| **18.** | Singh, M., Niwas, R., Khichar, M. L. and Godara, A. K. (2018). Zoning and Trend Analysis of Temperatures for Fruit Crops in North-West India Using GIS. *International Journal of Current Microbiology and Applied Sciences*, 7(1): 2970-2985. | 5.38 |
| **19.** | Singh, R., Singh, R., Karwasra, S.S., Kumar, A. and Choudhary, D. (2018). Climate Suitability for Karnal Bunt (*Tilletia indica*) Disease of Wheat Crop in Haryana. *Journal of Agrometeorology*, 20(SI -"NASA 2014" part-II):184-187. | 6.56 |
| **20.** | Singh, S., Tiwari, S., Singh, R. and Chate, D.M. (2018). Air pollutants concern in field crops under changing environment scenarios. *Journal of Agrometeorology*, 20 (SI): 302-306. | 6.56 |
| **21.** | Swami, P., Niwas, R., Maharshi, A. and Khichar, M. L. (2018). Association of Weather Variable with Pest Outbreak in Bt-Cotton in the Cotton Belt of North India. *International Journal of Current Microbiology and Applied Sciences*, 6(6): 2125-2137. | 5.38 |
| **22.** | Tiwari, S., Singh, S., Srivastava, A.K., Singh, R., Bisht, D.S. and Attri. S.D. (2018). Significant Contribution of Secondary Aerosols in Fog water over Hisar. *Journal of Agrometeorology*, 20 (SI): 228-234. | 6.56 |
| **23.** | Chhabra, K., Bele, M., Singh, R. and Kumar, A. (2019). Analysis and Correlation among Agronomic and Weather Parameters in Barley (*Hordeum vulgare* L.) Cultivars under Semi-Arid Regions of Haryana, India.*International Journal of Current Microbiology and Applied Sciences*, 8(5): 1497-1505. | 5.38 |
| **24.** | Dahiya, S., Singh, J., Singh, S., Singh, B., Garg, R. and Khedwal, R.S. (2019). Effect of agronomic practices on thermal utilization and heat use efficiency of two rowed malt barley (*Hordeum vulgare* L.) and their relationship with quality parameters. *Journal of Agrometeorology*, 21 (1SI): 167-175. | 6.64 |
| **25.** | Guru Prem, Kumar, R., Kumar, A., Anurag, Singh, U. and Meena, H. N. (2019). Role of Custom Hiring Centers in Implementation of In-situ Crop Residue Management Scheme in Ambala District (Haryana), *Asian Journal of Agricultural Extension, Economics & Sociology*, 34(3): 1-10. | 4.35 |
| **26.** | Khokhar, S., Rolania, K., Singh, G. and Kumar, A. (2019). Influence of prevailing weather parameters on population dynamics of fruit borer, *Helicoverpaarmigera* (Hübner) on tomato in Haryana. *Journal of Agrometeorology*, 21(2): 193-196. | 6.64 |
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| **28.** | Leharwan, S., Malik, V.K., Singh, R., Singh, S. and Leharwan, M. (2019). An environmental factor decides the development of mango anthracnose incited by *Colletotrichum glooeosporio* (Penz and Sacc) on the mango cultivars Langra and Dashehari in Haryana. *Journal of Mycology and Plant Pathology*, 49 (2): 111-216. | 5.79 |
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| **30.** | Rana, M., Singh, K.K., Kumari, N., Sanjay, J., Chaudhary, R., Sharma, G., and Dagar C.S. (2019). Verification and performance evaluation of cordex projected rainfall: A case study of Ambala and Sirsa District, Haryana. *Journal of Agrometeorology*, 21(1SI): 426-250. | 6.64 |
| **31.** | Sahoo J., Dinesh, Bhat, M. A., Anil, A. S. and Anurag (2019). Characterization and classification of soils of selected watershed area of Haryana, North-west India, *IndianJournal Agricultural Sciences*, 89 (11): 1942–7. | 6.23 |
| **32.** | Sharma, S., Yadav, A., Satyavan, Kumar, A., Yadav, D.V. and Pathania, R. (2019). Performance of pearl millet (*Pennisetum glaucum* L.) hybrids and their parents (B and R - lines) under rainfed & irrigated situations. *Journal of Agrometeorology*, 21(1SI): 42-55. | 6.64 |
| **33.** | Sunayana, Sangwan, R. S., Khichar, M. L. and Singh, M. (2019). Weather parameters influencing biochemical constituents in Asiatic cotton (*Gossypium arboreum* L.) under | 6.64 |

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| | different environmental conditions. *Journal of Agrometeorology*, 21(1SI): 160-166. | |
| **34.** | Wasim, M., Mor, V.S., Hemender, Singh, V., Sharma, S., Bhuker, A., Kumar, Y. and Dagar, C. S. (2019). Relationship between weather parameters prevailed during seed development and seed quality of Wheat (*Triticum aestivum* L.). *Journal of Agrometeorology*, 21(1SI): 83-89. | 6.64 |
| **35.** | Chhabra, K., Bele, M., Singh, R. and Kumar, A. (2020). The variations of soil temperature and effects of varying sowing dates and varieties on moisture regime of soil profile of barley in west Haryana conditions. *International Journal of Chemical Studies, 7(3)3224-3228.* | 5.31 |
| **36.** | Jangra, A., Airon, A. and Niwas, R. (2020). A study on deforestation in hilly areas of Haryana using Remote Sensing and GIS technique .*Environment Conservation Journal*, 21(3) 69-77. | 5.55 |
| **37.** | Khichar, M.L Niwas, R., Kumar, A., Singh, R. and Bhan, S.C. (2020). Weather based decision support system for crop risk managment. *Journal of Agrometeorology*, 22(1SI): 76-79. | 6.47 |
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| **43.** | Rawal, S., Kumar, Y., Bali, A., Kumar, A. and Singh, R. (2020). Analysing recent meteorological trends and computation of reference evapotranspiration and its effect on crop yields in semi-arid region of Haryana. *Mausam*, 71(4): 739-748. | 6.37 |
| **44.** | Tobler, A.K., Bhattu, D., Canonaco, F., Lalchandani, V., Shukla, A., Thamban, N., Mishra, S., Srivastava, A. K. Deewan, Bisht, S. Tiwari, S., Singh, S.,GrišaMočnik, UrsBaltensperger, Tripathi, S. N.,Slowik, J. G. and Prévôt André, S. H. (2020). Chemical characterization of PM2.5 and source apportionment of organic aerosol in New Delhi, India. *Science of the Total Environment*, 745. | 12.55 |
| **45.** | Adamu, J.I. and Singh, S. (2021). Engaging youth in Agrometeorology for Sustainable Development. *Journal of Agrometeorology*, 23(4):365-366. | 6.55 |
| **46.** | Dhangar, N.G., Lal, D.M., Ghude, S.D., Sajjan, V.S. Pithani, P., Niranjan, K., Prasad, D.S. V.V.D, Jena, C., Prabhakaran, T., Karipot, A. K., Jenamani, R. K., Singh, S. and Rajeevan, M. (2021). On the conditions for onset and development of fog over New Delhi: An observational study from the WiFEX. *Pure and Applied Geophysics*, 178: 3727-3746. | 8.34 |
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| **48.** | Khichar, M.L., Niwas, R., Kumar, A., Singh, R. and Bhan, S.C. (2021). Weather based decision support system for crop risk managment. *Journal of Agrometeorology*, 22(1SI): 76-79. | 6.55 |
| **49.** | Kumar, P., Kumar, S., Hooda, V.S., Neelum, Kumar, A., Thakral, S.K., Kumar, S. and Kumar, P. (2022). Agrometeorological indices influenced by different sowing dates, irrigation and fertilizer levels under late sown Indian mustard in western Haryana, India. | 6.55 |

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| | *Journal of Agrometeorology*, 24(2): 172-178. | |
| **50.** | Kumar, P., Sharma, S.K., Kumar, A. and Thakral, S. K. (2021). Agro-meteorological indices and productivity of chickpea (*Cicer arietinum*) under dryland condition as influenced by seed priming and chemi-biofertilizers. *Indian Journal of Agronomy*, 66 (1): 88-92. | 5.31 |
| **51.** | Kumar, P., Sharma, S.K., Kumar, A. and Thakral, S.K. (2021). Agrometeorological indices and productivity of chickpea (*Cicer arietinum*) under Dryland condition as influenced by seed priming and chemi-biofertilizers. *IndianJournal of Agronomy*, 66(1): 46-50. | 5.55 |
| **52.** | Kumar, Y., Singh, R. and Kumar, A. (2021). Performance of SUBSTOR model on growth and yield of potato varieties under different planting dates in a sub-tropical environment. *Journal of Agrometeorology*, 23(2): 213-220. | 6.47 |
| **53.** | Kumar, Y., Singh, R. and Kumar, A. (2021). Performance of SUBSTOR model on growth and yield of potato varieties under different planting dates in a sub-tropical environment. *Journal of Agrometeorology*, 23 (2): 213-220. | 6.55 |
| **54.** | Kumar, Y., Singh, R. and Kumar, A. (2021). Study of PAR interception, energy balance studies and microclimatic profile in Potato (*Solanum tuberosum*) cultivars under varying planting dates. *International Journal of Chemical Studies*, 9(1): 2475-2491. | --- |
| **55.** | Nayak, M.K., Singh, R., Kumar, A., Singh, S. and Patil, D. (2021). Sensitivity Analysis of CERES-Wheat Model under Hisar Conditions. *International Journal of Current Microbiology and Applied Sciences*, 10(09). | ----- |
| **56.** | Neelam, Shweta, Satpal, Kumar, S., Sehwag, M., Hooda, V.S. Devi, U. and Kumar, A. (2021). Agrometeorlogical Indices of barley Varities under diferent growing environment. *Journal of Multilogic in Science*, X(XXXVI): 1721-1725. | 5.31 |
| **57.** | Rao, G. G. S. N. and Singh, S. (2022). Research Priorities and Applications in Agrometeorology. *Journal of Agrometeorology*, 24 (2): 121-122. | 6.55 |
| **58.** | Satpal, Kumar, S., Kumar, A, Gangaiah, B., BhardwaJ, K.K. and Neelam (2021). Evaluation of energy efficiency and optimum resource management in forage sorghum [*Sorghum bicolor* (l.) moench] under semi-arid tropics. *Forage Research*, 47 (3): 308-312. | 4.84 |
| | Online/virtual Publication in > 6 NAAS Rating, Virtual- special issue published | |
| **59.** | Dahiya, S., Singh J., Singh, S., Singh, B. and Khedwal, R.S. (2021). Relationship of growth and yield with heat units under various agronomic practices in two rowed malt barley. Virtual National Conference on "Strategic Reorientation for Climate Smart Agriculture" (V-AGMET 2021) March 17-19, 2021, PAU, Ludhiana, Vol(1): 336-339. | 6.47 |
| **60.** | Harshana, Singh, R. and Kumar, A. (2021). Rainfall variability analysis at Hisar (Haryana) in the northwestern India. : Proceeding of Virtual National Conference on "Strategic Reorientation for Climate Smart Agriculture" (V-AGMET 2021) March 17-19, 2021, PAU, Vol( 2): 40-43. | 6.47 |
| **61.** | Kumar, A., Dagar, C.S. and Anurag (2021). Strategic micro level Agrometeorological characteristic for the MAAS, Haryana: Proceeding of Virtual National Conference on "Strategic Reorientation for Climate Smart Agriculture" (V-AGMET 2021) March 17-19, 2021, PAU, Vol(1 & 3): 330-336. | 6.47 |
| **62.** | Kumar, R., Niwas, R., Khichar, M. L and Kumar, Y. (2021). Study of microclimatic profiles and PAR interception in Pigeonpea (Cajanuscajan) cultivars under different growing environments. Virtual National Conference on "Strategic Reorientation for Climate Smart Agriculture" (V-AGMET 2021) March 17-19, 2021, PAU, Ludhiana, Vol(1): 81-84. | 6.47 |
| **63.** | Mamta, Niwas, R., Khichar, M. L., Anurag and Kumar, A. (2021). Spatial distribution of climate change indices of rainfall indices for Haryana, India during the periods from 1985-2014: Proceeding of Virtual National Conference on "Strategic Reorientation for Climate Smart Agriculture" (V-AGMET 2021) March 17-19, 2021, PAU, Vol( 2): 176-178. | 6.47 |
| **64.** | Chauhan, A.S., Singh, S., Maurya, R.K.S., Rani, A. and Danodia, A. (2022). Spatio-temporal and Trend analysis of Rain days having different Intensity from 1901 – 2020 | ----- |

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| | at Regional Scale in Haryana, India. *Results in Geophysical Science*, 10: 1-45. | |
| **65.** | Chauhan, A.S., Singh, S., Maurya, R.K.S., Ozgur, K.; Rani, A. and Danodia, A. (2022). Spatio-temporal analysis of rainfall dynamics of 120 years (1901-2020) using innovative trend methodology: A case study of Haryana, India. *Sustainability*, 14. | 9.47 |
| **66.** | Chauhan, A. S., Singh, S., Maurya, R.K.S., Rani, A. and Danodia, A. (2022).Spatio-temporal trend analysis and future projections of precipitation at regional scale: a case study of Haryana, India. *Journal of Water Climate Change*, 1-20. | 7.90 |

# Programme - 5



## Master of Business Management

## Ph.D. Agribusiness Management and

## Ph.D. General Management

## 6.4 About the Department:

The Department of Business Management was established in 1996-97 with an objective of producing world class management graduates to take on challenges of corporate world. Presently, the Department is offering two management programmes namely MBA (Agri-business) and MBA (General). The department offers specializations in Agri-business Management, Marketing, Finance and HRM. To produce qualified academicians*viz.* teachers and researchers in addition to Managers; the Department of Business Management has also started Ph. D. (Agri-business) and Ph. D. (General) from session i.e. 2017-18 and 2020-21, respectively. The department has well educated, experienced and dedicated faculty which is ever ready to help students. Besides class room teaching, students are exposed to case studies, group discussions, business games, industrial visits, assignments, presentations, and role playing etc. The department is well-equipped with all modern audio-visual aids like computers, TV, LCD, OHP, etc. Almost all the students are well placed in reputed companies and Public Sector Banks, both Indian and multinationals.

The department has well qualified and experienced faculty having vast experience and international exposure. One of the faculty of the department has been recipient of prestigious Alexander von Humboldt Research Fellowship, Germany.

### Objectives of the Department

### MBA (Agribusiness) and MBA (General)

- To develop business temperament and orientation in students.
- To assist the business world by providing the thoughtful learned and knowledgeable agri-managers of future.
- To cultivate skills of analyzing the complex agribusiness situation among students through case studies and presentations.
- To provide students with practical knowledge about corporate world through seminars, summer training, research projects, industrial tours, presentations, event management opportunities etc.

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

### Accomplishments of MBA programme

- One faculty member is recipient of Alexander von Humboldt Research Fellowship, Germany
- Conducted one summer School to train the faculty of ICAR Institutes and SAUs in 2000.
- Started Agri-clinic/Agri-business scheme of Ministry of Agriculture, Government of India 2002.
- Conducted 4 two months trainings under Agri-clinic/Agri-business scheme of Ministry of Agriculture, Government of India (2002-2004).
- 576 students have passed out till date.
- Four students passed ICAR's AICTE-SRF(PGS) in subject-Agribusiness Management
- Faculty members of the Department have published about 37 research papers/popular articles **(*Annexure BM-1*).**

- Students have published about 23 research papers/popular articles **(*Annexure BM-1*).**
- Faculty has participated in 10 national and 15 International conferences**.**
- Students have participated in 2 national, 8 International and 2 workshops **.**
- Faculty members has conducted 55 trainings and 2 workshops from 2018-2023 **(*Annexure BM-II*).**
- Thirty students got placed during 2018-23 **(*Annexure BM-III*).**
- Four students have qualified JRF exam and three students have cleared NET exam
- Faculty members has delivered 44 lectures in various trainings and workshops from 2018-23.
- Started Ph.D. (Agribusiness Management) from 2017-18.
- Started Ph.D. (General Management) from 2020-21

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **1.** | Professor and equivalent (0) | 3 | - | - |
| **2.** | Associate Professor and equivalent (1) | 1** | - | - |
| **3.** | Assistant Professor and equivalent (6) | 6 | - | - |

**Note:** All the Faculty is assigned their responsibilities for the multiple programmes
*The number of Professors/ Associate Professors also includes personal promotes
**Posted at EEI, Nilokheri

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S.No.Designation | Sanctioned | Inplace | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1.**Assistant/Steno/JSS** | 01 | **01** | - | - |
| 2.**Clerk** | 01 | 01 | - | - |
| 3.**Messenger** | 01 | 01 (On contractual) | 01 | - |
| Total | 03 | | - | 03 |

**Note:** All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4 Classrooms and Laboratories:** *Mention the number of classrooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the*

*course curricular requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

The department has well established three lecture halls with LCD projector in each room and one seminar room. Every teacher is provided with personal computers. Hence, sufficient numbers of lecture rooms having capacity of forty students and personal computers are there to meet the course curricular requirements.

**List of classroom and functional laboratories**

| **No. of lecture rooms with seating capacity** | **03, Seating capacity about 40 each** |
|---|---|
| No. of lecture rooms with LCD | 03 |
| Seminar room | 01 |

**List of equipment at present available in the department**

| S.No. | Name of equipment | Location |
|---|---|---|
| 1. | Desktop computer (10) | 06 computers in faculty rooms, 03 computers in three lecture rooms no. 2, 3 & 4 and 01 computer in office (Steno) |
| 2. | Printer (Three) | 06 (faculty rooms) and 01(office-steno) |
| 3. | Scanner (one) | 04 Faculty room |
| 4. | LCD projector | Lecture Room No. 2, 3 and 4 |

**Average number of batches with average number of students per batch**

The MBA programme is of two years. During 1st year, department offers 13 courses and there is one theory batch with an average of about 25 students. During 2nd year there are two batches – one is of MBA (Agri-business) and another is of MBA (General). The 2nd year students study 10 courses. The average number of students in case of MBA (Agri-business) is10 and for MBA (General) is 10 students.

For the practical component in MBA programme, all Students go for 6-8 weeks practical summer training in companies after completion of the first year. Students have to present and submit the training report to the Department in the beginning of first semester of second year which is evaluated internally. Industrial training is provided to the students so that they may be capable to implement the subjects practically.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

Sound grasp of the theory is important for a professional degree. Some of the skills are acquired through practical and hands-on training. Hence, it is important to provide learning material and opportunities that allow students to get involved in activities that increase their knowledge and skills. The students get hands on training on how the business problems are

resolved by the company and how they get paid. Industrial training enhanced the personal skills including presentation skills. Industrial training fastens the process of transformation from a student to employee. If the student is really smart, the company also gives an offer letter to the students. It also helps the students to connect between what they are doing in the college and what is there in the industry. By the end of the training process, students are turned into professionals in their field of area.

| Course No. | Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|
| **ABM/MGT 595** | S/US | Helps in implementing the theory in to realistic area. Familiarize them with the environment of the companies<br><br>In these hands-on sessions, students develop soft skills and learn how to do team work and collaborate with others, thereby making them employable/industry ready. | • Help the students to increase communication level as well as develop leadership qualities.<br>• Apart from technical skills, industrial training helps them to develop feelings of responsibility, self confidence, excellent work habit and ability to work as part of a team to achieve a common goal.<br>• The students are provided training from the industry professionals who have assortment of knowledge in working in live-projects. |

**6.4.6. Supervision of students in PG/PhD programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of MBA programme offered by the Department**

| Year | Number of students on roll | Number of PG faculty | Student-teacher-Ratio |
|---|---|---|---|
| 2018-19 | 19(A)+ 11(G) | 6 | 5.00:1 |
| 2019-20 | 17(A)+16(G) | 7 | 4.71:1 |
| 2020-21 | 27(A)+ 20(G) | 7 | 6.71:1 |
| 2021-22 | 15(A)+10(G) | 7 | 3.57:1 |
| 2022-23 | 20(A)+17(G) | 7 | 5.29:1 |

**Note:** Details of courses offered by the Department are given in *Annexure BM-I*

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

There is a system of annual self-appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis of their results, feedback from the students. Students are placed in different institutions for Industrial training. Any suggestions provided by them are incorporated. The stakeholders' feedback on the overall

performance and quality of the institutions is obtained from parents and through interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. The feedback, thus is being communicated to faculty and other staff members through meetings and interactions. The different parameters of feedback performa will be the improvement standards for everyone in the future endeavours. Increase in audio-visual aids, smart class rooms and hands on sessions can be seen on the basisi of genuine feedback mechanism.

**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme in the tabular form, shall be provided.*

| Nameof the Degree Programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| MBA (Agribusiness) | 19 | 17 | 27 | 15 | 20 | - | - | 13.3 | - | - |
| MBA (General) | 11 | 16 | 20 | 10 | 17 | 3 | - | - | 3 | 17.6 |
| Ph.D (Agribusiness) | 2 | 5 | 1 | 1 | - | - | - | - | - | - |
| Ph.D (General) | - | -- | 1 | 4 | 1 | - | - | - | - | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of Department of Business Management use ICT in teaching. There is one Seminar Room and three class rooms with computer and LCD projector. All faculty members have computers and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching and research. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at MBA.E-mails are also used to give assignments and communication purposes. The faculty is using centralized smart class rooms to deliver special interactive lectures. The various platforms like Google meet, Zoom, Microsoft Team are being used for online lectures as and when required. Students can acess recorded lectures through Google drive if needed.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weight age for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** I, the Dean**, Surender K. Pahuja** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure BM- I*

# PUBLICATION DETAILS

| S. No. | Publication details of students | NAAS Rating |
|---|---|---|
| **1.** | Loura, M., Mehla, S. and Ghalawat, S. (2018). A Study of Factors Influencing Organic Product on Health and Environment in Hisar. I*nternational Journal of Current Microbiology and Applied Sciences*, 7(10): 1025-1032. | - |
| **2.** | Chaturvedi, A., Goyal, S.K. and Rathore, R. (2019). An empirical study on economic analysis of barley (*Hordeum vulgare*) marketing in Hisar Dist. of Haryana. *Green Farming*, 10 (1): 77-80. | - |
| **3.** | Goyal, N., Girdhar, A., Goyal, S.K. and Garima (2019). Current Status of Agronomic Practices adopted in the Production of Chickpea: A Study of Rajasthan, India. *in Bulletin of Environment, Pharmacology and Life Sciences*, 9 (1) :102-107. | 4.95 |
| **4.** | Nidhi, Saurabh, Ghalawat, S. and Mehla, S. (2020). A Study of Consumer Behaviour towards Online Shopping in Hisar, March, *International Journal of Education & Research*, 10 (1): 14-17. | - |
| **5.** | Shakshi, Goyal, M., Ghalawat, S. and Kumar, N. (2020). Factors Influencing Food Ordering on Zomato in Hisar District, Haryana. *Journal of Extension System*, 36(2): 46-49 | - |
| **6.** | Vikas and Goyal, M. (2020). Basmati rice contract farming trends, challenges and opportunity for bayer. *Journal of Pharmacognosy and Phytochemistry*, 9 (5): 354-358. | - |
| **7.** | Anamika., Dhingra, A., Malik, J. and Ghalawat, S. (2021). Consumer Behavior with regards to Consumption of Tea in Hisar City, Haryana, 37 (2). | - |
| **8.** | Kumar, M., Ghalawat, S., Yadav, E., Kaushal, N. and Nidhi. (2021). Factors Influencing Toward Online Shopping Among Students in Haryana, *High Technology Letters*, 27(6): 668-679. | - |
| **9.** | Loura, M., Ghalawat, S., Malik, J., Kundu, K.K., Yadav, K.K., Kumar, D and Megha (2021). Level of Adoption of Good Management Practices by Dairy Farmers in Haryana", *Journal of Extension System*, 37 (1). | - |
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| **15.** | Goyal, N. and Goyal, S. K (2022). Major Constraints in Production and Marketing of Onion in Haryana", *Indian Research Journal of Extension Education*, 22 (2): 38-43. | 5.15 |
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| **29.** | Agarwal, S., Kumar, S. Goyal S. and Kumar, N. (2019) Constraints in production and marketing of Cluster bean in Hisar district of Haryana. *Forage Research*, 45(1): 64-67. | 4.84 |
| **30.** | Ghalawat, S., Mehla, S., Malik, J. S. and Goyal, M. (2019). Consumer awareness towards ayurveda products and the factors influencing choice of ayurveda products. *Indian Journal of Extension Education*, *55*(4): 81-85. | 5.95 |
| **31.** | Ghalawat, S., Parmar, S., Mehla, S. and Girdhar, A. (2019), A Consumer Awareness Study towards Purchasing of Organic Products in Hisar City. *Library Philosophy and Practice (e-journal)*. Summer, 3587. | - |
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| **33.** | Ghalawat S., Girdhar, A., Goyal, M. and Subodh, (2020). Consumers inclination towards the benefits of organic products. *International Journal of Chemical Studies*, 8(1): 551-554. | - |
| **34.** | Ghalawat, S., Kiran and Malik, J.(2020). Impact of training and development on employees Performance and productivity", *Indian Journal of Extension Education*, 56(3): 95-100. | 5.95 |
| **35.** | Goyal M, Ghalawat S., Agarwal N. and Neelam, (2020), Trend and forecast of Covid-19 in India. *Journal of Pharmacognosy and Phytochemistry*, 9(2):354-358. | -- |
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| **37.** | Kaushal, N., Ghalawat, S., Malik, J. S., Singh, A., & Kumari, N. (2020). Employees' Attitude towards Psychological Contract in Selected Industries. *Indian Journal of Extension Education*, *56*(4), 54-60. | 5.95 |

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| **41.** | Kumar, N. and Goyal, M. (2020). Survey on people satisfaction level from the BJP Government in Distt. Jind, Haryana. *International Journal of Applied Mathematics statistical Sciences*, 9(2): 21-30. | -- |
| **42.** | Parmar, S. and Gahlawat, S. (2020). Thirty years research output on rural women entrepreneurship: A bibliometric analysis of publications (1989-2018). *Library Philosophy and Practice*, 1-11. | -- |
| **43.** | Parmar, S. and Kumar, A. (2020). Global research output on 'coronavirus disease-2019'(COVID-19). *Library Philosophy and Practice*, 2020. | -- |
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| **51.** | Kaushal, N., Ghalawat, S. and Saroha, A., (2021). Communicating Five-Year Budgets for the Indian Economy: Comparative Text and Sentiment Analysis, *Journal of Content, Community & Communication*, 14. | -- |
| **52.** | Kaushal, N., Ghalawat, S., Malik, J. S. and Goyal, M. (2021). A Study on Evidence-based Decision Making in Hospitals of Haryana. *Indian Journal of Extension Education*, *57*(1): 99-104. | 5.95 |
| **53.** | Kaushal, N., Singla, S., Jain, M.R. And Ghalawat, S. (2021). Microfinance institutions and women empowerment trends and future research directions: a bibliometric analysis. *Library Philosophy and Practice*, 1-23. | -- |
| **54.** | Kumar N., Goyal M. , Kumar Y. and Gaurav (2021). A feedback of farmers about the work of Government to protect them from Covid-19. Kundli Border, Haryana (India). *High Technology Letters Journal*, 27(7): 244-255. | -- |
| **55.** | Kumar N., Goyal M., Dawar P. and Kumar Y. (2021). Factors Influencing Re-opening of schools During COVID-19 in Jind District, Haryana, *Wutan Huatan Jisuan Ji*shu, 17(1): 404-410. | -- |
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| **57.** | Girdhar A., Pareek J., Ghalawat S., Goyal, M. and Agarwal S. (2022). Farmers' Perception towards the supply chain management of vegetables in Fatehabad district. IAHRW *International Journal of Social Sciences Review*, 10(2): 112-114. | 4.42 |

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| **58.** | Goyal M., Mehla V., Dhiman S., Yadav E. and GhalawatS.(2022). Assessment of Farmer's Attitude & Knowledge towards the adoption of Vermicompost in Jind district, Haryana. IAHRW *International Journal of Social Sciences,* 10(2): 126-129. | 4.42 |
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| **60.** | Yadav, M., Girdhar, A., Satyavart, Mehta, P. and Sharma, S. (2022). Economic and Administrative Constraints Encountered by Women in Performing Panchayat Duties in Haryana. *International Journal of Education & Management Studies,* 12(2): 95-98. | 4.58 |

***Annexure BM-II***

## TRAININGS CONDUCTED FROM YEAR 2019-2023

**Trainings /Workshops organised:**

1. Department of Business Management, CCSHAU, Hisar, Organized Two days Workshop on "Agripreneurship: Transforming an Idea into a New business" on 28th- 29th November, 2022.

2. Dr. Suman Ghalawat and Mr. Subodh Agarwal organized 8 days Training i.e. 17th February, 2022 to 24th February, 2022, on "Role of Agribusiness in Self Reliance of India" for SC students**.**

3. Department of Business Management, CCSHAU, Hisar, Organized One day Workshop on "Agripreneurship: Transforming An Idea into a New business" on 29th March, 2022.

Sharing Glimpses & Feed back of Workshop **AGRIPRENEURSHIP –TRANSFORMING AN IDEA INTO A NEW BUSNESS** Conceptualised, Designed & Executed by Professor Vivek Kapoor of SSSIHL- Deemed University , Puttaparthi , Andhra Pradesh –for the Business Management , Agri Business Management & Rural Management students of Chaudhary Charan Singh ,Haryana Agricultural University Hisar ,Haryana (CCSHAU) a Premier Agricultural University of India on 29th March 2022 at CCSHAU Hisar ,Haryana














| S.NO. | Name of the training/course conduct at EEI, Nilokherias |
|---|---|
| | **2019** |
| 1. | "Formulation and strengthening of farmer producers company and FPOs" From 23-26 July 2019 |
| 2. | "Marketing and valve chain management for agriculture produces" From 19-23 August 2019 |
| 3. | "Extension strategy for linking farmers to agri-processing industries" From 27-31 August 2019 |
| 4. | "Extension strategy for mainstreaming women in agriculture" From 03-06 September 2019 |
| 5. | "Agriculture video production for social media and web based platforms" From 09-13 September |
| 6. | "Participatory extension approaches for effective technology transfer. From 16-19 September 2019 |
| 7. | "Communication and presentation skills for effective extension management" From 24-27 September 2019 |
| 8. | "Time & stress management skills for better performance" From 04-08 November 2019 |
| 9. | "Knowledge management for agriculture and allied sector" From 13-16 November 2019 |
| 10. | "Communication skill for effective transfer of technology" From 19-22 November 2019 |
| 11. | "Time & stress management for organisational effectiveness" From 02-06 December 2019 |
| 12. | "Monitoring & evaluation of extension programme" From 10-13 December 2019 |
| 13. | "Various tools for women empowerment in agriculture and allied sectors" From 17-21 December 2019 |
| | **2020** |
| 14. | "ICTs and social media application for agriculture extension" From 06-10 January 2020 |
| 15. | "Integrated farming system models: problems and opportunities" From13-17 January 2020 |
| 16. | "Extension of dairy processing technologies for entrepreneurship development" From20-24 January 2020 |
| 17. | "Effective management of extension activities and farmer advisory service" From 28-31 January 2020 |
| 18. | "Documentation, reporting and presentation skills for better organisational management" From 03-07 February 2020 |
| 19. | "Impact assessment & programme evaluation" From 11-14 February 2020 |
| 20. | "Capacity building programme" at Govt,P.G College, Karnal. From 10-14 February 2020 |
| 21. | Extension Strategy for Diversification towards High Generating Enterprise from 24-28 August-2020 at EEI, Nilokheri. |
| 22. | Time and Stress Management for Extension Personnel |
| 23. | Leadership and Team Building for better Extension Management |
| 24. | Work Ethics and Motivational Skills for Better Performance |
| 25. | Application of ICTs and Artificial Intelligence in Agriculture and Allied Sector |
| 26. | Post. Impact Assessment and Programme Evaluation |
| 27. | Application of ICTs in Agriculture and allied Sector |
| 28. | time and Stress Management for Productivity Enhancement |
| 29. | Communication and Presentation Skills for Effective Transfer of Technology |
| 30. | Time and Stress Management for Extension Personnel |
| 31. | Leadership and Team Building for better Extension Management |
| 32. | Work Ethics and Motivational Skills for Better Performance |
| 33. | Application of ICTs and Artificial Intelligence in Agriculture and Allied Sector |
| 34. | Application of ICTs in Agriculture and allied Sector |
| 35. | time and Stress Management for Productivity Enhancement |
| | **2021** |
| 36. | Extension Methods and Multi-Media Skills for Extension Personnel With SIMA, Rehman Khera (UP) 02-05 Aug., 2021 |
| 37. | Time and Stress Management Skills for Better Performance August 09, 2021 |
| 38. | Formulation, Monitoring and Evaluation of Extension Programme August 17, 2021 |
| 39. | Extension Methodology for Forestry Extension September 27, 2021 |

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| 40. | Team Building and Leadership Development November 8, 2021 |
| 41. | Social Media Useful Approaches for Agricultural Extension November 22, 2021 |
| 42. | Vibrant Extension Approaches for Effective ToT With CSAUA&T Kanpur (UP) |
| 43. | Effective Extension Method, Social Media Skills for Extension Personnel January 22 2021 |
| 44. | Training Management Skills for Extension Functionaries July, 26-30,2021 |
| 45. | Extension Strategies for Application of Techniques and Safety Measures (In collaboration with NIPHM, Hyderabad) |
| 46. | Extension Strategies for Promoting Farmers Producer Organization,Farmer Producer Company and Self Help Group |
| **2022** | |
| 47. | New age skills for mentoring agri- startup (In collaboration with MANAGE, Hyderabad) 03-05 May 2022 |
| 48. | New age skills for mentoring agri- startup (In collaboration with MANAGE, Hyderabad) 03-05 May 2022 |
| 49. | Extension Strategies for Application of Techniques and Safety Measures(In collaboration with NIPHM, Hyderabad) |
| 50. | Extension Strategies for Promoting Farmers Producer Organization,Farmer Producer Company and Self Help Group |
| 51. | Market-Led-Extension for Linking Farmers to Market and Processing Industries |
| 52. | Integrated Farming System for Sustainable Development |
| 53. | Effective Extension Skills for Forest Extension Personnel |
| 54. | Extension Methodology for Dairy Enterprise (In collaboration with NDRI, Karnal) |
| 55. | New age skills for mentoring agri- startup (In collaboration with MANAGE, Hyderabad) 03-05 May 2022 |

***Annexure BM-III***

## PLACEMENT RECORD OF STUDENTS

### 2018-19

| Sr. No. | Name of Student | Admn No. | Year of Passing | Placement |
|---|---|---|---|---|
| **1.** | Sasikanth.R | 2017A133MBA | 2019 | Associate Consultant, NABARD |
| **2.** | Kartik Choudhary | 2017A138MBA | 2019 | Assistant Manager, AXIS Bank |
| **3.** | Sanjeev Bruwa | 2017A139MBA | 2019 | Assistant Manager, AXIS Bank |
| **4.** | Usha Rani | 2017A155MBA | 2019 | Associate Consultant, NABARD |
| **5.** | Shubham Sharma | 2017A156MBA | 2019 | Associate Consultant, NABARD |
| **6.** | Sweety Ranjan | 2017A134MBA | 2019 | Trainee Marketing National Seed Corporation |

### 2019-20

| Sr. No. | Name of Student | Admn No. | Year of Passing | Placement |
|---|---|---|---|---|
| **1.** | Akshay Kumar | 2018A103MBA | 2020 | Marketing Trainee, BAYER Crop Science |
| **2.** | Arjun Rana | 2018A104MBA | 2020 | Management Trainee, JU Agri. Science |

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|---|---|---|---|---|
| **3.** | Rahul | 2018A111MBA | 2020 | Agriculture Supervisor, Deptt. of Agriculture, Haryana |
| **4.** | Rahul Beniwal | 2018A112MBA | 2020 | Marketing Executive, Adama |
| **5.** | Rahul Yadav | 2018A113MBA | 2020 | Marketing Executive, BAYER Crop Science |
| **6.** | Rakesh Kumar | 2018A114MBA | 2020 | Agriculture Supervisor, Deptt. of Agriculture, Haryana |
| **7.** | Ramandeep Singh | 2018A115MBA | 2020 | Agriculture Supervisor, Deptt. of Agriculture, Haryana |

**2020-21**

| Sr. No. | Name of Student | Admn No. | Year of Passing | Placement |
|---|---|---|---|---|
| **1.** | Devendra Partap | 2019A01MBA | 2021 | Reliance, Retail, Lucknow |
| **2.** | Muthumula Shiva Reddy | 2019A09MBA | 2021 | Reliance Retail, Banglore |
| **3.** | Dharmesh Sharma | 2019A02MBA | 2021 | Reliance Retail, Gurgaon |
| **4.** | KartikSheoran | 2019A05MBA | 2021 | Reliance Retail, Dehradun |
| **5.** | Parveen Gil | 2019A11MBA | 2021 | Reliance Retail, Gurgaon |
| **6.** | Pawan | 2019A27MBA | 2021 | JU, Agri. |
| **7.** | Sagar | 2019A15MBA | 2021 | Sumi Tomo, Chemical Ltd., Mandi |
| **8.** | Sunil | 2019A17MBA | 2021 | Neuglobal Upajvardhak India Ltd. |

**2021-22**

| Sr. No. | Name of Student | Admn No. | Year of Passing | Placement |
|---|---|---|---|---|
| **1.** | Deepak Kumar | 2020A04MBA | 2022 | Mawana Sugars Ltd., Sr. Officer Trainee |
| **2.** | Kumari Supriya | 2020A10MBA | 2022 | Mother Dairy Fruits and Vegetables Pvt. Ltd., Executive Trainee |
| **3.** | Shivender Dhiman | 2020A27MBA | 2022 | Mother Dairy Fruits and Vegetables Pvt. Ltd. , Executive Trainee |
| **4.** | Anand Kumar Singh | 2020A01MBA | 2022 | Mother Dairy Fruits and Vegetables Pvt. Ltd,. Executive Trainee |
| **5.** | Rohit Dhankar | 2020A22MBA | 2022 | Mahindra Agri. Solutions, Sales and Marketing Executive |
| **6.** | Ankit Godara | 2020A40MBA | 2022 | Zydex Industries Private Ltd, Sales Executive |
| **7.** | Himanshu | 2020A07MBA | 2022 | Punjab National Bank, Agriculture Field Officer |
| **8.** | Sachin | 2020A46MBA | 2022 | Mother Dairy Fruits and Vegetables Pvt. Ltd, Executive Trainee |
| **9.** | Mohit | 2020A11MBA | 2022 | Mawana Sugars Ltd.,Sr. Officer Trainee |

**2022-23**

| Sr. No. | Name of Student | Admn No. | Year of Passing | Placement |
|---|---|---|---|---|
| **1.** | Ajay Sharma | IBMA2021A01MBA | 2023 | Star Agri Seeds Pvt Ltd |
| **2.** | Gourav | IBMA2021A13MBA | 2023 | Star Agri Seeds Pvt Ltd |
| **3.** | Yogender Singh | IBMA2021A11MBA | 2023 | Star Agri Seeds Pvt Ltd |
| **4.** | Prabhjot Singh | IBMA2021A06MBA | 2023 | Star Agri Seeds Pvt Ltd |
| **5.** | Hritik Yadav | IBMA2021A20MBA | 2023 | Star Agri Seeds Pvt Ltd |
| **6.** | Gurvinder Singh | IBMA2021A02M | 2023 | Star Agri Seeds Pvt Ltd |
| **7.** | Anshul Tyagi | 2021A02MBA | 2023 | LT Foods Ltd. |
| **8.** | Ajay Sharma | IBMA2021A01MBA | 2023 | HDFC Bank |
| **9.** | Amandeep Bishnoi, | IBMA2021A02MBA | 2023 | HDFC Bank |
| **10.** | Ashutosh Partap Singh | IBMA2021A01M | 2023 | HDFC Bank |
| **11.** | Gourav | IBMA2021A13MBA | 2023 | HDFC Bank |
| **12.** | Jaswinder Singh | IBMA2021A16MBA | 2023 | HDFC Bank |
| **13.** | Jyoti | 2021A06MBA | 2023 | HDFC Bank |
| **14.** | Lovedeep | IBMA2021A05MBA | 2023 | HDFC Bank |
| **15.** | Naveen Sharma | | 2023 | HDFC Bank |
| **16.** | Nitish Ahlawat | IBMA2021A07MBA | 2023 | HDFC Bank |
| **17.** | Rohit Kumar | IBMA2021A08MBA | 2023 | HDFC Bank |
| **18.** | Satinder Singh | IBMA2021A09MBA | 2023 | HDFC Bank |
| **19.** | Simar Chaudhary | IBMA2021A09M | 2023 | HDFC Bank |
| **20.** | Pooja Majumdar | 2021A08MBA | 2023 | HDFC Bank |
| **21.** | Deepak Saini | IBMA2021A04MBA | 2023 | HDFC Bank |

**NET/JRF Qualified**

| Sr. No. | Name of Student | Admn No. | Year of Passing | Qualified NET/JRF |
|---|---|---|---|---|
| **1.** | Jyoti | 2019A05D | April 2023 | **NET** |
| 2. | Vikrant Hooda | 2018A131MBA | Nov. 2022 | **NET/JRF** |
| 3. | Manju Loura | 2020A1D | Nov. 2022 | **NET/JRF** |
| 4. | Shivam | 2022A19D | Nov. 2022 | **NET** |
| 5. | Anamika | 2019A01D | Nov. 2020 | **NET** |
| 6. | Nidhi | 2020A23D | Nov. 2020 | **NET/JRF** |
| 7. | Sushma | 2021A30D | Nov. 2020 | **NET/JRF** |

# Programme - 6



## M.Sc. Entomology

## and

## Ph.D. Entomology

## About the Department

The Department of Entomology at CCSHAU, Hisar, Haryana was established in the year 1962 while M.Sc. and Ph.D. degree programmes were started in 1965 and 1968, respectively. Till date the department has awarded 326 M.Sc. and 125 Ph.D. degrees. During 2022, 12 M.Sc. and 6 Ph.D. students have got admissions in the Department. Also, Department of Entomology, CCS Haryana Agricultural University, Hisar working as Centre of Advanced Faculty Training (CAFT) under ICAR since 1994 and so far, the centre has organized 35 trainings covering various aspects of entomology *viz*., apiculture, pollinators, insect ecology, insecticide toxicology, host plant resistance, non-insect pests, stored grain pests, pest and pesticide management, biological control, integrated pest management, pest population dynamics and pest monitoring, application of techniques in entomological research, pest damage diagnosis and loss assessment etc. The Department has strength of 32 faculty members who are specialized in various fields such as economic entomology, insecticide toxicology, biological control, apiculture, storage and seed entomology, insect ecology and host plant resistance. Each field of specialization is well equipped with laboratory and field facilities. Besides, the Department has well equipped pesticide residue, biological control, apiculture, insect culture and insect pathology laboratories.

The Department was started during 1962 at Ludhiana and budget was transferred to Hisar Campus on 4.10.68. Currently four schemes are running in the department i.e. one state scheme of Management of Harmful and Beneficial Insects for Sustainable Agriculture in Haryana (Dte-R-1-Agri(A)-1140), Two ICAR Research schemes of All India Coordinated Research Project on Honey Bees and Pollinators (C(b)Ento.3 ICAR) and All India Net Work Project on Pesticide Residue (C(b)Ento.7 ICAR) and Teaching scheme (T-1 Agri (A) State Code No. 1051).

## Objectives of the Department

- Utilization of biocontrol agents for management of major insect-pests.
- Monitoring of population and bio-ecological studies on important insect-pests, mites and natural enemies.
- Population dynamics of important insect-pests in the field.
- Correlation between insect populations and environmental factors.
- Forecasting of pests on the basis of studies made under above points
- Development of management technology for key pests.
- To conduct research on honey bees, bees and other pollinators; generate technologies for their conservation, augmentation and utilization for pollination of crops in improving crop productivity.
- To undertake research on honey bee breeding for disease resistance and high yielding strains for higher production of quality hive products.
- To conduct location specific research on management of honey bees, bees and their diseases and enemies.
- To prepare database on relative abundance, foraging behaviour of different pollinators on various crops and study pollination requirements of crops.
- To organize and impart trainers training on bee pollinators and scientific beekeeping.
- To organize, promote and coordinate research on pesticide residues in agricultural produce and other components of environment at all India level.
- To study the dissipation of pesticides in crops from supervised trials with recommended pesticides and workout safe time limits between pesticide's application and consumption of the produce.

- To devise and improve sampling extraction and analytical technology to facilitate quality assurance for ensuring reliability of residue data.
- To examine the effect of processing of food commodities for removal/reduction of pesticide residues.
- To maintain up to date information on pesticide residues and to provide guidelines to research and extension workers in the country.

### 6.4.1 Brief History of the Degree Programme :

The M.Sc. & Ph.D. programmes were started in the year 1965 and 1968, respectively in the Department. Till date, 326 M.Sc. and 125 Ph.D. students have completed their degrees. Students enrolled in M.Sc. & Ph.D. programmes have been given research problems related to insect-pests infesting crops of State's importance for their thesis work. Post-graduate students conduct research work based on various aspects of Entomology *viz.*, Ecological studies; Insect physiology; Insect morphology; Insect pathology; Toxicology; Insecticide Residue Analysis; Screening of Varieties/Germplasm and Bio-control of insect-pests and organic farming.

| | |
|---|---|
| **Objectives of initiating M.Sc.** | • Produce well qualified and competent graduates having strong theoretical knowledge, practical skills and attitude to undertake training, research and extension/service in entomology and related fields.<br>• Generate technologies and knowledge in different fields of entomology that would help improve the management of agricultural pests and insect vectors<br>• Identify the economic importance of insect-pests and come up with appropriate methods of management of these pests. |
| **Accomplishments of M.Sc. programme** | • Till date the Department of Entomology has conferred degree to 326 M.Sc. Students. During the period under report, 51 students have completed their Master's degree. At present 22 M.Sc. students are on roll.<br>• Twenty students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB) during the period under report.<br>• During the period under report, four students have joined as Agricultural Officer/PO in Public Sector Bank; Six students have joined Asstt. Scientist/SMS/TA/HDO/ADO and Four joined private sector. |
| **Objectives of initiating Ph.D. programme** | • Produce well qualified and competent graduates having strong theoretical knowledge, practical skills and attitude to undertake training, research and extension/service in entomology and related fields.<br>• Generate technologies and knowledge in different fields of entomology that would help improve the management of agricultural pests and insect vectors<br>• Identify the economic importance of insect-pests and come up with appropriate methods of management of these pests |
| **Accomplishments of Ph. D. programme** | • Till date the Department of Entomology has conferred degree to 125 Ph.D. students. During the period under report, 28 students have completed their Doctorate degree. At present 24 Ph.D. students are on roll.<br>• Eighteen students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB) during the period under report.<br>• Three students got best thesis award.<br>• During the period under report, thirteen students have joined as Asstt. Scientist/TA/STA/SMS and Five students joined private sector.<br>**Note:** List of students publications is given in *Annexure ENT- I* |

| | |
|---|---|
| | **Note:** List of placement of students is given in *Annexure ENT- III*<br>**Note:** List of NET qualified students is given in *Annexure ENT- IV*<br>**Note:** Different activities during 2018-2023 is given in *Annexure ENT- V* |

| **Degree Programme offered by the Deptt** | **Specialization** | **Year of start** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Y1 | Y2 | Y3 | Y4 | Y5 | Total | Y1 | Y2 | Y3 | Y4 | Y5 | Total |
| **M. Sc.** | Entomology | 1970 | 10 | 13 | 13 | 11 | 12 | **71** | 6 | 9 | 11 | 10 | 7 | **51** |
| **Ph. D.** | Entomology | 1970 | 4 | 5 | 7 | 8 | 6 | **38** | 7 | 6 | 5 | 5 | 3 | **28** |

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| **S. No.** | **Sanctioned faculty** | **In place*** | **Vacant** | **Faculty recommended by the ICAR/UGC** |
|---|---|---|---|---|
| **1.** | Professor and equivalent (0) | 4* | - | - |
| **2.** | Associate Professor and equivalent (6) | 2* | 4 | 1 |
| **3.** | Assistant Professor and equivalent (41) | 26 | 11 | 2 |

**Note:** All the Faculty members are assigned the responsibilities for the multiple programmes

*No. of Professor/Assoc. Prof. also include personal promotes

**6.4.3 Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| **S. No.** | **Designation** | **Sanctioned** | **In place** | **Vacant** | **Technical and supporting staff recommended by the ICAR/UGC** |
|---|---|---|---|---|---|
| **1** | Assistant | 1 | - | 1 | - |
| | PA/Steno | 1 | - | 1 | - |
| | Messenger | 1 | - | 1 | - |
| **2.** | Lab staff | | | | - |
| | Lab Assistant+SLA | 10 | 4 | 6 | - |
| | Any other | - | 1 | - | - |
| **3.** | Field staff | - | - | - | - |
| | Beldar | 5 | 2 | 3 | - |

**Note:** All the technical and supporting staff has been assigned the responsibilities for the multiple programmes.

**6.4.4 Classrooms and Laboratories :** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the*

*course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

## List of classroom and functional laboratories

| | |
|---|---|
| No. of lecture rooms with sitting capacity | • Two with seating capacity of 70 each with projector for ppt presentations |
| No. of labs with specialized purpose | • One Post-Graduate Laboratory for conducting practical of PG courses.<br>• One Insect Culture Laboratory for maintaining the cultures of Insects.<br>• One Biocontrol Laboratory for conducting experiments on Biocontrol of Insect-pests.<br>• One Insect Pathology Laboratory.<br>• One Pesticide Residue Laboratory for residue analysis in plants /plant parts. |
| Farm facilities | Yes |
| Any other instructional units being utilized for the award of the Degree Programme | Apicultural Laboratory and Apiary with hive boxes, bee veil, Hive tool, hive frames, comb foundation mill, honey extraction machine and all other beekeeping equipments required for the teaching/research of PG students. |

## List of major equipments at present in the Department

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Sony SLR camera | Honeybee Lab. |
| 2. | Oxygen trap | Lab. No. 133 |
| 3. | Blixer 6 KVA | |
| 4. | Whirlpool AC-2 | |
| 5. | NSW-134 Chiller | |
| 6. | Electronic Balance (180g) | |
| 7. | GCMS QP 2010 Plus | |
| 8. | GC 2010 with ECD and FTD | Lab. No. 134 |
| 9. | Muffle furnace | Lab. No. 142 |
| 10. | Deep Freezer | |
| 11. | Rotary Evaporator | |
| 12. | Refrigerator | |
| 13. | Homogenizer (Low volume) | |
| 14. | Weighing Balance (6000g) | |
| 15. | Soxhlet Apparatus | |
| 16. | Centrifuge | |
| 17. | Homogenizer (high volume) | |

| | | |
|---|---|---|
| 18. | Hot air oven | |
| 19. | Separating Funnel Shaker DDP | |
| 20. | Electronic Balance (410g) | |
| 21. | Chilled Water Circulating device | |
| 22. | Vacuum Pump | |
| 23. | Multimedia project Sony-2 | Lab. No. 135 & L.R. No. 6 |
| 24. | Electronic balance-2 | Lab. No. 135 |
| 25. | Potter Tower | Lab No. 131 |
| 26. | Magnus zoom stereoscope trinocular microscope | Lab. No. 73 |
| 27. | Ziess Stereo Zoom Bionocular Microscope | |
| 28. | BOD incubator-1 | |
| 29. | Hot air oven, Hot plate | |
| 30. | Remi incubator-2 | Lab. No. 136 |
| 31. | Centrifuge with 2 roters | |
| 32. | Microscope with accessories | |
| 33. | Hot air oven | |
| 34. | Autoclave vertical | |
| 35. | Refrigerator Samsung | |
| 36. | Microwave oven | |
| 37. | Laminar Flow | |
| 38. | Humidifire | |
| 39. | Balance | |
| 40. | Digital magnetic hot plate | |
| 41. | Distillation unit | |
| 42. | Weighing Balance | Lab. No. 132 |
| 43. | Spectrophotometer | |
| 44. | Computer | |

**Theory and practical batches**

- At UG level, the department of Entomology offers 3 core and 5 professional elective courses (up to 2019), of which all the courses had practical components. Since, 2019 onwards Beekeeping module is being taught to students during final year of B.Sc. (Hons.) Agri.
- For theory in core courses, from 1st Sem to 5$^{th}$ Sem there are two batches with an average of about 55-60 students in each batch.
- For theory and Practical in professional elective courses during 6$^{th}$ Sem and 7$^{th}$ Sem, there is one batch with an average of about 10-17 students per batch in each elective courses.

- For practical in core courses, from 1st Sem to 5th Sem there are four batches with an average of about 27-30 students in each batch.
- At M.Sc level, the department of Entomology offers 20 courses and 18 courses have practical components. There are limited seats in M.Sc. programme with an average of 10-12 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 10-12 students.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only one batch for theory classes and one batch for practical classes in all the courses. For Ph.D., the department of Entomology offers 13 courses and 9 courses has practical components.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

The Department of Entomology offers 3 core and 5 professional elective courses/beekeeping module and all the courses have practical components to provide practical skills and hands-on-training. The Department offers 20 courses at Masters level. Out of 20 courses 18 courses provide practical skills and hands-on-training. Similarly, the Department offers 13 courses at Doctoral level. Out of these 9 courses provide practical skills to Ph.D. students. Beside imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements.

**I st semester**

| Course No. | Credit hrs | Course title | Practical and Hands- on-training | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| **PG Courses** | | | | |
| **Ent. 501** | 1+1 | Insect Morphology | Study of insect segmentation, various tagmata and their appendages; preparation of permanent mounts of different body parts and their appendages of taxonomic importance including male and female genitalia. Sense organs. | • Students prepare the permanent mounts of different body parts and their appendages of taxonomic importance including male and female genitalia. Sense organs. |
| **Ent. 505** | 1+1 | Insect Ecology | Types of distributions of organisms. Methods of sampling insects, estimation of densities of insects and understanding the distribution parameters- Measures of central tendencies, Poisson Distribution, Negative Binomial Distribution. Determination of | • Students learn to collect the samples of insects, estimation of densities of insects and understanding their distribution in the field.<br>• Students learn to assess prey-predator densities from natural systems for understanding the |

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|---|---|---|---|---|
| | | | optimal sample size. Learning to fit basic population growth models and testing the goodness of fit. Fitting Hollings Disc equation, Assessment of prey-predator densities from natural systems and understanding the correlation between the two. Assessing and describing niche of some insects of a single guild. Calculation of niche breadth, activity breadth and diagramatic representation of niches of organisms. Calculation of some diversity indices- Shannon s, Simpson s and Avalanche Index and understanding their associations and parameters that affect their values. Problem solving in ecology. Field visits to understand different ecosystems and to study insect occurrence in these systems. | correlation between the two.<br>• Field visits done by students to understand different ecosystems and to study insect occurrence in these systems. |
| **Ent. 507** | 1+1 | Biological Control of Crop Pests and Weeds | Identification of common natural enemies of crop pests (parasitoids, predators, microbes) and weed killers. Visits (only where logistically feasible) to bio-control laboratories to learn rearing and mass production of egg, egg-larval, larval, larval-pupal and pupal parasitoids, common predators, microbes and their laboratory hosts, phytophagous natural enemies of weeds. Field collection of parasitoids and predators. Hands-on training in culturing, identification of common insect pathogens. Quality control and registration standards for bio-control agents. | • Studentrs visits (only where logistically feasible) to different bio-control laboratories to learn rearing and mass production of egg, egg-larval, larval, larval-pupal and pupal parasitoids, common predators, microbes and their laboratory hosts, phytophagous natural enemies of weeds.<br>• Field collection of parasitoids and predators done by students.<br>• Students do hands-on training in culturing, identification of common insect pathogens, quality control and registration standards for biocontrol agents. |
| **Ent. 509** | 1+1 | Plant Resistance to Insects | Screening techniques for measuring resistance; measurement of plant characters and working out their correlations with plant resistance; testing of resistance in important crops; bioassay of plant extracts of susceptible/resistant varieties; demonstration of antibiosis, tolerance and antixenosis. | • Students learn the screening techniques for measuring resistance; measurement of plant characters and working out their correlations with plant resistance.<br>• Bioassay of plant extracts of susceptible/resistant varieties; demonstration of antibiosis, tolerance and antixenosis. |
| **Ent. 510/ Nema.51** | 1+1 | Principles of | Characterization of agro-ecosystems; demonstration of plant | • Visit of students in fields are done for demonstration of plant |

| | | | | |
|---|---|---|---|---|
| **2** | | Integrated Pest Management | resistance in important crops; crop loss assessment- direct losses, indirect losses, potential losses, avoidable losses, unavoidable losses. Computation of EIL and ETL; crop modeling; designing and implementing IPM system. | resistance mechanism in important crops.<br>• Crop loss assessment done for- direct losses, indirect losses, potential losses, avoidable losses and unavoidable losses.<br>• Computation of EIL and ETL; crop modeling; designing and implementing IPM system done by students. |
| **Ent. 511** | 1+1 | Pests of Field Crops | Systematic position, identification, distribution, host-range, bionomics, nature and extent of damage, seasonal abundance and management of insect and mite pests and vectors. Insect pests of cereals and millets and their management. Polyphagous pests: grasshoppers, locusts, termites, white grubs, hairy caterpillars, and non-insect pests (mites, birds, rodents, snails, slugs etc.). | • Regular field visits done by students for identification and collection of important insect-pests and their natural enemies; learning of life history of important insect pests. |
| **Ent. 512** | 1+1 | Pests of Horticultural and Plantation Crops | Collection and identification of important pests and their natural enemies on different vegetables, ornamentals and plantation crops; study of life history of important insect pests. | • Students learn about life history of important insect pests and non-insect pests; collection and identification of important pests and their natural enemies on different crops |
| **Ent. 516** | 1+1 | Soil Arthropods & their Management | Sampling, extraction methods and identification of various types of soil fauna; estimation and assessment of soil arthropod population; techniques and culturing soil invertebrates. | • Students learn techniques to estimate and assess soil arthropod population and culturing soil invertebrates<br>• Sampling, extraction methodsof various types of soil fauna and their identification is done by students. |
| **Ent. 519** | 1+1 | Commercial Entomology | Apiculture-General colony management during different seasons. Managing colonies for honey production and pollination. Artificial queen rearing. Pests and diseases of honey bees. Bee poisoning. Production and marketing of quality honey and value added honey products. Establishment and maintenance of apiaries Visit to poultry units and assessing pest status in poultries. Evaluation of commercially | • Students assess pest status in dwellings (labs, canteen or hostel).<br>• Students learn to implement different methods of pest control against house hold pests (flies, mosquitoes, bed bugs, cockroaches and rodents). Pre- and post-construction termite proofing methods, control of silverfishes in the libraryare also done by |

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| | | | available domestic insect pest control products through bioassays. Identification of honey bee species, bee castes and special adaptations, identification and handling of bee-keeping equipments. Handling of honey bees-hive and frame inspection. Extraction and processing of hive products. Preparation of bee-keeping projects for funding. Visit to commercial apiaries. Silkworm rearing and management. Lac host and crop management technology and processing of lac. Products and bye-products of lac. | students.<br>• Evaluation of commercially available domestic insect pest control products through bioassays done by students.<br>• Studentsidentify different honey bee species, bee castes and special adaptations, identification and handling of bee-keeping equipments, honey bees-hive and frame inspection procedures.<br>• Methods of extraction and processing of hive products learned by students along with visit to commercial apiaries. |
| **Ent. 591** | 1 | Master's Seminar | Master'sSeminar | • Students presentation skills and confidence are developed. |
| **Ent. 601** | 1+2 | Advanced Insect Systematics | Study of different views on the evolution of insects- alternative phylogenies of insects: Kukalova Peck and Kristensen. Fossil insects and evolution of insect diversity over geological times. Detailed study of International Code of Zoological Nomenclature, including appendices to ICZN-Ethics. Concept of Phylocode and alternative naming systems for animals. A detailed study of selected representatives of taxonomic publications - small publicationsof species descriptions, revisionary works, monographs, check lists, faunal volumes, etc. Rooting and character polarisation for developing cladograms and use of computer programmes to develop cladograms. | • Students learn about to search literature of one taxon of insects and their collection, curation and compilation of a checklist along with study of characters and development of character table, construction of taxonomic keys for the selected group.<br>• Students develop diagrams, photographs and descriptions of a taxon.<br>• Students prepare specimens for type like preservation.<br>• Studentslearn multivariate analysis techniques for clustering specimens into different taxa, and development of phenograms. |
| **Ent. 602** | 1+1 | Immature Stages of Insects | Types of immature stages; their collection, rearing and preservation. Identification of immature insects to orders and families, in endopterygote orders viz., Diptera, Lepidoptera, Hymenoptera and Coleoptera using key. | • Students learn about collection, rearing and preservation of immature stages of insects of different orders and families, in endopterygote orders viz., Diptera, Lepidoptera, Hymenoptera and Coleoptera using key. |

| | | | | |
|---|---|---|---|---|
| **Ent. 605** | 1+1 | Insect Behaviour | Defining Behaviour- Concept of Umwelt, instinct, fixed action patterns, imprinting, complex behaviour, inducted behaviour, learnt behaviour and motivation. History of Ethology- development of behaviorism and ethology, contribution of Darwin, Frisch, Tinbergen and Lorenz; Studying behaviour- Proximate and Ultimate approaches, behavioural traits under natural selection, genetic control of behaviour and behavioural polymorphism. Evaluation of different types of traps against fruit flies with respect to signals; Use of honey bees/*Helicoverpaarmigera* to understand behavioural polymorphism with respect to learning and response to pheromone mixtures, respectively. | • Students learn various methods to understand the behaviour of honeybees through analysing quantitative parameters like; foraging rate, speed, pollination index etc.<br>• Model of sensory adaptation and habituation in a fly or butterfly developed by students.<br>• Students study the response of physical, chemical, odour cues used in host selection in a phytophagous insect (DBM or gram pod borer).<br>• Model of colour discrimination in honey bee or butterfly, learning and memory in bees, role of self-organization in resource tracking by honeybees developed by students.<br>• Students evaluate different types of traps against fruit flies with respect to signals.<br>• Students learn the response of pheromone mixtures to understand behavioural polymorphism using honey bees /*Helicoverpa armigera* response to pheromone mixtures. |
| **Ent. 599** | 20 | Master Research | Master Research | • Students use practical knowledge in areas of Entomology.<br>• Students learn to take research observations / data and analyze them statistically. |

**2nd semester**

| Course No. | Credit Hrs. | Course title | Practical and Hands- on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| **PG Courses** | | | | |
| **Ent. 502** | 2+1 | Insect Anatomy, Physiology and Nutrition | To study the scope and importance of insect anatomy and physiology; determination of chitin in insect cuticle; examination of | • Students learn about the dissection of insects to study comparative anatomical details.<br>• Students prepare permanent |

| | | | | |
|---|---|---|---|---|
| | | | insect haemocytes; determination of respiratory quotient; preparation and evaluation of various diets; consumption, utilization and digestion of natural and artificial diets. | mounts of internal systems.<br>• Students do chromatographic analysis of free amino acids of haemolymph.<br>• Students dostudy of chitin in insect cuticle.<br>• Students prepare and evaluate the impact of various diets; natural and artificial diets on insect growth and development. |
| **Ent. 504** | 2+1 | Classification of Insects | Distinguishing characters, general biology, habits and habitats of Insect orders and economically important families contained in them using taxonomic keys. Keying out families of insects of different major Orders: Odonata, Orthoptera, Blattodea, Mantodea, 133 Isoptera, Hemiptera, Thysanoptera, Phthiraptera, Neuroptera, Coleoptera, Diptera, Lepidoptera and Hymenoptera. Field visits to collect insects of different orders. | • Students visit fields and collect insects of different orders.<br>• Students run identification key of families of major insect Orders: Odonata, Orthoptera, Blattodea, Mantodea, Isoptera, Hemiptera, Thysanoptera, Phthiraptera, Neuroptera, Coleoptera, Diptera, Lepidoptera and Hymenoptera. |
| **Ent. 506** | 1+1 | Insect Pathology | To study the epizootiology, symptomatology and etiology of diseases caused by the bacteria, fungi, viruses, protozoa, rickettsiae, spiroplasma and nematodes and the factors controlling these. Defense mechanisms in insects against pathogens. different groups of pathogens. Testing Koch s postulates. Estimation of pathogen load. Extraction of pathogens from live organisms and soil. | • Students got acquainted about equipments used in insect pathology laboratory.<br>• Identification of different group of insect pathogens and symptoms of infection acquinted by students.<br>• Isolation, culturing and testing of pathogenicity of pathogens done by students.<br>• Students learn about testing Koch's postulates along with estimation of pathogen load.<br>• Students extract pathogens from live organisms and soils then do bioassays to determine median lethal doses ($LC_{50}$). |

| | | | | |
|---|---|---|---|---|
| **Ent. 508** | 2+1 | Toxicology of Insecticides | Classification of insecticides and acaricides based on mode of entry, mode of action and chemical nature. Structure and mode of action of organo-chlorines, organophosphates, carbamates, pyrethroids, tertiary amines, neonicotinoids, oxadiazines, phenyl pyrozoles, insect growth regulators, microbials, botanicals, new promising compounds, etc. Evaluation of insecticide toxicity; joint action of insecticides- synergism, potentiation and antagonism; factors affecting toxicity of insecticides; insecticide compatibility, selectivity and phytotoxicity. | • Students made familiarized with insecticide formulations and mixtures; quality control of pesticide formulations.<br>• Students learn to evaluate the bioefficacy of different insecticides under laboratory and field conditions.<br>• Students learn bioassay techniques, probit analysis and insecticide toxicity.<br>• Students learnto use pesticide appliances and work out doses and concentrations of pesticides.<br>• Visit to toxicology laboratories and good laboratory practices (GLP) also learned by students. |
| **Ent. 513** | 1+1 | Storage Entomology | Post-harvest losses in toto vis-à-vis total production of food grains in India. Scientific and socio-economic factors responsible for grain losses. estimation of losses in stored food grains; determination of moisture content in stored food grains; familiarization of storage structures, demonstration of preventive and curative measures including fumigation techniques; treatment of packing materials and their effect on seed quality. | • Students learn to collec tand identify stored grains/seed insect pests and their nature of damage.<br>• Students learn to detect insect infestation and estimate losses in stored food grains.<br>• Estimation of moisture content in stored food grains also learned by students.<br>• Students made familiarized with storage structures, demonstration of preventive and curative measures including fumigation techniques.<br>• Students learn treatment of packing materials and their effect on seed quality.<br>• Visit to central warehouses, FCI warehouses and institutions engaged in research or practice of grain storage like CFTRI, IGSMRI, Hapur etc. done by students (only where logistically feasible). |

| | | | | |
|---|---|---|---|---|
| **Ent. 514/ Pl. Path. 514** | 1+1 | Insect Vectors of Plant Viruses and other Pathogens | Important insect vectors and their characteristics; mouth parts and feeding processes of important insect vectors. Efficiency of transmission<br>To study the transmission of plant viruses and fungal pathogens. Relation between viruses and their vectors. | • Students learn to identify, culturing and handlingof common vectors of plant pathogens e.g. aphids, leafhoppers, whiteflies, thrips, beetles, nematodes etc.<br>• Demonstration of virus transmission through vectors-aphids, leafhoppers and whiteflies practiced by students. |
| **Ent.518** | 0+1 | Techniques in Plant Protection | To study the pest control equipments, principles, operation, maintenance, selection, application of pesticides and biocontrol agents, seed dressing, soaking, root-dip treatment, dusting, spraying, application through irrigation water.<br>To acquaint the students with appropriate use of plant protection equipmentsand techniques related to microscopoy, computation, pest forecasting,electrophoresis etc. | • Familiarization of students with appropriate use of plant protection equipments<br>• Tchniques related to microscopoy, computation, pest forecasting, electrophoresis etc. learned by students. |
| **Ent. 606** | 1+1 | Recent Trends in Biological Control | Scope of classical biological control and augmentative biocontrol; introduction and handling of natural enemies; nutrition of entomophagous insects and their hosts, dynamics of biocontrol agents vis-à-vis target pest populations.Mass culturing techniques, insectary facilities and equipments, basic standardsof insectary, viable mass-production unit, designs, precautions, good insectary practices.<br>Colonization, techniques of release of natural enemies, recovery evaluation, conservation and augmentation of natural enemies, survivorship analysis and ecological | • Mass rearing and release of some commonly occurring indigenous natural enemies;assessment of role of natural enemies in reducing pest populations; testing side effects ofpesticides on natural enemies; effect of semiochemicals on natural enemies; breeding of various biocontrol agents; performance of efficiency analyses on target pests; projectdocument preparation for establishing a viable mass-production unit /insectary learned by students. |

| | | | | |
|---|---|---|---|---|
| | | | manipulations, large-scale production of biocontrol agents, bankable project preparation.Scope of genetically engineered microbes and parasitoids in biological control,genetics of ideal traits in biocontrol agents for introgressing and for progeny selections, breeding techniques of biocontrol agents. | |
| **Ent. 607** | 2+1 | Advanced Insecticide Toxicology | Penetration and distribution of insecticides in insect systems; insecticide selectivity; factors affecting toxicity of insecticides Sampling, extraction, clean-up and estimation of insecticide residues by various methods; calculations and interpretation of data; Biochemical and physiological target sites of insecticides in insects; developments in biorationals, biopesticides and newer molecules; their modes of action and structural – activity relationships; advances in metabolism of insecticides. | • Students learn to estimate insecticide residues by various methods (Sampling, extraction, clean-up, calculations and interpretation of data).<br>• Biochemical and biological techniques learned by students for detection of insecticide resistance in insects. |
| **Ent. 608** | 1+1 | Advanced Host Plant Resistance | To study the morphological, anatomical and biochemical adaptations of resistance; assembly of plant species - gene pool; insect sources – behaviour in relation to host plant factors. antibiosis index, tolerance index, plant resistance index. Estimation of plant resistance based on plant damage-screening and damage rating; evaluation based on insect responses; techniques and determination of categories of plant resistance; breakdown of resistance in crop varieties. | • Students learn the mechanism involved in developing resistance for orientation, feeding, oviposition etc.,<br>• Allelochemical bases of insect resistance studied by students.<br>• Macroculturing of test insects and field screening for determination of antixenosis index, antibiosis index, tolerance index, plant resistance index etc. studied by students. |
| **Ent.691** | 1 | Doctoral seminar | Doctoral seminar | • Students presentation skills and confidenceare developed. |
| **Ent.691** | 1 | Doctoral seminar | Doctoral seminar | • Students presentation skills, personality and confidence |

| | | | | |
|---|---|---|---|---|
| | | | | are developed. |
| **Ent.699** | 45 | Doctoral Research | Doctoral Research | • Students use practical knowledge in areas of Entomology.<br>• Students learn to take research observations / data and analyze them statistically. |

**Note:** The Details of courses offered by the department is given *(Annexure ENT-II)*

**6.4.6 Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programmes offered by the Department:**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 16 | 24 | 0.67:1 |
| **2019-20** | 21 | 26 | 0.81:1 |
| **2020-21** | 24 | 29 | 0.83:1 |
| **2021-22** | 24 | 30 | 0.80:1 |
| **2022-23** | 22 | 32 | 0.68:1 |

**Details of Ph. D. programmes offered by the Department:**

| Year | Numberofstudents on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 12 | 24 | 0.50:1 |
| **2019-20** | 18 | 26 | 0.69:1 |
| **2020-21** | 26 | 29 | 0.90:1 |
| **2021-22** | 30 | 30 | 1:1 |
| **2022-23** | 24 | 32 | 0.75:1 |

**Note:** Details of courses offered by the Department is given in *Annexure ENT-II*

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system of annual self appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis their results, feedback from the students. Students of Professional Elective course are placed in different institutions for In-plant training. Teachers visit these institutions during training period of students and conduct meetings with authorities of the institutes. Any suggestions provided by them are incorporated in the curriculum.The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal

feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | No. of students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 10 | 13 | 13 | 11 | 12 | 0 | 0 | 0 | 9.09 | 8.33 |
| **Ph.D.** | 4 | 5 | 7 | 8 | 6 | 0 | 0 | 16.66 | 0 | 0 |

**6.4.9 ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of Department of Entomology use ICT in teaching and practical. There is one Seminar Room with computer, LCD projector, smart LED and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG, PG and Ph.D. level. For PG and Ph.D. students emails are also used.

**6.5.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.5.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.5.12** Certificate (Applicable when SSR is submitted for Programe)

I, the Dean, Surender K. Pahuja hereby certify that the information contained in the Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure ENT-I*

## LIST OF PUBLICATIONS

| S. No. | Publication Details | NAAS Rating |
|---|---|---|
| **1.** | Anita, Ahlawat, S. and Devi, S. (2018). Impact of different decontamination processes on the reduction of pesticide residues in fruits and vegetables. *International Journal of Current Microbiology and Applied Sciences*, 7(5): 869-876. | 5.38 |
| **2.** | Chitralekha, Yadav, G. S. and Verma, T. (2018). Efficacy of insecticides against *Helicoverpa armigera* on chickpea. *Journal of Entomology and Zoology Studies*, 6(3): 1058-1061. | 5.53 |
| **3.** | Dahiya, K. K., Rolania, K., Jaglan, R. S. and Janu, A. (2018). Influence of abiotic factors on the population dynamics of leafhopper, in upland cotton. *Journal of Agrometeorology*, 349-354. | 6.40 |
| **4.** | Jat, M. K., Chaudhary, O. P. and Tetarwal, A.S. (2018). Nectar secretion rhythms and nectar energetics of *Trifolium alexandrinum* flowers. *International journal of current microbiology and applied sciences*, 7(12):559-566 | 5.38 |
| **5.** | Kamboj, R., Gaur, R. K. and Kumar, Y. (2018). Efficacy of various insecticides against castor hairy caterpillar (*Euproctis lunata* Walker) on castor. *International Journal of Farm Sciences*, 8(1): 45-49. | 4.29 |
| **6.** | Kumar, D., Ahlawat, D. S., Yadav, S. S., Kalkal, D., Saini, V. K. and Singh, D. (2018). Phenetic resistance in sugarcane, tentative conclusions and new research directions. *Journal of Entomology and Zoology Studies*, 6(4): 999-1003. | 5.53 |
| **7.** | Kumar, K., Jaglan, M. S., Verma, T. (2018). Screening of sugarcane genotypes for resistance to early shoot borer, *Chilo infuscatellus* Snellen. *Indian Journal of Applied Entomology*, 32(1): 49-52. | 5.89 |
| **8.** | Kumar, P., Ahlawat, S., Chauhan, R., Kumar, A., Singh, R. and Kumar, Ashwani (2018). Bio-efficacy and post-harvest residual toxicity of new fungicides against sheath blight (*Rhizoctonia solani*) of rice (*Oryza sativa*). *Indian Journal of Agricultural Sciences*, 88(10):1587-1592. | 6.2 |
| **9.** | Kumar, P., Ahlawat, S., Chauhan, R., Kumar, A., Singh, R. and Kumar, Ashwani (2018). In vitro and field efficacy of fungicides against sheath blight of rice and post-harvest fungicide residue in soil, husk, and brown rice using gas chromatography-tandem mass spectrometry. *Environmental Monitoring and Assessment*, 190(503):1-9. | 7.8 |
| **10.** | Kumar, P., Yadav, S. P., Rolania, K., Yadav, S., Singh, S. and Vikas (2018).Population dynamics of *Amrasca biguttula biguttula* on *Bt* and Non *Bt* Cotton and its correlation with abiotic Factors. *International Journal of Current Microbiology and Applied Science*, 7(09):2927-2934. | 5.38 |
| **11.** | Kumari, A., Goswami, T. N., Vishwakarma, R., Anil and Kishore, C. (2018). Evaluation of mustard germplasm against aphid *Lipaphis erysimi* (Kalt.). *Indian Journal of Entomology*, 80(4): 1456-1459. | 5.89 |
| **12.** | Lalita and Kumar, Y. (2018). Effect of different modes of pollination on yield and quality parameters of pumpkin, *Cucurbita moschata* (Duch.ex lam), fruits. *Journal of Insect Science*, 30(2): 149-154. | 4.72 |
| **13.** | Lalita, Kumar, Y. and Yadav, S. (2018). Effectiveness of different plant extracts against *Galleria mellonella* larvae in laboratory. *Archives in Agriculture and Environmental Sciences*, 3(1): 64-67. | 4.04 |
| **14.** | Lalita, Kumar, Y. and Yadav, S. (2018). Seasonal incidence of greater wax moth, *Galleria mellonella* Linnaeus in *Apis mellifera* colonies in ecological conditions of Hisar. *Journal of Entomology and Zoology Studies*, 6(1): 790-795. | 5.53 |
| **15.** | Manisha, Verma, T., Lal, R., Nadaf, A. V. and Devi, M. (2018). Seasonal incidence of major insect pests infesting field pea. *Journal of Entomology and Zoology Studies*, 6(2): 2213-15. | 5.53 |
| **16.** | Mehra,S. and Rolania, K. (2018). Management of Cotton Whitefly *Bemisia tabaci* (Gennadius) (Hemiptera: Aleyrodidae). *Indian Journal of Entomology*, 80(3): 1-4. | 5.89 |
| **17.** | Pandey, S., Jaglan, R. S. and Yadav, S. (2018). Biology of leaf webber and capsule borer, *Antigastra catalaunalis* (Duponchel) on sesame. Journal of Entomology and Zoology Studies, 6(1): 1731-1734. | 5.53 |

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| **18.** | Purti, Rinku, Jaglan, R.S. and Rolania, K. (2018). Biological control of coleopteran pests. *International Journal of Bio-resource and Stress Management*, 9(3): 421-434. | - |
| **19.** | Rani, Savita and Ahlawat, S. (2018). Pest management by nano-technology. *International Journal of Current Microbiology and Applied Sciences*, 7(3): 3197-3208. | 5.38 |
| **20.** | Saini, Reena, Verma, T., Lal, R. and Solanki, Y. P. S. (2018). Effect of plant phenotypic characters on the incidence of whitefly, *Bemisia tabaci* (Gennadius) on urdbean, *Vigna mungo* (L.) Hepper. *Journal of Food Legumes*, 31 (1): 38-40. | 4.97 |
| **21.** | Singh, G., Jaglan, M.S. and Verma, T. (2018). Management of maize stem borer, *Chilo partellus* (Swinhoe) in *Kharif* maize with cowpea intercropping. *Journal of Entomology and Zoology Studies*, 6(3): 1791-1794. | 5.53 |
| **22.** | Devi, S., Rolania, K., Ram, P., Devi, M., Lalita and Chitralekha (2019). Effect of abiotic factors on the population dynamics of whitefly, *Bemisia tabaci (*Gennadius) and leafhopper, *Amrasca biguttula biguttula (*Ishida) in desi cotton, *Gossypium arborium* L. *Journal of Agrometeorology*, 259-263. | 6.56 |
| **23.** | Ibrahim, M. M., Chandel, Y. S. and Anil. (2019). Morphometrics of *Apiscerana* from agro-climatic zones of Himachal Pradesh. *Indian Journal of Entomology*, 81(3): 406-410. | 5.89 |
| **24.** | Khokra, S., Rolania, K. and Kalkal, D. (2019). Influence of weather parameters on seasonal abundance of whitefly on tomato in Haryana. *Journal of Entomology and Zoology Studies*, 7(4): 808-811. | 5.53 |
| **25.** | Kumar D., Ahlawat, D.S., Kumar, L., Kalkal, D. and Saini V.K. (2019). Biochemical resistance in sugarcane, tentative conclusions and new research directions-II. *Journal of Entomology and Zoology Studies*, 7(4):602-608. | 5.53 |
| **26.** | Kumar, D., Ahlawat, D. S., Yadav, S. S., Kumar, L., Kalkal**,** D. and Saini, V. K. (2019). Biochemical resistance in sugarcane, tentative conclusions and new research directions-I. *Journal of Entomology and Zoology Studies*, 7(1): 551-555. | 5.53 |
| **27.** | Kumar, H., Anil, Kumari, P., Arya, S. and Prasad, G. S. (2019). Evaluation of sorghum genotypes for multiple resistance against shoot fly, *Atherigonna soccata* (Rondani)] and spotted stem borer [*Chilo partellus* (Swinhoe)]. *Forage Research*, 45(1): 38-42. | 4.84 |
| **28.** | Kunal, G., Anil, Goswami, T. N., Nirala, R. B. P. and Acharya, S. S. (2019). Insect herbivores and their natural enemies in linseed and their population dynamics. *Indian Journal of Entomology*, 81(3): 458-462. | 5.89 |
| **29.** | Lalita, Kumar, Y., Yadav, S. and Devi, S. (2019). Seasonal incidence of greater wax moth, *Galleria mellonella* Linnaeus in *Apis mellifera* colonies and its correlation with weather parameters. *Journal of Agrometeorology*, 21: 124-131. | 6.56 |
| **30.** | Manisha, Verma, T., Lal, R. and Kumar, G. (2019). Screening of Field pea (*Pisum sativum* L.) genotype against pod borer complex. *International Journal of Plant & Soil Science*, 30(2): 1-5. | 4.77 |
| **31.** | Prabhakar, C. S., Anil, Choudhary, J. P., Singh, R. S., Ray, S. N., Managanvi, K., Kumari, M., Hadapad, A. B. and Hire, R. S. (2019). Genetic lineage of *Zeugodacus caudatus* (Diptera: Tephritidae) detected with mtCOI gene analysis from India. *Current Science*, 117(8): 1368-1375. | 6.76 |
| **32.** | Rani S., Sushil, Lamba S., Kumar A. and Yadav S. S. (2019). Efficient technique for quantification of chlorantraniliprole residue in/on vegetables and soil using GC-MS/MS. *Indian Journal of Agricultural Sciences*, 89 (8): 1308–11. | 6.2 |
| **33.** | Sharma, D., Yadav, S. P. and Yadav, S. (2019). Population dynamics of mustard aphid, *Lipaphis erysimi* Kalt in various *Brassica* spp. *International Journal of Current Microbiology and Applied Sciences*, 8(02):2952-2959. | 5.38 |
| **34.** | Singh N V, Chauhan Reena, Sushil, Yadav G.S and Kumari B. (2019). Dissipation pattern and effect of washing on reduction of dimethoate residues on sweet orange, *Citrus sinensis* L. *Pesticide Research Journal*, 31(1): 96-101. | 5.9 |
| **35.** | Deepak, Yadav, S. P., Yadav, S. and Puneet (2020). Biology studies of tobacco caterpillar, *Spodoptera litura* Fabricius on castor (*Ricinus communis* L.). Journal *of Entomology and Zoology Studies*, 8(2): 1163-1168. | 5.53 |
| **36.** | Devi, S., Ram, P and Rolania, K. and Kumar, A. (2020). Evaluation of management practices against bollworms in cotton. *Indian Journal of Agricultural Sciences*, 91 (1): 132-136. | 6.25 |

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| **37.** | Devi, S., Ram, P. and Rolania, K. (2020). Effect of intercropping on the parasitoids, *Encarsia* spp. and *Trichogramma* spp. in cotton fields, India. *Egyptian Journal of Biological Pest Control*, 30:71. | 6.38 |
| **38.** | Devi, S., Ram, P. and Rolania, K. (2020). Intercropping impact on population of cotton sucking insect pests. *Indian Journal of Agricultural Sciences*, 91 (3): 125-127. | 6.25 |
| **39.** | Dhanda, S., Yadav, S. S., Yadav, S. and Kumari, S. (2020). The population dynamics of insect-pest infesting tomato and their relation with different abiotic factor. *Journal of Entomology and Zoology Studies*, 8(6): 1158-1161. | 5.53 |
| **40.** | Gaddanakeri, S. and Rolania, K. (2020). Biology and morphometrics of melon fruit fly, *Bactrocera cucurbitae* Coquillett on bitter gourd (*Momordica charantia* L.). *Journal of Entomology and Zoology Studies*, 8(5): 994-998. | 5.53 |
| **41.** | Jat, B.L., Dahiya, K. K., Rolania, K. and Yadav, S. S. (2020). Standardization of artificial diet for mass rearing of *Helicoverpa armigera. Indian Journal of Plant Protection*, (48) 1&2: 55-63. | 5.07 |
| **42.** | Khin, T.M., Verma, T. Yadav, S. and Sangwan, R. (2020). Management of whitefly, *Bemisia tabaci* Gennadius in mungbean (*Vigna radiate* L.*). Journal of Entomology and Zoology Studies*, 8(3): 1390-1392. | 5.53 |
| **43.** | Kumar P., Yadav, S. P., Yadav, S. and Puneet. (2020). Efficacy of different chemical and botanical insecticides against cotton leafhopper, *Amrasca biguttula* biguttula (Ishida). *Journal of Entomology and Zoology Studies*, 8(1): 1222-1225. | 5.53 |
| **44.** | Kumar, A., Kumar, D., Rolania, K., Kalkal, D., Kumar, L. and Saini, V.K. (2020). Spatial distribution of whitefly, *Bemisi tabaci* (Gennadius) on Transgenic Cotton (*Gossypium Bhirsutum* L.) in weeded and non-weeded agro-ecosystem in Sirsa district, Haryana state. *Journal of Entomology and Zoology Studies*, 8(6): 1898-1904. | 5.53 |
| **45.** | Kumar, A., Yadav, S., Ahlawat, N. and Yadav, J. (2020). Biochemical basis of resistance to mustard aphid *Lipaphis erysimi* (Kaltenbach). *Indian Journal of Entomology*, 82(4): 875-879. | 5.08 |
| **46.** | Kumar, A., Yadav S., Kumar, Y. and Yadav, J. (2020). Evaluation of different botanicals for the management of mustard aphid, *Lipaphis erysimi* (Kaltenbach). *Journal of Oilseed Brassica*, 11(1): 42-48. | 4.67 |
| **47.** | Kumar, P., Yadav, S. P., Rolania, K. and Puneet (2020). Biology of Cotton Leafhopper *Amrasca devastans* (Ishida) on Transgenic Cotton and desi Cotton Hybrid. *Journal of Entomology and Zoology Studies*, 8(2): 678-681. | 5.53 |
| **48.** | Kumar, R., Chandel, R. S., Anil, Mehta, V. and Kalpana, H. S. (2020). *Spodoptera exigua* (Hübner), a newly emerging pest of potato in Himachal Pradesh. *Indian Journal of Entomology* 82(4): 842-845. | 5.08 |
| **49.** | Kumar, Shiva, K., Gaur, R. K. and Yadav, S. (2020). Bioecology of castor capsule borer (*Conogethes punctiferalis* Guen.), in South West Haryana. *Journal of Entomology and Zoology Studies*, 8(6): 925-929. | 5.53 |
| **50.** | Kumari, P., Arya, S., Pahuja, S.K., Thakral, N.K., Phogat, D.S., Satpal, Tokas, J., Kumar, H., Kumar, V. and Devi, S. (2020). CSV 44F – A new forage sorghum variety for south zone of India. *Forage Research*, 46(3): 287-290. | 4.84 |
| **51.** | Kunal, G., Anil, Goswami, T.N., Ibrahim, M.M. (2020). Field efficacy and economics of insecticides against *Dasyneura lini* Barnes infesting linseed. *Indian Journal of Entomology* 82(3): 508-510. | 5.08 |
| **52.** | Mehra, S and Rolania, K. (2020). Population dynamics of whitefly, *Bemisia tabaci* (Gennadius) and its parasitoid, *Encarsia lutea* (Masi) on Bt cotton under Haryana conditions. *Journal of Entomology and Zoology Studies*, 8(1): 103-106. | 5.53 |
| **53.** | Nagpal, K., Yadav, S. and Singh, R. (2020). Quantitative evaluation of nectar secretion and production of nectar energy from Indian mustard flowers (*Brassica juncea* L.): A study in bioenergetics. *Journal of Pharmacognosy and Phytochemistry*, 9(2): 514-517. | 5.21 |
| **54.** | Nayak, S. B., Kumar, Y. and Yadav, S. (2020). Foraging duration of pollinators and their movement on *Ricinus communis*. *Journal of Pharmacognosy and Phytochemistry*, 9(3): 2285-2288. | 5.21 |
| **55.** | Nayak, S. B., Kumar, Y. and Yadav, S. and Rao K. S. (2020). Percentage abundance of castor pollinators under Haryana condition. *International Journal of Fauna and Biological Studies*, 7(6): 49-52. | 4.0 |
| **56.** | Nayak, S. B., Kumar, Y., Yadav, S. and Rao K. S. (2020). Diurnal abundance of different pollinators on *Ricinus communis*, *The Pharma Innovation Journal*, 9(10): 31- | 5.03 |

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| **57.** | Nila, W. and Krishna, R. (2020). Influence of seasonal variation on the biology of lesser grain borer, *Rhyzopertha dominica*, (Fabricius) on wheat. *Journal of Entomology and Zoology Studies*, 8(5): 285-290. | 5.53 |
| **58.** | Pandey, S., Jaglan, R. S., Yadav, S. and Singh, R. (2020). Evaluation of some IPM practices against sesame leaf webber and capsule borer *Antigastra catalaunalis* (Duponchel). *Indian Journal of Entomology*, 82(4): 725-730. | 5.08 |
| **59.** | Rani, S., Kumar A., Ahlawat, S. and Lamba, S. (2020). Evaluation of methodology for separation and identification of tetraniliprole in maize using-RP HPLC intended for residue analysis. *Indian Journal of Agriculture Sciences*, 90(11): 2090-2095. | 6.21 |
| **60.** | Sindhu, Kalkal, D., Rolania, K., Kumar, D., Kumari, P. and Kumar, G. (2020). Incidence of sucking insect-pests of okra and their correlation with abiotic factors. *Journal of Entomology and Zoology Studies*, 8(6): 1636-1641. | 5.53 |
| **61.** | Singh, G., Jaglan, M. S. and Verma, T. (2020). Evaluation of the efficacy of egg parasitoid, *Trichogramma chilonis* for control of maize stem borer, *Chilo partellus* (Swinhoe) in *Kharif* maize. *Indian Journal of Traditional Knowledge:* 19 (4): 839 – 845. | 6.92 |
| **62.** | Tiwari, S., Yadav, S. and Rolania, K. (2020). Evaluation of maize genotypes for resistance to rice weevil, *Sitophilus oryzae* Linnaeous (Coleoptera: Curculionidae). *Journal of Entomology and Zoology Studies*, 8(6): 108-112. | 5.53 |
| **63.** | Vijaya, Yadav, S.S., and Verma, T. (2020). Estimation of avoidable losses due to gram pod borer (*Helicoverpa armigera* Hubner) in chickpea. *Journal of Entomology and Zoology Studie*, 8(3): 1868-1871. | 5.53 |
| **64.** | Win N, Rolania, K. and Yadav, S. S. (2020). Effect of seasonal variation on the biology of lesser grain borer, *Rhyzoperth adominica* (Fabricius) on paddy. *Journal of Entomology and Zoology Studies*, 8(3): 694-699. | 5.53 |
| **65.** | Win, N. and Rolania, K. (2020). Influence of seasonal variation on the biology of lesser grain borer, *Rhyzopertha dominica*, (Fabricius) on wheat. *Journal of Entomology and Zoology Studies*, 8(5): 285-290. | 5.53 |
| **66.** | Win, N. and Rolania, K. (2020). Repellency effect of different plant protectants against Lesser Grain Borer, *Rhyzopertha dominica*(Fabricius). *Indian Journal of Pure and Applied Bioscience*, *8*(5): 411-415. | - |
| **67.** | Yadav, J., Gaur, R. K., Kumar, Y., Kumari, N., Yadav, S. S., Khan M. and Yadav, S. (2020). Evaluation of antixenotic and allelochemical traits of ber (*Ziziphus mauritiana* Lamk.) fruits as source of host plant resistance against fruit fly (*Carpomyia vesuviana* Costa) (Diptera: Tephritidae) in semi-arid region of India. *Phytoparasitica*, 48: 607-620. | 7.81 |
| **68.** | Babal, Phogat, V. K., Sharma, M. K. and Ahlawat, S. (2021). Impact of long-term conservation agriculture induced changes in soil properties on persistence of pendimethal in under different cropping systems. *Soil research*, 59(3): 299-308. | 7.69 |
| **69.** | Dhanker, P., Ahlawat, S., Godara, R., Pooja, Digamaber and Dhanker, R. (2021). Dissipation Patterns and Effect of Household Processing on Lowering of Tebuconazole Residues in Chili and Soil Using GC-MS/MS. *Agricultural Mechanization in Asia, Africa and Latin America*, 51(1):1105-1115. | 6.29 |
| **70.** | Gagandeep, Patel, B., Jain, M., Chaudhary, S., Naresh, Upadhyay, G. and Jakhar, A. (2021). Development and evaluation of pneumatic trap cum electric swatter for the control of whitefly in cotton crop. *Agricultural Engineering Today*, 45(4): 10-15. | 4.23 |
| **71.** | Khokra, S., Rolania, K. (2021). Population dynamics of aphid and coexisting predators in tomato agroecosystem. *Journal of Agrometeorology*, 23 (2) :200-206. | 6.64 |
| **72.** | Malik, K., Ahlawat, S., Malik, K., Shewta and Yadvika (2021). Nanotecnology: A sustainable solution for bioenergy and biofuel production. *Journal of Nano Science and Nanotechnology*, 21:3481–3494. | 7.13 |
| **73.** | Malik, K., Mandhania, S., Anil, Arya, S., Dhaka, A., Ravikant, Kumari, N., Malik, K., Priyanka, Kumar, U. (2021). Organic farming and bio-nanomaterial conflux: A way forward for sustainable agriculture. *Journal of Nanoscience and Nanotechnology*, 21(6): 3379-3393. | 7.13 |
| **74.** | Pilania, S., Yadav, S. S., Yadav, S., Rolania, K., Kumar, L., Indora, J. and Kumar, A. (2021). Biometric assessment of cucumber moth, *Diaphania indica* (Saunders) on | 7.02 |

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| | bitter gourd (*Momordica charantia* L.). *International Journal of Tropical Insect Science*,42(1):507-518. | |
| **75.** | Ram, K., Kumar, D., Kalkal, D. and Puneet. (2021). Seasonal abundance of sucking pests and natural enemies in Bt cotton ecosystem and their correlation with abiotic factors. *The Pharma Innovation Journal*, 10(10): 2065-2067. | 5.23 |
| **76.** | Rao, K. S., Kumar, Y., Yadav, S. and Rawal, R. (2021). Diversity and abundance of flower visiting insects associated with Sesame. *Indian Journal of Entomology*. 84(1), 77–81 | 5.08 |
| **77.** | Sharma, B.L., Kumari, P., Satpal, Jakhar, A. and Prasad, G.S. (2021). Performance of sorghum genotypes against *Atherigona soccata* (Rondani) and *Chilo partellus* (Swinhoe) insects under natural field conditions. *Forage Research* 47(2): 233-237. | 4.84 |
| **78.** | Sheoran, S., Kalkal, D., Rolania, K., Kumar, R., Penumajji, G.K., Kumari, P. and Kadawla, K. (2021). Population fluctuation of *Earias* spp. (Fab.) on 'okra' in relation to abiotic factors. *Agricultural Mechanization in Asia, Africa and Latin America*, 52(3):3807-3816. | 6.29 |
| **79.** | Singh, B., Gaur, R. K. and Jakhar, A. (2021). Relative safety of newer insecticides to spiders in okra ecosystem. *International Journal of Theoretical and Applied Sciences* 13(2): 42-45. | 3.60 |
| **80.** | Singh, B., Singh, S., Kumar, N. and Kumar, D. (2021). Adoption of beekeeping as an enterprise in Haryana. *Journal of Entomology and Zoology Studies* 9(3): 348-351. | 5.53 |
| **81.** | Aarti, Gaur, R.K. and Yadav, S. (2022). Species diversity and infestation indices of fruit flies (Diptera: Tephritedae) in guava ecosystem of Southwest Haryana. *International Journal of Farm Sciences*, 12(4): 160-164. | 4.29 |
| **82.** | Deepak, Yadav, S., Puneet, Yadav, J. and Dahiya, P. (2022). Population Dynamics of major insect-pests of Castor, *Ricinus communis* L. as Influenced by weather variables in Southwest Haryana. *Indian Journal of Ecology*, 49(4):1456-1463. | 5.79 |
| **83.** | Garg, R., Singh, B., Kargwal, R., Tiwari, S., Yadav, S., Jakhar, A., Kumar, D. and Sharma, B. L. (2022). Resistance in Pink Bollworm *Pectinophora gossypiella* (Saunders) against Bt cotton, a major threat to cotton in India: A brief review. *International Journal of Plant & Soil Science*, 34(22): 248-261. | 5.07 |
| **84.** | Garg, R., Singh, B., Tiwari, S., Yadav, S., Kumar, D. and Sharma, B. L. (2022). Evaluation of efficacy of botanical and chemical insecticides and residues estimation of pyrethroids against thrips, *Thrips tabaci* (Lindeman) on onion. *Biological Forum – An International Journal*, 14(3): 353-362. | 5.11 |
| **85.** | Josan, C., Kalkal, D. and Parkash, J. (2022). Screening of Various Genotypes of Castor for Resistance against Castor Leafhopper, *Empoasca flavescens* Fabricius. *International Journal of Environment and Climate Change*, 12(11): 1940-1945. | 5.13 |
| **86.** | Josan, C., Parkash, J., Kalkal, D. and Sukrampal. (2022). Bioefficacy of different pesticides against castor leafhopper, *Empoasca flavescens* Fab. *Journal of Entomological Research*, 46 (3), 566-569. | 5.89 |
| **87.** | Khokra, S. and Rolania, K. (2022). Efficacy of different management modules against tomato fruit borer, *Helicoverp aarmigera* (Hübner). *International Journal of Tropical Insect Science*.42, 2731–2738. | 7.02 |
| **88.** | Kumar, D., Rolania, K., Sharma, B. L., Kumar, L. & Saini, V. K. (2022). Adaptive dynamics of earhead bugs in different genotypes of sorghum under abiotic factors. *Journal of Agriculture and Ecology*, 13:35-42. | 4.36 |
| **89.** | Kumar, H and Kalkal, D. (2022). Seasonal incidence and biology of *Conogethes punctiferalis* Guenee (Lepidoptera: Pyralidae) on Guava. *Journal of Agriculture and Ecology*, 13: 92-98. | 4.36 |
| **90.** | Kumar, R., Yadav, S. S., Yadav, S., Ranga, P., Kumar, H. and Singh, V. (2022). Differential response of wheat cultivars to grain damage by rice weevil, *Sitophilus oryzae* (L.) (Coleoptera: Curculionidae). *Journal of Cereal Research*, 14 (2): 55-62. | 4.57 |
| **91.** | Nayak, S. B., Yogesh, Yadav, S., and Rao, K. S. (2022). Foraging speed of castor pollinators. *Indian Journal of Entomology*, 84(4), 854–858. | 5.08 |
| **92.** | Pooja, Sushil, Dhanker, P. and Chauhan, R. (2022). Assessing the degradation pattern of ready pre mix formulation of thiamethoxam + L-cyhalothrin in canal water under laboratory condtions. *The Pharma Innovation Journal*,11 (3): 2203-2208. | 5.23 |

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|---|---|---|
| **93.** | Purti and Rolania, K. (2022). Agrometeorological determinants of population dynamics of semilooper, *Trichoplusia ni* (Hubner) and cabbage butterfly, *Pieris brassicae*. *Journal of Agrometeorology*, 24 (2): 207-210. | 6.0 |
| **94.** | Ram, K., Kumar, D., Kalkal, D. and Ravikant. (2022). Influence of meterological factors and natural enemies on activity of whitefly and mealybug in *Bt* cotton. *Journal of Cotton Research and Development,* 36(2): 237-243. | 4.38 |
| **95.** | Rao, K. S., Kumar Y., Yadav S. and Nayak, S. B. (2022). Foraging behavior and pollination efficiency of sesame insect pollinators in semiarid region of Haryana. Vegetos, 35(4), 1142-1149. | 5.27 |
| **96.** | Rao, K. S., Kumar Y., Yadav S. and Rawal, R. (2022). Diversity and abundance of flower visiting insects associated with sesame. *Indian Journal of Entomology*, 84(1): 77-81. | 5.08 |
| **97.** | Rao, K. S., Kumar Y., Yadav S., Poonia, R. and Nayak, S. B. (2022). Effect of different modes of pollination on sesame yield parameters. *Biological Forum – An International Journal*, 14(1): 238-242. | 5.11 |
| **98.** | Rao, K. S., Kumar, Y., Yadav, S., Naik, S. B. and Poonia, R. (2022). Studies on nectar secretion rhythms and colony performance of *Apis mellifera* L. in sesame. *Journal of Entomological Research,* 46 (4): 824-828. | 5.89 |
| **99.** | Rawal, R., Rolania, K., Mehra, S.,Meenu and Kumar, A. (2022). Population dynamics of leafhopper on cotton genotypes and their correlation with weather parameters, *Journal of Entomological research*, 46(2).100-104. | 5.89 |
| **100.** | Rolania, K., Yadav, S. S., Kalkal, D. and Kumar, L. (2022). Bioefficacy of Pyriproxyfen 10 EC against *Bemisia tabaci* (Gennadius) in cotton. *Journal of Cotton Research and Development*, 36 (2): 219-222. | 4.78 |
| **101.** | Jyoti, Yadav, S., Yadav, S. S., Jat, M. K. and Kumar, H. (2022). Diversity of insect visitors/pollinators on different genotypes of *Brassica* spp. *Journal of Agriculture and Ecology*, 13: 112-120. | 4.36 |
| **102.** | Tiwari, S., and Yadav, S. (2022). Ecofriendly Management of Major Insect Pests of Stored Maize. *Indian Journal of Entomology*, 84(2): 312-316. | 5.08 |
| **103.** | Yadav, S., Kumar, L., Jakhar, A., Kumar, H., Jat, M. K., Kapoor, P. and Kumar, V. (2022). Population dynamics of major sucking insect pests on chilli (*Capsicum annum* L.). *Journal of Agriculture and Ecology*, 13: 79-91. | 4.36 |
| **104.** | Aarti, Gaur R.K. and Yadav, S. (2023). Screening of guava (*Psidium guajava* L) varieties against fruit fly, *Bactrocera* spp. in Southwest Haryana. *International Journal of Farm Sciences*, 13(1): 48-52. | 4.29 |
| **105.** | Aparna, N., Yadav, S., Kalkal, D., Bhall, R., Kapil and Saini, R. 2023. Effect of electrical bee venom extraction on fecundity of *Apis mellifera* L. colony. *The Pharma Innovation Journal*, 12(1): 1259-1262. | 5.23 |
| **106.** | Dumra, N., Rolania, K., Yadav, S. S. and Kumari, S. (2023). Translaminar activity of different insecticides against *Bemisia tabaci*. *Indian Journal of Agricultural Sciences*, 93(5), 534–538. | 6.37 |
| **107.** | Sheoran, S., Kalkal, D., Chauhan, R., Rolania, K., Ahlawat, S. and Gilpin, A.M. (2023). Insecticide efficacy against *Earias* species infestation of okra and residue analysis of chlorantraniliprole under field conditions in India. *Horticulturae***,** 9, 356. | 8.92 |

***Annexure ENT-II***

## LIST OF PG COURSES OFFERED BY THE DEPARTMENT

### I$^{st}$ Semester

| Course No. | Credit hrs. | Course title |
|---|---|---|
| **Ent. 501** | 1+1 | Insect Morphology |
| **Ent. 503/Nema 502** | 2+0 | Principles of Taxonomy |
| **Ent. 505** | 1+1 | Insect Ecology |
| **Ent. 507** | 1+1 | Biological Control of Crop Pests and Weeds |
| **Ent. 509** | 1+1 | Plant Resistance to Insects |
| **Ent. 510/ Nema.512** | 1+1 | Principles of Integrated Pest Management |
| **Ent. 511** | 1+1 | Pests of Field Crops |

| | | |
|---|---|---|
| **Ent. 512** | 1+1 | Pests of Horticultural and Plantation Crops |
| **Ent. 516** | 1+1 | Soil Arthropods & their Management |
| **Ent. 517** | 1+1 | Vertebrate pest management |
| **Ent. 519** | 1+1 | Commercial Entomology |
| **Ent. 591** | 0+1 | Master's Seminar |
| **Ent. 599** | 20 | Master's Research |
| **Ent. 601** | 1+2 | Advanced Insect Systematics |
| **Ent. 602** | 1+1 | Immature stages of insects |
| **Ent. 603** | 2+0 | Advanced Insect Physiology |
| **Ent. 605** | 1+1 | Insect Behaviour |
| **Ent. 609** | 1+1 | Advanced Acarology |
| **Ent. 613/Pl. Path.606 /Nema-605** | 2+0 | Plant Biosecurity and Biosafety |
| **Ent. 691** | 1 | Doctoral Seminar-I |
| **Ent. 692** | 1 | Doctoral Seminar-II |
| **Ent. 699** | 45 | Doctoral Research |

**2nd Semester**

| Course No. | Credit hrs. | Course title |
|---|---|---|
| **Ent 502** | 2+1 | Insect Anatomy, Physiology and Nutrition |
| **Ent 504** | 2+1 | Classification of Insects |
| **Ent. 506** | 1+1 | Insect Pathology |
| **Ent 508** | 2+1 | Toxicology of Insecticides |
| **Ent. 513** | 1+1 | Storage Entomology |
| **Ent 514/Pl. Path. 514** | 1+1 | Insect Vectors of Plant Viruses and other Pathogens |
| **Ent.515** | 1+1 | General Acarology |
| **Ent 518** | 0+1 | Techniques in Plant Protection |
| **Ent 520/Nema 514/Pl. Path 520** | 2+0 | Plant Quarantine |
| **Ent. 604** | 1+1 | Advanced Insect Ecology |
| **Ent.606(HAU)/Ent.605(PAU)** | 2+0 | Recent Trends in Biological Control/Advanced Biological Control |
| **Ent 607(HAU)/Ent 606(PAU)** | 2+1 | Advanced Insecticide Toxicology |
| **Ent. 608** | 1+1 | Advanced Host Plant Resistance |
| **Ent. 610** | 1+1 | Agricultural Ornithology |
| **Ent. 611** | 1+1 | Molecular Approaches in Entomological Research |
| **Ent 612 (HAU)/Ent 603 (PAU)** | 2+0 | Advanced Integrated Pest Management |
| **Ent 692 HAU/PAU 591** | 1 | Doctoral Seminar II |

***Annexure ENT- III***

## PLACEMENT LIST OF LAST FIVE YEAR (2018-2023)
## PASSED OUT STUDENTS OF DEPTT. OF ENTOMOLOGY

### M.Sc. Students

| S. No. | Name | Admn. No. | Date of Passed out | Post/Designation | Placement address |
|---|---|---|---|---|---|
| **1** | Umesh | 2015A29M | 06.1. 2018 | Agriculture officer | Punjab National Bank, Dighal , Jhajjar |
| **2** | Parveen Kumar | 2015A30M | 11.5. 2018 | Manager (Quality Control/ Techincal) | Food Corporation of India, Patiala, Punjab |
| **3** | Vinayaka K.S. | 2016A20M | 19-6-2018 | Assistant Scientist | Bayer Crop Science |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | Ltd, 52, "Appaji Ashreya", 2nd Floor, 2nd Main Road, GKVK Layout, Allasandra, Yelahanka, Begaluru-560065 |
| **4** | Gaurav Singh | 2016A21M | 13-6-2018 | Assistant Scientist | Maharana Partap Horticultural University, Karnal (MHU) |
| **5** | Anuj | 2017A37M | 20-7-2019 | Agricultural Officer | Punjab national bank, Murshidabad, West Bengal |
| **6** | Puneet | 2017A38M | 15-7-2019 | Assistant Plant Protection Officer (Entomology) | Central Insecticides Laboratory, Faridabad under DPPQ |
| **7** | Poonam | 2017A42M | 20-7-2019 | Assistant Grade-III (Technical) | Food Corporation of India, Divisional Office, SCO 73-74, Sector 2, Kurukshetra |
| **8** | Deepak | 2017A43M | 16-7-2019 | State Head (NPP)Haryana | UPL Limited, Head Quarter, Hisar |
| **9** | Amit | 2017A40M | 29-10-2019 | Rural Development Officer | Indian Bank |
| **10** | Ajay | 2017A41M | 14.9.2020 | Scientific Expert | Haryana Govt. biodiversity project, Kaithal |
| **11** | Chaand Josan | 2018A31M | 11.9.2020 | Horticultural Developmental Officer | IBDC, Ramnagar, Kurukshetra |
| **12** | Khyali Ram | 2018A35M | 10.9.2020 | Horticultural Developmental Officer | Horticulture Development , Govt. Of Haryana, Nathusari Chopta, Sirsa |
| **13** | Mohammad Thamseer M.K | 2019A47M | 6.9.2021 | Agricultural Field Officer (JGMS-1) | UCO Bank, Doddalahalli, Kanakapura Taluk, Ramanagar District, Karnataka |
| **14** | Sova Yadav | 2019A53M | 22.9.2021 | Employment Officer | Company- Aasaman Nepal, Janakpur, Nepal |
| **15** | Rahul Saini | 2019A50M | 16.9.2021 | Assistant Grade-III (Technical) | Food Corporation of India, North Zone, Haryana |
| **16** | Rajat Kaushik | 2020A44M | 12.9.2022 | Assistant Grade-III (Technical) | Food Corporation of India, North Zone, Haryana |

**Ph.D. Students**

| S. No. | Name of student | Admn. No. | Date of passed out | Where Placement | Placement address |
|---|---|---|---|---|---|
| 1. | Naveen Vikram Singh | 2012A18D | 22-2-2018 | Assistant Professor (Entomology) | Faculty of Agriculture, Kamla Nehru Institute of Physics and Social Science, Sultanpur, U.P. |

| | | | | | |
|---|---|---|---|---|---|
| 2. | Lalita Panwar | 2014A19D | 5-6-2018 | Assistant Professor (Entomology) | Regional Research Station, Kaul, CCSHAU, Hisar |
| 3. | Suman Devi | 2014A11D | 5-6-2018 | Assistant Professor (Entomology) | PDM University, Bahadurgarh, Jhajjar, Haryana |
| 4. | Shete Nilesh Suresh | 2012A21D | 10-7-2018 | Senior Techincal Officer (Ento.) | Regional Plant Quarantine Station, Haji Bunder Road, Sewri, Mumbai-400015 |
| 5. | Shalini Pandey | 2014A15D | 17-7-2018 | Assistant Professor (Entomology) | Agricultural University, Jodhpur- 342304 |
| 6. | Meenakshi Devi | 2014A12D | 17-8-2018 | Assistant Professor | SGT University, Chandu, Gurugram-122505 |
| 7. | Meenu | 2014A14D | 28-8-2018 | DES | KVK, Bhiwani, |
| 8. | Chitralekha | 2014A16D | 29-1-2019 | Assistant Scientist | Cotton Research Station, Sirsa, |
| 9. | Rinku | 2015A45D | 30-8-2019 | Assistant Professor | Department of Entomology, College of Agriculture, Kaul, Kaithal |
| 10. | Pradeep Kumar Dalal | 2014A13D | 16-9-2019 | Technical Assistant | Department of Seed Science and Technology, CCSHAU, Hisar |
| 11 | Purti | 2015A47D | 24-10-2019 | Assistant Professor | Jagannath University, Bahadugarh, Jhajjar, Haryana |
| 12 | Kavadana Sankara Rao | 2015A43D | 19-11-2019 | Subject Matter Specialist | KVK, Kondempudi, Visakhapatnam, Andhra pradesh |
| 13 | Mandeep Rathee | 2014A18D | 14-1-2020 | Technical Assistant | KVK, Kaithal, CCSHAU, Hisar |
| 14 | Swati Mehra | 2015A46D | 7.7.2020 | Assistant Scientist | Department of Entomology, CCSHAU, Hisar |
| 15 | Sangeeta Tiwari | 2016A42D | 6.10.2020 | AAO | Agriculture Department ,Chaukutiya, Almora, Uttatakhand |
| | Sudhanshu Bala Nayak | 2016A40D | 26.10.2020 | Assistant Director of Sericulture | Directorate of textile and handloom, Govt. of Odisha |
| 16 | Vijaya | 2016A41D | 29.10.2020 | Assistant Professor | Baddi University of Emerging Science and Technology, Baddi, Solan (HP) |
| 17. | Malik Mohammed Abdalsalam Abaker | 2017A45D | 4.8.2021 | Pest Management Specialist | Plant Protection Directorate, Gezira, Sudan |

| | | | | | |
|---|---|---|---|---|---|
| 18 | Naveen Rao | 2017A40D | 7.3.2022 | Assistant Professor | Department of Agriculture, Baba Farid Group of Institutions, Bathinda, Punjab |
| 19 | Rumi | 2015A44D | 20.9.2018 | Assistant Professor | COA, Bawal, CCSHAU, Hisar |

## Centre for Advanced Faculty Training:

The Department of Entomology, CCS Haryana Agricultural University, Hisar was identified by ICAR as Centre of Advanced Studies (CAS) during 1994, vide letter No.1- 2/93(CAS)/ UNDP dated 26.3.94. The Centre of Advanced Studies was re-designated as Centre of Advanced Faculty Training (CAFT) by ICAR during 2009-10 vide letter No.1(6)/2009 CAFT/HRD dated 1.1.2010. So far, the centre has organized 35 trainings covering various aspects of entomology *viz*., apiculture, pollinators, insect ecology, insecticide toxicology, host plant resistance, non-insect pests, stored grain pests, pest and pesticide management, biological control, integrated pest management, pest population dynamics and pest monitoring, application of techniques in entomological research, pest damage diagnosis and loss assessment, etc. Around 623 scientists/faculty members from different SAU's have been trained so far regarding various aspects of Agricultural Entomology.

## Details of CAFT trainings conducted:

| S. No. | Year | Name of Training | Date/Duration of Training | No. of Participants | Name of states to which participants belong |
|---|---|---|---|---|---|
| 1 | 2018-19 | Recent trends in pests status, pesticide usage and pest management Strategies in Agriculture" | 5$^{th}$ to 25$^{th}$ October, 2018 | 17 | Punjab,Gujrat,Jharkhand, Assam,Maharashtra,Karnataka, Andhra Pradesh,Tamil Nadu, Bihar,Rajasthan and Haryana |
| 2 | 2019-20 | Advances in Biology, Conservation, Rearing and Management of *Apis* & non-*Apis* bees | 4$^{th}$ to 24$^{th}$ October, 2019. | 24 | Assam, Bihar, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu and Uttarakhand |
| 3 | 2022-23 | "Current Scenario of Pesticide toxicology and its Impact on Future Agriculture" | 3$^{rd}$ to 23$^{rd}$ November, 2022 | 25 | Andhra Pradesh, Assam, Bihar, Haryana, Karnataka, Punjab, Rajasthan, Uttar Pradesh and Telangana |

**Note: For every training conducted under CAFT a compendium was released by the Department of Entomology.**

## Students trainings conducted by Department of Entomology during 2018-2023

| Sr. No. | Name of the Event | Year | Date of Organization |
|---|---|---|---|
| **1.** | 12 days online training course on "Bee keeping as an Entrepreneurship" for students | 2021 | 16.12.2021 to 27.12 2021 |
| **2.** | ICAR sponsored 10 days short course on 'Scientific management of *Apis mellifera* colonies for nutritional and economic security' for scientists of ICAR institutes and SAU's | 2022 | 25.01 2022 to 03.02.2022 |

| | | | |
|---|---|---|---|
| **3.** | 10 days online training on 'Commercial Apiculture' for 84 UG and PG students of SC category | 2022 | 24.02.2022 to 05.03.2022 |

***Annexure-ENT-IV***

## List of NET Qualified Students

| **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** |
|---|---|---|---|---|
| **6** | **12** | **5** | **-** | **15** |
| **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** | | **Names (Adm. No.)** |
| **Rinku 15A45D**<br>**Purti -47D-**<br>**Kawadana -43D-**<br>**Suchismita 15A27M**<br>**Sangeeta 16A42D**<br>**Jayant 15A28M**<br>**..** | Ms. LalitaPanwar 2014A19D<br>Ms. Purti 2015A47D<br>Jayant Yadav, 2017A39D<br>Naveen Rao 2017A40D<br>Kanwar Kumar 2017A41D<br>Hemant Sharma 2014A29M<br>Deepak Sharma 2014A30M<br>Vinayaka K S 2016A20M<br>Gaurav Singh 2016A21M<br>Shivani Khokhra 2016A22M<br>Naveen 2016A24M<br>Rohit Kumar 2016A25M | Amit 2017A40M<br>Poonam 2019A28D<br>Mr. Puneet 2019A29D<br>Soniya 2019A30D<br>Sonu Kumari 2019A89D | -- | Sindhu, 2020A29D<br>Sunidhi, 2020A30D<br>Jai Parkash, 2020A26D<br>Pritam, 2020A28D<br>Amit Kaushik, 2020A24D<br>Kanchan, 2020A82D<br>Lovepreet, 2019A46M<br>Kapil, 2019A45M<br>Ritu, 2019A51M<br>Aparna, 2019A48M<br>Jyotsana, 2019A44M<br>Rahul, 2019A50M<br>Thamsheer, 2019A47M<br>Aravind, 2021A31D<br>Vipul, 2021A38D |

***Annexure ENT- V***

## DIFFERENT ACTIVITIES CONDUCTED DURING 2018-23




Welcome of Chief Guest Prof. B. R. Kamboj, Vice-Chancellor, CCS HAU, Hisar during Advanced Faculty Training on "Current Scenario of Pesticide Toxicology and its Impact on Future Agriculture" from 3rd to 23rd Nov., 2022 at CCS HAU, Hisar



Address to trainees by Chief Guest Prof. B. R. Kamboj, Vice-Chancellor, CCS HAU, Hisar during Advanced Faculty Training-2022 at CCS HAU, Hisar



Demonstration of spray technology during Advanced Faculty Training-2022 at Entomology Farm of CCS HAU, Hisar



Practical of residue analysis during Advanced Faculty Training-2022 at Residue Laboratory of Deptt of Entomology, CCS HAU, Hisar



Demonstration of Drone Spray Technology during Advanced Faculty Training- 2022 at Deptt of Entomology, CCS HAU, Hisar




Welcome ceremony address by Prof. B. R. Kamboj, Vice-Chancellor, CCS HAU, Hisar during Advanced Faculty Training "Advances in Biology, Conservation, Rearing and Management of *Apis* & non-*Apis* bees" from 4th -24th October, 2019 at CCS HAU, Hisar



Practical of honey bee colony handling during Advanced Faculty Training-2019 at apiary of Deptt of Entomology, CCS HAU, Hisar



Trainee participant handling honey bee colony during Advanced Faculty Training-2019 at apiary of Deptt of Entomology, CCS HAU, Hisar




Valedictory Function of Advanced Faculty Training on "Recent trends in pests status, pesticide usage and pest management Strategies in Agriculture" during 2018 at Deptt of Entomology, CCS HAU, Hisar



B. Sc. Ag. (Hons) students dealing with *Apis mellifera* colony during "Bee keeping Module- 2023" at Apiary of Dept. of Entomology, CCS HAU, Hisar

Ms. Sindhu Sheoran got first position at Hawkesbury Institute for the Environment (HIE) 3MT competition held on 14th July, 2022. She won the People's choice award for her talk on "Evaluating relationships between floristic diversity and pollinator communities in agro-ecosystems". Sindhu represented HIE and her name was also included in the R2 honour board of the Western Sydney University, Australia. She is a Ph.D. student of Department of Entomology, CCS HAU, Hisar and doing her research work at WSU under dual degree programme of the University. Earlier in 2019, Hounorable Vice-Chancellor and President Prof. Barney Glover, WSU, Australia formalised the dual degree partnership agreements with ICAR and CCS HAU, Hisar.



Vice Chancellor & President Prof. Barney Glover awarding first position certificate to Ms. Sindhu Sheoran, at Hawkesbury Institute for the Environment at Western Sydney University, Australia in July, 2022.

# Programme - 7



## M. Sc. Extension Education

## and

## Ph.D. Extension Education

## 6.4 About the Department

The Department of Extension Education came into existence in 1963 in the College of Veterinary Sciences. The Department of Extension Education was established under the Extension Wing scheme of the Government of India to carry out teaching and research activities in Extension Education besides undertaking field extension work in the adopted villages. After the establishment of College of Agriculture in 1962, the Government of India sanctioned another scheme whereby the teaching, research and field activities were also strengthened in agricultural extension including the commencement of M.Sc. and Ph.D. programme and the creation of the Directorate of Extension Education in the year 1970. Dr. J. C. Sharma was the founder Head of the Department. Presently, the Department of Extension Education besides undertaking research and extension activities is also looking after the teaching requirements of two colleges *viz*. College of Agriculture and College of Agricultural Engineering and Technology. The main objectives of the department are as under:

### Objectives of the Department

- To impart teaching in Extension Education to UG and PG students.
- To organize seminars, conferences and workshops on important issues.
- To carry out extension activities in the field using extension education methodologies and approaches.
- To acquaint the students with practical know how for conducting trainings and various kinds of demonstrations at farmers field.
- To undertake strategic and action researches.
- To provide advisory services through the extension staff working in the Directorate of Extension Education.

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

M.Sc. and Ph.D. programme in Extension Education was initiated in the year 1970. Entry qualification for Master's programme is B. Sc (Agriculture). Minimum duration of the programme is 2 years and maximum duration is 4 years. Medium of instruction is English. Almost all the students after completing their degrees have joined in public or in private organizations, thus, 100 per cent placement is achieved. During the period under report 20 students have completed M. Sc programme out of which two are foreign nationals (*Annexure EXT-I*). Presently ten M. Sc students are on roll.

### Objectives of initiating M. Sc. programme:

- To produce quality and specialized professional in extension education in areas of transfer of technology, communication, adoption and diffusion of technologies of agriculture and allied fields
- To undertake strategic and action researches for development of agriculture and its allied fields especially assessment of constraints and adoption gaps of technologies, training need assessment of various stakeholders to help in designing the extension strategies for sustainable development of agriculture with accelerated growth and income of the farmers
- To inculcate agri-preneurship among the PG students.

### Accomplishments of M. Sc. programme:

- So far 206 M.Sc. students have passed out from the department.

- Out of these 20 M. Sc passed out students during the period under report, three students, *viz*., Mr Pankaj Pawar has joined as P O in the Bank, Mr. Amit has joined as Horticultue Development Officer in State department of Horticulture and Ms. Neelam Kumari joined as Assistant Professor in Sardar Vallabbhai Patel University of Agriculture and Technology, Meerut,
- Seven students opted for **higher studies (Ph.D.) during last five years** *(Annexure EXT-I*).

**Objectives of initiating Ph.D. programme:**

Ph.D. programme in the department was initiated during 1970.

- To develop understanding about recent advances in concept, approaches, models and theories of extension and communication.
- To undertake strategic and action researches for development of agriculture & its allied fields especially assessment of constraints and adoption gaps of technologies, training need assessment of various stakeholders help in designing the extension strategies for sustainable development of agriculture with accelerated growth and income of the farmers
- To produce quality and specialized professional in extension education in areas of transfer of technology, communication, adoption and diffusion of technologies of agriculture and allied fields.
- To inculcate agri-preneurship among the PG students.

**Accomplishments of Ph.D. programme:**

- The Department has conferred degree to 84 Ph. D. students till now. During the period under report 10 students have completed their Ph. D. programme and 10 are on roll.
- Out of 10 Ph. D. passed out students during the period under report, nine students have joined as Assistant Professor in various universities, one student joined as Subject Matter Specialist (SMS) and one student joined as assistant manager in NGO, Gurugarm and *(Annexureext-II).*
- During period under report 9 students have cleared UGC NET
- One students- Mr. Dharmender have been awarded UGC Rajiv Gandhi Fellowship

**Note:** List of students' publications is given in *Annexure EXT– II*

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programmeneed to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

One post of Associate Professor, six posts of Assistant Professor and equivalent in teaching, four in research and six in extension are sanctioned. There are 8 Professors/equivalents (Seven professors promoted under CAS and one is selected professor). Out of these four are posted in teaching, one in research, one at KVK Faridabad, one performing as Director Extension Education in Gandhi Bhawan, moreover, one as Director EEI Nilokheri. One Associate Professor is displaying the duties of Joint Director (Extension). The five Assistant Professors are working in different KVKs and one Assistant Scientist in the department in research scheme.

| S. No. | Sanctioned faculty | In Place* | Vacant | Faculty recommended by ICAR/UGC |
|---|---|---|---|---|
| 1 | Professor and equivalent (0) | 02 | - | 0 |
| 2 | Associate Professor and equivalent (1) | - | 01 | 01 |
| 3 | Assistant Professor and equivalent (6) | 02 | 02 | 03 |

*The number of faculty under Professors and Associate Professors also includes personal promotees under CAS.

Note: All the faculty of this programme is assigned the responsibilities for the multiple programmes.

### 6.4.3. Technical and Supporting staff

In the Department of Extension Education, there are 6 posts sanctioned for technical and supporting staff. In position there are 3 posts of technical and supporting staff.

| S. No. | Designation | Sanctioned | In Place* | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1. | Assistant | 1 | 1 | - | 01 |
| 2. | SSS/Steno | 1 | 1 | - | - |
| 3. | Clerk | 1 | 1 | - | - |
| 4. | Project Operator | 1 | - | 01 | - |
| 5. | Messenger | 1 | - | 01 | - |
| 6. | Lab Assistant | 1 | 1 | - | 01 |
| Total | | 06 | 04 | 02 | 02 |

*The technical and supporting staff assigned the responsibilities for the multiple programmes need to be clearly marked

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

The department has well established UG and PG lab having multimedia facilities, two smart class rooms and departmental library**.** Hence, sufficient numbers of rooms/lab are there to meet the course curricula requirements.

### Specific Labs

| Name of Lab | Equipments | Purpose |
|---|---|---|
| **AV Lab** | Computer, LCD screen, sound system tables with 40 chairs display boards with exhibits. | Designing and printing of visual aids such as posters, charts etc. |

| | | |
|---|---|---|
| Departmental Library (Room No. 53) | Reference material, books, thesis etc are referred by PG students for preparation of assignments, synopsis and thesis work. | Used by teachers and PG students for preparation of assignments, synopsis and thesis work etc. |
| Lecture Room-4 | Interactive Panel with smart class room facility with sitting capacity of 70. | Used for UG and PG teaching. |
| Lecture Room-5 | Interactive Panel with smart class room facility with sitting capacity of 70. | Used for UG and PG teaching. |

**List of equipments at present available in the department:**

| S. No. | Name of equipment | Location/lab. No. |
|---|---|---|
| 1. | Computer with LCD Screen, 1 video camera, 3 still cameras, 2 TV/Monitor, VHS VCR, OHP, Slide projector, PA system. | AV Lab 5A |

**Theory and practical batches**

- At M.Sc level, the department offers 12 courses with practical components. There are limited seats in M.Sc. programme with an average intake of 4-5 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 4-20 students.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only batch for theory classes and one batch for practical classes in all the courses. For Ph. D. the department of Extension Education offers 09 courses of which 08 courses have practical components.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

At PG level, besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements.

| Course No. | Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands –on-training as per curriculum |
|---|---|---|---|
| **EXT 501*** | 1+1 | Extension education and its importance in Agriculture development and also to expose the students with various rural development programmes aimed at poverty alleviation.The students will be learning about the new innovations in the Agricultural Extension. | Students visit to Gram Panchayat to study on-going Rural Development Programmes, visit to KVK, NGO and extension centers of State Agricultural University and State Departments, Bottom up planning, report preparation and presentations programme for rural. |
| **EXT 502*** | 2+1 | Concept, meaning and process of communication and various methods and modern media of communication, information | Exercise different oral and write communication. Analyze communication studies under field conditions.Radio and |

| | | | |
|---|---|---|---|
| | | management and journalistic writing of various information materials. | TV journalism-script writing, layout, design and editing. Communication drills to improve oral communication skills. |
| **EXT 503*** | 2+1 | The students will earn innovation-diffusion-adoption process and factors influencing thereby. | Case studies as well as content analysis of adoption studies, identification of adopter categories on a selected technology, current farm technologies ,identification of opinion leaders ,study of factors affecting adoption, presentation of reports on adoption and diffusion of innovations. |
| **EXT 504** | 2+1 | The students will learn the Statistical Package for Social Sciences for choosing appropriate statistics for data analysis. | How to select and formulate the research problem, objectives and selection of variables. Developing the conceptual framework of research. Development of data collection devices. Testing their validity and reliability. Techniques of interviewing and collection of data, hands on experiences on SPSS, coding, tabulation and analysis. Writing of thesis and research articles. |
| **EXT 505*** | 2+1 | Students will gain knowledge on information and communication technologies and how these ICT tools can be used for Agricultural Extension. | Content analysis of ICT projects. Handling of ICT tools. Designing extension content. Online extension service. Project work on ICT enabled extension. Creation of extension blogs. Visit to ICT extension projects. |
| **EXT 506** | 2+1 | The planning and development of enterprises for extending sustainable livelihoods for rural people. To help the students to gain knowledge and skills in different concepts and techniques of management in extension organizations. | Field visit to Successful enterprises- Development of Project Proposal–case studies of success/failure enterprises-exercise on market survey-field visit to financial institutions- Simulated exercise to understand management process-Field visit to extension organizations. Group activity on leadership development skills. |
| **EXT 507** | 2+1 | To orient the students about key concepts, importance, scope & conceptual frame work, growth & development of Human Resource Development. | Gain expertise by visiting different training organization store view ongoing activities & facilities; analysis of training methods followed by training institutions for farmers and extension workers studies. Study of HRD in organization in terms of performance, organizational development, employees welfare. |
| **EXT 508** | 2+1 | Designing the message, graphic formats and devices and presentation of data. Low cost visuals. Exposure of the students to various Digitized video material in multimedia. | Preparation of low cost projected and non-projected visuals. Designing and layout of charts, posters, flashcards etc. Power point presentations. Generating computer aided presentation graphics. Scanning and evaluation of visuals. |
| **EXT 509** | 1+1 | This course is to orient the student different participatory approaches for technology development and transfer and also to expose | Simulated exercises on space related methods, time related method and relation oriented methods; |

| | | | |
|---|---|---|---|
| | | the students with various participatory tools and techniques likes pace related, time related, relation orientedmethods. | documentation of PTD and dissemination; Preparation of action plan; participatory monitoring and evaluation of developmental programmes. |
| **EXT 510** | 2+1 | To learn about an overview of the concept of gender, their rights, responsibilities and relationships on development. The students will also learn the gender equity concerns as fundamental human rights in agriculture and allied sectors. | Through visits to rural institutions engaged in Women empowerment and SWOT analysis of the unit; visit to center for women development-NIRD to study the different activities. Visit to gender cell office of the Commissioner and Director of Agriculture, Hyderabad, to study the mainstreaming of gender concerns . |
| **EXT 511** | 1+1 | The course is intended to orient the students with the concept of distance education, characteristics of distance education, evolution, methods of distance education, different approaches in planning distance education, educational technology, managements of resources for distance education. | To visit the university, this is implementing the distance education programmes. Detailed study of their programme in relation to educational technology, methodology, curriculum development, evaluation and assessment. Exercise on development of curriculum for distance education exclusively for farming community. |
| **EXT 601** | 2+1 | Understand agricultural knowledge information system (AKISs) ITK. Advances in extension, ICT enabled extension services; Market led extension, public private partnership, implications of WTO-understand extension reforms and farmer field schools, ATMA, FSBE & CIGs etc., ATIC, IVLP & Kisan Call Centres. | Analysis of ITK systems, integration of ITK and formal research system, analysis of cases on cyber extension and privatization of extension. Analysis of ATMA and SREP. Practicing bottom up planning. Visit to public-private-farmer partnership. Food and nutritional security and bio-diversity projects and programmes. |
| **EXT 602** | 2+1 | Develop & standardize attitude scale using different techniques of attitude scale construction.<br>Develop skills of using projected & semi projected techniques, computer package analysis and participatory tools in Extension Research. | Practice in constructing and use of scale in various situations. Reliability and validity of the scales developed, application of semi projective and projective techniques. Content analysis, case studies. Practicing participatory tools and techniques. Hands on experience on computer preparation and data collection instruments. |
| **EXT 603** | 2+1 | Plan and design a training programme, plan & develop effective training sessions, manage difficult situations while organizing training programmes, use different advanced participatory training methods. | Techniques of participatory training need assessment. Formulation of course objective, design of training programmes. Simulation exercises. Participatory training methods role play& brainstorming, Group discussion and counseling and conducting experiential learning sessions. Training evaluation. Visit to training institutions and study of training technologies followed. |

| | | | |
|---|---|---|---|
| **EXT 604** | 2+1 | Understand & study the organization in terms of types, characteristics, needs, motives, organizational behaviour, organizational communication, organization development and to analyze the factors affecting organizations | Analysis of organization in terms of process-attitudes and values, motivation, leadership. Simulation exercises on problem-solving-study of organizational climate and organizational structure of development departments, study of departmentalization, span of control delegation of authority, decisions making patterns. |
| **EXT 605** | 2+1 | Understand agricultural education scenario in the country and curriculum development process plan & prepare course outline, lesson plan & skill plan. Develop appropriate teaching & learning styles. Use of innovative instructional aids & methods. | Formulation of instructional course objectives. Development and presentation of course outlines. Preparation & presentation of lesson plans for theory & practical with CAI design. Preparation of innovative low cost instructional aids. Development of model question bank. Preparation of schedule for teacher evaluation. Visit to distance education centre. |
| **EXT 607** | 1+1 | To help the students to know the concept, evaluation, history, classification, various media for advertising, socio-economic effects of advertising, trends in advertising and marketing, Govt. policy on advertising and marketing and to develop competency in creating advertisements for mass communication. | Visit to advertising agencies, advertising layout techniques for newspaper, radio, posters, TV, hoardings, wall paintings, case studies on institutional advertisement, advertisement campaign. |
| **EXT 608** | 2+1 | To familiarize the students with the working of print, electronic, News Media& Traditional folk media. To develop working skills for Print, Radio and T.V. Journalism to reach farming community and writing skills for different media. | Exercise on writing for print media–writing news/success stories/feature articles for different topics related to Agriculture & allied fields. Exercise of editing & proof reading the farm news for newspapers and script writing for Radio and T.V. Visit to media management organizations developing communication & media strategy for selected developmental programme / activity. |
| **EXT 609** | 2+1 | Develop understanding on different systems of technology transfer, develop appropriate communication & media strategy suitable to the system of technology transfer, analyse the constraints in systems of transfer technology and suggest suitable strategies. | Analysis of transferred technology and knowledge generation and consuming ystems. Formulation of communication strategies, study of attributes of selected fast spreading technologies, visit to TOT centers of ICAR and SAU, identification of key communicators, case studies of public-private partnerships |

*****Details of courses offered by the department is given in *Annexure EXT-III*

**6.4.6. Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

There is limited number of seats in M.Sc. & Ph.D. programmes. Hence the teacher student ratio is very low.

**Supervision of M.Sc. students in the Department:**

| Year | Number of PG faculty | Number of students on roll | Student-Teacher- Ratio |
|---|---|---|---|
| 2018-19 | 16 | 09 | 0.56:1 |
| 2019-20 | 19 | 10 | 0.52:1 |
| 2020-21 | 19 | 09 | 0.47:1 |
| 2021-22 | 17 | 09 | 0.52:1 |
| 2022-23 | 20 | 08 | 0.40:1 |

**Supervision of Ph.D. students in the Department:**

| Year | Number of PG faculty | Number of students on roll | Student-Teacher-Ratio |
|---|---|---|---|
| 2018-19 | 16 | 10 | 0.62:1 |
| 2019-20 | 19 | 13 | 0.68:1 |
| 2020-21 | 19 | 11 | 0.57:1 |
| 2021-22 | 17 | 08 | 0.47:1 |
| 2022-23 | 20 | 09 | 0.45:1 |

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

There is a system of annual self appraisal report (SAR) with respect of all faculties. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis their results and feedback from the students. Students of Professional Elective course are placed in different institutions under RAWE program. Teachers visit these institutions during training period of students and conduct meetings with authorities of the institutes. Any suggestions provided by them are incorporated in the curriculum. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8. Student Intake and attrition in the programme for last five years**

| Programme | No. of students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 06 | 07 | 05 | 05 | 04 | 16.00 | - | - | - | - |
| Ph. D. | 02 | 04 | 02 | 04 | 03 | - | - | - | - | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of the Department of Extension Education use ICT in teaching and practical for curricula delivery. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. The faculty members use PPT, Internet, e-learning modules, smart classroom, digital cameras, e-mail, Whats App groups, CD ROMs etc in UG, PG (M.Sc. and Ph. D) teaching.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, Surender K. Pahuja hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure EXT- I*

## EMPLOYMENT RECORD OF M.Sc. STUDENTS DURING PERIOD UNDER REPORT

| Sr. No | Name of the student | Adm. No | Organization |
|---|---|---|---|
| 1. | Mr. Anil kumar | 2016A28M | Manager in FPO |
| 2. | Mr. Neelam Kumari | 2019A34D | Assistant Professor |
| 3. | Mr. Pankaj Pawar | 2020A49M | P.O. in Bank |

## EMPLOYMENT RECORD OF Ph.D. STUDENTS DURING THE PERIOD UNDER REPORT

| Sr. No. | Name of the student | Adm. No. | Organization |
|---|---|---|---|
| 1. | Ms. Ekta | 2014A22D | Assistant Professor |
| 2. | Mr. Anil Kr Rohila | 2014A21D | Assistant Professor |
| 3. | Mr. Rati Mukteshawar | 2013A19D | Assistant Professor |
| 4. | Mr. Manjeet | 2015A19D | Assistant Professor |
| 5. | Mr. Abilash Singh | 2017A14D | Assistant Professor |
| 6. | Mr. Dilp S. | 2018A23D | SMS, KVK |
| 7. | Ms. Sonia | 2014A20D | Assistant Professor |
| 8. | Mr. Anil Malik | 2015A17D | SRF |
| 9. | Mr. Pawan | 2015A18D | Assistant Professor |
| 10. | Ms Pooja | 2019A31D | Assistant Professor |
| 11. | Mr. Vikash | 2018A24D | Assistant Manager |

## LIST OF STUDENTS QUALIFIED ASRB NET

| Sr. No. | Name of the student | Adm. No. |
|---|---|---|
| 1. | Ms. Pooja | 2019A31D |
| 2. | Mr. Shubham | 2021A42D |
| 3. | Mr. Arulmanikandan | 2021A39D |
| 4. | Ms. Neelam | 2019A34D |
| 5. | Mr. Ayush | 2021A40D |
| 6. | Mr. Dharmender | 2019A33D |
| 7. | Mr. Anil | 2020A31D |
| 8. | Mr. Pawan Kalyan | 2019A58M |
| 9. | Ms Disha | 2021A48M |

**Students of department who were awarded Fellowship**

List of Ph.D. students who have been awarded UGC Rajiv Gandhi Fellowship

- Mr. Dharmender (2019A33D)

*Annexure EXT- II*

## LIST OF PUBLICATIONS

| Sr. No. | Publication details | NAAS rating |
|---|---|---|
| **1.** | Ghanghas, B. S. (2018). Awareness of Pardhan Mantri Fasal Bima Yojna among farmers of Haryana State. *Journal of Pharmacognosy and Phytochemistry*. 7(4): 1912-1914. | -- |
| **2.** | Ghanghas, B. S., Bhakar, S. and Chahal, P. K. (2018). Adoption of Integrated Pest Management Practices by Mustard Farmers of Haryana State. *International Journal of Chemical Studies*, 6(4): 1827-1832. | -- |
| **3.** | Kamboj, S., Malik, J. S., Kumar, P. and Khan, M. (2018). Socio-economic Profile of Self-Help Groups (SHGs) in Mewat District of Haryana State. *International Journal of Advanced Biological Research*, 8 (2): 174-179. | -- |
| **4.** | Kumar A., Godara, A. K. and Kumar, A. (2018). Comparitive study between adopted and non-adopted respondents being faced by constraints use of photovoltaic water pumping system in Jhajjar district of Haryana State. *International Journal of Social Science*, 6(1): 09-11. | 4.38 |
| **5.** | Kumar A., Godara, A. K., Kumar, A. and Bhatia, J. K. (2018). Knowledge level of farmers regarding photovoltaic water pumping system: Comparitive study between Hisar, Rohtak and Jhajjar districts of Haryana State. *Indian General Health and Well-being*, 9(5): 776-780. | -- |
| **6.** | Kumar A., Godara, A. K., Kumar, A. and Bhatia, J. K. (2018). Photovoltaic water pumping irrigation system for diversified agriculture in Haryana. *International Journal Education and Management*, (4): 605-610. | -- |
| **7.** | Kumar, A. and Kumar, A. (2018). Correlates of farmers towards zero- tillage technology in Haryana. *Indian General Health and Well- being*, 9(3): 505-509. | -- |
| **8.** | Kumar, A., Godara, A. K. and Kumar, A. (2018). Comparative study between adopted and non adopted respondents being faced by constraints use of Photovoltic Water Pumping System of Jhajjar district of Haryana state. *International Journal of Social Science Review*, 6(1): 9-11. | -- |
| **9.** | Kumar, A., Godara, A. K. and Kumar, A. (2018). Comparative study between adopted and non adopted respondents being faced by constraints use of Photovoltic Water Pumping System of Jhajjar district of Haryana state. *International Journal of Social Science Review*, 6(1): 9-11. | -- |
| **10.** | Kumar, A., Rani, P., Kumar, K., Kumar, S. And Nathal, H. S. 2018. Farmers fair play important role in transfer of technology. *International Journal Education and Management*, 9( 2): 258-260. | -- |
| **11.** | Kumari, S., Sethi, N. and Malik, J. S. (2018). Impact of Mobile based Messages through KVKs in Haryana. *Indian Journal of Extension Education*, 54 (3): 100-103 | 5.95 |
| **12.** | Kundu, Poonam; Sabharwal, Kanta and Sube Singh. (2018). Enhance Food Security through Fruit and Vegetable Preservation. *International Journal of Current Microbiology Application Science*. 7(4): 3195-3201 | -- |
| **13.** | Manjeet, Singh, N. and Malik, J. S. (2018). Attitude of extension personals towards services provided by them for climate change mitigation: A case study of Haryana, India. Agriculture Update, 13 (4): 435-439. | |
| **14.** | Mehta G., Kumar, R., Wali, V. K., Sharma, A., Mehta, S.K., Bhatt, A. and Lal, M. (2018). Economics of different grafting methods on Pecan nut under Intermediate agro-climatic conditions of Jammu and Kashmir. *International Journal Current Microbiology, Applied Science*, 7(8): 3305-3309. | -- |
| **15.** | Noor Agha, Ghanghas, B. S. and Chahal, P. K. (2018). Accessibility Pattern of Information and Communication Technologies among Field Functionaries of Haryana, India. *International Journal of Current Microbiology and Applied Sciences*, 7(5): 2737-2745 | -- |
| **16.** | Noor Agha, Ghanghas, B. S. and Chahal, P. K. (2018).. Use of Information and Communication Technologies by Extension Personnel to Disseminate Agricultural Information. *International Journal of Current Microbiology and Applied Sciences*, 7(4):1369-1376. | -- |

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|---|---|---|
| **17.** | Rohila, A. K., Ghanghas B. S., Kumar, Ajay and Shehrawat, P.S. (2018). Constraints Perceived by Farmers in Adoption of Direct Seeded Rice Cultivation in Haryana. *Indian Journal of Extension Education*. 54 (2): 168-175. | 5.95 |
| **18.** | Rohila, A. K.; Shehrawat, P. S. and Aditya (2018). Adoption level of Animal Husbandry Practices in Haryana, India. *International Journal Current Microbiology-App. Science*, 7 (4): 563-568. | -- |
| **19.** | Rohila, A.K., Shehrawat, P.S. and Aditya (2018). Adoption level of Animal Husbandry Practices in Haryana, India. *International Journal Current Microbiology-App. Science*. 7 (4): 563-568. | -- |
| **20.** | Rohila, A. K.; Shehrawat, P. S.; and Aditya (2018). Adoption level of Animal Husbandry Practices in Haryana, India. *International Journal Current Microbiology-App. Science*. 7 (4): 563-568. | |
| **21.** | Rohila, Anil Kumar, Shehrawat, P. S. and Malik J.S (2018). Awareness, constraints and prospects of climate smart agricultural practices. *Journal of Agrimeteorology*. 20: 167-171. | -- |
| **22.** | Rohila, Anil Kumar; Kumar, Ajay and Shehrawat, P. S. (2018). Adoption level of smart agriculture practices in South-West Zone and North-East Zone of Haryana". *Indian Journal of Agricultural Sciences*. 88 (8):1263-1269. | 6.37 |
| **23.** | Rohila, Anil Kumar; Kumar, Ajay and Shehrawat, P. S. (2018). Awareness level of smart agricultural practices (SAPs) in Haryana". *Indian Journal of Agricultural Sciences*. 88 (12):113-118. | 6.37 |
| **24.** | Rupender Kumar, Hudda, R.S. and Malik, J.S. (2018). Impact of Integrated Watershed Management Programme (IWMP) on Farmer's Land Use Pattern and Productivity in Haryana. *Journal of Community Mobilization and Sustainable Development.* 13(3): 488-492 | 5.67 |
| **25.** | Sharma, Nidhi; Aditya and Shehrawat, P. S. (2018). A study of factors Dissuading the Farmers to include Chickpea in their Cropping System *International Journal Current Microbiology*-App. Science. 7 (5): 1800-1804. | -- |
| **26.** | Sharma, Nidhi; Aditya and Shehrawat, P. S. (2018). A study of factors Dissuading the Farmers to Include Chickpea in their Cropping System *International Journal Current Microbiology-App. Science*. 7 (5): 1800-1804. | -- |
| **27.** | Sharma, Nidhi; Aditya and Shehrawat, P.S. (2018). A study of factors Dissuading the Farmers to Include Chickpea in their Cropping System *International Journal Current Microbiology-App. Science*, 7 (5): 1800-1804. | -- |
| **28.** | Sharma, Nidhi;, Aditya and Shehrawat, P.S; (2018). A study of constraints analysis encountered by gram growers in adoption of improved cultivation practices. *International Journal of Agricultural Sciences*. 14 (2): 394-398. | 4.73 |
| **29.** | Shehrawat, P. S; Aditya and Sharma, Nidhi (2018). Usage of soil health card in crop management practices for doubling the farmers' income. *Journal of Applied and Natural Science*, 10(4): 1314-1317. | -- |
| **30.** | Sihan P., Kumar A., Kumar R., Kumar A., Yadav K. K., and Malik A. (2018). A study of Knowledge Level of paddy growers towards Paddy Straw Management Techniques in Haryana. *Haryana agricultural University Journal Research,* 48 : 51-55. | -- |
| **31.** | Singh, B. Meena, K. C. Verma, S. R. and Meena, R. K. (2018). Impact of KVK training programme on Guar (Cluster Bean) production technology. *International Journal of Agriculture Innovations and Research*, 6 (4) 89-91. | -- |
| **32.** | Sonia Rani and Shehrawat, P. S. (2018). Losses and alternatives measures towards environmental degradation in rural areas of Haryana. . *JANS, Journal of Applied and Natural Science,*10 (1): 48-54. | 4.28 |
| **33.** | Sonia Rani, Shehrawat, P. S. (2018). Farmers' knowledge level towrads value addtion in horticultur and vegeatbles crops. *Internationl Journal of Pure and Applied Bioscience*, 6 (3): 202-207. | -- |
| **34.** | Vistar, Joshi., Gondkar, S., Godara, A. K., and Mehta, S. K. (2018). Determinants of Marketing and Management for Prospect of Small Scale food Processing Units in Haryana. *Journal of Community Mobilization and Sustainable Development*. 13(3): 488-492 | 5.67 |
| **35.** | Yadav, S. and Godara, A. K. (2018). Sociopersonal characteristics and attitude of Bt cotton growers. *Bioinfolet*, 15(2): 213-216. | -- |

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|---|---|---|
| **36.** | Yadav, S., Godara A. K. and Yadav, V. P. S. (2018). Impact of Bt Cotton Production Technology in Haryana . *Indian Research Journal of Extension Education*, 18 (2): 66-71. | -- |
| **37.** | Yadav, S., Godara, A. K., Nain, M. S. and Singh, R. (2018). Perceived Constraints in Production of Bt cotton by the Growers in Haryana. *Journal of Community Mobilization and Sustainable Development*, 13(1): 133-136. | 5.67 |
| **38.** | Autade, C. D., Mehta S. K., Godara A. K., Malik J. S. and P. S. Mehta. ( 2019). Constraints in Contract Farming. *Asian Journal of Extension Education*, 37: 95-104. | 3.15 |
| **39.** | Bhakar, Sandeep, Mann, S. S. and Dhanda, S. K. (2019). Impact of Cluster Frontline Demonstrations in Productivity Enhancement and Dissemination of Mustard Production Technology. *International Journal of Chemical Studies.* 7 (3): 2183-2185. | -- |
| **40.** | Ekta, Malik, J. S., Shehrawat, P. S., Verma, S. and Bhatia, R. ( 2019). Integrated Farming System: Need and Interest of Farmers. *International Journal of Chemical Studies*, 7 (5): 3060-3063. | -- |
| **41.** | Ghalawat, S., Mehla, S., Malik, J. S. and Goyal, M. (2019). Consumer awareness towards ayurveda products and the factors influencing choice of ayurveda products. *Indian Journal of Extension Education*, 55 (4): 81-85. | 5.95 |
| **42.** | Khippal, A., Jasbir Singh and Chokkar, R. S. (2019.Control of complex weed flora in direct seeded rice using bispyribac-sodium in combination with other herbicides. *Journal of Cereal Research,* 11(3): 282-285. | 4.57 |
| **43.** | Kumar, A., Shehrawat, P. S. and Mailk, A. (2019). Problem identification analysis and source of information about ATIC toll free number of CCS HAU, Hisar by the cotton grower of Haryana. *International Journal of Education and Management studies*, 9(2): 102-105. | 4.58 |
| **44.** | Kumar, A., Sumit, Yadav, M. K. and Rohila, A. K. (2019). Constraints Faced by the vegetable growers and middlemen in Haryana. *Indian Journal of Agricultural Sciences*, 89(1): 153-160. | 6.37 |
| **45.** | Kumar, Ashok; Shehrawat, P. S. and Mailk, Anil (2019). Problem identification analysis and source of information about ATIC toll free number of CCS HAU, Hisar by the cotton grower of Haryana. *International Journal of Education and Management studies*, 9(2): 102-105. | 4.58 |
| **46.** | Kumar, D., Chahal, P. K. and Ghanghas, B. S. 2019. Adoption level of modern Sorghum Production Technology in Haryana. *Forage Research*, 45 (3): 243- 245 | 4.84 |
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| **131.** | Kumar, R., Kumar, S. and Chahal, P. (2023). Information and Communication Technologies (ICTs) implementation. *Indian Journal of Agricultural Sciences*, 93 (1): 119–121. | 6.37 |

*Annexure EXT- III*

# DETAILS OF COURSES OFFERED BY THE DEPARTMENT

## M. Sc. Courses

| Course No. | Course title | Credit hrs. | Semester |
|---|---|---|---|
| **EXT 501*** | Development perspectives of extension education | 1+1 | I |
| **EXT 502*** | Development communication and information management | 2+1 | I |
| **EXT 503*** | Diffusion and adoption of innovations | 2+1 | I |
| **EXT 504*** | Research methods in behavioral sciences | 2+1 | II |
| **EXT 505*** | E-extension | 2+1 | II |
| **EXT 506** | Entrepreneurship development and management in extension | 2+1 | II |
| **EXT 507** | Human resource development | 2+1 | I |
| **EXT 508** | Visual communication | 2+1 | I |
| **EXT 509** | Participatory methods for technology development and transfer | 1+1 | II |
| **EXT 510** | Gender sensitization for development | 2+1 | II |
| **EXT 511** | Perspectives of distance education | 1+1 | II |
| **EXT 591** | Master's seminar | 1 | I, II |
| **EXT 599** | Master's research | 20 | I, II |

** Compulsory for Master's programme*

## Ph.D. Courses

| Course No. | Course title | Credit hrs. | Semester |
|---|---|---|---|
| **EXT 601**** | Advances in agricultural extension | 2+1 | I |
| **EXT 602**** | Advanced design and techniquesin social science research | 2+1 | I |
| **EXT 603**** | Advances in training technology | 2+1 | II |
| **EXT 604** | Organizational development | 2+1 | II |
| **EXT 605** | Advanced instructional technology | 2+1 | I |
| **EXT 606** | Comparative extension | 3+0 | II |
| **EXT 607** | Advertising and marketing communication | 1+1 | I |
| **EXT 608** | Media management | 2+1 | I |
| **EXT 609** | Transfer of technology in agriculture | 2+1 | II |
| **EXT 691** | Doctoral seminar I | 1 | I, II |
| **EXT 692** | Doctoral seminar II | 1 | I. II |
| **EXT 699** | Doctoral research | 45 | I, II |

*** Compulsory for Doctoral programme*

# Programme - 8



**M.Sc. Forestry**

**and**

**Ph.D. Forestry**

## 6.4 About the Department

Department of Forestry was established on 16.2.1982 to strengthen farm forestry research. Later, B.Sc. Forestry 4 year programme was started from 1986-87 as an initiative from ICAR with the objective to produce forestry trained graduates. However, B.Sc. (Forestry) was discontinued from academic year 1990-91 due to insufficient demands of forestry trained personnel at that time in the forestry sector. However the situation has changed now due to flourishing of wood industries which require particular forestry trained graduates to fulfill their multidimensional demands that arise from various forestry sectors.

M.Sc. Agroforestry programme was started from 1990-91 with intake capacity of 3 students and from 1998-99 Ph.D. Agroforestry Programme was also started. Since then 87 students have completed M.Sc. and 30 students have got Ph.D. degree from the Department of Forestry. Presently, Department of Forestry has M.Sc. Forestry and Ph.D. Forestry programmes under College of Agriculture. The department offers two undergraduate core courses to the B. Sc. (Hons) Agriculture under commercial Agriculture. The department of Forestry also offer two undergraduate core courses as per 5$^{th}$ Dean's committee recommendations. At PG level the department offers 11 M.Sc. and 08 Ph.D. courses.

The department has well qualified and experienced faculty members having vast experience and international exposure. All faculty members have obtained Ph.D. degree. Faculty members are using latestliterature and books for teaching to UG and PG classes. Teachers are using modern audio-visual aids & proper equipment for practical demonstration. Major emphasis is given for practical learning. Faculty of the Department is actively involved in academic pursuits at National and International levels.

Objectives of the Department

- To impart knowledge of forestry to students through course work, demonstration, practical work, seminar and thesis research work.
- To conduct research on different aspects of forestry.
- To disseminate the latest technology and extension activity of forestry/agroforestry

### 6.4.1 Brief History of the Degree Programme: *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

B.Sc. Forestry programme was started from 1986-87 as an initiative from ICAR with the objective to produce forestry trained graduates. However, B.Sc. (Forestry) was discontinued from academic year 1990-91 due to insufficient demands of forestry trained personnel at that time in the forestry sector. Total 55 students completed B. Sc. (Forestry) degree programme in four batches (1990-1993). M.Sc. Agroforestry programme was started from 1990-91 with intake capacity of 3 students; and from 1998-99 Ph.D. Agroforestry Programme was also started. Since then 87 students have completed M.Sc. and 30 students have got Ph.D. degree from the Department of Forestry. Presently, Department of Forestry has M.Sc. Forestry and Ph.D. Forestry programmes under College of Agriculture.

**Objectives of initiating M.Sc. programme**

- To impart knowledge of forestry to students through course work, demonstration, practical work, seminar and thesis research work

- To conduct research on different aspects of forestry
- Research work on development of Agroforestry Models
- Tree Improvement work for development of genetically superior reproductive material
- Nursery technology for production of quality planting stock
- Production Technology for maximization of production and productivity of forest tree products

**Accomplishments of M.Sc. programme**

M.Sc. Agroforestry programme was started from 1990-91 with intake capacity of 3 students. Presently, Eight students (6 at COA Hisar + 2 at COA Bawal) are admitted every year in M.Sc. Forestry Programme. Department of Forestry has M.Sc. Forestry programme under College of Agriculture. Admission requirement for M.Sc. Forestry is B.Sc. (Hons.) Forestry or B.Sc. (Hons.) Horticulture or B.Sc. (Hons.) Agriculture. The students coming from non forestry stream have to complete 05 deficiency courses of 10 credit hours. All the postgraduate students who have completed their M.Sc. degree from the department are very well placed in Govt. /Private Sector/SAUs/NGOs/State Agriculture Dept/ Military and Para Military Forces. Most of students who completed M.Sc. during last five years have joined Ph.D. programme.

**Objectives of initiating Ph.D. programme**

- To impart knowledge of forestry to students through course work, demonstration, practical work, seminar and thesis research work
- To conduct research on different aspects of forestry:
- Research work on development of Agroforestry Models
- Tree Improvement work for development of genetically superior reproductive material
- Nursery technology for production of quality planting stock
- Production Technology for maximization of production and productivity of forest tree products

**Accomplishments of Ph.D. programme**

- Ph.D. Agroforestry programme was started from 1998-99 with intake capacity of 2 students. Presently, Department of Forestry has Ph.D. Forestry Programme with an intake capacity of three (2 at COA Hisar + 1 at COA Bawal ). Department of Forestry has Ph.D. Forestry programme under College of Agriculture. Admission requirement for Ph.D. Forestry is M.Sc. in Forestry/Agroforestry. All the postgraduate students who have completed their Ph.D. degree from the department are very well placed in Govt. /Private Sector/SAUs/NGOs. Three of the students who have completed their Ph.D. have joined as Assistant Professor in SAUs in last five years *(Annexure FOR-IV).* Details of students award received during the period under report are presented in the *Annexure FOR-II.* List of student's publication is presented in *Annexure FOR-III.*

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise,both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or anyother arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In Place* | Vacant | Faculty recommended by ICAR/UGC |
|---|---|---|---|---|
| **1** | Professor and equivalent (1) | 9 | - | - |
| **2** | Associate Professor and equivalent (1) | 1 | - | 1 |
| **3** | Assistant Professor and equivalent (15) | 7 | - | 3 |

*The number of faculty under Professors and Associate Professors also includes personal promotees under CAS.

Note: All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**6.4.3 Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

In the Department of Forestry, there are 15 posts sanctioned for technical and supporting staff. Inposition there are 12 posts of technical and supporting staff. One post of AI, one beldar and one Driver are lying vacant.

| S. No. | Designation | Sanctioned | In Place | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1. | Assistant/Steno | 02 | 02 | Nil | 01 |
| 2 | Clerk | 01 | 01 | Nil | 01 |
| 3. | Lab Asstt./Technician/ Attendants | 01 | 01 | Nil | 04 |
| 4. | Anyother (specify) Senior Technical Assistant | 01 | 01 | - | - |
| 5. | Anyother (specify) Agriculture Inspector/Beldars/Driver | 10 | 07 | 03 | - |
| | **Total** | **15** | **12** | **03** | **06** |

**Note:** All the staff members were assigned the responsibilities for the multiple programmes.

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

The department of Forestry has one PG lab and one seminar room. There is one seminar room equipped with LCD and internet facility. The Department has sufficient area in nursery and farm for conducting experiments on Research work on development of Agroforestry Models, Tree Improvement work for development of genetically superior reproductive material, Nursery technology for production of quality planting stock and Production technology for maximization of production and productivity of forest tree products.

**List of classroom and functional laboratories**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | One , Sitting capacity: 20 |
| No. of lecture rooms with LCD | 1 |
| No. of labs with specialized purpose | 2 |
| Farm facilities | • Above 90 acre including nursery area<br>• The facilities of mist propagation unit exist in thenursery area. |

**List of equipments at present available in the department**

| S.No. | Name of equipment | Location |
|---|---|---|
| 1. | Mist Chamber | Nursery Area |
| 2. | Compound microscope with USB Camera | Departmental laboratory |
| 3. | Chlorophyll content meter | |
| 4. | Muffle Furnance | |
| 5. | BOD incubator (2 no) | |
| 6. | Analytical balance | |
| 7. | Soil moisture sensor | |
| 8. | Time lapse camera | |
| 9. | Seed Germinator | |

**Theory and practical batches**

At UG level, the Department of Forestry offers two courses i.e. FOR 101 (Introduction to Forestry), FOR 201 (Environmental Studies and Disaster Management) which have practical components. For practicals of these courses, two groups are made from each batch.

At M.Sc. level, the Department of Forestry offers 11 courses and out of these 09 courses (excluding deficiency courses) have practical components. There are limited seats in M.Sc. programme with an average of 8 students (including COA, Bawal). There is only one batch for theory and practical classes in all the courses.

Similarly, at Ph.D. level there are 03 seats (including COA, Bawal). Hence, there is only batch for theory classes and one batch for practical classes in all the courses. For Ph.D., the department of Forestry offers 8 courses and out of these 6 courses have practical components.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical Courses/ Hands-on-training | How far students are getting desired practical andhands-on-training as per the curriculum |
|---|---|---|---|
| **M.Sc.** | 11 | 9 | • Learnt calculations of volume of felled as well as standing trees.<br>• Learnt how to prepare volume table.<br>• Understood the application of sampling procedures of standing trees.<br>• Prepared yield and stand table.<br>• Exposure for estimation of cell wall contents – hemicellulose and lignin<br>• Practiced for extraction of essential oils, resins, tannins and acetylation of wood.<br>• Visited to nearby forest based industries.<br>• Learnt the concept of forest community structure and its successional status<br>• Learnt about estimation of productivity of forest ecosystem<br>• Collected and preserved of specimens.<br>• Performed vegetation analysis<br>• Performed the measurement of biomass and productivity<br>• Quantified litter production and decomposition.<br>• Demonstration through video of national parks, wildlife sanctuaries, botanical gardens and arboreta.<br>• Surveyed and analysed land use systems in the adjoining areas.<br>• Depending upon outcome of survey and analysis suitable Agroforestry models were suggested for improvement of overall productivity.<br>• Collected identified and preserve important insect pests and disease specimens of forest plants.<br>• Detected insect infestation and seed borne mycoflora.<br>• Assessed losses due to diseases, insect pests etc.<br>• Observed habitat management of vertebrate pests.<br>• Tested in laboratory for estimating decay resistance in wood.<br>• Learnt about fire control methods and device<br>• Familiarized with the meteorological and plant protection equipment.<br>• Applied pesticides and bio-control agents in the management of insect pests, weeds, diseases in nurseries and plantations<br>• Extracted spores of arbuscular mycorrhizal (AM) fungi from soil and assessment of mycrorrhizal root infection.<br>• Studied practically floral biology, modes of reproduction and modes of pollination in forest trees.<br>• Studied practically pollen viability. Controlled pollination and pollen handling.<br>• Practiced manipulation of flowering through hormones.<br>• Identify the demarcation of ecotypes, races, and land-races in natural forest.<br>• Understood the experiment layout of species, provenance and progeny trials. Selection of superior phenotypes.<br>• Practiced marking of candidate trees, plus trees and elite trees. Students understood the concept of seed orchards.<br>• Compared of parents and their putative hybrids on the basis of important characters. |

| | | | |
|---|---|---|---|
| | | | • Iinduction score of polyploidy through colchicine treatment.<br>• Students got clarifications for plantation problems in Asia and India<br>• Reasons were explained to students about variation in plantation time.<br>• Planning of plantation programme, planting geometry and calculation of planting stock were described to students.<br>• Practiced for different cultural operations and site preparation for plantation.<br>• Prospects of wood based industries were described to students with examples.<br>• Management of Eucalyptus, Sissoo, Teak, Melia sp, Poplar, Acacias, Ailanthus and Bamboo plantations were described to students.<br>• Visited energy plantation for understanding production technology.<br>• Economics of plywood, pulpwood, timber and energy plantations was worked out by students.<br>• Demonstration on agro-forestry production relationships was organised.<br>• Preparation of enterprise, partial and complete budgets was discussed with student with examples.<br>• Case studies in formulation and appraisal of agro- forestry projects were described to students.<br>• Case studies on harvesting, post harvest management and marketing of agro-forestry products were discussed.<br>• Half-sib, full-sib family in trees were discussed with students.<br>• Grading system of plus trees in natural stands were practiced by students.<br>• Mating designs, complete designs – nested designs, factorial, single pair mating, full diallel, half diallel and partial diallel, incomplete pedigree designs – open pollinated mating and polycross mating were described with examples.<br>• Selected plus trees for biotic and abiotic stresses. |
| **Ph.D.** | 8 | 6 | • Students were given assignment on important trees for growth characteristics and effect of temperature, nutrients and water stress on growth behaviour of nursery plants along with preparation of growth and increment curves. All the aspects were discussed with students by including one tree species per week.<br>• Cytology of pine root tips was discussed with students with latest literature.<br>• Kryotypic analysis was discussed with students with latest literature.<br>• Mutagenic treatments with colchicine and MH were discussed with students with latest literature.<br>• Tissue culture of organs, and transformation experiments were discussed with students with latest literature.<br>• Resin tapping was discussed with students with latest literature.<br>• Observation of trees for menoecium and dioecium were discussed with students with latest literature.<br>• Diagnosis and design investigations were discussed with students with latest literature.<br>• Discounting in Agroforestry was discussed with students with latest literature. |

| | | | |
|---|---|---|---|
| | | | • Valuation of input and output and case study on B:C ratios for community forestry were discussed with students with latest literature.<br>• Scoring for multiple uses of different species and listing a hundred species of tropical origin were described.<br>• Market trends in tree based products were discussed with students with latest literature.<br>• Study of impact of agroforestry/social forestry on wildlife, Birds and small animals were discussed with students with latest literature.<br>• General of ergonomic data from Agroforestry practitioners in farmlands were discussed with students with latest literature.<br>• Farmers responses to Agroforestry/community forestry were discussed with students with latest literature.<br>• Studies on light and shade effects of trees on under storey plants were discussed with students with latest literature.<br>• The role of voluntary agencies/industries in promoting afforestation programmes were discussed with students with latest literature.<br>• The impact of training to farmers, agricultural officers and others in promoting Agroforestry was discussed with students with latest literature.<br>• Visit to agave & biofuel plantations and report on its management practices was discussed with students.<br>• Wasteland development, Fuel wood plantations, biomass productivity assessment and develop models for rehabilitation of saline and alkaline areas were discussed with students with latest literature.<br>• Studies on structure and functions of forestry interventions were discussed with students with latest literature.<br>• Analysis of the micro- environmental attributes viz. temperature, humidity, solar radiations, soil erosion, in-situ measurement of sediment load in native water bodies, native fauna and flora, measurement of particulate air pollutants and other gases were discussed with students with latest literature.<br>• Study of components of silvicultural system for sustained yield was discussed with students with latest literature<br>• Management strategies for even aged and uneven aged stands were discussed with students with latest literature<br>• Choice of site preparation methods, Plantation map, Quality planting stock, Planning for tree planting, Release cutting operation, Selection of thinning methods, Intensity of thinning, Analysis of site quality and biomass production for timber, pulp wood and fuel wood species, Problems in silviculture in tropical, subtropical plantation and their solutions were discussed with students with latest literature.<br>• Phenological studies in forest trees, nectar collection and analysis, pollination trapling distances, foraging behaviour, pollinator identification and visitation, were discussed with students with latest literature |

**6.4.6. Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D. Programme (as per ICAR/UGC guidelines). Mention the realisticfigure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Supervision of M.Sc. students in PG programme offered by the Department**

| Year | No. of students on roll | No. of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 10 | 17 | 0.58:1 |
| 2019-20 | 10 | 17 | 0.58:1 |
| 2020-21 | 11 | 17 | 0.65:1 |
| 2021-22 | 12 | 17 | 0.70:1 |
| 2022-23 | 14 | 17 | 0.82:1 |

**Supervision of Ph.D. students in Ph.D. programmes offered by the Department**

| Year | No. of students on roll | No. of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 07 | 17 | 0.41:1 |
| 2019-20 | 11 | 17 | 0.65:1 |
| 2020-21 | 10 | 17 | 0.58:1 |
| 2021-22 | 12 | 17 | 0.70:1 |
| 2022-23 | 11 | 17 | 0.65:1 |

**Note:**The detail of courses offered by the Department is given in *Annexure FOR-I*

**6.4.7 Feed back of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

There is a system of annual self appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice- Chancellor of the University. The performance of the faculty is also reviewed on the basis of their results, feedback from the students. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | No. of students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 6 | 6 | 8 | 8 | 8 | 0 | 16.66 | 0 | 12.50 | 12.50 |
| **Ph. D.** | 4 | 4 | 4 | 3 | 3 | 25.0 | 0 | 0 | 0 | 0 |

**6.4.9 ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of Department of Forestry use ICT in teaching of theory and practical. There is one Seminar Room with computer, LCD projector and internet connection. All faculty members have computer with printer and internet connection in their offices. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG and PG level. Teachers used to send important study material (including ppts) through email/ERP portal to M.Sc. and Ph.D. students.

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| **M.Sc.** | 11 | For. 501<br>For. 502<br>For. 503<br>For. 504<br>For. 505<br>For. 506<br>For. 507<br>For. 508<br>For. 509<br>For. 510<br>For. 511<br>For. 591 | For. 502<br>For. 504<br>For. 505<br>For. 506<br>For. 507<br>For. 508<br>For. 509<br>For. 510<br>For. 511 | • Power point presentation and documentaries on Forestry practices<br>• LCD Projector with Computer assembly in the Lecture Room for teaching of theory classes.<br>• Well equipped Forestry laboratory with good quality microscope, camera facilities |
| **Ph.D.** | 8 | For. 601<br>For. 602<br>For. 603<br>For. 604<br>For. 605<br>For. 606<br>For. 607<br>For. 608<br>For. 691<br>For. 692 | For. 601<br>For. 602<br>For. 604<br>For. 605<br>For. 606<br>For. 607 | • Power point presentation and documentaries on Forestry practices<br>• LCD Projector with Computer assembly in the Lecture Room for teaching of theory classes.<br>• Well equipped Forestry laboratory with good quality microscope, camera facilities |

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and PhD Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and alsohaving weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean , Surender K. Pahuja hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure FOR-I*

## COURSES OFFERED BY THE DEPARTMENT

| Semester I | | |
|---|---|---|
| **Course No.** | **Title of Course** | **Credit hrs.** |
| For. 101 | Introduction to Forestry | 2+1 |
| For. 201 | Environmental Studies and Disaster Management | 3+0 |
| For. 451 | Principle and Practices of Silviculture | 2+0 |
| For. 452 | Forest Mensuration | 1+1 |
| For. 453 | Principles of Tree Improvement | 1+1 |
| For. 454 | Wood Products and Utilization | 1+1 |
| For. 455 | Forest Management, Policy and Legislation | 1+1 |
| For. 503 | Forest Management | 2+0 |
| For. 505 | Forest Ecology and Biodiversity Conservation | 2+1 |
| For. 511 | Breeding Methods in Forest Trees | 2+1 |
| For. 591 | Masters Seminar | 1+0 |
| For. 603 | Advances in Wood and Non-Wood Forest Products | 3+0 |
| For. 605 | Forestry Interventions for Environment Amelioration | 1+1 |
| For. 607 | Advances in Forest Reproductive Biology | 1+1 |
| For. 608 | Advances in Agroforestry Research and Management | 2+0 |
| For. 691 | Doctoral Seminar-I | 1+0 |
| For. 692 | Doctoral Seminar-II | 1+0 |
| **Semester II** | | |
| For. 501 | Silviculture | 2+0 |
| For. 502 | Forest Biometry | 1+1 |
| For. 504 | Forest Products – Chemistry and Industries | 1+1 |
| For. 506 | Agroforestry Systems | 1+1 |
| For. 507 | Forest Protection | 1+1 |
| For. 508 | Tree Improvement | 1+1 |
| For. 509 | Plantation Forestry | 2+1 |
| For. 510 | Economics of Agroforestry Systems | 2+1 |
| For. 591 | Masters Seminar | 1+0 |
| For. 601 | Quantitative Silviculture | 2+1 |
| For. 602 | Advances in Tree Improvement | 2+1 |
| For. 604 | Agroforestry Systems and Management | 1+1 |
| For. 606 | Advances in Silviculture | 1+1 |
| For. 691 | Doctoral Seminar-I | 1+0 |
| For. 692 | Doctoral Seminar-II | 1+0 |

***Annexure FOR- II***

| Sr. No. | Name of student | Award Detail |
|---|---|---|
| **1.** | Kajal, 2018A27D | Best Thesis Award-2019 on the occasion of International Conference Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES-2019) at UGC- HRDC Hall, Kumaun university, Nainital ,Uttarakhand, India. (1-2 December, 2019) |
| **2.** | Krishma Nanda, 2019A38D | Oral presentation award during Agmet 2020 |
| **3.** | Krishma Nanda, 2019A38D | Oral presentation award during Agmet 2022 |
| **4.** | Mamta Khaiper, 2020A34D | Participated in Prof. M.J. Narashiman Merit Academic Award Contest and received First Rank at North Zone of India |
| **5.** | Rawale Gauri, 2020A36D | Best Poster Presentation Award during IV$^{th}$ International Conference on Innovative and Current Advances In Agriculture and Allied Sciences held at Shimla (H.P) |
| **6.** | Monika, 2020A35D | 3$^{rd}$ Prize in Poster Presentation during ISPP North Zonal Seminar-2022 on 'Inter-Disciplinary Research Strategies for Climate Resilient Agriculture' |



**Krishma Nanda, 2019A38D Receiving Oral Presentation Award during AGMET 2022**

*Annexure FOR- III*

## LIST OF PUBLICATIONS

| S. No. | Details of the publication | NAAS Rating |
|---|---|---|
| **1.** | Daneva, V., Dhillon, R.S. and Johar, V. (2018). Phenological behaviour and reproductive biology of *Ailanthus excelsa* roxb. *International Journal of Agriculture, Environment and Biotechnology*, 11(2): 397-401. | 4.54 |
| **2.** | Daneva, V., Dhillon, R.S. and Johar, V. (2018). Plus tree selection and progeny testing of superior candidate plus trees (CPTs) of *Ailanthus excelsa. Journal of Pharmacognosy and Phytochemistry*, 7(2): 543-545. | 5.21 |
| **3.** | Sihan, P., Kumar, A., Kumar, R., Kumar, A., Yadav, K. K., and Malik, A. (2018). A study of knowledge level of paddy growers towards paddy straw management techniques in Haryana. *HAU Journal of Research*, 48(1-5):51-54. | - |
| **4.** | Singhdoha, A., Bangarwa, K.S. Johar, V., Hooda, B.K. and Dhillon, R.S. (2018). Assessment of general volume table for *Populus deltoides* in northern Haryana. *Journal of Pharmacognosy and Phytochemistry*, 7(1): 1665-1668. | 5.21 |
| **5.** | Ahlawat, K.S., Daneva, V., Sirohi, C. and Dalal, V. (2019). Production potential of agricultural crops under *eucalyptus teriticornis* based agroforestry system in semi-arid region of Haryana. *International Journal of Current Microbiology and Applied Sciences*, 8(06): 2725-2731. | ** |
| **6.** | Baksh, Hari, Yadav, J.N., Yadav, V.P.S, Yadav, Harendera and Deshwal, A.K. (2019). Profitability and production of marigold flowers in faridabad district of Haryana. *Indian Research Journal of Extention Education*, 19(2&3), :25-29. | 5.22 |
| **7.** | Chavan, S.B. and Dhillon, R.S. (2019). Doubling farmers' income through *populus deltoides* based agroforestry system in northwestern India: an economic analysis. *Current Science*, 117: 219-226. | 6.76 |
| **8.** | Chavan, S.B., Handa, A.K., Dhillon, R.S., Sirohi, Chhavi, and R. Vishnu (2019). Poplar aadhaarit krishivaniki paddhati: dogunee aye ka maarg. *Krishi Pranali Alok*, 5: 67-70. | - |
| **9.** | Devi, S., Kumar, Y., Kumar, R., Daneva, V., Paras and Ram Niwas (2019). Correlation and path coefficient studies of some morphological and seed vigour traits in barley cultivars (*Hordeum vulgare* L.) under two sowing conditions. *International Journal of Current Microbiology and Applied Sciences*, 8(10):2210-2222. | - |
| **10.** | Sihan, P., Kumar, A., Kumar, R., Kumar, A., Yadav, K. K., and Singh, S. (2019). Socio Economic status of paddy growers towards paddy straw management techniques in Haryana. *HAU Journal of Research*, 49 (1-12): 57-64. | - |
| **11.** | Bibyan S., Mandal B.S., Kumar, A., Mandal N. and Kaushik N. (2020). Khejri (*Prosopis cineraria* L.) based agroforestry systems in arid and semi-arid parts of N-W India. *International Journal of Agriculture sciences*, 12(10): 9849-9852. | 4.73 |
| **12.** | Daneva, V., Beniwal, R.S. and Varma, S. (2020). Performance of different locality variable samples of *Tecomella undulata* (Sm.) Seem. under controlled environmental conditions. *The Pharma Innovations*, 9(9):354-357. | 5.23 |
| **13.** | Varma, S., Beniwal, R.S. and Daneva, V. (2020). Effect on morphological characters in *Eucalyptus tereticornis* Sm. At juvenile stage under the influence of moisture stress and mitigation by Brassiono steroids and sucrose. *International Journal of Chemical Studies*, 8(3): 2825-2829. | ** |
| **14.** | Bisht, V., Bangarwa, K.S., *Dhillon, R.S.* and Kumar, D. (2021). Potential of wheat varieties in eucalyptus based agri-silviculture system in semi-arid ecosystem of North India. *Indian Journal of Agroforestry*, 23(1): 28-32. | 5.19 |

| | | |
|---|---|---|
| **15.** | Chavan, S.B., Dhillon ,R.S., Ajit, Rizvi, R.H., Sirohi, C., Handa, A.K., Bharadwaj, K.K., Johar, V., Kumar, T., Singh, P., Daneva, V. and Kumari, S. (2021). Estimating biomass productionand carbon sequestration of poplar-based agroforestry systems in India. *Environment, Development and Sustainability*, 1-29. | 10.08 |
| **16.** | Devi, S., Bhardwaj, K.K., Dahiya, G., Sharma, M. K., Dhillon, R.S. and Devi, P. (2021). Evaluation of Soil micronutrients under different spacing of eucalyptus based agroforestry System. *Indian Journal of Agricultural Sciences* (In Press). | 6.21 |
| **17.** | Devi, S., Bhardwaj, K.K., *Dhillon, R.S.*, Sharma , M.K. and Dahiya, G. (2021). Nutrient dynamics associated with leaf litter fall under agroforestry systems in semi-arid region of Haryana. *Indian Journal of Agroforestry*, 23(1): 13-17. | 5.19 |
| **18.** | K.P. Gadekar, D.L. Godbold, Gauri B. Rawale, (2021). Richness, distribution & diversity of avifauna in the konkan coast of western ghats biodiversity hotspot. *Journal of Biological Innovation*, 10(5) *:* 1376-1395. | - |
| **19.** | Kajal, Beniwal, R.S., Kaushik, N., and Arya, S. (2021). Growth performance of *Ailanthus excelsa* under varying planting geometry. *The Pharma Innovation Journal*, 10(12): 1881-1883. | 5.23 |
| **20.** | Kajal, Kaushik, N., Saini, N., & Johar, V. (2021). Assessment of biomass and carbon sequestration under Mahaneem based agro-forestry systems and sole cropping. *The Pharma Innovation Journal*, 10(8): 709-711. | 5.23 |
| **21.** | Khaiper, M.., Dhanda, S.K., Ahlawat, K. S., Chugh, R.K., Jangra, M. and Verma, P. (2021). Effect of pre-sowing treatments on drupe germination of *Melia azedarach* at nursery stage. *Agricultural Mechanization in Asia, Africa and Latin America* , 52 (03): 4569-4577. | 6.29 |
| **22.** | Kumar, P., Sirohi, C., Dhillon, R.S., Kumari, S., Bhardwaj, K.K., Kumar, M., Chaudhary, K. and Nanda, K. (2021). Effect of bund planted eucalyptus on the yield of agricultural crops and soil properties in semi arid region of Haryana. *Journal of Plant Development Sciences*, 13(3): 105-111. | 4.13 |
| **23.** | Kumar, T., Kumari, B., Arya, S., Yadav, V.K. and Kaushik P. (2021). Estimation of the soil and plant nutrient budget of the traditional Eucalyptus based agro-forestry system in different spacing. *Indian Journal of Traditional Knowledge* 20(1): 253-261. | 6.73 |
| **24.** | Kumar, T., Kumari, B., Arya, S., Yadav, V.K. and Kaushik P. (2021).Litter fall guided soil nutrient return in Eucalyptus based agroforestry system. *Indian Journal of Traditional Knowledge*, 20(2): 544-549. | 6.73 |
| **25.** | Nanda, K., Arya, S., Babu, H.B., Ranawat, J.S., Kumar, A. and Kumar, T. (2021). Assessment of soil properties in Melia dubia based agroforestry system in semi-arid part of Haryana, *The Pharma Innovation Journal*, 10(5): 396-402. | 5.23 |
| **26.** | Narender, Arya, S., Nanda, K. (2021). Potential of *melia dubia* agro-forestry system in soil improvement and environmental sustainability. *Environment Conservation Journal*, 22 (1&2): 65-72. | 5.66 |
| **27.** | Saini, N., Banyal, R., Kumari, B., Kaushik, N., and Kajal. (2021). Seed source variations and pre-germination treatments regulates quality plant production in *prosopis cineraria* (l) druce for restoration of salt- affected landscapes. *Journal of Soil Salinity and Water Quality*, 13(2): 164-178. | 4.94 |
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***Annexure FOR- IV***

## STUDENT PERFORMANCE IN NATIONAL EXAMINATION

| Sr. No. | Name of Examination | Name and admission no. |
|---|---|---|
| **1.** | NET | Kajal (2018A27D)<br>Krishma Nanda (2019A38D)<br>Rawale Gauri B. (2020A36D)<br>Sumit (2022A30D)<br>Kamlesh Verma (2019A3D)<br>Neha Saini (2018A28D)<br>Varun saini (2020A3D)<br>Narender (2022A29D)<br>Bojja Harish Babu (2018A26D) |
| **2** | JRF | Sumit (2022A30D)<br>Kamlesh Verma (2019A3D) |

## STUDENTS PLACEMENT

| Sr. No. | Placement through Examination | Name and admission no. | Place of Posting |
|---|---|---|---|
| **1.** | Assistant Professor or equivalent | Bojja Harish Babu (2018A26D) | FCRI Mulugu (Telangana) |
| | | Tarun Kumar (2013A64D) | NDUAT Faizabad (UP) |
| | | Vinita Bisht (2014A65D) | BAUT Banda (UP) |
| **2** | State Level Examinations or Equivalent | Bhupender (2021A44D) | ADO Haryana Govt. |
| **3.** | Placement through Interviews (at private institute) | Suraj Varma (2015A62D) | Lovely Professional University, Jalandhar |
| | | Vijay Daneva (2016A60D) | Punjabi University, Patiala |
| | | Preeti Singh (2016A589D) | SGT University Gurgaon |
| | | Vishal Johar (2014A65D) | Lovely Professional University, Jalandhar |
| **4.** | Other | Pradyuman Singh (2013A63D), STA | CAFRI Jhansi (UP) |

# Programme - 9



## M.Sc. Genetics & Plant Breeding

## and

## Ph.D. Genetics & Plant Breeding

## About the Department

The Department of Plant Breeding which Chaudhary Charan Singh Haryana Agricultural University inherited from its predecessor Punjab Agricultural University in 1963 is now the biggest department in terms of infrastructure, manpower and annual budget. The department has played an active and decisive role in shaping green revolution and transforming the economy of the Haryana State. The adoption of the crop varieties by the farmers has become quite visible as the State has not only realized self-sufficiency in food grain requirements, but also the 2nd largest contributor to the central food reserves. The department of Genetics and Plant Breeding has undertaken the responsibility of teaching, research and extension education activities in the field of crop improvement for the entire state of Haryana. The main thrust is on the research activities for developing high yielding varieties of different crops in the background of resistant to biotic and abiotic stresses. Therefore, yield and quality improvement with improved resistance for different agro climatic conditions is a major challenge as well as major objective of plant breeders. The department has released/identified 229 crop varieties of different crops and developed location specific production and protection technologies of these crop varieties. Out of which 117 were released at National and 112 at State level.

Besides these, breeding for quality and nutritional value in various crops have been recently strengthened in wake of export potential *vis-à-vis* market needs. Notably among them are low erucic acid and glucosinolates in Brassicas, high protein content in bread wheat, high aroma and low amylose in rice, increased shelf life in pearl millet flour, low anti-nutritional factors in pulses and forages, higher content of important secondary metabolites in medicinal and underutilized plants etc. are the frontier areas of research and the department got significant achievements in these areas. The department of Genetics, College of Basic Sciences & Humanities has been merged with the department of Plant Breeding, College of Agriculture *w.e.f.* 01.04.2010 and the department of Plant Breeding has been renamed as department of Genetics & Plant Breeding *w.e.f.* 01.04.2010.

The department at present has seven different sections, *viz*. Wheat & Barley, Bajra, Pulses, Oilseeds, Cotton, Forages and Medicinal, Aromatic & Potential Crops Section. Significant work was carried out on pearl millet, Pulses, Sorghum and oilseeds crops and the department has received appreciation and honoured as best performing research centers by ICAR in the country. The department has also contributed significantly towards generating human resource commensurate with present day needs of public and private sector by imparting contemporary teaching and reorienting post-graduate research. The active participation of the department in popularization and transfer of technology programmes through frontline field demonstrations, On-farm trials and trainings led to faster adoption of improved varieties by the farmers. The Bajra Section has developed three hybrids at National level during the period 2017-18 to 2021-22. Of these, two are biofortified HHB 299 and HHB 311 and one is marker-assisted selection derived hybrid HHB 67 Improved 2. The Centre takes pride in developing the first high iron & zinc biofortified bajra hybrid HHB 299 having high grain iron content (73 ppm) has been released for National A & B zone irrigated (Zone A -Rajasthan, Haryana, Gujarat, Madhya Pradesh, Punjab & Delhi and Zone B -Maharashtra and Tamil Nadu) of the country in the year 2018. AICRP on MULLaRP, IIPR, Kanpur conferred BEST CENTRE AWARD-2018 to Pulses Section for outstanding contribution in development of high yielding varieties of greengram. Forage & Bajra sections also received Best AICRP center award for the best AICRP center on Sorghum and pearl-millet respectively, during 2021-22. Best ICAR-AICRP on Pearl Millet Centre (2013-18) by ICAR was conferred during 53rd Annual Pearl Millet Workshop held at Agriculture University, Jodhpur (Raj) from March 22-24, 2018. Bajra Section also identified new disease namely Stem Rot of Pearl-millet incited by *Klebsiella aerogenes*.



Students experiments in the field




Scientist from Pulses Section receiving ICAR Best Centre Award (2018) for outstanding contribution in development of High Yielding Varieties of Greengram from Honourable Vice-President of India Sh. M. Muppavarapu Venkaiah Naidu.




Scientists' recognition by Vice-Chancellor, Prof. B. R. Kamboj for identification of new disease namely Stem Rot of Pearl-millet incited by *Klebsiella aerogenes* at global level.




Sorghum team scientists' recognition by Vice-Chancellor, Prof. B.R. Kamboj for receiving ICAR Best Performing Main Centre Award of Sorghum (2021-22).

## Objectives of the Department

- To impart theoretical knowledge of Genetics & Plant Breeding to the students through course work, demonstrations, practical exercise and seminars
- To guide PG research work, demonstrations, practical exercise and seminars
- Development of improved varieties/hybrids of cereals, pulses, oilseeds, cotton, forages, medicinal and under-utilized plants for different farming systems
- Development of cultivars/hybrids for various biotic and abiotic stresses
- Development of varieties/hybrids for quality traits

- Maintenance and characterization of germplasm for released, pre-released varieties.
- Genetic enhancement for heat tolerance, lodging resistance, water and nutrient use efficiency in various food and fodder crops
- Incorporation of multiple disease resistance in high yielding and wider adaptable genotypes
- Precision breeding through use of pre-breeding, systematic parent building and rapid generation advance in off-season nurseries.
- Demonstration of technology at farmer's field
- Seed production of released/recommended varieties

**6.4.1 Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objective and accomplishments:* Year of start: 1970

| | |
|---|---|
| Objectives of initiating M.Sc. programme | • To impart practical knowledge of plant breeding to the students through course work, demonstrations, practical exercise and seminars.<br>• To guide PG research work, demonstrations, practical exercise and seminars.<br>• To develop future plant breeder with a mix of knowledge and skills for development of crop varieties, and with the innovativeness to meet future breeding challenges.<br>• To develop skills in students with breeding objectives like disease resistance, insect resistance etc. |
| Accomplishments of M.Sc. programme | • Till date the Department of Genetics and Plant Breeding has conferred degree to 430 M.Sc. students.<br>• Two students have joined as STA in CCSHAU, Hisar<br>• One student has joined Agriculture officers in national bank.<br>• One student joined as HDO in Govt. of Haryana<br>• One student has joined as forest ranger in MP and one as Section officer in Govt. of Delhi.<br>• One student has joined as Asstt. Professor in JAU, Jodhpur<br>• Two students went abroad for higher studies (Ph.D.) during last five years.<br>• Nineteen students have cleared NET exam conducted by ICAR-ASRB.<br>• Four students were awarded with Ram Dhan Singh Gold medal and one Gold medal in M.Sc. (Ag.) Genetics and Plant Breeding, S.K.R.A.U., Bikaner, Rajasthan for highest OGPA |
| Objectives of Ph.D. programme | • To impart theoretical knowledge of plant breeding to the students through initiatingcourse work, demonstrations, practical exercise and seminars.<br>• To guide PG research work, demonstrations, practical exercise and seminars.<br>• To develop skills in students for best utilization of plant genetic resources in breeding of different crops.<br>• To impart knowledge to students with ability to identify research imperatives in plant breeding, design and execute plant breeding research projects aimed at solving the problems within a changing agricultural environment.<br>• Maintenance and characterization of germplasm<br>• Development of cultivars/hybrids for various biotic and abiotic stresses.<br>• Development of appropriate crop production and protection technology for increasing productivity.<br>• Development of improved varieties/hybrids for different farming systems.<br>• Development of varieties/hybrids for quality traits |

| | |
|---|---|
| | • On-farm testing and transfer of technology.<br>• Nucleus and breeder seed production. |
| Accomplishments of Ph. D programme | • The Department of Genetics and Plant Breeding has conferred degree to 235 Ph.D. students till now.<br>• Two students were selected in ARS as Assistant Scientist.<br>• Eleven students have joined as Assistant Scientist in CCSHAU, Hisar and other universities.<br>• One joined as SCO, Govt. of Chattisgarh and one selected as ARO, Govt. of Rajashtan.<br>• Two students have joined NFL and two students have joined VNR, Raipur.<br>• One Student has joined Agriculture officers in national bank.<br>• One student has joined as STA in CCS HAU, Hisar, one joined as HDO and one joined as PGT (Biology) in Govt. of Haryana<br>• Two students have joined in IFFCO and FCI.<br>• Fifty-one students have cleared NET exam conducted by ICAR-ASRB.<br>• Four student got ICAR/CSIR -SRF. (*Annexure GPB-I*). |

Mention the impact of monitoring on the outcome of the College with reference to students' excelling in academics, research and extracurricular activities.

| **Specialization** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Genetics & Plant Breeding | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | **Total** | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | **Total** |
| **M.Sc.** | 16 | 16 | 16 | 16 | 16 | 80 | 14 | 13 | 17 | 17 | - | **61** |
| **Ph.D.** | **13** | **13** | **13** | **13** | **13** | **65** | **8** | **8** | **11** | **6** | **3** | **36** |

Y1=2018-19… Y5=2022-23(till date)

***6.4.2*** **Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| **S. No.** | **Sanctioned faculty** | **In place*** | **Vacant** | **Faculty recommended by the ICAR/UGC** |
|---|---|---|---|---|
| **1** | **Prof./Equivalent (2)** | 2 | - | 1 |
| **2** | **Associate Prof./Equivalent (18)** | - | 18 | 1 |
| **3** | **Assistant Prof./Equivalent (62)** | 40 | 22 | 3 |

*The number of faculty under Professors and Associate Professors also includes personal promotees under CAS.

**Note:** All the Faculty is assigned the responsibilities for the multiple programmes

***6.4.3*** **Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Sanctioned Technical and supporting staff | Technical and supporting staff in place | Vacant position | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1. | Office staff | | | |
| | AO/Superintendent | | 1 | |
| | Assistant | 4 | 3 | |
| | SSS | 1 | | |
| | Clerk | 2 | 1 | 1 |
| | PA/Steno/JSS | | 1 | |
| | Messenger | | 1 | |
| | Peon | | | |
| | Sweeper | | 2 | |
| 2. | Lab staff | 8 | 1 | 2<br>1<br>2 |
| | ➢ Lab Assistant | 10 | 2 | 5 |
| | ➢ Lab Attendant | 1 | - | 1 |
| | ➢ SLA | 4 | 1 | |
| | ➢ Any other (Store Keeper) | 2 | | |
| 3. | Field staff | | | |
| | ➢ Beldar | 17 | 21 | 1<br>1 |
| | ➢ Farm and field worker (specify) Plant Observer | 3 AI + 13 TA | 2 | 4 |
| | ➢ Any other (Agriculture Inspector) | 4 | | 1 |
| 4. | Daftri | 1 | | |
| 5. | Driver | 1 | | |
| 6. | Liftman | | | |
| 7. | Computer operator | 1 | | |
| 8. | Technician/vehicle attendant | 1 | 2 | |
| 9. | Any other (specify) STA | 6+2 | - | 3 |

**Note:** All the technical and supporting staff is assigned the responsibilities for the multiple programmes

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm*

*facilities,workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

## List of classroom and functional laboratories

| | |
|---|---|
| Name of College/Department | Genetics and Plant Breeding |
| No. of lecture rooms with sitting capacity | Two lecture rooms (one with 50 seating capacity & one with 70 seating capacity) and one committee room of 30 seating capacity |
| No. of lecture rooms with LCD | 01 |
| No. of smart class-rooms | 02 (1 lecture room and one committee room) |
| No. of labs under Dean's office with specialized purpose | 17 ( Molecular Breeding, PG lab, UG lab, two Bajra quality labs, Two chemistry labs for forages quality analysis, two cotton biochemistry labs, two oilseeds biochemistry labs, two wheat quality lab, one pulse lab and three MAP labs ) |
| Farm facilities | 114 ha |
| Workshops | - |
| Any other instructional units being utilized for the award of the Degree Programme | - |

## List of major equipments at present available in the Department
## (Equipments costing more than Rs. 50,000)

| Sr. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Qubit 2.0 Fluorometer (Invitrogen) | Bajra Quality Lab |
| 2. | Gradient Thermal Cycler (PCR) | |
| 3. | Water Purification system | |
| 4. | Spectrophotometer, Evolution 201 | |
| 5. | Plant Canopy Analysis System | |
| 6. | Maxi Gel Vertical Unit | |
| 7. | Thermal Cycler | |
| 8. | Gel Doc System | |
| 9. | Deep Freezer, Cap 200 Ltr | |
| 10. | Nucleic Acid Sequencing Vertical Electrophoresis system | |
| 11. | Agrose gel elctrophoresis with Power Supply | |
| 12. | Mini protein tetra | Lab no. 75 and 76 |
| 13. | Autoclave vertical | |
| 14. | Refrigerated centrifuge | |
| 15. | BOD incubator | |
| 16. | Table top steam sterilizer | |
| 17. | Deep fridge | |
| 18. | Electronic balance | |
| 19. | Plant growth chamber | |
| 20. | Hot air oven | |

| | | |
|---|---|---|
| 21. | Deep Freezer | |
| 22. | Microscope (compound) | |
| 23. | Digital Balance | |
| 24. | Dry bath | |
| 25. | Nano -Spectrophotometer | |
| 26. | Ice flaker | |
| 27. | Water purification | |
| 28. | Spectrophotometer | |
| 29. | Gel electrophoresis | |
| 30. | RT-PCR | |
| 31. | Centrifuge | |
| 32. | PCR | |
| 33. | Gel documentation | |
| 34. | Lypholizer | |
| 35. | Bioanalyser | |
| 36. | Trinocular microscope | |
| 37. | Chlorophyll meter | |
| 38. | NDVI | |
| 39. | Infrared thermometer | |
| 40. | Spectrophotometer UV Visible | Cotton Section Lab No. 153 |
| 41. | Refrigerated Centrifuge FACI 9906 | |
| 42. | Millipore water purification system | |
| 43. | Solvent Extraction System | |
| 44. | Portable Ethylene Gas Analyze | |
| 45. | Vacuum Concentrator chiller | |
| 46. | UPLC | |
| 47. | Electrophoresis System 2D | |
| 48. | Chiller | |
| 49. | Linear Shaker | |
| 50. | Leaf Area Meter | |
| 51. | Water Potential Meter/Psychrometer | |
| 52. | Deep fridger (-20) | Cotton Section Lab No. 152 |
| 53. | PH meter | |
| 54. | Hot Air oven | |
| 55. | Water Bath | |
| 56. | Water Bath | |
| 57. | Electronic Balance | |
| 58. | UV-VIS | |
| 59. | Nikon Digital Camera Coolpix P1000 with Standard Accessories) | Pulses section |
| 60. | Computer HP 400 G4AIOI58500T Win 10 Pro 81320” TW - (Four) | Office |
| 61. | Printer HP Laser Jet Pro MFP M 128 - (Four) | |

| | | |
|---|---|---|
| 62. | Field King 8x8 Trailed Offset Disc HarrowWith Tyre (1) | Farm |
| 63. | Tractor MF 245 DI | |
| 64. | PCR machine | Pulses Lab |
| 65. | Deep freezer | |
| 66. | Digital Analytical Balance | Oil Seed Lab |
| 67. | HorizontalElectrophoresis Unit | |
| 68. | Computer with accessories | |
| 69. | Harrow | |
| 70. | Computer (2) | |
| 71. | Air Conditioner (2) | |
| 72. | Leaf Area Meter | |
| 73. | Electronic Balance (2) | |
| 74. | Hand Held Crop Sensor (NDVI) | |
| 75. | Deep Freezer (-80$^0$C) | |
| 76. | Deep Freezer (-20$^0$C) | |
| 77. | Refrigerator (2) | |
| 78. | PCR Machine | |
| 79. | Camera | |
| 80. | Water Purification System | |
| 81. | Tractor (John Deere) | |
| 82. | LCD Infrared Optical | |
| 83. | Display Panel Touch Screen | |
| 84. | Rotavator | |
| 85. | Plant Growth Chamber | |
| 86. | Gas Chramatography Unit | |
| 87. | pH cum EC Meter | |
| 88. | Gel Doc System | |
| 89. | Automated Liquid Handling Machine | |
| 90. | Automated Kjeldahl distillation with digestion unit | MAP Quality Lab |
| 91. | Refrigerator | |
| 92. | Deep Freezer | |
| 93. | Laboratory Grinding Mill | |
| 94. | Analytical Balance | |
| 95. | Rotatory Evaporator | |
| 96. | Automated Solvent Extraction System | |
| 97. | Recirculating Chiller | |
| 98. | Automatic Titrator | |
| 99. | Microplate Reader | |
| 100. | Microplate Thermomixer/Shaker | |
| 101. | Test tube rotator | |
| 102. | Vacuum Pump | |
| 103. | Automated Flash Chromatography (01) | |
| 104. | Fume Hoods (02) | |

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|---|---|---|
| 105. | Sub cell (model – 192 cell system) | Forage Biotechnology Lab |
| 106. | T-100 thermal cycler | |
| 107. | Gel Documentations System | |
| 108. | Automatic Kjeldahl with Accessory | Forage Quality Lab |
| 109. | Automatic Fiber Analyzer | |
| 110. | Fat Extractor | |
| 111. | Automatic distillation unit | |
| 112. | Spectrophotometer | |
| 113. | pH-meter (quantity 2) | |
| 114. | Automatic Universal Oven 500liter | |
| 115. | Automatic Universal Oven 1000liter | |
| 116. | Electronic Balance | |
| 117. | Water bath | |
| 118. | Magnetic stirrer with hot plate | |
| 119. | Autoclave | |
| 120. | High speed centrifuge with temperature control | |
| 121. | Refrigerator | |

**Mention theory and practical batches for PG Programmes**

Average number of batches with average number of students per batch for theory and practical classes is given below:

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc./M.Tech. | Ph.D. | M.Sc. | Ph.D. |
| 2018-19 | one | one | one | one |
| 2019-20 | one | one | one | one |
| 2020-21 | one | one | one | one |
| 2021-22 | one | one | one | one |
| 2022-23 | one | one | one | one |

**6.4.5. Conduct of Practical and Hands-On-Training:** *It is important to have a sound grasp of the theory that under lies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*





*Students carrying out molecular studies in the laboratory*

| Degree/ Course No./ Credit Hrs. | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|
| M.Sc. | | |
| GP501 (2+1) | • Laboratory exercises on probability and chi-square;<br>• Demonstration of genetic principles using laboratory organisms; Chromosome mapping using three point test cross;<br>• Pedigree analysis in humans, Problems on HWE, Tetrad analysis;<br>• Visit to experimental farm, glass house and learning some practical considerations. | • Helping the students to develop their analytical, quantitative and problem solving skills from classical genetics. |
| GP502 (2+1) | • Floral biology in self and cross pollinated species, selfing and crossing techniques.<br>• Selection methods in segregating populations and evaluation of breeding material. | • To impart practical skills about plant breeding objectives and brreding methods for crop improvenment. |

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| | • Analysis of variance (ANOVA). Estimation of heritability and genetic advance,<br>• Maintenance of experimental records. Learning techniques in hybrid seed production using male-sterility in field crops. | |
| GP503 (2+1) | • Capacity building as learning the cytogenetics laboratory, various chemicals to be used for fixation, dehydration, embedding, staining, cleaning etc.<br>• Microscopy: various types of microscopes, Observing sections of specimen using Electron microscope; preparing specimen for observation - Fixative preparation and fixing specimen for light microscopy<br>• Studies in cereals-Studies on the course of mitosis in wheat, pearl millet - Studies on the course of mitosis in onion and Aloe vera - Studies on the course of meiosis in cereals, millets and pulses – Studies on the course of meiosis in oil seeds and forage crops– Using micrometers and studying the pollen grain size in various crops. | • To impart working of microscopes, to get knowledge about different types of laboratory microscopes and cytogenetic aspects of crop evolution. |
| GP504 (2+1) | • Exercises on factors affecting gene frequencies;<br>• Estimation of average affect of gene substitution and<br>• Breeding value; Exercises on in breeding and linkage disequilibrium. | • To impart knowledge about biometrical tools of population genetics. |
| GP505 (2+1) | • Problems on multiple factors inheritance - Partitioning of variance - Estimation of heritability and genetic advance - Covariance analysis - Metroglyph analysis - D2 analysis<br>• Grouping of clusters and interpretation - Cluster analysis - Construction of cluster diagrams and dendrograms - interpretation Correlation analysis - Path analysis.<br>• Statistical part-Line x tester analysis: interpretation of results - Estimation of heterosis: standard, mid-parental and better-parental heterosis.<br>• Estimation of inbreeding depression.<br>• Generation mean analysis: Analytical part and Interpretation, Estimation of different types of gene actions.<br>• Methods and steps to select the best model - Selection systems - Biplots and mapping genotypes. | • Helping the students to develop computational skills regarding component of variance and mating design etc. of plant breeding. |
| GP506 (2+1) | • Learning the precautions on handling of mutagens; Dosimetry .<br>• Studies of different mutagenic agents: Physical mutagens - Studies of different mutagenic agents: Chemical mutagens - Learning on Radioactivity – production of source and isotopes at BRIT, Trombay - Learning about gamma chamber; Radiation hazards-Monitoring–safety regulations and safe transportation of radioisotopes<br>• Visit to radio isotope laboratory<br>• Mutation breeding in forage crops and vegetative | • To impart practical knowledge of mutagenesis and various methods for detection of mutagens. |

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| | propagated crops.<br>• Procedure for detection of mutations for polygenic traits in M2 and M3 generations. | |
| GP507 (2+1) | • Male sterile line characterization in millets using morphological descriptors; restorer line identification and diversification of male sterile sources.<br>• Male sterile line creation in dicots comprising oilseeds, pulses and cotton; problems increation of CGMS system; ways of overcoming them- Male sterile line creation, diversification and restoration in forage crops; understanding the difficulties in breeding apomicts | To provide understanding of heterosis, mechanism and its exploiatation for yield improvement. |
| GP510 (2+1) | • Requirements for plant tissue culture laboratory- Techniques in plant tissue culture – Media components and media preparation -Aseptic manipulation of various explants; observations on the contaminants occurring in media – interpretations.<br>• Inoculation of explants; Callus induction and plant regeneration –Plan regeneration; standardizing the protocols for regeneration; Hardening of regenerated plants; establishing a screen house and hardening procedures.<br>• Visit to commercial micropropagation unit.<br>• Transformation using Agrobacterium strains, GUS assay in transformed cells / tissues.<br>• DNA isolation, DNA purity and quantification tests, gel electrophoresis of proteins and isozymes, PCR-based DNA markers, gel scoring and data analysis for tagging and phylogenetic relationship, construction of genetic linkage maps using computer software. | • To impart practical skills to use innovative approaches of molecular studies in plant breeding. |
| GP511 (2+1) | • Phenotypic screening techniques for sucking pests and chewing pests – traits to be observed at plant and insect level - Phenotypic screening techniques for nematodes and borers; ways of combating them; breeding strategies - Weeds – ecological, environmental impacts on the crops; breeding for herbicide resistance - Evaluating the available populations like RIL, NIL etc. for pest resistance; use of standard MAS procedures -<br>• Phenotypic screening methods for diseases caused by fungi and bacteria; symptoms and data recording; use of MAS procedures<br>• Screening varieties of major crops for acidity and alkalinity; their effects and breeding strategies-<br>• Understanding the climatological parameters and predisposal of biotic and abiotic stress factors;ways of combating them | • To appraise various abiotic and biotic stresses influencing crop yield their mechanism and genetics. |
| GP512 (2+1) | • Floral biology – emasculation - pollination techniques; Study of range of variation for yield and yield components – study of segregating populations - evaluation - Trait based screening for stress resistance in crops of importance– Use of descriptors for cataloguing<br>• Germplasm maintenance; learning on the Standard Evaluation System (SES) and | • To provide insight into advances in improvement of cereals and forage crops. |

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| | descriptors; use of softwares for database management and retrieval.Practical learning on the cultivation of fodder crop species on sewage water; analysing them for yield components and palatability - Laboratory analysis of forage crops for crude protein, digestibility percent and other quality attributes; Visit to animal feed producing factories learning the practice of value addition; visiting the animal husbandry unit and learning the animal experiments related with palatability and<br>• Digestibility of fodder. | |
| GP513 (2+1) | • Use of descriptors for cataloguing – Floral biology– emasculation pollination techniques; Study of range of variation for yield and yield components - study of segregating populations in Redgram, Greengram, Blackgram and other pulse crops.<br>• Attempting crosses between Blackgram and Greengram. Use of descriptors for cataloguing – Floral biology - emasculation – pollination techniques of oilseed crops like Sesame,Groundnut, Sunflower and Castor, Cotton:<br>• Use of descriptors for cataloguing – the germplasm of cotton for yield, quality and resistance parameters – learning the procedures on development of Bt cotton<br>• Visit to Cotton Technology Laboratory and Spinning Mills learning on cotton yarn production, its quality evaluation and uses. | • To provide insight into advances in improvement of legumes, oiulseeds and fibre crops. |
| GP514 (2+1) | • Grain quality evaluation in rice; correlating ageing and quality improvement in rice-Quality analysis in millets; estimation of antinutritional factors like tannins in different varieties/ hybrids; a comparison.<br>• Quality parameters evaluation in wheat; Quality parameters evaluation in pulses - Quality parameters evaluation in oilseeds-Value addition in crop plants; Post harvest processing of major field crops<br>• Quality improvement in crops through tissue culture techniques Evaluating the available populations like RIL, NIL etc. for quality Improvement using MAS procedures. | • To get insight into recent advances in improvement of quality traits in different crops. |
| GP515 (2+1) | • Identification of suitable areas/locations for seed production; Ear-to-row method and nucleus seed production-main characteristics of released and notified varieties, hybrids and parental lines;<br>• Identification of import ant weeds/objectionable weeds; determination of isolation distance and planting ratios in different crops;<br>• Seed production techniques of varieties in different crops; hybrid seed production technology of important crops. | • Imparting the students about production of nucleus and breeder seeds and procedure of releasing a variety. |
| GP516 (2+1) | • Plant exploration and collection; Techniques of study about germplasm coarse and finegrid surveys.<br>• Identification of wild registration relatives of | • To get complete knowledge about cataloguing and preservation of specimens, PGRs, collection, quarantine |

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|---|---|---|
| | crop plants; Example of collection, Sampling techniques of plant materials,<br>• visiting ports, airports to study the quarantine regulations.<br>• Techniques for the detection of insects, mites, nematodes, bacteria, weeds, pathogens and viruses on seed and planting materials and salvaging,<br>• Use of visual, qualitative, quantitative, microscopic, molecular and plant growth related techniques (controlled green houses/ growth chambers, etc), Detection of genetically engineered plants.<br>• Study of post-entry quarantine operation, seed treatment and other prophylactic treatments. | and exchange of germplasm. |
| GP517 (2+1) | • Basics of computer and operating systems-identification of useful germplasm;<br>• Evaluation of crop germplasm, Statistical techniques in management of germplasm.<br>• Estimation of sample size for storage and viability testing.<br>• Evaluation procedure and experimental protocols (designs and their analysis), Assessment of genetic diversity;<br>• Techniques of Characterization of germplasm,<br>• Molecular markers and their use in characterization. | • To impart the students knowledge for germplasm database management. |
| GP518 (2+1) | • Description of Botanical features, Cataloguing of cultivars, and varieties and species in medicinal aromatic crops, Floral Biology, Selfing and aromatic crops.<br>• crossing, Evaluation of hybrid progenies, Induction economic mutants, High alkaloid and high biotic and mutants, evolution of mutants through environmental. Physical and chemical mutagens,<br>• Introduction of polyploidy, screening of plants for biotic and abiotic stress and environmental pollution, in-vitro breeding in medicinal and aromatic crops. | • To impart knowledge about practices of breeding in plantation crops and spices. |
| Ph.D. | | |
| GP603 (2+1) | • Working out efficiency of selection methods in different population and interpretation<br>• Biparental mating–use of softwares in analysis and result interpretation – Triallel analysis– use of softwares in analysis and result interpretation-<br>• Quadriallel analysis – use of softwares in analysis and result interpretation<br>• Triple Test Cross (TTC) use of softwares in analysis and result interpretation - Advanced biometrical models for combining ability analysis - Selection of stable genotypes using stability analysis;<br>• Models in stability analysis Additive Main Effect and Multiplicative Interaction (AMMI) model - Principal Component Analysis model - Additive and multiplicative model – Shifted multiplicative model - Analysis and selection of genotypes – Methods and steps to select the best model- | • To impart knowledge of computation methods for mating design and component analysis in plant breeding. |

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| | • Selection systems - Biplots and mapping genotypes.<br>• Construction of linkage maps and QTL mapping – Strategies for QTL mapping; statistical methods in QTL mapping; Phenotype and Marker linkage studies. | |
| GP604 (2+1) | • Chromosome analysis in major field crops - Fluorescence in situ hybridization -<br>• Comparative genomic hybridization – Comparative analysis of plant genomes using molecular markers – Genetic map construction using molecular markers – Mapping major<br>• Genes using molecular markers–QTL mapping in plants – Comparison across mapping populations– Understanding the need genetic algorithms in QTL mapping<br>• Plant Genome Databases–Computational tools to explore plant genome databases –<br>• Comparative genomics – Comparison of genome sequences using tools pf bioinformatics-<br>• Advanced genomic technologies: TILLING and Eco-TILLING – DNA Array Technology - Linking genome sequences to phenotypes:<br>• Tools of transcriptomics, proteomics and metabolomics. | • To impart practical skills in advance molecular techniques in genome mapping. |
| GP608 (2+1) | • Demonstration of plant responses to stresses through recent techniques, water use efficiency, transpiration efficiency,<br>• Screening techniques under stress conditions such as electrolyte leakage, TTC, chlorophyll fluorescence, canopy temperature depression, stomatal conductance, chlorophyll estimation, heat/drought/salt shock proteins. | • To impart practical knowledge towards physiological efficiency, enhancement and biofortification of crops in plant breeding. |
| GP610 (1+1) | • In situ conservation of wild species –case studies at national and international levels, Ex situ techniques for active and long-term conservation of collections,<br>• Preparation and handling of materials, packaging, documentation; design of cold storage modules, conservation protocols for recalcitrant and orthodox seeds,<br>• Cytological studies for assessing genetic stability, *in vitro* cultures-embryo, cell/ suspension cultures, pollen cultures,<br>• Study of cryotank facility and vitrification techniques,visit to NBPGR/NBAGR | • To impart knowledge on methods of germplasm conservation. |
| GP611 (2+1) | • Preparation and sterilization of liquid and agar bacterial nutrient media;<br>• Assessment of generation time in the log-phage bacterial cultures;<br>• Handling of microorganisms for genetic experiments; Isolation of rhizobia from nodules; Gram staining of rhizobial cells;<br>• Examination of polyhydroxy butyrate (PHB) production in rhizobia; Demonstration of N2-fixing nodules/bacterial inoculation in the legume- Rhizobium symbiotic system;<br>• Analysis and isolation of plasmid DNA; Curing | • To apprise the students about molecular processes at DNA and RNA level in different microorganisms. |

| | | |
|---|---|---|
| | of plasmids. | |
| GP612 (2+1) | • Description of crops and cultivars, Cataloguing ofspecies and cultivars, floral biology,<br>• selfing and crossing, evaluation of hybrid progenies, Induction of economic, colour mutants, Increased alkaloid content in medicinal crops, high essential oil content in aromatic plants,<br>• Screening of plants for biotic and abiotic stresses and environmental pollution,<br>• *In-vitro* breeding in flower crops, medicinal and aromatic crops. | • To update knowledge about the recent trends in the breeding field of medicinal and aromatic plants. |

**6.4.6 Supervision of students in PG/PhD Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programme offered by the Department**

| Year | No. of students on roll | No. of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 37 | 48 | 0.77:1 |
| 2019-20 | 33 | 44 | 0.75:1 |
| 2020-21 | 36 | 36 | 1:1 |
| 2021-22 | 33 | 34 | 0.97:1 |
| 2022-23 | 35 | 42 | 0.83:1 |

**Details of Ph.D.programme offered by the Department**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 43 | 48 | 0.89:1 |
| 2019-20 | 47 | 44 | 1.06:1 |
| 2020-21 | 51 | 36 | 1.41:1 |
| 2021-22 | 48 | 34 | 1.41:1 |
| 2022-23 | 52 | 42 | 1.23:1 |

**Note:** Details of course offered by the Department is given in ***Annexure GPB-III***

**6.4.8 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system of annual self appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Director for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis of their results, feedback from the students. The students feedback were analysed by the HOD and the consolidated report about the drawbacks/ suggestions then communicated to the subject teachers for improvement in future.

**6.4.9 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 16 | 18 | 16 | 16 | 17 | 25.0 | 0.0 | 0.0 | 0.0 | 5.8 |
| Ph.D. | 8 | 12 | 11 | 13 | 12 | 12.5 | 0.0 | 27.2 | 0.0 | 0.0 |

**6.4.10 ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculties are using ICT tools for teaching learning purposes to create smart learning environment. Also during the COVID pandemic the faculty taught the courses online as well as hybrid mode (offline-online together) using the smart class room facility.

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| M.Sc. | 19 | 19 | 16 | LCD, Smart Board |
| Ph.D. | 14 | 14 | 6 | LCD, Smart Board |

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate

I, the Dean Surender K. Pahuja hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure GPB-I*

| Year | Name of Students | Admission No. | Placement Record |
|---|---|---|---|
| **M.Sc.** | | | |
| 2019-20 | RaoPankaj | 2013A57M | STA, CCSHAU, Hisar |
| | Puneet Kumar | 2015A70M | STA, CCSHAU, Hisar |
| 2020-21 | Seema Kamboj | 2018A60M | HDO, Govt. of Haryana |
| 2022-23 | Ankit Kumar | 2014A61M | Assistant Scientist, CCSHAU, Hisar |
| | Harsh Deep | 2016A56M | Assistant Scientist, CCSHAU, Hisar |
| **Ph.D.** | | | |
| 2018-19 | Sandeep | 2008BS17D | Assistant Scientist, CCSHAU, Hisar |
| | Divya | 2012A37D | Assistant Scientist, CCSHAU, Hisar |
| | Ashok Kr. Dehinwal | 2013A31D | Assistant Scientist, CCSHAU, Hisar |
| | Sunayana | 2014A31D | Assistant Scientist, PAU, Ludhiana |
| | Neeraj Kumar | 2015A33D | Assistant Scientist, CCSHAU, Hisar |
| 2019-20 | Kuldeep Jangid | 2015A31D | STA, CCSHAU, Hisar |
| | Sonika | 2012A35D | Assistant Professor, CCSHAU, Hisar |
| | Vijay Kumar S | 2015A28D | NFL |
| | Kavita | 2017A30D | PGT, Biology, Govt. of Haryana |
| | HariKesh | 2014A40D | VNR, Raipur |
| 2020-21 | MohitChaudhary | 2014A38D | VNR, Raipur |
| | Satbeer Singh | 2012A33D | Assistant Scientist, IHBT, Palampur |
| | Vikesh Tanwar | 2019A50D | HDO, Govt. of Haryana |
| | Mohit Dhukia | 2020A42D | FO, IFFCO |
| | Sachin Shehrawat | 2020A47D | FCI |
| 2021-22 | Supriya Yadav | 2020A48D | AFO, Bank |
| | Versha | 2017A29D | Assistant Professor, Gurgaon |
| | Sagar | 2018A33D | Assistant Professor, SGT, Gurgaon |
| | Atman Poonia | 2017A27D | Assistant Scientist, CCSHAU, Hisar |
| | Ashish Jain | 2008A33D | Assistant Scientist, CCSHAU, Hisar |
| 2022-23 | Preeti sharma | 2011A20D | Assistant Scientist, CCSHAU, Hisar |
| | Pawan Kumar | 2016A28D | Assistant Scientist, CCSHAU, Hisar |
| | Vijeta Gupta | 2018A36D | Assistant Scientist, CCSHAU, Hisar |
| | Kiran | 2019A46D | Assistant Scientist, CCSHAU, Hisar |
| | Harsh Chaurasia | 2020A40D | Assistant Scientist, CCSHAU, Hisar |

## AWARD

| Student's Awards (Academics) | | | |
|---|---|---|---|
| **2017-18** | **2018-19** | **2019-20** | **2020-21** |
| Vijeta Gupta<br>2016A52M<br>Ram Dhan Singh Gold Medal | Sonu<br>2016A53M<br>Ram Dhan Singh Gold Medal | Bhasker Reddy S<br>2017A77M<br>Ram Dhan Singh Gold Medal | Harsh Chaurasia<br>2018A51M<br>Ram Dhan Singh Gold Medal<br>Navreet Kaur Rai<br>2020A43D<br>Gold medal in M.Sc. (Ag.) Genetics and Plant Breeding, S.K.R.A.U., Bikaner, Rajasthan for highest OGPA |

## NET Qualified Students

| 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | Total |
|---|---|---|---|---|---|
| 20 | 15 | 8 | 7 | 20 | 70 |
| Names (Adm. No.) | Names (Adm. No.) | Names (Adm. No.) | Names (Adm. No.) | Names (Adm. No.) | |
| Jagadale V. Rajaram 2013A36D | Pooja 2014A32D | Manjeet 2017A24D | Sagar 2018A33D | Amit 2019A71M | |
| Moh. Shafiqurrahaman 2013A39D | Kavita Rani 2014A37D | Suresh 2017A25D | Ganesh Kumar Koli 2019A45D | Kavita 2019A73M | |
| Reena Rani 2014A30D | Mohit Chaudhary 2014A38D | Atman Poonia 2017A27D | Kiran 2019A46D | Lalit Kumar 2019A74M | |
| Sunayana 2014A31D | Bharattaindu Jain 2015A30D | Naveen Sihag 2018A32D | Raju Ram Choudhary 2019A48D | Naresh 2019A76M | |
| Mohit Chaudhary 2014A38D | Kuldeep Jangid 2015A31D | Sonu 2018A34D | Samita 2019A49D | Rajat Sharma 2019A80M | |
| Banker Ashish Haridas 2014A39D | Mahanthesha M 2016A25D | Suman Devi 2018A35D | Harsh Chaurasia 2018A51M | Rukoo Chawla 2019A81M | |
| Vijay Kumar S 2015A28D | Arpit Gaur 2016A27D | Vijeta Gupta 2018A36D | SachinShehrawat 2018A59M | Vinay Kumar 2019A83M | |
| HirdayeshAnuragi 2015A29D | Susmita Dey 2016A31D | Raju Ram Choudhary 2017A78M | | Mahanthesha M 2016A25D | |
| Bharattaindu Jain 2015A30D | Dharmender Kumar Janghel 2016A33D | | | Atul Loyal 2019A42D | |
| Kuldeep Jangid 2015A31D | Suresh 2017A25D | | | Deepak Kaushik 2019A43D | |
| Neeraj Kumar 2015A33D | Vijeta Gupta 2016A52M | | | Deepak Kumar 2019A44D | |
| Mahanthesha M 2016A25D | Suman Devi 2016A54M | | | Ganesh Kumar Koli 2019A45D | |
| Arpit Gaur 2016A27D | Sagar 2016A55M | | | Kiran 2019A46D | |
| Pawan Kumar 2016A28D | Harsh Deep 2016A56M | | | Raju Ram Choudhary 2019A48D | |
| A Lokeshwar Reddy 2016A32D | Vikash 2016A57M | | | Samita 2019A49D | |
| Dharmender Kumar Janghel 2016A33D | | | | Rajvinder Singh 2019A85D | |
| Suresh 2015A64M | | | | Eashan Mukherjee 2020A39D | |
| Ashish 2015A67M | | | | Harsh Chaurasia 2020A40D | |
| Atman Poonia 2015A71M | | | | Mohit Dhukia 2020A42D | |
| MeenakshiRathi 2015A72M | | | | Om Prakash Yadav | |

*Annexure GPB-II*

## LIST OF PUBLICATIONS

| Sr. No. | Details of research papers | NAAS rating |
|---|---|---|
| **1.** | A.H. Bankar, Sangwan, O., Nirania, K.S., Kumar, Ankit and Sunayana (2018). Manifestation of economic heterosis for seed cotton yield and its component traits in American cotton (*Gossypium hirsutum* L.). *Frontiers in Crop Improvement*. 6(1): 976-981. | 4.67 |
| **2.** | Bainsla, N. K., Yadav, R., Sharma, R. K. , Sharma, A., Gaikwad, K. B., Kumar, A., Singh, V., Vyas, P. and Sharma, A. (2018). Mechanistic understanding of lodging in spring wheat (*Triticum aestivum*): An Indian perspective. *Indian Journal of Agricultural Sciences* 88 (10): 1483–95 | 6.37 |
| **3.** | Chhavikant, Nirania K.S., Pundir S.R. and Poonia A (2018). Combining Ability Evaluation of Intra *Hirsutm* Crosses for Yield and Its Components in Cotton, *Journal of Pharmacognosy and Phytochemistry*; 7(6): 407 | - |
| **4.** | D. Phougat, I.S. Panwar, M.S. Punia and S.K. Sethi (2018). Microsatellite markers based characterization in advance breeding lines and cultivars of bread wheat. *Journal of Environmental Biology*, 39(3) 339-346. | 5.57 |
| **5.** | Devi, S., Satpal, Talwar, H.S., Ramprakash and Goyal V. (2018). Performance of sorghum [*Sorghum bicolor* (L.) Moench] under salt stress. *Forage Research*, 44 (3): 209-212. | 4.84 |
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## LIST OF STUDENTS' PUBLICATIONS

| Sr. No. | Details of Research paper | NAAS rating |
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| **2.** | Berwal, M.K., Goyal, P. and Chugh, L.K. (2018). Exploitation of pearl millet germplasm for identification of low grain phytate containing parental line. *Journal of Agriculture and Ecology*, 6: 39-46. | 4.36 |
| **3.** | Gangopadhyay, S., Panwar, I. S. and Singh, V. (2018). Estimates of genetic effects of yield and related traits through generation mean analysis in bread wheat. *International Journal of Pure and Applied Bioscience*, 6 (2): 1627-1631. | - |
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| **5.** | Kaushik, J., Dev Vart, Kumar, M., Kumar, A. and Kumar, R. (2018). Phenotypic diversity in Pearl Millet [*Pennisetum glaucum* (L.) R. Br.] germplasm lines. *International Journal of Chemical Studies*, 6(5): 1169-1173. | - |
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| **12.** | Pinki and Singh V. (2018). Correlation and path coefficient analysis of protein content and yield related traits in RILS population of bread wheat. *Environment and Ecology*, 36(1A)200-208. | 5.25 |
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| **84.** | Janghel, D.K., Kumar, K., Kumar, M. and Chhabra, A.K. (2021). Genetic diversity in chickpea through agro-morphological and ISSR molecular markers. *Legume Research*, 44(7):751-758. | 6.67 |
| **85.** | Kiran, Ganesh Kumar Koli, Neeru, Satender Yadav and Anu.(2021). Heat stress: Effect and tolerance mechanism in major cereal crop. *The Pharma Innovation Journal*, 10(4): 909-917 | 5.23 |
| **86.** | Kiran, YPS Solanki, Vikram Singh, VS Mor, Susmita Dey and Deepak (2021). Multivariate analysis of seed vigour parameters in late sown wheat (*Triticum aestivum* L. em. Thell). *International Journal of Chemical Studies*, 9(01): 275-278. | - |
| **87.** | Singh, M., RamAvtar, Lakra, N., Hooda, E., Singh, V.K., Bishnoi, M., Kumari, N., Punia, R., Kumar, N., and Choudhary, R.R. (2021). Genetic and Proteomic Basis of *Sclerotinia* Stem Rot Resistance in Indian Mustard [*Brassica juncea* (L.) Czern & Coss.]. *Genes*. 12(11), 1784. | 10.14 |
| **88.** | Parul, Bishnoi, O.P. and Behl, R.K. (2021). Correlation coefficient analysis of wheat genotypes under drought and irrigated condition. *Ekin Journal of Crop Breeding and Genetics*, 7 (2): 114-117. | 4.88 |
| **89.** | Punia, H., Tokas, J., Mor, V.S., Bhuker, A., Malik, A. Singh, N., Satpal, Alsahli, A.A. and Hefft, D.I. (2021). Deciphering Reserve Mobilization, Antioxidant Potential, and Expression Analysis of Starch Synthesis in Sorghum Seedlings under Salt Stress. *Plants*. 10: 2463. | 10.66 |
| **90.** | R. Sunil, Chhabra, A.K., Rajesh Yadav, Sunil kumar (2021). Assessment of Chickpea (cicer arietinum L.) genotypes under normal and late sown environments using stress indices. Agriculture Science Digest, doi10.18805/ag.D-5317 | - |
| **91.** | Rani, R., Singh, V. and Punia M. S. (2021). Intergeneration correlation and parent-offspring regression in rust resistance derived $F_4$ and $F_5$ generations in bread wheat *Indian Journal of Agricultural Sciences.* 91(5): 683-88. | 6.37 |
| **92.** | Rohila, N., Arya, S., Kumari, P., Pinki and Reenu. (2021). Evaluation of sorghum populations for morphological traits related fodder yield and stem borer resistance. *Journal* | - |

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| | *of pharmacognosy and phytochemistry*. 10(1): 885-890. | |
| **93.** | Shehrawat, S. and Kumar, Yogender (2021). Genetic architecture of morpho-physiological traits in wheat accessions under terminal heat stress. *Ekin Journal of Crop Breeding and Genetics*, 7(1): 34-42. | 4.88 |
| **94.** | Shehrawat, Sachin, Kumar, Yogender, Dhukia, M., Chaurasia, H. and Reddu, M. (2021). Selection parameters in wheat accessions based on various morpho-physiological traits. *Indian Journal of Pure and Applied Biosciences*, 9(1): 322-330. | - |
| **95.** | Singh, M., Avtar, R., Lakra, N., Hooda, E., Singh, V.K., Bishnoi, M., Kumari, N., Punia, R., Kumar, N. and Choudhary, R.R. (2021). Genetic and proteomic basis of sclerotinia stem rot resistance in indian mustard (*Brassica juncea* (L.) Czern & Coss.). *Genes*. 12:1784. | 10.14 |
| **96.** | Singh, M., Avtar, R., Singh, V.K., Mahavir, Kumari, N., Anu and Rathore, V. (2021). Genetic diversity in Indian mustard (*Brassica juncea*) genotypes for Sclerotinia stem rot (*Seclerotinia sclerotiorum*) using SSR markers. *Indian Journal of Agricultural Sciences*, 91(6): 914-19. | 6.37 |
| **97.** | Singh, V.K., Avtar, R., Mahavir, Kumari, N., Manjeet and Kumar, R. (2021) Assessment of genetic diversity and population structure in Indian mustard (*Brassica juncea*) using SSR markers. *Journal of Environmental Biology*, 42(2): 396-405. | 5.57 |
| **98.** | Suman, Anil, K., Satyavan and Akshit. (2021). Effect of pearl millet based intercropping systems on yield and economics of pearl millet [(*Pennisetum glaucum* L.)R. Br.]. *Annals of Plant and Soil Research*, 23(4): 432-436. | 5.22 |
| **99.** | Thant, S., Kumari, P. Pahuja, S.K., Tokas, J. and Yashveer, S. (2021). Identification of dual type sorghum genotypes based on correlation and path coefficient studies. *Forage Research*, 46 (4): 302-307. | 4.84 |
| **100.** | Antim, Singh, V., Poonia, M.S., Verma, A., Ashish and Tyagi, B. S. (2022). Multivariate biplot analysis for the diversity in bread wheat genotypes (*Triticum aestivum* L.) *International Journal of Bio-resource and Stress Management*, 13(3): 219-22. | - |
| **101.** | Antim, Singh, V., Poonia, M.S., Verma, A., Ashish and Verma, S. (2022). Diversity of wheat (*Triticum aestivum*) genotypes deciphered by biplot analysis. *Annals of Plant and Soil Research*, 24(1): 74-79. | 5.22 |
| **102.** | Anu, Vikram Singh, D. K. Janghel , Kiran , Neeru and Satender Yadav (2022). Genetic appraisal of wheat progenies for grain yield and yield attributing traits. *International Journal of Plant & Soil Science*, 34(12): 26-34. | 5.07 |
| **103.** | Anuragi, H., Yadav, R. and Sheoran, R. (2022). Gamma-rays and EMS induced resistance to Mungbean yellow mosaic India virus in mungbean [*Vigna radiata* (L.) R. Wilczek] and its validation using linked molecular markers. *International Journal of Radiation Biology*, 98(1): 69-81. | 9.35 |
| **104.** | Dhaked, B.S., Koli, G.K., Triveni, S, Subhash Reddy, R., Jaiswal, A. and Koli, D.K. (2022). Screening of potassium and zinc solubilizing bacteria for plant growth promoting properties (PGPR) from different Rhizospheric soil. *The Pharma Innovation Journal*, 11(2): 1315-1319. | 5.23 |
| **105.** | Choudhary, M.K., Kumawat, G., Shahi, J.P., Kumar, M., Singhamsetti, A. and Koli, G.K. (2022). Genetic variability and trait association in cimmyt maize hybrids under water submergence condition. *Forage Research*, 47(4): 432-438. | 4.84 |
| **106.** | Deepak Kumar, I.S. Panwar, Vikram Singh, ShikhaYashveer, Ganesh Kumar Koli and Kiran (2022). Association studies for yield and component traits among nine bread Wheat (*Triticum aestivum* L.) genotypes and their crosses. *Biological Forum – An International Journal*, 14(1): 1666-1670. | 5.11 |
| **107.** | Kumar, D., Singh, V., Yashveer, S., Samita, Kiran, Koli, G.K. and Yadav, O.P. (2022). Assessment of genetic diversity among nine bread wheat (*Triticum aestivum* L.) genotypes using microsatellite markers. *The Pharma Innovation Journal*, 11: 2415-2419. | 5.23 |
| **108.** | Devi, S., Singh, V. and Naresh (2022). Evaluation of wheat genotypes for yield potential under combined drought and heat stress conditions. *Journal of Cereal Research*. 14(1): 37-43. | 4.57 |
| **109.** | Koli, G.K. and Arya, R.K. (2022). Studies on character association and Path analysis in Ashwagandha (*Withania somnifera*). *Indian Research Journal of Genetics and Biotechnology*, 14(1): 12-20 | 3.49 |
| **110.** | Koli, G.K. and Arya, R.K. (2022). DUS characterization of the most promising high root yielding genotype HWS 8-18 of Ashwagandha (*Withania somnifera*). *Ekin Journal of Crop Breeding and Genetics*, 8(1):70-74. | 4.88 |

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| **111.** | Koli, G.K. Arya, R.K., Nimbal, S., Kumar, D., Kiran and Langaya, S. (2022). Study on genetic divergence for yield and yield attributing traits in Ashwagandha (*Withania somnifera). Biological Forum – An International Journal*, 14(1): 730-734. | 5.11 |
| **112.** | Ganesh Kumar Koli, Sameer Upadhyay, SR Rathi, Sneha Gupta, GayatriKumawat, PK Singh and B Sinha (2022). Study of genetic divergence for yield and yield attributing traits of wild germplasm in rice. *The Pharma Innovation Journal*, 11(2): 472-474 | 5.23 |
| **113.** | Ganesh Kumar Koli, Sneha Gupta, GayatriKumawat, BapsilaLoitongbam, P.K Singh and B Sinha (2022). Multivariate analysis of wild germplasm of rice. *The Pharma Innovation Journal*. 11(2): 973-975. | 5.11 |
| **103.** | Gantait, S., Mukherjee, E., Bandyopadhyay, P., and Bhattacharyya, S. (2022). M-brigde- and elicitor-assisted enhanced post-storage germination of *Rauvolfia serpentina* synthetic seeds, their genetic fidelity assessment and reserpine estimation. *Industrial Crops and Products*, 180: 114732. | 12.45 |
| **114.** | Gaur, A., Jindal, Y., Singh, V., Tiwar, R., Kumar, D., Kaushik, D., Singh, J., Narwal, S., Jaiswal, S., Iquebal, M.A., Angadi, U.B., Singh, G., Rai, A., Singh, G.P. and Sheoran S.(2022). GWAS to identify novel QTNs for WSCS accumulation in wheat peduncle under different water regimes. *Frontiers in Plant Science.* 13:825687. | 12.63 |
| **115.** | Hassani, I., Nimbal, S., Noori A. and Singh, V. (2022.) Genetic variability analysis and correlation studies of bread wheat (*Triticum aestivum* L.) genotypes. *Ekin Journal of Crop Breeding and Genetics*, 8(2):139-145. | 4.88 |
| **116.** | Kamboj, S., Yadav, R., Ravika and Theint Theint Tun. (2022). Gene action for seed yield and its attributing traits in fieldpea (Pisum sativum L.). *Electronic Journal of Plant Breeding*. 13: 62-68. | 5.14 |
| **117.** | Lamba, K., Kumar, M., Singh, V., Chaudhary, L., Sharma, R., Yadav, S., Yashveer, S., Dalal, M.S. Gupta, V., Nagpal, S., Saini, M., Navreet, K. Rai, RutuparnaPati and Malhotra, K. (2022). Transcriptome profiling in leaves of wheat genotype under heat stress. *Plants*. 11(22): 3100. | 10.66 |
| **118.** | Manjeet Singh, Raju Ram Choudhary, Ram Avtar, Rakesh Punia, Puneet Kumar, NishaKumari and Rajbir Singh Khedwal (2022). Heterosis for yield and its component traits in Indian mustard [*Brassica juncea* (L.) Czern&Coss.]. *The Pharma Innovation Journal*, 11(1): 1842-1851. | 5.11 |
| **119.** | Nabi M, Satpal, Neelam, Bhardwaj K. K., Bhardwaj N., Kharor N., Singh, B. And Kumar, S. (2022). Quality of forage sorghum as influenced by the application of nitrogen through different sources. *Forage Research*. 48(2): 228–31. | 4.84 |
| **120.** | Nain, A., Krishnamurthy, S.L., Sharma, P.C., Lokeshkumar, B.M.; Kumar, M. and Warraich, A.S. (2022). Phenotypic evaluation of recombinant inbred lines for sodicity tolerance at reproductive stage in rice. *Environmental Science Proceeding*. 16: 47. | - |
| **121.** | Neeru, Singh, V., Panwar, I.S., Anu, Yadav, S., Janghel, D.K. and Kiran (2022). Analysis of Genetic Diversity by D2 -Statistics using Morpho-Physiological Traits of Late Sown Wheat (*Triticum aestivum* L.). *International Journal of Plant & Soil Science*, 34(12): 66-72. | 5.07 |
| **122.** | Neeru, Vikram Singh, Anu, Satender Yadav, D. K. Janghel and Kiran (2022). Genetic diversity analysis among genotypes of bread wheat (*Triticum aestivum* L.) for yield and its component traits under timely sown conditions. *International Journal of Plant & Soil Science*, 34(11): 162-168. | 5.07 |
| **123.** | Pareek, A., Satyajeet, Satpal, Bhardwaj, S., and Nagora, M. (2022). Effect of varieties and fertility levels on fodder productivity, NPK content, uptake and protein content of summer green gram (*Vigna radiata* L.). *Forage Research*, 47(4): 507-512. | 4.84 |
| **124.** | Phyu Phyu, O.O., Panchta, R., Nimbal, S., Pal Singh, D., Kharor, N. and Satyawan Arya, S. (2022). Morphological characterization of leaf, flower, pod and seed traits of cowpea [*Vigna unguiculata* (L.) WALP] genotypes. *Forage Research*, 48(1): 50–56. | 4.84 |
| **125.** | Raju Ram Choudhary, Manjeet Singh, Monu Kumari, Harsh Chaurasia, Mukesh Poonia and Babulal Dhaka (2022). Biofortification in India: Present status and future prospects. *The Pharma Innovation Journal*, 11(1): 782-786. | 5.11 |
| **126.** | Raju Ram Choudhary, Ram Avtar, Manjeet Singh, Harsh Chaurasia, Monu Kumari and Mukesh Poonia (2022). Trait Association analysis for yield and its components in Indian Mustard (*Brassica juncea L.*). *Biological Forum – An International Journal*. 14(1): 538-542. | 5.23 |
| **127.** | Ravindra Kumar Meena, Ram Kishor Meena, Prakash kumar Ranchhodbhai Patel, Laxmansingh, Dolatsingh Parmar, Jaishree Tanwar, Ganesh Kumar Koli, Deepak Kumar, | 5.23 |

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| | Om Prakash Yadav and Sandeep Kumar Pancholi (2022). Insights of Genetic divergence through Mahalanobis' D2 Statistics among American Cotton (*Gossypium hirsutum* L.) Genotypes. B*iological Forum- An International Journal.* 14(2): 790-795. | |
| **128.** | Rohilla, V., Yadav, R.K., Poonia A., Sheoran, R., Kumari, G., Shanmugavadivel, P.S. and Pratap, A. (2022). Association mapping for yield attributing traits and yellow mosaic disease resistance in mungbean *[Vigna radiata* (L.) Wilczek]. *Frontiers in Plant Science*, 12:749439. | 12.63 |
| **129.** | Saharan, R. Phougat, D., Panwar, I.S., Verma, A. and Saini, V. (2022). Genetic Parameters and Selection Strategies to Identify Climate Smart Wheat. *International Journal of Environment and Climate Change*, 12(12): 785-790. | 5.13 |
| **130.** | Samita, Kumar, M., Singh, V., Yadav, S., Yadav, S., Kavita, Kumar, D. and Choudhary, R. R. (2022). Assesment of genetic variability in bread wheat (*Triticum aestivum*) under heat stress. *Indian Journal of Agricultural Sciences*, 92 (4): 511-515. | 6.57 |
| **131.** | Samita, Rajesh Yadav and Ravika (2022). Assessment of genetic variability and trait association in mungbean (*Vigna radiata* L.) genotypes during summer season. *Journal of Food Legumes*, 35(3): 170-174. | 4.82 |
| **132.** | Seema Kamboj, Rajesh Yadav, Ravika and Theint Theint Tun (2022). Gene action for seed yield and its attributing traits in fieldpea (*Pisum sativum* L.). *Electronic Journal of Plant Breeding*, 13(1):62-68. | 5.14 |
| **133.** | Sharma, R., Chaudhary, L., Kumar, M., and Panwar. N. (2022). Analysis of genetic parameters and trait relationship for Seed yield and its attributing components in Lentil (*Lens culinaris* Medik.). *Legume Research*, 45(11). 1344-1350. | 6.67 |
| **134.** | Sharma, R.; Chaudhary, L., Kumar, M., Yadav, R., Devi, U., Amit, Kumar, V. (2022). Phenotypic diversity analysis of *Lens culinaris* Medik. accessions for selection of superior genotypes. *Sustainability*.14: 5982. | 9.89 |
| **135.** | Singh, M., Avtar, R., Lakra, N., Pal, A., Singh, V. K., Punia, R., and Choudhary, R. R (2022). Early oxidative burst and anthocyanin-mediated antioxidant defense mechanism impart resistance against Sclerotinia sclerotiorum in Indian mustard. *Physiological and Molecular Plant Pathology*, 11: 101847 | 8.74 |
| **136.** | Singh, V.K., Avtar, R., Mahavir, Kumari, N., Manjeet, Kumar, R. and Khedwal, R.S. (2022). Analysis of genetic structure and diversity in Indian mustard [*Brassica juncea* (L.) Czern & coss.] assessed by SSR markers. *The Journal of Animal & Plant Sciences.* 32(1): 173-185. | - |
| **137.** | Singh, V.K., Chander, S., Sheoran, R.K., Anu, Sheoran, O.P. and Garcia-Oliveira, A.L. (2022). Genetic variability for aluminium tolerance in sunflower (*Helianthus annuus* L.). *Czech Journal of Genetics and Plant Breeding*, 58: 201–209. | 7.30 |
| **138.** | Sunaina Yadav, Rajesh Yadav, Ravika, S. Bhaskar Reddy, Samita, Deepak Kumar (2022). Assessing Genetic Parameter, correlation and path coefficient in spontaneous mutant progenies of Lentil (*Lens culinaris* Medikus ssp. culinaris) Variety DPL 62. *Legume Research- An International Journal,* (1)):1-5. | 6.67 |
| **139.** | Sunaina Yadav, Rajesh Yadav, Ravika, VikramJeet Singh and Samita (2022). Assessing genetic diversity among spontaneous mutant progenies of lentil (*Lens culinaris*) variety DPL 62. *Indian Journal of Agricultural Sciences*, 92 (7): 907–10. | 6.57 |
| **140.** | Tun, T.T., Ravika, Yadav, R. and Kamboj, S. (2022). Assessment of trait association and genetic divergence in a diverse panel of fieldpea (*Pisum sativum* L.) genotypes. *Journal of Food Legumes*, 35: 11-16. | 4.82 |
| **141.** | Vijeta Gupta, Mukesh Kumar, Vikram Singh and Lakshmi Chaudhary (2022). Stability analysis of bread wheat [*Triticum aestivum* (L.) Em. Thell] using different models: A review. *The Pharma Innovation Journal*. 11(3): 1886-1892. | 5.11 |
| **142.** | Priti, Panchta, R., Yadav, R.C., Pahuja, S.K., Yadav, N.R. (2023). Linkage mapping and identification of quantitative trait loci associated with bacterial leaf blight resistance and gum content in cluster bean using the interspecific population (HG 563 × Cyamopsisserrata). *Genetic Resources and Crop Evolution*. 701501–1516. | 7.88 |

*Annexure GPB-III*

## COURSES OFFERED BY THE DEPARTMENT

| | Semester I | |
|---|---|---|
| **Course No.** | **Course Title** | **Credit hrs.** |
| GP501* | Principles of genetics | 2+1 |
| GP502* | Principles of plant breeding | 2+1 |
| GP504 | Population genetics | 2+1 |
| GP506 | Mutagenesis and mutation breeding | 2+1 |
| GP508 | Gene regulation and expression | 2+0 |
| GP510* | Biotechnology for crop improvement | 3+1 |
| GP512 | Breeding cereals, forages and sugarcane | 2+1 |
| GP514 | Breeding for quality traits | 2+1 |
| GP516 | Germplasm collection, exchange and quarantine | 2 +1 |
| GP591 | Master's seminar | 1+0 |
| GP601 | Advanced genetics | 2+0 |
| GP603 | Advanced biometrical and quantitative genetics | 2+1 |
| GP605 | Plant genetic resources and pre-breeding | 2+0 |
| GP607 | Crop-evolution | 2+0 |
| GP609** | Advances inbreeding of major field crops | 3+0 |
| GP611 | Microbial genetics | 2+1 |
| PGS503 | Intellectual property and its management in agriculture | 1+0 |
| PGS504 | Agricultural programme research, research ethics and rural development | 1+0 |
| GP691 | Doctoral seminar I | 1+0 |
| GP692 | Doctoral seminar II | 1+0 |
| GP201 | Principles of Plant Breeding | 2+1 |
| GP301 | Principles of Biotechnology | 2+1 |
| GP401 | Crop improvement | 1+2 |
| GP402 | Special techniques in Plant Breeding | 1+2 |
| GP403 | Heterosis Breeding in Crop Plants | 1+2 |
| GP404 | Plant Genetic Resources | 1+1 |
| GP405 | Crop Improvement for Biotic and Abiotic Stress | 1+2 |

*Compulsory for M.Sc.Programme **Compulsory for Ph.D. Programme

| Semester II | | |
|---|---|---|
| **Course No.** | **Course Title** | **Credit hrs.** |
| GP503 | Principles of cytogenetics | 2+1 |
| GP505* | Principles of quantitative genetics | 2+1 |
| GP507 | Heterosis Breeding | 2+1 |
| GP509 | Cell Biology and molecular genetics | 3+0 |
| GP511* | Breeding for biotic and abiotic stress resistance | 2+1 |
| GP513 | Breeding legumes,oilseed and fibre crops | 2+1 |
| GP515 | Maintenance breeding, concept of variety release and seed production | 1+1 |
| GP517/ SST516 | Data base management, evaluation and utilization of PGR | 2 +1 |
| GP518/PSML505 | Breeding of medicinal and aromatic crops | 2+1 |
| GP591 | Master's seminar | 1+0 |
| GP602 | Cellular and chromosomal manipulations for crop breeding | 2+0 |
| GP604 | Genomics in plant breeding | 2+1 |
| GP606 | Advances in plant breeding systems | 2+0 |
| GP608** | Breeding for designer crops | 2+1 |
| GP610/SST602 | In situ and ex-situ conservation of germplasm | 2+1 |
| GP612/PSMA602 | Advances in breeding of medicinal and aromatic crops | 2+1 |
| GP691 | Doctoral seminar I | 1+0 |
| GP692 | Doctoral seminar II | 1+0 |
| PGS503 | Intellectual property and its management in Agriculture | 1+0 |
| PGS504 | Agricultural research, research ethics and rural development programme | 1+0 |
| GP102 | Fundamentals of genetics | 2+1 |
| GP202 | Breeding for field crops | 2+1 |

*Compulsory for M.Sc.Programme **Compulsory for Ph.D. Programme

# Programme - 10



## M.Sc. Horticulture

## and

## Ph.D. Horticulture

## 6.4 About the Department

The Department of Horticulture, CCS Haryana Agricultural University, Hisar came in to existence with the establishment of College of Agriculture at Hisar in the then Punjab Agricultural University, Ludhiana during the year 1962. With the bifurcation of universities, a fulfledged department started working during 1970. The department has made steady progress in the field of research, teaching and transfer of technology during the entire period under report. The Department of Horticulture has attained creditable status through its sustained and dedicated efforts over the last 53 years. The department has been able to reach many heights in different aspects of research in the form of viable technology and their transfer to the farmers. From time to time, there has been a significant expansion with respect to infrastructure and other facilities for conducting smooth research, teaching and extension programmes. During this period, Research Stations were established at Buria and Bawal for generating information for recommending the technology for regional areas. With the establishment of dry land farming Research Station at Bawal, the department established its horticulture wing during the year 1974-75 in the south western part of the State. The germplasm suitable for dry land area were introduced with respect of ber, aonla, bael, jamun, mulberry, karonda and phalsa.With the efforts of research workers, this station is catering to the needs of south western part of the State for supplying plant material and production technology of these fruit crops. Another Regional Research Station particularly catering to horticultural needs was established in 1990 at Buria. Subtropical fruits like mango, litchi, loquat and low chilling temperate fruits like pear, peach, plum were introduced and evaluated. Separate degrees of M.Sc. (Horticulture) in Fruit Science and M.Sc.(Horticulture) in Floriculture & Landscape Architecture were started during 2010-11.

**Objectives of the Department**

- Crop improvement through introduction, selection and hybridization in fruits and flower crops
- To develop improved production technology for fruit and flower for different region of the state
- To standardize new propagation techniques and supply of healthy planting materials to the farmers
- Introduction and exploration of underutilized fruits for Haryana state
- To develop post harvest technologies of horticultural crops
- To develop climate resilient and resource conservation technologies for horticultural crops
- Dissemination of horticultural technologies through skill development, training and demonstration etc

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the degree programme was initiated along with its objective and accomplishments.*

| | |
|---|---|
| Objectives of initiating M.Sc. programme | • To impart theoretical and practical knowledge of horticulture (fruits and flowers) to the students through course work, demonstrations, practical exercise and seminars.<br>• To equip students with knowledge and practical skills necessary for production, management and post harvest handling of horticultural crops.<br>• To enable students to undertake research and development activities in various aspects of horticulture. |

| | |
|---|---|
| Accomplishments of M.Sc.programme | • Since 2018-19 to March, 2023, 68 students have completed their M.Sc. degree and 31 students are on roll.<br>• 31 students have joined as Agriculture Field Officer in Banks; STA/TA in different organizations and HDO and DHO in Department of horticulture, Govt. of Haryana. *(Annexure HORT-1)*<br>• Two students namely, Nisha Rani and Happy. are pursuing Ph.D abroad. |
| Objectives of initiating Ph.D programme | • To impart theoretical and practical knowledge of horticulture (fruits and flowers) to the students through coursework, demonstrations, practical exercise and seminars. |
| | • To equip students with knowledge and practical skills necessary for production, management and post harvest handling of horticultural crops.<br>• To enable students to undertake research and development activities in various aspects of horticulture. |
| Accomplishment of Ph.D. programme | Since 2018-19 to March, 2023, 25 students have completed their Ph.D degree and 28 students are on roll.<br>• Ten students have joined as Assistant Professor/Assistant Scientist after completing Ph.D.<br>• Fifteen students have joined as DHO/ HDO in Department of Horticulture, Govt. of Haryana after completing Ph.D.*(Annexure HORT-1)*<br>• 40 students qualified NET exam.*(Annexure HORT-II)*<br>• One students qualified ARS<br>• Students'research brought out 73 research papers, and 16 book chapters **(***Annexure HORT-III*). |

| **Degree programme offered by the Department** | **Specialization** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y1 | Y 2 | Y 3 | Y 4 | Y 5 | Total | Y 1 | Y 2 | Y 3 | Y 4 | Y5 | Total |
| **M.Sc.** | Horticulture – Fruit Science | 12 | 14 | 12 | 14 | 10 | 62 | 1 | 11 | 12 | 14 | 10 | 48 |
| | Horticulture – F.L.A. | 5 | 5 | 6 | 3 | 4 | 23 | 1 | 7 | 4 | 4 | 4 | 20 |
| **Ph.D.** | Horticulture – Fruit Science | 4 | 8 | 4 | 5 | 7 | 28 | 7 | 2 | 4 | 4 | 3 | 20 |
| | Horticulture – F.L.A. | 2 | 3 | 4 | 3 | 3 | 15 | 3 | - | 1 | - | 1 | 5 |

*Y1 =2018-19… .....Y5 =2022-23(till date)*

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention thenumber of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum,it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1. | Professor and equivalent (0) | 9 | - | 1 |
| 2. | Associate Professor and equivalent (5) | 1 | 2 | 1 |
| 3. | Assistant Professor and equivalent (25) | 8 | 10 | 3 |

*The number of Professors and Associate Professors also includes personal promotees

**Note:** All the Faculty is assigned the responsibilities for the multiple programmes

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in -place.*

| S. No. | Designation | Sanctioned | Inplace* | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1. | **Office staff** | | - | - | 01 |
| | AO/Superintendent | - | - | - | - |
| | **Assistant** | 2 | 2 | - | - |
| | Clerk | 3 | 1 | 2 | - |
| | **PA/Steno** | 1 | - | 1 | - |
| | Messenger | 1 | - | 1 | - |
| | **Peon** | - | - | - | - |
| 2. | **Lab staff** | | - | - | 02 |
| | Lab Assistant | 3 | - | 3 | - |
| | **Lab Attendant** | - | - | - | - |
| | Any other/S.K. | 1 | - | 1 | - |
| 3. | **Field staff** | | | | 02 |
| | Beldar | 9 | 7 | 2 | - |
| | **Farm and field worker (Mali and Head mali)** | 11 | 5 | 6 | - |
| | **Anyother/ A.I.** | 4 | 3 | 1 | - |

*The technical and supporting staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of classrooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| | |
|---|---|
| No.of lecture rooms with seating capacity | One |
| No.of lecture rooms with LCD | One |
| No. of labs under Dean'soffice with specialized purpose | 4 |
| Farm facilities | Yes |
| Seminar Room with LCD | One |

## List of major equipments

| Name of equipment | Location/ Lab No. |
|---|---|
| Pilot plant for sorting & grading of fruits | Director Farm Shed |
| Refrigerator | Farm Lab |
| Camera | Room No. 234 |
| Chain saw | Farm store |
| UV-Vis Spectrophotometer | Lab No.238 |
| Digital weighing balance | Lab No.238 |
| Digital weighing balance | Room No. 234 |
| Moisture Analyser | Lab No. 238 |
| Chlorophyll Concentration meter | Room No. 234 |
| Hydraulic lifting device along with tractor | Farm |
| D.G.Set 62.5 KVAAMF | Farm lab |
| Computer set | Room No. 248 |
| Ripening chamber | Farm lab |
| Chromo meter | Lab No.238 |
| Hot air oven and microwave oven | Lab No.238 |
| Leaf area meter | Lab No.238 |
| Laminar flow | Lab No. 235 |
| Vertical autoclave | Lab No. 235 |
| Rotary shaker | Lab No. 235 |
| Microscopes | Lab no. 238 |
| Micro pipette | Lab No. 235 |
| Double distillation unit | Lab No. 238 |
| Bio-safety cabinet | Lab No. 236 |
| Aonla pricking machine | Farm lab |
| Deep freezer | Lab No. 236 |
| Digital and hand refractometer | Lab No.238 |
| Shrink wrapping and sealing machines | Farm lab |
| Vernier callipers | Lab No.238 |
| conductivity meter | Lab No. 237 |

## Mention theory and practical batches for PG Programmes

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc. | Ph.D. | M.Sc. | Ph.D. |
| 2018-19 | 2 | 2 | 2 | 2 |
| 2019-20 | 2 | 2 | 2 | 2 |
| 2020-21 | 2 | 2 | 2 | 2 |
| 2021-22 | 2 | 2 | 2 | 2 |
| 2022-23 | 2 | 2 | 2 | 2 |

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only belearned through hands-on -practice. It is important that much of the learning material in any given course should be provided in away that allow students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per*

*the curriculum and meeting above mentioned requirements*

## M.Sc. (Horticulture) Fruit Science

| Course No./ Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum (bulletform) |
|---|---|---|
| FSC 501 (2+1) | • Identification of important cultivars<br>• Observations on growth and development,<br>• Practices in growth regulation<br>• Malady diagnosis<br>• Analyses of quality attributes<br>• Visit to tropical and arid zone orchards<br>• Project preparation for establishing commercial orchards | • Conducting visit of the students to orchard to identify important cultivars of tropical fruit and fruits of dry land area<br>• Estimation of growth and development parameters i.e. canopy volume, trunk girth, leaf area and various phenological and fruit development parameters of dry land fruits.<br>• Students are acquainted with practical exercise to growth regulation practices like pruning, training, girdling, bending and bud forcing methods for dryland fruits.<br>• To apprise the students about various malady of fruit plants by diagnosis in the field by symptoms, cause and management of tropical and dryland fruits.<br>• Determination of TSS, acidity, ascorbic acid, pigments, sugars, phenols, organolaptic and sensory quality.<br>• Exposure visit of students to progressive farmers field<br>• Project planning, presentation, business networking and report. |
| FSC 502 (2+1) | • Identification of important cultivars<br>• Observations on growth and development<br>• Practices in growth regulation, malady diagnosis<br>• Analyses of quality attributes<br>• Visit to subtropical and temperate orchards<br>• Project preparation for establishing commercial orchards | • Conducting visit of the students to orchard to identify important cultivars of subtropical and temperate fruit.<br>• Estimation of growth and development parameters i.e. canopy volume, trunk girth, leaf area and various phenological and fruit development parameters of subtropical and temperate fruit crops.<br>• Students are acquainted with practical exercise to growth regulation practices like pruning, training, girdling, bending and bud forcing methods.<br>• To apprise the students about various malady of subtropical and temperate fruit plants by diagnosis in the field by symptoms, cause and |

| | | |
|---|---|---|
| | | management.<br>• Determination of TSS, acidity, ascorbic acid, pigments, sugars, phenols, organolaptic quality.<br>• Exposure visit of students to progressive farmers field<br>• Project planning for subtropical and temperate fruit crops, presentation, business networking and report. |
| FSC 503<br>(2+1) | • Documentation of germplasm-maintenance of passport data and other records of accessions<br>• Field exploration trips, exercise onex situ conservation – cold storage<br>• Pollen/seed storage, cryopreservation<br>• Visits to National Gene Bank andother centers of PGR activities<br>• Detection of genetic constitution of germplasm, core sampling, germplasm characterization using molecular techniques | • To impart basic knowledge about the documentation of germplasm and accession through characterization and record maintenance.<br>• Exposure visit and to acquaint the students with various exercises on ex situ conservation-cold storage<br>• To impart practical knowledge about the various techniques of pollen/seed storage, and their viability test and cryopreservation.<br>• Visits to NBPGR,New Delhi<br>• Detection of genetic constitution of germplasm, using molecular techniques |
| FSC 504<br>(1+1) | • Study of different types of canopies<br>• Training of plants for different canopy types<br>• Canopy development through pruning, useof plant growth inhibitors, geometry of planting.<br>• Effect of different canopy types on production and quality of fruits | • To develop an understanding on practical skill of different types of canopies in various fruit crops<br>• To trained students by on hand practice regarding canopy development through pruning, use of plant bio stimulants, and geometry of planting for high productivity.<br>• To get practical knowledge about the influence of different tree size/ height control productivity and quality of fruit crops. |
| FSC 505<br>(2+1) | • Anatomical studies in rooting of cutting and graft union.<br>• Construction of propagation structures<br>• Study of media and PGR.<br>• Micropropagation - explant preparation, media preparation, culturing – in vitro clonal propagation, meristem culture, shoot tip culture, axillary bud culture, direct organogenesis<br>• Direct and indirect embryogenesis, micro grafting, hardening.<br>• Visit toTC labs and nurseries | • To impart practical knowledge by various microscopic and visual techniques about rooting in cutting and graft union.<br>• To acquaint the students about principles, methods, planning, construction of mist chamber/ poly/ shade/ net house.<br>• Preparation of media, explants, culturing, sterilization etc.<br>• Hand on practice of students in the tissue culture laboratory- meristem culture, shoot tip culture, axillary bud culture, direct organogenesis.<br>• To impart practical knowledge about the hardening of micrograft under protected conditions. |

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| FSC 506<br>(2+1) | • Characterization of germplasm<br>• Blossom biology, study of anthesis<br>• Estimating fertility status, practices in hybridization, ploidy breeding, mutation breeding<br>• Evaluation of biometrical traits and quality traits<br>• Screening for resistance<br>• Developing breeding programme for specific traits | • To collect data on morphological characterization of different fruit crops as per NBPGR- descriptor and to prepare report.<br>• To enable students with blossom biology, anthesis of different fruit crops.<br>• To get practical observations on fruit setting after hybridization and reporting<br>• To acquaint the students regarding principle and methods of ploidy and mutation breeding<br>• Estimation of biometrical and quality traits for different genotypes and reporting<br>• To enable students to undertake research for screening of fruit cvs/ hybrid/ mutants for biotic and abiotic stresses through various physiological and biochemical processes. |
| FSC 507<br>(2+1) | • Analyzing maturity stages of commercially important horticultural crops<br>• Improved packing and storage of important horticultural commodities<br>• Physiological loss in weight of fruits and vegetables<br>• Estimation of transpiration, respiration rate<br>• Estimation of quality characteristics in stored fruits and vegetables, cold chain management - visit to cold storage and CA storage units<br>• Visit to fruit and vegetable processing units, project preparation, evaluation of processed horticultural products | • Determination of maturity by physical , chemical and GDD basis of commercially important horticulturalcrops grown in Haryana<br>• To develop understanding of various packing material and storage methods- cold chain, CA, MAP, use of edible coating and their relevant application on shelf life extension fruit crops.<br>• Estimation of PLW, deacy losses, quality parameters, transpiration, respiration rate and ethylene release, in various fruit crops<br>• Visit to fruit processing units, project preparation, planning, presentation and reporting. |
| FSC 508<br>(2+1) | • Understanding dormancy mechanisms in seeds, tubers and bulbs and stratification of seeds, tubers and bulbs<br>• Techniques of growth analysis, evaluation of photosynthetic efficiency under differentenvironments<br>• Study of growth regulator functions, hormone assays,<br>• Understanding ripening phenomenon in fruits and vegetables<br>• Study of impact of physical | • To equip the students with practicl skill of dormancy mechanisms and stratification in seeds, tubers and bulbs<br>• To analyze growth parameters, under different environments, presentation and reporting.<br>• To imprt practical knowledge of growth regulator functions, hormone assays<br>• To enhance knowledge by practical skill regarding PGR in fruit crops |

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| | manipulations on growth and development and ripening. | • To develop an understanding of research activities on physiological & biochemical changes in ripening of fruit.<br>• To study the influence of different chemicals for accelerating / retarding ripening in fruit crops. |
| FSC 510 (1+1) | • Features of organic orchards, working out conversion plan<br>• Input analysis- manures, nutrient status assessment of manures<br>• Biocomposting, biofertilizers and their application, panchagavya preparation and other organic nutrients application<br>• Methods of preparation of compost, vermicompost, green manuring, preparation of neem products and application, BD preparations<br>• EM technology and products, biological/ natural control of pests and diseases, soil solarization, frame work for GAP. | • To understand practical knowledge about the organic orchards and conversion plan.<br>• Estimation of the physical and chemical properties of manures.<br>• To understand the preparation and processing and application methods for biocomposting, biofertilizer and cow based organic formulations, BD, Neem products and thier application in fruit crops.<br>• To enhance practical skill about EM technology and biological/natural control of pests and diseases, soil solarization, frame work for GAP. |
| FSC 511 (2+1) | • Designs of greenhouse, low cost poly tunnels<br>• Net house-Regulation of light, temperature, humidity ingreenhouses, media<br>• Greenhouse cooling systems,ventilation systems<br>• Fertigation systems, special management practices.<br>• Project preparation for greenhouses, visit to greenhouses | • To impart knowledge about, design and various componenets of greenhouse,<br>• To get knowledge through demonstration, practical exercise regarding regulation of environment-light, humidity, temperature and $CO_2$ in high tech green house<br>• To acquaint the student with practical skill regarding fertigation systems in green house<br>Project preparation forgreenhouse cultivation of fruit crops. |
| **M.Sc. (Horticulture) Floriculture & Landscape Architecture** | | |
| **CourseNo. /Credit Hours** | **Practical and Hands-on-training** | **How far students are getting desired practical and hands-on-training as per thecurriculum (bullet form)** |
| FLA 501 (2+1) | • Description of botanical features-Cataloguing of cultivars, varieties and species in flowers, floral biology<br>• Selfing and crossing, evaluation of hybrid progenies, seed production<br>• Induction of mutantsthrough physical and chemical mutagens, induction of polyploidy.<br>• Screening of plants for biotic and abiotic stresses and environmental pollution.<br>• In vitro breeding in flower and ornamental plants. | • Visit to Garden for identification of different ornamental plants like annual, perennial, herbs, shrubs, climbers and trees etc.<br>• To study different principles and methods of plant breeding used for developing new and exotic cultivars of ornamental plants<br>• To impart practical knowledge knowledge about Induction of mutants through physical and chemical mutagens, induction of |

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| | | polyploidy<br>• To get knowledge through practical work about different biotic and abiotic stresses which affect the plant growth and development |
| FLA 502<br>(2+1) | • Description of varieties<br>• Propagation techniques, mist chamber operation, training and pruning techniques<br>• Practices in manuring, drip and fertigation, foliar nutrition<br>• Growth regulator application, pinching, disbudding, Staking, harvesting techniques, post- harvest handling, cold chain<br>• Project preparation for regionally important cut flowers<br>• Visit to commercial cut flower units and case study | • To visit the botanical garden for identification of important varieties of commercial flower crops and presentation.<br>• To get knowledge by practice about different propagation techniques under open and protected conditions<br>To develop understanding about different training and pruning techniques<br>• To enable students with practical skill about different cultural practices like manuring, drip and fertigation, foliar nutrition, growth regulator application, pinching, disbudding, staking, harvesting, post- harvest handling and cold chain storage<br>• To get knowledge through demonstration about regionally important commercial cut flowers, theirproduction and marketing |
| FLA 503<br>(2+1) | • Description of species and varieties<br>• Propagation techniques, mist chamber operation<br>• Training and pruning techniques, practices in manuring, drip and fertigation,<br>• Foliar nutrition, growth regulator application, pinching, disbudding, staking, harvesting techniques<br>• Post-harvest handling, storage and cold chain<br>• Project preparation for regionally important commercial loose flowers<br>• Visits to fields, essential oil extraction units and markets | • To identify different species and varieties of flower crops and to prepare descriptor as per NBPGR.<br>• To get in hand practice about plant propagation techniques and mist chamber operation<br>• Practical demonstration of training and pruning techniques, manuring, drip andfertigation, growth regulator application, pinching, disbudding, staking, harvesting techniques etc.<br>• To understand the practices of post-harvest handling, storage and cold chain<br>• Estimation and extraction of essential oils from flowers. |
| FLA 504<br>(2+1) | • Selection of ornamental plants,<br>• Practices in preparing designs for home gardens, industrial gardens<br>• Institutional gardens, corporates, avenue planting, practices in planning and planting of special types of gardens, burlapping, lawn making<br>• Planting herbaceous and shrubbery borders<br>• Project preparation on landscaping for different situations<br>• Visit to parks and botanical gardens, case study on commercial landscape gardens | • To get knowledge about the suitable ornamental plants for preparing plan and designs for home, industrial, institutional gardens, corporates, and avenue planting.<br>• To get in hand practice about special types of gardens, burlapping, lawn making, planting herbaceous and shrubbery borders<br>• To learn through demonstration about how to do landscaping for different situations<br>• To perform visit to city parks, commercial landscape gardens. |

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|---|---|---|
| FLA 505<br>(2+1) | • Study of various protected structures<br>• Practices in design, layout and erection of different types of structures<br>• Practices in preparatory operations, soil decontamination techniques<br>• Practices in environmental control systems<br>• Practices in drip and fertigation techniques<br>• Special horticultural practices, determination of harvest indices and harvesting methods<br>• Post-harvest handling, packing methods, project preparation,<br>• Visit to commercial greenhouses | • To acquired practical knowledge about various protected structures like greenhouse, shade net, polyhouse etc.<br>• To get knowledge through demonstration about design, layout and erection of different types of structures<br>• To impart knowledgethrouh practical exercise about preparatory operations, soil decontamination techniques, environmental control systems, drip and fertigation techniques<br>• To impart practical knowledge about different harvest and post harvest practices and their relevant application.. |
| FLA 506<br>(2+1) | • Practices in preparation of bouquets, button-holes, flower baskets, corsages, floral wreaths, garlands with fresh flowers<br>• Techniques in flower arrangement<br>• Techniques in floral decoration;<br>• Identification of plants for dry flower making<br>• Practices in dry flower making;<br>• Preparation of dry flower baskets, bouquets, pot-pourri, wall hangings, button holes, greeting cards, wreaths, etc.<br>• Visit to dry flower units, concrete and essential oil extraction units | • To learn by in hand practice about preparation of bouquets, button-holes, flower baskets, corsages, floral wreaths, garlands and flower arrangement<br>• To identify different ornamental plants suitable for dry flower making<br>• To get practical knowledge about various techniques in floral decoration and dry flower making-dry flower baskets, bouquets, pot-pourri, wall hangings, button holes, greeting cards, wreaths, etc.<br>• To get knowledge about concrete and essential oil extraction methods. |
| FLA 507<br>(2+1) | • Identification of turf grasses<br>• Preparatory operations in turf making<br>• Practices in turf establishment<br>• Layout of macro and micro irrigation systems, Water and nutrient Management.<br>• Special practices – mowing, raking, rolling, soil top dressing, weed Management.<br>• Biotic and abiotic stress management;<br>• Project preparation for turf establishment, visit to IT parks, model cricket and golf grounds, airports, corporates, Govt. | • To get practical knowledge about different species and varieties of turf grasses suitable for varied agro-climatic situations<br>• To learn by in hand practice about different practices of turf making, establishment, maintenance and rejuvenation like mowing, raking, rolling, soil topdressing, weeding<br>• To equip students with demonstration and practical skill about layout of macro and micro irrigation systems, water and nutrient management, biotic and abioticstress management<br>• To learn through exposyre visit about turfing of IT parks, model cricket and golf grounds, airports, c |
| FLA 508<br>(2+1) | • Practices in point picking methods, Using tool bars and icons, Using modifying tools and modifying comments, Isometric drawings, Using productivity tools, Drawing designs by | • To impart practical knowledge about drawing tools and their usage in garden designing by AUTOCAD, ARCHICAD, Photoshop etc. for home, institutional and special type of gardens. |

| | | |
|---|---|---|
| | AUTOCAD for home garden, institutional garden andspecial types of garden<br>• Using tools and info-box for 3D drawing, Creation of garden components with ARCHICAD, Organization, dimensioning, detailing and visualization tools with ARCHICAD | |

## Ph.D. (Horticulture) Fruit Science

| Course No. Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|
| FSC 601 (2+1) | • Description and cataloguing of germplasm<br>• Pollen viability tests, pollengermination isozyme techniques- survey and clonal selection<br>• Observations on pest, disease and stress reactions in inbreds and hybrids<br>• Use of mutagenes and colchicine for inducing mutation and ploidy changes<br>• Practices in different methods of breeding fruit crops | • To acquire practical knowledge about cataloguing and description of germplasm of fruit crops.<br>• Estimation of pollen viability tests, pollen germination, isozyme techniques-survey and clonal selection to strengthen research activities.<br>• To understand the pest, disease and stress reactions in inbreds and hybrids grown in the orchard<br>• To get knowledge by practical skill about mutation and ploidy changes with physical and chemical mutagenes.<br>• To impart practical knowledge about various methods of breeding in fruit crops. |
| FSC 602 (2+1) | • Survey of existing fruit cropping systems and development of a model cropping system<br>• Estimating nutrient deficiency-estimation of water use efficiency<br>• Soil test-crop response correlations<br>• Practices in plant growth regulation<br>• Studying physiological and biochemical responses, quality analysis | • To conduct survey and prepare a plan for developing model cropping system<br>• Estimation of nutrients deficiency through visual symptoms and leaf tissue analysis in laboratory.<br>• Estimation of water use efficiency in different irrigation methods.<br>• To get practical knowledge of plant growth regulation by various physical and chemical means.<br>• Estimation of fruit quality. |
| FSC 603 (2+1) | • Root- shoot studies, quantifying the physiological and biochemical effects of physical and chemical growth regulation,<br>• Bioassay and isolation through chromatographic analysis for auxins and Gibberellins.<br>• Experiments on growth regulation during propagation, dormancy, flowering, fruitset and fruit development stages | • To get practical knowledge about root-shoot studies of fruit crop grown at farm<br>• To understand the effects of physical and chemical growth regulation in fruit crops.<br>• To acquire practical gain of Bioassay of auxins, gibberellins and their role in fruits<br>• To get practical knowledge of growth regulators on growth, propagation, dormancy, and fruit development stages. |

| | | |
|---|---|---|
| FSC 605 (2+1) | • Seed treatment /hardening practices, container seedling production<br>• Analysis of soil moisture estimates(FC, ASM, PWP)<br>• Analysis of plant stress factors,RWC<br>• Chlorophyll flurosence, chlorophyll stability index, | • To get knowledge by practical application of seed treatment with growth regulators and bio stimulants<br>• To understand the hardening practices for acclimatization to aerial and soil environment under protected conditions.<br>• To get practical knowledge by doing practices in containerized nursery over conventional system.<br>• Estimation of soil moisture stress factors (FC, ASM, PWP) through practical exercises.<br>• Estimation of plant stress indices like RWC, CSI, MSI, prolein, glycine betain, peroxidases, catalases etc.<br>• Estimation of Chlorophyll and CCI (chlorophyll stability index) |

**Ph.D. (Horticulture) Floriculture & Landscape Architecture**

**6.4.6 Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programme offered by the Department**

| Year | Number of Students on roll | Number of PG faculty | Student-Teacher Ratio |
|---|---|---|---|
| 2018-19 | 37 | 13 | 2.84:1 |
| 2019-20 | 37 | 13 | 2.84:1 |
| 2020-21 | 34 | 12 | 2.83:1 |
| 2021-22 | 34 | 11 | 3.09:1 |
| 2022-23 | 31 | 12 | 2.58:1 |

**Details of Ph.D. programme offered by the Department**

| Year | Number of students On roll | Number of PG faculty | Student-Teacher Ratio |
|---|---|---|---|
| 2018-19 | 18 | 12 | 1.50:1 |
| 2019-20 | 20 | 13 | 1.53:1 |
| 2020-21 | 17 | 13 | 1.30:1 |
| 2021-22 | 22 | 13 | 1.69:1 |
| 2022-23 | 28 | 12 | 2.33:1 |

**Note:** Details of courses offered by the Department is given in ***Annexure HORT-IV***

***6.4.7.*** **Feedback of stake holders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism(duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five yearstoaddress the issues raised in the feedback?*

Generally very good feedback forms have been received from students, parents, industries, employers, farmers etc.

***6.4.8.*** **Student intake and attrition in the programme for last five years:** *Year wise informationon sanctioned strength, actual intake and attrition in the last five years of the Degree Programme,in the tabular form, shall be provided.*

| Name of the Degree Programme | No. of students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 17 | 19 | 198 | 17 | 14 | 88.23 | 5.26 | 11.11 | - | 28.57 |
| Ph.D. | 6 | 11 | 8 | 8 | 10 | - | 45.45 | - | - | - |

***6.4.9.*** **ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

**Use of ICT application in teaching and practical for curricula delivery**

| Courses/ Total courses | Theory | Type of ICT Application |
|---|---|---|
| M.Sc.-Fruit Science<br>6+1 Seminar | FSC 501, FSC 502, FSC 503, FSC 506, FSC 507, FSC 508 | PPT, Smart Board |
| M.Sc.-F.L.A.<br>8+1Seminar | FLA 501, FLA 502, FLA 503, FLA 504, FLA505, FLA 506, FLA 507, FLA 508 | PPT, Smart Board |
| Ph.D.-Fruit Science<br>4+2 Seminar | FSC 601, FSC 602, FSC 603, FSC 605, | PPT, Smart Board |
| Ph.D.-F.L.A<br>4+2Seminar | FLA 601, FLA 602, FLA 603, FLA 604 | PPT, projector |

The faculty members of Horticulture use ICT in teaching and practical. There is one seminar room and one lecture room with computer, LCD projector and internet connection. All faculty members have computer with printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, emails and CD ROM in teaching all courses at UG, PG and Ph.D. level. During COVID-19 pandemic, the department adopted online teaching platforms such as Google Meet and Teams for effective teaching. All the teaching materials were successfully uploaded on the ERP module and Microsoft teams to ensure the accessibility of teaching material to all the students.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and tobe presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the **Dean, Dr. Surender K. Pahuja** hereby certify that the information contained in the Section to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure HORT- I*

# HORTICULTURE

## List of student's placement

| Sr. No. | Name of student | Degree | Post for which selected | Company/institute |
|---|---|---|---|---|
| **1.** | Dr. Sonu Kumari | Ph.D. | Assistant Fruit Breeder | CCSHAU, Hisar |
| **2.** | Mr. Manmohan Singh | M.Sc. | Agriculture Officer | Punjab National Bank |
| **3.** | Ms Priya Deep | M.Sc. | Jr. Engineer | Urban Local Body, Haryana Govt. |
| **4.** | Mr. Sukrampal | M.Sc. | H.D.O. | Dept. of Horticulture Govt. of Haryana |
| **5.** | Mr. Naveen Rana | M.Sc. | H.D.O. | -do- |
| **6.** | Mr. Sanjay Kumar | M.Sc. | H.D.O. | -do- |
| **7.** | Dr. Reetika | Ph.D. | H.D.O. | -do- |
| **8.** | Ms. Manpreet Kaur | Ph.D. | D.H.O. | -do- |
| **9.** | Mr. Ankit Gawri | M.Sc. | H.D.O. | -do- |
| **10.** | Jashanpreet | M.Sc. | H.D.O. | -do- |
| **11.** | Pragati | M.Sc. | H.D.O. | -do- |
| **12.** | Ms. Rinku Rani | Ph.D. | H.D.O. | -do- |
| **13.** | Dr. Sweety | Ph.D. | D.H.O. | -do- |
| **14.** | Dinesh Giroh | M.Sc. | D.H.O. | -do- |
| **15.** | Gaurav Kant | M.Sc. | D.H.O. | -do- |
| **16.** | Komal | M.Sc. | D.H.O. | -do- |
| **17.** | Poonam Saini | Ph.D. | D.H.O. | -do- |
| **18.** | Dr. Rupakshi | Ph.D. | H.D.O. | -do- |
| **19.** | Vikas Sheoran | M.Sc. | H.D.O. | -do- |
| **20.** | Hemant Saini | Ph.D. | D.H.O. | -do- |
| **21.** | Avesh | M.Sc. | H.D.O. | -do- |
| **22.** | Neeraj | M.Sc. | H.D.O. | -do- |
| **23.** | Jyoti Chahal | Ph.D. | H.D.O. | -do- |
| **24.** | Vivek Beniwal | Ph.D. | H.D.O | -do- |
| **25.** | Jaipal | M.Sc | H.D.O. | -do- |
| **26.** | Monika | M.Sc. | A.D.O. | DAFW Govt. of Haryana |
| **27.** | Ritu Yadav | M.Sc. | T.A. | CCSHAU, HISAR |
| **28.** | Dr. Sourabh Jakhar | Ph.D. | Sr. Tech. Officer | CAZRI, Jodhpur |
| **29.** | Dr. Anuradha | Ph.D. | Asst. Hort. Breeder | RRS, Bawal |
| **30.** | Dr. Vinita Rajput | Ph.D. | DES (Hort) | CCSHAU, Hisar |
| **31.** | Dr. Sonia | Ph.D. | Asstt. Scientist/HDO | MHU, Karnal |
| **32.** | Dr. Sehroon Khan | Ph.D. | Asstt. Scientist | MHU, Karnal |
| **33.** | Dr. Vijay Kumar | Ph.D. | Asstt. Scientist | MHU, Karnal |
| **34.** | Dr. Prince | Ph.D. | Asstt. Scientist | CCSHAU, Hisar |
| **35.** | Ms Jyoti Bai | M.Sc. | Asst. Area Manager | N.F.L., Bhatinda |
| **36.** | Sushila | M.Sc. | Agril. Field Officer | Bank |
| **37.** | Gulshan Yadav | M.Sc. | SO, DDA | DDA, Delhi |
| **38.** | Ashok Kumar | M.Sc. | SO, DDA | DDA |
| **39.** | Sheena Nain | Ph.D. | SMS | Horticulture, Dept, Haryana |
| **40.** | Sushil Kumar | M.Sc. | Technical Assistant | CCSHAU, Hisar |

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| **41.** | Neha | Ph.D. | Agriculture Extension officer | Canara Bank |
| **42.** | Gurpreet Singh | M.Sc. | ADO | Agriculture Department , Government of Punjab |
| **43.** | Satish Kumar | M.Sc. | Executive Trainee | Jindal Stainless Limited Hisar |
| **44.** | Diksha | M.Sc. | Executive Trainee | Jindal Stainless Limited Hisar |
| **45.** | Zehra Salma | M.Sc. | Assistant Professor | Horticulture University, Hyderabad |
| **46.** | Ashish Kumar Panda | M.Sc. | Assistant Professor | Central University, Bihar |
| **47.** | Anjali Tripathi | Ph.D. | KVK, Mukteshwar | SRF |
| **48.** | Gagan Mehta | Ph.D. | T.A | Horticulture, Dept, Haryana |
| **49.** | Riya Yadav | M.Sc. | AFO | Union Bank of Inida |
| **50.** | Sahil | M.Sc. | AFO | Central Bank of India |
| **51.** | Mr. Jai Kumar | M.Sc. | Senior Officer | Dharampat Satyapal Ltd., Noida |
| **52** | Kumatkar Raghunath | Ph.D. | Section Officer | Central Public Works Dept, Govt. of India |
| **53** | Ashod Dhakad | M.Sc. | Field Extension Officer, | JNKVV, Jabalpur |
| **54** | Mahesh Choudhary | Ph.D. | Assistant Professor | SKNAU, Jobner |
| **55** | Preeti | Ph.D. | Field Officer | Central Bank of India |
| **56** | Anop Kumari | Ph.D. | SMS | KVK, Nagaur, Agril.University, Jodhpur |

***Annexure HORT-II***

# HORTICULTURE

## NET qualified by the students

| Sr. No. | Name of the student | Degree | Male/Female |
|---|---|---|---|
| 1 | Sweety | Ph.D. | female |
| 2 | Rinku Rani | Ph.D. | female |
| 3 | Om Parkash | Ph.D. | male |
| 4 | Reetika | Ph.D. | female |
| 5 | Neha Sharma | Ph.D. | female |
| 6 | Rupakshi | Ph.D. | female |
| 7 | Sourabh | Ph.D. | male |
| 8 | Vikas Sheoran | M.Sc. | male |
| 9 | Navya Bhat | M.Sc. | female |
| 10 | Narender | M.Sc. | male |
| 11 | Poonam Saini | Ph.D. | female |
| 12 | Monika Yadav | M.Sc. | male |
| 13 | Shashi Parkash | M.Sc.. | male |
| 14 | Priya Yadav | M.Sc. | female |
| 15 | Komal | M.Sc. | female |
| 16 | Rohit Garg | M.Sc. | male |
| 17 | Gaurav Kant | M.Sc. | male |
| 18 | Ankit | M.Sc. | male |
| 19 | Priyadeep | M.Sc. | male |

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|---|---|---|---|
| 20 | Deepak | M.Sc. | male |
| 21 | Satish Kumar | M.Sc. | male |
| 22 | Ashok Dhakad | M.Sc. | male |
| 23 | Pankaj Yadav | M.Sc. | male |
| 24 | Sushila Kumari | M.Sc.. | female |
| 25 | Bhawna | M.Sc. | female |
| 26 | Sonia | Ph.D. | female |
| 27 | Jyoti Bai Soni | M.Sc. | female |
| 28 | Manish Yadav | M.Sc. | male |
| 29 | Asheesh | M.Sc. | male |
| 30 | Happy | M.Sc | male |
| 31 | Savita | M.Sc. | female |
| 32 | Manmohan Singh | M.Sc. | male |
| 33 | Gurpreet Singh | M.Sc. | male |
| 34 | Manisha | M.Sc. | female |
| 35 | Pawan Kumar | M.Sc. | male |
| 36 | Gurmeet | M.Sc. | male |
| 37 | Mukesh Bishnoi | M.Sc. | male |
| 38 | Manish Kumar | M.Sc. | male |
| 39 | Manish | M.Sc. | male |
| 40 | Ritu Yadav | M.Sc. | female |

***Annexture HORT-III***

# HORTICULTURE

| S. No. | Details of Publications | NAAS Rating |
|---|---|---|
| **1.** | Bhanukar, M., Rana, G.S., Sehrawat, S.K. and Preeti (2018). Effect of exogenous application of micronutrients on growth and yield of sweet orange C.V. Blood Red, *Journal of Pharmacognosy and Phytochemistry*, **7**(2): 610-612. | -- |
| **2.** | Garg, R., Goyal, R.K., Jena, S. and Kundu, S. (2018). Evaluation of shelf life of pomegranate cultivars for biochemical parameters under ambient storage conditions. *International Journal of Chemical Studies*. 6(1):1566-1570. | -- |
| **3.** | Jena, S., Goyal, R.K. Garg, R, and Nayak, S.R. (2018). Response of passive modified atmospheric packaging on quality attributes and sensory analysis of pomegranate (*Punica granatum*) Fruits cv. Mridula. *International Journal of Chemical Studies.* 6(1): 1491-1494. | -- |
| **4.** | Khan, S., Kumar, A., Dahiya, D.S., Baloda, S. and Malik, A. (2018). Significance of nutrient application on growth, yield and quality of guava: A review. *International Journal of Chemical Studies*, 6(3): 2936-2942. | -- |
| **5.** | Khan, Shahroon; Kumar, Ashwani; Dahiya, D.S., Baloda, Satpal and Malik, A. (2018). Significance of nutrient application on growth, yield and quality of guava. A review. *International Journal of Chemical Studies.* 6 (3): 2936-2942. | -- |
| **6.** | Nagar, S; Kumar, M ; Sharma, J.R.; Baloda, S and Godara, R.K. (2018). Bael germplasm evaluation for leaf and fruits, pulp variability under south Haryana conditions. *International Journal of Pure and applied Bioscience*, 6 (1): 959-9. | -- |
| **7.** | Nain,S., Beniwal, B.S., Dalal, R.P.S. and Prince (2018). Studies on the effect of nutrients on growth and development of tuberose (*Polianthes tuberosa* L.) *International Journal of Pure and Applied Bioscience*, 6(2):1554-1560. | -- |
| **8.** | Ritika, Rana, G.S., Rana, M.K., Prince and Kant, G. (2018). Effect of foliar application of macro and micro nutrient on fruit drop and yield and Kinnow | -- |

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| | mandarin. *International Journal of Pure and Applied Bioscience*, **6**(2): 1163-1169. | |
| **9.** | Saini, H., Baloda, S; Sharma, J.R and Vijay. (2017). Effect of heading back and pinching on quality and yield of guava (*Psidium guajava* L) under high density plantation in semi-arid conditions of north western India. *Environment and Ecology*, 35 (2): 730-734. | 5.25 |
| **10.** | Saurabh; Sharma; J.R; Baloda, S ; Sheoran, V; Vijay and Saini, H. 2018. Response of organic amendmentsand biofertilizers on growth and yield of guava during rainy season. *Journal of Pharmacognosy and phytochemistry*, 7(6): 2692-95. | -- |
| **11.** | Sharma, N., Duhan, S., Sharma, S. and Sharma K.D. (2018). Physiological studies of different citrus species and their cultivars under semi-arid conditions of Hisar, (Haryana). *Journal of Plant Development Sciences*, (4) : 297-303 | 4.13 |
| **12.** | Sheena Nain, B.S.Beniwal, R.P.S. Dalal and Shiwani (2019). Studies on the effect of nitrogen and phosphorus on flowering and spike yield of Tuberose (Polianthes tuberose L.)cv. Prajwal. *Journal of Pharmacognosy and Phytochemistry*, SPI: 109-112. | -- |
| **13.** | Sheoran V., Kumar M., Vijay, Sharma S. and Pathak D.V. (2018). Effect of Seed Scarification Treatments on Ber (Ziziphus rotundifolia Lamk.) Seedling Biomass. *International Journal of Current Microbiology and Applied Sciences.* 7 (12): 2591-96. | -- |
| **14.** | Singh, V., Dudi, O.P., Sandooja, J.K. and Goyal, R.K. (2018). Influence of Different Packaging Materials on Occurrence of Pathogens in Pear Fruit during Storage. *International Journal of Current Microbiology and Applied Sciences*, 7(3): 1609-1615. | -- |
| **15.** | Singh, V., Dudi, O.P., Sandooja, J.K. and Goyal, R.K. (2018). Packaging in polyethylene bags and storage in zero energy cool chamber improves storage life of pear fruits under subtropics. *International Journal of Chemical Studies*, 6(2): 1657-1663 | -- |
| **16.** | Sweety, Rana, G.S. and Reddy, G. Chandra-Mohan (2018). Impact of growth regulators on fruit drop and yield parameters of sweet orange (*Citrus sinensis* Osbeck) cv. Jaffa. *Journal of Pharmacognosy and Phytochemistry*, 7(4): 3417-3419. | -- |
| **17.** | Vijay, Rana, G.S. Dalal, R.P.S., Kumar, R., Sheoran, V., Saini, H., Sourabh and Yadav, G. (2018). Studies on the impact of soil application of biofertilizers o growth and yield of Kinnow mandarin. *International Journal of Chemical Studies*, 6(6): 1741-1743. | -- |
| **18.** | Avesh, Singh Surender., Rana, M.K. and Sharma, J.R. (2019). Effect of packaging materials on physiological parameters of guava (*Psidium gu*ajava L.) cv. Hisar Safeda during storage after transportation. *International Journal of Chemical Studies*. 7 (3): 2875-79. | -- |
| **19.** | Avesh, Singh Surender., Rana, M.K. and Sharma, J.R. (2019). Effect of packaging materials on quality parameters of guava (*Psidium gu*ajava L.) cv. Hisar Safeda during storage after transportation. *International Journal of Chemical Studies*. 7 (3): 2880-86. | -- |
| **20.** | Avesh, Singh, S., Rana, M.K. and Sharma J.R. (2019). Effect of packaging materials on quality parameters of guava (*Psidium guajava* L.) cv. Hisar Safeda during storage after transportation. *International Journal of Chemical Studies*7(3): 2880-2886. | -- |
| **21.** | Avesh, Singh, S., Rana, M.K. and Sharma, J.R. (2019). Effect of packaging materials on physiological parameters of guava (*Psidium guajava* L.) cv. Hisar Safeda during storage after transportation. *International Journal of Chemical Studies* 7(3): 2875-2879. | -- |
| **22.** | Kamatyanatti, M., A. Kumar and R.P.S. Dalal (2019). Effect of integrated nutrients management on growth, flowering and yield of subtropical plum cv. Kala Amritsari. *Journal Pharmacognosy and Phytochemistry*, 8 (1): 1904-1908. | -- |
| **23.** | Manoj kumar, B.S.Beniwal, Suresh Kumar and Rajesh lather. (2019). The effect of growth retardants on growth, flowering and yield of African marigold. *International Journal of Agricultural Science & Research*, 9(3):127-130 | -- |

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| **24.** | Manoj kumar, B.S.Beniwal, Suresh kumar and Rajesh lather. (2019). Role of pinching on floral and yield parameters in African marigold cv. Local Selection. *International Journal of Current Microbiology and Applied Sciences*, 8(5):812-815 | -- |
| **25.** | Muradi, B. and Godara, A.K. (2020). Effect of foliar fertilization of boron, zinc and iron on fruit quality and leaf nutrients content of peach cv. Shan-e-Punjab. Current *Journal of Applied Science and Technology*, 39(1): 43-51 | -- |
| **26.** | Nain,S., B.S.Beniwal, R.P.S.Dalal and Shiwani (2019). Studies on the effect of nitrogen and phosphorus on flowering and spike yield of tuberose (Polianthes tuberose L.) cv. Prajwal. *Journal Pharmacognosy and Phytochemistry*, SPI: 109-112. | -- |
| **27.** | Kumar M., Sharma S., Gaur R.K., Yadav B.S. and Singh N. (2019). Performance of bael (Aegle marmelos Corr.) cultivars under arid conditions of Haryana. *Indian Journal of Arid Horticulture*, 1(2): 39-43. | -- |
| **28.** | Kumar M., Sharma S., Gaur R.K., Yadav B.S. and Singh N. (2019). Performance of bael (*Aegle marmelos* Corr.) cultivars under arid conditions of Haryana. *Indian Journal of Arid Horticulture*. 1(2): 39-43. | -- |
| **29.** | Rani, Rinku, Annu and Sharma, J.R. (2019). Transgenic research in fruit crops for disease resistance. *Journal of Pharmacognosy and Phytochemistry 2019*, 8(1): 1999-2005. | -- |
| **30.** | Singh, Sonia, Sehrawat, S.K. & Sharma, Sushil (2019). Effect of planting time and growing conditions on sprouting and growth of gladiolus Cv. American Beauty. *International Journal of Current Microbiolology Applied Sciences*, 8 (11): 656-662 | -- |
| **31.** | Singh, Sonia, Sehrawat, S.K. and Sharma, Sushil (2019). Effect of planting time and growing conditions on sprouting and growth of gladiolus Cv. American Beauty. *International Journal of Current Microbiolology Applied Sciences*, 8 (11): 656-662 | -- |
| **32.** | Vijay, R.P.S.Dalal, Sourabh, Saini, H. and Sheoran, V. (2019). Influence of foliar application of potassium and its spray schedule on quality, yield and nutrient content of leaf in citrus. *International Journal of Chemical Studies*, 7(1):853-861 | -- |
| **33.** | Bhat, Navya Vishweshwar; Baloda, Satpal and Sharma, J.R. 2020. Effect of pre harvest application of ethephon and potassium sulphate on post harvest behavior of winter season guava (*Psidium guajava L*). *Agric.Res.News Series*. 41(2): 200-206. | |
| **34.** | Dhakad, Ashok, Baloda, Satpal, Sehrawat, S.K., Sharma J.R., Sharma, Susheel, Tokas, Jayanti and Kumar, Amit. (2020). Effect of NAA and zinc sulphate application on nutritional status of fruits and leaves of mulberry (*Morus alba* L.). *International Journal of Chemical Studies*, 8(6): 733-737. | -- |
| **35.** | Dhakad, Ashok, Baloda, Satpal, Sehrawat, S.K., Sharma J.R., Sharma, Susheel, Tokas, Jayanti and Kumar, A. (2020). Effect of NAA and zinc sulphate application on fruits drop, yield and quality attributes of mulberry (*Morus alba* L.). *Journal of Pharmacognosy and Phytochemistry*, 9(6): 1937-1943. | -- |
| **36.** | Jaipal, J., R.P.S. Dalal, D. Kumar, A. Kumari and Reetika (2020). Effect of rootstocks and grafting time on graft success and growth of peach cv. Shan – I – Punjab in subtropics of India. *International Journal Chemical Studies*, 8(4): 3985-3990. | -- |
| **37.** | Kant, G. and R.P.S. Dalal (2020) Effect of chemicals on growth and buddability in rough lemon (Citrus Jambhiri Lush) under semi-arid irrigated ecosystem of Haryana. *International Journal Chemical Studies*, 8(4): 3053-3058 | -- |
| **38.** | Pooja, R.P.S. Dalal, Reetika and P. Saini (2020). Effect of foliar application of plant growth regulators and nutrients on quality of Kinnow Mandarin. *Int. J. Curr. Microbiol. App. Sci.*, 9(6): 1263-1267. | -- |
| **39.** | Reetika, Rana, G.S. Komal, Kumar, S. and Saini, P. (2020). Influence of foliar spray of nutrients on yield and yields according character of kinnow mandarin. *A Review: Agricultural Reviewer*. 41(3):297-302. | -- |

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| **40.** | Reetika, Rana, G.S. Komal, Pooja and Rana, M.K. (2020). Effect of foliar application of macro and micronutrient on quality of kinnow mandarin. *Current Journal of Applied Science and Technology*, 39(5):27-33. | 4.71 |
| **41.** | Reetika, Rana, G.S. Kumar, R, and Kumar, R. (2020). Impact of foliar fertilization on leaf nutrient status of kinnow mandarin. *International Journal of Plant and Soil Science*, 32(8):8-14. | -- |
| **42.** | Rupakshi., Baloda, S., Yadav, P. and Sharma, J.R. (2020). Effect of zinc sulphate and ferrous sulphate on soil nutrient status of guava orchards cv Hisar Safeda under high density planting. *International Journal of Chemical Studies*, 8 (1): 2963-2967. | -- |
| **43.** | Rupakshi; Baloda, Satpal; Yadav, Priya and Sharma, J.R. 2020. Effect of zinc sulphate and ferrous sulphate on soil nutrient status of guava orchard cv Hisar Safeda under high density planting. *International Journal of Chemical Studies*, 8 (1): 2963-2967. | -- |
| **44.** | Rupakshi and Baloda, S. (2020). Growth attributes of guava (*Psidium guajava* L) as effected by soil application of zinc sulphate and ferrous sulphate. *The pharma Innovation Journal*, 9(3): 120-122. | 5.23 |
| **45.** | Sharma, N. and Godara, A.K.(2020). Impact of protective condition and media on growth of seedling in guava cv. L-49 in North-Western Haryana, India. *The Pharma Innovation Journal*, 9 (12): 79-83. | 5.23 |
| **46.** | Sourabh, Preeti, Sharma J.R and Bhukar, A. (2020). Effect of scarification treatment on germination of guava (*Psidium guajava* L.). *Indian Journal of Agricultural Sciences* 90(7): 1333-7. | 6.37 |
| **47.** | Ulfatullah, Baloda, S., Sehrawat, S.K., Sharma, J.R. and Malik, A. (2020). Effect of Foliar application of Nutrients and Growth Regulator on Fruit Cracking and Yield of Pomegranate cv. Bhagwa. *International Journal of Chemical Studies*, 8(6): 240-243. | -- |
| **48.** | Ajmal Hussain Zai, R. P. S. Dalal, Dinesh Kumar, B. S. Beniwal and Jaipal Jaipal (2021). Effect of foliar application of potassium sources on quality of peach (*Prunus persica* L.) cv. Shan-i-Punjab Fruit. *Indian Journal of Pure and Applied Biosciences*, 9(3):279-288. | -- |
| **49.** | Bhanukar, M. Preet and Rana, G.S. (2021). Influence of foliar fertilization of micronutrients on leaf micro nutrient status of sweet orange cv. Blood Red. *International Journal of Current Microbiology and Applied Sciences*, 10(2): 1442-1449. | -- |
| **50.** | Jaipal, Dalal, R.P.S., Kumar, D., Kumari, S. and Sheoran, S. (2021). Effect of grafting methods and rootstocks on graft success and growth in low chill peach cv. Shan-i-Punjab under semi arid irrigated ecosystem. *The Pharma Innovation Journal*, 10(6): 1085-1089. | 5.23 |
| **51.** | Jaipal, J., R.P.S. Dalal, D. Kumar, S. Kumari and S. Sheoran (2021). Effect of grafting methods and rootstocks on graft success and growth in low chill peach cv. Shan - i – Punjab under semi arid irrigated ecosystem. *The Pharma Innovation Journal*, 10 (6):1085-1089. | 5.23 |
| **52.** | Kumar M., Arya R., Kumar Manoj, Gaur R.K. and Sharma S. (2021). Evaluation of aonla varieties under semi-arid conditions of Haryana. *EKIN, Journal of Crop Breeding and Genetics*. (accepted) | 4.88 |
| **53.** | Kumar M., Arya R., Kumar Manoj, Gaur R.K. and Sharma S. (2021). Evaluation of aonla varieties under semi-arid conditions of Haryana. EKIN, *Journal of Crop Breeding and Genetics* vol. 7(2):139-144. | 4.88 |
| **54.** | Kumar, D., Dalal, R.P.S., Kumar, R. Parshad, J. and Jaipal, J. (2021). Seasonal Variation in Microbial Communities in Rhizosphere and Non-Rhizosphere soil of Different Fruit Tree Species in Semiarid Irrigated Conditions of Haryana. *International Journal of Bio-resource and Stress Management*, 12(5): 468-476. | -- |
| **55.** | Kumar, D., Dalal, R.P.S., Kumar, R., Parshad, J., Sheokand R.N. and Jaipal, J. (2021). Impact of seasonal variation on physico-chemical properties of orchard soils and their relationship with different fruit tree species under semiarid irrigated condition. *Indian Journal of Pure and Applied Biosciences*, 9(3): 289-304. | -- |

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| **56.** | Kumar, D., Dalal, R.P.S., Kumar, R., Prashad, J. and Jaipal, J. (2021). Seasonal variation in the microbial biomass on phyllosphere of different fruit tree species. *Journal of Plant Development Sciences*, 13(7): 479-484. | 4.13 |
| **57.** | Kumar, D., R.P.S. Dalal, S. Singh, J. Parshad and I. Arora (2021). Seasonal effect of physico chemical properties in rhizospheric soil of fruit tree species. *The Pharma innovation J.*, 10(6): 479-484. | 5.23 |
| **58.** | Kumar, D., R.P.S., Dalal, R. Kumar, J. Parshad, R.N. Sheokand and J. Jaipal (2021). Impact of seasonal variation on physico-chemical properties of orchard soil and their relationship with different fruit tree species under semi-arid irrigated conditions. *Indian Journal of Pure Applied Bioscience.*, 9 (3): 289-304. | -- |
| **59.** | Mehta, G., Godara, A.K., Sharma, A. and Kumar, R. (2021). Effect of plant growth regulators on rooting behaviour of *in vitro* strawberry cv. Winter Star. *The Pharma Innovation Journal*, 10 (4): 866-869. | 5.23 |
| **60.** | Mehta, G., Godara, A.K., Sharma, A. and Kumar, R. (2021). Influence of different substrates combinations on reproductive growth and quality strawberry (*Fragaria* × *ananassa* Duch.) cv. Camarosa grown under protected conditions. *The Pharma Innovation Journal*, 10 (4): 950-953. | 5.23 |
| **61.** | Reetika, Dalal, R.P.S. and Singh, H. (2021). Effect of salinity on seedling growth of citrus rootstock. *Journal of Plant Development Sciences*, 13(5): 277-283. | 4.13 |
| **62.** | Reetika, R.P.S., Dalal and H. Singh (2021). Effect of salinity on seedling growth of citrus rootstocks. J.Pl. Dev. Science., 13 (5):277-283. | |
| **63.** | Zai, A.H., Dalal, R.P.S., Kumar, D., Beniwal B.S. and Jaipal, J. (2021). Effect of foliar application of potassium sources on quality of peach (*Prunus persica* L.) cv. Shan-i-Punjab fruit. *Indian Journal of Pure and applied Biosciences*, 9(3): 279-288. | -- |
| **64.** | Zai, A.H., Dalal, R.P.S., Kumar, D., Beniwal, B.S. and Jaipal, J. (2021). Effect of foliar application of potassium sources on maturity, yield and leaf nutrients contents of peach (*Prunus persica* L.) cv. Shan-i-Punjab under semiarid irrigated conditions. *Journal of Plant Development Sciences*, 13(7): 519-523. | 4.13 |
| **65.** | Kumar Dinesh, Singh Surender, Arora Indu, Sharma J.R. and Pankaj Rao (2022). Effect of Mulched and without Mulched Intercrops on growth, yield and fruit quality of Kinnow mandarin Plantation under semi-arid irrigated conditions. *Internatinal Journal of Environ and Climate Change Studies*, 12(11): 1394-1400 | -- |
| **66.** | Kumar, K.C., Beniwal, B.S., Jat, R.D., Patel, B., Kumar, A. and Kumar, M. (2022). Plant Disease Management Approaches for Organic Crop Production in Indian Scenario. *A Critical Review. Journal of Plant Bioinformatics and Biotechnology*, 2 (1): 1-12. | -- |
| **67.** | Kumar, M., Sharma, Sushil, Baloda, S., Hardeep and Sangwan, D. (2022). Effect of Pre-Sowing Treatments on Seed Germination of Guava (Psidium guajava L.). *Biological Forum–An International Journal*, 14(3): 13-19(2022). | 5.11 |
| **68.** | Kumar, M., Sharma, Sushil, Hardeep, Sangwan, D. and Kumar, A. (2022). Effect of Different Pre-Sowing Seed Treatments on Seed Germination and Seedling Growth of Fruit Crops: A Review. *Frontiers in Crop Improvement*, Vol 10 : 1001-1009 (Special Issue-II) July 2022. | 4.67 |
| **69.** | Kumar, M., Sharma, Sushil,Sharma, J.R., Baloda, S and Soni, J.B. (2022).Effect of pre-sowing treatments on seedling growth of guava. *The Pharma Innovation Journal*, 2022; SP-11(8): 45-48. | 5.23 |
| **70.** | Kumar, P., Sheoran, S. and Beniwal, B.S. (2022). Growth and yield parameters of rose as influenced by different organic manures and their levels. *The Pharma Innovation Journal*, 11(6S): 394-398. | 5.23 |
| **71.** | Pal, S., Rana, G.S., Baloda, S., Jat, M. and Rajesh. (2022). Effect of different fungicides and calcium nitrate on shelf life and quality of Kinnow mandarin. *The pharma Innovation journal*, 11(3): 1352-1356. | 5.23 |
| **72.** | Sonia, Baloda, S., Sharma, J.R., Sehrawat, S.K., Rana, G.S., Sharma, S. and Malik, A. (2022). Study the performance of wedge grafting in Indian jujube under different growing conditions. *The Pharma Innovation Journal*, SP-11(7): 173-180. | 5.23 |
| **73.** | Yadav, M., Rana, G.S., Jat, M.L. and Raveena (2022). Significance of Different Sources of Fertilizers Application on Yield and Physiochemical properties of Kinnow Mandarin. *Biological Forum - An International Journal*, 14(2): 1348-1352. | 5.11 |

## BOOK CHAPTER PUBLISHED BY STUDENTS

1. Chandramohan Reddy, M. Santosh Kumar, Mahantesh, K., Anuradha Bishnoi & Sweety. Utilization of fruit waste as a source of nutraceuticals and functional foods (2018). Recent advances in food processing and technology. Bharti publications, New Delhi by Dr. AbhisekTripathi, Dr. R.S.Mishra, Dr. A.K. Yadav, Dr. M. Tiwari, Dr. S. Fatma and Dr. R.R. Mishra. pp. 45-49. ISBN no. 978-93-86608-49-9.
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***Annexure HORT-IV***

## COURSES OFFERED BY THE DEPARTMENT

| Cours e No. | Course title | Credit hrs |
|---|---|---|
| FSC 501 | Tropical and Dry land Fruit Production | 2+1 |
| FSC 502 | Subtropical and Temperate Fruit Production | 2+1 |
| FSC 503 | Biodiversity and Conservation of Fruit Crops | 2+1 |
| FSC 504 | Canopy Management in Fruit Crops | 2+1 |
| FSC 505 | Propagation & Nursery Management for Fruit Crops | 2+1 |
| FSC 506 | Breeding of Fruit Crops | 2+1 |
| FSC 507 | Post harvest Technology for Fruit Crops | 2+1 |
| FSC 508 | Growth and Development of Horticultural Crops | 2+1 |
| FSC 509 / MBB515 | Biotechnology of Horticultural Crops | 2+1 |
| FSC 510 | Organic Horticulture | 1+1 |
| FSC 511 | Protected Fruit Culture | 2+1 |
| FSC 512 | GAP for Horticultural Crops | 1+0 |
| FSC 513 / AGM 507 | Weather Modifications and Risk Management Strategies | 2+0 |
| FSC 591 | Master's Seminar | 1 |
| FSC 601 | Advances in Breeding of Fruit Crops | 2+1 |
| FSC 602 | Advances in Production of Fruit Crops | 2+1 |
| FSC 603 | Advances in Growth Regulation of Fruit Crops | 2+1 |
| FSC 604/BIF 501/MBB 555 | Information to Bioinformatics | 2+1 |
| FSC 605 | Biotic and Abiotic Stress Management in Horticultural Crops | |
| FLA 501 | Breeding of Flower Crops and Ornamental Plants | 2+1 |
| FLA 502 | Production Technology of Cut Flowers | 2+1 |
| FLA 503 | Production Technology for Loose Flowers | 2+1 |
| FLA 504 | Landscaping and Ornamental Gardening | 2+1 |
| FLA 505 | Protected Floriculture | 2+1 |
| FLA 506 | Value Addition in Flowers | 2+1 |
| FLA 507 | Turfing and Turf Management | 2+1 |

| | | |
|---|---|---|
| FLA 508 | CAD for Outdoor and Indoor Landscaping | 2+1 |
| FLA 591/ FSC 591 | Master's Seminar | 0+1 |
| FLA 601 | Advances in Breeding of Flower Crops | 2+1 |
| FLA 602 | Advances in Flower Production Technology | 2+1 |
| FLA 603 | Advances in Protected and precision Floriculture | 2+1 |
| FLA 604 | Advances in Landscape Architecture | 1+2 |
| FLA 605 | Advances in Bio Technology of Flowers | 2+1 |
| FLA 691/ FSC 691 | Doctoral Seminar-I | 0+1 |
| FLA 692/ FSC 692 | Doctoral Seminar-II | 0+1 |
| Mgt. 533 | Fruit Production and Post harvest Management | 3+0 |

# Programme - 11



## M.Sc. Nematology

## and

## Ph.D. Nematology

## 6.4. About the Department

The Department of Nematology of College of Agriculture, Haryana Agricultural University, Hisar came into being in 1977. Prior to establishment of the separate department, the research work on phytonematology had been going on in the department of Plant Pathology, since 1966 in a scheme entitled "Co-ordinated scheme for work on nematodes of fruits, vegetables and other crops" with Dr. M.C. Mukhopadhayaya as its Principal Investigator. In 1971, Dr. D.S. Bhatti, who returned from U.S.A. after completing Ph.D. degree in the discipline of Nematology, was made the technical incharge of the said scheme and a separate section of Nematology was created in 1975 in the Department of Entomology which was subsequently raised to the status of sub department in the same year. The Sub-department in the Department of Entomology was elevated to the status of a full-fledged independent department in 1977 with Dr. D.S. Bhatti as founder Prof. & Head. Since then, the department has grown to new heights and it has developed its teaching, research, and extension units. The department has been playing a vital role in the development of Nematology at the national level. Till now 61 M. Sc. and 39 Ph. D. has passed out from the department. Total 10 PG students are pursuing M.Sc and Ph.D degree in the department. Presently 7 faculty members are working in the teaching and research schemes of the department. The major research schemes under department are as follows

1. Survey, identification, control of plant parasitic nematodes and use of Entomopathogenic nematodes in insect pest management.
2. State scheme C(a)-Dte-R-1-Agri. (A)-1207
3. ICAR scheme C(b)Nem-1-ICAR (All India Cordinated Research Project on nematode in agriculture)

Apart from the above schemes, external funding projects, adhoc and testing trails have also been conducted in the department.

### Major achievements during the period of report

1. One patent has been filed by Pushpa Kharb, Kanika Rani, Nisha Devi and Prakash Banakar, Improved method for synthesis of silver nanoparticles using glycyrrhiza glabra 19860/ DEL/2020, CBR No.14085 dt 28/04/2020
2. Based upon the research eight technologies were developed during the period of report for the management of plant parasitic nematodes in rice, wheat, polyhouse (Tomato, cucumber and capsicum). These are included in package and practices of the CCSHAU, Hisar and adopted by the farmers.
3. Using laboratory facilities in the department 50 research papers were published in national and international journals out of which 15 papers are having NAAS rating above 6.
4. One of the faculty member i.e., Dr. Saroj Yadav, Astt. Professor received Young Scientist Award during 2019.
5. Other activities undertaken/ Programmes organized are as under:

| S. No. | Titles | Dates |
|---|---|---|
| **1.** | Awareness day on nematode management in protected cultivation and horticultural crops at KVK Fatehabad | 21.09.2018 |
| **2.** | Molya Wheat Nematode field day at Kharakheri | 15.03.2019 |
| **3.** | Hands on training on "Basic Techniques in Nematology and Identification of Major Plant Parasitic Nematodes" | June 10-21, 2019 |
| **4.** | Nematode awareness day at KVK Rohtak | 09.08.2019 |

| | | |
|---|---|---|
| **5.** | Vegetable Nematode awareness day at KVK Fatehabad | 29.06.2020 |
| **6.** | Webinar on Nematode problems in horticultural crops | 09.08.2020 |
| **7.** | Webinar on Nematode problems in horticultural crops and their management | 04.09.2020 |
| **8.** | Molya Wheat Nematode field day at Kharakheri | 15.03.2021 |
| **9.** | Nematode awareness day at KVK Jind | 24.08.2021 |
| **10.** | Polyhouse nematode awareness day at KVK Fatehabad | 22.11.2021 |
| **11.** | Nematode awareness day at KVK Fatehabad | 29.12.2021 |
| **12.** | Hands on training on "Detection, Diagnosis and Management of Phytoparasitic Nematodes Associated with Agri-Horticultural Crops" | March 5-11, 2022 |
| **13.** | Nematode awareness day at KVK Fatehabad | 11.10.2022 |




Nematode awareness day at KVK Fatehabad




Hands on training for UG and PG students

## Objectives of the Department

- To generate human resource in Nematology
- To identify and generate management technology for nematode problems of Haryana
- To disseminate the nematode technology to farming community
- To impart training and update knowledge about nematodes to research and extension workers

### 6.4.1 Brief History of the Degree Programme:

M.Sc. & Ph.D. programmes were started in the year 1977 and 1980, respectively. A total of 61 and 39 students have passed their M.Sc. and Ph.D. degree since inception of the department. During the period under report, a total of 11 M.Sc. and 8 Ph. D. students have passed their degree. At present, four students in M.Sc. and six in Ph.D. are on roll.

| | |
|---|---|
| Objectives of initiating M.Sc. | To project the importance of nematodes in agriculture and impart basic knowledge on all aspects of plant nematology.<br><br>To sensitize the students on the theory and practice of classifying organisms and the rules governing the same.<br><br>Familiarization with structural organization of nematode body so as to enable the students to understand biology, physiology and classification of nematodes.<br><br>Development of skills in the identification of plant parasitic nematodes up to genera and species levels.<br><br>Understanding the principles, theoretical aspects and developing skills in nematological techniques.<br><br>To impart basic knowledge about the causal organism, nature of damage, symptoms and control of nematode diseases of agricultural and horticultural crops.<br><br>To develop understanding of life cycle patterns, feeding and metabolic processes in phytonematodes which have implications in their management.<br><br>To understand the life of plant parasitic nematodes in their environment; their survival strategies, and how to exploit these for their control.<br><br>To understand the role of nematodes in disease complexes involving fungal, bacterial, viral and other organisms.<br><br>To impart comprehensive knowledge about the principles and practices of nematode management.<br><br>To sensitize about the use of nematodes for the biological control of insect pests of crops, and application of some nematodes as biological models and as indicators of environmental pollution. |
| Accomplishments of M.Sc. programme | Department has guided 43 students having master degree in Nematology and they are serving in the various capacity in the department of Nematology or in State Agriculture Department.<br><br>Three students got SRF and sought admission to Ph.D in Division of Nematology, IARI New Delhi.<br><br>Six Students cleared NET examination during 2017-2022 |

| | |
|---|---|
| | One student (Vinod Kumar, Adm. No. 2013A98M) got selected as Assistant Scientist in CCS HAU, Hisar in 2018<br><br>One student (Ms. Promila, Adm. No. 2018A72M) got selected as HDO, in Horticulture department Haryana in 2021<br><br>One student (Lochan Sharma, Adm. No. 2017A132M) got selected as Assistant scientist in CCSHAU, Hisar, in 2022<br><br>Students participated in National/International Conferences and published thirty research papers in National and International journals above NAAS Rating 6. |
| Objectives of initiating Ph.D. programme | • Studies on the ultrastructure of plant parasitic nematodes based on TEM and SEM, and appraisal of recent developments in their classification.<br>• To update knowledge on the recent research trends in the field of plant nematode relationships at genetic and molecular level.<br>• To keep abreast with latest developments and trends in nematode management.<br>• To facilitate deeper understanding on plant biosecurity and biosafety issues in agriculture |
| Accomplishments of Ph.D. programme | • Department has guided 24 number of students having Ph.D degree in Nematology and they are serving in the various capacity in the discipline of Nematology or in State Agriculture Department<br>• One student (Jaydeep A. Patil, Adm. No. 2013A30D) got selected as Assistant Scientist in CCS HAU Hisar during 2018.<br>• One student (Saroj Yadav, Adm. No. 2014A29D) got selected as Assistant Professor in CCSHAU, Hisar during 2019.<br>• Mr. (Gurpeet Singh, Admn. No. 2016A23D) joined as Territory Manager at T Stanes and company limited, Haryana<br>• Mr. Madhu MR, Admn. No. 2015A25D joined as Senior research associate at Advanta Crop Science Pvt. Ltd<br>• One student Harjot Singh, Adm. No. 2015A27D got selected as Assistant Professor in MHU, Karnal during 2021.<br>• Students participated in National/International Conferences and published twenty-one research papers in national and international journals<br>(*Annexure NEMA- I*)<br>• Students got best paper presentation awards in symposium.<br>Note: The list of student's publication is presented in *Annexure-I* |

| **Degree Programme offered by the Deptt** | **Specialization** | **Year of start** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Y1 | Y2 | Y3 | Y4 | Y5 | Total | Y1 | Y2 | Y3 | Y4 | Y5 | Total |
| **M. Sc.** | Nematology | 1977 | 2 | 2 | 3 | 1 | 3 | **11** | 2 | 3 | 1 | 2 | 3 | **11** |
| **Ph. D.** | Nematology | 1980 | 1 | 3 | 1 | 2 | 2 | **9** | 1 | 2 | 1 | 0 | 4 | **8** |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual*

*faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1. | Professor and equivalent | - | - | - |
| 2. | Associate Professor and equivalent (2) | 1 | 1 | - |
| 3. | Assistant Professor and equivalent (13) | 9* | 4 | - |

**Note:** All the Faculty is assigned the responsibilities for the multiple programmes

*One faculty working in wheat and barley section of GPB

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place | vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1 | Assistant | 1 | 1 | 0 | - |
| | Steno | 1 | 1 | 0 | - |
| | Messenger | 1 | 0 | 1 | - |
| 2. | Lab staff | | | | - |
| | Lab Assistant+SLA | 1 | 1 | 0 | - |
| | Any other | | | | - |
| 3. | Field staff | - | - | - | - |
| | Beldar | 1 | 1 | 0 | - |

**Note:** All the technical and supporting staff has been assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | • One (Lecture room no. 13) with seating capacity of 70 each with smart classroom facility |
| No. of labs with specialized purpose | • One Under -graduate laboratory for conducting practical of UG courses with sitting capacity 30 students with LED facility<br>• One Post-Graduate Laboratory for conducting research on biocontrol and for practical classes of PG courses<br>• One Nematode Management Laboratory for conducting experiments on management of plant parasitic nematodes<br>• One laboratory for nematode taxonomy with all the facilities of nematode identification slides and wet collections of nematode species of Haryana is maintained. Sufficient number of stereo zooms and compound microscopes are available for conducting practicals of the course i.e, nematode classification, morphology of nematodes and nematode biology and physiology |
| Farm facilities | • Yes. Research farm of 2.5 acre is available in the department. |

| | |
|---|---|
| | There is a dedicated field lab. For practical's processing of the samples and other research work pertaining to the field area. Farm area is divided into plots, micro plots polyhouse screen house. Pure nematode culture is maintained in micro plots Mushroom lab is available in the field area for carrying out the experiment |

## List of major equipments at present in the Department

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Gel doc imaging system | 57 |
| 2. | Elga 50 ltr. De-ionization based portable system | 57 |
| 3. | GT Horizontal Electrophoresis mini sub cell | 57 |
| 4. | PCR machine | 57 |
| 5. | NSW Refrigerated bath circulator | 57 |
| 6. | Horizontal Electrophoresis system | 57 |
| 7. | BOD Incubator | 57 |
| 8. | Autoclave (4) | 8, 56, 57 and Field Lab |
| 9. | Laminar Air Flow (2) | 38 and 57 |
| 10. | Deep Freezer (-20 ºC) | 57 |
| 11. | Nikon Camera | 38 |
| 12. | Spectrophotometer (1) | 38 |
| 13. | BOD Incubator (7) | 8, 38, 56, 57 and Field Lab |
| 14. | Weighing balance (5) | 8, 38, 56, 57 and Field Lab |
| 15. | Stereoscopic Microscope (9) | 8, 38, 56, 57 and Field Lab |
| 16. | Trinocular Research Microscope | 08 |
| 17. | Centrifuge (spin win micro centrifuge) | 57 |
| 18. | Electronic precision balance | 57 |
| 19. | LED | 56 |
| 20. | pH Meter | 58 |
| 21. | Refrigerator (6) | 8, 38, 56, 57 and Field Lab |
| 22. | Hot Plate (3) | 38 and 56 |
| 23. | Distilation Unit | 56 |
| 24. | Cooling Centrifuge | 56 |
| 25. | Inverted microscope | 56 |
| 26. | Compound microscope (6) | 8, 38, 56 and 57 |

## Theory and practical batches

- At UG level, the department of Nematology offers 1 compulsary and 1 professional elective courses (up to 2019), of which all the courses had practical components. Since, 2019 onwards module is being taught to students during final year of B.Sc. (Hons.) Agri.
- At M.Sc level, the department of Nematology offers 20 courses and 18 courses have practical components. There are limited 3 seats in M.Sc. programme with an average of <15 students.
- There is only one batch for theory classes and one batch for practical classes in all the courses.

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc. | Ph.D. | M.Sc. | Ph.D. |
| 2018-19 | one | one | one | one |
| 2019-20 | one | one | one | one |
| 2020-21 | one | one | one | one |
| 2021-22 | one | one | one | one |
| 2022-23 | one | one | one | one |

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

| Degree Programme | Total Courses | Practical courses | Course No | How far students are getting desired practical and hands on training as per the curriculum |
|---|---|---|---|---|
| M.Sc. | 16 | 12 | NEMA 501 | • Students are getting knowledge of principles of the nematode extraction from soil and plant samples.<br>• Standing of sedentary endoparasites.<br>• Nematode diseases symptoms and histopathology. |
| | | | NEMA 503 | • Students are getting knowledge of different shapes and size of nematodes.<br>• Morphological details of cuticle, cuticular markings and ornamentation, variations in stoma, oesophagus, rectum.<br>• types and parts of female and male reproductive systems, sense organs, and excretory systems. |
| | | | NEMA 504 | • Identification of common plant parasitic nematodes belonging to Orders Tylenchida, Dorylaimida, Aphelenchida and Triplonchida up to generic level; and up to species level for major nematode pests (root-knot, cyst nematodes etc.) of crops.<br>• Identification of EPNs belonging to Order Rhabditida. Drawing of nematodes, measurement of nematodes using traditional as well as image analyzing software.<br>• Procedures for PCR and molecular markers |
| | | | NEMA 505 | • Students are doing practicals on extraction of nematodes cyst from different methods.<br>• killing and fixing nematodes and preparation of temporary and permanent mounts.<br>• Identification of root knot and cyst nematodes by preparation of perineal pattrerns and vulval cones.<br>• Hands on training on collection of root exudates and nematode disease exhibits.<br>• Culturing of nematodes by different methods. |
| | | | NEMA 506 | • Identification of different nematode diseases by symptoms and Diagnosis of causal organisms.<br>• Field visit of students for diagnosis of nematode diseases in agricultural and horticultural crops. |

| | | | | |
|---|---|---|---|---|
| | | | NEMA 507 | • Students are getting knowledge on embryogenesis and post-embryogenesis, hatching, moulting, life cycle development, feeding.<br>• Enzymatic assay by electrophoresis. |
| | | | NEMA 508 | • Hands on training by students on nematode fauna in varied agro-ecological systems, community analysis of nematode populations.<br>• Laboratory exercises on influence of abiotic factors on movement and hatching.<br>• Green-house experiments on effect of abiotic factors on nematode populations and plant growth. |
| | | | NEMA 509 | • Green-house experiments to study the role of plant parasitic nematodes in wilt/rot causing fungal and bacterial pathogens. |
| | | | NEMA 510 | • Students are conducting experiments on *In vitro* screening of synthetic chemicals and plant products for nematicidal activity, and their application methods; methods for screening of crop germplasm for resistance against nematodes.<br>• Laboratory exercises on biocontrol potential of fungal, bacterial parasites, and predacious fungi and nematodes. |
| | | | NEMA 511 | • Isolation, identification, mass rearing and application methods of entomopathogenic nematodes |
| | | | NEMA 512/ ENT 510 | • Crop loss assessment- direct losses, indirect losses, potential losses, avoidable losses, unavoidable losses.<br>• Computation of EIL and ETL.<br>• Crop modeling; designing and implementing IPM system. |
| | | | NEMA 515/ PATH 521/ ENT 524 | • Visit to familiarize with pest and disease situations developing in protected cultivation; symptomatology and damages; identification of the causes.<br>• Estimation of population densities; management tactics/ approaches and recommendations.<br>• Production and commercialization of biological agents. |
| **Ph.D.** | 7 | 4 | NEMA 601 | • Students are learning of morphological structures and identification of plant parasitic nematodes up to species level.<br>• Preparation of compendia and keys.<br>• Drawing and measurements using camera lucida and computer software.<br>• Isozyme analysis for identification of common species of root knot nematodes. rDNA- RFLP for diagnosis of nematode species; Sequence analysis, alignment, phylogenetic analysis, preparation of phylogenetic tree and interpretation. |
| | | | NEMA 602 | • Microtomy for study of histopathological changes induced by important nematodes.<br>• Screening techniques for assessment of resistance in crop germplasm against nematodes. |
| | | | NEMA 603 | • Green-house experiments on the efficacy of fungal and bacterial bio-control agents, botanicals. |
| | | | NEMA 604 | • Isolation and quantification of proteins from nematode juveniles and eggs.<br>• Buffer preparation for molecular techniques, PCR, β-esterase polymorphism in root-knot nematode.<br>• Nematode DNA isolation from juveniles and eggs; RFLP of nematode DNA; nematode DNA amplification using PCR for nematode identification, RNAi technology. |



Nematode extraction from soil by UG students



Microscopic analysis of nematodes in stained root by UG students



Hands on training by PG students

**6.4.6 Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programmes offered by the Department:**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 4 | 8 | 0.5:1 |
| **2019-20** | 4 | 9 | 0.44:1 |
| **2020-21** | 5 | 9 | 0.55:1 |
| **2021-22** | 4 | 9 | 0.44:1 |
| **2022-23** | 4 | 9 | 0.44:1 |

**Details of Ph. D. programmes offered by the Department:**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 6 | 8 | 0.75:1 |
| **2019-20** | 6 | 9 | 0.66:1 |
| **2020-21** | 6 | 9 | 0.66:1 |
| **2021-22** | 8 | 9 | 0.88:1 |
| **2022-23** | 8 | 9 | 0.88:1 |

**Note:** Details of courses offered by the Department is given in *Annexure Nema-II*

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system of annual self - appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis their results, feedback from the students. The stakeholders' feedback on the overall performance and quality of the teaching is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 2 | 3 | 3 | 2 | 3 | 9.09 | 8.33 | 0.0 | 9.09 | 8.33 |
| Ph.D. | 1 | 3 | 1 | 2 | 2 | 0.0 | 0.0 | 16.66 | 0.0 | 0.0 |

**6.4.9 ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention*

*whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of Department of Nematology use ICT in teaching and practical. There is one lecture room with smart classroom facilities along with recording system. One seminar room has LCD projector and Internet connection. All faculty members have computer with all the accessories printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching and research. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG, PG and Ph.D. level. For PG and Ph.D. students emails are also used. Duirng Covid 19 pandemic teaching was done through google mee, Microsoft team and Zoom platform etc.

**6.5.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.5.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.5.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, Surender K. Pahuja hereby certify that the information contained in the

Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure NEMA - I*

# PUBLICATION DETAILS

| S. No. | Publication details of students | NAAS ranking |
|---|---|---|
| **1.** | Kumari, B., Kanwar, R.S. and Kumar V. (2018). Effect of different temperature on the life cycle of root-knot nematode, *Meloidogyne incognita* on okra. Journal *of Entomology and Zoology Studies*, 6:1160-1162. | - |
| **2.** | Matcha U.K., R.K. Walia and Kanwar, R.S. (2018). *In vitro* Effect of Rhizobacterial Strains against Rice Root Knot Nematode *Meloidogyne graminicola. International Journal of Current Microbiology and Applied Sciences*. 7(12): 2772-2778. | - |
| **3.** | Yadav, S., Patil J.A. and Kanwar R.S. (2018). The role of free living nematode population in the organic matter recycling. *International Journal of Current Microbiology and Applied Sciences* 7(6): 2726-2734. | - |
| **4.** | Yadav, S., Patil, J. and Kumar, A. (2018). Bio-nematicidal effect of *Azadirachta indica*, against *Meloidogyne incognita* in tomato. *International Journal of Chemical Studies*, 6(3): 2757-2761. | - |
| **5.** | Devi, P., Kanwar, R.S and Patil, J.A. (2019). Effect of oil cakes for the management of *Meloidogyne graminicola* in rice nursery. *Journal of Entomology and Zoology Studies*; 7(2): 180-182. | - |
| **6.** | Kharia, P. M., Kumar, R. and Kumar, V. (2019). Evaluation of different management schedules against fruit borer, *Helicoverpa armigera* on tomato. *International Journal of Current Microbiology and Applied Sciences* 8: 477-484. | - |
| **7.** | Kumar, M.U., Singh, G. and Kanwar, R.S. (2019). *In vitro* effect of botanicals against rice root-knot nematode *Meloidogyne graminicola*. *Journal of Pharmacognosy and Phytochemistry*, 8(4) 1027-1030. | - |
| **8.** | Kumar, V., Verma, K.K and Kumar, A. (2019). *In vitro* studies on the effect of rhizobacteria, Phytotherapeutic substances, and chemicals on egg hatching of *Meloidogyne graminicola. Journal of Pharmacognosy and Phytochemistry*, 8(1): 2593-2597. | - |
| **9.** | Madhu, M.R., Verma, K.K. and Kumar, V. (2019). Distribution, prevalence and intensity of guava decline in western Haryana. *Journal of Entomology and Zoology Studies*, 7(4): 521-524. | - |
| **10.** | Neeraj, Kumar, A., Kumar, V., Kumar, M., Sindhu, A. S., Goel, S. R and Singh, G. (2019). Bio-nematicidal effect of botanicals against root-knot nematode (*Meloidogyne incognita*) in tomato (*Solanum lycopersicum*). *Indian Journal of Agricultural Sciences*, 89 (12): 2096–2101. | 6.37 |
| **11.** | Singh, G., Kanwar, R.S. and Dev Vart (2019). Studies on resistance in some pearl millet hybrids against *Meloidogyne graminicola*. *Journal of Pharmacognosy and Phytochemistry*, 8(5):1513-1515. | - |
| **12.** | Sharma, L. and Kanwar R.S. (2020). Abnormality in Cysts of *Heterodera avenae*. *Indian Journal of Nematology*, 50(2): 153. | 5.23 |
| **13.** | Sharma, L., Kanwar, R. S., Kumar, A. and Beniwal, R.S. (2020). Effect of *Heterodera avenae* and *Urocystis agropyri* on chlorophyll content of wheat in two soil types. *Indian Journal of Nematology*, 50(1): 54-56. | 5.23 |
| **14.** | Sharma, L., Kanwar, R.S., Singh, G. and Munjal, R. (2020). Effect of *Heterodera avenae* and *Urocystis agropyri* on chlorophyll content of wheat at different sowing times. *Journal of Entomology and Zoology Studies* 8(4): 2064-2067. | - |
| **15.** | Sharma, L., Kanwar, R.S. and Bishnoi, O.P. (2020). Effect of *Urocystisa gropyri* and different inoculums of *Heterodera avenae* on chlorophyll content and growth of wheat. | - |

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| | *Journal of Pharmacognosy and Phytochemistry*, 9(5): 1421-1424. | |
| **16.** | Sidhu, H.S. and Kanwar, R.S. (2020): Effect of prey density of *Meloidogyne incognita* on the predation efficiency of the predator, *Fictor composticola* (nematodea: diplogasteridae) *Egyptian Journal of Biological Pest Control* 30:72-77. | 8.06 |
| **17.** | Singh, G., Kanwar, R.S., Sharma Lochan, Neeraj, Chugh, L.K. and Kaushik,P (2020): Biochemical changes induced by *Meloidogyne graminicola* in resistant and susceptible pearl millet (*Pennisetum glaucum* L.) hybrids. *Plant pathology journal*, 19:132-139. | - |
| **18.** | Singh, G., Kanwar, R.S., Sharma, L., Neeraj, Chugh, L.K and Kaushik, P. (2020). Biochemical changes induced by *Meloidogyne graminicola* in resistant and susceptible pearl millet (*Pennisetum glaucum* L.) Hybrid. *Plant Pathology Journal*, 19(2): 132-139. | - |
| **19.** | Antil, S., Kumar, R., Pathak, D.V., Kumar, A., Panwar, A., Kumari, A. And Kumar, V. (2021). On the potential of *Bacillus aryabhattai* KMT-4 against *Meloidogyne javanica. Egyptian Journal of Biological Pest Control*, 31:67. | 8.06 |
| **20.** | Keshari, N and Kanwar, R.S. (2021). Bio-management of nematodes in *Agaricus bisporus* by *Fictor composticola* and its compatibility with neem seed kernel water extract .*Journal of Agri Search*, **8** (3): 255-259. | - |
| **21.** | Sidhu, H.S., Kanwar, R.S. and Kumar, A. (2021). Compatibility of predatory nematode, *Fictor composticola* and bacterial parasite, *Pasteuria penetrans* for the management of root-knot nematode. *Current Microbiology*, 78(6)2400-2405. | 8.34 |
| **22.** | Singh, G., Kanwar, R.S. and Kumar A. (2021). Life cycle and pathogenicity of *Meloidogyne graminicola* on pearl millet hybrid HHB 272. *Agricultural Mechanization in Asia, Africa and Latin America*, 52(1): 2081-2088. | 6.29 |
| **23.** | Sujata and Kumar, A. (2021). Effect of organic amendments on life cycle development of *Pasteuria penetrans* (bacterial parasite) on root-knot nematode (*Meloidogyne javanica*) infecting tomato. *Indian Journal of Nematology*, 51(1): 41-45. | 5.23 |
| **24.** | Antil, S., Kumar, R., Pathak, D. V., Kumar, A., Panwar, A., Kumari, A., Kumar, V. (2022). Potential of *Bacillus altitudinis* KMS 6 as a biocontrol agent of *Meloidogyne javanica*. *Journal of Pest Science*, 1-10. | 11.74 |
| **25.** | Antil, S., Kumar, R., Pathak, D.V., Kumar, A., Panwar, A. and Kumari, A. (2022). Plant growth-promoting rhizobacteria - *Bacillus cereus* KMT-5 and *B. Megaterium* KMT-8 effectively suppressed *Meloidogyne javanica* infection. *Applied Soil Ecology*, 174:104419. | 11.51 |
| **26.** | Kumar, D., Kumar, A., Kumar, V., Verma, K. K. and Kamboj, R. (2022). Pathogenic potential of root-knot nematode (*Meloidogyne javanica*) on okra under different growing seasons. *Environment and Ecology*, 40(2A): 433-439. | 5.25 |
| **27.** | Sidhu, H. S. and Kanwar, R. S. (2022). Evaluation of some organic amendments in combination with predatory nematode,*Ficto rcomposticola* against *Meloidogyne incognita* in cucumber. *International Journal of Pest management*, 16:1-7 | 7.77 |
| **28.** | Yadav, S., Kumar, L., Jakhar, A., Kumar, H., Jat, M. K. Kapoor, P. and Kumar, V. 2022. Population dynamics of major sucking insect pests on chilli (*Capsicum annum* L.). *Journal of Agriculture and Ecology*,13: 79-91. | 4.36 |
| | **Publication details of faculty** | |
| **29.** | Kanwar, R. S. and Mann, S.S. (2018). Plant parasitic nematodes associated with cotton in Haryana and their population dynamics in cotton-wheat cropping system. *HAU Journal of Research. HAU Journal of Research.44:17-24.* | - |
| **30.** | Koulagi R., Kaur Simarjit, Bishnoi S. P. and Kanwar R. S. 2018: Identification of Resistance Sources to Cereal Cyst Nematode, *Heterodera avenae* Wollenweber in Barley | 4.57 |

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| | (*Hordeum vulgare* L.) *Wheat and Barley Research*,10(3): 231-235. | |
| **31.** | Kumar A., Mann, S.S. and Kanwar, R.S. (2019): Role of soil types and fertility levels on pathogenic behaviour of root-knot nematodes on tomato hybrids exhibiting tolerant/resistant reactions. *HAU Journal of Research.45:31-36.* | - |
| **32.** | Kumar, A., Patil, J. and Ram Sewak (2019) Screening, confirmation and field evaluation of promising resistant germplasm of pigeon pea against cyst nematode, *Heterodera cajani. HAU Journal of Research.44:11-13.* | - |
| **33.** | Kumar A., Mann, S.S. and Kanwar, R.S. (2019) Role of soil types and fertility levels on pathogenic behavior of root-knot nematodes on tomato hybrids exhibiting tolerant/resistant reactions. *Haryana agricultural University Journal of Research,* 45:31-37. | - |
| **34.** | Kumar, A., Patil, J. A., &Verma, K. K. (2019). Management of root-knot nematode, *Meloidogyne* spp. in vegetable crops grown under protected cultivation through fumigants. *Indian Journal of Nematology*, 49(2), 125-130. | 5.23 |
| **35.** | Kumar, A., Patil, J. and Ram, S. (2019). Screening, confirmation and field evaluation of promising resistant germplasm of pigeonpea against cyst nematode, *Heterodera cajani. Haryana agricultural University Journal of Research,* 44 : 11-13. | - |
| **36.** | Kumar, V., Verma, K K and Kumar, A. (2019). *In vitro* studies on the effect of rhizobacteria, Phytotherapeutic substances and chemicals on egg hatching of *Meloidogyne graminicola. Journal of Pharmacognosy and Phytochemistry*, 8(1) : 2593-2597. | - |
| **37.** | Patil, J., Kumar, A., Yadav, S., Goel, S.R and Bhatia, A. K (2019) Bio-efficacy of phytotherapeutic substances against *Meloidogyne incognita* and *Fusarium oxysporium* f.sp. *cucumerinum* affecting cucumber under protected cultivation. *Indian Journal of Nematology*, 48 (2)190-197. | 5.23 |
| **38.** | Yadav, S and Kanwar, R.S. (2019) Effect of crop rotation with legumes and some other crops on soil health and population of *Heterodera avenae*, *Indian Journal of Nematology*, 49 (1) 44-52. | 5.23 |
| **39.** | Banakar, P., Hada, A., Papolu, P. K. and Rao, U. (2020). Simultaneous RNAi knockdown of three FMRFamide-like peptide genes, Mi-flp1, Mi-flp12, and Mi-flp18 provides resistance to root-knot nematode, *Meloidogyne incognita*. *Frontiers in microbiology*, 11, 2690. | 12.06 |
| **40.** | J.A. Patil, Yadav, S. and Anil Kumar (2020) Evaluation of Organic Oils for the Management of Root-Knot Nematode, *Meloidogyne incognita* and Fungus Infesting Cucumber Under Polyhouse Conditions. *Indian Journal of Nematology*, 50 (2); 79-86. | 5.23 |
| **41.** | Kumar, A., J.A. Patil, S. Yadav and S. Ram (2020). Screening, confirmation and field evaluation of promising resistant germplasm of different pulses against root knot nematode, *Meloidogyne javanica*. *Journal of Environment Biology*, 41, 1594-1598. | 5.57 |
| **42.** | Kumar, A., Patil, J., Yadav, S. and Verma, K K. (2020) Response of organic amendment and bio-agents against root-knot nematode, *Meloidogyne incognita* infesting cluster bean. *Plant Pathology Journal*, 19: 221-225. | - |
| **43.** | Kumar, V., Banakar, P., Kumar, A. and Duggal, P. (2020). Survey of plant-parasitic nematodes associated with cotton in Nuh and Palwal districts of Haryana. *International Journal of Economic Plants*, *7*(1), 044-048. | 4.37 |
| **44.** | Kumar, V., Kumar, A. and Mann, S.S. (2020). Evaluation of different rice genotypes for resistant against rice root-knot nematode, *Meloidogyne graminicola, International Journal of Agricultural Sciences* 16(2) 249-253. | 4.73 |
| **45.** | Kumar, V., Kumar, A. and Mann, S.S. 2020. Evaluation of different rice genotypes for resistant against rice root-knot nematode, *Meloidogyne graminicola, International Journal of Agricultural sciences*,16(2) :249-253 | 4.73 |

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| **46.** | Kumar, V., Kumar, A., Dhankar, S. K. and Mann, S. S (2020). Screening of okra (*Abelmoschos esculentus*) cultivars for resistance against root-knot nematode, *Meloidogyne incognita*. *International Journal of Agricultural Sciences*, 16(2) 203-207 | 4.73 |
| **47.** | Patil J.A., Kumar, A., Yadav, S. and Verma, K.K. (2020). Nematicidal effect of biofumigants against root-knot nematode infesting okra. *Journal of Nematology*, 52: 1-7. | 7.48 |
| **48.** | Somvanshi, V. S., Phani, V., Banakar, P., Chatterjee, M., Budhwar, R., Shukla, R. N.andRao, U. (2020). Transcriptomic changes in the pre-parasitic juveniles of *Meloidogyne incognita* induced by silencing of effectors Mi-msp-1 and Mi-msp-20. *3 Biotech*, 10(8), 1-11. | 8.89 |
| **49.** | Yadav, S., Kanwar, R. S., Patil, J. A., &Tomar, D. (2020). Effects of *Heterodera avenae* on the absorption and translocation of N, P, K, and Zn from the soil in wheat. *Journal of Plant Nutrition*, 43(17), 2549-2556. | 8.28 |
| **50.** | Hada, A., Singh, D., Papolu, P.K., Banakar, P., Raj, A. and Rao, U. (2021). Host-mediated RNAi for simultaneous silencing of different functional groups of genes in *Meloidogyne incognita* using fusion cassettes in *Nicotiana tabacum*. *Plant Cell Reports*, 40(12):2287-2302. | 10.96 |
| **51.** | J.A. Patil, Saroj Yadav and Anil Kumar (2021) Management of root-knot nematode, *Meloidogyne incognita* and soil borne fungus, *Fusarium oxysporum* in cucumber using three bioagents under polyhouse conditions. *Saudi Journal of Biological Sciences*, 28(12):7006-7011. | 10.05 |
| **52.** | Kanwar, R.S., Patil, J.A., and Yadav, S. (2021). Prospects of using predatory nematodes in biological control for plant parasitic nematodes–a review. *Biological Control*, 160: 104668. | 9.86 |
| **53.** | Kanwar, R.S. and Bajaj, Harish K. (2021). Interbreeding test between Indian populations of *Heterodera avenae* and *Heterodera filipjevi*. *HAU Journal of Research*, 46(10): 47. | - |
| **54.** | Kanwar, R.S. and Mann, S.S. (2021). Effect of relay cropping of wheat in cotton on cereal cyst nematode (*Heterodera avenae*). *Journal of Research*, 48(1&2):17-19. | - |
| **55.** | Kanwar, R.S. and Mann, S.S. (2021). Plant Parasitic nematodes associated with cotton in Haryana and their population dynamics in cotton-wheat cropping system. *HAU Journal of Research*, 46(8): 37-40. | |
| **56.** | Kumar, V., Kumar, A. and Mann, S. S. (2021). Host suitability of forage, vegetable, cereals and weeds to *Meloidogyne graminicola*. *Forage Research*, 47(3): 359-362. | 4.84 |
| **57.** | Kumar, V., Kumar, A., Banakar, P. and Mann, S. S. (2021). Natural occurrence and distribution of entomopathogenic nematodes (Steinernematidae, Heterorhabditidae) in Haryana. *HAU Journal of Research*, 49 (1&2): 13-17. | - |
| **58.** | Mann, S. S., Singh, S. K., Hooda, V. and Kumar, V. (2021). Impact of cluster frontline demonstration on green gram (*Vigna radiata*) productivity enhancement and dissemination of technology in Fatehabad district of Haryana. *Journal of Research*, 48 (1&2): 25-29. | - |
| **59.** | Yadav S. and Kanwar, R.S. (2021). Effect of some fertilizers on hatching of cereal cysts nematode, *Heterodera avenae*. *Saudi Journal of Biological Sciences*, 28(8):4442-4445. | 10.05 |
| **60.** | Yadav, D.B., Yadav, A., Vats, A.K., Gill, G. and Malik, R.K. (2021). Direct seeded rice in sequence with zero-tillage wheat in north-western India: addressing system-based sustainability issues. *Springer Nature Applied Sciences*, 3:844. | - |
| **61.** | Yadav, S., Kanwar, R.S. and Patil, J.A. (2021). Organic amendments with and without a synthetic nematicide for the management of *Heterodera avenae* in wheat. Nematology. 23(8):887-895. | 7.49 |
| **62.** | Kumar, D., Kumar, V., Mann, S. S. and Kamboj, R. (2022). Phytonematodes problem, their occurrence, distribution, damage and management in forage and fodder crops: A review. *Forage Research*,47(4): 408-415. | 4.84 |

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| **63.** | Kumar, D., Kumari, P., Kamboj, R., Kumar, A., Banakar, P. and Kumar, V. (2022). Entomopathogenic nematodes as potential and effective biocontrol agents against cutworms, *Agrotis* spp.: present and future scenario. *Egyptian Journal of Biological Pest Control*, 32(42): 1-10. | 8.06 |
| **64.** | Pundir, S., Sharma, R., Kumar, D., Singh, V.K., Chaturvedi, D., Kanwar, R.S., Röder, M.S., Börner, A., Ganal, M.W., Gupta, P.K. and Sharma, S., (2022). QTL mapping for resistance against cereal cyst nematode (*Heterodera avenae* Woll.) in wheat (*Triticum aestivum* L.). *Scientific Reports*, 12 (1) :1-14. | 11.0 |

***Annexure NEMA-II***

## COURSES OFFERED BY THE DEPARTMENT

| **Degree programme** | **Total courses** | **Practical courses** | **Hands-on-training courses** | **How far students are getting desired practical andhands-on-training as per the curriculum (bullet form)** |
|---|---|---|---|---|
| B.Sc | NEMA. 301<br>NEMA. 401 | NEMA. 301<br>NEMA. 401 | | • Regular practicals for students on processing of samples and various techniques used in nematodes identification<br>• Well established UG laboratory with standard instruments for conducting experiments and practical exercises.<br>• Preserved diseased specimens of plant/roots for comparison and visual observation for students |
| M.Sc. | NEMA. 501<br>NEMA.502/ENT. 503<br>NEMA. 503<br>NEMA. 504<br>NEMA. 505<br>NEMA. 506<br>NEMA. 508<br>NEMA. 509<br>NEMA. 510<br>NEMA. 511 | NEMA. 501<br>NEMA. 503<br>NEMA. 504<br>NEMA. 505<br>NEMA. 506<br>NEMA. 508<br>NEMA. 509<br>NEMA. 510<br>NEMA. 511 | | • Regular practicals for students on handling of samples and various techniques used in nematodes identification, preparation of mounts, preservations etc.<br>• Well established PG laboratory with all equipments to carry out practicals and experiments. |
| Ph.D. | NEMA.507<br>NEMA. 601<br>NEMA. 602<br>NEMA. 603<br>NEMA. 604 | NEMA.507<br>NEMA. 601<br>NEMA. 603<br>NEMA. 604 | | • Regular practicals for students on handling of samples and various techniques used in nematodes identification<br>• Well established PG laboratory with all equipments getting advance knowledge of molecular Nematology |

# Programme - 12



## M.Sc. Plant Pathology

## and

## Ph.D. Plant Pathology

## 6.4 About the Department

The Department of Plant Pathology came into existence as Department of Botany and Plant Pathology in 1962 in erstwhile Punjab Agricultural University with headquarter at Hisar. Professor Dr. Suryanaryana was the founder Professor & Head. After bifurcation, a fullfledge Department of Plant Pathology was established in College of Agriculture, HAU Hisar in 1970. The department has units of fungal pathology, virology, bacteriology, molecular plant pathology and mushroom production technology where the students are trained and specialized in these areas. Similarly there are pathologists for each major crop / section and to give a fillip to advancement of agriculture in the state, there is a strong unit of extension pathology as well. Each PG student allotted a research problem forming a portion of the ongoing research programme of the department and is thus directly related to one of the national or state level problems. The students are trained to develop aptitude for independent original research. Qualified scientists, technicians and supporting staff are there to train the students in areas of plant bacteriology, plant virology, fungal pathology, fungitoxicants, mycorrihiza, biological control, seed pathology, post harvest deterioration, crop pathology, fruit pathology, vegetable pathology, host resistance, molecular plant pathology and mushroom production technology. Students of this department are occupying important position in universities, research institutes, administrative services, banks and multinational companies. The faculty members of this department also shouldered the responsibility of Dean's, Director of Research, Director of Extension Education, Director of Project cum Planning Formulation (now with the nomenclature of DHRM) and also Vice Chancellor of the University with the major scientific achievements in the field of Plant pathology.

### Major achievements during the period of report

1. First report of *Klebsiella* leaf streak on sorghum caused by *Klebsiella variicola* in Haryana, India during 2019-22.

2. First report of *Klebsiella aerogenes* inciting stem rot of pearl millet in Haryana, India during 2021

3. A team of scientists from of Plant Pathology department detected the cause of dwarfing in rice i.e., Southern rice black streaked dwarf virus (SRB SDV) and Rice gall dwarf virus (RGDV) through molecular methods. The date of nursery sowing and transplanting of rice, transplanting method, regular monitoring and management of nurseries and main field for insect vector (WBPH) has been recommended to deal with the SRB SDV for the upcoming rice season.

4. Published seventy seven research papers were published in national and international journals (*Annexure Pl.PATH –VI*).

5. Other activities undertaken/ Programmes organized (*Annexure PL. PATH I and II*)**.**

| Sr. No. | Titles | Dates |
|---|---|---|
| **1.** | One day training on Mushroom Production Technology to farmers | 23.12.2018 |
| **2.** | 10 days training on Mushroom Production Technology for UG/PG students of CCSHAU Hisar | 22.04.2019 to 01.05.2019 |
| **3.** | Ten days training on Mushroom Production Technology to UG/PG students | 23.01. 2020 to 01.02.2020 |

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| **4.** | Vocational trainings on Mushroom Production Technology | 29.02.2020 to 01.03.2020 |
| **5.** | National Symposium On "Crop Protection Through Bio-Rational Approaches - Current Trends And Future Perspective" & Annual Meeting Of Indian Phytopathological Society organised by the Department in coordination with Indian Phytopathological society. | March 10, 2022 |
| **6.** | Training programme on "Mushroom Production Technology" for SC/ST students; sponsored by ICAR under SC/ST development sub-plan | 22-28, March, 2022. |
| **7.** | A lecture on "Mushroom cultivation and rural development" by Dr. Balwan Singh Mandal, Director Extension Education, CCSHAU Hisar | 22.03.2022 |
| **8.** | A lecture on "Role of business communication in mushroom enterprise" by Dr. A.K. Dhingra, OSD to Vice Chancellor, CCSHAU Hisar | 28.03.2022 |

## Objectives of the Department

i. Identification and characterization of fungal, bacterial and viral diseases.
ii. Epidemiology and assessment of losses in host-pathogen interactions.
iii. Management of crop diseases through cultural, chemical biological and host resistance.
iv. Improvement in spawn production technology and integerated management of mushroom diseases.

### 6.4.1 Brief History of the Degree Programme:

M.Sc. & Ph.D. programmes were started in the year 1970. During the period under report, a total of 28 M.Sc. and 12 Ph. D. students have completed their degree.

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| **Objectives of initiating M.Sc. programme** | i. To project the importance of plant diaseases and impart basic knowledge on all aspects of plant pathology.<br>ii. Development of skills in the identification and characterization of fungal, bacterial and viral pathogens.<br>iii. To sensitize the students on the theory and practical of classifying organisms and the rules governing the same.<br>iv. Understanding the principles, theoretical aspects and developing skills in phytopathological techniques<br>v. To impart basic knowledge about the causal organism, nature of damage, symptoms and control of fungal, bacterial and viral diseases of agricultural and horticultural crops.<br>vi. To develop understanding of life cycle and disease cycle of fingal and bacterial plant pathogens.<br>vii. To understand the epidemiology of the plant diseases caused by fungi, bacteria and viruses *etc*.<br>viii. To develop management stategies of crop diseases through cultural, chemical, biological and host resistance<br>ix. To develop management strategies of mushroom diseases. |
| **Accomplishments of M.Sc. programmes** | *a)* Department has guided 28 students for master degree in Plant Pathology and they are serving in the various capacity in the Department of Plant Pathology or in State Agriculture Department *etc*. *(Annexure PL.PATH –III)*<br>b) Mrs. Pavitra Kumari (2017A34D) got selected as Assistant Professor in Department of Plant Pathology, CCSHAU, Hisar during 2019. Ms. Namitha (2016A77M) got selected as STA in RRS, Kaul during 2019.<br>*c)* One student (Sonakshi, 2019A64D) selected as Assistant Plant Protection Officer, Faridabad during 2021.<br>*d)* One student (Munish Leharwan, 2017A35D) selected as Technical Assistant at NDRI, Karnal during 2019. |

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| | e) Studies carried out on management of important diseases of field crops, veg. crops and horticulture crops by seed treatment & foliar application of fungicides.<br>f) The pathogenic variability in different plant pathogens were studied which helped the plant breeders in developing disease resistance varieties.<br>g) Disease resistant calli have been developed against *Alternaria* blight, *Sclerotinia* blight of rapeseed-mustard as well as for *Ascochyta* blight of Chickpea. |

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|---|---|
| Objectives of initiating Ph.D. programme | i. To update knowledge on the recent research trends in the field of plant pathology at genetic and molecular level.<br>ii. To keep abreast with latest developments and trends in crop disease management.<br>iii. To facilitate deeper understanding on plant biosecurity and biosafety issues in agriculture<br>iv. To develop integrated disease management (IDM) module for major diseases of field, horticulture and vegetable crops.<br>v. To study epidemiological parameters for prediction of important diseases of field, horticulture and vegetable crops for guidance of need based spray . |
| Accomplishments of Ph.D. programme | a) Department has guided 12 students for successful completion of Ph.D. in Plant Pathology and they are serving in the various capacity in the Department of Plant apthology or in State Agriculture Department *etc*. (*Annexure PL.PATH –III*).<br>b) Dr. Pooja Sangwan (2015A337D), Dr. Mamta (2015A39D), Dr. Manoj Kumar (2014A44D) got selected as Assistant Professor in Department of Plant Pathology, CCSHAU, Hisar during 2018.<br>c) Dr. Manjeet Singh, Dr. Pooja Kumari and Dr. Mamta got selected as Assistant Professor in Department of Plant Pathology, CCSHAU, Hisar during 2019.<br>d) One student (Dr. Annu, 2016A34D) got selected as DES at KVK Fatehabad during 2022.<br>e) Discovery of multiple resistant sources of different field crops, vegetable crops and fruit crops against important diseases are being used for breeding programmes.<br>f) Basic parameters on biochemical and genetical resistance utilized by the breeders for developing resistant varieties.<br>g) Explored possibilities of potential endophytic microrganissms for management of crop diseases.<br>h) Different resistant varieties of field crops were screened in sick plot conditions. |

| **Degree Programme offered by the Department** | **Specialization** | **Year of start** | **No. of students admitted** | | | | | | **No. of students passed out** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **Total** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **Total** |
| M.Sc. | Plant Pathology | 1970 | 7 | 10 | 9 | 11 | 10 | 47 | 2 | 6 | 5 | 7 | 8 | 28 |
| Ph.D. | Plant Pathology | 1970 | 4 | 7 | 4 | 5 | 6 | 26 | 1 | 4 | 1 | 1 | 5 | 12 |

Y1 = 2018-19…….Y5 = 2022-23 (till date)

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree*

*Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report*.

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **1.** | Professor and equivalent (1) | - | 1 | - |
| **2.** | Associate Professor and equivalent (6) | 1 | 5 | - |
| **3.** | Assistant Professor and equivalent (16) | 9 | 7 | - |

*The Faculty assigned the responsibilities for the multiple programmes

**6.4.3. Technical and Supporting staff :** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| Sr. No. | Technical and supporting staff | Sanctioned | In place | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1. | Assistant | 1 | 1 | Nil | Nil |
| 2. | Clerk | 1 | 1 | Nil | Nil |
| 3. | JSS/Stenographer | 1 | 1 | Nil | Nil |
| 4. | Senior Lab assistant | 1 | 1 | Nil | Nil |
| 5. | Lab Assistant | 6 | 5 | 01 | Nil |
| 6. | Lab Attendant | - | - | - | Nil |
| 7. | Messenger | 1 | - | 01 | Nil |
| 8. | Beldar | 4 | - | 04 | Nil |
| 9. | Any other (specify) | - | - | - | Nil |

**6.4.4..Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| Name of College/Department | Plant Pathology |
|---|---|
| No. of lecture rooms with sitting capacity | One with seating capacity of 70 each with smart classroom facility smart screen facility |
| No. of smart class-rooms | - |
| No. of labs under Dean's office with specialized purpose | •Two Under -Graduate laboratory for conducting practical of UG courses with sitting capacity 50, LED facility<br>•Five Post-Graduate and Reasearch Laboratory for conducting research work and practical classes of PG courses. |
| Farm facilities | Yes with approx. area of 5 acre is available in the department. Farm area is divided into plots, micro plots, screen house to carry out the research experiments. Mushroom lab is available in the field area for carrying out the experiment and also for mushroom production. |
| Workshops | - |
| Any other instructional units being utilized for the award of the Degree Programme | Soft copy of lectures in PPT has been generated by different faculty members for teaching (UG/PG courses). Also Google Meet, Microsoft Team and Zoom Meet were used for teaching during *Covid-19* pandemic. |

## List of Major equipments (Equipments costing more than Rs. 50,000)

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Balance Aczet | Lab no. 172 |
| 2. | Refrigerator | Lab no. 172 |
| 3. | Autoclave | Lab no. 172 |
| 4. | Hot air oven | Lab no. 172 |
| 5. | Incubator shaker | Lab no. 172 |
| 6. | BOD shaker incubator | Lab no. 173 |
| 7. | Analytic Weighing machine | Lab no. 173 |
| 8. | Nano Drop spectrophotometer | Lab no. 173 |
| 9. | Tissue Culture Rack | Lab no. 173 |
| 10. | Flow Cytometer | Lab no. 173 |
| 11. | ELISA reader | Lab no. 173 |
| 12. | Automated autoclave | Lab no. 173 |
| 13. | Microtome Rotary | Lab no. 173 |
| 14. | Phase contrast microscope with computer | Lab no. 173 |
| 15. | Stereo binocular microscope | Lab no. 173 |
| 16. | Transmitted light equipment S base stand for transmitted light for stereo microscope | Lab no. 173 |
| 17. | Ultra-centrifuge | Lab no. 173 |
| 18. | Deep freeze F570 -80$^0$C with backup system | Lab no. 173 |
| 19. | Real time PCR System with laptop and fluorometer | Lab no. 173 |
| 20. | Western Blotting system | Lab no. 173 |
| 21. | Air Conditioner | Lab no. 177 |
| 22. | Incubator shaker | Lab no. 177 |
| 23. | Benchtop centrifuge (5804) | Lab no. 177 |
| 24. | Mini vertical electrophoresis with power supply | Lab no. 178 |
| 25. | Vertical autoclave | Lab no. 276 |
| 26. | Laminar flow | Lab no. 276 |
| 27. | Hot air oven | Lab no. 276 |
| 28. | BOD incubator | Lab no. 276 |
| 29. | Freezer up to -20℃ | MTL |
| 30. | Autoclave Horizontal | MTL |
| 31. | BOD Incubator | MTL |

## Mention theory and practical batches for PG Programmes

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc. | Ph.D. | M.Sc. | Ph.D. |
| 2018-19 | One | One | One | One |
| 2019-20 | One | One | One | One |
| 2020-21 | One | One | One | One |
| 2021-22 | One | One | One | One |
| 2022-23 | One | One | One | One |

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements?*

**Information to be supplied by the Departments.**

| Degree Programme | Total Courses | Practical courses | Course No | How far students are getting desired practical and hands on training as per the curriculum |
|---|---|---|---|---|
| M.Sc. | 21 | 17 | PP501 | • To impart practical knowledge on collection, identification and preservation of specimens, isolation and identification of plant pathogenic fungi |
| | | | PP502 | • Transmission, assay of viruses, purification, method of raising antisera, serological tests |
| | | | PP503 | • To impart knowledge on isolation, purification, identification and host inoculation of phytopathogenic bacteria, staining methods. |
| | | | PP505 | • To study the methods to prove Koch's postulates with biotroph and necrotroph pathogens, pure culture techniques , use of haemocytometer, stage and ocular micrometer, centrifuge, pH meter,.<br>• Microscopic techniques and staining methods, phase contrast system, spectrophotometer, serological and molecular techniques for detection of plant pathogens.<br>• To conduct practical's on evaluation of fungicides, bactericides etc., |
| | | | PP506 | • *In-vitro* and *in-vivo* evaluation of chemicals against plant pathogens, study of structural details of sprayers and dusters. |
| | | | PP507 | • Detailed study of symptoms and host parasite relationship of important diseases of major crops.<br>• Collection and dry preservation of diseased specimens of important crops. |
| | | | PP508 | • Detailed study of symptoms and host parasite relationship of representative diseases of plantation crops, collection and dry preservation of diseased specimens of important crops. |
| | | | PP509 | • Detailed study of symptoms and host pathogen interaction of important diseases of vegetable and spice crops |
| | | | PP510 | • To study conventional and advanced techniques in the detection and identification of seed borne bacteria, fungi and viruses. |

| | | | | |
|---|---|---|---|---|
| | | | | • To study the relationship between seed-borne infection and expression of the disease in the field. |
| | | | PP511 | • To impart knowledge on *in- vitro* evaluation techniques, preparation of different concentrations of chemicals, methods of application of chemicals |
| | | | PP512 | • Pathogenicity test by soil and root inoculation techniques, correlation between inoculums density of test pathogens and disease incidence, demonstration of fungistasis in natural soils; suppression of test soil-borne pathogens. |
| | | | PP514 | • Identification of common vectors of plant pathogens- aphids, leafhoppers, whiteflies, thrips, beetles, nematodes; culturing and handling of vectors; demonstration of virus transmission through vectors- aphids, leafhoppers and whiteflies. |
| | | | PP515 | • Isolation, characterization and maintenance of antagonists, methods of study of antagonism and antibiosis, application of antagonists against pathogen in vitro and in vivo conditions, study of cfu/g. |
| | | | PP516 | • Application of biological, cultural, chemical and biocontrol agents, their compatibility and integration in IDM; demonstration of IDM in certain crops as project work |
| | | | PP517 | • Preparation of spawn, compost, spawning, casing, harvesting and postharvest handling of edible mushroom; identification of various pathogens, competitors of various mushroom<br>• The emphasis given on the methods, demonstrations and practical aspects of mushroom production.<br>• Exposure visits to mushroom enterprises to impart knowledge about mushroom production technologies and marketing. |
| | | | PP518 | • To impart knowledge on measuring diseases, spore dispersal and trapping, weather recording, survey, multiplication of inoculum. |
| | | | PP519 | • Isolation characterization and maintenance of pathogens, role of different storage conditions on disease development, application of antagonists against pathogens *in vivo* and *in vitro* conditions, comparative efficacy of different chemicals, fungicides, phytoextracts and bioagents. |
| Ph.D. | 7 | 4 | PP601 | • Study of conidiogenesis- phialides, porospores, arthospores, study of fruiting bodies in Ascomycotina, identification of |

| | | | | |
|---|---|---|---|---|
| | | | | fungi up to species level, study of hyphal anastomosis, morphology of representative plant pathogenic genera from different groups of fungi. |
| | | | PP602 | • To impart knowledge on purification of viruses, SDS-PAGE for molecular weight determination, production of polyclonal antiserum, purification of IgG and conjugate preparation, serological techniques (i) DAC-ELISA (ii) DAS - ELISA (iii) DIBA (iv) Western blots (v) (ab) 2- ELISA,<br>• To study vector transmission (one each with aphid, leaf hopper and whitefly), methods for collecting vectors and their maintenance.<br>• To conduct nucleic acid isolation, DOT-blot, southern hybridization, probe preparation and autoradiography, PCR application and viral genome cloning, sequencing annotation of genes. |
| | | | PP603 | • Pathogenic studies and race identification; plasmid profiling of bacteria;fatty acid profiling of bacteria; RAPD prolfiling of bacteria and variability status;<br>• To study endospore, flagellarstaining; test for secondary metabolite production, cyanides, EPS, siderophore.<br>• Specific detection of phytopathogenic bacteria using species/pathovar specific primers.<br>• To study basic techniques in diagnostic kit development, molecular tools to identify phytoendosymbionts. |
| | | | PP604 | • Protein, DNA and RNA isolation, plasmids extraction,PCR analysis, DNA and Protein electrophoresis, bacterial transformation. |

**6.4.6. Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme( as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programmes offered by the Department**

| Name of Department | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 14 | 16 | 0.87:1 |
| 2019-20 | 16 | 18 | 0.88:1 |
| 2020-21 | 16 | 18 | 0.88:1 |
| 2021-22 | 19 | 18 | 1.05:1 |
| 2022-23 | 25 | 19 | 1.32:1 |

**Details of Ph.D. programmes offered by the Department**

| Name of Department | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 10 | 16 | 0.62:1 |
| 2019-20 | 13 | 18 | 0.72:1 |
| 2020-21 | 14 | 18 | 0.77:1 |
| 2021-22 | 20 | 18 | 01:1.1 |
| 2022-23 | 18 | 19 | 0.94:1 |

Note : Details of the courses offered by the department are given in *annexure-PL. PATH-IV*

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system of annual self - appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. The performance of the faculty is also reviewed on the basis their results, feedback from the students. The stakeholders' feedback on the overall performance and quality of the teaching is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are considered by the HODs and Controlling Officers.

**The duly filled proforma from the students, parents, industries, employers and farmers have been maintained in the department file**

**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | No. of students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 07 | 10 | 9 | 11 | 10 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 04 | 07 | 04 | 05 | 6 | 0 | 0 | 0 | 0 | 0 |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

**Use of ICT application in teaching and practical for curricula delivery**

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| **B.Sc.** | 4 | 4 | 4 | • Departmental Seminar room facilitated with smart LED and Internet connection.<br>• All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. |
| **M.Sc.** | 21 | 20 | 17 | |
| **Ph.D.** | 7 | 7 | 4 | |

| | | | | |
|---|---|---|---|---|
| | | | | • Faculty members use PPT, Google Meet, Microsoft Team and Zoom Meet for teaching. |

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme) I, the Dean **Dr.Surender K. Pahuja,** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure PL. PATH - I*

**National Symposium On "Crop Protection Through Bio-Rational Approaches - Current Trends And Future Perspective" & Annual Meeting of Indian Phytopathological Society (March 10, 2022)**

Organized by

Indian Phytopathological Society & Department of Plant Pathology,
College of Agriculture, CCS HAU, HISAR – 125 004







*Annexure PL. PATH - II*

**The following training programmes were organized during 2018-19 to 2022-23 at Department of Plant Pathology, COA, CCSHAU, Hisar**

| Sr. No. | Activities | Photographs |
|---|---|---|
| 1 | One day training on Mushroom Production Technology on 23.12.2018 |  |
| 2 | Ten days training for UG/PG students of CCSHAU Hisar on Mushroom Production Technology from 22.04.2019 to 01.05.2019 |  |
| 3 | Ten days training on Mushroom Production Technology to UG/PG students during 23.01.2020 To 01.02.2020. |  |
| 4 | Vocational trainings on Mushroom Production Technology from 29.02.2020 to 01.03.2020 |  |
| 5 | Training programme on "Mushroom Production Technology" for SC/ST students; sponsored by ICAR under SCSP development sub-plan conducted from 22-28, March, 2022. |  |

| | | |
|---|---|---|
| 6 | Dr. Balwan Singh Mandal, Director Extension Education delivered lecture on the topic "Mushroom cultivation and rural development" on 22.03.2022 |  |
| 7 | Dr. A.K. Dhingra, OSD to Vice Chancellor, CCSHAU Hisar delivered lecture on the theme "Role of business communication in mushroom enterprise" on 28.03.2022 |  |

*Annexure PL. PATH - III*

## LIST OF STUDENTS PLACEMENT

| Sr. No. | Year | Name of Student | Post for which selected | Institute |
|---|---|---|---|---|
| **1.** | 2018 | Prashant Kumar, 2012A44D | Asstt. Scientist | CCSHAU, Hisar |
| **2.** | | Mrs. Pooja Sangwan, 2015A37D | Asstt. Scientist | CCSHAU, Hisar |
| **3.** | | Ms. Mamta, 2015A39D | Asstt. Prof. | CCSHAU, Hisar |
| **4.** | | Manoj Kumar, 2014A44D | Asstt. Prof. | CCSHAU, Hisar |
| **5.** | | Kumar Saurabh, 2015A93M | A.O. | Govt. of Bihar |
| **6.** | | Gurav Narayan Pandit, 2013A48D | Asstt. Prof. | Agri. College, Goa |
| **7.** | 2019 | Pankaj, 2015A38D | Asstt. Scientist | PAU, Ludhiana |
| **8.** | | PavitraKumari, 2017A34D | Asstt. Professor | CCSHAU, Hisar |
| **9.** | | Manjeet Singh, 2013A45D | Asstt. Professor | CCSHAU, Hisar |
| **10.** | | Anil Saini, 2013A47D | Asstt. Professor | CCSHAU, Hisar |
| **11.** | | Jagdeep Singh, 2014A41D | Asstt. Professor | CCSHAU, Hisar |
| **12.** | | Namita, 2016A77M | STA | RRS, Uchani |
| **13.** | | Munish Leharwan, 2017A35D | TA | NDRI, Karnal |
| **14.** | | Rishika Dangi, 2018A46D | Asstt. Area Manager | NFL |
| **15.** | | Kashish, 2018A76M | Nationalized Bank | HP |
| **16.** | 2021 | Jawala Singh, 2018A75M | HDO | State Govt. |
| **17.** | | Sonakshi, 2019A64D | APPO, Faridabad | State Govt. |
| **18.** | 2022 | Annu, 2016A34D | DES | KVK Fetehabad |
| **19.** | 2022 | Amoghavarsha Chittaragi, 2015A94M | Asstt. Scientist | CCSHAU, Hisar |

*Annexure PL. PATH - IV*

# COURSES OFFERED BY THE DEPARTMENT

## I Semester

| S.No. | Course No. | Title | C.H. |
|---|---|---|---|
| **1** | Pl. Path. 301 | Diseases of kharif field crops and Horticultural crops and their management | 2+1 |
| **2.** | Pl.Path. 401 | Mushroom Cultivation Technology | 0+2 |
| **3.** | Ent 401 | Integrated pest and disease management (Ent + Path.) | 2+2 |
| **4.** | Ent. 404 | Biocontrol agents and biopesticides (Ent.+Path.+ Nem.) | 1+2 |
| **5.** | Ent. 405 | Pesticide and plant protection equipment (Ent+Path.) | 1+1 |
| **6.** | Pl.Path. 501 | Mycology | 2+1 |
| **7.** | Pl.Path. 504 | Principles of Plant Pathology | 3+0 |
| **8.** | Pl.Path. 505 | Detection and diagnosis of plant diseases | 0+2 |
| **9.** | Pl.Path. 506 | Principles of plant disease management | 2+1 |
| **10.** | Pl.Path. 507 | Diseases of field and medicinal crops | 2+1 |
| **11.** | Pl.Path. 508 | Diseases of fruits, plantation and ornamental crops | 2+1 |
| **12.** | Pl.Path. 510/ SST 510 | Seed Pathology | 2+1 |
| **13.** | Pl.Path. 512 | Ecology of soil-borne plant pathogens | 2+1 |
| **14.** | Pl.Path. 515 | Biological control of plant diseases | 2+1 |
| **15.** | Pl.Path. 519 | Post-harvest diseases | 2+1 |
| **16.** | Pl.Path. 591 | Master's seminar | 1 |
| **17.** | Pl.Path. 602 | Advanced virology | 2+1 |
| **18.** | Pl.Path., 605/ Ento 613/ Nema 605 | Plant biosecurity and biosafety | 2+0 |
| **19.** | Pl.Path. 691 | Doctoral seminar | 1 |
| **20.** | Pl.Path. 692 | Doctoral seminar | 1 |
| **21.** | AMB 520 | Management of agro-chemical industry | 2+1 |

## II Semester

| S.No. | Course No. | Title | C.H. |
|---|---|---|---|
| 1. | Pl. Path. 102 | Fundamentals of Plant Pathology | 3+1 |
| 2. | Pl.Path. 203/ Ent. 202 / Nem 201 | Plant Protection (for home science students) | 0+2 |
| 3. | Pl.Path. 302 | Diseases of Rabi Field Crops and Horticultural Crops and their Management | 2+1 |
| 4. | Module 4 | Mushroom Cultivation | 0+10 |
| 5. | Pl.Path. 502 | Plant Virology | 2+1 |
| 6. | Pl.Path.503 | Plant Bacteriology | 2+1 |
| 7. | Pl.Path. 509 | Diseases of Vegetable and Spice Crops | 2+1 |
| 8. | Pl.Path.511 | Chemicals in Plant Disease Management | 2+1 |
| 9. | Pl.Path. 513/ Nema 513 | Disease Resistance in Plants | 2+0 |
| 10. | Pl.Path. 514/ Ento 514 | Insect Vectors of Plant Viruses & other Pathogens | 1+1 |
| 11. | Pl.Path. 516 | Integrated Plant Disease Management | 2+1 |
| 12. | Pl.Path. 517 | Mushroom Production Technology | 2+1 |
| 13. | Pl.Path. 518 | Epidemiology & Forecasting of Plant Diseases | 2+1 |
| 14. | Pl.Path. 520/ Ent 520/ Nem 514 | Plant Quarantine | 2+0 |
| 15. | Pl.Path. 591 | Master's Seminar | 1+0 |

| | | | |
|---|---|---|---|
| 16. | Pl.Path. 601 | Advanced Mycology | 2+1 |
| 17. | Pl.Path. 603 | Advanced Bacteriology | 2+1 |
| 18. | Pl.Path. 604 | Molecular Basis of Host-Pathogen Interactions | 2+1 |
| 19. | Pl.Path. 691 | Doctoral Seminar-I | 1+0 |
| 20. | Pl.Path. 692 | Doctoral Seminar-II | 1+0 |

***Annexure PL. PATH - V***

**Student Performance in National Examination:** *Students Performance in JRF/SRF/NET/ARS and other National Examinations. No. of Students receiving Fellowships be mentioned*

**Fellowships awarded to PG students (From 2018-19 to 2022-23)**

| S.No | Year | Fellowship (ICAR/ Rajiv Gandhi/UGC/etc) | Name of student | Admission No | College/Department |
|---|---|---|---|---|---|
| 1. | 2019 | ICAR JRF | Ms. Pavitra P. Yaranal | 2019A112M | Plant Pathology |
| 2. | 2021 | ICAR JRF | Mr. Manoj Kumar S. | 2021A94M | Plant Pathology |
| 3. | 2022 | ICAR JRF | Mrs. Chaitra | 2022A127M | Plant Pathology |

| Qualified in NET examination (ICAR, UGC, CSIR) | | | | |
|---|---|---|---|---|
| 1. | 2017-2018 | Mamta | 2015A39D | Plant Pathology |
| 2. | | Annu | 2016A34D | Plant Pathology |
| 3. | | Amoghavarsha Chittaragi | 2015A94M | Plant Pathology |
| 4. | | Pavitra | 2015A95M | Plant Pathology |
| 5. | | Vishal Gandhi | 2013A77M | Plant Pathology |
| 6. | | Ms. Annie Khanna | 2015A93M | Plant Pathology |
| 1. | 2018-2019 | Ms. Namita Soni | 2016A77M | Plant Pathology |

***Annexure PL. PATH- VI***

## PUBLICATIONS

| S. No. | Publications of Post Graduate Students Research Work | NAAS Rating |
|---|---|---|
| | **2018-19** | |
| 1. | Abhishek, D., Bochalya, M. S., Chauhan, P., Srivastva, Alok and Dudi, B. S. (2018). Sulphur sources and levels differential response on yield, storability and economic return of onion (*Allium cepa* L.). *International Journal of Current Microbiology and Applied Sciences*, 7 (6): 866-871. | 5.38 |
| 2. | Jyoti T, Rani, A., Yadav, N. R., Yadav, D. V., Yadav, R. C., Raj, K., Kumar, R., Yadav, H.P. (2018). Molecular breeding for ameliorating commercial pearl millet hybrid for downy mildew resistance. *Journal of Genetics*, 97:1241-1251. | 7.51 |
| 3. | Kumar, P., Ahlawat, S., Chauhan, R., Kumar, A., Singh, R. and Kumar, A. (2018). In vitro and field efficacy of fungicides against sheath blight of rice and post-harvest fungicide residue in soil, husk and brown rice using gas chromatography-tandem mass spectrometry. *Environment Monitoring and Assessment*, 190:1-9. | -- |
| 4. | Kumar, P., Ahlawat, S., Chauhan, R., Kumar, A., Singh, R. and Kumar, A. (2018). Bio-efficacy and post harvest residual toxicity of new fungicides against sheath blight (*Rhizoctonia solani*) of rice (*Oryza sativa*). *Indian Journal of Agricultural Research*, 88 | -- |

| | | |
|---|---|---|
| | (10): 1587-1592. | |
| 5. | Rakesh,Kumar, A. and Rathi, A.S. (2018). Management of Alternaria blight in Indian mustard through fungicides under field conditions. *International Journal of Chemical Studies*,6: 2042-2044 | 5.31 |
| 6. | Saini, A.K., Sharma, S.K., Kumar, A. and Kumar, P. (2018). Effect of temperature and rel57ative humidity on the development of blue mould rot (*Penicillium islandicum* Sopp.) on Indian gooseberry (*Emblica officinalis* Goerth.). *International Journal of Current Microbiology and Applied Sciences*, 7 (7) : 1889-1893. | 5.38 |
| 7. | Sangwan, P., Raj, K., Annu and Khanna, A. (2018). Attribution of biochemical characters in downy mildew resistant and susceptible hybrids of pearl millet. *International Journal of Current Microbiology and Applied Sciences*, 5(5):2590-2598. | 5.38 |
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| Popular Articles | |
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| 3 | Khanna, A., Raj, K. and Sangwan. P. (2018). Bajra fasal mai lagne wali bimariyan avm unki ropkhtham - *Khet Khajana*, 11-7-2018, p-3. |
| 4 | Khanna, A., Raj, K. and Sangwan. P. (2018). Ganne ki fasal mai lagne wali bimariyan avm rokhtham- *Khet Khajana*, 4-7-2018, p-3. |
| 5 | Khanna, A., Raj, K. and Sangwan. P. (2018). Haldi: adhik paidavaar kai upaya –- *Dabwali Express*, 8-6-2018, p-2 |
| 6 | Khanna, A., Raj, K. and Sangwan. P. (2018). Mirch kai mukhaya rog avm unki rokhtham – *Khet Khajana*, 13-6-2018, p-3. |
| 7 | Rani, R., Sharma, J.R., Raj, K., Annu and Sangwan, P. (2018) Santera, malta k rog, roktham. *Krishak Jagat* pp. 6. |
| 8 | Soni, N., Raj, K., Sangwan. P., Yadav, R. and Khanna, A. (2018). Padiye aam sai banne wale sheetal pay banana ki vidhi– *Krishi Jagran*, 20-6-2018, pp 1-3. |

# Programme - 13



## M.Sc. Seed Science & Technology

## and

## Ph.D. Seed Science & Technology

## 6.4. About Department

Department of Seed Science & Technology at CCS Haryana Agricultural University, Hisar came in to existence in February, 2000. In 1977, Govt. of India (ICAR) selected this centre during the first phase of National Seed Project to strengthen the breeder seed production and seed technology research programme under the World Bank Project. A Centre of Excellence on Seed Technology entitled "Advanced centres on Post-Graduate Agricultural Education and Research in seed Technology" under FAO/UNDP project was sanctioned during 1987. The ICAR has started this centre as HRD in Seed Technology in the Team/Centre of Excellence (TOE) under the National Agriculture Technology Project (NATP) from 1999-2005 and has excellent back-up support in terms of well-equipped laboratories and well trained & experienced faculty. The department has produced and supplied breeder seed of 14-18 crops (43-49 varieties) to various Public (State Seeds producing agencies, NSC, IFFCO, HSDC, KRIBHCO, HAFED etc.) and Private Seed Producing Agencies of Haryana and neighbouring states like Punjab, Rajasthan, U.P., Himachal Pradesh during 2018-2023. This department has successfully completed one RKVY project entitled "Capacity Building of Haryana Farmers' in Quality Seed Production and Testing" from 2015-17. The department of Seed Science & Technology is also operating an international project in collaboration with Massey University, New Zealand entitled "Standardization of seed testing procedures and storability for medicinal plants (*Moringa* and Gokhru)" under Scheme for Promotion of Academic and Research Collaboration (SPARC). Under this project two faculty members and two Ph.D. students have visited Massey University, New Zealand. Two faculty members from Massey University have also visited CCS HAU, Hisar and they delivered lectures in 10 days training organized at CCS HAU, Hisar in which 33 faculty members and Ph.D. students participated.

### Objectives of the Department:

- To undertake challenges in the field of seed technology through research activities
- To impart theoretical and practical knowledge in many fields extending over the various aspects of seed technology
- To cater to the needs of seed industry, R&D organizations, government and educational institutions.

### 6.4.1 Brief History of the Degree Programme

The Department of Seed Science & Technology emerged out in 2000 from the Department of Plant Breeding. The Department has been entrusted to cater breeder seed production, research, extension and allied activities other than the teaching. The Department has fiscal support from the State Government and ICAR. In each academic year, 2 courses comprising 13 credit hours in different disciplines of Seed Science & Technology are offered at UG level. Similarly, 124 credit hours in different well-defined disciplines of seed science & technology are offered as per requirements at PG level.

| | |
|---|---|
| **Objectives of initiating M.Sc. programme** | ➢ To prepare students to enter their professions with a perspective and breadth of knowledge related to their respective fields of specialization through course work, seminars and project/thesis work, research experience and thus cater to the needs of seed Industry, R&D Organizations, government and the Educational institutions.<br>➢ To meet the needs of students and employers by offering relevant, quality career education programmes, training and research in field of seed science & technology so that the students could overcome their shortcoming and significantly commit to the expectations of the farming community & seed Industry |

| | |
|---|---|
| **Accomplishments of M.Sc. programme** | • During the period under report 17 students have completed their Master's degree. At present six students are on roll.<br>• Two students have qualified the NET examination (*Annexure SST-I*).<br>• One student has joined as Assistant Conservator of Forest (OT), Karnataka, two as Horticulture Development Officer, Haryana, One as Agriculture Officer in Banks.<br>• Students' research brought out approximately 19 research papers (*Annexure SST-II*). |
| **Objectives of initiating Ph.D. programme** | • To meet the needs of students and employers by offering relevant, quality career education programmes, training and research in field of seed technology.<br>• To undertake challenges in the field of seed technology through research activities<br>• To impart theoretical and practical knowledge in many fields extending over the various aspects of seed technology |
| **Accomplishments of programmes** | • During the period under report, 11 students have completed their Doctoral degree. At present, eight students are on roll.<br>• Ten students have qualified the NET examination (*Annexure SST-1*).<br>• Three students have joined as Assistant Professor, one as Gene Bank Officer, one as Horticulture Development Officer, and Two as Technical Assistants at CCS HAU Hisar.<br>• **Students' research brought out approximately 26 research papers** (*Annexure SST-II*). |

| Degree Programme offered by the Department | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Y1 | Y2 | Y3 | Y4 | Y5 | Total | Y1 | Y2 | Y3 | Y4 | Y5 | Total |
| **M.Sc.** | SST | **2000** | 07 | 02 | 04 | 04 | 04 | 21 | 2 | 3 | 6 | 2 | 4 | 17 |
| **Ph.D.** | SST | 2000 | 02 | 02 | 04 | 02 | 01 | 11 | 3 | 2 | 4 | 1 | 1 | 11 |

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **1.** | Professor and equivalent (1) | - | 1 | - |
| **2.** | Associate Professor and equivalent (2) | 1 | 1 | 2 |
| **3.** | Assistant Professor and equivalent (11) | 4 | 7 | 3 |

***Note:*** All the faculty members are assigned the responsibilities for the multiple programme.

*No. of Assoc. Prof. also include personal promotees

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| Sr. No. | Designation | Sanctioned | In Place* | Vacant | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|---|
| 1. | **Office staff** | **4** | **2** | **2** | **-** |
| | Assistant | 1 | 1 | - | - |
| | Clerk | 1 | 1 | - | - |
| | Messenger | 1 | - | 1 | - |
| 2. | **Lab staff** | **5** | **2** | **3** | **4** |
| | Lab Assistant | 4 | 1 | 3 | 4 |
| | Any other(SLA &Lab. Tech.) | 1 | 1(SLA) | - | - |
| 3. | **Field staff** | **30** | **18** | **12** | **5** |
| | Beldar | 11 | 04 | 07 | - |
| | Any other (A.I)<br>T.A | 03<br>9 | 02<br>05 | 01<br>04 | -<br>5 |
| 4. | Driver | 04 | 04 | - | 2 |
| 5. | Technician (vehicle Attendant) | 02 | 01 | 01 | - |
| 6. | Any other (specify) | | | | |
| 7. | Mechanical Operator | 01 | - | 01 | - |
| 8. | Refrigerator Mechanic | 01 | 01 | - | 01 |

*All the technical and supporting staff is assigned the responsibilities for the multiple programmes.

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | 50 seating capacity |
| No. of lecture rooms with LCD | One Seminar Room With LCD |
| Farm facilities | Research Farm of 1 hectare for PG students |

**List of major equipments at present in the department**

| Sr. No. | Name of equipment | Location/Lab No. |
|---|---|---|
| **1.** | Moisture Analyzer | UG Lab |
| **2.** | Seed Counter | UG Lab |
| **3.** | Pico conductivity and pH meter | UG Lab |
| **4.** | Physical purity board | UG Lab |
| **5.** | Seed Blower | UG Lab |
| **6.** | Seed Dividers | UG Lab |
| **7.** | Spectrophotometer | UG Lab |
| **8.** | Triers | UG Lab |
| **9.** | Seed Scarifier | UG Lab |
| **10.** | Seed Grinder | UG Lab |
| **11.** | Seed Germinators | Seed Quality & Testing Lab |

| | | |
|---|---|---|
| **12.** | Hot air oven | Seed Quality & Testing Lab |
| **13.** | Digital moisture meter | Seed Quality & Testing Lab |
| **14.** | Horizontal Laminar flow | Seed Pathology Lab |
| **15.** | Autoclave | Seed Pathology Lab |
| **16.** | Accelerated Ageing Chamber | Seed Physiology Lab |
| **17.** | Seed X-rays Machine | Seed Physiology Lab |
| **18.** | Seed Respirometer | Seed Physiology Lab |
| **19.** | Electrophoresis Unit | Seed Biotechnology Lab |
| **20.** | Gel DOC Fz | Seed Biotechnology Lab |
| **21.** | Water Distillation Unit | Seed Biotechnology Lab |
| **22.** | PCR | Seed Biotechnology Lab |
| **23.** | Centrifuge | Seed Biotechnology Lab |
| **24.** | Specific Gravity separator | Seed Conditioning Lab |
| **25.** | Seed Colour sorter | Seed Conditioning Lab |
| **26.** | Mobile Seed Processing Plant | Stores & Implement Shed |
| **27.** | Aspee HTP tractor mounted Sprayer | Stores & Implement Shed |

**Mention theory and practical batches for PG Programmes**

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | **M.Sc.** | **Ph.D.** | **M.Sc.** | **Ph.D.** |
| **2018-19** | **One** | **One** | **One** | **One** |
| **2019-20** | **One** | **One** | **One** | **One** |
| **2020-21** | **One** | **One** | **One** | **One** |
| **2021-22** | **One** | **One** | **One** | **One** |
| **2022-23** | **One** | **One** | **One** | **One** |

- Average number of students par batch in M.Sc. & Ph.D. are 10-15 & 2-7, respectively

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Hands-on-training courses | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| **M. Sc.** | 11 | 09 | SST 501;<br>SST 503; | • Learn floral biology & structure of monocots and dicots, microsporogenesis and megasporogenesis;<br>• Preparation of seed albums and identification.<br>• Learn Planning of Seed Production, requirements for different classes of seeds in field crops - unit area and rate<br>• Observation on Seed production in cross pollinated crops with special reference to land, isolation, planting ratio of male and female lines, synchronization of parental lines and methods to achieve synchrony; supplementary pollination, hand emasculation and pollination in Cotton, detasseling in Corn, identification of rogues and pollen shedders |

| | | | | |
|---|---|---|---|---|
| | | | SST 506<br>SST 508<br>SST 509;<br>SST 510;<br>SST 512 | • Pollen collection, storage, viability and stigma receptivity; gametocide application and visits to seed production plots etc.<br>• Learn general procedure of seed certification ; identification of weed and other crop seeds as per specific crops; field inspection at different stages of a crop and observations recorded on contaminants and reporting of results<br>• Inspection and sampling at harvesting/threshing, processing and after processing for seed law enforcement<br>• Testing physical purity, germination and moisture; specifications for tags and labels to be used for certification purpose<br>• Grow-out tests for pre and post-harvest quality control<br>• Visits to regulatory seed testing laboratory, including plant quarantine lab and seed certification agency.<br>• Identification and handling of instruments used in seed testing laboratory; identification of seeds of weeds and crops<br>• Physical purity analysis of samples of different crops; estimation of seed moisture content (oven method); seed dormancy breaking methods<br>• Requirements for conducting germination test, specifications and proper use of different substrata for germination; seed germination testing in different agri-horticultural crops; seedling evaluation;<br>• Viability testing by tetrazolium test in different crops; seed and seedling vigour tests applicable in various crops<br>• Species & cultivar identification; genetic purity testing by chemical, biochemical and molecular methods; seed health testing for designated diseases, blotter methods, agar method and embryo count methods;<br>• Testing coated/ pelleted seeds.<br>• Kinetics of seed imbibition and solute leakage;<br>• Seed germination and dormancy breaking methods<br>• Seed invigoration and priming treatments;<br>• Accelerated ageing and controlled deterioration tests<br>• Enzymatic activities and respiration during germination and effect of accelerated ageing<br>• Conventional and advanced techniques in the detection and identification of seed-borne fungi, bacteria and viruses.<br>• Relationship between seed-borne infection and expression of the disease in the field.<br>• Seed collection and identification, characteristics of forage, pastures and green manure crops; maturity indices for harvest<br>• Seed testing- sampling, purity, moisture, germination and dormancy, seed treatments in forage crops.<br>• Effect of storage environmental factors (RH, |

| | | | | |
|---|---|---|---|---|
| | | | SST 513;<br><br><br><br><br><br><br>SST 515 | SMC and temperature) on seed longevity<br>• Effect of packaging materials, seed treatment and fumigation on storability;<br>• Prediction of storability and longevity of seed-lots by using viability equations and nomographs;<br>• Standardization of accelerated ageing (AA) technique for assessing the seed storability of various crops; estimation of carbohydrates, proteins, fats, enzyme activities, respiration rate and nucleic acids in fresh and aged seeds<br>• Use of eco-friendly products and amelioration techniques to enhance quality of stored seeds, visit to seed stores.<br>• Seed treatments – methods and techniques, equipments required for seed treatment,<br>• Film coating; seed invigoration/priming - hydration and dehydration, PEG priming, solid matrix priming, bio priming, effects of priming; methods for hydrogel encapsulation of artificial endosperm, hydrophobic coating etc.; protocols for production of synthetic seeds,<br>• Visit to leading Seed Companies to study the seed treatment processes. |
| **Ph.D.** | 04 | 03 | SST 601<br>SST 605<br>SST 691<br>SST 692<br>SST 699<br><br><br><br><br><br><br><br><br><br><br><br><br>SST 603<br><br><br><br><br><br>SST 604 | • Methods of hybrid seed production in major agricultural and horticultural crops;<br>• Planting of rows/blocks of parental lines and manipulations for achieving flowering synchrony for production of hybrid seeds<br>• Maintenance of A, B and R lines and production of breeder seed; stable diagnostic characteristics of parental lines and their hybrids; genetic purity tests<br>• Determination of cost of hybrid seed production of various crops<br>• Visit to seed production plots<br>• Chemical and biochemical tests for species and cultivar purity: phenol test, seed and seedling tests,<br>• Electrophoretic analysis of seed protein and isozymes, DNA fingerprinting using PCR techniques,<br>• Use of chromatography for analysis of secondary compounds.<br>• Morphological description of plant parts and plant; character expression and states, recording observation and interpretation of data;<br>• Chemical tests and markers applicable for DUS tests |





Students attending Hands-on training in Lab



Students attending Hands-on training in field

**6.4.6 Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programmes offered by the Department**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 8 | 5 | 1.6:1 |
| **2019-20** | 6 | 5 | 1.2:1 |
| **2020-21** | 4 | 5 | 0.80:1 |
| **2021-22** | 3 | 4 | 0.75:1 |
| **2022-23** | 4 | 5 | 0.80:1 |

**Details of Ph.D. programmes offered by the Department**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 9 | 5 | 1.8:1 |
| 2019-20 | 9 | 5 | 1.8:1 |
| 2020-21 | 7 | 5 | 1.4:1 |
| 2021-22 | 8 | 4 | 2:1 |
| 2022-23 | 4 | 5 | 0.80:1 |

*Detail of courses offered by the Department is given in *Annexure-III*

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

The duly filled proforma from the students, parents, industries, employers and farmers have been maintained in the department file. Once feedback performas are collected, data analyzed to identify specific areas where improvement is required. This evaluation helps in prioritizing issues and determining the most effective course of action.

**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 2 | 4 | 4 | 3 | 4 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 |
| **Ph.D.** | 2 | 4 | 2 | 1 | 0 | 0.0 | 25.0 | 50.0 | 0.0 | 100.0 |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of Department of SST use ICT in teaching and practical. There is one Seminar Room with computer, LCD projector and internet connection. All faculty members have

computer, printer and internet connection in their offices. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG, PG and Ph. D. level. For PG and Ph. D. students emails are also used.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean **Surender K. Pahuja** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure SST-I*

| **No. of students who qualified NET:** | | | | |
|---|---|---|---|---|
| **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-2023** |
| 1 | 2 | 6 | 3 | 1 |
| **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** |
| 1.Pardeep Singh (2014 A47D) | 1.Suryapal Singh (2016A39D) 2.Digamber (2018A47D) | 1.Anurag Malik (2016A38D 2. Ravinder Kumar (2016A37D) 3.Nidhi (2018A48D) 4.K. T. Uma (2017A91M), 5.Bittu Ram (2019A66D) 6.Gagandeep Singh (2019A67D) | 1.Nisha (2019A68D) 2.Shivani (2018A81M) 3.Siddu Appasaheb Kurubar (2018A81M) | Aman Kumar (2019A103M) |
| **Students Placements** | | | | |
| **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-2023** |
| 1.Peerzadaovais (2012A47D), Gene Bank Officer, ICRISAT, Hyderabad 2.Vineeta Pandey (2014A48D), Assistant Professor at GLA university, Mathura (U.P.) 3.Himanshu Rai (2012A48D), SMS under NDUAT, Faizabad | 1.Hemender (2015A41D) 2. Digamber (2018A47D) Technical Assistant at CCS HAU, Hisar | 1.Ravinder Kumar (2016A37D), Horticulture Development Officer, Haryana 2.Gaganpreet (2015A79M), Horticulture Development Officer, Haryana 3.K. T. Uma (2017A91M), Assistant Conservator of Forest (OT), Karnataka 4.Rahul Kumar (2017A95M), Horticulture Development Officer, Haryana 5.Lokesh (2018A81M) Agriculture Officer in Bank | 1.Anurag Malik (2016A38D), Assistant Professor at Chandigarh Group of Institutions | Nisha (2019A68D) Assistant Professor in Shri Kushal Das University, Hanumangarh<br><br>Nirmal Singh (2017A37D) Assistant Professor (Contractual) SKRU, Bikaner |

*Annexure SST-II*

# LIST OF PUBLICATIONS

| Sr. No | Publication Details | NAAS rating |
|---|---|---|
| **1.** | Dayal, A., Mor, V.S., Dahiya, O.S. and Punia, R.C. (2018).Vigor evaluation of fifteen months stored delinted *Gossypium hirsutum* L. varieties picked at different intervals. *International Journal of Current Microbiology and Applied Sciences*, 7(4): 2673-2680. | 5.38 |
| **2.** | Hemender, Sharma, S., Mor VS., Jitender and Bhuker, A. (2018). Image analysis: A modern approach to seed quality testing (Review article). *Current Journal of Applied Science and Technology*, 27(1):1-11. | 5.32 |
| **3.** | Kumar, A., Batra V.K., Panghal V.S., Archana and Bhuker A. (2018). Influence of fym and gypsum on physico-chemical properties of soil and carrot (*Daucuscarota* L.) Seed yield under high RSC water. *Haryana agricultural University Journal of Research*, 48:11-15. | - |
| **4.** | Poonia, A., Phogat, D.S., Chhavikant and Bhuker, A. (2018). Evaluation of morphological and quality parameters in forage oat. *Journal of Pharmacognosy and Phytochemistry*, 7(4): 786-790. | - |
| **5.** | Punia, J., Yadav, R.C., Hemender, R., and Bhuker, A. (2018). Influence of integrated crop management on biochemical parameters and field performance in mungbean. *Seed Research*, 46(1):76-80. | 4.29 |
| **6.** | Singh, G. Bhuker, A., Mor, V.S. and Panghal, V.P.S. (2018). Seed quality enhancement through priming in onion (*Allium cepa*). *Seed Research*, 45(2): 1-3. | 4.29 |
| **7.** | Devi, S., Kumar, Y., Bhuker, A., and Bishnoi O.P., (2019). Assessment of genetic divergence for seed quality parameters in barley. *Seed Research*, 47 (1):77-82. | 4.29 |
| **8.** | Devi, S., Kumar, Y., Bhuker, A., Kumar, R. and Singh V. (2019). Exploring the genetic divergence in barley strains for seed vigour attributes. *Forage Research*, 45 (2):140-144. | 4.84 |
| **9.** | Jakhar, S.S., Bhuker, A. and Kumar, A. (2019). Prevalence of Black Point of wheat under Rice-Wheat rotaion in Haryana. *The Bioscan*, 14(1): 027-029 | 5.26 |
| **10.** | Nidhi, Bhuker, A., Mor, V.S. and Digamber. (2019). Effect of planting season on seed yield and yield attributing characters in maize (*Zea mays* l.) hybrids. *Forage Research*, 45 (1): 33-37. | 4.84 |
| **11.** | Nidhi, Bhuker, A., Mor, V.S. and Digamber. (2019). Effect of planting season on seed quality in hybrid maize seeds. *Seed Research*, 47(1): 86-89 | 4.29 |
| **12.** | Wasim, M., Mor, V.S. Hemender, Singh, V., Sharma, S., Bhuker, A., Kumar, Y. and Dagar, C.S., (2019). Relationship between weather parameters prevailed during seed development and seed quality of wheat (*Triticum aestivum* L.). *Journal of Agrometeorology*, 21(SI-1): 83-89. | 6.00 |
| **13.** | Yusuf, M., Kumar, S., Dhaka, A.K., Singh, B. and Bhuker, A., (2019). Effect of Sowing Dates and Varieties on Yield and Quality Performance of Wheat (*Triticum aestivum* L.) *AgriculturalScience Digest*, 39 (4): 306-310. | 4.75 |
| **14.** | Choudhary, D. R., Singh, A., Panghal, V.P.S., Bhuker, A. (2020). Response of FYM and gypsum on seed yield and quality of radish under high RSC water. *International Journal of Chemical Studies*, 8(1): 1544-1548. | 5.31 |
| **15.** | Devi, S., Kumar Y. and Bhuker A., (2020). Performance and Variability Studies for Seed Quality Parameters in Barley (*Hordeum vulgare* L.). *Seed Research*, 48(2): 99-104. | 4.29 |
| **16.** | Devi, S., Kumar, Y., Bhuker, A. and Niwas, R. (2020). Assessment of genetic variability for metric traits in barley under different sowing conditions. *Forage Research*, 45 (4): 277-280. | 4.84 |
| **17.** | Lokesh, Jakhar, S.S., Kumar, S and Bittu Ram (2020). Influence of Plant Oils and Containers on Seed Storability of *Alllium cepa* L. *Seed Research*, 48 (2):155-162. | 4.29 |
| **18.** | Naseh, N., Dhaka, A.K., Singh, B. Kumar, A. and Bhuker, A. (2020). Suitable genotype and optimization of seed rate for late sown wheat. *International Journal of Chemical Studies*; 8(1): 515-519. | - |

| | | |
|---|---|---|
| **19.** | Nekhat, A.F., Dhaka, A.K., Singh, B., Kumar, A. and Bhuker, A. (2020). Influence of herbicides and their mixtures on growth, yield attributes productivity and economics of wheat. *Journal of Pharmacognosy and Phytochemistry*, 9(5): 258-262. | -- |
| **20.** | Poonia, A., Phogat, D.S. and Bhuker, A. (2020). Comparative diversity analysis of oat genotypes under multi-cut system. *Range Management and Agroforestry*, 41(2): 242-249. | 6.58 |
| **21.** | Punia, H., Tokas, J., Malik, A., Sangwan, S., Baloda, S., Singh, N., Singh, S., Bhuker, A., Singh, P., Yashveer, S., Agarwal, S. and Mor, V.S. (2020). Identification and Detection of Bioactive Peptides in Milk and Dairy Products: Remarks about Agro-Foods. *Molecules*, 25 (15): 3328. | 10.93 |
| **22.** | Rai, H., Singh, P.K., Jakhar, S.S. and Dahiya, O.S. (2020). Seed characters based identification key for Importantvarieties of Indian mustard *(Brassica juncea* L. Czern&Coss). *Seed Research*, 48(1): 94-97. | 4.29 |
| **23.** | Ram B., Jakhar S.S., Bhuker A., Satpal and Singh, J. (2020). Effect of plant oil treatments and containers on electrical conductivity, dehydrogenase activity and Mycoflora incidence of sorghum seed during storage. *Journal of Entomology and Zoology Studies*, 8(5): 2341-2345. | - |
| **24.** | Sourabh, Preeti, Sharma, J.R. and Bhuker, A. (2020). Effect of scarification treatments on seed germination of guava (*Psidium guajava*). *Indian Journal of Agricultural Sciences*, 90 (7): 117–121. | 6.37 |
| **25.** | Chakholoma, M., Nimbal, S., Sangwan, O., Mor, V.S., and Jain, A. (2021). Studies on economic heterosis for yield and fibre quality traits in American cotton (*Gossypium hirsutum* L.). *Journal of Cotton Research and Development*, 35 (2): 185-192. | 4.78 |
| **26.** | Kibaraza A., Bhuker A. and Pandey V. (2021). Effect of priming and containers on seed quality of maize (*Zea maize* L.) hybrids during storage. *Forage Research*, 47 (2):147-152. | 4.84 |
| **27.** | Kibaraza, A., Bhuker B., Mor V.S. and Jakhar S.S. (2021). Priming effect on enzyme activities in maize hybrid (*Zea maize* L.) seed. *Forage Research*, 46(4):337-342. | 4.84 |
| **28.** | Kiran, S.Y., Singh, V., Mor, V.S., Dey, S., and Kumar, D. (2021). Multivariate analysis of seed vigour parameters in late sown wheat (*Triticum aestivum* L. em. Thell). *International Journal of Chemical Studies*, 9: 275-278 | - |
| **29.** | Kurubar S. A., Bhuker A. and Kumar Y. (2021). Effect of priming and storage containers on seed quality of barley (*Hordeum vulgare* L.). *Journal of Cereal Research*, 13 (Spl-1): 67-76. | 4.57 |
| **30.** | Lokesh, Jakhar S.S., Kumar S, and Malik A.K. (2021). Impact of plant oils and containers on storage of onion (*Allium cepa*). *Research on Crops*, 22(3):588-595. | 4.56 |
| **31.** | Lokesh, Jakhar S.S., Kumar S, and Malik A.K. (2021). Influence of fungicides and containers on seed storability of onion (*Allium cepa* L.). *Environment and Ecology*, 39 (4A): 1154-1161. | 5.25 |
| **32.** | Malik, A., Mor, V.S., Tokas, J., Punia, H., Malik, S., Malik, K., Sangwan, S., Tomar, S., Singh, P., Singh, N., Himangini, Vikram, Nidhi, Singh, G., Vikram, Kumar, V, Sandhya, and Karwasra, A. (2021). Biostimulant-Treated Seedlings under Sustainable Agriculture: A Global Perspective Facing Climate Change. *Agronomy*, 11:14 | 9.95 |
| **33.** | Punia, H., Tokas, J., Mor, V.S., Bhuker, A., Malik, A., Singh, N., Satpal, Alsahli, A.A., Hefft, D.I. (2021). Deciphering Reserve Mobilization, Antioxidant Potential, and Expression Analysis of Starch Synthesis in Sorghum Seedlings under Salt Stress. *Plants*, 10(11):2463. | 10.66 |
| **34.** | Punia, H., Tokas, J., Malik, A., Singh, S., Phogat, D.S., Bhuker, A., Mor, V.S., Rani, A and Sheokand, R.N. (2021). Discerning morpho-physiological and quality traits contributing to salinity tolerance acquisition in sorghum [*Sorghum bicolor* (L.) Moench]. *South African Journal of Botany*, 140:409-418 | 9.11 |
| **35.** | Ram B., Jakhar S.S., Bhuker A., Satpal and Saharan, H.S. (2021). Effect of fungicide treatments and containers on seed quality and storability of forage sorghum. *Forage Research*, 46 (4):348-355. | 4.84 |
| **36.** | Singh N., Bhuker A. and Jeevanadam, J. (2021). Effects of metal nanoparticle-mediated treatment on seed quality parameters of different crops. *Naunyn-Schmiedeberg'sArchieves of Pharmacology*, 394(6):1067-1089. | 9.20 |
| **37.** | Kumar R., Kumar S. and Jakhar S.S. (2022). Response of micronutrients to seed quality in *Coriandrumsativum* L. *Indian Journal of Ecology*, 49(2):399-404 | 5.79 |

| | | |
|---|---|---|
| **38.** | Kumar S, Jakhar S.S. and Malik A.K. (2022). Physiological and biochemical responses of okra seed (*Abelmoschusesculentus*) to fungicides and containers. *Indian Journal of Agricultural Sciences*, 92(3):397-401 | 6.37 |
| **39.** | Kurubar, S. A., Bhuker A. and Madaan S. (2022). Impact of priming and storage containers on enzyme activities of naturally aged seeds of Barley (*Hordeum vulgare* L.). *Journal of Cereal Research*; 14 (Spl.-2): 33-42. | 4.57 |
| **40.** | Mangar A., Muetzel S., Malik A., Bhuker A., Mor V., Molenaar A., Sofkova-Bobcheva S., Pain S. and McGill C. (2022). *Moringaoleifera* L.: A Potential Plant for Greenhouse Gas Mitigation in Temperate Agriculture Systems. *Agriculture*, 12, 1116. | 9.49 |
| **41.** | Nidhi, Mor V. S., Tanwar H., Duhan D. S., Bhuker A., Singh V., Malik A., Dalal P.K., Puneeth Raj M. S. and Shivani, (2022). Impact of Hydropriming on Fresh and Naturally Aged Seeds of Bottle Gourd (*Lagenariasiceraria (*Molina) Standl). *Current Journal of Applied Science and Technology*, 41(10): 1-11. | - |
| **42.** | Nisha, Bhuker A. and Rahul. (2022). Different seed priming techniques in vegetables crops- A review. *Environment and Ecology*, 40 (3B): 1512-1517. | 5.25 |
| **43.** | Nisha, Bhuker A., Jakhar SS and Singh N. (2022). Assess the effect of natural ageing and storage containers on seed quality of tomato seeds. *Journal of Agriculture and Ecology*, 14: 131-134. | 4.36 |
| **44.** | Sheoran, S., Devraj, Antil, R.S., and Mor, V.S. (2022). Effect of long term use of manures and fertilizers on soluble salts in soil and mineral composition of wheat (*Triticumaestivum*). *Annals of Plant and Soil Research*, 24(2): 245-249. | 5.22 |
| **45.** | Shivani, Jakhar S.S. and Kumar S. (2022). Response of nutrients spray on seed yield parameters in mungbean (*Vignaradiata* L. Wilczek) during summer season. *Environment and Ecology*, 40 (2C): 990-997. | 5.25 |
| **46.** | Singh N., Bhuker A., Mor V.S., Malik A., Kumari K, Duhan D.S., Yogender Kumar Y, Yadav S.S., Sourabh and Reddu R. (2022). Synthesis and characterization of metal-based nanoparticles and their effect on seed quality parameters of American varieties of cotton. *Materials Today: Proceedings*, 69 (2): 87-95. | 7.46 |
| **47.** | Singh P., Mor, V.S., Malik A., Punia H. and Bhuker A. (2022). Biochemical responses to natural and accelerated ageing on seed quality in Indian mustard (*Brassica juncea*). *Indian Journal of Agricultural Sciences*, 92 (7): 882–885. | 6.37 |
| **48.** | Soni, N., Raj, K., Mor, V.S., and Chugh, R.K. Mycoflora impact on germination and vigour of bottle gourd (*Lagenaria siceraria*) seeds and its management through different plant protectants. *Seed Science & Technology*, 49(3):207-217 | 6.80 |
| **49.** | Yadav R., Panghal V.P.S., Duhan D.S. and Bhuker A. (2022). Investigation of nitrogen effects on growth and yield of two potato cultivars in northern plains of India. *Potato Research*. *65*(4), 853-861. | 8.56 |
| **50.** | Malik A., Mor V.S., Punia H., Duhan D.S., Tokas J., Bhuker A., Alyemeni, M.N., Shakoor A. (2023). Development and Optimization of Label-Free Quantitative Proteomics under Different Crossing Periods of Bottle Gourd. *Current Issues in Molecular Biology*, 45, 1349–1372. | 8.98 |

***Annexure SST-III***

## DETAILS OF COURSES OFFERED BY THE DEPARTMENT

| Course No. | Course Title | Credit hrs. | Sem. |
|---|---|---|---|
| **SST 501*** | FLORAL BIOLOGY, SEED DEVELOPMENT AND MATURATION | 1+1 | I |
| **SST 502*** | PRINCIPLES OF SEED PRODUCTION | 2+0 | I |
| **SST 503*** | SEED PRODUCTION OF FIELD CROPS | 2+1 | I |
| **SST 504/ [1] VSC 505** | SEED PRODUCTION IN VEGETABLES | 2+1 | II |
| **SST 505[3]** | SEED PRODUCTION IN FLOWER, MEDICINAL FRUITS AND PLANTATION CROPS | 2+1 | I |
| **SST 506*** | SEED LEGISLATION & CERTIFICATION | 2+1 | II |

| | | | |
|---|---|---|---|
| **SST 507*/ [3] PFE 514** | SEED DRYING, PROCESSING AND STORAGE | 2+1 | II |
| **SST 508*** | SEED QUALITY TESTING | 2+1 | II |
| **SST 509/ [4]PP 511** | SEED PHYSIOLOGY | 1+1 | I |
| **SST 510/ [5] Pl. PATH 510** | SEED PATHOLOGY | 2+1 | I |
| **SST 511[6]** | SEED ENTOMOLOGY | 2+1 | II |
| **SST 512** | SEED PRODUCTION IN PASTURE, FORAGE & GREEN MANURE CROPS | 2+1 | II |
| **SST 513** | SEED STORAGE AND DETERIORATION | 1+1 | II |
| **SST 514/ [7] AG. ECON 510** | SEED MARKETING AND MANAGEMENT | 2+1 | II |
| **SST 515** | EMERGING TRENDS IN SEED QUALITY ENHANCEMENT | 1+1 | I |
| **SST 516/ [8] GP 517** | DATA BASE MANAGEMENT, EVALUATION AND UTILIZATION OF PGR | 2+1 | II |
| **SST 591** | MASTER'S SEMINAR | 1 | I, II |
| **SST 599** | MASTER'S RESEARCH | | I, II |
| **SST 601**** | HYBRID SEED PRODUCTION | 1+1 | II |
| **SST 602/ [8] GP 610** | IN SITU AND EX SITUCONSERVATION OFGERMPLASM | 2+1 | II |
| **SST 603** | TESTING FOR GENUINENESS AND PURITY OF CULTIVARS | 1+1 | I |
| **SST 604**** | DUS TESTING FOR PLANT VARIETY PROTECTION | 2+1 | I |
| **SST 605**** | ADVANCES IN SEED SCIENCE RESEARCH | 1+0 | II |
| **SST 691** | DOCTORAL SEMINAR-I | 1 | I, II |
| **SST 692** | DOCTORAL SEMINAR-II | 1 | I, II |
| **SST 699** | DOCTORAL RESEARCH | | I, II |
| **SERVICE COURSE** | | | |
| **ABM 522** | SEED PRODUCTION TECHNOLOGY AND MANAGEMENT | 2+0 | I |

*Compulsory for Master's programme; ** Compulsory for Doctoral programme

To be taught by: [1]Vegetable Science; [2]Fruit Science. [3]Processing & Food Engineering; [4] Botany Plant Physiology; [5]Plant Pathology; .[6]Entomology; .[7]Agricultural Economics;[8]Genetics & Plant Breeding

# Programme - 14



## M.Sc. Soil Science

## and

## Ph.D. Soil Science









**Celebration of World Soil Day**

## 6.4 About the Department

The Department of Soil Science started with the establishment of Hisar Campus of the erstwhile Punjab Agricultural University. Dr. D.R. Bhumbla took over the charge as first Head of the department on 26th August 1963. The Department has attained the distinction of one of the biggest departments of the College of Agriculture with faculty strength of approximately 135 including 112 teachers/scientists/extension specialists of Soil Science discipline during 1982-83 when Dr. Mahendra Singh was the Head of the Department and presently with strength of about 14 faculty members including 3 agronomists. Changes in its nomenclature: Initially, the name of the department was 'Soils' which changed to 'Soil Science' in 1986. The Department is entrusted to cater research, extension, and allied activities other than the teaching. The Department has fiscal support from the State Government and ICAR. The overall goals of the PG programs in Soil Science are to achieve a national and international reputation for research excellence and to make important contributions to the educational mission of the University. The Department has well qualified faculty members. All faculty members have obtained Ph. D. degree. At present research in four AICRP's scheme, one state scheme and one extension scheme is being carried out and research is conducted in thrust areas of Soil Science particularly sustaining soil productivity through integrated nutrient management under different cropping systems and agro-climatic zones, soil conservation, preservation and management for sustainable agriculture, to develop targeted yield equations for newly developed high yielding varieties of crops, micronutrient management in soils for higher crop productivity, screening of crop varieties for their tolerance to Zn, Fe and Mn stress and their biofortification etc. The faculty of Department has been recipient of significant prestigious fellowships and awards since its inception.

### Mandate/Objectives of the Department:

- To impart teaching in the field of Soil Science to under graduate and post graduate students
- To conduct research in different disciplines of Soil Science including Pedology, Soil Survey, Remote Sensing, Soil Fertility, Soil Chemistry, Soil Physics, Water Management, Soil Salinity, Soil Pollution and in any new area depending on requirement of the state.
- Transfer of technology to the farmers through KVKs and government agencies.

### 6.4.1 Brief History of the Degree Programme

The M.Sc. and Ph. D. Programme were started in the year 1963 in the Department. Till date, 404 M. Sc. and 191 Ph.D. students have completed their degrees. Students enrolled in M.Sc. and Ph.D. programmes have been given research problems related to integrated nutrient management, soil conservation, soil fertility, micronutrient management, soil test-based fertilizer recommendation, characterization of ground water quality, long term application of FYM and fertilizer application etc.

### Objectives of initiating M.Sc. programme

- To prepare students to enter their professions with a perspective and breadth of knowledge related to their respective fields of specialization through course work, seminars and project/thesis work, research experience and thus cater to the needs of Industry, R&D Organizations, Govt., and the educational institutions.
- To meet the needs of students and employers by offering relevant, quality career education programmes, training, and research in field of Soil Science so that our personnel could overcome their shortcoming and significantly commit to the expectations of our farming community.

### Accomplishments of M.Sc. programme

- Till date the Department of Soil Science has conferred degree to 404 M.Sc. At present 30 M.Sc. students are on roll.
- Students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB) during the period under report is mentioned in *Annexure-II*.

### Objectives of initiating Ph.D.programme

- To meet the needs of students and employers by offering relevant, quality career education programmes, training, and research in field of Soil Science.
- To undertake challenges in the field of Soil Science through research activities.
- The objective of the Ph.D. degree is to accomplish original, valid, and important research. Since the degree is the training ground for a career in academic teaching and scholarly research, the Ph.D. candidate must demonstrate the ability to do independent research.
- To impart theoretical and practical value in many fields extending over the various aspects of Soil Science

### Accomplishments of Ph.D. programme

- Till date the Department of Soil Science has conferred degree to 191 Ph.D. students. At present 26 Ph.D. students are on roll.
- Students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB) during the period under report is mentioned in *Annexure*-II.

**Note: Students passed National Eligibility Test (NET) conducted by the Agricultural Scientists Recruitment Board (ASRB) during the period under report is mentioned in Annexure-I, students placed at various organizations are mentioned in Annexure-II and the list of publications from department is given in Annexure- III.**

| Degree Programme offered by the Department | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Y1 | Y2 | Y3 | Y4 | Y5 | Total | Y1 | Y2 | Y3 | Y4 | Y5 | Total |
| **M.Sc.** | Soil Science | 1963 | 11 | 16 | 15 | 17 | 16 | 75 | 08 | 07 | 07 | 16 | 15 | 53 |
| **Ph.D.** | Soil Science | 1963 | 03 | 09 | 11 | 11 | 08 | 42 | 08 | 05 | 02 | 04 | 03 | 22 |

Y1= 2018-19……. Y5=2022-23 (till date)

### 6.4.2 Faculty Strength:

Present Faculty Strength in the department given as cadre-wise, both sanctioned and in-place in the table mentioned below:

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **1.** | Professor and equivalent (5) | 1 | 4 | - |
| **2.** | Associate Professor and equivalent (2) | - | 2 | 1 |
| **3.** | Assistant Professor and equivalent (49) | 21 | 28 | 5 |

Note: All the Faculty members are assigned the responsibilities for the multiple programmes

*The number of Professors and Associate Professors also includes personal promotes

### 6.4.3 Technical and Supporting staff:

The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.

| S.No. | Sanctioned Technical and supporting staff | Technical and supporting staff in place | Vacant position | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1. | Office staff | | | |
| | AO/Superintendent | 1 | 0 | - |
| | Assistant | 02 | 0 | - |
| | Clerk | 03 | 1 | - |
| | PA/Steno | 01 | 0 | 01 |
| | Messenger | 01 | 0 | 01 |
| | Peon | 01 | 0 | - |
| 2. | Lab staff | | | |
| | ➢ Lab Assistant | 6 | 5 | 04 |
| | ➢ Lab Attendant | 0 | 0 | - |
| | ➢ Any other (SLA & Lab Tech., Store Keeper) | 4 | 0 | - |
| 3. | Field staff | | | |
| | ➢ Beldar | 3 | 0 | - |
| | ➢ Farm and field worker (specify)<br>➢ AI<br>➢ Tractor Driver | 05<br>01 | 0<br>01 | 06 |
| | ➢ Any other | | | - |
| 4. | Driver | 01 | - | - |
| 5. | Liftman | - | - | - |
| 6. | Computer operator | - | - | - |
| 7. | Technician | - | - | 01 |
| 8. | Any other (specify) | - | - | - |

### 6.4.4 Infrastructure:
### Classrooms and Laboratories:

Department has well equipped UG and PG laboratories which can cater the needs of UG and PG students for carrying out their Research work successfully. Moreover, the department is having two lecture rooms/ smart class-rooms with interactive panels along with one committee room for seminars/ conferences and meetings. The department has also got a Soil and water testing Laboratory for the analysis of soil and water samples brought by the farmers.

### List of classroom and functional laboratories:

| | |
|---|---|
| Name of College/Department | |
| No. of lecture rooms with sitting capacity | Two with seating capacity of 70 each |
| No. of lecture rooms with LCD | 2 |
| No. of smart class-rooms | 2 |
| No. of labs under Dean's office with specialized purpose | One (UG) and One (PG) |
| Farm facilities | Yes, Research Farm for PG students for laying out of experiments and practical demonstrations for UG students |

| | |
|---|---|
| Workshops | - |
| Any other instructional units being utilized for the award of the Degree Programme | - |

## List of Major equipment's at present in the Department

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| **1.** | Genesys 180 double beam spectrophotometer (P-79) | Lab No. 6,116,112,114 |
| **2.** | Eutech pH meter (P-84) | Lab No. 117 |
| **3.** | Digital EC pH meter (P-84) | Lab No. 117 |
| **4.** | Remi Research Centrifuge (P-101) | Lab No. 6<br>Lab No. 15<br>Lab No. 114 |
| **5.** | Conductivity Meter (P-120) | Lab No.114 |
| **6.** | Weighing Balance (P-121) | Lab No.113 |
| **7.** | Refrigerated Centrifuge (P-126) | Lab No.117 |
| **8.** | Rotatory shaker (P-127) | Lab No.117 |
| **9.** | Flame Photometer Elico (P-129) | Lab No.6,<br>Lab No.16 |
| **10.** | Deep Freezer Vertical (P-131) | Lab No.105 |
| **11.** | Vestfrost Deep Fridge (P-131) | Lab No.117 |
| **12.** | Remi RLR-400 Front Opening Fridge (P-132) | Lab No.112 |
| **13.** | BOD Incubator (P-138) | Lab No.117 |
| **14.** | Double Distillation Water Unit (P-141) | Lab No.116 |
| **15.** | Hot Air Oven (P-142) | Lab No. 117 |
| **16.** | NSW Incubator (P-143) | Lab No.117 |
| **17.** | Single Distillation Water Unit (P-145) | Lab No.15,<br>Lab No.10B |
| **18.** | Sartorius Balance (P-146) | Lab No.6,<br>Lab No.16 |
| **19.** | Steam Sterilized Autoclave (P-152) | Lab No.117 |
| **20.** | Biosafety Cabinet (P-153) | Lab No.117 |
| **21.** | Hot Air Oven (MAC) P-154 | Lab No.117 |
| **22.** | Laboratory Refrigerator (P-165) | Lab No.117 |
| **23.** | Electronics Weighing (P-166) | Lab No.117 |
| **24.** | Portable Water Purification (P-139) | Lab No-117 |
| **25.** | Double BEAM Spectrophotometer (P-140) | Lab No-117 |
| **26.** | Kjeldahl Distillation Unit (P-147) | Lab No-117<br>Lab No-113<br>Lab No-114<br>Lab No-10 B |
| **27.** | Rotary Evaporator (P-148) | Lab No-114 |
| **28.** | Microwave Distillation | Lab No-117 |
| **29.** | Pressure Plate Apparatus | Lab No-113 |
| **30.** | Penetrometer (P-156) | Lab No-113 |
| **31.** | Atomic Absorption Spectrophotometer (P-157) | Lab No-10 B |
| **32.** | Atomic Absorption Spectrophotometer PERKIN (P No. 159-163 | Lab No-105 |
| **33.** | FUME-HOOD (MAC) (P-168) | Lab No-111 |

**Mention theory and practical batches/courses for PG Programmes**

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc./M.Tech. * | Ph.D.* | M.Sc./M.Tech. | Ph.D. |
| 2018-19 | One | One | One | One |
| 2019-20 | One | One | One | One |
| 2020-21 | One | One | One | One |
| 2021-22 | One | One | One | One |
| 2022-23 | One | One | One | One |

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

The Department of Soil Science offers 3 core and 2 professional elective/experimental learning courses of which all the courses have practical components to provide practical skills and hands-on-training. The Department offers 15 courses at Masters Level. Out of 15 courses, 12 courses provide practical skills and hands-on-training as per the curriculum requirements. However, only advance courses (theory only) are being offered by the Department at Ph.D. Level.

| Degree programme | Total courses | Practical courses | Hands-on-training courses | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| M.Sc. | 15 | 12 | SOILS 501 | In this course students will learn about estimation of soil physical parameters such as Mechanical analysis of soil texture by pipette and international methods, Measurement of Atterberg limits, Aggregate analysis - dry and wet, Measurement of soil-water content by different methods, Measurement of soil-water potential by using tensiometer and gypsum blocks, Determination of soil-moisture characteristics curve and computation of pore-size distribution, Determination of hydraulic conductivity under saturated and unsaturated conditions, Determination of infiltration rate of soil, Determination of aeration porosity and oxygen diffusion rate, Soil temperature measurements by different methods, Estimation of water balance components in bare and cropped fields. |
| | | | SOILS 502 | In this course students will learn about soil parameters essential for soil fertility such asPrinciples of colorimetry, Flame-photometry and atomic absorption spectroscopy, Chemical analysis of soil for total and available nutrients and Analysis of plants for essential elements. |

| | | | | |
|---|---|---|---|---|
| | | | SOILS 503 | In this course students will learn about estimation of soil chemical parameters such as Determination of CEC and AEC of soils, Analysis of equilibrium soil solution for pH, EC, Eh by the use of Eh-pH meter and conductivity meter, Determination of point of zero-charge and associated surface charge characteristics by the serial potentiometric titration method, Potentiometric and conductometric titration of soil humic and fulvic acids, Adsorption-desorption of phosphate/sulphate by soil using simple adsorption isotherm, Determination of titratable acidity of an acid soil by $BaCl_2$-TEA method and Determination of lime requirement of an acid soil. |
| | | | SOILS 504 | In this course students will learn about estimation of soil pedological parameters such as Identification and quantification of minerals in soil fractions, Morphological properties of soil profile in different landforms, Classification of soils using soil taxonomy, Calculation of weathering indices and its application in soil formation, Grouping soils using available data base in terms of soil quality, Aerial photo and satellite data interpretation for soil and land use, Cartographic techniques for preparation of base maps and thematic maps, processing of field sheets, compilation and obstruction of maps in different scales and Land use planning exercises using conventional and RS tools. |
| | | | SOILS505 | In this course students will learn about estimation of soil parameters in relation to soil erosion such as Determination of different soil erodibility indices - suspension percentage, dispersion ratio, erosion ratio, clay ratio, clay/moisture equivalent ratio, percolation ratio, raindrop erodibility index. Computation of kinetic energy of falling rain drops, Computation of rainfall erosivity index (EI30) using rain gauge data and Visits to a watershed. |
| | | | SOILS 506 | In this course students will learn about estimation of soil microbiological parameters such as Determination of soil microbial population; Soil microbial biomass; Decomposition studies in soil, Soil enzymes; Measurement of important soil microbial processes such as ammonification, nitrification. N2 fixation, S oxidation, P solubilization and mineralization of other micro-nutrients; Study of rhizosphere effect. |
| | | | SOILS508 | In this course students will learn about estimation of soil pollution and contamination related parameters such as Storage and handling of radioactive materials, Determination of half-life and decay constant, Preparation of soil and plant samples for radioactive measurements, setting up of experiment on fertilizer use efficiency and cation exchange equilibria using |

| | | | | |
|---|---|---|---|---|
| | | | | radioisotopes. |
| | | | SOILS509 | In this course students will learn about estimation of soil and water pollution parameters such as Sampling of sewage waters, sewage sludge, solid/liquid industrial wastes, polluted soils, and plants. Estimation of dissolved and suspended solids, chemical oxygen demand (COD), biological demand (BOD), nitrate and ammoniacal nitrogen and phosphorus, heavy metal content in effluents. Heavy metals in contaminated soils and plants. Management of contaminants in soil and plants to safeguard food safety. |
| | | | SOILS 510 | In this course students will learn about parameters related to remote sensing and GIS such as Familiarization with different remote sensing equipment and data products. Interpretation of aerial photographs and satellite data for mapping of land resources. Analysis of variability of different soil properties with classical and geostatistical techniques. Creation of data files in a database programme. Use of GIS for soil spatial simulation and analysis. |
| | | | SOILS 511 | This is full practical course in which students will learn about principles of various instruments used in soil and plant analysis as well as they learn how to find out nutrients content in soil and plant samples. |
| | | | SOILS 512 | In this course students will learn about Soil models such as Use of flow chart or pseudo-code in the program writing, writing a small example simulation model program - declarative (in Vensim PLE, Stella or Simile) and procedural (in Java, Fortran, QBasic or V Basic), Conducting simulation experiments in DSSAT, WOFOST or EPIC with requirement of report and conclusion. |
| | | | SOILS 513 | In this course students will learn about estimation of soil parameters related to salt affected soils such as Characterization of acid, acid sulphate, salt-affected and calcareous soils. Determination of cations (Na+, K+, Ca++ and Mg++) in ground water and soil samples. Determination of anions (Cl-, SO4 --, CO3 -- and HCO3 -) in ground waters and soil samples. Lime and gypsum requirements of acid and sodic soils. |

*Details of courses offered by the Department at M.Sc. and Ph.D. level are given in *Annexure SS-II*

**6.4.6 Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**M.Sc. Programmes**

| Name of Department | Numberof students on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 11 | 11 | 1:1 |
| **2019-20** | 20 | 13 | 1.53:1 |
| **2020-21** | 28 | 17 | 1.64:1 |
| **2021-22** | 29 | 15 | 1.93:1 |
| **2022-23** | 30 | 22 | 1.36:1 |

**Ph.D. Programmes**

| Name of Department | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| **2018-19** | 0 | 11 | - |
| **2019-20** | 4 | 13 | 0.30:1 |
| **2020-21** | 13 | 17 | 0.76:1 |
| **2021-22** | 20 | 15 | 1.30:1 |
| **2022-23** | 25 | 22 | 1.13:1 |

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

There is a framework for the yearly self-appraisal report (SAR) for all teaching staff. SARs are reviewed by the Deans and Executives for performance evaluation and ultimately approved by the Vice-Chancellor. The staff's performance is also assessed based on their results and feedback from students. For the Proficient Elective course, students are placed in various teaching environments for in-plant training. During the training period, instructors visit these environments and conduct meetings with experts from the organization. Any suggestions provided by these experts are incorporated into the curriculum. Feedback from stakeholders regarding the overall performance and quality of the teaching environments is obtained through regular meetings with parents and interactions with alumni. Additionally, instructors receive informal feedback from students based on their parents' observations and suggestions. These recommendations are then relayed to the Heads of Departments (HODs) and administrative officers.

**6.4.8 Student intake and attrition in the programme for last five years:**

Year wise information on sanctioned strength, actual intake, and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.

| Name of the degree programme | Actual students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 11 | 16 | 15 | 16 | 15 | 18.1 | 0 | 0 | 0 | 0 |
| **Ph. D** | 04 | 09 | 11 | 11 | 8 | 25.0 | 0 | 9.0 | 18.0 | 0 |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

Yes, the faculty members of Department of Soil Science use ICT in teaching and practical. There is one Committee room, Seminar Room with interactive panel, computer, LCD projector and internet connection. All faculty members have computer, printer, and internet connection in their offices. There is Wi-Fi facility for faculty, staff, and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research, and extension. Faculty members use power point presentations, YouTube, emails, and CD ROM in teaching all courses at UG, PG and Ph. D. level. For PG and Ph. D. students' emails are also used.

**Use of ICT application in teaching and practical for curricula delivery**

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| **M.Sc.** | 15 | 15 | 12 | PPT/ Use of interactive panel in teaching |
| **Ph.D.** | 06 | 06 | 0 | PPT/ Use of interactive panel in teaching |

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean **Surender K. Pahuja** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure SS-I*

## STUDENTS PLACEMENT

| Sr. No. | Placement through Examination | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|
| **1.** | ARS | | Chetan Kumar Jangir (2015A20D) | | | |
| **2** | Other National Examinations | | | | Rishav Bhatia, 2017A100M<br>Asstt. Field Officer Soil and Land Use Survey of India (SLUSI), Department of Agriculture and Farmers' Welfare, Ministry of Agriculture and Farmers' Welfare, Government of India<br><br>2-Priyanka, 2017A101M<br>Technical Assistant<br>Food Corporation of India (FCI), Ministry of Consumer Affairs, Food and Public Distribution, Government of India<br><br>3-Mr. Deepak Kochar<br>2019A71D<br>Asstt. Field Officer<br>Soil and Land Use Survey of India (SLUSI), Department of Agriculture and Farmers' Welfare, Ministry of Agriculture and Farmers' Welfare, Government of India<br><br>4- Sawan Kumar<br>2019A78D<br>Asstt. Field Officer<br>Soil and Land Use Survey of India (SLUSI), Department of Agriculture and Farmers' Welfare, Ministry of Agriculture and Farmers' Welfare, Government of India<br><br>5-Tamana Saroha<br>2019A132M<br>A.F.O., Union Bank of India | |
| **3.** | State Level Examinations or Equivalent | | | | 1-Babu Lal Chaudhary<br>2020A66D<br>A.R.O., Degana, Nagor, Rajasthan<br><br>2- Divya Gaur, 2017A97M | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Soil Testing Lab, Devgarh, Rajasmand, Rajasthan<br><br>3-Bunty<br>2018A85M<br>HDO, Barada Block, Ambala<br><br>4-Parveen<br>2018A89M<br>Horticulture Development Officer, Jhajjar | |
| **4.** | Placement through Interviews | | 1- Shubham Lamba,<br>2014A50D<br>Soil Scientist, Deptt. of Plant Breeding and Genetics, PAU, Ludhiana<br><br>2- Hardeep Singh Sheoran<br>2014A51D<br>Asstt. Professor<br>Deptt. of Soil Science(COA)<br>CCSHAU, Hisar<br><br>3-Mr. Inderpal,<br>2014A53D<br>Soil Conservation Officer, Rajpura Division, Patiala<br><br>4-Mohammad Amin Bhat,<br>2014A54D<br>Soil Scientist, RRS, Ballowal Saunkhri, SBS Nagar (Punjab)<br><br>5- Sunita Sheoran<br>2015A21D<br>Asstt. Professor, Department of Soil Science, COA, CCSHAU, Hisar<br><br>6- Pankaj Kumar<br>2016A68M<br>Asstt. Professor, Department of Soil Science, COA, CCSHAU, | | 1-Nidhi Kamboj, 2014A49D<br>Asstt. Scientist, Deptt. of Agronomy, COA, CCSHAU, Hisar<br><br>2-Dheeraj Panghaal<br>2015A23D<br>D.E.S., KVK, Jind<br><br>3-Sonia Devi,2017A102M<br>DES,KVK, Jhajjar<br><br>4- Ms. Sukirtee, 2017A16D<br>DES, KVK, Rohtak<br><br>5- Ms. Kavita, 2017A18D<br>DES, KVK Kurukshetra<br><br>6-Vikas, 2017A21D<br>Research Associate<br>Deptt.of Soil Sc.<br><br>7-Vinayak V Savanoor,<br>2017A99M<br>Private Sector | 1- Shubham Lamba (2014A50D) (Asstt. Scientist, Deptt. of Soil Science(COA) CCS HAU, Hisar)<br><br>2-Ankush Dhanda (Asstt. Scientist, Deptt. of Soil Science(COA) CCS HAU, Hisar)<br><br>3-Sonia Rani (Asstt. Scientist, Deptt. of Soil Science (COA) CCS HAU, Hisar)<br><br>4-Seema (Asstt. Scientist, Deptt. of Soil Science (COA) CCS HAU, Hisar)<br><br>5-Sushil Kumar (Asstt. Scientist, Deptt. of Soil Science (COA) CCS HAU, Hisar)<br><br>6-Vikas Tandon (Asstt. Scientist, Deptt. of Soil Science (COA) CCS HAU, Hisar)<br><br>7-Deepika (Asstt. Scientist, Deptt. of Soil Science (COA) CCS HAU, Hisar)<br><br>8-Ritambhara (Asstt. Scientist, Deptt. of Soil Science (COA) |

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|---|---|---|---|---|---|---|
| | | | Hisar | | | CCS HAU, Hisar)<br><br>9-Vikas (2018A52D) (Reserch Associate, Deptt. of Soil Science (COA) CCS HAU, Hisar) |

***Annexure SS-II***

| **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** |
|---|---|---|---|---|
| **06** | **07** | **Nil** | **10** | **Nil** |
| **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** | **Names (Adm. No.)** |
| 1. Jyotirmaya Sahoo (2016A65M)<br>2. Ganpat Louhar (2016A66M)<br>3. Pankaj Kumar (2016A68M)<br>4. Chetan Kumar Jangir (2015A20D)<br>5. Manchala Santhosh Kumar (2016A19D)<br>6. Sukritee (2017A16D) | 1. Seema (2017A17D)<br>2. Kavita (2017A18D)<br>3. Sonia (2014A52D<br>4. Divya Gaur (2017A97M)<br>5. Vikas (2017A21D)<br>6. Rakesh Kumar (2017A19D)<br>7. Sushil (2018A51D) | Nil | 1. Babulal Choudhary (2020A66D)<br>2. Garima Dahiya (2020A69D)<br>3. Manu Rani (2020A70D)<br>4. Koushik Bhattacharyya (2019A125M)<br>5. Sunitha Fogat (2020A73D)<br>6. Manju Kumari (2019A126M)<br>7. Apurva (2019A122M)<br>8. Sandeep Kumar Gautum (2019A129M)<br>9. Rajni Yadav (2019A128M)<br>10. Charan Singh (2018A86M) | |

***Annexure SS-III***

## LIST OF MAJOR PUBLICATIONS

| S. No. | **Publications Details of Students** | **NAAS rating** |
|---|---|---|
| **1.** | Bhat, M.A., Grewal, M.S., Wani, S.A., Singh, I., Dinesh, Grewal, K. S., Arya, V. S. (2018). Application of Geoinformatics for Groundwater Characterization. *Journal of the Indian Society of Soil Science*, 66(3): 237-248. | 5.25 |
| **2.** | Devi, S., Satpal, Talwar, H. S., Ramprakash and Goyal, V. (2018). Performance of Sorghum [*Sorghum Bicolor* (L.) Moench] under salt stress. *Forage Research*, 44 (3): 209-212. | 4.48 |
| **3.** | Dhillon, R. S., Chavan, S. B., Bangarwa, K. S., Bhardwaj, K. K., Kumari, S. and Sirohi, C. (2018). Eucalyptus-based agroforestry system under semi-arid condition in north-western India: An economic Analysis. *Indian Journal of Ecology*, 45(3): 470-474. | 4.96 |

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|---|---|---|
| **4.** | Dhillon, R. S., Johar, V., Beniwal, R. S. Bhardwaj, K. K., Kumari, S., Chavan, S.B. and Sirohi, C. (2018). Effect of different spacing geometries of *Populus deltoides* on carbon sequestration potential of poplar-based agroforestry system in North-Western Haryana. *Journal of Pharmacognosy and Phytochemistry*, 7(3): 2968-2971. | 5.31 |
| **5.** | Kamboj N., Malik, R.S. and Deepika (2018). Residual effect of applied Zinc, Boron and Phosphorus on post-harvest nutrient availability status of soil. *International Journal of Chemical Studies*, 6(2): 1443- 1446. | 5.31 |
| **6.** | Kamboj, N., and Malik, R.S. (2018). Influence of phosphorus and boron application on quality, nutrient content, and their uptake by green gram (*Vigna radiata* l.). *International Journal of Current Microbiology and Applied Sciences*, 7(3): 1451- 1458. | 5.38 |
| **7.** | Kamboj, N., and Malik, R. S. (2018). Release behavior of Boron in low and High Boron status soils vis- a vis Zinc and Phosphorus application. *Plant Archives*, 18: 31- 35. | 4.41 |
| **8.** | Kamboj, N., Malik, R. S., Dhankar, P. and Kumar, A. (2018). Importance of Nickel in Crops. *Journal of Pharmacognosy and Phytochemistry*, 7(3): 3470- 3475. | 5.21 |
| **9.** | Kumar, P. and Kumar, R. (2018). Effect of industries on heavy metal content in soils of adjoining area. *International Journal of Chemical Studies*, 6(3): 2476-2478. | 5.31 |
| **10.** | Kumar, P. and Kumar, R. (2018). Effect of industries on soils of adjoining area. *International Journal of Current Microbiology and Applied Sciences*, 7(7): 126-131. | 5.38 |
| **11.** | Kumar, P. and Kumar, R. (2018). Impact of different land uses on plant and water composition. *International Journal of Chemical Studies*, 6(3): 2667-2669. | 5.31 |
| **12.** | Kumar, P. and Kumar, R. (2018). Impact of different land uses on soil properties. *International Journal of Chemical Studies*, 6(3): 27942798. | 5.31 |
| **13.** | Kumar, V., Gathala, K. M., Saharawat, Y. S., Parihar, C. M., Kumar, R., Kumar, R., Jat, M. L., Jat, A. S., Mahala, D. M., Kumar, L., Nayak, H. S., Parihar, M. D., Rai, V., Jewlia, H. and Kuri, B. R. (2018). Impact of tillage and crop establishment methods on crop yields, profitability, and soil physical properties in rice-wheat system of Indo-Gangetic Plains of India. *Soil Use & Management*, | 7.34 |
| **14.** | Neelam, Kumar, N., Kumar, K., Sharma, M.K. and Rani, S. (2018). Effects of saline irrigation on physiological responses and yield attributes in chickpea genotypes. *Journal of Agrometeorology*, 20: 359-363. | 6.40 |
| **15.** | Pal, Kumar, S., Rajpaul, Ramprakash, Mohammad, A., Bhat and Yadav, S.S. (2018). Assessment of groundwater quality for irrigation use in Firozpur-Jhirka Block in Mewat District of Haryana, North India. *Journal of Soil Salinity and Water Quality*, 10(2): 157-167. | 4.94 |
| **16.** | Rathi, P., Ramprakash, Kumar, S., Satyavan and Rathi, N. (2018). Characterization of groundwater quality in Siwan block of Kaithal district in Haryana. *International Journal of Chemical Studies*, 6(1): 986-990. | 5.31 |
| **17.** | Rathi, P., Ramprakash, Sharma, R. and Rathi, N. (2018). Characterization of groundwater quality of Kalayat block of Kaithal district, Haryana. *International Journal of Chemical Studies*, 6(1): 981-985. | 5.31 |
| **18.** | Seema, Rita Dahiya, V.K. Phogat and Hardeep Singh Sheoran (2018). Hydraulic properties and their dependence on physico-chemical properties of soils: A Review. *Current Journal of Applied Science and Technology*, 38(2): 1-7. | 4.71 |
| **19.** | Simmi, Sukirtee, Arya, V.S., Dinesh and Bhat, M.A. (2018). Geoinformatics for the physiographic and land use/land cover mapping of Siwani area, Bhiwani district (Haryana). *International Journal of Chemical Studies*, 6(5): 1156-1164. | 5.38 |
| **20.** | Singh, J., Sharma, P.C., Satyavan, Singh, Y.P., Chauhan, S.K., Singh, Vijayata and Neeraj. (2018). Notification of crop varieties and registration of germplasm. *Indian Journal of Genetics and Plant Breeding*,78(3): 398-400. | 6.41 |
| **21.** | Singh, M.K., Bhardwaj, K.K., Beniwal, R.S. and Sihag, D. (2018). Rate of litterfall and decomposition in *Prosopis cineraria* and *Ailanthus excelsa* block plantation in arid condition of Haryana. *International Journal of Agriculture Sciences*,10(13): 6603-6605. | 4.20 |
| **22.** | Singh, V., Ramprakash, Bhat, A.B., Kumar, G. and Sanjay (2018). Evaluation of groundwater quality for irrigation in Kaithal block (Kaithal district) Haryana. *International Journal of Chemical Studies*, 6(2): 667-672. | 5.31 |
| **23.** | Singh, V., Sharma, S.K., Thakral, S.K. and Sharma, M.K. (2018). Effect of phosphorus on the performance of greengram (*Vigna radiata* L) varieties during summer. *Legume Research*, 42 (2): 247-249. | 6.53 |

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| **24.** | Waheddullah, Dhaka, A.K., Kumar, Satish, Bhatia, J.K., Singh, Bhagat, and Ramprakash (2018). Qualitative and economic performance of dual-purpose wheat as influenced by sowing time and cutting schedule. *Journal of Pharmacognosy and Phytochemistry*,7 (2): 1339-1342. | 5.21 |
| **25.** | Badeshra, S., Bhardwaj, K.K., Devi, S., Kaushik, U. and Dev Raj (2019). Soil quality under Eucalyptus: A Review. *International Journal of Agriculture Sciences*, 10: 8454-8456. | 4.20 |
| **26.** | Louhar, G., Rajpaul, Malik, R.S. and Yadav, S. (2019). Depth-wise distribution of heavy metals in different soil series of Northwestern India. *International Journal of Current Microbiology and Applied Sciences*, 8(2): 2817-2826. | 5.38 |
| **27.** | Manjeet, Anurag, Ramniwas, Rajeev, Tomar, D., Ramniwas, Bansal, S.K., Khicher, M.L., Rahul and Singh, A. (2019). Developing Spectral Models for Regional Level Wheat Yield Prediction in Haryana, India. *Journal of Agrometeorology*, 21 (SI): 9-13 | 6.56 |
| **28.** | Rani, S., Satyavan, Kumar, A. and Beniwal, S. (2019). Integrated nutrient management as a managerial tool for applying saline water in wheat crop cultivated under sub-tropic and semi-arid conditions of North-Western India. *Journal of Plant Nutrition*, 43(4): 604-620 | 6.57 |
| **29.** | Sahoo, J., Dinesh, Bhat, M.A., Anil, A.S and Anurag (2019). Characterization and classification of soils of selected watershed area of Haryana, North-west India. *Indian Journal of Agricultural Sciences*, 89 (11): 1942–7. | 6.25 |
| **30.** | Singh, K., Ram Prakash, Sangwan, A. and Chaudhary, K. (2019). Tolerance of Chloride Salinity Levels on Seed Germination, Mineral Composition, Quality and Yield in Different Sunflower (*Helianthus annuus* L.) Genotypes. *Journal of Soil Salinity and Water Quality*, 11 (2): 210-216. | 4.94 |
| **31.** | Singh, K., Ram Prakash, Sangwan, A., Yadav, A. and Chaudhary, K. (2019). Effect of boron on sunflower (*Helianthus annuus*) productivity and grain composition under sulphate dominated saline Genotypes. *Indian Journal of Agricultural Sciences*, 90 (2): 423-27. | 6.25 |
| **32.** | Singh, V., Sharma, S.K., Thakral, S.K. and Sharma, M.K. (2019). Effect of phosphorus application on the performance of greengram (*Vigna radiata* L.) varieties during summer. *Legume Research*, 42(2): 247249. | 6.23 |
| **33.** | Arvind, Hooda, R.S., Sheoran, H.S., Kumar, D., Satyawan, Abhilash and Bhardwaj, S. (2020). RS-based regional crop identification and mapping: A case study of Barwala sub branch of Western Yamuna Canal in Haryana (India). *Indian Journal of Traditional Knowledge*, 19(1): 182-186. | 6.76 |
| **34.** | Babal, B., Phogat, V.K., Sharma, M.K., Ahlawat, S. (2020). Impact of long-term conservation agriculture induced changes in soil properties on persistence of pendimethalin under different cropping systems. *Soil Research*, 59: 299-308. | 7.57 |
| **35.** | Devi, S., Bhardwaj, K.K., Dahiya, G.and Sharma, M.K. (2020). Assesment of Yield and Nutrient Uptake of Wheat in Agri-SilviHorticulture System under Semi-Arid Region of Haryana. *Indian Journal of Ecology*, 47(3): 866-868. | 5.79 |
| **36.** | Devi, S., Bhardwaj, K.K., Dahiya, G., Sharma, M.K. and Verma, A. K. (2020). Effect of agri-silvi-horticultural system on soil moisture content at different depths. *International Journal of Chemical Studies*, 8(2): 2166-2170. | 5.31 |
| **37.** | Devi, S., Bhardwaj, K.K., Dahiya, G., Sharma, M.K. Verma, A.K. and Louhar, G. (2020). Effect of agri-silvi-horticultural system on soil chemical properties ad available nutrients at different depths in Haryana. *Range Management and Agroforestry*, 41(2): 267-275. | 6.28 |
| **38.** | Kumar, S., Jeane, M., Rajpaul, Ram Prakash, Satyavan and Meena, R.L. (2020). Groundwater Quality Mapping of Baragudha Block of Sirsa District, Haryana, India. *Journal of Soil Salinity and Water Quality, 12(1): 50-57.* | 4.94 |
| **39.** | Kumar,V., Goyal, and Dey, P. (2020) Impact of STCR based long term integrated management practices on soil chemical properties and yield attributing parameters of wheat and pearl millet in semi-arid North-West India, *International Journal of Chemical Studies*, 8(4): 1320-1328. | 5.31 |
| **40.** | Priyanka, Ram Prakash, Yadav, R., Kumar, N. and Dhillon, A. (2020). Performance of different Indian mustard (*Brassica juncea*) varieties with saline water and graded fertilizer doses under semi-arid conditions of Haryana. *Journal of Environmental Biology*, 41: 1599-1604. | 6.78 |

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| **41.** | Rathi, D., Devraj, Antil, R.S. and Sheoran, S. (2020) Impact of amendments on soil organic nitrogen fractions irrigated with sodic water. *Indian Journal of Agricultural Sciences*, 90 (7): 1236-40. | 6.21 |
| **42.** | Rathi, D., Devraj, Antil, R. S., Ram Prakash and Sharma, M. K. (2020). Available nutrients and labile carbon fractions in soil irrigated with sodic water. *Indian Journal of Agricultural Sciences*, 90 (6): 1081-1085. | 6.21 |
| **43.** | Sahoo, J., Dinesh, Bhat, M.A., Anil, A.S., Raza, M.B. (2020). Nutrients distribution and their Relationship with soil properties in different watersheds in Haryana. *Indian Journal of Agricultural Sciences*, 90 (1): 172–7. | 6.25 |
| **44.** | Surya, J.N., Walia, C.S. Singh, H., Goyal, V., Dhakar, R.P., Sharma, J.P., and Sarkar, D. (2020). Assessment of soil fertility status in Kumaon Himalayas using GIS technique. *International Journal of Microbiological Research*,12(4): 1811-8115. | 5.38 |
| **45.** | Kumari, P., Duhan, A., Rani, N. and Tomar, D. (2021).Ultimate fate and toxicological consequences of insecticide pyriproxyfen and its metabolites in soil ecosystem *Environmental Advances*, 4:100040. | 11.33 |
| **46.** | Rani, N., Duhan, A. and Tomar, D. (2021). Ulimate fate if herbicide tembotrione and its metabolites TCMBA in soil. *Ecotoxicology and Environmental safety*, 203: 111023. | 10.80 |
| **47.** | Sahoo, J., Dinesh, Dass, A., Bhat, M. A., Gouda, H.S. and Anurag (2021). Land suitability assessment for improved land use planning in slected watersheds of Haryana. *Journal of Environmental Biology*, 42: 285-292. | 6.56 |
| **48.** | Seema, Dahiya, R., Phogat, V.K. and Sheoran, H.S. (2021). Assessment of predicted and measured hydraulic parameters of different textured soils of Haryana. *Journal of Soil and Water Conservation*, 20(2): 131-138. | 5.20 |
| **49.** | Tanwer, K., Hooda, V. S., Dagar, H., Tanwer, K. and Dev Raj (2021). Long term effect of FYM and nitrogen application on weeds, nutrient uptake, and crop productivity of wheat in subtropical north-western India. *Journal of Plant nutrition*, 45(1): 141-151 | 7.13 |
| **50.** | Kumar, S., Sharma, S.K., Thakral, S.K., Bhardwaj, K.K., Jhariya, M.K., Meena, R.S., Jangir, C.K., Bedwal, S., Jat, R.D., Gaber, A, Atta, A.A. and Hossain,A. (2022). Integrated nutrient management improves the productivity and nutrient use efficiency of *Lens culinaris* Medik. *Sustainability*, 14:1284. | 9.25 |
| **51.** | Seema, Dahiya, R., Ram Prakash, Sheoran, H.S. and Roohi (2022). Drip irrigation as a potential alternative to traditional irrigation method for saline water usage in vegetable crops- a review. *International Journal of Economic Plants*, 9(2):115-120. | 4.37 |
| | **Publications Details of Faculty** | |
| **52.** | Ankush, Singh, V., Kumar, V. and Singh, D.P. (2018). Impact of drip irrigation and fertigation scheduling on tomato crop - An overview. *Journal of Applied and Natural Science*, 10 (1): 165-170. | - |
| **53.** | Goyal, V., Singh, A.K., Mishra, A.K. and Parihar, S.S. (2018). Integrated effect of water regimes and nitrogen levels on productivity of transplanted rice (*Oryza sativa*) and wheat (*Triticum aestivum*) under rice-wheat cropping system: Field and simulation study. *Indian Journal of Agricultural Sciences*, 88(1): 54-62. | 4.28 |
| **54.** | Goyal, V. and Singh, M. (2018). Validation of soil test crop response-based fertilizer recommendations for targeted yields of *Bt.* cotton in semi-arid south western zone of Haryana. *Journal of Cotton Research and Development*, 32(1): 68-76. | 6.22 |
| **55.** | Kaushik, U., Raj, D., Pooja Rani, P. and Bhardwaj, K.K. (2018). Effect of cultivation on organic carbon pools and nutrient availability in soil under different land use system: A Review. *International Journal of Current Microbiology and Applied Sciences*, 7(8): 1578-1591. | 4.69 |
| **56.** | Kumar, S., Punia, S.S., Punia, Todar mal and Singh, S. (2018). Weed composition of groundnut (*Arachis hypogaea* L.) in Haryana. *The Journal of Rural and Agricultural Research*, 18(2): 71-72. | 5.38 |
| **57.** | Kumar, S., Kumar, S., Bishnoi, D., Kumar, N. and Dhillion, A. (2018). Effect of integrated nutrient management on yield and yield attributes and economics of wheat (*Triticum aestivum* l.) under saline and non-saline irrigation water. *International Journal of Current Microbiology and Applied Science, 7*(5): 618-628. | 4.19 |
| **58.** | Kumar, S., Satyavan, Ramprakash and Sihag, D. (2018). Quality parameters, nutrient content and uptake as influenced by inm in wheat (*Triticum aestivum* l.) under saline and non-saline irrigation water. *International Journal of Current Microbiology and Applied Science*, 7(5): 607-617. | 5.38 |

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|---|---|---|
| **59.** | Lamba, S., Grewal, K.S. and Kumar, V. (2018). Impact of fertilizer levels on sugarcane yield and available nutrients of clay loam Soil: A sustainable approach. *International Journal of Chemical Studies*, 6(6): 1160-1164. | 5.38 |
| **60.** | Narender and Malik, R.S. (2018). Soil manganese dynamics and its uptake in wheat (*Triticum aestivum* L.) influenced by chloride and manganese application. *Indian Journal of Agricultural Sciences*, 88(10): 1568-72. | 6.22 |
| **61.** | Narender, Malik, R.S., Dey, A. and Meena, M.C. (2018). Significance of manganese fertilization in wheat-based cropping systems of Indo Gangetic Plain (IGP). *Indian Journal of Agricultural Sciences*, 88(9): 1340-1348. | 6.22 |
| **62.** | Parihar, C.M., Yadav, M.R., Jat, S.L., Singh. A.K., Kumar, B., Pooniya,V., Pradhan, S., Verma, R.K., Jat, M.L., Jat, R.K., Parihar, M.D., Nayak, H.S. and Saharawat,Y.S. (2018). Long-term conservation agriculture and intensified cropping systems: Effects on growth, yield, water, and energy-use efficiency of maize in Northwestern India. *Pedosphere*, 28(6): 952-963. | 8.43 |
| **63.** | Parihar, C.M., Jat, S.L., Singh, A.K., Datta, A., Parihar, M.D., Varghese, E., Bandyopadhyay, K. K., Kuri, B. R., and Jat, M. L. (2018). Changes in carbon pools and biological activities of a sandy loam soil under long-term conservation agriculture and diversified cropping systems. *European Journal of Soil Science*, 69: 902–912. | 8.64 |
| **64.** | Punia, S.S., Singh, Sushil Kumar and Poonia, Todarmal (2018). Bio-efficacy of carfentrazone-ethyl 40% DF against weeds in wheat and its carryover effect on succeeding sorghum. *Indian Journal of Weed Science*, 50 (4): 399–401. | 5.17 |
| **65.** | Rajanna, G.A., Dhindwal, A.S., Narender, Shiva Kumar L and Patil, M.D. (2018). Alleviating moisture stress under irrigation scheduling and crop establishment techniques on productivity and profitability of wheat (*Triticum aestvum* L.) under semi-arid conditions of Western India. *Indian Journal of Agricultural Science*, 88(3): 372-8. | 6.22 |
| **66.** | Ramprakash, Rajpaul, Satyavan, Kumar, S., and Sharma, S.K. (2018). Mapping of groundwater quality for irrigation in Fatehabad district of Haryana, India. *Journal of Soil Salinity and Water Quality*, 10 (2):186-191. | 4.94 |
| **67.** | Yadav, D., Punia, S.S., Singh., S., Singh, S.K. and Todar, M. (2018). Biological control of parthenium by *Zygogramma bicolorata* and *Cassia* spp. *The Journal of Rural and Agricultural Research*, 19(1): 95-97. | 4.19 |
| **68.** | Devi, S., Satpal, Talwar, H.S., Jangra, M., Ram Prakash and Goyal, V. (2019). Assessment of salt tolerancebased on physiological studies and ionic relations in Sorghum [*Sorghum Bicolor (*L.) Moench]. *Multiogic in sciencerch*, *29*(9): 27-31. | 5.20 |
| **69.** | Goyal, V., Singh, A.K., Mishra, A.K. and Parihar, S.S. (2019). Integrated effect of water regimes and nitrogen levels on productivity of transplanted rice (*Oryza sativa*) and wheat (*Triticum aestivum*) under rice-wheat cropping system: Field and simulation study, *Indian Journal of Agricultural Sciences*, 88(1): 54-62. | 6.25 |
| **70.** | Punia, S.S., Poonia, M., Todarmal, and Singh, S.K. (2019). Weed flora of fenugreek (*Trigonella foenum-graecum* L.) in Bhiwani District of Haryana. *Indian Research Journal of Genetics and Biotechnology*, 11(4):244-249. | 3.49 |
| **71.** | Satpal, Tokas, J., Bhardwaj, K.K., Devi, S., Kumari, P., Arya, S., Neelam and Kumar, S. (2019). Evaluation of forage sorghum genotypes for production, productivity, and quality at different fertilizer levels. *Forage Research*, 45 (1): 64-68. | 4.48 |
| **72.** | Sharma, S.K., Kumar, A., Singh, K. and Kumar, N. (2019). Effect of land configuration and weed management on yield and yield attributes of green gram (*Vigna radiata* L). *Agricultural Science Digest*, 39 (4): 320-323 | 4.75 |
| **73.** | Sushil, Garhwal, R.S., Dinesh and Singh, R. (2019). Effect of sewage water on physical properties of cultivated soils of Peri-urban Areas of Haryana. *Journal of Pharmacognosy and Phytochemistry*, (SI): 128-131. | 5.31 |
| **74.** | Ahlawat, I., Sheoran, H.S., Roohi, Dahiya, G. and Sihag, P. (2020). Analysis of sentinel-1 data for regional crop classification: a multi-data approach for rabi crops of district Hisar (Haryana). *Journal of Applied and Natural Science*, 12(2): 165 – 170. | 4.28 |
| **75.** | Ankush, Ram Prakash, Kumar, R., Singh, V., Harender and Singh, V. (2020). Soil microbial and nutrient dynamics influenced by irrigation-induced salinityand sewage sludge incorporation in sandy – loam textured soil. *International Agrophysics*, 34: 451-462. | 7.66 |
| **76.** | Ankush, Ram Prakash, Singh, R., Kumari, S. and Singh, V. (2020). Micronutrients accumulation under pearl millet-wheat cropping system in response of salinity levels | 6.78 |

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| | amended with sewage sludge. *Journal of Environmental Biology*, 41: 1641-1647. | |
| **77.** | Dev Raj, R.S. Antil, Garg, R., Dahiya, D.S., Arora, V.K., Yadav, S.S., Verma, R.C. and Singh, J.P. (2020). Impact of Intensive Cropping Systems on Crop Productivity and Changes in Soil Fertility: A Case Study on Benchmark Sites of Haryana. *Indian Journal of Fertilisers*, 16 (10): 988-996. | 4.76 |
| **78.** | Devi, S., Bhardwaj, K K., Dahiya, G., Sharma, M.K. and Verma, A.K. (2020). Effect of agri-silvi-horticultural system on soil moisture content at different depths. *International Journal of Chemical Studies*, 8(2): 2166-2170. | 5.31 |
| **79.** | Dinesh, Bhat, M.A., Sahoo, J. and Sharma, M.K. (2020). Vertical distribution of nutrients *vis-a-vis* soil properties in different geomorphic units of north-eastern Haryana, India. *Indian Journal of Ecology*, 47(1): 58-67 | 4.96 |
| **80.** | Fagodiya, R.K., Meena, B.L., Kaledhonkar, M.J., Bundela, D.S., Meena, R.L., Ram Prakash and Satyavan. (2020). Salt accumulation and leaching requirement for saline irrigation: a comparative study of surface and drip irrigation methods. *Journal of Soil Salinity and Water Quality*,12(1): 89-94. | 4.94 |
| **81.** | Goyal, V., Bhardwaj, K.K. and Dey, P. (2020) Validation of soil test-based fertilizer prescription models for specific yield targets of wheat on an inceptisols of Haryana *Journal of Pharmacognosy and Phytochemistry*, 9(4): 1914-2 | 5.21 |
| **82.** | Kumar, R., Malik, R.S., Yadav, H.K. and Narender (2020). Effect of various sources of zinc on wheat straw yield and nutrient uptake. *Forage Research*, 46(2): 212-214. | 4.84 |
| **83.** | Prakash, R., Prakash, D., Kumar, S., Satyavan and Gourav (2020). Survey and characterization of groundwater quality for irrigation in Faridabad District of Haryana, India. *Journal of Soil Salinity and Water Quality*, 12(1): 22-27. | 4.94 |
| **84.** | Punia,S.S., Soni, J., Singh, M., Kumar, S. and Kamboj, P.(2020). Management of herbicide resistant *Phalaris minor* in wheat. *Indian Journal of Weed Science*, 52(3): 237–240. | 5.17 |
| **85.** | Antil, R.S. and Dev Raj (2020). Management and Utilization of Paddy Straw in theIndo-Gangetic Plains of India. *Indian Journal of Fertilisers*, 16 (11): 652-670. | 4.76 |
| **86.** | Ram Prakash, Dhram Prakash, Kumar, S., Satyavan and Gourav (2020). Survey and characterization of groundwater quality for irrigation in Faridabad District of Haryana, India. *Journal of Soil Salinity and Water Quality*, 12(1): 22-27. | 4.94 |
| **87.** | Ram Prakash, Dinesh, Kumar, S., Satyavan and Singh, M. (2020). GIS mapping of groundwater quality in kharkhoda block of Sonipat District in Haryana, India. *Journal of Soil Salinity and Water Quality*,12(2): 163 | 4.94 |
| **88.** | Ram Prakash, Kumar, S., Satyavan and Singh, S. (2020). Mapping of groundwater quality for suitability of climate resilient farming in the eastern agro-climatic zone of haryana, India. *Journal of Agrometeorology*, 22: 210-217. | 6.47 |
| **89.** | Rohtas Kumar, R., Malik, R.S., Yadav, H.K. and Narender (2020). Effect of various sources of zinc on wheat straw yield and nutrient uptake.*Indian Society of Forage Research*, 46(2): 212-214 | 4.48 |
| **90.** | Satpal, B. Gangaiah, N. Kumar, S. Devi, N. Kharor, K.K. Bhardwaj, P. Kumari, D.S. Phogat and Neelam, (2020). Performance of single-cut forage sorghum cultivars at different fertilizer levels. *Forage Research*,46(2): 202-207. | 4.84 |
| **91.** | Sewhag, M., Shweta, Kumar, P., Kumar, S. and Singh, S.K. (2020). Comparative economics of neem coated urea vis-a-vis ordinary urea in wheat. *The Journal of Rural and Agricultural Research*, 20 (2): 37-40. | 4.19 |
| **92.** | Sharma, S.K., Kumar, R. and Kumar, P. (2020). Effect of integrated crop management practices on growth, seed yield and economics of lentil (*Lens culinaris* Medick.) *Journal of Plant Development Sciences*,12 (2): 105-109 | 4.13 |
| **93.** | Sharma, S.K. (2020). Impact of improved dryland technologies on sustainable crop productivity in aridisols of Haryana. *Annals of Agricultural Research*, 41 (3): 325-330. | 4.78 |
| **94.** | Shweta, Sewhag, M., Singh, S.K., Neelam and Chaudhary, K. (2020). Wheat yield and soil quality affected under different crop establishment methods. *Indian Research Journal of Genetics & Biotechology*, 12(3): 200-205. | 3.49 |
| **95.** | Singh, S.K., Todarmal and Punia, S.S. (2020). Evaluation of different herbicides in black gram (*Vigna mungo* L.). *Indian Research Journal of Genetics & Biotechology*, 12(3): 218-226. | 3.49 |
| **96.** | Ankush, Ram Prakash, Singh, R., Kumari, S. and Louhar, G. (2021). Salt ratios respond | 6.37 |

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| | to saline irrigation and sewage sludge application in pearl millet-wheat rotation. *Indian Journal of Agricultural Science*, 91(2): 296-299. | |
| **97.** | Ankush, Ram Prakash, Singh, V., Diwedi, A., Popat, C.R., Kumari, S., Kumar, N., Dhillon, A. and Gourav. (2021). Sewage Sludge Impacts on Yields, Nutrients and heavy metals contents in pearl millet–wheat system grown under saline environment. *International Journal of Plant Production*, 15(1): 93-105. | 8.02 |
| **98.** | Ankush, Ram Prakash, Singh, V., Diwedi, A., Popat, R.C., Kumari, S., Kumar, N., Dhillon, A. and Gourav(2021). Sewage sludge impacts on yields, nutrients and heavy metals contents in pearl millet-wheat system grown under saline environment. *International Journal of Plant Production*, 1-13. | 8.02 |
| **99.** | Ankush, Ram Prakash, and Louhar, G. (2021). An assessment of domestic sewage sludge in pearl millet-wheat system under saline irrigation. *Indian Journal of Agricultural Sciences*, 91(3): 450-455. | 6.37 |
| **100** | Lamba, S., Rani, S. & Kumar, N. (2021). Application of innovative space technology approaches to the sustainability of agricultural systems in the developing world. *Remote Sensing Letters*, 12(4): 315-324. | 8.58 |
| **101** | Panghaal, D., Kumar, P., Kumar, R., Singh, K., and Kumar, R. (2021). Conservation tillage for sustainable forage production and soil quality improvement: A review. *Forage Research*,47(1): 1-10. | 4.84 |
| **102** | Parihar, M.D., Singh, S.K., Sharma, M.K. and. Sutaliya, J.M. (2021). Performance of barley as influenced by irrigation scheduling and cultivars. *Journal of Plant Development Sciences*, 13(9):713-718. | 4.13 |
| **103** | Phogat,V.K., Parihar, M.D., Dahiya, R., Sharma M.K and Singh, Sushil Kumar. (2021). Scheduling of irrigation in different cultivars of cotton under semi-arid conditions. *Journal of Plant Development Sciences*, 13 (8): 663-666. | 4.13 |
| **104** | Poonia, T.M., Singh, S.K., Punia, S.S. and Manjeet (2021). Weed flora composition in rice, cotton, and cluster bean crops in Haryana. *Indian Research Journal of Extension Education*,21 (4): 134-138. | 5.22 |
| **105** | Ram Prakash, Dinesh and Kumar, S. (2021). Survey and Mapping of Groundwater Quality of Sonipat Block in Sonipat District of Haryana, India. *Journal of Soil Salinity and Water Quality*,13(2): 221-227. | 4.94 |
| **106** | Sehwag, M., Shweta, Kumar, S., Kumar, R., Tokas, J., Neelam, Devi, U. and Satpal (2021). Response of spring planted fodder maize to nitrogen and phosphorus levels. *Forage Research*, 46(4): 363-367. | 4.84 |
| **107** | Sharma, S.K. and Singh, K. (2021). Response of foliar spray on production and profitability of pearl millet (*Pennisetum glaucum* L.) under rainfed conditions. *Annals of Agricultural Research*, 42 (1): 34-39. | 4.78 |
| **108** | Sharma, S.K., Kumar, R. and Kumar, P. (2021). Effect of integrated crop management practices on growth, seed yield and economics of field pea (*Pisum sativam* L). *Indian Journal of Agricultural Research*, 55 (1):115-118 | 5.20 |
| **109** | Sharma, S.K., Singh, K., Chaudhary, K. and Thakral, S.K. (2021). Effect of spacing and fertility levels on growth, yield and economics of green gram (*Vigna radiata* L) under rainfed conditions. *Indian Journal of Ecology*, 48 (6): 1732-1735 | 5.79 |
| **110** | Sheoran, H.S.*, Phogat,V.K.,Dahiya, R. and Seema (2021). Assessment of physical properties of soils subjected to organic farming practices in arid and semi-arid regions of Haryana, India. *Journal of Soil and Water Conservation*, 20(3): 237-245. | 5.20 |
| **111** | Ankush, Ram Prakash, Kumar, A., Singh, V. and Kumari, S. (2022). Influence of sewage sludge and saline water irrigation on soil soluble ions and nutrient uptake under pearl millet- wheat cropping system in semi-arid region. *Indian Journal of Traditional Knowledge*, 21 (2): 450-457. | 6.76 |
| **112** | Poonia, T.M., Singh, S.K.,Chaudhary, A. and Hooda,V. S. (2022). Efficacy of different pre and post emergence herbicides in clusterbean. *Forage Research*, 48(1):99-103. | 4.84 |

## Programmes/trainings organized/conducted by Department of Vegetable Science (2018-2023)

| Sr. No. | Name of the Event | Year | Date |
|---|---|---|---|
| **1.** | Two Training on soil and water testing for state government teachers and lecturers" | 2021 | March 4 to 6, 2021&March18 to 20, 2021 |
| **2.** | Two Training on soil and water testing for state government teachers and lecturers" | 2022 | February 14 to 18, 2022 & February 21 to 24, 2022 |
| **3.** | Training Programme on "Mission JRF (Soil Science)" for the UG students of CCS HAU, College of Agriculture, Hisar | 2022 | 13.06.2022 to 02.07.2022 |
| **4.** | Expert talk and exposure visit activity on "Cordyceps mushroom & Saffron Cultivation under Laboratory Conditions. | 2023 | 12.05.2023 |

# GLIMPSES OF VARIOUS ACTIVITIES CONDUCTED BY DEPARTMENT OF SOIL SCIENCE



Monitoring by Director of Research (Department of Soil Science Field Experiments)



Soil and water testing training to Teachers and Assistant Professors



Cordyceps mushroom & Saffron Cultivation training



Mission JRF (Soil Science) training for the UG students of CCS HAU

# Programme - 15



## M.Sc. Vegetable Science

## and

## Ph.D. Vegetable Science

## 6.4 About the Department

The department was establishment in 1972 as the Department of Vegetable Crops. Realizing the importance of vegetables in the improvement of health and economic standard of the rural people, majority of whom are vegetarian, Haryana Agricultural University took lead in starting the first separate department of vegetable crops in the university. However, along with advancements made in crop technologies and their utilization by the farmers, a change in nomenclature of the department was felt and since 2003, it is referred to as "Department of Vegetable Science". The mandate of the department is to strengthen the teaching, research and extension work of vegetable crops as the demand of vegetables is increasing day by day due to being more remunerative, high in nutritional value and higher in production per unit area. This department has developed more than sixty varieties including two hybrids in different vegetable crops, which are high yielding, resistant to important diseases of a particular crop. Besides this, agronomical practices for production of vegetables and seeds have also been standardised for enhancement of production per unit. Beside research farm at Hisar, two research centres have been established in various agro-climatic region of the state to work on the regional problems of vegetable crops. One regional research station was established under KVK, Jagdishpur, Sonipat and another one was established at RRS, Uchani, Karnal. Head of the department is the full-flagged in-charge and is overall responsible for teaching, research and extension activities, their management, and administration of the department. The department has highly qualified faculty, well experienced in their respective fields of specialization, *i.e*., vegetable breeding, vegetable production, vegetable production physiology, vegetable post-harvest technology and vegetable seed production technology.

### Objectives of the Department

- To impart graduate, post-graduate education and training for human resource development.
- To develop new technologies in crop management practices and plant protection measures for enhancing yield and quality in vegetable crops
- To conduct applied and strategic research for the improvement of vegetable crops
- To disseminate knowledge through information technology on recent advances in vegetable crops.
- To develop technologies in Vegetable Science, their assessment and refinement and their transfer
- To Standardize the technologies for quality seed production and storage techniques for vegetable seeds
- To produce breeder seeds and TFL seeds of various vegetable crops
- To provide farmers advisory services

### 6.4.1. Brief History of the Degree Programme

#### Objectives of initiating M. Sc. programme

- To impart knowledge of Vegetable Science through teaching and guided research
- To generate human resources in area of Vegetable Science
- To generate of vegetable technologies, their assessment and refinement
- To strengthen the research farm for practical teaching works in vegetable Science

### Accomplishments of M.Sc. programme

Since the establishment of this department, 249 students got admission in M.Sc. (Horticulture) in Vegetable Science programme and this department has awarded Master degrees to 224 students. During 2018-2022, 45 students got admission in M.Sc. programme and 42 students passed out. Most of them have got admissions in Ph.D. programme in different Universities.

**NET qualified during 2018-19 to March, 2023**

| Sr. No. | Year | No. of students |
|---|---|---|
| 1 | 2018-19 | 6 |
| 2 | 2019-20 | 6 |
| 3 | 2020-21 | 5 |
| 4 | 2021-22 | 5 |

**Objectives of initiating Ph.D. programme:**

- To impart knowledge of vegetable science through teaching and guided research
- To carry out research with emphasis in Vegetable Sciences
- To strengthen the research farm for practical teaching works in vegetable Science
- To develop technologies in Vegetable Science, transfer of vegetable technologies, their assessment and refinement

**Accomplishments of Ph.D. programme:**

Since the establishment of this department, 139 students got admission in Ph.D. programme and 91 students passed out. During 2018-2023, 23 students got admission in Ph.D. programme and 13 students passed out. Most of them got appointments in different organizations given in ***Annexure VEG – VIII***

**Note:** List of publications from students theses given in ***Annexure VEG – I.***

- List of awards achieved by M.Sc. and Ph.D. students in National and International conferences given in ***Annexure VEG – III***
- Honour and Award achieved by the students in sports activities is given in ***Annexure VEG – IX.***

| Degree Prog. offered by the Deptt. | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Y1 | Y2 | Y3 | Y4 | Y5 | TOTAL | Y1 | Y2 | Y3 | Y4 | Y5 | TOTAL |
| **M.Sc.** | Vegetable | 1972 | 8 | 8 | 11 | 9 | 9 | 45 | 7 | 9 | 7 | 9 | 10 | 42 |
| **Ph.D.** | Vegetable | 1972 | 3 | 3 | 6 | 6 | 5 | 23 | 7 | 2 | 2 | - | 2 | 13 |

Y1= 2018-19……. Y5=2022-23 (till date)

***6.4.2. Faculty Strength:*** *The faculty strength of the Degree Programme needs to be given cadre wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned faculty | In place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **1.** | Professor and equivalent (1) | 3* | 1 | - |
| **2.** | Associate Professor and equivalent (0) | - | - | - |
| **3.** | Assistant Professor and equivalent (42) | 21 | 18 | - |
| **4.** | Contractual faculty (specify) | 2 | - | - |

***Note:*** All the Faculty is assigned the responsibilities for the multiple programmes.

*The number of Professors and Associate Professors also includes personal promote.

Faculty appointed in teaching also conducts the research and extension activities. Faculty of research also engaged in teaching and extension for vegetable science. Contribution from the department and faculty members are given in various annexures as listed below:

- List of publications from faculty is given in ***Annexure VEG – V.***
- Programs or training organized by the department is listed in *Annexure**VEG –IV.***
- Major research achievement by the department is given in *Annexure* ***VEG –VI.***
- Awards won by the Department of Vegetable Science in Kisan Mela is given in***AnnexureVEG –VII.***

**6.4.3. Technical and Supporting staff:** The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place

| S.no. | Designation | In Place | Vacant | Technical and supporting staff recommended by the ICAR/UGC norms |
|---|---|---|---|---|
| **1.** | **Office Staff** | | | |
| | Assistant | - | 2 | - |
| | Clerk | 1 | - | 1 |
| | PA/Steno | 1 | - | - |
| | Messenger | - | 1 | - |
| | Storekeeper | 2 | - | - |
| **2.** | **Lab staff** | | | - |
| | Lab Assistant | 2 | - | - |
| | Lab Attendant | - | 1 | - |
| **3.** | **Field staff** | | | - |
| | Beldar | 18 | 10 | 1 |
| | Head Mali | - | 1 | - |
| | Security goard | - | 2 | - |
| **4.** | Agriculture Inspector | 3 | 1 | - |
| **5.** | Technical Assistant | 1 | 1 | 2 |
| **6.** | Senior Technical Assistant | 1 | - | 1 |
| **7.** | Water Pump Operator | 1 | 1 | - |
| | | | | |

*The technical and supporting staff is assigned the responsibilities for the multiple programmes

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories:**

| | |
|---|---|
| No. of lecture rooms with seating capacity | 1 with seating capacity 70 and one seminar room of 20 seating capacity |
| No. of lecture rooms with LCD | 01 |
| No. of smart class-rooms | 01 |
| No. of labs with specialized purpose | 01 |
| Farm facilities | Sixty two acres land, about 2 acre area under protected cultivation, Vegetable seed production area of about 15 acre (1), Tractor (2), Trolley (1), Harrow (2), Cultivator (2), Drill Machine (2) Rotavator (1), Leveler (1), Thresher (2), Potato Digger (1), Potato Planter (1), Seed Processing Machine Unit (1), Screen |

| | |
|---|---|
| | House (2), Onion store (1) Seed Store Building (1), Seed processing store (3), Potato grading and sorting unit (1) Water tank (2), Water lifting pump with electric motor (2), Water hydrant unit (2), Rain Gun Unit (1), micro irrigation, sprinkler and drip facilities, Vegetable grafting unit (1) *etc*. |

**List of major equipments in the Department Laboratories**

| Name of equipment | Location/Lab. No. |
|---|---|
| Analytical balance, Digital Flame photometer, Conductivity meter, Seed counter digital, Centrifuge R-24, Specto Photometer, Thermo Hygrometer with clock, Genehis 20-D, Digital Temp. Indicator, 506 Pusa STFR Meter Kit, Electronic balance, Hygrometer, DLP data projector. Leaf area meter, Food Processor, L.C.D., microscope, Overhead projector, Oven, pH meter | Lab. No. 233 |
| LCD (1) | Seminar Hall 232 |
| Computers (17), Printer (14) UPS (5), Scan Jet (1) | Faculty & office rooms |

**Mention theory and practical batches for PG Programmes**

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc. | Ph.D. | M.Sc. | Ph.D. |
| 2018-19 | One | One | One | One |
| 2019-20 | One | One | One | One |
| 2020-21 | One | One | One | One |
| 2021-22 | One | One | One | One |
| 2022-23 | One | One | One | One |

- At M.Sc. level, the department of Vegetable Science offers 13 courses and 12 courses have the practical components. There is limited seat in M.Sc. Programme with average of 8-10 students. Some courses are offered as Minor courses and Supporting courses for the student of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with average of 10-15 students.
- At Ph.D. level, the department offers 8 courses and 5 courses have the practical components. For this programme also seats are limited with average of 4-6 students. Therefore, one batch for theory classes and one batch for practical classes in all the courses.

**6.4.5. Conduct of Practical and Hands-On Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

Knowledge of the theory is very important for professional degree. Skill is obtained by doing practical and hands on training. Therefore, it is essential to make available the learning material and opportunities that allows students to get implicated in activities which enhance their knowledge and skills. The department offers 2 courses and one professional module course at UG level. All the courses also provide practical training and hands on training as the curriculum requirements. The experiential learning programme for conduct of practical and hands-on training is offered for one semester in the final year of undergraduate or post-graduate students in the department of Vegetable Science as given in **Annexure VEG –X.**

| Course No./Credit Hrs. | Practical and Hands-on-training courses | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|
| VSC 501 (2+1) | • Cultural operations (fertilizer application, sowing, mulching, irrigation, weed control) of winter vegetable crops and their economics)<br>• Experiments to demonstrate the role of mineral elements, plant growth substances and herbicides<br>• Study of physiological disorders | • Demonstration of Cultural operations (fertilizer application, sowing, mulching, irrigation, weed control) of winter vegetable crops<br>• Preparation cropping scheme for commercial farms<br>• Visit commercial greenhouse/ polyhouse |
| VSC 502 (2+1) | • Cultural operations (fertilizer application, sowing, mulching, irrigation, weed control) of summer vegetable crops and their economics<br>• Study of physiological disorders and deficiency of mineral elements<br>• Preparation of cropping schemes for commercial farms<br>• Experiments to demonstrate the role of mineral elements, physiological disorders; plant growth substances and herbicides<br>• Seed extraction techniques<br>• Identification of important pests and diseases and their control<br>• Maturity standards<br>• Economics of warm season vegetable crops | • Demonstration of Cultural operations (fertilizer application, sowing, mulching, irrigation, weed control and Seed extraction techniques) of warm season vegetable crops<br>• To know about cropping schemes for commercial farms |
| VSC 503 (2+1) | • Selection of desirable plants from breeding population, observations and analysis of various traits in segregating generations<br>• Selfing and crossing techniques in vegetable crops<br>• Hybrid seed production of vegetable crops in bulk,<br>• Screening techniques for insect-pests, disease and environmental stress resistance | • Able to select the desirable plants from segregating population, recording observation analysis and interpretation of data<br>• Conduct the selfing and crossing technique in different vegetable crops<br>• Demonstration on pollination and emasculation<br>• Visit to breeding blocks |
| VSC 504 (2+1) | • Preparation of solutions of plant growth substances and their application<br>• Experiments on breaking and induction of dormancy by chemicals; induction of parthenocarpy and fruit ripening<br>• Application of plant growth substances for improving flower initiation, changing sex expression in cucurbits and checking flower and fruit drops and improving fruit set in Solanaceous vegetables | • Demonstration on PGR solution preparation and their application<br>• Study of various techniques for growth analysis in vegetable crop |
| VSC 505 (2+1) | • Selection of suitable areas/locations for high quality seed/planting material production<br>• Study of floral biology of vegetables | • Study of floral biology of different vegetable crops<br>• Demonstration on emasculation and pollination |

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| | • Determination of planting ratios for hybrid seed production vegetables, use and maintenance of monoecious line in hybrid seed production of cucumber<br>• Exercises on emasculation and pollination<br>• Seed extraction methods and their effect on quality of vegetables<br>• Seed production technology of varieties and hybrids in vegetables | • Demonstration of seed extraction methods and their effect on quality of vegetables |
| VSC 506 (1+1) | • Identification, description, classification and maintenance of vegetable species and varieties<br>• Survey, collection of allied species and genera locally available<br>• Preparation of keys to the species and varieties<br>• Methods of preparation of herbarium and specimens. | • Collection of allied species and genera in different vegetable crops after survey of local area<br>• Preparation of herbarium and descriptive study of various vegetables<br>• Preparation of keys of locally collected species |
| VSC 507 (2+1) | • Identification of seeds<br>• Botanical description of plants<br>• Layout and planting; cultural practices<br>• short-term experiments of under exploited vegetables | • Demonstration on layout, planting and cultural practices of underexploited vegetables |
| VSC 508 (1+1) | • Method of preparation of compost, vermi-composting, bio-fertilizers, soil solarisation, bio pesticides in horticulture, green manuring, mycorrhizae and organic crop production, waste management, organic soil amendment for root disease, weed management in organic horticulture<br>• Visit to organic fields and marketing centres | • Method of preparation of compost, vermi composting, bio-fertilizers, soil solarisation, bio pesticides in horticulture<br>• Visit to organic fields and marketing centres |
| VSC 509 (2+1) | • Study of machinery and equipment used in processing of horticultural produce<br>• Chemical analysis for nutritive value of processed vegetables<br>• Study of different types of spoilage in processed horticultural produce;<br>• Study of biochemical changes and enzymes associated with spoilage<br>• Laboratory examination of vegetable products; Sensory evaluation of processed vegetables; study of food standards – National, international, CODEX Alimentarius | • Visit to processing units to study the layout, equipment, hygiene, sanitation and residual / waste management |
| VSC 510 (2+1) | • Identification of seeds and plants<br>• Botanical description of plant; preparation of herbarium, propagation, nursery raising<br>• Field layout and method of planting, cultural practices, harvesting, drying, storage, packaging and processing, value addition; short term experiments on spice crops | • Demonstration of Cultural practices & harvesting, drying, storage, packaging and processing, value addition on spice crops |
| VSC 511 (2+1) | • Studies of stages and maturing indices<br>• Ripening of commercially important | • Identification of various maturity indices in vegetable |

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| | vegetable crops<br>• Studies of various harvesting methods<br>• Pre-cooling, pre-treatments, pre-packaging<br>• Physiological disorders-chilling injury, improved packing<br>• Use of chemicals for ripening and enhancing shelf life of vegetables<br>• Estimation of Physiological loss in weight of vegetables, transpiration, respiration rate, ethylene release<br>• Storage of important vegetables, cold chain management<br>• Visit to commercial packaging house, cold storage and CA storage. | crops<br>• To know about various practices like harvesting of vegetable crops *i.e.*, manually and mechanically, Various pre-harvest treatments from harvesting to marketing like pre cooling, pre-packaging, packaging methods, transportation, storage |
| VSC 599 (0+18) | • Master's research | • Students use practical knowledge to conduct researches in different field of specialization of Vegetable Science |
| VSC 591 (1+0) | • Master's seminar | • To develop the technical, writing and the communication skills |
| VSC 601 (2+1) | • Seed hardening treatments; practices in indeterminate and determinate<br>• Vegetable growing and organic gardening; portrays and ball culture | • To study the latest developments and trends in production technology of vegetable crops |
| VSC 602 (2+1) | • Designing of breeding experiments<br>• Screening techniques for abiotic stresses, screening and rating for pest, disease and nematode resistance<br>• Estimation of quality and processing characters<br>• Screening for-quality improvement<br>• Estimation of heterosis and combining ability<br>• Induction and identification of mutants and polyploids<br>• Distant hybridization and embryo rescue techniques | • Prepare the design of breeding experiments for conduct of the trial<br>• To get knowledge about floral biology of different crops<br>• Study of different breeding methods for improvement of vegetable crops<br>• Study on variability, heritability genetic advance *etc*. |
| VSC 603 (1+1) | • Study of various types of protected structures, methods to control temperature, CO2 light, media, training and pruning, maintenance of parental lines and hybrid seed production of vegetables<br>• Fertigation and nutrient management<br>• Control of insect-pests and disease in greenhouse<br>• Economics of protected cultivation | • Study of advanced protected stricture techniques like fertigation and nutrient management<br>• Visit to established green/poly house/net house/shade house in the region |
| VSC 604<br>MBB 604/ FLA 605 (3+0) | • Biotechnological approaches for improvement of vegetable crops<br>• Conventional versus non-conventional methods for crop improvement; Present status and recent developments on available tissue culture, transformation, molecular marker and genomic tools for crop improvement | • To discuss the specialized topics on the application of molecular tools in breeding of specific crops.<br>• To study the Various biotechnological approaches for improvement of vegetable crops |

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| | • Genetic engineering for resistance against abiotic (drought, salinity, flooding, temperature, etc.) and biotic (insect pests, fungal, viral and bacterial diseases, weeds, etc) stresses; Genetic Engineering for increasing crop productivity by manipulation of photosynthesis, nitrogen fixation and nutrient uptake efficiency; Genetic engineering for quality improvement (protein, essential amino acids, vitamins, mineral nutrients, etc); edible vaccines, *etc.* | |
| VSC 605 (2+1) | • Identification of susceptibility and tolerance symptoms to various types of stress in vegetable crops,<br>• Measurement of tolerance to various stresses in vegetable crops, short term experiments on growing vegetable under water deficit, water-logging, salinity Use of chemicals for alleviation of different stresses and sodicity, high and low temperature conditions<br>• Use of chemicals for alleviation of different stresses | • Understanding the susceptibility and tolerance symptoms to various types of stress in vegetable crops<br>• Study of various methods for understanding the measurement of tolerance to various stresses in vegetable crops. |
| VSC 691 (1+0) | • Doctoral seminar | • To develop the technical, writing and the communication skills |
| VSC 692 (1+0) | • Doctoral seminar | • To develop the technical, writing and the communication skills |
| VSC 699 (45+0) | • Doctoral research | • Students use practical knowledge to conduct researches in different field of specialization of Vegetable Science: |

**6.4.6. Supervision of students in PG/PhD programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Details of M.Sc. programme offered by the Department**

| Year | Number of students on roll | Number of PG faculty | Student- teacher Ratio |
|---|---|---|---|
| 2018-19 | 10 | 15 | 0.66:1 |
| 2019-20 | 22 | 17 | 1.29:1 |
| 2020-21 | 27 | 17 | 1.33:1 |
| 2021-22 | 26 | 20 | 1.30:1 |
| 2022-23 | 19 | 24 | 0.79:1 |

**Details of Ph.D. programme offered by the Department**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 12 | 15 | 0.80:1 |
| 2019-20 | 17 | 17 | 1:1 |

| | | | |
|---|---|---|---|
| 2020-21 | 19 | 17 | 1.12:1 |
| 2021-22 | 18 | 20 | 0.90:1 |
| 2022-23 | 18 | 24 | 0.75:1 |

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

To know the opinion as well suggestions of the students about teaching techniques of the respective course instructor feedback proforma is distributed among all the students in the last theory class of respective course in each semester. All the suggestions or feedback given by the students were discussed within the departmental meeting and incorporated all the issues in proceedings of meeting and actions were taken accordingly.

**6.4.8. Student intake and attrition in the programme for last five years:** Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.

| Name of Degree Programme | No. of students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 8 | 8 | 11 | 9 | 9 | - | - | - | - | 22.2 |
| **Ph.D.** | 3 | 3 | 6 | 6 | 5 | - | - | - | - | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

Yes, Information and communication technologies are currently being used to assist students to learn more effectively by a wide range of new technologies. ICT helps to update and enhance teacher's capacity and efficiency through projectors, PPT, smart class room, electronic study material in the form of audio-video lectures, google class room, Microsoft Teams, smartphone mobile app in agriculture, virtual class room, E-Library, sharing of E-content developed, video clips for demonstration of advanced agricultural practices etc.

**Use of ICT application in teaching and practical for curricula delivery**

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| **M.Sc.** | 6 | 6 | 6 | PPT, Smart class room |
| **Ph.D.** | 4 | 4 | 4 | PPT, Smart class room |

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All-India Admission from ICAR and also having weightage for college accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate

I, the Dean, **Surender K. Pahuja** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

*Annexure VEG – I*

## STUDENTS' PARTICIPATION IN SEMINARS/SYMPOSIUM/CONFERENCES

1. Mr. Tejinder Singh attended and presented poster in Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held on 6-8 Nov. 2019 at CCSHAU, Hisar.
2. Mr. Desh Raj Chaudhary attended and presented poster in Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held on 6-8 Nov. 2019 at CCSHAU, Hisar.
3. Mr. Hitesh Kumar attended and presented poster in Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held on 6-8 Nov. 2019 at CCSHAU, Hisar.
4. Ms. Nidhi Sehgal attended and presented poster in Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held on 6-8 Nov. 2019 at CCSHAU, Hisar.
5. Ms. Khyati Singh attended and presented poster in Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held on 6-8 Nov. 2019 at CCSHAU, Hisar.
6. Mr. Vikram attended and presented poster in International conference on Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES-2019) held on 1-2 Dec., 2019, Nainital, UK.
7. Mr. Vikram attended and presented poster in International Conference on Climate Change and its Impact on Global Food Security and Sustainability of Agriculture held on 23-24 Nov., 2019, Banaras, UP.
8. Ms. Anita Choudhary has participated in the National webinar on "Research Methodology: Concepts & Applications" sponsored by National Agricultural Higher Education Project organized by Maharana Pratap University of Agriculture & Technology, Udaipur, Rajasthan during 26-27.06.2020.
9. Mr. Amit Verma has attended webinar on "Floriculture as Agri-Enterprise for start-ups" sponsored by National Agricultural Higher Education Project organized by MHU Regional Research Centre on Mushroom, Murthal from 23 to 26.06.2020.
10. Mr. Amit Verma has participated in webinar on "Self Sufficient Agriculture: New Approaches" organized by Growing Seed on 30 to 31.05.2020.
11. Mr. Amit Verma has attended the National webinar on "Awareness and use of CeRA resources through J-Gate discovery platform" organized by Nehru Library, CCS HAU, Hisar on 25.06.2020.
12. Mr. Amit Verma has participated in the International webinar on "Emerging Trends in Physics and its Applications in Agriculture" organized by Department of Physics, College of Basic Sciences and Humanities, CCS HAU, Hisar on 29.06.2020.
13. Ms. Kalpana Yadav has participated in the International webinar on "Emerging Trends in Physics and its Applications in Agriculture" organized by Department of Physics, College of Basic Sciences and Humanities, CCS HAU, Hisar on 29.06.2020.
14. Ms. Kalpana Yadav has attended the National webinar on "Awareness and use of CeRA resources through J-Gate discovery platform" organized by Nehru Library, CCS HAU, Hisar on 25.06.2020.
15. Sonia Lohia (MSc. Student) presented poster (abstract) in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February 2023.
16. Ms. Yogita (PhD 2$^{nd}$ year) presented posted in the Fifth International Conference on Innovative and Current Advances in Agriculture and Allied Sciences organized by Society for Scientific Development in Agriculture and Technology at Meerut, India from 12-14 June, 2022 in online mode.
17. Ms. Yogita (PhD 2$^{nd}$ year) presented poster in the International conference on Advances in Agriculture and Food System towards Sustainable Development Goals in online mode during 22-24th Aug 2022 organized by University of Agricultural Sciences, Bangalore.
18. Ms. Yogita (PhD 2$^{nd}$ year) presented poster in the VII International Conference on Global Research Initiatives for Sustainable Agriculture and Allied Sciences in online mode during 21-23 November 2022 organized by Astha Foundation, Meerut (UP), India.

19. Ms.Yogita (PhD 2nd year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February, 2023.
20. Ms. Sudesh Phogat presented poster in Progressive Horticulture Conclave organized by G.B. Pant University of Agriculture & Technology Pantnagar, Uttrakhand from 3-5 February, 2023.
21. Mr. Naveen Kumar presented poster in the IVth International Conference on Innovative and Current Advances in Agriculture and Allied Sciences organized by Society for Scientific Development in Agriculture and Technology at Meerut, India from 12-14, June 2022 in online mode.
22. Mr. Naveen Kumar presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February, 2023.
23. Mr. Chaman presented poster (abstract) in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February, 2023.
24. Mr. Swagat Ranjan Behera (M. Sc. Vegetable Science) presented poster in the AICRP (Vegetable Crops) Golden Jubilee National Symposium on New Opportunities in Vegetable Production for Sustainable Development held at Indian Institute of Vegetable Research, Varanasi from AICRP (Vegetable Crops) Golden Jubilee National Symposium on New Opportunities in Vegetable Production for Sustainable Development from 20-22 December, 2022.
25. Mr. Swagat Ranjan Behera (M. Sc. Vegetable Science)Presented poster in the OHS International Conference (online mode) held at Odisha University of Agriculture & Technology, Bhubaneswar from 20-21 January, 2023.
26. Mr. Swagat Ranjan Behera (M. Sc. Vegetable Science) poster in the Progressive Horticulture Conclave 2023 (offline mode) held at GBPUA&T, Pantnagar from 3-5 February, 2023.
27. Mr. Swagat Ranjan Behera (M. Sc. Vegetable Science) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February, 2023.
28. Mr. Sudesh (Ph.D. Ist year) presented poster in the OHS International Conference (online mode) held at Odisha University of Agriculture & Technology, Bhubaneswar from 20-21 January, 2023.
29. Ms. Sudesh (Ph.D. Ist year) presented poster in the OHS International Conference (online mode) held at Odisha University of Agriculture & Technology, Bhubaneswar from 20-21 January, 2023.
30. Ms. Sudesh (Ph.D. Ist year) presented poster in the Progressive Horticulture Conclave 2023 (offline mode) held at GBPUA&T, Pantnagar from 3-5 February, 2023.
31. Ms. Sudesh (Ph.D. Ist year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February 2023.Presented poster in the Progressive Horticulture Conclave 2023 (offline mode) held at GBPUA&T, Pantnagar from 3-5 February, 2023.
32. Ms. Sudesh (Ph.D. Ist year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February, 2023.
33. Ms. Shubham (M.Sc. final year) presented poster (abstract) in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February 2023.
34. Ms. Renu (Ph.D. Ist year) presented poster in the OHS International Conference (online mode) held at Odisha University of Agriculture & Technology, Bhubaneswar from 20-21 January 2023.
35. Ms. Renu (Ph.D. Ist year) presented poster in the Progressive Horticulture Conclave 2023 (offline mode) held at GBPUA&T, Pantnagar from 3-5 February, 2023.
36. Ms. Renu (Ph.D. Ist year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February, 2023.

37. Mr. Nilesh Sagwal (2021A124M, M.Sc. final year) presented poster (abstract) in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February, 2023.
38. Mr. Sumit Kumar (M.Sc.) 2021A131M presented poster in the OHS International Conference (online mode) held at Odisha University of Agriculture & Technology, Bhubaneswar from 20-21 January, 2023.
39. Mr. Sumit Kumar (M.Sc.) 2021A131M Presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February, 2023.
40. Mr. Amit Kumar (M.SC. 2nd year) presented poster in the Progressive Horticulture Conclave 2023 (offline mode) held at GBPUA&T, Pantnagar from 3-5 February, 2023.
41. Mr. Amit Kumar (M.SC. 2nd year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February, 2023.
42. Mr. Rupit (M.Sc. final year-2021A128M) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February, 2023.
43. Ms. Pooja Pahal (Ph.D. Ist year) presented poster in International conference on vegetable research and innovations for nutrition, entrepreneurship and environment (ICVEG-21) in online mode organized by IIVR, Varanasi from Dec. 14-16, 2021
44. Ms. Pooja Pahal (Ph.D. Ist year) presented poster in National Symposium on Crop protection through bio-rational approaches- Current trends and future perspective (online mode )held at CCS Haryana Agricultural University, Hisar on 10 March, 2022.
45. Ms. Pooja Pahal (Ph.D. Ist year) presented poster in the OHS International Conference (online mode) held at Odisha University of Agriculture & Technology, Bhubaneswar from 20-21 January 2023.
46. Ms. Pooja Pahal (Ph.D. Ist year) presented poster in the Progressive Horticulture Conclave 2023 (offline mode) held at GBPUA&T, Pantnagar from 3-5 February, 2023.
47. Ms. Pooja Pahal (Ph.D. Ist year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February, 2023.
48. Ms. Richa (PhD Ist year) presented paper in the Second International Conference on "Emerging Trends in Basic and Applied Sciences (ETBAS-2023)" held on January 17, 2023 in online mode.
49. Ms. Richa (PhD Ist ) presented paper in International conference on India 2.0, Vision for India 2047: Challenges and Prospects from 14-15 Feb, 2023 in online mode.
50. Ms. Richa (PhD Ist year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability in offline mode organized by CCSHAU, Hisar from 17-19 February, 2023.
51. Ms. Monika, 2021A83D (Ph.D. 2nd year) presented poster in the International Web Conference on Innovative and Current Advances in Agriculture & Allied Sciences (online mode) organized by Society for Scientific Development in Agriculture & Technology (SSDAT), Meerut from 19-21 July, 2021.
52. Ms. Monika, 2021A83D (Ph.D. 2nd year) presented poster in international e-Conference on Postharvest Disease Management and Value Addition of Horticultural Crops (offline mode) held at IARI, New Delhi from 18-20 August, 2021.
53. Ms. Monika, 2021A83D (Ph.D. 2nd year) Oral Presentation in International Potato e-Conference on New Paradigms in Food Security and Industrial Applications* (online mode) held at CPRI Shimla from Nov. 23-26, 2021.
54. Ms. Monika, 2021A83D (Ph.D. 2nd year)presented poster in 4th International Conference on Innovative and Current Advances in Agriculture and allied sciences in online mode held at Shimla, HP from June 12-14, 2022.
55. Ms. Monika, 2021A83D (Ph.D. 2nd year) presented poster in the National Symposium on New Opportunities in Vegetable Production for Sustainable Development (offline mode) held at IIVR, Varanasi from 20-22 December, 2022.

56. Ms. Monika, 2021A83D (Ph.D. 2nd year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar from 17-19 February, 2023.
57. Mr. Abhishek (Ph.D. I st year) presented poster in the Progressive Horticulture Conclave 2023 (offline mode) held at GBPUA&T, Pantnagar from 3-5 February, 2023.
58. Mr. Abhishek (Ph.D. I st year) presented poster in the International Conference on Climate Resilient Agriculture for Food Security and Sustainability (offline mode) held at CCS Haryana Agricultural University, Hisar, 17-19 February, 2023.
59. Behera, S.R., Duhan D.S., Hans Raj and Singh, D. (2023). Apical rooted cuttings (ARC) technology for high quality, rapid and low-cost potato seed production in India. In book of abst: *INTCLIMATE 2023–International conference on climate resilient agriculture for food security and sustainability*,held at CCS Haryana Agricultural University, Hisar, February 17-19, 2023, pp: 131.
60. Behera, S.R., Duhan D.S., Hans Raj and Singh, D. (2023). Nano urea (liquid): An innovation to sustain future vegetable production. In book of abst: *INTCLIMATE 2023–International conference on climate resilient agriculture for food security and sustainability*, held at CCS Haryana Agricultural University, Hisar, 17-19 February, 2023, pp: 296.
61. Karande, P.J., Majoka, M., Duhan D.S. and Kumar, K. (2023). Morphological characterization studies in different ridge gourd genotypes.In book of abst: *INTCLIMATE 2023–International conference on climate resilient agriculture for food security and sustainability*, held at CCS Haryana Agricultural University, Hisar, 17-19 February, 2023, pp: 397.

***Annexure VEG – II***

## LIST OF STUDENT WHO QUALIFIED NET EXAM

| Sr. no. | Name of Students | Admission No. |
|---|---|---|
| **1.** | Hitesh Kumar | 2015A48D |
| **2.** | Mukesh Kumar | 2016A48D |
| **3.** | Harshita Singh | 2016A46D |
| **4.** | Vikram | 2016A47D |
| **5.** | Deshraj Chaudhary | 2016A45D |
| **6.** | Ajay Chauhan | 2017A48D |
| **7.** | Sangeet Kumar | 2017A 47D |
| **8.** | Nidhi Sehgal | 2017A46D |
| **9.** | BichhinaMaitri Rout | 2017A68D |
| **10.** | Tanvi Mehta | 2017A70M |
| **11.** | Vidya R. | 2017A67M |
| **12.** | Vivek | 2018A55D |
| **13.** | Renu Yadav | 2018A53D |
| **14.** | Vikas Gill | 2018A99M |
| **15.** | Sapna Gurupad Hegde | 2020A78D |
| **16.** | Aishwarya K.R. | 2019A80D |
| **17.** | Monika Yadav | 2020A77D |
| **18.** | Priyanka J.K. | 2020A78D |
| **19.** | Yugvinder | 2020A81D |
| **20.** | Amit Verma | 2021A81D |
| **21.** | Kalpana | 2021A82D |
| **22.** | Monika | 2021A83D |

*Annexure VEG – III*

## AWARDS TO STUDENTS IN NATIONAL OR INTERNATIONAL CONFERENCES

| Name of student | Award | College/Department | Year |
|---|---|---|---|
| Amit Kumar | Best Poster Presentation award in the International Conference on Climate resilient Agriculture for food security and sustainability organized by CCSHAU, Hisar from 17-19 Fabreuary, 2023 | Veg. Science, COA | 2023 |
| Pooja Pahal | Best Poster Presentationaward in the Progressive Horticulture Conclave held at GBPUA&T, Pantnagar from 3-5 February, 2023 | Veg. Science, COA | 2023 |
| Vikas Raa | Best Poster Presentation award in the Progressive Horticulture Conclave held at GBPUA&T, Pantnagar from 3-5 February, 2023 | Veg. Science, COA | 2023 |
| Amit Verma | Best Poster Presentation award in the National symposium on New Opportunities in Vegetable Production for sustainable Development held at IIVR, Varanasi from 20-22 December, 2022 | Veg. Science, COA | 2022 |
| Kalpana Yadav | Best Poster Presentation award in the National symposium on New Opportunities in Vegetable Production for sustainable Development held at IIVR, Varanasi from 20-22 December, 2022 | Veg. Science, COA | 2022 |
| Monika Yadav | Best Poster Presentation award in the 4th International Conference on Innovative and Current advances in Agriculture and Allied Sciences in Online mode held at Shimla, H.P. from June 12-14, 2022 | Veg. Science, COA | 2022 |
| Vikas Gill | Best 3rdPoster Presentationaward Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario held on 6-8 November, 2019, CCSHAU, Hisar | Veg. Science, COA | 2019 |

***Annexure VEG – IV***

# PROGRAMMES/TRAININGS ORGANIZED/CONDUCTED BY DEPARTMENT OF VEGETABLE SCIENCE

| Sr. no. | Titles | Date |
|---|---|---|
| 1. | Training programme on "*Production Technology of Spice crops*" on Feb., 27, 2019 at SNIATTE, CCS HAU, Hisar. | 27.02. 2019 |
| 2. | Training programme on "*Production Technology of Spice crops*" on March 06, 2019 at SNIATTE, CCS HAU, Hisar. | 06.03. 2019 |
| 3. | Training programme on "*Scientific production technology of Potato*" on 14.02.2020 at SNIATTE, CCSHAU, Hisar. | 14.02.2020 |
| 4. | Training programme on "*Production technology of spice crops*" by Department of Vegetable Science for farmers on 19.02.2020 at SNIATTE, CCSHAU, Hisar. | 19.02.2020 |
| 5. | Training programme on "*Scientific production technology of Potato*" on 20.02.2020 at SNIATTE, CCSHAU, Hisar. | 20.02.2020 |
| 6. | Training programme on "*Production technology of spice crops*" for farmers on 26.02.2020 at SNIATTE, CCSHAU, Hisar. | 26.02.2020 |
| 7. | Training programmes on "Production technology of spice crops" for farmers of Haryana on February 24, 2021 at SNIATTE, CCSHAU, Hisar. | 24.02.2021 |
| 8. | Training programmes on "*Production technology of spice crops*" for farmers of Haryana on March 03, 2021 at SNIATTE, CCSHAU, Hisar. | 03.03.2021 |
| 9. | Trainings on "*Scientific Production Technology of Potato*" held on 17/03/21 at SNIATTE, CCSHAU, Hisar. | 17.03.2021 |
| 10. | Trainings on "*Scientific Production Technology of Potato*" held on 18/03/21 at SNIATTE, CCSHAU, Hisar. | 18.03.2021 |
| 11. | Trainings on "*Scientific Production Technology of Potato*" held on 19/03/2021 at SNIATTE, CCSHAU, Hisar. | 19.03.2021 |
| 12. | Trainings on "*Scientific Production Technology of Potato*" held on 20/03/2021 at SNIATTE, CCSHAU, Hisar. | 20.03.2021 |
| 13. | One Day Farmers training on "*Spices production technology for farmers*" held on 11/03/2022 at SNIATTE, CCSHAU, Hisar. | 11.03.2022 |
| 14. | Training programmes on "*Production technology of potato for farmers"* held on 17/03/2022 at SNIATTE, CCSHAU, Hisar. | 17.03.2022 |
| 15. | Training programmes on "*Production technology of potato for farmers*" held on 19/03/2022 at SNIATTE, CCSHAU, Hisar. | 19.03.2022 |
| 16.. | Training programmes on "*Production technology of potato for farmers*" held on 21/03/2022 at SNIATTE, CCSHAU, Hisar. | 21.03.2022 |
| 17. | One Day Farmers training on "*Spices production technology for SCSP farmers*" held on 30/03/2022 at SNIATTE, CCSHAU, Hisar. | 30.03.2022 |
| 18. | Seven days online training programme on "*Protected cultivation of Vegetable Crops*" from 16.03.2022 to 25.03.2022 for SC Students of College of Agriculture, CCSHAU, Hisar. | 16.03.2022 to 25.03.2022 |
| 19. | Organized One Day Farmers training on "*Production technology of Spice crops*" on March 28, 2023 at SNIATTE, CCSHAU, Hisar. | 28.03.2023 |
| 20 | One Day Farmers training on "*Production technology of Spice crops*" on March 29, 2023, SNIATTE at CCSHAU, Hisar. | 29.03.2023 |




Field visit of farmers during training programme




Addressing farmers during one-day training programme on Spices production technology










Skill development of farmers by providing training certificate and seed spices kit

*Annexure VEG –V*

# PUBLICATION BY FACULTY OF THE DEPARTMENT OF VEGETABLE SCIENCE

| S. No. | Research papers | NAAS rating |
|---|---|---|
| **1.** | Chikkeri, S.S., Duhan, D.S., Panghal, V.P.S. and Arya, R.K. (2018). Genetic variability, heritability and genetic advance analysis for quantitative traits in bottle gourd [*Lagenaria siceraria* (molina) Standl.] genotypes. *Vegetable Science*, 45(2): 173-179. | 4.98 |
| **2.** | Duhan, D.S. and Sharma, N.K. (2018).GH-22 A new bottle gourd variety. *Vegetable Science*, 45(2): 284-286. | 4.98 |
| 3. | Kiran, Duhan, D.S., Rana, M.K., Singh, Harshita and Mazoka, M. (2018). Effect of phosphorus and zinc on plant growth and yield of vegetable cowpea. *Vegetable Science*, 45(1): 55-60. | 4.98 |
| **4.** | Kumar, M. and Kumar, K. (2018). Economic analysis of hybrid and conventional varieties of bottle gourd as affected by different levels of nitrogen and plant spacing. *International Journal of Current Microbiology and Applied Sciences*, 7. | 5.38 |
| **5.** | Kumar, M. and Kumar, K. (2018). Scope of organic vegetable production and marketing in Haryana: A review. *Journal of Pharmacognosy and Phytochemistry*. 7(6): 604-610. | 5.21 |
| **6.** | Kumar, P., Bora, L., Batra, V.K. and Sheena, N.K. (2018). Genetic variability, heritability and genetic advance studies for yield and quality traits among diverse genotypes of Tomato (*Lycopersicon esculentum* Mill). *International Journal of Current Microbiology and Applied Sciences*.7 (9): 1391-1397. | 5.38 |
| **7.** | Kumar, P., Phor, S.K., Tehlan, S.K. and Mathur, A.K. (2018). Effect of seed rate and row spacing on growth and yield of fenugreek (*Trigonella foenum-graecum*). *Journal of Pharmacognosy and Photochemistry* **7** *(4): 93-96.* | 5.21 |
| **8.** | Kumar, S., Bhatiya, V.J. and Kumar, S. (2018). Combining ability analysis in Sponge gourd [*Luffacylindrical* (Roem.) L.]. *International Journal of Current Microbiology and Applied Sciences*, 7(5): 3577-3581. | 5.38 |
| **9.** | Kumar, S., Bhatiya, V.J., Kumar, S., Bhati, V. and Parihar, D. (2018). Analysis of variance fruit yield and its components in Sponge gourd [*Luffacylindrical* (Roem.) L.]. *International Journal of Current Microbiology and Applied Sciences*, 7(6): 383-386. | 5.38 |
| **10.** | Kumar, S., Malik, T.P. and Tehlan, S.K. (2018). Effect of gibberellic acid on growth and seed yield of coriander (*Coriandrum sativum* L.). *International Journal of Current Microbiology and Applied Sciences,7 (9): 2558-2566.* | 5.38 |
| **11.** | Kumhar, K.C., Malik V.K. and Punia, R. (2018). *Trichoderma*: A natural biofungicide for managing diseases of agricultural crops. *Haryana Journal of Agricultural research*. | - |
| **12.** | Maan, D., Bhatia, A.K., Vikram and Anshul (2018). Impact of irrigation methods and nitrogen levels on growth and yield of potato in Haryana. *Journal of Phramacognsy and Phytochemistry*, 7(6):2267-2271. | 5.21 |
| **13.** | Maan, D., Bhatia, A.K., Vikram and Duhan, A. (2018). Response of Nitrogen Rates and Irritation Methods on Nutrients Uptake, Nitrogen and Water Use Efficiency on Potato. *International Journal of Current Microbiology and Applied Sciences*, 7(11): 1969-1976. | 5.38 |
| **14.** | Panigrahi, I., Duhan, D.S., Panghal, V. P.S., Tehlan, S.K. and Yadav, A.C. (2018). Correlation coefficient analysis between yield defining traits of cultivated genotypes of bottle gourd {*Lagenaria siceraria* (Mol.) Stdl}. *Journal of Pharmacognosy and Photochemistry, 7 (2): 1378-1380.* | 5.21 |
| **15.** | Rani, P., Panghal, V.P.S., Rana, M.K., Duhan, D.S.and Lal, M. (2018). Growth and yield of garlic as influenced by foliar application of urea and micronutrients. *Indian Journal of Horticulture*,75(3): 532-535. | 6.15 |
| **16.** | Shiwani, Bhatia, A.K., Majoka M. and Rani, P. (2018). Comparison of irrigation methods in terms of vegetative growth of potato (Solanum tuberosum L.) cultivars. *International Journal of Current Microbiology and Applied Sciences*, 7(12): 2984- | 5.38 |

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| | 2990. | |
| **17.** | Singh, D., Dudi, B.S., Dhankhar, S.K. and Kumar, R. (2018). Genetic diversity analysis of okra genotypes using morphological markers. *International Journal of Current Microbiology and Applied Sciences*, 7(1):1667-1675. | 5.34 |
| **18.** | Srikanth, M., Dhankhar, S. K., Mamatha N.C and Sumit Deswal (2018). Assessment of Genetic Architecture of Some Economic Traits in Okra (*Abelmoschus esculentus* (L.) Moench) through Generation Mean Analysis. *International Journal of Current Microbiology and Applied Sciences,***7** (11). 2369-2379. | 5.38 |
| **19.** | Srikanth, M., Dhankhar, S. K. and Mamatha N.C. (2018). Estimation of Heterosis and inbreeding depression in Okra (*Abelmoschus esculentus* (L.) Moench). *Plant Archives*, 19 (1). | 4.41 |
| **20.** | Talugu, R. K.; Tehlan, S.K.; Kumar, M. and Mamtha, N.C. (2018). Variability studies on yield and yield attributing characters in fennel *(Foeniculum vulgare* L.). *International Journal of Pure Applied Biosciences*, 6 (5): 954-959. | 4.74 |
| **21.** | Vikram Ghiyal and Bhatia, A.K. (2018). Effect of nitrogen levels and fertigation frequency on the growth parameters and yield of potato Tuber (*Solanum tuberosum* L.) cv. KufriBahar. *Journal of Phramacognsy and Phytochemistry, 7(6):2267-2271*. | 5.21 |
| **22.** | Yadav, P.; Tehlan, S.K. and Deswal, S. (2018). Assessment of genetic divergence in fenugreek (*Trigonella foenum-graecum* L.) based on biological characters. *Journal of Pharmacognosy and Photochemistry,* 7 *(2): 1257-1260.* | 5.21 |
| **23.** | Yadav, P.; Tehlan, S.K. and Kumar, M. (2018). Genetic variability and association analysis for seed yield and its components in fenugreek (*Trigonella foenum-graecum* L.). *Indian Journal of Genetics and Plant Breeding,*78 (2): 275-278. | 6.32 |
| 24. | Bharathkumar, M.V., Dhankhar, S.K., Dahiya, M.S. and Srikanth, M. (2019). Genetic architecture of resistance to yellow vein mosaic virus disease in advance lines of okra (*Abelmoschus esculentus*). *Indian Journal of Agricultural Sciences*, 89 (4): 640-645. | 6.23 |
| 25. | Choudhary, D.R., Singh, A. and Panghal, V.P.S. (2019). Effect of FYM and gypsum with high RSC water application on growth and phonological characters of radish (*Raphanus sativus* L.). *Vegetable Science*, 46(1&2): 56-59. | 4.98 |
| **26.** | Jangra, M., Gulati, R., Sonika and Batra, V.K. (2019) In vitro comparative efficacy of various concentrations of methanolic leaf and seed extract of *Pongamia pinnata* against Polyphagotarsonemus latus (Banks) in chilli. *Journal of Entomology and Zoology Studies,*7(2): 1129-1134. | 5.53 |
| **27.** | Jangra, M., Gulati, R., Sonika and Batra, V.K. (2019) Role of Neem cake in management of chilli mite, Polyphagotarsonemus latus (Banks). *International Journal of Zoology Studies,*4 (2): 53-56. | - |
| **28.** | Jayanth, S., Lal, M., Duhan, D.S. and Vidya, R. (2019). Estimation of heterosis and combining ability for earliness and vegetative traits in bottle gourd [*Lagenaria siceraria* (molina) Standl.]. *International Journal of Chemical Studies*, 7(1): 20-25. | 5.31 |
| **29.** | Kumar A., Batra, V.K., Panghal, V.P.S., Bhuker, A., Kumar, R. (2019). Influence of FYM and gypsum on growth and seed yield in carrot. *International Journal of Current Microbiology and Applied Sciences,* 8(3): 337-345. | 5.38 |
| **30.** | Kumar, M. and Kumar, K. (2019). Role of Bio-fertilizers in vegetables production: A *review*. *Journal of Pharmacognosy and Phytochemistry*. 8(1): 328-334. | 5.21 |
| **31.** | Kumar, M., Kumar, S. and Kumar, K. (2019). Role of bio-pesticide in vegetables pest management: A *review*. *Journal of Pharmacognosy and Phytochemistry*. 8(2): 1757-1763 | 5.21 |
| **32.** | Kumar, P. and Bora, L. (2019). Heterosis studies for yield and quality traits in Tomato (*Lycopersicon esculentum* M). *Journal of Pharmacognosy and phytochemistry*. 8(1): 1370-75. | 5.21 |
| 33. | Kumar, R., Sangwan, V.P.S.; Mor, V.S. and Tehlan, S.K. (2019). Effect of micronutrients application on plant growth of coriander (*Coriandrum sativum* L.) var. DH-228. *Int. J. Pure App. Biosci*.7 (6): 351-355. | 4.74 |
| 34. | Kumar, S., Dhankhar, S. K., Sehgal, N. and Kumar, V. (2019). Assessment of competitive indices in intercropping system of brinjal and palak. *Vegetable Science*, 46 (1-2): 60-65. | 4.98 |
| 35. | Kumar, V., Malik, T.P. Vinod Kumar, VS Mor and Vikram (2019). Effect of integrated nutrient management on seed quality of fennel *(Foeniculum vulgare mill.)* | 5.21 |

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| | *Journal of Pharmacognosy and Phytochemistry, 8(1): 511-515.* | |
| 36. | Kumar, V., Tehlan, S.K., Kumar, V., More, V.S., Kumar, S. And Kumar, A. (2019). Influence of integrated nutrient management on seed quality of coriander (*Coriandrum sativum* L.). *Indian Journal of Agricultural Sciences*, 89 (5):856-860. | 6.25 |
| **37.** | Majoka, M., Panghal, V.P.S., Duhan, D.S., Raj,H., Kumar, K. and Rani, S. (2019). Effect of plant density on seed production of carrot *var.* Hisar Gairic. *Journal of Pharmacognosy and Phytochemistry*, 99-102. | 5.21 |
| **38.** | Panghal V.P.S., Duhan A., Duhan D.S. and Pooja Rani (2019). Effectiveness of herbicides against weeds and their residual effect on soil and carrot (*Daucus carota*). *Indian Journal of Agricultural Sciences*, 89(10): 1617-22. | 6.25 |
| **39.** | Phor, S.K., Hans Raj, Makhan Lal, Panwar, N., Panghal, V.P.S. and Duhan, D.S. (2019). Effect of spacing and bulb size on growth, yield and economics of onion seed crop in Haryana. *Journal of Pharmacognosy and Phytochemistry*, 59-62. | 5.21 |
| **40.** | Singh T., Raturi, H.C., Bora, L. and Shukla, Y.R. (2019). Impact of biofertilizer and mulch on growth, yield and soil health parameters in pea. *Vegetable Science*, 46(1&2): 114-119. | 4.98 |
| **41.** | Telugu, R. K. Tehlan, S.K., Srikanth, M. and Mamtha, N.C. (2019). Mean performance of fifty genotypes of fennel *(Foeniculum vulgare* L.) for yield and yield attributing traits. *International Journal of Current Microbiology and Applied Sci*ence, 8 (1): 387-392. | 5.38 |
| **42.** | Telugu, R. K., Tehlan, S.K. and Mor, V.S. (2019). Assessment of seed quality and vigour in fifty genotypes of fennel *(Foeniculum vulgare* L.). *International Journal Chemical Studies, 7* (1): 362-366. | 5.31 |
| **43.** | Abdurahman, Duhan, D.S., Zood, P.K. and Hans Raj (2020). Response of plant growth regulators and trace elements on growth, flowering and yield of bottle gourd cv. GH 22. *Vegetable Science*, 47 (1): 93-98. | 4.98 |
| **44.** | Deswal, S., Singh, M., Kumar, K. and Tehlan, S.K. (2020). Efficiency of Biofertilizers in Increasing the Production Potential of Seed Spices- A Review. *Progressive Research*- (SPL), 15: 287-291 | 3.78 |
| **45.** | Choudhay, D.R., Singh, A., Panghal, V.P.S. and Bhuker, A. (2020). Response of FYM and gypsum on seed yield and quality of radish under high RSC water. *International Journal of Chemical Studies*, 8(1): 1544-1548. | 5.31 |
| **46.** | Jayanth, S.; Lal, M., Duhan, D.S. and Sagar. (2020). Exploitation of heterosis for yield and its contributing traits in bottle gourd [*Lagenaria siceraria* (Molina) Standl]. *Journal of Pharmacognosy and Phytochemistry*, 9 (1): 1641-1646. | 5.21 |
| **47.** | Kumar, S., Dhankhar, S. K., Chauhan, A., Kumar, S. and Kumar, R. (2020). Computation of economic feasibility of brinjal and palak intercropping system. *Current Journal of Applied Science and Technology*, 39 (6): 74-79. | 5.32 |
| **48.** | Kumar, V., Kumar, A., Dhankhar, S.K**.** and Mann, S.S. (2020). Screening of okra (*Abelmoschus esculentus*) cultivars for resistance against root knot nematode, *Meloidogyne incognita*. *International Journal of Agricultural Sciences*, 16 (2): 203-207. | 5.50 |
| **49.** | Kumar, V. and Tehlan, S.K. (2020). Effect of different sources of nutrient on relative storability of coriander (*Coriandrum sativum* L.) seed. *Indian Journal of Agricultural Sciences*, 90 (1):201-205. | 6.25 |
| **50.** | Kumar, V., Malik, T.P., Mor, V.S., Desraj and Vikram (2020).Influence of integrated nutrient combinations on relative storability of Fennel (*Foeniculum vulgare*) seed *Indian Journal of Agricultural Sciences*, 90 (2): 346-50. | 6.25 |
| **51.** | Pooja Rani, Batra, V. K., Bhatia, A. K. and Sain Veer (2020) Effect of water deficit and fertigation on nutrients uptake and soil fertility of drip irrigated onion (*Allium cepa* L.) in semi-arid region of India. *Journal of Plant Nutrition*, 44(6):765–772 | 7.13 |
| **52.** | Rani, P.,Batra, V. K., Bhatia, A. K. and Sain V. (2020) Nutritional quality of onion as influenced by irrigation scheduling and nitrogen fertigation. *Journal of Plant Nutrition*, 44(6) :885–897 | 7.13 |

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| **53.** | Rani, S., Bhakar, S. and Majoka, M. (2020). Frontline demonstrations on kitchen gardening: An impact assessment. *International Journal of Home Science*, 6(2):50-53. | 3.32 |
| **54.** | Rout, B.M., Bhatia, A.K., Kajla, S., Poonia, A.K. and Batra, P. (2020). Effect of different sterilization treatments on micropropagation of potato cv. Kufri Lima. *International Journal of Current Microbiology and Applied Sciences*, 9(3): 1605-1609. | 5.38 |
| **55.** | Sidhu, M. K., Raturi, H. C., Singh, S. K., Bora, L. and Shukla, Y. R. (2020). Effect of foliar application of boron, iron and zinc on growth, yield and economics of cucumber grown under naturally ventilated polyhouse condition. *Vegetable Science*. 47(1):110-115. | 4.98 |
| **56.** | Singh S., Panghal V.P.S. and Jangra R. (2020). Nutrients requirement in fenugreek for their growth and yield. *Journal of Plant Development Science*, 12(1): 1-5. | 4.22 |
| **57.** | Soni, N., Raj, K., Duhan, D.S. and Chugh, R.K. (2020). Screening of bottle gourd [*Lagenaria siceraria* (Mol.) Standl.]. germplasm for resistance against anthracnose caused by *Collectotrichumlagenarium*. *The Pharma Innovation Journal*, 10 (4): 404-406. | 5.23 |
| **58.** | Yadav, P.; Tehlan, S.K. and Deswal, S. (2020). Stability analysis under diverse environments of fenugreek genotypes by AMMI model. *Indian Journal of Agricultural Sciences*, 90 (3): 528–532. | 6.21 |
| **59.** | Bharath, M.V., Dhankhar, S.K. and Dahiya, M.S. (2021). Correlation, path analysis, heterosis and inbreeding depression for yield and quality traits of okra lines and their hybrids. *Indian Journal of Pure & Applied Biosciences*, 9(2):180-187. | 5.48 |
| **60.** | Gill, V., Bora, L., Sheoran, R., Bamal, S., Ritu and Gill, A. (2021). Evaluation of Tomato (*Solanum lycopersicum*L.) genotypes for genetic variability, heritability, and genetic advance under semi-arid conditions of Haryana. *Asian Journal of Agricultural mechanization.*52(1):2716-2724. | 6.14 |
| **61.** | Gill,V., Batra, V.K., Bora, L., Sheoran, R., Bamal, S. ,Ritu, Yadav, M. and Yugvinder (2021). Character association studies in tomato (*Solanum lycopersicum*L.) for growth, yield and quality traits. *The pharma Innovation*. 10(10)**:**631-636. | 5.23 |
| **62.** | Kumar, A., Batra, V.K., Panghal, V.P.S., Archana and Bhuker, A. (2021). Impact of FYM and gypsum on seed yield and seed quality of carrot (*Daucus carota* L.) under high RSC water. *Annals of Plant and Soil Research*, 23 (4): 515-518. | 5.22 |
| **63.** | Kumar, A., Batra, V.K., Panghal, V.P.S., Archana and Bhuker, A. (2021). Influence of FYM and gypsum on physic-chemical properties of soil and carrot (*Daucus carota* L.) seed yield under high RSC water. *Haryana Agricultural University, Journal of Research*, 48 (1&2): 11-15. | - |
| **64.** | Kumar, A., Jat, M.K., Dadarwal, R.S., Dhillon, A. and Singh, B. (2021). Effect of organic and inorganic fertilizers on bottle gourd (*Lagenaria siceraria* M.) in semi-arid zone of Haryana. *Haryana Agricultural University Journal of Research*, 49 (1&2): 33-36. | - |
| **65.** | Kumar, D., Dalal, R.P.S; Singh, S.; Parshad, J and Arora, I. (2021). Seasonal effect on physicochemical properties in rhizospheric soil of fruit tree species. The Pharma Innovation Journal. 10(6)): 479-484. | 5.23 |
| **66.** | Kumar, V., Kushal Raj and Tehlan, S.K. (2021). Screening of Coriander Genotypes against Stem Gall Disease caused by *Protomyces macrospores. International Journal of Current Microbiology and Applied Sciences, 10 (03): xx-xx.* | 5.38 |
| **67.** | Kumar,Y., Kumar, K., Yadav, J., and Singh, S. (2021). Effect of integrated nutrient management on yield and yield attributes of chilli (*Capsicum annuum* L.). *Agricultural Mechanization in Asia.* 51(3): 1759-1765. | 6.14 |
| **68.** | Majoka, M., Panghal, V.P.S. and Duhan, D.S., (2021). Effect of nipping and plant spacing on seed production of cowpea in Haryana condition. *Forage Research*,46(4):343-347. | 4.84 |
| **69.** | Majoka, M., Panghal, V.P.S. and Kumar, A. (2021). Evaluation of different varieties of cowpea for qualities seed production in Haryana. *Forage Research*,47(1):69-72. | 4.84 |

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| **70.** | Rolania, K., Kalkal, D., Duhan, D.S. and Panghal,V.P.S. (2021). Screening of different bitter gourd genotypes against melon fruit fly, *Bactroceracucurbitae* (Coquillett). *Journal of Entomology and Zoology Studies*, 8 (5): 2268-2270. | 5.48 |
| **71.** | Singh, K and Malik, T.P. (2021). Influnce of integrated nutrient combinations on relative storability of Fennel (*Foeniculum vulgare*) seed. *Indian Journal of Agricultural Sciences*,90(2):346-50. | 6.21 |
| **72.** | Singh, K., and Malik,T.P (2021). Assessment of Seed Quality Parameters in Coriander Genotypes (*Coriandrum sativum* L.) *Indian Journal of Pure & Applied Bioscience*, 9 (2), 115-121. | 4.74 |
| **73.** | Singh, D., Dhillon, T.S., Singh, R., Dhankhar, S.K., Chawla, N. and Duhan, A. (2021) Variation in tropical and temperate carrot (*Daucus carota* var. *sativa* L.) genotypes. *Journal of Applied Horticulture*, 23(3): 338-343. | 5.13 |
| **74.** | Singh, D., T.S. Dhillon, R. Singh, Surender Singh Dhankhar, N. Chawla and A. Duhan (2021) Variation in tropical and temperate carrot (*Daucus carota var. sativa* L.) genotypes. *Journal of Applied Horticulture*, 23(3), 338-343. | 5.13 |
| **75.** | Telugu, R. K., Tehlan, S.K. and Mor, V.S., Reddy, P. S. S. and Kowsalya, N. (2021). Analysis of seed quality and vigour in fifty fennel genotypes (*Foeniculum vulgare* mill.). *Annals of Phytomedicine, 10(1): 289-297.* | 5.95 |
| **76.** | Bharti, V., Ahlawat, D.S., Tehlan, S.K. and Kanchesh (2022). Diversity of insect pollinators and impact of mode of pollination on yield parameters of Ajowain [*Trachyspermumammi*(L.) Sprague] in India. *The Pharma Innovation Journal*, **11**(2): 366-369. | 5.23 |
| **77.** | Duhan DS, Gill, V. and Singh J. (2022). Multivariate analysis revealing genetic divergence in bottle gourd [*Lagenaria siceraria* (Mol.) Standl.] genotypes. *Frontiers in Crop Improvement*, 10 (SPII): 1146-51. | 4.67 |
| **78.** | Duhan DS, Gill, V. and Singh V.P.S. (2022). Studies on genetic variability, heritability, genetic advance and character association studies on various quantitative traits in bottle gourd [*Lagenaria siceraria* (Mol.) Standl.] genotypes. *Vegetable Science*, 49 (2): 204-210. | 4.98 |
| **79.** | Duhan DS, Singh J. and Gill, V. (2022). Assessment of bottle gourd germplasm for morpho-phenological, growth and fruit yield under semi-arid conditions of Haryana, India]. *Frontiers in Crop Improvement*, 10 (SP II): 1139-45. | 4.67 |
| **80.** | Duhan, R.M., Panghal, D.S., V.P.S. and Hans Raj (2022). Effect of different planting time and mulching materials on growth and yield of tomato. *Journal of Plant Development Science*,14 (8): 733-737. | 4.22 |
| **81.** | Jagat Singh, Hans Raj, Neeraj Pawar, Vikas Hooda, Duhan, D.S. and Panghal, V. P. S. 2022. Effect of foliar application of micronutrients on growth, yield and quality of onion (*Allium Cepa* L.). *Journal of Plant Development Sciences*, 14(5): 531-534. | 4.22 |
| **82.** | Kumar, K., Kumhar, K.C., Arora, I. and Deswal, S. (2022). Effect of steckling size and pruning of tertiary branches on yield and quality of carrot seed crop *cv*. Hisar Gairic. *Journal of Plant Development Sciences*, 14(4): 467-469. | 4.13 |
| **83.** | Kumhar, K.C., Beniwal, B.S., Jat, R.D., Patel, B. Kumar,A. Hans Raj, M. Kumar, Kumar, N.andKumar,S. (2022). Plant Disease Management Approaches for Organic Crop Production in Indian Scenario: A Critical Review. *Journal of Plant Bioinformatics and Biotechnology*, 2(1): 1-12. | 5.11 |
| **84.** | Kumhar, K.C., Kumar, K., Arora, I., Bhatia, A.K., Batra, V.K. and Raj, H. (2022). Management of tomato damping off disease in the nursery using *Trichoderma asperellum*. *International Journal of Economic Plants*, 9(2):145-151. | 4.37 |
| **85.** | Maan, D.S., Kumar, A., Singh, D. and Duhan, A. (2022). Soil fertility under different nitrogen irrigation methods in potato. *Indian Journal of Agriculture Sciences*, 92 (5). | 6.23 |
| **86.** | Mehta, T., Duhan, D.S. and Panghal, V.P.S. (2022). Genetic diversity studies for improved horticultural traits in bitter gourd [*Momordica charantia* L]. *Vegetable Science*, 48(1): 198-202. | 3.78 |
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| **16.** | Yadav, Monika, Brar, A., and Deshwal, S. (2021). Production technology of Tomato in A textbook of cool season vegetable crops with ISBN No. 978-81-953468-0-6. |
| **17.** | Yadav, Monika, Brar, A., and Deshwal, S. (2021). Production technology of Frenchbean in A textbook of cool season vegetable crops with ISBN No. 978-81-953468-0-6. |
| **18.** | Yadav, Monika, Brar, A., and Deshwal, S. (2021). Production technology of Gardenpea in A textbook of cool season vegetable crops with ISBN No. 978-81-953468-0-6. |
| **19.** | Yadav, Monika, Brar, A., and Deshwal, S. (2021). Production technology of Cabbage in A textbook of cool season vegetable crops with ISBN No. 978-81-953468-0-6. |
| **20.** | Yadav, Monika, Brar, A., and Deshwal, S. (2021). Production technology of Turnip in A textbook of cool season vegetable crops with ISBN No. 978-81-953468-0-6. |
| **21.** | Yadav, Monika, Brar, A., and Deshwal, S. (2021). Production technology of Beetroot in A textbook of cool season vegetable crops with ISBN No. 978-81-953468-0-6. |
| **22.** | Yadav, Monika, Brar, A., and Deshwal, S. (2021). Production technology of Frenchbean in A textbook of cool season vegetable crops with ISBN No. 978-81-953468-0-6. |
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| **2.** | Panghal, V.P.S. (2018). Pyaj ki khetikasekare- Phone in Programme: 11.01.2018, AIR Hisar. |
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| **11.** | Duhan, D.S. (2021). *Garmike Mausam mein Sabzi Faslon ka Parbandhan*. Broadcasted by All India Radio, Hisar on 31.05.2021. |
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| **13.** | Duhan, D.S. (2021). *Shardike Mausam meinSabziyon ki Dekhbhal*. Broadcasted by Parshar Bharti, Hisar on 9.01.2021. |
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| **2.** | Rana, M.K. and Panghal, V.P.S. 2020. PG-Teaching Manual on Production Technology of Warm Season Vegetable Crops. Department of Vegetable Science, CCS HAU Hisar, CCSHAU/PUB#19-0036. |

***Annexure VEG –VI***

## Major Research achievements during 2018-2023 by the Department of Vegetable Science

### Research achievement during 2018-19:

- A promising tomato advance line HT-4 (Sel-1) was developed by the Department of Vegetable Science at Regional Research centre, Karnal, which gave 13 % higher fruit yield over check variety DVRT-1.



HT-4 (Sel-1)





Hisar Methi- 425 (HM- 425)

- Fenugreek variety HM-425 having high yield potential (2052 kg/ha), tolerant to powdery mildew, resistant to downy mildew was recommended for release by the XXIX workshop of AICRP on spices held at Dr. Y.S. Parmar University of Horticulture & Forestry during October 4-6, 2018.

- Three potato varieties Kufri Ganga, Kufri Lima and Kufri Neelkanth, which were notified by Central Sub Committee on Crop Standards, Notification and Release of Varieties for Horticultural Crops, New Delhi.

### Salient research findings of the department (2019-20):

- Bitter gourd variety HK-127 having oblong shape, green colour fruit, high yielding (122.9 q/ha) and suitable for stuffing purpose was released and notified by Central variety release committee meeting held on 10/10/2019 at Shashtri Bhawan, New Delhi.



**HK-127**

- Bitter gourd hybrid HKH-56 having long shaped, green colour fruit, high yielding (140.7 q/ha) and suitable for chopping purpose was recommended for State release by HAU variety identification /release committee.



**HKH- 56**

- The Department has registered the following bitter gourd germplasm at NBPGR New Delhi vide letter no. DGC/RV/July 2019/1799/1 dated 30.07.2019.

| Crop | Hybrid/Parental lines | National Identity No. |
|---|---|---|
| **Bitter gourd** | HKH-56 | IC 631299 |
| | Female parent: BL 237 | IC 631300 |
| | Male parents: Jaunpuri | IC 631301 |

## Salient research findings of the department (2020-21):

- A promising Garlic advance line HG-27 having compact white bulb with thin neck, good keeping quality, high yielding (144.0 q/ha) and tolerant to Stemphylium blight and purple blotch diseases have been developed by the Department of Vegetable Science and submitted proposalfor identification in the HAU variety identification/Release committeemeeting.
- A project entitled "Vegetable Grafting for Mitigation of Biotic and Abiotic Stresses in Greenhouse Vegetable Production System" was sanctioned for amount Rs 175 lakhs under RKVY in 2018-19 and Commissioning and Installation of Vegetable Grafting Unit was initiated at Vegetable Research Farm, Hisar with foundation stone laid on 31.03.2021.

## Varieties/strains/species of seeds/planting material released during 2020-21:

- Potato varieties Kufri Thar- 2,Kufri Thar- 3 and Kufri Kiran**were** notified for Haryana state by Central Sub Committee for Horticultural Crops.

**Salient research findings of the department during year 2021-22:**

- Different rice straw management practices have significant effect on potato tuber yield. Application of urea (50 kg/ha) + Waste Decomposer (500 L/ha) mixed well in soil along with chopped rice straw by using disc harrow/ rotavator was a viable option for management of rice crop residues for growing potato in sequence with improved yields by 22.6% over control.
- In garden pea variety, Azad Pea-3 application of vermicompost @ 3.0 tonnes + waste decomposer @ 500 litre $ha^{-1}$ + Two spray of 10% waste decomposer solution, produced 61.8% higher green pod yield.
- In Potato applicationof225kg N, 50kg$P_2O_5$ and 100 kg $K_2O$/ha wasrecommended for cultivars KufriSuryaand KufriSadabaharunder Haryana conditions.
- Incorporation of crop residue of previous crop@ 4t/ha along with application of FYM @25 t/ha+ bio-fertilizers (*Azatobacter andphosphobacteria)* was recommended for organic potato cultivation in Haryana region.
- The potato cultivar Kufri Surya can be planted 15 days earlier (30th September) with micro-sprinkler irrigation under Haryana conditions.

*Annexure VEG – VII*

## AWARD WON BY DEPARTMENT OF VEGETABLE SCIENCE IN KISAN MELA DURING YEAR 2018-19 TO MARCH, 2023

- Department of Vegetable Science Stall was awarded by **First prize during the Krishi Mela (Kharif)** 2019 held on March 12-13, 2019.
- Department of Vegetable Science Stall was awarded by **Third prize in Krishi Mela (Rabi)** duringheld on Sept. 11-12, 2019.
- Department of Vegetable Science Stall was awarded by **Second prize in Krishi Mela (Kharif)** during held on 15-16, March, 2022.
- Department of Vegetable Science stall won **First prize in Haryana Krishi Vikas Mela held on 10-12 March, 2023,**organized by Department of Agriculture and Farmer Welfare, Haryana & CCSHAU, HISAR.






सब्जी विज्ञान विभाग
चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय, हिसार


चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय, हिसार
द्वारा आयोजित
कृषि मेला (खरीफ)



Head of the Department, Vegetable Science, Dr. T.P. Malik along with their faculty members received the Honour by our agriculture minister of Haryana, Shri Jai Prakash Dalal and Our Vice-Chancellor, CCSHAU, Hisar, Dr. B.R. Kamboj during the valedictory function of Kisan Mela

***Annexure VEG – VIII***

## STUDENT PLACEMENT PROFILE

| S. No. | Name of student | Admission No. | Placement | Year |
|---|---|---|---|---|
| **1** | Dr. Sumit Deswal | 2014A57D | Assistant Scientist, Department of Vegetable Science, CCSHAU, Hisar | 2018 |
| **2** | Dr. Amit Kumar | 2014A58D | Assistant Scientist, Department of Vegetable Science, CCSHAU, Hisar | 2018 |
| **3.** | Dr. Sanjay Kumar | 2012A52D | Assistant Professor, Department of Vegetable Science, CCSHAU, Hisar | 2018 |
| **4.** | Dr. Naval Kishor | 2012A56D | SMS, KVK, Lunkaransar, SKRAU, Bikaner | 2018 |
| **5.** | Mr. Raj Kumar | 2017A49D | Sectional Officer, DDA | 2018 |
| **6.** | Mr. Pawan Grewal, | MHU2017H4D | Sectional Officer, DDA | 2018 |
| **7.** | Mr. Rahul Yadav | 2016A42M | Sectional Officer, DDA | 2018 |
| **8.** | Mr. Vishwas Mangal | 2016A43M | Sectional Officer, DDA | 2018 |
| **9.** | Mr. Anil Pattan | 2016A44M | Sectional Officer, DDA | 2018 |
| **10.** | Dr. Hans Raj | 2001A49D | Assistant Scientist, Department of Vegetable Science, CCSHAU, Hisar | 2018 |
| **11.** | Mr. Ram Mehar | 2013A82M | J.E. Hort. at HSVP (HUDA) | 2019 |
| **12.** | Mr. Shubham | 2017A69M | PO in Serve Haryana Gramin Bank | 2019 |
| **13.** | Mr. Nitish Kumar | 2017A75M | AFO in Punjab National Bank | 2019 |
| **14.** | Mr. Vikram | 2018A100M | J.E. Hort. | 2019 |
| **15.** | Mr. Sunil Kumar | 2018A54D | T.A. Sonipat (Jagdishpur, KVK) | 2019 |
| **16.** | Mr. Vikas | 2018A99M | SRF (MHU, Karnal) | 2019 |
| **17.** | Mr. Vinod Kumar | 2015A49D | SRF (MHU, Karnal) | 2019 |

| | | | | |
|---|---|---|---|---|
| **18.** | Ms. Nidhi Sehgal | 2017A46D | SRF (ICAR) | 2019 |
| **19.** | Mr. Deshraj | 2016A45D | RA (CCSHAU, Hisar) | 2019 |
| **20.** | Mr. Vikram | 2016A47D | JRF (CCSHAU, Hisar) | 2019 |
| **21.** | Mr. Ramdass | - | J.E. (Dept. of Irrigation) | 2019 |
| **22.** | Mrs. Preeti Yadav | 2014A55D | Training assistant | 2019 |
| **23** | Mr. Ankush | - | Training assistant | 2019 |
| **24.** | Mr. Gurpreet Singh | 2018A96M | Marketing Rep. in NFL | 2019 |
| **25.** | Dr. Archana | 2014A56D | Assistant Professor, Department of Vegetable Science, CCSHAU, Hisar | 2019 |
| **26.** | Ms. Renu Yadav | 2016A41M | DHO/Equivalent, Centre of Excellence for Vegetables, Department of Horticulture, Government of Haryana, Gharaunda, Karnal | 2019 |
| **27.** | Dr. Harshita Singh | 2016A46D | DHO/Equivalent, Centre of Excellence for Vegetables, Department of Horticulture, Government of Haryana, Gharaunda, Karnal | 2019 |
| **28.** | Mr. Sachin Kumar | 2015A105M | DHO/Equivalent, Centre of Excellence for Guava Department of Horticulture, Government of Haryana. | 2019 |
| **29.** | Ms. Nidhi Sehgal | 2017A46D | DHO/Equivalent, Directorate of Horticulture, Haryana (Haryana Govt.) | 2019 |
| **30.** | Mr. Ajay Chauhan | 2017A48D | DHO/Equivalent Centre of Excellence for Vegetables, Department of Horticulture, Government of Haryana, Gharaunda, Karnal | 2019 |
| **31.** | Mr. Sunil Kumar | 2019A144M | HDO/ Class-II, Directorate of Horticulture, Panchkula (Haryana Govt.) | 2019 |
| **32.** | Ms. Tanvi Mehta | 2017A70D | HDO/ Class-II, Directorate of Horticulture, Panchkula (Haryana Govt.) | 2019 |
| **33.** | Dr. Pooja Rani | 2015A49D | DHO/Equivalent, Centre for subtropical fruit, Department of Horticulture, Government of Haryana | 2019 |
| **34.** | Dr.Shiwani | 2015A50D | DHO/Equivalent, Centre for subtropical fruit, Department of Horticulture, Government of Haryana | 2019 |
| **35.** | Mr. Sangeet Kumar | 2015A107M | DHO/Equivalent, Directorate of Horticulture, Haryana (Haryana Govt.) | 2019 |
| **36.** | Mr. Vivek Bhanwala | 2018A55D | DHO/Equivalent, Directorate of Horticulture, Haryana (Haryana Govt.) | 2019 |
| **37.** | Mr. Randeep Singh | MHU2018H06 M | HDO/ Class-II, Directorate of Horticulture, Haryana (Haryana Govt.) | 2019 |
| **38.** | Mr. Surender Mittal | 2015A103M | T.A. (Farm) in CCSHAU, HISAR | 2020 |
| **39.** | Mr. Karan Singh Saini | 2017A50D | T.A. (KVK, Damla) | 2020 |
| **40** | Ms. Jyoti | MHU2020H02 M | Central Bank of India, AFO | 2021 |
| **41.** | Mr. Sandeep Nain | 2019A143M | Punjab National Bank, AFO | 2021 |
| **42.** | Mr. Luv Sapra | 2017A72M | Central Bank of India, AFO | 2021 |
| **43.** | Mr. Pradeep | 2018A98M | FCI, Karnal, AFO | 2021 |
| **44.** | Dr.Hitesh Kumar | 2015A48D | Assistant Scientist, Bihar Central University | 2021 |
| **45.** | Dr. Vinod Kumar | 2015A49D | Assistant Professor, Department of Vegetable Science, MHU, Karnal | 2022 |
| **46.** | Dr.Deshraj | 2016A45D | DES, KVK, Jhajjar | 2022 |
| **47.** | Dr. Rajesh Kumar | | DES, KVK, Panipat | 2022 |
| **48.** | Dr. Preeti Yadav | 2014A55D | Assistant Scientist, Dept. of Vegetable Science, COA, CCSHAU, Hisar | 2022 |
| **49.** | Dr. Vikas | 2020A80D | Assistant Scientist,Dept. of Vegetable Science, COA, | 2022 |

| | | | | |
|---|---|---|---|---|
| | | | CCSHAU, Hisar | |
| **50.** | Dr. Vikram | 2016A46D | Assistant Scientist, Dept. of Vegetable Science, COA, CCSHAU, Hisar | 2022 |
| **51.** | Dr. Vikas Gill | 2020A80D | Assistant Scientist, College of Agriculture, Bawal | 2022 |
| **52.** | Mr. Rupit Goyal | 2021A128M | AFO, Bank | 2023 |
| **53.** | Mr. Paras Tarun | MHU2021H07 M | AFO, Bank | 2023 |
| **54.** | Ms. Isha Kaushik | 2022A109M | AFO, Bank | 2023 |
| **55.** | Mr. Lalit Khatkar | 2022A110M | ADO | 2023 |
| **56.** | Mr. Vipul Kamboj | 2022A110M | ADO | 2023 |
| **57.** | Mr. Harpal | 2022A108M | ADO | 2023 |

***Annexure VEG – IX***

## HONOUR AND AWARD ACHIEVED BY THE STUDENTS IN SPORTS ACTIVITIES

1. Mr.Yugvinder, M.Sc. Student of the department got First position in 4 x 100 Mtr. relay in the XIX All India Inter Agricultural Sports and Games Meet held at PAU, Ludhiana from 2 to 5 January, 2019.
2. Mr.Yugvinder, M.Sc. Student of the department got Second position in 100 Mtr. race in the XIX All India Inter Agricultural Sports and Games Meet held at PAU, Ludhiana from 2 to 5 January, 2019.
3. Mr.Yugvinder, M.Sc. Student of the department got Second position in 400 Mtr. race in the XIX All India Inter Agricultural Sports and Games Meet held at PAU, Ludhiana from 2 to 5 January, 2019.
4. Mr. Yugvinder, M.Sc. Student of the department got Third position in football in the 3rd Haryana State Inter College Football Championship held at CRM Jat College, Hisar from 15-18 January, 2019 and also Third position in football, 2019 held at IIT, Delhi from 1 to 4 March, 2019.
5. Mr. Akash Saroha, Ph.D. Student department of Vegetable Science secured third position in Discus throw in XXI all India Inter Agricultural Universities sports &games Meet, 2023, CCSHAU, Hisar from 20-24 February, 2023.
6. Mr. Sudesh Phogat, Ph.D. Student Department of Vegetable Science won gold medal in relay race in XXI all India Inter Agricultural Universities sports &games Meet, 2023, CCSHAU, Hisar from 20-24 February, 2023.
7. Mr. Yugvinder Ph.D. Student Department of Vegetable Science won gold medal in football, 4x100m relay race, 4x400 m relay race and 4x400 m mix realy race in XXI all India Inter Agricultural Universities sports &games Meet, 2023, CCSHAU, Hisar from 20-24 February, 2023.






Students of Vegetable Science Department receiving the certificate of honour by Vice-Chancellor Dr. B.R. Kamboj in XXI All India Inter Agricultural Universities Sports & Games Meet, 2023, CCSHAU, Hisar from 20-24 February, 2023.

***Annexure VEG – X***

## EXPERIENTIAL LEARNING PROGRAMME (ELP) ON PERI-URBAN AGRICULTURE AND COMMERCIAL CULTIVATION OF VEGETABLES, DEPARTMENT OF VEGETABLE SCIENCE

This ELP programme has provided a very good platform for students with an approach of "*Learning by Doing*" and "*Seeing by Believing*" and gives a new direction to the undergraduate and post-graduate programme which will develop thinking, skilful, expert, manager, human resource in the area of Vegetable science. The experiential learning programme is offered for one semester in the final year of undergraduate or post-graduate students in the department of Vegetable Science.

**The main objectives of ELP are:**

- To promote professional skills and knowledge through hands on experience.
- To build confidence and ability to work
- To train the students to become "Job givers rather than Job seekers"






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# COLLEGE OF AGRICULTURE
# BAWAL



# SELF STUDY REPORT






2023

## Chaudhary Charan Singh Haryana Agricultural University
## Hisar, Haryana-125004

# FOREWORD



Agriculture is the world's largest industry employing more than one billion people world wide. Today agriculture has been transformed from conventional to modern technology driven enterprise and is no longer only an ancestral activity but is a profit-oriented business entity. The modern concepts like protected cultivation including poly house, green house, tunnel farming, post harvest technology, ware housing, organic farming, apiculture, floriculture, mushroom cultivation etc. are playing an important role. The government's focus and policies are aimed at high value, export oriented and more profitable enterprises. In order to realize full potential of agriculture more and more skilled human resource/ agricultural professional/graduates are required.

Study of Agricultural Science offers a plethora of career options from government organizations to agribusiness and food processing etc. To fill the gap between demand and supply of skilled human resources in agriculture, the number of Agricultural Universities has gone up from one to 64 apart from 4 deemed and three central universities, imparting agricultural education. The establishment of College of Agriculture, Bawal (Rewari) is continuation of the series. Considering the dire need of agricultural education in the southern part of Haryana adjacent to the national capital and millennium city, Gurugram, the college was started in2015 with programme of B.Sc. (Hons.) Agriculture. Efforts have been made to develop ahigh-class infrastructure with all modern amenities and competent faculty. Subsequently, all programmes including M.Sc., Ph.D. and Diploma courses have been started. I hope this college will meet the aspirations of its founders as well as all stake holders including farmers and youth of region and will find a name in the list of premium agricultural institutes of the country.

The college ensures all-round development of the students through participation in co-curricular activities including Games &Sports, NSS, Debates, Quiz, Poetry Contests, etc. to enhance students' creativity and inculcate leadership quality in them. It is indeed gratifying to see that the faculty of the College has been able to find solutions for many problems from time to time. The application of latest technologies in the class room and field is the best example of state of the art of modern infrastructure available in the College.

I am delighted that the College of Agriculture, Bawal has documented the progress accomplished since its inception in the form of Self Study Report for accreditation of the College as per guidelines of the ICAR.

**Prof. B. R. Kamboj**
Vice Chancellor
CCSHAU, Hisar

# PREFACE

The College of Agriculture, Bawal was established in 2015 as one of the constituent colleges of Chaudhary Charan Singh Haryana Agricultural University, Hisar vide Memo No. Acad. /2015/No. 15/A-2/5350-5498 dated 21.08.2015. The college has been established in the rural area of resource poor districts of Haryana state to provide agricultural education especially to the rural students. Since establishment it has envisioned a wide range of improvement and development in academic, research and extension needs of the Southern Zone of Haryana. At present there are 389 undergraduate, 42 post-graduate and 21 Ph.D. students in the College.

Bawal is a municipality in Rewari district of the state and lies in the National Capital Region (NCR) of India. It is located on national highway NH 48 (formerly known as NH 8), about 14 km from Rewari city, about 100 km from National Capital Delhi and 185 km from the university campus, Hisar. Bawal is located at latitude of 28.09° N, longitude of 76.59° E and altitude of 266 m above mean sea level.

The college has been spread over an area of 248 acres under research, buildings, roads, playgrounds and students' farm etc. It has magnificent infrastructure with multimedia class rooms (smart class rooms), well equipped laboratories, seminar room, library and the students' farm to cater the academic needs of the students as well as faculty. There are well maintained play grounds, separate hostels for boys and girls, NSS unit and various co-curricular activities are conducted for all round development of the students. Registration for at least one game/cultural activity and NSS/NCC is mandatory for all the students. Quality education is imparted by the dedicated and competent faculty in different disciplines of agriculture and allied fields. For acquiring academic and professional excellence, apart from class room teaching, laboratory and field practical, students are exposed to one year practical crop production. In addition to this, six months Rural Agricultural Work Experience (RAWE) including Agricultural Industry Exposure is also been provided. Further, agro-based skill oriented modules *viz*. organic production technology, bee keeping, mushroom cultivation, seed production and technology, soil-plant-water and fertilizer testing services, commercial vegetable production, bioagents and biofertilizers production, food processing etc. for six months are also a part of curriculum. Study tours and exposure visits to different institutes, progressive and innovative farmers' field/orchard are also an integral part of curriculum. PG students enrolled at College of Agriculture, Hisar also carry out their research under the guidance of highly trained faculty of this college.

Teacher taught relation in the college is unique on the lines of our ancient Gurukul pattern which is very important in inculcating moral values in the students. Residing and studying in the rural environment also prepare the students to serve farming community in a better way. Till now, 86 students have completed B.Sc. (Hons.) Ag. from this college and are serving in universities, banks, armed forces, input industries, line departments, co-operative sector, other public and private sectors.

**Dr. Naresh Kaushik**
Principal
CCSHAU College of Agriculture
Bawal

**Dr. S. K. Pahuja**
Dean
College of Agriculture
CCSHAU, Hisar

# CONTENTS


| Sr. No. | Particulars | Page(s) |
|---|---|---|
| 6.5 | **Self Study Report of College of Agriculture, Bawal (Rewari)** | **1** |
| **6.5.1** | College Administration | 1 |
| 6.5.1.1 | College Principal's Office Establishment | 1 |
| 6.5.1.2 | Monitoring Mechanism for Quality Education (on-line) | 4 |
| 6.5.1.3 | CC/Board of Studies | 13 |
| 6.5.1.4 | Anti-Ragging Cell | 14 |
| 6.5.1.5 | Biological Waste Disposal Facility | 15 |
| 6.5.1.6 | Institutional Ethics Committee for Experiment on Animals | 15 |
| 6.5.1.7 | Committee for Prevention of Sexual Harassment of Women at Work Places | 15 |
| 6.5.2 | **Faculty** | **16** |
| 6.5.2.1 | Faculty Strength | 16 |
| 6.5.2.2 | Faculty Profile (Department wise) | 16 |
| 6.5.2.3 | Credential of the Faculty | 19 |
| 6.5.2.4 | Technical and Supporting Staff | 21 |
| **6.5.3** | **Learning Resources** | **22** |
| 6.5.3.1 | College Library (digital) | 22 |
| 6.5.3.2 | Laboratories, Instructional Farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc | 24 |
| 6.5.3.3 | Student READY/ In-Plant Training/ Internship/ Experiential Learning Programme | 27 |
| 6.5.3.4 | Curricula Delivery through IT (Smart Class Rooms/ Interactive Board etc.) | 30 |
| **6.5.4** | **Student Development** | **33** |
| 6.5.4.1 | Student Intake and Attrition | 33 |
| 6.5.4.2 | Average Number of Students in Theory and Practical Classes | 34 |
| 6.5.4.3 | Admission Process | 50 |
| 6.5.4.4 | Conduct of Practical and Hands on Training | 51 |
| 6.5.4.5 | Examination and Evaluation Process | 52 |
| 6.5.4.6 | NCC/NSS/ RVC Units | 54 |
| 6.5.4.7 | Language Laboratory | 55 |
| 6.5.4.8 | Cultural Centre | 55 |
| 6.5.4.9 | Personality Development | 57 |
| **6.5.5** | **Physical Facilities** | **59** |
| 6.5.5.1 | Hostels | 59 |
| 6.5.5.2 | Examination Hall | 60 |

| | | |
|---|---|---|
| 6.5.5.3 | Sports and Recreation Facilities | 60 |
| 6.5.5.4 | Auditorium | 65 |
| 6.5.5.5 | Exhibition Hall/Museum | 66 |
| **6.5.6** | **Research Facilities** | **66** |
| 6.5.6.1 | Postgraduate Laboratories and Equipments | 66 |
| 6.5.6.2 | Research Contingency | 68 |
| **6.5.7** | **Outcome/Output** | **68** |
| 6.5.7.1 | Student Performance in National Examinations | 68 |
| 6.5.7.2 | Students Placement Profile | 69 |
| 6.5.7.3 | Awards/ Recognitions/ Certificates | 71 |
| 6.5.7.4 | Employability | 75 |
| **6.4** | **Self Study Report for the Programme** | **79** |
| 6.4.1 | Brief History of the Degree Programme | 79 |
| 6.4.2 | Faculty Strength | 82 |
| 6.4.3 | Technical and Supporting Staff | 82 |
| 6.4.4 | Classrooms and Laboratories | 83 |
| 6.4.5 | Conduct of Practical and Hands-on-Training | 83 |
| 6.4.6 | Supervision of Students in PG/Ph.D. Programme | 86 |
| 6.4.7 | Feedback of Stakeholders (Students, Parents, Industries, Employers, Farmers etc.) | 87 |
| 6.4.8 | Student Intake and Attrition in the Programme for Last Five Years | 87 |
| 6.4.9 | ICT Application in Teaching and Practical for Curricula Delivery | 87 |
| **Annexure-1** | **Summary of Publications** | **91** |
| | List of Faculty Publications | 92 |
| | Research Papers Presented in Seminars/Conferences/Workshop etc | 100 |
| | Books | 109 |
| | Book Chapters | 109 |
| | Popular Articles | 110 |
| | Technical Bulletins/ Reports | 114 |

# SELF STUDY REPORT OF
# COLLEGE OF AGRICULTURE, BAWAL (REWARI)

The College of Agriculture, Bawal was established in 2015 as one of the constituent colleges of Chaudhary Charan Singh Haryana Agricultural University, Hisar vide Memo No. Acad. /2015/No. 15/A-2/5350-5498 dated 21.08.2015. The foundation stone of the college building was laid down on February 25, 2017 by Shri Manohar Lal, Hon'ble Chief Minister of Haryana.

Bawal is a municipality in Rewari district of Haryana state and lies in the National Capital Region (NCR) of India. It is located on national highway NH 48, about 14 km from Rewari city, 100 km from Delhi and 200 km from the main campus of the University at Hisar. Bawal is located at 28.09°N 76.59°E at an elevation of 266 m above mean sea level.

The mandate of the college is nurturing scholarly education in agriculture and allied fields to make students professionally competent and socially sensitive and to provide specialized trainings to the students to promote entrepreneurial and other skills among them.

The college has all facilities for students including smart classrooms, fully equipped laboratories, library, computer section, cafeteria, examination hall, seminar hall etc.

## Objectives of the College

- To impart education and training to youth for developing professional skills in agriculture and allied fields
- To collaborate with other academic institutes at national and international level
- To generate production and protection technology for various cropping/ farming/ horticultural/agro-forestry systems and its dissemination to the farmers and other end users
- To assist stakeholders through value-added endeavours, bio-based products, bio-processing, crop diversification etc.
- To monitor climate change impacts on agricultural systems and develop mitigation strategies adopting inter-disciplinary approaches

## 6.5.1. College Administration

**6.5.1.1. College Principal's Office Establishment:** *Whether the Dean's post sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines? Date of selection of present dean, mode of selection, tenure etc. shall be mentioned. Clearly mention the staff and infrastructure/facilities available in the Dean's Secretariat.*

The controlling officer of the College of Agriculture, Bawal is the Dean, College of Agriculture, CCSHAU Hisar. All the activities and financial matters are being monitored by the Dean. The matters requiring approval/ sanction of higher authorities are routed through the Dean. All kind of support and guidance is also provided by the Dean, COA, Hisar.

For the purpose of administration in the college, competent authority has sanctioned the post of Principal. Staff and infrastructure facilities available in the principal's office are mentioned below:

| | | |
|---|---|---|
| **Name of Principal** | | |
| | **Dr.Naresh Kaushik** | 24-07-2018 to till date |
| | **Dr. S.S. Yadav** | 01.04.2018 to 23.07.2018 |
| **Mode of selection** | Internal interview | |
| **Tenure** | For a period of four years and can be reduced or extended on the basis of performance | |



Dr. Naresh Kaushik, Principal, College of Agriculture, Bawal

## Staff available in the Principal's Secretariat

| Name of the post | Sanctioned | In position | Vacant |
|---|---|---|---|
| **Manpower requirement of Principal's office** | | | |
| **Administrative cum Accounts Officer** | 01 | 01 | 00 |
| **Personal Assistant** | 01 | 01 | 00 |
| **Assistant** | 03 | 02+01* | 00 |
| **Jeep/Car Driver** | 01 | 00 | 01 |
| **Computer Operator** | 01 | 00 | 01 |
| **Store Keeper** | 01 | 01 | 00 |
| **Steno Typist** | 02 | 01 | 01 |
| **Total** | **10** | **07** | **03** |

***contractual/ outsourced staff

***INFRASTRUCTURE (Give the details of the infrastructure available such as furniture, computer etc.)***

| | |
|---|---|
| **Principal's Office** | Yes, fully furnished office |
| **PA Office** | Yes, separate office with essential infrastructure |
| **AAO Office** | Yes, with essential facilities |
| **CCTV surveillance** | Principal office has access to the whole campus through CCTV cameras |
| **Cashier Room** | Yes, with all facilities |
| **Strong Room** | Yes, photocopier, almirah etc. are available |
| **Store (s)** | 02 |
| **Committee Room** | Yes, with video conferencing and PA system facility |
| **Waiting Lounge / Hall for Visitors** | Yes, with sufficient furniture |
| **Common Room for Girl Students** | Yes, with sufficient sitting arrangement |
| **Washrooms/Toilets** | Yes |
| **Furniture & Computers** | Office for the staff are well equipped with good furniture and computer, internet, printers, photo copiers, scanners etc. |
| **Wi-Fi office** | Wi-Fi Campus |
| **Video Conferencing Facility** | Yes |

| | |
|---|---|
| **Disciplines** | **Teachers of following disciplines are posted in the College:**<br>1. Agril. Engineering<br>2. Agril. Economics<br>3. Agril. Meteorology<br>4. Agronomy<br>5. Animal Science<br>6. Biochemistry<br>7. Botany<br>8. Chemistry<br>9. Computer<br>10. English<br>11. Entomology<br>12. Extension Education<br>13. Forestry<br>14. Genetics & Plant Breeding<br>15. Horticulture<br>16. Mathematics<br>17. Microbiology<br>18. Nematology<br>19. Physical Education<br>20. Physics<br>21. Plant Pathology<br>22. Plant Physiology<br>23. Seed Science and Technology<br>24. Sociology<br>25. Soil Science<br>26. Statistics<br>27. Vegetable Science<br>28. Zoology |
| **Name of College** | CCS HAU College of Agriculture, Bawal (Rewari) |
| **Faculty position** | See section 6.5.2. |
| **Lecture Halls (No.)** | 06 |
| **Facilities in the lecture hall like seating capacity, LCD Projector, Computer, CCTV Camera, Blackboard, screens etc.** | All the lecture halls are equipped with smart class room facilities (LED screen, computer with internet/Wi-Fi, whiteboard, visualizer, camera etc.), CCTV camera, curtains, power back up, lecture stand, teaching aids, markers etc. with seating capacity of 70 students in every lecture hall |
| **Smart Class Rooms (No.)** | 06 |
| **Seminar Rooms (No.)** | 01 |
| **Committee Room (No.)** | 01 |
| **Exhibition Hall / Wings** | 01 |
| **Departmental Library** | Yes |
| **Departmental Computer facility** | Sufficient number of computers are available. |
| **Washrooms/Toilets (No.)** | He – 06, She -06 |
| **Stores (No.)** | 02 |
| **UG Labs (No.)** | 18 |
| **Any other information which is not covered in the infrastructure may be added preferably in** | **Canteen:** The college has spacious canteen facility in its premises. A variety of high-quality hygienic food items and snacks are provided to the students and staff at reasonable rates. |

| | |
|---|---|
| **tabular form** | **Health clinic:** A health clinic facility under an MBBS doctor is working for students, staff and family. |

**6.5.1.2. Monitoring Mechanism for Quality Education (on-line):** *Whether the College is having an internal quality assurance system, with appropriate structure and processes, and with enough flexibility to meet the diverse needs of the stakeholders which is required for planning, guiding and monitoring quality assurance and quality enhancement activities of the Colleges. Mention the impact of monitoring on the outcome of the College with reference to students' excelling in academics, research and extracurricular activities.*

- Self-appraisal report of individual teacher is evaluated by Principal, Dean, DR, DEE, Dean PGS and VC.
- All the teaching activities in the lecture rooms are monitored online through CCTV cameras as well as sudden physical checking by the competent authority.
- Attendance of the students is maintained on ERP system of the university website as well as physically.
- To provide quality education to the students, all the *e*-content in form of text, video, images, presentations etc. are uploaded online on university website and same is monitored by the principal himself.
- All the class in-charges are responsible to report all the academic activities periodically to the Principal.
- To ensure quality education, feedback is collected from students about the performance of faculty in the academic activities.
- Programme of work, synopsis and thesis work of PG students is approved in Students' Advisory Committee. PG students deliver synopsis seminar in their departments to get feedback/ guidance for improvement from the departmental faculty. The synopsis is evaluated internally before submission to the Dean, PGS for final approval.
- Tour programmes and tour diaries of faculty members are approved by the competent authority.





Practical learning at research farm COA, Bawal

**Students passed out from College of Agriculture, Bawal during last five years (2018-19 to 2022-23):**

| Academic Year | Under Graduate programme | Post Graduate Programme | | | | | | Ph.D. Programme | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B.Sc. (Hons.) Ag. | Agronomy | Soil Science | Forestry | Horticulture | Entomology | Plant Pathology | Agronomy | Soil Science | Forestry | Horticulture | Entomology | Plant Pathology |
| **2018-19** | 18 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **2019-20** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **2020-21** | NA | 02 | 02 | 01 | 02 | 02 | 02 | NA | NA | NA | NA | NA | NA |
| **2021-22** | NA | 02 | 02 | 02 | - | 02 | 02 | 01 | 01 | 01 | - | 01 | 01 |
| **2022-23** | NA | 02 | 02 | 02 | - | 02 | 02 | 01 | 01 | 01 | -- | 01 | 01 |
| **Total** | **18** | **06** | **06** | **05** | **02** | **06** | **06** | **02** | **02** | **02** | **0** | **02** | **02** |

- Diploma : Participants:18, Year of admission : 2020-21, Year of passing 2020-21
- One year diploma course on Agrochemicals and Fertilizers is also running at this college with the intake capacity of 30 participants. The eligibility for admission is on the basis of marks in 10 + 2 and experience in the relevant field. The aim of this diploma is to aware the participants about the use of Agrochemicals and Fertilizers for startup.
- **Students' Awards/Achievements (Academics):** Gold medal, Merit, Fellowship and Participation

## Award of Gold Medals

| Sr. No. | Name | Father's name | Admission No. | Name of Gold Medal | Year |
|---|---|---|---|---|---|
| **1.** | Ms. Sonia | Sh. Krishan Kumar | B2015A25BIV | HAU Merit Gold Medal | 2018-19 |
| **2.** | Mr. Ravi | Sh. Jagjeet Singh | B2015A21BIV | Dr. S.B. Phogat Memorial Gold Medal | 2020-21 |

## International Achievements

| Academic Years | Awards/Achievements | Remarks |
|---|---|---|
| **2019-20** | ▪ Ms. Parneel (B2017A30BVI) selected for NODAI exchange programme in Agriculture at Tokyo University of Agriculture, Japan | |
| **2022-23** | ▪ Ms. Jyoti Khatkar (B2017A15BVI), Mr. Lovepreet Singh (B2017A17BVI), Ms. Manju Bala (B2017A20BVI), Mr. Mitul (B2017A21BVI) and Ms. Neha (B2017A27BVI) attended two months training in Czech Republic January 23 to March 23, 2023under NAHEP-IDP<br>▪ Mr. Aadesh Kaushik (B2017A01BVI), Ms. Kiran (B2017A16BVI), Mr. Neeraj (B2017A26BVI), Mr. Parveen (B2017A33BVI), Mr. Rahul (B2017A35BVI), Ms. Sakshi Nimbal (B2017A44BVI), Ms. Sangeeta (B2017A45BVI), Ms. Siksha Rani (B2017A46BVI) and Ms. Yogita (B2017A60BVI) attended two months training in Vietnam from February 14 to March 15, 2023 under NAHEP-IDP<br>▪ Ms. Pratibha (B2017A32BVI) and Mr. Ravinder (B2017A38BVI) attended two months training in Thailand from January 18 to March 18, 2023 under NAHEP-IDP | |

## National/ State/ University/ College level achievements

| Academic Years | Awards/Achievements | Remarks |
|---|---|---|
| **2019-20** | **Fellowships**<br>▪ Mr. Amit (B2015A1BIV) and Mr. Preetam Kumar (B2015A16BIV) cleared ICAR-JRF Exam (2019-20).<br>▪ Ms. Charul Chaudhary (2018A09D), Ph.D. (Agronomy) was awarded Jawaharlal Nehru Scholarship for Doctoral Studies from JN Memorial Fund, New Delhi.<br><br>**Achievements**<br>▪ Mr. Jitendra Singh Ranawat (2019A90D) got best research scholar award 2019 in International Conference held during December 1-2, 2019 at Kumaun University, Nainital. | |
| **2020-21** | **Achievements**<br>▪ Ms. Jaya (B2018A24BVI) secured 1st position in Essay writing competition held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020.<br>▪ Mr. Mitul (B2017A21BVI) secured 3rd position in Essay writing competition held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020.<br><br>**Participation**<br>▪ Mr. Alimer (B2018A09BVI), Mr. Rajkumar (B2017A36BVI), Mr. Abhinav (B2018A02BVI) and Ms. Sunita Rani (B2018A59BVI) participated in Essay writing competition held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020. | |
| **2021-22** | **Achievements**<br>▪ Mr. Akshay (2019A41M) qualified ASRB, NET during August, 2021. | |
| **2022-23** | **Achievements**<br>▪ Ms. Jyotika (B2022A22BVI) got the NTSE scholarship during 2023 | |

**International collaboration and exposure**

- Interaction of students and faculty with Prof. Dr. Erghter Werner from ETH, Zurich (Switzerland) regarding opportunities for international studies in Switzerland for higher education in agriculture on February 17, 2020.



Students of COA, Bawal selected for training in Czech Republic, Vietnam and Thailand under NAHEP-IDP during 2022-23




Certificates of successful completion of two months international trainings under NAHEP-IDP during 2022-23




Interaction of students and faculty with Prof. Dr. Erghter Werner from ETH, Zurich (Switzerland) for Higher Education in Agriculture on February 17, 2020 at COA Bawal

- **Student's Awards/Achievements (Extra-Curricular Activities like Sports, NCC and NSS etc.): (**Gold medal, Merit, Fellowship, Participation)

| Academic Year | Awards/Achievements | Remarks |
|---|---|---|
| **2018-19** | **Achievements**<br>▪ Mr. Surender (B2017A52BVI) secured 3rd position in basketball (male) in district level competition under *Khel Mahakumbh* at Mahabir Stadium, Hisar during October 26-30, 2018.<br>▪ Ms. Nancy (B2018A35BVI) secured third position in 3rd Haryana state yog championship at Greenland Public School, Karnal (Haryana) during October 14-15, 2018<br><br>**Participation**<br>▪ Twenty nine students participated in inter college sports championship held at CCS HAU, Hisar during October 16- 29, 2018.<br>▪ Ms. Nancy (B2018A35BVI) secured first position in 3rd National Yog Championship at Akhil Bhartiya Shri Kashyap Samaaj Ashram, Haridwar during December 7-9, 2018<br>▪ Ms. Nancy (B2018A35BVI) secured first position in 4th Haryana State Yog Championship at Sarvodya Public School, Karnal during November 24-25, 2018<br>▪ Mr. Praveen Indal (B2017A33BVI) secured second position/ runner up in badminton hudle held at Gurugram (Haryana) on February 24, 2019<br>▪ Mr. Surender (B2017A52BVI) secured 3rd position in basketball (male) at Sportech 2018 held at IIT, Delhi during February 23-26, 2018.<br>▪ Mr. Surender (B2017A52BVI) secured 3rd position in basketball (male) in 19th All India Inter Agricultural University Sports and Games Meet held at PAU, Ludhiana during January 2-5, 2019. | |
| **2019-20** | **Achievements**<br>▪ Mr. Ajay Poonia (B2018A6BVI), Mr. Jatin Kumar (B2018A23BVI), Mr. Ajay Kumar (B2017A04BVI), Mr. Deepak (B2016A19BVI-R), Mr. Sachin (B2018A46BVI), Mr. Navdeep (B2019A32BVI), Mr. Shiv Kumar (B2018A56BVI), Mr. Vikram (B2019A58BVI), Mr. Sunil (B2019A52BVI), Mr. Surender (B2017A52BVI), Mr. Atul Sharma (B2019A14BVI), and Mr. Ashish (B2019A11BVI) won 1st position in inter college Handball game organised by CCS HAU Hisar at COA, Bawal on November 11, 2019.<br><br>**Participation**<br>▪ Mr. Surender (B2017A52BVI) participated in All India Inter Agricultural University Sports Meet in Basket Ball at SVVU Tirupati (AP) during March 1-5, 2020.<br>▪ Ms. Sangeeta (B2017A45BVI) participated in All India Inter Agricultural University Sports Meet in Atheletics at SVVU Tirupati (AP) during March 1-5, 2020.<br>▪ Mr. Ajay Poonia (B2018A06BVI) participated in All India Inter Agricultural University Sports Meet in Basket Ball at SVVU Tirupati (AP) during March 1-5, 2020. | |
| **2020-21** | **Achievements**<br>▪ Ms. Sunaina (B2017A51BVI) got best volunteer (Girls) award during NSS Annual Camp held at village Khatiwas during August 24-30, 2021.<br>▪ Mr. Surender (B2017A52BVI) got best volunteer (Boys) award during NSS Annual Camp held at village Khatiwas during August 24-30, 2021. | |

| | | |
|---|---|---|
| | **Participation**<br>• Mr. Rahul (B2017A35BVI) and Mr. Sagar (B2017A51BVI R) participated in NSS state level camp at CRSU, Jind during October 19-25, 2021.<br>• Mr. Alimer (B2018A09BVI) participated in NSS state level camp at CBLU, Bhiwani during November 16-22, 2021.<br>• Mr. Abhinav (B2018A02BVI) participated in NSS state level camp at GJUS & T, Hisar during November 17-23, 2021.<br>• Mr. Rahul (B2017A35BVI) participated in NSS National Integration Camp at MDU, Rohtak during November 19-25, 2021<br>• Mr. Abhinav (B2018A02BVI) and Ms Nancy (B2018A35BVI) participated in NSS National Integration Camp at CCS HAU, Hisar during December 16-22, 2021.<br>• Mr. Rahul (B2017A35BVI) participated as member of organising committee in National Integration Camp of NSS at CCS HAU, Hisar during December 16-22, 2021. | |
| **2021-22** | **Achievements**<br>▪ Ms. Sangeeta (B2017A45BVI) participated in 200 m race and got 1st position during National Integration NSS Camp held at COA, Bawal during March 21-27, 2022.<br>▪ Ms. Sangeeta (B2017A45BVI) participated in 100 m race (Girls) and got 1st position during National Integration NSS Camp held at COA, Bawal during March 21-27, 2022.<br>▪ Ms. Sangeeta (B2017A45BVI) participated in marathon race and got 2nd position during National Integration NSS Camp held at COA, Bawal during March 21-27, 2022.<br>▪ Ms. Riya Malik (B2021A56BVI) got 2nd (Silver Medal) position in Karate organized by Khelo India University Games 2021 at Bangalore from April 24 to May 03, 2022.<br>▪ Mr. Vijay Kumar (B2017A55BVI) participated in 200 m race and got 3rd position during National Integration NSS Camp held at COA, Bawal during March 21-27, 2022.<br>▪ Ms. Riya Malik (B2021A56BVI) got 3rd (Bronze Medal) position in All India Inter-University Karate tournament organized by Association of Indian Universities at KU, Kurukshetra on March 14-17, 2022.<br><br>**Participation**<br>▪ Mr. Kunal (B2018A29BVI) attended NI camp NSS at KU, Kurukshetra during November 12-18, 2022.<br>▪ Mr. Shiv Kumar (B2017A47BVI), Mr. Dhruv Saharan (B2017A13BVI), Ms. Kiran (B2017A16BVI), Ms. Sangeeta (B2017A45BVI), Ms. Sunaina (B2017A51BVI), Mr. Ravinder (B2017A38BVI), Mr. Manish (B2017A18BVI), Ms. Sakshi (B2017A44BVI), Mr. Aadesh Kaushik (B2017A1BVI), Mr. Vijay Kumar (B2017A55BVI), Mr. Praveen Indal (B2017A33BVI), Ms. Suman (B2017A50BVI), Mr. Naseeb Singh (B2017A23BVI), Mr. Sachin (B2017A42BVI), Ms. Sunita Rani (B2018A59BVI), Ms. Pinki (B2018A40BVI), Ms. Simran (B2018A57BVI), Mr. Ankush Sharma (B2018A11BVI), Mr. Aditya Deswal (B2018A05BVI), MR. Krishan Kumar (B2018A28BVI), Mr. Gautam Yadav (B2018A20BVI), Mr. Alimer (B2018A09BVI), Mr. Utsav Bajal (B2019A55BVI) and Mr. Abhishek (B2019A01BVI) participated in National Integration camp held at CCSHAU COA, Bawal during March 21-27, 2022. | |

| | | |
|---|---|---|
| **2022-23** | **Achievements**<br>▪ Ms. Riya Malik (B2021A56BVI) got 1st position (gold medal) in Karate at All India University Sports Championship organized at Atal Bihari Vajpayee University, Bilaspur (Chhatisgarh) during January 17-22, 2023.<br>▪ Mr. Shiv Kumar (B2018A56BVI) participated in 100 m x 4 relay race team and won Gold Medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU, Hisar during February 24-27, 2023.<br>▪ Mr. Ajay Poonia (B2018A06BVI) and Mr. Sunil (B2019A52BVI) participated in *Kabaddi* and won gold medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU, Hisar during February 24-27, 2023.<br>▪ Mr. Ashish (B2019A11BVI), Mr. Ajay Poonia (B2018A06BVI) and Mr. Surender (B2017A52BVI) participated in basketball and won gold medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU, Hisar during February 24-27, 2023.<br>▪ Mr. Amit (B2019A05BVI), Mr. Himanshu (B2020A19BVI), Mr. Kuldeep (B2020A25BVI), Mr. Vishesh (B2020A61BVI), Mr. Aryan Kundu (B2021A08BVI) and Mr. Aryan Kumar (B20210A10BVI-R) participated in football and won gold medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU, Hisar during February 24-27, 2023.<br>▪ Mr. Kuldeep (B2020A25BVI) participated in 400 m x 4 relay race and won gold medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU, Hisar during February 24-27, 2023.<br>▪ Ms. Asmita (B2021A09BVI) participated in 400m x 4 mix-relay and 400m x 4 relay race and won gold medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU, Hisar during February 24-27, 2023.<br>▪ Ms. Mannu (B2022A28BVI) participated in basketball (W) and won silver medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU, Hisar during February 24-27, 2023.<br>▪ Mr. Deepak (B2016A19BVI-R), Mr. Ronak (B2022A19BVI) and Mr. Shiv Kumar (B2018A56BVI) participated in volleyball team and won silver medal in Inter Agricultural University Sports/ Athletics Meet held at CCS HAU Hisar during February 24-27, 2023.<br>▪ Ms. Nancy (B2018A35BVI) successfully completed Friendship Peak Expedition (Adventure Valley, HP) during September 9-14, 2022.<br>▪ Ms. Nancy (B2018A35BVI) attended the basic water sports camp (Pong Dam, HP) and got best performer award (Girl) during June 9-14, 2022.<br>▪ Ms. Nancy (B2018A35BVI), Mr. Shivam (B2021A61BVI) and Mr. Ajay Yadav (B2018A07BVI) attended Leh Laddakh Expedition (Mt. KY-II) during August 11-21, 2022.<br><br>**Participation**<br>▪ Mr. Manish Kumar (B2018A31BVI) attended National Integration camp of NSS at GDC College, Behal (Bhiwani) during November 23-29, 2022.<br>▪ Mr. Kunal (B2018A29BVI) attended Inter-University Gymnastic (M&W) Championship at PU, Chandigarh during March 10-14, 2023.<br>▪ Ms Sunita Rani (2018A59BVI) attended *Rashtra Katha Shivir* organised by Swami Dharmbhandhu (Establisher of Shri Vedic Mission Trust) at Rajkot, Gujarat during February 11-19, 2023. | |

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|---|---|---|
| | ▪ Mr. Rahul (B2018A43BVI) and Mr. Rajkumar (B2017A36BVI) participated in National Integration Camp held at CCS HAU, Hisar from February 26 to March 04, 2023. | |

## Annual Athletics Meet

College of Agriculture, Bawal organized annual athletics meet during December 6-7, 2022 in which more than 300 students participated and 70 winning students were awarded by the Vice Chancellor during the concluding session.





Annual Athletics Meet-2022 at COA, Bawal during December 6-7, 2022






Prize distribution by the Vice Chancellor, Prof. B.R. Kamboj to the winners of Annual Athletics Meet-2022 at COA, Bawal during December 6-7, 2022







Ms. Riya Malik awarded with Gold and Silver medals in Karate at national level

**Students' Awards/Achievements (Cultural activities like Dramatics, Debate, Art, Painting, Dance, Singing etc.): (**Gold medal, Merit, Fellowship, Participation)

| Academic Year | Awards/Achievements | Remarks |
|---|---|---|
| **2018-19** | **Achievements**<br>▪ Ms. Sakshi (B2017A44BVI) got 1st prize in rangoli held during Chrysanthemum Flower Show, CCS HAU, Hisar during December 23-24, 2018.<br>▪ Ms. Parneel (B2017A30BVI) got 1st prize in poster making on Agricultural Education Day at COA, Bawal on December 12, 2018.<br>▪ Ms. Simran (B2018A57BVI) secured 1st position in extempore speech on Agricultural Education Day at COA, Bawal on December 12, 2018.<br>▪ Ms. Alka (B2017A05BVI) participated in debate competition held on Agricultural Education Day and got 1st prize at COA Bawal on December 12, 2018.<br>▪ Ms. Sakshi (B2017A44BVI) secured 2nd position in poster making on Agricultural Education Day at COA, Bawal on December 12, 2018.<br>▪ Ms. Shiksha (B2017A46BVI) secured 2nd position in slogan writing on Agricultural Education Day at COA, Bawal on December 12, 2018.<br>▪ Ms. Sakshi (B2017A44BVI) secured 2nd position in rangoli making in Inter College Golden Jubilee Youth Conclave at CCS HAU, Hisar during April 24-26, 2019.<br><br>**Participation**<br>▪ Ms. Parneel (B2017A30BVI) participated in 19th All India Inter Agricultural Universities Youth Festival organized held at Sardarkrushinagar, Dantiwada Agricultural University, Gujrat during February 1-8, 2019.<br>▪ Ms. Manju Bala (B2017A20BVI) participated in slogan competition held on Agricultural Education Day at COA, Bawal during December 12, 2018.<br>▪ MS. Parneel (B2017A30BVI) participated in slogan writing on Agricultural Education Day at COA, Bawal on December 12, 2018. | |
| **2020-21** | **Achievements**<br>▪ Ms Ishika (B2017A14BVI) secured 1st position in painting competition held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020.<br>▪ Mr. Yogesh Kumar (B2017A59BVI) secured 2nd position in painting competition held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020.<br>▪ Mr. Shiv Kumar (B2017A47BVI) secured 2nd position in declamation contest held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020.<br>▪ Mr. Dev Sharma (B2018A18BVI) secured 3rd position in declamation contest held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020<br><br>**Participation**<br>▪ Ms. Neha (B2017A27BVI), Ms. Sakhsi (B2017A44BVI), Ms. Pinku (B2019A37BVI), Ms Jaya (B2018A24BVI) and Ms. Archana Rani (B2018A12BVI) participated in painting competition held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020. | |

| | | |
|---|---|---|
| | ▪ Mr. Abhinav (B2018A02BVI) participated in declamation contest held on World Environment Day at CCS HAU, COA, Bawal on June 5, 2020. | |
| **2021-22** | **Achievements**<br>▪ Ms. Nancy (B2018A35BVI) got 1st position in writing skill event organized by Young Journalism Cell of CCS HAU on October 16, 2021.<br>▪ Mr. Somveer (2017A49BVI) got 1st position in video graphing event organized by Young Journalism Cell of CCS HAU on October 16, 2021.<br>▪ Ms. Nancy (B2018A35BVI) participated in *Poshan Pakhwara* – 2022 and secured 1st position in recipe contest on traditional food organised by Zakir Husain Delhi College (Evening), DU, Delhi held during March 21 to April 4, 2022.<br>▪ Ms. Swati Panchal (B2018A62BVI) participated in *Poshan Pakhwara* – 2022 and secured 2nd position in recipe contest on traditional food organised by Zakir Husain Delhi College (Evening), DU, Delhi held during March 21 to April 4, 2022.<br><br>**Participation**<br>▪ Mr. Abhinav (B2018A02BVI) participated in *Poshan Pakhwara* – 2022 organised by Zakir Husain Delhi College (Evening), DU, Delhi held during March 21 to April 4, 2022.<br>▪ Ms. Pinki (B2018A40BVI) participated in *Poshan Pakhwara* – 2022 on Gender Sensitive of Water Management organised by Zakir Husain Delhi College (Evening), DU, Delhi held during March 21 to April 4, 2022.<br>▪ Mr. Utsav Bajal (B2019A55BVI) participated in *Poshan Pakhwara* – 2022 on Water Management organised by Zakir Husain Delhi College (Evening), DU, Delhi held during March 21 to April 4, 2022.<br>▪ Mr. Vicky Yadav (B2018A63BVI) participated in *Poshan Pakhwara* – 2022 on Gender Sensitive of Water Management organised by Zakir Husain Delhi College (Evening), DU, Delhi held during March 21 to April 4, 2022. | |
| **2022-23** | **Achievements**<br>▪ Ms. Swati (B2018A62BVI) and Ms. Smriti (B2018A51BVI) participated in National Integration Camp held at CCS HAU, Hisar and got 2nd position in collage making and 3rd position in slogan writing during February 26 to March 04, 2023.<br><br>**Participation**<br>▪ Ms. Swati (B2018A62BVI) and Mr. Dev Sharma (B2018A18BVI) participated in National debate competition held at Pantnagar during January 15-16, 2023 | |

**6.5.1.3. CC/Board of Studies:** *Whether the CC in the Department level and Board of Studies at the College is in place? The composition of the BoS and date of conduct of meetings for last five years and major recommendations made by the BoS should be given in tabular form.*

Yes, in every department at main campus.

DAC for COA, Bawal is also constituted for taking care of the matters related to COA, Bawal.

**Composition of DAC**

- **Chairperson:** Dr. Naresh Kaushik, Principal
- **Secretary:** Dr. Mukesh Kumar, AssistantProfessor (Hort)
- **Members:** Dr. R.P.S. Deswal, Principal Scientist (Forestry)
  Dr. Naresh Yadav, Assistant Scientist (Pl. Patho)
  Dr. Jitender Yadav, Assistant Scientist (Agron)
  Dr. S.R. Verma, Assistant Professor (Ext. Edu.)
  Dr. Ashok Kumar, Assistant Scientist (GPB)
  Dr. Rameshwar Singh, Assistant Scientist (Soil Science)

**The composition of the BoS (College Level):** The Board of Studies, College of Agriculture, CCSHAU, Hisar also take care for all the academic matters of College of Agriculture, Bawal.

**6.5.1.4 Anti-Ragging Cell:** *In pursuance to the Judgment of the Hon'ble Supreme Court of India dated 08.05.2009 in Civil Appeal No. 887/2009, the University Grants Commission has framed "UGC Regulations on curbing the menace of ragging in higher educational institutions, 2009" which have been notified on 4th July, 2009 in the Gazette of India. Does the College follow this regulation and subsequent guidelines issued in the matter in letter and spirit? Give details*

Yes, the college follows the regulation and subsequent guidelines issued in the matter. There are Anti-Ragging committees as detailed below:

## A. Composition of committee

### a) District level committee

| | |
|---|---|
| 1) Principal | Dr. Naresh Kaushik |
| 2) SSP, Rewari/Representative | Sh. Rajesh Chechi, DSP |
| 3) SHO, Bawal | Sh. Madan Lal |
| 4) Municipal Counsellor, Bawal | Sh. Amar Singh |

### b) College level committee

| | |
|---|---|
| 1) Principal | Dr. Naresh Kaushik |
| 2) Associate Director Students' Welfare | Dr. Mukesh Kumar |
| 3) Hostel Wardens | Dr. N.K. Yadav/ Dr. Rameshwar Singh and Dr. Veena Jain / Dr. Sunita Sheoran |
| 4) Security incharge of the college | Dr. Mukesh Jat/ Dr. Dhram Prakash |
| 5) Three senior faculty members | Dr. Bikram Singh, Dr. R.P.S. Deswal and Dr. J.S. Yadav |
| 6) One male student and one female student | Mr. Ravi and Ms. Kiran |

### c) Anti Ragging squad of the college

1) Security Incharge
2) Hostel Wardens
3) Security Officials

## B. Activities of the Committee

The college has constituted different committees to prohibit the ragging in the college campus including RRS/ KVK, residential area, hostels, play grounds and canteen. All freshers are made aware about ragging and its ill effects through interactive sessions in the college and hostels. During late

hours, the wardens and faculty members are deputed in the hostels to avoid any incidence of ragging specially during the first month of the new session.

The different committees visit regularly at the vulnerable places of the campus and also interact with the senior students regarding disadvantages of the ragging. At the entries of academic block of college and hostels, the posters/ banners with messages depicting “Ragging Free Campus”, “No Ragging”, “Ragging is punishable act” etc. are displayed.

The committees have their role in monitoring incidence of ragging, enquiring into and reporting the matter to the competent authority in maintaining a safe and healthy environment of the campus. The committee also works out modalities of functioning, frequency of visits, meetings, etc., to ensure that they are efficient in their role. The orientation programme for fresher's is an excellent initiative that helps them to understand the college's culture, policies, and expectations. It also provides them with information on how to seek help if they face any issues including ragging.

Overall, it is ensured to create a zero-tolerance policy towards ragging and take strict action against offenders. The committees and orientation programmes areenable to achieve this goal and creating a safe and inclusive environment for all students.

Due to these measures, no case of ragging has been reported in the College of Agriculture, Bawal (Rewari) till date.

**6.5.1.5. Biological Waste Disposal Facility:** *Whether wastes (chemical, biological, radioactive, universal, and recyclable) are generated by a variety of research, clinical, service, maintenance, and cleaning operations at the College level? If yes, then mention the disposal mechanism being adopted as per the government guidelines.*

Research/ work has not been planned/conducted on biological waste, therefore, no biological waste disposal facility is available. In future, if any such research work will be planned, then the University committees at main campus will takecare of this.

**6.5.1.6. Institutional Ethics Committee for Experiment on Animals:** *Whether the institute/College is following CPCSEA guidelines and constituted an Institutional Animal Ethics Committee (IAEC), get their animals house facilities inspected and get their project cleared by CPCSEA and IAEC before commencing them? If Yes, the college should make statement that it is adhering all guidelines in the matter.*

The experiment on animals and humans are not conducted, however, if required the case may sent to Institutional Ethics Committee constituted at CCS HAU, Hisar.

**6.5.1.7. Committee for Prevention of Sexual Harassment of Women at Work Places:** *Does the institution is adhering the sexual harassment of women at workplace (Prevention, Prohibition and Redressal Act, 2013) in letter and spirit. If yes, mention the constitution of sexual harassment committees and date of proceedings conducted in last five years in tabular form:*

Yes, the local committee for Sexual Harassment exist at Bawal campus for immediate redressal of such incidence and the committee constituted at university level also exist. The Internal Complaints Committee under the Sexual Harassment of Women at Work Place Act 2013 works at university level. No such complaints have been received till date.

### 6.5.2 Faculty

**6.5.2.1. Faculty Strength:** *Mention the Faculty position (both in sanctioned and in-position) at the College.*

| Designation | Sanctioned | In position | Vacant | As per ICAR Norms |
|---|---|---|---|---|
| Principal | 01 | 01 | 00 | 01 |
| Professor and equivalent | 03 | 00 | 03 | 03 |
| Assoc. Professor and equivalent | 08 | 01 | 07 | 08 |
| Asstt. Professor and equivalent | 36 | 04+06* | 32 | 34 |
| Total | 48 | 12 | 42 | 46 |

*outsourced up to 05.06.2023

***Note :*** In addition to above 26 new faculty joined during the academic session 2022-23.

Faculty in place under Professor and Associate Professor include Personal Promotion (PP). All the faculty of this programme is assigned the responsibilities for the multiple programme.

**Note 1:** In addition to the above-mentioned faculties, the faculties from Regional Research Station and KVK, Bawal have also been assigned the duties of teaching at COA, Bawal by the Vice Chancellor vide Registrar office Endst. No. Admn. F. 3/2018/34268-95 dated 18.10.2018.

**Note 2:** Twenty-six new faculty joined the College during the session 2022-23.

**6.5.2.2. Faculty Profile (Department Wise):** *Mention department wise faculty profile in tabular form and mention whether present profile is sufficient to meet the academic requirement of the College*

| Name of the faculty | Designation | Department/ Specialization | Honours/awards | No. of Publications (Books, Chapters, Papers, Manuals, Reports etc.) (No. only) |
|---|---|---|---|---|
| **Dr. Naresh Kaushik** | Professor | Forestry | 01 | Research paper (75), Book (04), Book chapter (07), Conference/ Seminar attended (15), Manual (01), Souvenir (01), Popular article (26), Training organized (05), Annual report (05), Bulletin/ Booklet/Folder/Leaflet (03) |
| **Dr. Devender Chahal** | Associate Professor | Horticulture | - | Research paper (20), Book chapter/ Bulletin (06), Manual (04), Workshop/ Seminar/ Training attended (27), Popular article (06), Abstract (09), Report (24), Training organized (16), Pamphlet (14), Leaflet (13), Folder (03), Radio talk (08) |
| **Dr. Mukesh Kumar** | Assistant Professor | Horticulture | 02 | Research paper (49), Book chapter (05), Conference attended (16), Abstract (20), Article (40), Bulletin/ Booklet/ Folder/ Leaflet (05), Radio talk (02), Recommendation (03), Annual report (10), Patent (01), Gold Medal (02) |

| | | | | |
|---|---|---|---|---|
| **Dr. Remeshwar Singh** | Assistant Professor | Soil Science | 02 | Research paper (45), Abstract (10), Workshop/ Seminar/ Training attended (13), Annual report (15), Popular article (17) Chapter (03), Young scientist award/ Best oral presentation (01) |
| **Dr. Prashant Chauhan** | Assistant Professor | Plant Pathology | - | Research paper (07), Abstract (23), Conference attended (10), Booklet/ Pamphlet (01), Chapter (02), Popular Article (05), Training (03), Best oral presentation award (01), Training/ Workshop/ Conference organized (02) |
| **Dr. Sunita Sheoran** | Assistant Professor | Soil Science | 07 | Research paper (14), Book (01), Book chapter (01), Conference/ Workshop attended (10), Abstract (27), Popular article (22), Gold medal (03), Best thesis award (01), Best oral presentation award (01), Best all-round student B.Sc. (Hons.) Ag. (01), 1st position in M.Sc. Agri. Programme (01), Training attended (07) |
| **Dr. Dharam Bir Yadav** | Principal Scientist | Agronomy | 06 | Research paper (38), Book (01), Book chapter (03), Conference paper (26), Training/ Workshop/ Conference attended (15), Popular article (60), Annual report (12), Bulletin/ Booklet/ Folder/ Leaflet (02) |
| **Dr. Bikram Singh** | Principal Scientist | Agronomy | 01 | Research paper (54), Book chapter (01), Conference/ Seminar/ Training attended (38), Popular article (21), Radio talk (2), Booklet/ Pamphlet/ Leaflet (17), Report (30), Manual (01) |
| **Dr. R.P.S. Deswal** | Principal Scientist | Forestry | - | Research paper (31), Workshop/ Seminar/ Training attended (32), Popular article (23), Annual report (02) |
| **Dr. Satyajeet** | Assistant Scientist | Agronomy | 02 | Research Paper (17), Book chapter (3), Conference (13), Training/ Refresher course (16), Booklet/ Pamphlet (24), Report (11), Radio Talk (16), Popular article (72) |
| **Dr. Balbir Singh** | District Extension Specialist | Entomology | - | Research paper (30), Book chapter (03), Conference (03), Pamphlet (08), Teaching |

| | | | | |
|---|---|---|---|---|
| | | | | Manual (03), Popular article (75), Report (12), Booklet/ bulletin (17), Training attended (05), Training organized (30) |
| **Dr. Amarjeet** | Assistant Scientist | Agronomy | - | Research Paper (21), Conference (05), Booklet (01), Pamphlet (05), popular article (22), Report (12) |
| **Dr. Parmod Kumar** | Assistant Scientist | Soil Science | 01 | Research paper (30), Book chapter (05), Workshop/ Seminar/ Training attended (20), Abstract (31), Recommendation (9), Radio talk (02), Leaflet (12), Popular article (96) |
| **Dr. N.K. Yadav** | Assistant Scientist | Plant Pathology | - | Research paper (35), Book chapter (02), Workshop/ Seminar/ Training attended (29), Report (01), Booklet/ Folder (09), Popular article (79) |
| **Dr. Jitender Kumar** | Assistant Scientist | Agronomy | - | Research Paper (15), Teaching manual (02), Conference (05), Booklet (03), Pamphlet (08), popular article (08), Report (08) |
| **Dr. Manoj Kumar** | Assistant Plant Pathologist | Plant Pathology | - | Research paper (14), Book chapter (01), training/ workshop attended (12), popular article (06), Report (05) |
| **Dr. Mukesh Kumar Jat** | Assistant Scientist | Soil Science | 02 | Research paper (35), Conference/ Seminar (10), Book (02), Book chapter (06), Manual (03), Popular article (35), Abstract (39), Booklets/ Leaflet (10), Recommendation (10) |
| **Dr. Narender Singh** | DES | Plant Pathology | - | Research paper (15), Conference (03), Booklet (03), Pamphlet (08), teaching Manual (02), Popular article (06), Report (06) |
| **Dr. Dhram Prakash** | Assistant Scientist | Soil Science | 02 | Research papers (13), Conferences/ Seminars (5), Booklet and leaflet (10), popular Articles (15), abstracts (16), radio talk (02), report (01),conference/workshop attended (11), training organized (01) |
| **Dr. Ashok Kumar Dehinwal** | Assistant Scientist | Genetics and Plant Breeding | 01 | Paper (24), Abstract (15), Variety/Hybrid developed (03), Workshop/ Conference/ |

| | | | | |
|---|---|---|---|---|
| | | | | Seminar (17), Popular article (04) Booklet/ Pamphlet/ Leaflet (02), Report (10) |
| **Dr. Atman Poonia** | Assistant Scientist | Genetics and Plant Breeding | 03 | Research paper (16), Conference abstract (12), Chapter (08), Training/ Training/ Workshop/ Conference attended (12), Popular article (11) |
| **Dr. Ankit Kumar** | Assistant Scientist | Genetics and Plant Breeding | 03 | Research paper (11), Book chapter (04), Review paper (01), Abstract (08), Popular article (09), Gold medal (01), Training attended (02), Conference/ Workshop attended (06) |
| **Ms. Mehak Nagora** | Assistant Scientist | Agronomy | 02 | Research paper (10), Book chapter (07), Conference/ Workshop attended (09), Abstract (11), Popular article (14), Poster presentation award (01), NFSC Followership award (01), Training attended (04) |
| **Mr. Vikas Gill** | Assistant Scientist | Vegetable Science | - | Research paper (07), Book chapter (06), Conference/ Workshop attended (08), Abstract (12), Popular article (12), Training attended (02) |

**6.5.2.3. Credential of the Faculty:** *Whether the institution has employed competent faculty members qualified to accomplish the mission and goals of the institution? Give the highest qualification received by each faculty, related work experiences in the field, professional licensure and certifications, honours and awards, continuous documented excellence in teaching, or other demonstrated competencies and achievements that contribute to effective teaching and student learning outcomes.*

| Name of the faculty | Designation | Highest qualification | Total work Experience in Years | Professional licensure and certifications | Honours/ awards | Any Other Achievements that contributes to effective teaching and students learning and outcomes. (Trainings/ workshop/ conference etc. attended+ organized) |
|---|---|---|---|---|---|---|
| **Dr. Naresh Kaushik** | Principal-cum-Principal Scientist (Forestry) | Ph.D. | 26 Years | - | 01 | Trainings/ workshop/ conference attended 15 Trainings/ workshop/ conference organized 05 |
| **Dr Devender Chahal** | Associate Professor (Horticulture) | Ph.D. | 26 Years 9 months | - | - | Trainings/ workshop/ conference attended 27 Trainings/ workshop/ conference organized 16 |
| **Dr. Mukesh Kumar** | Assistant Professor (Horticulture) | Ph.D. | 11 Years | 01 | 02 | Trainings/ workshop/ conference attended 16 Trainings/ workshop/ |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | conference organized04 |
| **Dr. Rameshwar Singh** | Assistant Professor (Soil Science) | Ph.D. | 5 Years 4 months | - | 02 | Trainings/ workshop/ conference attended 13 |
| **Dr. Prashant Chauhan** | Assistant Professor (Plant Pathology) | Ph.D. | 4 Years 8 months | - | 02 | Trainings/ workshop/ conference attended03 Trainings/ workshop/ conference organized 02 |
| **Dr. Sunita Sheoran** | Assistant Professor (Soil Science) | Ph.D. | 3 Years 6 months | - | 07 | Trainings/ workshop/ conference attended 17 |
| **Dr Dharam Bir Yadav** | Principal Scientist (Agronomy) & Regional Director | Ph.D. | 29 Years | - | 15 | Trainings/ workshop/ conference attended 66 Trainings/ workshop/ conference organized 04 |
| **Dr Bikram Singh** | Principal Scientist (Agronomy) | Ph.D. | 31 Years | - | 01 | Trainings/ workshop/ conference attended 38 |
| **Dr Raj Pal Singh Deswal** | Principal Scientist (Forestry) | Ph.D. | 31 Years | - | - | Trainings/ workshop/ conference attended 32 |
| **Dr. Satyajeet** | Assistant Scientist (Agronomy) | Ph.D. | 13 Years | - | 02 | Trainings/ workshop/ conference attended 29 Trainings/ workshop/ conference organized 18 |
| **Dr Balbir Singh** | DES, Entomology | Ph.D. | 13 Years | - | - | Trainings/ workshop/ conference attended05 Trainings/ workshop/ conference organized 30 |
| **Dr Amarjeet** | Assistant Scientist (Agronomy) | Ph.D. | 13 Years | - | - | Trainings/ workshop/ conference attended 08 Trainings/ workshop/ conference organized12 |
| **Dr. Parmod Kumar** | Assistant Scientist (Soil Science) | Ph.D. | 12 Years 3 months | - | 01 | Trainings/ workshop/ conference attended 20 Radio talk delivered 02 |
| **Dr. N.K. Yadav** | Asstt. Scientist (Plant Pathology) | Ph.D. | 30 Years | - | - | Trainings/ workshop/ conference attended 29 |
| **Dr. Jitender Kumar** | Assistant Scientist, Agronomy | Ph.D. | 11 Years | - | - | Trainings/ workshop/ conference attended 12 |
| **Dr. Mukesh Kumar Jat** | Assistant Scientist (Soil Science) | Ph.D. | 8 Years 8 months | - | 02 | Trainings/ workshop/ conference attended 10 Trainings/ workshop/ conference organized 10 |
| **Dr. Narender Singh** | DES (Plant Pathology) | Ph.D. | 5 Years 5 months | - | - | Trainings/ workshop/ conference attended 03 |
| **Dr. Dhram Prakash** | Assistant Scientist (Soil Science) | Ph.D. | 5 years 5 months | - | 02 | Trainings/ workshop/ conference attended 11 Trainings/ workshop/ conference organized 01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Dr. Ashok Kumar Dehinwal** | Assistant Scientist (PB) | Ph.D. | 5 Years | - | 01 | Trainings/ workshop/ conference attended 17 Trainings/ workshop/ conference organized 01 |
| **Dr. Manoj Kumar** | Assistant Plant Pathologist | Ph.D. | 4Years 9 months | - | 01 | Trainings/ workshop/ conference attended 12 Trainings/ workshop/ conference organized01 |
| **Dr. Atman Poonia** | Assistant Scientist (G&PB) | Ph.D. | 1 Year | - | 03 | Trainings/ workshop/ conference attended 12 |
| **Dr. Ankit Kumar** | Assistant Scientist (G&PB) | Ph.D. | 5 months | - | 03 | Trainings/ workshop/ conference attended 08 |
| **Ms. Mehak Nagora** | Assistant Scientist (Agronomy) | M.Sc. | 4 months | - | 02 | Trainings/ workshop/ conference attended 13 |
| **Mr. Vikas Gill** | Assistant Scientist (Veg. Sc.) | M.Sc. | 5 months | - | - | Trainings/ workshop/ conference attended 08 |

**Note 1 :** In addition to above six faculty members transferred were also posted/associated during the period of accreditation.

**Note 2 :** List of faculty publications is given in Annexure-I

**List of retired faculties (2018-2023)**

| Sr. No. | Name of the teacher | Retired on |
|---|---|---|
| 1. | Dr. Ashok Yadav, Principal, COA, Bawal | 30.04.2018 |
| 2. | Dr. Satyavir Singh Yadav, Principal, COA Bawal | 31.10.2018 |
| 3. | Dr. Naresh Verma, Principal Scientist (G&PB) | 31.03.2019 |
| 4. | Dr. (Mrs.) AbhaTikkoo, Senior Scientist (Soil Science) | 31.08.2019 |
| 5. | Dr. Yash Pal Yadav, Principal Scientist (G&PB) | 30.11.2019 |
| 6. | Dr. Veena Jain, Coordinator KVK, Bawal-cum-Hostel Warden | 31.01.2020 |
| 7. | Dr. Satyapal Yadav, Assistant Scientist (Entomology) | 02.05.2020 |
| 8. | Dr. Shashi Vashishth, Principal Scientist (Home Science) | 31.07.2021 |
| 9. | Dr. J.S. Yadav, Principal Scientist (Agronomy) and ADSW | 31.10.2021 |

**6.5.2.4. Technical and Supporting Staff:** *Whether the College has appointed (in place) sufficient technical/laboratory/farm staff to cater the need of practical and field experiments. Mention department wise distribution of technical, supporting and field staff in the tabular form*

| Name of the post | Sanctioned | In position | Vacant |
|---|---|---|---|
| Administrative cum Accounts Officer | 01 | 01 | 00 |
| Personal Assistant | 01 | 01 | 00 |
| Assistant | 03 | 02+01* | 00 |

| | | | |
|---|---|---|---|
| Jeep/Car Driver | 01 | 00 | 01 |
| Computer Operator | 01 | 00 | 01 |
| Store Keeper | 01 | 01 | 00 |
| Steno Typist | 02 | 01 | 01 |
| Assistant (one for each Deptt.: Agronomy, Agricultural Economics, G & PB, Horticulture, Soil Science and Plant Pathology) | 06 | 00 | 06 |
| Clerk (One for each Deptt.: Extension Education, Entomology, Agricultural Engineering, Biochemistry, Animal Science including Fisheries) | 05 | 00 | 05 |
| Tractor Driver | 01 | 00 | 01 |
| Lab Assistant | 11 | 02* | 05 |
| Library Assistant | 01 | 01 | 00 |
| Library Attendant | - | 01+01* | 00 |
| MBBS Doctor | - | 01* | 00 |
| Nursing Staff/ Pharmacist | - | 01* | 00 |
| Security Supervisor and Guard | - | 30** | 00 |
| Pump Operator | - | 01* | 00 |
| Mali/ Beldar (Landscaping) | - | 03* | 00 |
| Hostel Attendant | - | 03* | 00 |
| Peon cum messenger | - | 01* | 00 |
| Sweeper | - | 07* | 00 |
| Total | **34** | **59** | **20** |

* Contractual/ outsourced ** Contractual/ outsourced for whole Bawal campus

### 6.5.3. Learning Resources

**6.5.3.1 College Library (digital):** *Location of the library, Present staff position (in place), Availability of the following in library, Wi-Fi, No. of books and other reading materials, No. of periodicals and research journals, No. of internet points with number of computers, Seating capacity in library, Employing the latest technology in library sciences, Stocking arrangements of books, Collection of volumes on different subjects, Latest publications in the fields of relevant subjects, Automation and user services through computer, Opening hours, Subscription of journals of national and international repute, national dailies, magazines etc.*

All the computers at College of Agriculture, Bawal are connected with CeRa, IndiaStat and other online facility through Nehru Library, CCSHAU, Hisar. The Gateway is connected with internet facility. There are about 5500 books and journals in the library.

| **Location of the library** | **COA, Bawal** | **Remarks** |
|---|---|---|
| **Present staff position (in place)** | 1+2 | In-charge (Faculty member) + library assistant and library attendant |
| **Facilities available in library** | | |
| **a) Wi-Fi** | Yes | Whole campus |
| **b) No. of books and other reading materials** | Sufficient | 5500 |
| **c) No. of periodicals and research journals** | Yes | 25 |
| **d) No. of internet points with number of computers** | Four | 30 |

| | | |
|---|---|---|
| **e) Seating capacity in library** | Sufficient | 200 students |
| **f) Employing the latest technology in library sciences** | Yes | Gateway of lease line connection is licensed for online study material search |
| **g) Stocking arrangements of books** | Proper | Book racks/ Almirah |
| **h) Collection of volumes on different subjects** | Sufficient | Book racks/ Almirah |
| **i) Latest publications in the fields of relevant subjects** | Yes | Published by respective faculties |
| **j) Automation and user services through computer** | Sufficient | Computer lab and desktop provided to faculty members and office supporting staff |
| **k) Opening hours** | 9:00 AM to 4.30 PM & 9:00 AM to 10.30 PM (during examinations) | Summer timings 7:00 AM to 2:00 PM & 7:00 AM to 10.30 PM (during examinations) |
| **l) Subscription of journals of national and international repute, national dailies, magazines etc. (mention number)** | 30 | Online as well as offline |
| **m) Online access to various sources of *e*-knowledge platforms such as *Krishi Prabha*, CeRa, video conferencing, IndiaStat and multimedia** | Yes | Lease line gateway is licensed through Nehru Library, CCS HAU, Hisar |
| **n) Night reading hall** | Yes | 50 seating capacity |
| **o) Emergency power supply backup** | Yes | Uninterrupted power supply through automatic generators |



Newly constructed library at COA, Bawal



New reading hall in library



Book exhibition in library at COA, Bawal



Library reading hall at COA, Bawal

**6.5.3.2. Laboratories, Instructional farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc.:** *Clearly mention about laboratories, instructional farm, workshop, dairy plant, veterinary clinic, hatchery, ponds etc facilities available in the college with its numbers, space, speciality to conduct practical/ hands on training.*

The laboratories of different subjects/ disciplines are equipped with all instruments and facilities for practical. Instructional farm, workshop (agricultural engineering), meteorological observatory, seed production farm, seed processing unit and one livestock farm with 50 cattle for practical exposure to the students are also available.



Learning through practical in lab at COA, Bawal



Computer lab at COA, Bawal



Practical exposure of students to natural farming at COA, Bawal

## Specific information about Labs

All the laboratories are equipped with basic and advanced instruments facility

Information pertaining to laboratory facilities in various discipline of College of Agriculture, Bawal (Rewari) is given in the following table:

| Details | Number | Dimensions (ft) | Remarks |
|---|---|---|---|
| **Total Area** | 82 acres (total area at station is 248 acres) | - | • College building has three floors with offices and laboratories<br>• Playground and hostels (8 acres)<br>• Students' farm (12 acres) |
| **College Building** | Administrative block and all offices | - | Academic block with ramps, lift facility, lawn (3 acres) and sufficient parking space |
| **Meteorological Observatory** | 01 | 2000 $m^2$ | All meteorological instruments |
| **Workshop Agril. Engineering** | 01 | 1000 $m^2$ | Tractor and agricultural implements |
| **Seed Production Farm** | 01 | 30 acres | Seed of various field crops is produced |
| **Seed Processing Unit** | 01 | 500 $m^2$ | For processing and packaging of seeds produced at seed production farm |
| **Dairy Farm** | 01 | 12 acres | Fifty cattle with shed, drinking water and pasture land |
| **Laboratories** | **Agril. Economics** | 36 x 24 | All basic learning displays are exhibited for UG students |
| | **Agronomy** | 36 x 24 | Electronic balance, conductivity meter, hot air oven, pressure plate apparatus, tensiometer, plant canopy analyser |
| | **Botany** | 32 x 24 | Microscope (simple and compound), samples and display included all basic aids for teaching of UG students |

| | | | |
|---|---|---|---|
| | **Chemistry** | 32 x 24 | Glassware, required chemicals, electronic balance, distillation apparatus, calorimeter, galvanic cell, leclenche cell, pH scale, required charts and model |
| | **English/ Computer** | 36 x 30 | Thirty computers having language lab software with active internet connection. In addition, necessary aids are also being used for teaching of UG students |
| | **Entomology** | 36 x 24 | Microscope, light trap, insect rearing cage, bee hive, insect collection box |
| | **Extension Education** | 36 x 30 | Projection of different media, multimedia recording, mixing and broadcasting, image capturing, video recording, audio visual effect creation, development of digital e-content, Computer, LCD projector, digital camera, handicam, audio mixture, digital sound recorder, tripod, portable PA systems and multimedia speakers etc. |
| | **Forestry** | 36 x 24 | Have all basic aids, instruments and displayed information for UG students |
| | **Genetics & Plant Breeding** | 36 x 30 | Seed germinator, autoclave, electronic balance, microscope |
| | **Horticulture** | 36 x 24 | Tray dryer, deep fridge, refrigerator, electronic balance, refractometer, cork cap sealer and all post-harvest/ processing facilities |
| | **Mathematics** | 36 x 24 | Seating capacity for 40 students |
| | **Microbiology** | 36 x 24 | Laminar flow, autoclave, microscopes, oven, BOD, refrigerator, digital balance, gas connection, desiccators, vortex shaker, magnetic stirrer, etc. All glassware and required chemicals are available in the lab |
| | **Music** | 36 x 24 | Included various types of musical instruments |
| | **Physics** | 32 x 24 | Included all basic machines/instruments |
| | **Plant Pathology** | 36 x 24 | Laminar flow, autoclave, microscopes, oven, BOD, refrigerator, digital balance, gas connection, desiccators, vortex shaker, magnetic stirrer, glassware and required chemicals. |
| | **Seed Science and Technology** | 36 x 24 | Incubator, electronic balance, seed germinator, seed display unit etc. |
| | **Soil Science** | 36 x 24 | pH meter, conductivity meter, electronic balance, hot oven, spectro photometer, flame photometer, hot plate, magnetic stirrer, electronic shaker, nitrogen analyzer, GPS, sample rotar, kjeldahl assembly with digestion system, water bath, soxhlet apparatus, water distillation unit, furnace, grinder, homogenizer etc. |
| | **Zoology** | 24 x 24 | Simple microscope, compound microscope, skelton, models, balance and slides. |

### 6.5.3.3. Student READY/ In-Plant Training/ Internship/ Experiential Learning Programmes:

*Clearly mention about the implementation of Student READY/ In-plant training/ Internship/ Experiential Learning programmes and learning outcomes as per the guidelines of ICAR. Profit sharing mechanism (amount) shall be mentioned for each ELP unit sanctioned by the ICAR for the college.*

**Student READY (Rural Entrepreneurship Awareness Development Yojna)**

The final year students of degree programme are given practical exposure of living in villages for interaction with farmers. During this stay period students select host farmer, study cost of cultivation, guide farmers and exchange the practical experiences with farmers. Students also conduct training on the emerging topic for awareness among farmers. The students are being monitored by concerned KVK, RRS or college and at the university level.



Students' exposure to Hi-Tech Agriculture Unit

**In-plant training**

The interns are attached with different agro-industries for 5 weeks training on working of agro based industries such as post-harvest technology, agro-processing, quality control, current problems of agro based industries, self-employment training (SET) for 2 weeks: crop production, seed production and testing, soil and water testing, fruit and vegetable production technology and nursery management, commercial beekeeping, repair and maintenance of plant protection equipment, mushroom production technology, plant clinic, operation, repair and service of farm machinery, dairy and poultry farming, farm forestry and agricultural meteorology etc.



Students learning through industrial experience during In-plant Training

## Internship Programme (Rural Agriculture Work Experience)

This programme focuses on strengthening capacity of individual student so that they can respond to the farmers' need and promote issues related to such needs in their service career. It includes: orientation and basic training (1 week) – introduction, objectives, and activities; rural experience through village placement (9 weeks): group dynamics in coordination and cooperation among interns and farmers crop production technology training including watershed management, high-tech agriculture, natural resource management in different cropping systems and agro-climatic zones of the state; techno-economic survey, documentation of information through survey and discussion with farmers, preparation of farm plans and family budget, information on bank loans for agro-projects, implications of WTO, extension education programmes: study of programmes and activities of various agricultural developments, extension agencies and institutes; interactions with the farmers and communication skills for effective extension methods.

This year, the university in collaboration with CIMMYT and IRRI has initiated a monitoring, evaluation and learning system by generating database on how technologies are being adopted by farmers through open data kit (ODK). The capacity building of students also includes the development of an instrument like Landscape Diagnostic Surveys (LDS) which holds the promise of making the research and extension management more evidence based, accountable and transformative.



Students – Farmers interaction on various agricultural issues

## Preparation of report

During the last 2 weeks of RAWE programme, students learn to prepare report on rural experience, agro-industrial training attained, self-employment training received, programmes and activities of various institutions visited, major constraints in crop production and suggestions for improving income of farmers; presentation. The interns are evaluated through presentation and submission of report, viva- voce, punctuality, enthusiasm, conduct, leadership qualities, sincerity and devotion displayed by the interns.



On farm knowledge and mutual learning at farmers field



Hands on learning and farmers' meeting during RAWE

**Experiential Learning Programme: "Processing of fruit and vegetables for value addition"**

Pre-final year students are allowed to opt ELP based on their interest. The ELP unit was started during 2021-22. In this ELP unit, 22 students were trained for preparation of different products. Initially only two products *viz.*bael squash, bael RTS were prepared. Now, students are preparing aonla candy and murabba. These products are being sold locally. Some more products are to be prepared in the ensuing season on the basis of availability of fruit and rates of material. The rate for sale of the products are decided at university level.



Prof. B.R. Kamboj and other delegates discussing with ELP students
about preparation of different products and their economics on May 16, 2022



Preparation of various products under ELP (May 20, 2022)

**Modules for Skill Development and Entrepreneurship**

The final year students of degree programme are given hands on training in various skill-oriented modules. During the training, students "learn by doing" various aspects of techniques and their management strategies.

Students have to register 20 credits opting for two modules of 10 credits each from the nine modules in last semester of degree programme. The modules include Agro Advisory Services, Organic Production Technology, Bee Keeping, Mushroom Cultivation, Seed Production and Technology, Soil, Plant, Water and Fertilizer Testing Services, Commercial Vegetable Production, Bio-agents and Biofertilizers Production and Food Processing.

Students learn entrepreneurship skills in the field of agriculture through practical learning under various skill-oriented modules. The students are exposed to deep practical learning by involving themselves to agri entrepreneurship environment through exposure visits and personal learning.





Students' practical exposure under the Module
(Commercial Vegetable Production) during 2022-23

**6.5.3.4. Curricula Delivery Through IT (Smart Class Rooms/ Interactive Board etc.):** *Whether the college is using smart class room/ interactive board etc. for teaching and practicals. Number of classrooms upgraded as smart classrooms should be mentioned.*

The power point (PPT) presentation is used to teach the courses by the respective teacher. Additionally, during COVID-19 pandemic period online classes were taken using Microsoft team, Google meet and Zoom meeting. Doubt clearing sessions were also conducted through WhatsApp/ video call/ voice calls etc.

| Curricula's | | |
|---|---|---|
| **Smart class rooms for teaching and practical** | **Interactive board for teaching and practical** | **Class rooms upgraded as smart class rooms** |
| Yes (06) | Yes (06) | 06 |

**The course curriculum as per recommendation of 5th Dean's committee semester wise courses are given below:**

| Course No. | Course Title | Credits |
|---|---|---|
| **Semester I/V** | | |
| **AGM 101** | Introductory Agro-meteorology and Climate Change | 3 (2+1) |
| **AGRON 101** | Fundamentals of Agronomy | 4 (3+1) |
| **AGRON 103** | Agriculture Heritage | 1 (1+0) |
| **BIOCHEM 101/MBB 101** | Fundamentals of Plant Biochemistry and Biotechnology (To be taught jointly by Chemistry and Biochemistry and Molecular Biology, Biotechnology and Bioinformatics) | 3 (2+1) |
| **BOT 101/ZOO 101** | Introductory Biology (to be taught jointly by Botany and Zoology: For students from Math stream) | 2(1+1)* |
| **ENG 101** | Comprehension and Communication Skills in English | 2 (1+1) |
| **FOR 101** | Introduction to Forestry | 3 (2+1) |
| **MATH 101** | Elementary Mathematics (For students from Bio stream) | 2 (1+1)* |
| **SOC 101** | Rural Sociology and Educational Psychology | 2 (2+0) |
| **SOILS 101** | Fundamentals of Soil Science | 3 (2+1) |
| **TUT 101** | Tutorial (Human Values and Ethics) | 1 (1+0) NC |
| **NCC/NSS** | National Cadet Crops/National Service Scheme | 2 (0+2) |
| **CCA** | Co-curricular Activity | 1 (0+1) |
| **Total Credits** | | **27 (17+10)** |
| ***Students will take either MATH 101 or BOT 101/ZOO 101 as per requirement** | | |
| **Semester II/VI** | | |
| **AG ECON 102** | Fundamentals of Agricultural Economics | 2 (2+0) |
| **ENT 102** | Fundamentals of Entomology | 4 (3+1) |
| **EXT 102** | Fundamentals of Agricultural Extension Education | 3 (2+1) |
| **GP 102** | Fundamentals of Genetics | 3 (2+1) |
| **MICRO 102** | Agricultural Microbiology | 2 (1+1) |
| **PL PHY 102** | Fundamentals of Crop Physiology | 2 (1+1) |
| **PL PATH 102** | Fundamentals of Plant Pathology | 4 (3+1) |
| **STAT 102** | Statistical Methods | 2 (1+1) |
| **SWE 102** | Introductory Soil and Water Conservation Engineering | 2 (1+1) |
| **TUT** | Tutorial | 1 (1+0) NC |
| **CCA** | Co-curricular Activity | 1 (0+1) |
| **Total Credits** | | **26 (17+9)** |
| **Semester III/VII** | | |
| **AG ECON 201** | Agricultural Finance and Cooperation | 3 (2+1) |
| **AGRON 201** | Crop Production Technology – I (*Kharif* Crops) | 3 (2+1) |
| **FMPE 202** | Farm Machinery and Power | 2 (1+1) |
| **FOR 201/AGM 201/SOILS/201 AG ECON 203/ CHEM 201** | Environmental Studies and Disaster Management (To be taught jointly by Forestry, Agricultural Meteorology, Soil Science, Agricultural Economics and Chemistry) | 3 (3+0) |
| **GP 201** | Fundamentals of Plant Breeding | 3 (2+1) |
| **HORT 201** | Fundamentals of Horticulture | 2 (1+1) |
| **LPM 201** | Livestock and Poultry Management | 4 93+1) |

| | | |
|---|---|---|
| **VSC 201** | Production Technology of Vegetables and Spices | 3 (2+1) |
| **TUT** | Tutorial | 1 (1+0) NC |
| **NCC/NSS** | National Cadet Corps/National Service Scheme | 2 (0+2) |
| **CCA** | Co-curricular Activity | 1 (0+1) |
| **Total Credits** | | **27 (17+10)** |
| **Semester IV/VIII** | | |
| **AG ECON 202** | Agricultural Marketing Trade and Prices | 3 (2+1) |
| **AGRON 202** | Crop Production Technology – II (*Rabi* Crops) | 3 (2+1) |
| **AGRON 204** | Farming System and Sustainable Agriculture | 1 (1+0) |
| **EXT 202** | Communication Skill and Personality Development | 2 (1+1) |
| **HORT 202** | Production Technology for Ornamental Crops, MAP and Landscaping | 3 (2+1) |
| **HORT 204** | Production Technology for Fruit and Plantation Crops | 2 (1+1) |
| **RBEE 202** | Renewable Energy and Green Technology | 2 (1+1) |
| **SOILS 202** | Manures, Fertilizers and Soil Fertility Management | 3 (2+1) |
| **SOILS 204/ AGRON 206/ MICRO 204** | Agricultural Waste Management (To be taught jointly by Soils Science, Agronomy and Microbiology | 2 (1+1) |
| **SST 202** | Principles of Seed Technology | 3 (2+1) |
| **TUT** | Tutorial | 1 (1+0) NC |
| **CCA** | Co-curricular Activity | 1 (0+1) |
| **Total Credits** | | **26 (16+10)** |
| **Semester V/IX** | | |
| **AGRON 301** | Practical Crop Production – I (*Kharif Crops*) | 1 (0+1) |
| **AGRON 303** | Geoinformatics and Nanotechnology for Precision Farming | 2 (1+1) |
| **AGRON 305** | Weed Management | 3 (2+1) |
| **COMP 301/ AGRON 307/ AGM 301** | Agricultural Informatics (To be Taught jointly by Computer Section, Agronomy and Agricultural Meteorology) | 2 (1+1) |
| **ENT 301** | Pest of Crops and Stored Grain and their Management | 3 (2+1) |
| **EXT 301** | Entrepreneurship Development and Business Communication | 2 (1+1) |
| **GP 301** | Crop Improvement – I (*Kharif* Crops) | 3 (2+1) |
| **NEMA 301** | Introductory Nematology | 2 (1+1) |
| **PL PATH 301** | Diseases of *Kharif* Field Crops and Horticultural Crops and their Management – I | 3 (2+1) |
| **SOILS 301** | Problematic Soils and their Management | 2 (2+0) |
| **TUT** | Tutorial | 1 (1+0) NC |
| **CCA** | Co-curricular Activity | 1 (0+1) |
| | **Total Credits** | **25 (15+10)** |
| **Semester VI/X** | | |
| **AG ECON 302** | Farm Management Production and Resource Economics | 2 (1+1) |
| **AGRON 302** | Practical Crop Production – II (*Rabi* Crops) | 1 (0+1) |
| **AGRON 304** | Principles of Organic Farming | 2 (1+1) |
| **AGRON 306** | Rainfed Agriculture and Watershed Management | 2 (1+1) |
| **ENT 302** | Management of Beneficial Insects | 2 (1+1) |
| **FST 302** | Basics of Food Science, Safety and Nutrition | 4 (3+1) |
| **GP 302** | Crop Improvement-II (*Rabi* Crops) | 3 (2+1) |
| **HORT 302/ VSC 302** | Post-harvest Management and Value Addition of Fruits and Vegetables (To be taught jointly by Horticulture and Vegetable Science) | 2 (1+1) |
| **PFE 305** | Protected Cultivation and Secondary Agriculture | 2 (1+1) |
| **PL PATH 302** | Diseases of *Rabi* Field Crops and Horticultural Crops and their Management –II | 3 (2+1) |
| **TUT** | Tutorial | 1 (1+0) NC |

| | | |
|---|---|---|
| **CCA** | Co-curricular Activity | 1 (0+1) |
| **Total Credits** | | **25 (14+11)** |
| **Semester VII/XI** | | |
| **AGRON 491/ AG ECON 491/ EXT 491** | Rural Agricultural Work Experience (RAWE) and Agro-Industrial Attachment (AIA) (To be taught jointly by Agronomy, Agricultural Economics and Extension Education) | 20+(0+20) |
| **Total Credits** | | **20 (0+20)** |
| **Semester VIII/XII** | | |
| Experiential Learning Programme/Hands on Training- A student has to get registered 20 credits opting for two modules of 10 (0+10) credits each from the list of nine modules | | 10 (0+10)<br>10 (0+10) |
| **Total Credits** | | **20 (0+20)** |



Hands on training on CeRa and other digital database for faculty (April 04, 2022)

**6.5.4 Student Development:** *Student Development at the College directs its educational efforts at fostering the intellect and character of students by integrating in-class and co-curricular experiences. To accomplish this, the college provides a wide range of educational experiences through programs and activities that complement and support the academic experience in the classroom.*

**6.5.4.1. Student Intake and Attrition:** *The information about student intake and attrition, for the college as a whole but separated in UG, PG and Ph.D. categories shall be provided in tabular form for last five year.*

| Name of the degree programme | Students admitted | | | | | |
|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| **B.Sc. (Hons.) Ag.** | 67 | 61 | 64 | 82 | 76 | 350 |
| **M.Sc. (Ag.) Programme** | | 12 | 10 | 10 | 10 | 42 |
| **Ph.D. Programme** | | 06 | 05 | 05 | 05 | 21 |

| Name of the degree programme | Students' attrition (%) | | | | |
|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| B.Sc. (Hons.) Ag. | 2.68 | 1.83 | 3.2 | 7.38 | 0.76 |
| M.Sc. (Ag.) Programme | | 0 | 0 | 0 | 0 |
| Ph.D. Programme | | 0 | 0 | 0 | 0 |

**6.5.4.2. Average Number of Students in Theory and Practical Classes:** *Mention the degree programme-wise number of students seating in a class for theory and practical, separately in tabular form. Mention theory and practical batches for UG Programmes*

There is single batch for theory classes averaging 60 students per batch and two batches per class for practical averaging 30 students per batch. For PG and Ph.D., the class strength averaging less than 10 students per batch.

| Name of the Degree programme | Batch of students in Theory Class | Batch of students in Practical class |
|---|---|---|
| B.Sc. (Hons.) Ag. | 6 batches (60 students) | 12 batches (30 students) |
| M.Sc. (Ag.) | Two batches per discipline (2-4 students) | Two batches per discipline (2-4 students) |
| Ph.D. | Two batches per discipline (1-3 students) | Two batches per discipline (1-3 students) |

## Activities on important days and events

College is conducting different kind of activities such as games/sports, exposure visits, trainings, international exposure of students under NAHEP-IDP and other need based or mandatory activities initiated by the University/ Government of Haryana/ Government of India (*swachh bharat* campaign, *tiranga* rally, *Parthenium* awareness and other awareness campaigns). The activities like debate, declamation, essay writing, speech, extempore, poster making, slogan writing on topics related to social/ national issues and agriculture on the occasion of important festivals, national days and birth anniversaries of national heroes are being conducted regularly.

### NATIONAL INTEGRATION CAMP



Inauguration of NI NSS camp by the Vice Chancellor on March 23, 2022





Valedictory session of NI NSS camp addressed by
Dr. B. Lal, Cabinet Minister, Haryana on March 27, 2022






Folk cultural activities performed by volunteers of different states during
NI NSS camp on March 25, 2022




Padma Shri awardee Ms. Santosh Yadav addressing volunteers of
NI NSS camp on March 24, 2022

## ANNUAL CAMPS




Cleanliness drive by NSS volunteers on August 25, 2021



Motivational lecture to NSS volunteers during the camp on August 24, 2021



Cleanliness drive by NSS volunteers on August 26, 2021



Group activities of volunteers during Annual NSS camp – 2023




Motivational lecture during annual NSS camp on January 2, 2023




Flag off to rally by SDM Bawal for awareness about single use plastic eradication on January 2, 2023



Cleanliness, collection and proper disposal of organic waste during annual NSS camp on January 4, 2023

## BLOOD DONATION CAMPS




Blood donation camp during annual NSS camp (34 units) on August 27, 2021




Blood donation camp during NI NSS camp (85 units) on March 26, 2022




Health check-up camp organized by NSS Unit COA, Bawal on July 22, 2022




Blood donation camp organized by NSS Unit COA Bawal - 2023 (59 units)

## IMPORTANT INTERNATIONAL AND NATIONAL DAYS




Awareness on agriculture by DSW, CCS HAU, Hisar on
Agricultural Education Day on December 3, 2018




Pledge for honesty during vigilance awareness week on October 29, 2018




Awareness campaign for casting vote – 2018




Sharing knowledge about soil health on World Soil Day at COA, Bawal on December 5, 2018




*Parthenium* eradication drive - 2020




Awareness programme on road safety to save life in collaboration with social workers and Haryana Police at COA, Bawal on February 11, 2019




Environment Awareness Camp on March 28, 2019




National Science Day debate at COA, Bawal on February 28, 2019




Run for Unity on birth anniversary of Sardar Vallabh Bhai Patel on October 30, 2019




Fit India Movement organised at COA, Bawal on August 29, 2019




Cleanliness rally– 2021



Plantation by Dr. Banwari Lal (Minister of Co-operation and Welfare of Scheduled Castes & Backward Classes) on Environment Day (June 5, 2021)




*Van Mahotsva* in collaboration with Forest Department, Rewari at COA, Bawal on July 25, 2021



Plantation Drive by students, staff and farmers at Bawal campus on July 25, 2021



Plantation by staff and students around boundary of college campus – 2022



Plantation Drive by students and staff at COA, Bawal on August 05, 2022




Yoga camp organised at COA, Bawal during June 17-19, 2022



Yoga camp for healthy body and mind at COA, Bawal – 2022



Unfurling of national flag by Principal and Regional Director on January 26, 2023




Folk dance performance by students on eve of Republic Day – 2023




Plantation on the occasion of International Forest Day March 21, 2023

**Students developmental activities organised at COA, Bawal**

| | |
|---|---|
| 1 | Motivational Lecture for fellowships and scholarships on August 15, 2018 |
| 2 | Two Cleanliness Campaigns on September 01, 2018 and October 02, 2018 |
| 3 | Orientation Programme on September 11, 2018 |
| 4 | Fresher's Day on September 19, 2018 |
| 5 | Inter Class Game of Volleyball, Kabaddi and Badminton for boys and girls students during September 24-29, 2018 |
| 6 | Awareness Campaign about POSCO and Juvenile Justice (care and protection of children) act - 2015 in collaboration with child welfare committee, Rewari on October 18, 2018 |
| 7 | Pollution free Dusshera without crackers on October 19, 2018 |
| 8 | Motivational lecture by Dr. R.S. Balyan, Secretary Kisan Aayog, Haryana on October 31, 2018 |
| 9 | Agricultural Education Day on December 03, 2018 |
| 10 | World Soil Day on December 05, 2018 |
| 11 | Motivational lecture by Dr. S.K. Sherawat, Dean COA, Hisar on December 06, 2018 |
| 12 | Interaction with Dean COA, Dr. K. S. Grewal on January 21, 2019 |
| 13 | Interaction with former Assoc. Dean, COA Dr. Kali Ram on January 26, 2019 |
| 14 | Republic Day celebration on January 26, 2019 |
| 15 | Road Safety Workshop in collaboration with Lioness Club Rewari and RSO on February 11, 2019 |

| | |
|---|---|
| 16 | Motivational lecture by Dr. R.K. Nanwal on February 14, 2019 |
| 17 | Science Day on February 28, 2019 |
| 18 | Energy Conservation Workshop by PCRA on March 5, 2019 |
| 19 | Yoga Camp in collaboration with Pitanjli Yog Samiti, Rewariduring March 5-10, 2019 |
| 20 | Yoga Camp during March 06-10, 2019 |
| 21 | Environment Awareness Camp on March 28, 2019 |
| 22 | Plantation Day on August 01, 2019 |
| 23 | Fit India Movement on August 29, 2019 |
| 24 | Hindi *Pakhwada* celebration during September 14, 2019 |
| 25 | *Shramdan Diwas* under '*Swachhta hi Sewa* 2019' on October 02, 2019 |
| 26 | *Parthenium* Eradication Drive on July 11, 2020 |
| 27 | Birth Anniversary of Dr B.R. Ambedkar on April 14, 2021 |
| 28 | Environment Day on June 05, 2021 |
| 29 | Plantation Day (ICAR foundation day) on July 16, 2021 |
| 30 | *Van Mahotsav* on July 25, 2021 |
| 31 | Two days Language Lab training during July 29-30, 2021 |
| 32 | Training on Smart Class Room on August 03, 2021 |
| 33 | Plantation Day on August 11, 2021 |
| 34 | Independence Day on August 15, 2021 |
| 35 | *Parthenium* eradication day in campus of Bawal on August 19, 2021 |
| 36 | COVID-19 awareness rally by NSS Unit, COA Bawal on August 28, 2021 |
| 37 | Yoga Camp (5 days) during August 26-30, 2021 |
| 38 | Plantation Day on September 07, 2021 |
| 39 | Exposure visit and orientation of fresh students at CCS HAU Hisar on October 28, 2021 |
| 40 | Orientation Programme for fresh students on November 12, 2021 |
| 41 | Agricultural Education Day on December 03, 2021 |
| 42 | Plantation Day on December 12, 2021 |
| 43 | New Year and organized Rangoli Competition on January 01, 2022 |
| 44 | National Girl Child Day on January 24, 2022 |
| 45 | Republic Day on January 26, 2022 |
| 46 | *Surya Namaskar* on February 06, 2022 |
| 47 | Two days training on Organic Farming during February 07-08, 2022 |
| 48 | International Women's Day on March 18, 2022 |
| 49 | Blood Donation Camp on March 26, 2022 |
| 50 | *Poshan Pakhwada* on April 04, 2022 |
| 51 | International Bajra Festival on May 16, 2022 |
| 52 | Freshers' Day on May 19, 2022 |

| | |
|---|---|
| 53 | Yoga Camp during June 17-19, 2022 |
| 54 | International Yoga Day on June 21, 2022 |
| 55 | *Swatchhta* Campaign on July 02, 2022 |
| 56 | Exposure visit of students at Masani Barrage (pre-final year) on July 16, 2022 |
| 57 | *VanMahotasav* on August 05, 2022 |
| 58 | Participated in *Nasha Mukti Abhiyan* at Delhi University, New Delhi on August 09, 2022 |
| 59 | *Har Ghar Tiranga* on August 13, 2022 |
| 60 | Plantation Day on August 14, 2022 |
| 61 | Independence Day on August 15, 2022 |
| 62 | Orientation Programme for fresh students on September 07, 2022 |
| 63 | Hindi *Diwas* during September 12-14, 2022 |
| 64 | Freshers' Day 2022 batch on October 12, 2022 |
| 65 | Agricultural Education Day on December 03, 2022 |
| 66 | World Soil Day on December 05, 2022 |
| 67 | Training on Cultivation, Conservation and Utilization of Medicinal, Aromatic and Potential Crops on December 15, 2022 |
| 68 | Exhibition in *Kisan Diwas* Programm on December 23, 2022 |
| 69 | International Year of Millets on January 07, 2023 |
| 70 | National Youth Day on January 12, 2023 |
| 71 | *Surya Namaskar* on January 18, 2023 |
| 72 | Exposure visit of students at IARI, New Delhi on January 20, 2023 |
| 73 | Exposure visit of students at Richa Food Industry and *Kshitiz* SHG, Gurugram on January 28, 2023 |
| 74 | Exposure visit of students at IARI, New Delhi on February 9, 2023 |

## STUDENTS' DEVELOPMENT FOSTERING THROUGH VARIOUS ACTIVITIES



Declamation competition during Hindi *Pakhwada* celebration on September 14, 2019



Slogan writing competition on the eve of Science Day on February 28, 2021




*Parthenium* eradication day in campus of Bawal on August 19, 2021




COVID-19 awareness rally by NSS Unit, COA Bawal on August 28, 2021



Exposure visit on water conservation and natural resource management on July 16, 2022



Single use plastic eradication awareness rally on October 2, 2022



Declamation competition on Agricultural Education Day on December 3, 2022




Exposure visit at Sultanpur National Park on January 28, 2023

**6.5.4.3. Admission Process:** *Clearly give complete mechanism of admission for UG, PG and Ph.D. programmes, fee payment mechanism, registration procedure, and academic schedule publication at the start of the semester etc. Write information in one page only.*

| Name of degree programme | Mechanism of Admission | Fee payment mechanism (Cash/Online) | Registration procedure (On-site/Online) | Academic schedule at the start of session (attach calendar) |
|---|---|---|---|---|
| **UG Programme** | On the basis of merit in written entrance exam | Online through CCS HAU admission portal | On-line registration | 1st Semester (August to December)<br><br>2nd Semester (January to May) |
| **PG Programme** | On the basis of merit in written entranceexam | Online through CCS HAU admission portal | On-line registration | 1st Semester (August to December)<br><br>2nd Semester (January to May) |
| **Ph.D. Programme** | On the basis of merit in written entrance exam | Online through CCS HAU admission portal | On-line registration | 1st Semester (August to December)<br><br>2nd Semester (January to May) |

**6.5.4.4. Conduct of Practical and Hands on Training:** *Mention brief report of one page on practical and hand on training in different courses to meet the student satisfaction.*

**Practical Crop Production I & II**

During the courses of Practical Crop Production I & II the students undergo hands on training on crop planning, raising field crops in multiple cropping systems; field preparation, seed treatment, nursery raising, sowing, nutrient management, water management, weed management and management of insect pest and diseases of crops; harvesting, threshing, drying, winnowing, storage and marketing of produce; preparation of balance sheet including cost of cultivation, net returns per student as well as per team for a group of students.



Students formulating package of practices for *Kharif* and *Rabi* crops - 2022-23 during PCP

The students are provided hands-ontraining as per details given below:

| Name of degree programme | Training/ workshop name | Duration | Mode of training |
|---|---|---|---|
| **UG Programme** | Eat right during COVID-19 crises (2 days workshop) | May 15-16, 2020 | Online |

| | | | |
|---|---|---|---|
| **UG Programme** | Nursery Technology (under NAHEP-IDP) | January 18-24, 2023 | Offline |
| **UG Programme** | Processing Technology of fruit and vegetables (under NAHEP-IDP) | January 27-31, 2023 | Offline |
| **UG Programme** | Organic Farming (under NAHEP-IDP) | February 07-13, 2023 | Offline |

**6.5.4.5. Examination and Evaluation Process:** *The evaluation of students' performance is a central task of College administration. A brief report on examination and evaluation process for UG, PG and PhD be given separately mentioning external/internal components. System of evaluation should clearly be mentioned for UG, PG and Ph.D.*

| **Name of degree programme** | **Examination pattern** | | | **Evaluation process** | | | |
|---|---|---|---|---|---|---|---|
| | **Theory (External/ Internal)** | **Practical (External/ Internal)** | **Viva-voce** | **Theory (External/ Internal)** | **Practical (External/ Internal)** | **Comprehensive written** | **Viva-voce (Thesis and comprehensive)** |
| **B.Sc. (Hons.) Ag.** | External as well as internal | Internal | Internal | External as well as internal | Internal | NA | NA |
| **M.Sc. (Ag.)** | Internal | Internal | Internal | Internal | Internal | NA | External |
| **Ph.D.** | Internal | Internal | Internal | Internal | Internal | Internal | External |

I. Examination and Evaluation system: Examination and Evaluation system of Under Graduate programmes of college has been given below:
   a) External Theory: 50%
   b) Internal Theory + Practical: 50%

II. Courses with Theory and Practical: Mid-term Exam (30%) + Assignment (5%) + Practical (15%).
The assignment may be included with practical.

III. Courses with only Theory: Mid-term Exam (40%) + Assignment (10%)

IV. Courses with only Practical: 100% Internal

The mid-term examinations are being conducted during mid-term examination week prescribed in the academic calendar in the college through fixing the dates by concerned course teacher after consultation with Principal. The practical examinations (internal) are conducted during the practical examination week as prescribed in the academic calendar. For final examination (External), date sheet is provided by the Dean of the respective colleges during final examination schedule as prescribed in the academic calendar of the university circulated by the Assistant Registrar Academics (ARA), CCS HAU, Hisar.

Allotment of marks for various examination of each course is as per given below.

| **Name of Examination** | **Nature of course** | | |
|---|---|---|---|
| | **Courses with Theory and Practical** | **Courses with only Theory** | **Courses with only Practical** |
| Mid-term (Theory) | 60 | 80 | NA |
| Mid-term (Practical) | NA | NA | 60 |
| Assignment | 10 | 20 | 20 |
| Final (Practical) | 30 | NA | 120 |

| | | | |
|---|---|---|---|
| Final (Theory) | 100 | 100 | NA |
| **Total** | **200** | **200** | **200** |

After adding marks of all the examinations, the total marks divided by two for converting total marks out of 100 and combined (Theory+Practical) grade of each course is awarded.

1. The Course Catalogue, Examination and Evaluation system is being followed as per the recommendation of 5th Deans' Committee implemented with effect from academic year 2017-18.
2. Examination system is external for 50 % (Theory of final examination), whereas, remaining 50% (Theory of midterm + Practical) is internal. The following guidelines are to be followed for this internal examination. The weightage of mid-term, final and practical examination are followed as per table given below:

| **Credit Hours** | **Weightage/Marks** | | |
|---|---|---|---|
| **(Theory & Practical)** | **Mid-term** | **Final** | **Practical** |
| **1+0** | 40 | 60 | - |
| **1+1** | 20 | 30 | 50 |
| **2+1** | 25 | 45 | 30 |
| **2+2** | 20 | 30 | 50 |
| **3+1** | 30 | 45 | 25 |
| **3+2** | 25 | 35 | 40 |
| **2+0** | 40 | 60 | - |
| **3+0** | 40 | 60 | - |
| **1+2** | 10 | 20 | 70 |

- For a course only with practical: Practical examinations are conducted twice, mid-term and final.
- Distributions of marks are in the ratio of 40:60.
- There is one examination date-sheet each for mid-term and final examinations within the examination schedule.
-




Examination conducted under proper supervision






CCTV monitoring during examinations

**6.5.4.6. NCC/NSS/RVC units:** *Clearly mention the existence and functioning of these units and how it is benefiting the student development. A brief report should be given (without photographs).*

The college is having NSS unit since its inception and it is mandatory for all the students at least for two semesters. The unit operates under the supervision of NSS programme officer with overall control of Director, Students' Welfare, CCS HAU, Hisar. The students of NSS are involved in various social welfare activities and campaigns like cleanliness, pulse polio, voting, discourage single use plastic, *Beti Bachao-Beti Padhao*, plantations and environmental issues etc. So, they may contribute in different social activities. Blood donation camps are also organized by the NSS volunteers to save the lives.

**Activities organized by NSS unit- COA, Bawal**

| Year | Activities undertaken/ Salient achievements |
|---|---|
| **2018-19** | • Organized cleanliness programme on September 01, 2018<br>• Organized cleanliness programme on October 02, 2018<br>• Organized environmental awareness camp on March 28, 2019 |
| **2019-20** | • Voting awareness rally on October 22, 2019<br>• *Parthenium* awareness camp during August 16-21, 2019<br>• Cleanliness drive on October 2, 2019<br>• Anti-plastic use awareness during September 11-27, 2019 |
| **2020-21** | • Observed anti-terrisom day and took pledge on May 21, 2020<br>• Cleanliness drive on October 2, 2020<br>• *Parthenium* awareness camp during August 16-21, 2020<br>• National Youth Day on January 12, 2020 |
| **2021-22** | • Organized cleanliness drive during August 24-26, 2021<br>• Annual NSS camp organised during August 24-30, 2021<br>• *Parthtenium* eradication drive during August 24-25, 2021<br>• Plantation at village Khatiwas on August 26, 2021<br>• Organized blood donation camp on August 27, 2021<br>• Organized awareness rally of Covid – 19 on August 28, 2021<br>• First aid training on August 29, 2021 |
| **2022-23** | • Organized awareness rally on *Plastic hatao jeevan bachao* from COA, Bawal to Bawal market, rural area and back to commemorate the birth anniversary of Father of Nation Sh. Mahatma Gandhi on October 02, 2022<br>• Organized heart check-up camp on July 22, 2022<br>• Organized *Tringa* Rally from COA, Bawal to village Khatiwas and back on August 7, 2022<br>• Organised Tringa abhiyan in Hostels (Girls and boys) on August 10, 2022<br>• Organized plantation day and *Tringa* motorcycle Rally on August 12, 2022<br>• Conducted *Parthenium* awareness and eradication on August 20, 2022 |

| | |
|---|---|
| | • Organized awareness programme on cyber-crime on October 10, 2022<br>• Conducted *Swatchh* Bharat campaign – 2.0 on October 30, 2022<br>• Celebrated Run for Unity campaign on the birth anniversary of Sardar Patel – The Architect of Unification on October 31, 2022<br>• Organized Annual NSS camp at GSSS Banipur during January 01-07, 2023 |

**6.5.4.7. Language Laboratory**: *Student has a good command of the language for communication purposes with clarity and accuracy being vital for effective and efficient communication. What help one to acquire such proficiency in a language is the process and the method of learning that language. In this regard mention the type of methods:*

The college have Words Worth English Language Lab with 30 computers and other facilities like voice input and output devices to compare the pronunciation and to listen the video/ audio for improvement in language.

| | |
|---|---|
| **Conventional** | **Yes** |
| **Computer assisted language laboratory** | Yes |
| **Multimedia high tech language laboratory** | Yes |

**6.5.4.8. Cultural Centre:** *Does the college have cultural centre to empower student leaders to explore, celebrate, and educate the campus community about the diversity among them? Does the college offers and inclusive and reflective space, multicultural programming and support services that encourage positive interaction, academic, persistence, and growth among students, faculty, and staff.*

This college is organising cultural activities for students during celebration of different important days, hostel functions, NSS camp, freshers' day, farewell party etc. Students are being motivated for participation in different cultural events. The students of this college are also participating in the events organised at university level as well as in inter university programmes. One of the faculty members has been assigned the duties of coordinator cultural activities for organising such activities.




Annual hostel function - 2020




Folk dance performance on Freshers' Day 2019





Cultural activities during National Integration NSS camp 2022





Cultural activities on National Days




Comedic performance by freshers on the eve of Freshers' day – 2021 and 2022




Empowering the students' knowledge through various folk activities at COA, Bawal

| | | |
|---|---|---|
| ***Does the college have cultural center to empower student leaders to explore, celebrate and educate the campus community about the diversity among them?*** | Yes | The college has a cultural center that empowers student leaders to explore, celebrate and educate the campus community about the diversity among them.<br>It serves as a hub for cultural events, discussions and educational programs that highlight diverse backgrounds and experiences. Additionally, it offers support to students in promoting cultural awareness and understanding the diversity among them. As a result, the center fosters a more inclusive and equitable campus environment. |

| | | |
|---|---|---|
| ***Does the college offers inclusive and reflective space, multi-cultural programming and support services that encourage positive interaction, academic persistence and growth among students, faculty and staff?*** | Yes | The college provides inclusive and reflective spaces, multi-cultural programming and support services to promote positive interaction, academic persistence, and growth among students, faculty and staff. It acknowledges the diversity of its community and offers time to time and need based counseling, academic advising and career services to help students in achieving their goals. The college celebrates Freshers' Day, Teachers' Day, Farewell Party and Festival celebrations that encourage positive interaction among everyone. Overall, the college prioritizes a supportive and inclusive environment that fosters growth for all members of the campus. |

**6.5.4.9. Personality Development:** *Personality development programme is aimed at increasing employability of the students. Whether the college has provisions for inclusion of functional grammar in Standard English, speaking skills, reasoning, group discussions interview skills, personal interviews, quantitative ability, verbal ability, mock tests and some special sessions to promote the personality development in the students?*

| ***Whether the college has provisions for inclusion of the following*** | **Yes** | **The college faculty keeps on inspiring the students for improvement in their speaking and writing skills for fostering effective communication skills as well as understanding of subjects.** |
|---|---|---|
| ***Functional Grammar in standard English*** | Yes | The college faculty provides high-quality instruction in functional grammar and standard English. They use effective teaching techniques and encourage interactive sessions to improve students' proficiency and confidence in the language. Words Worth English language lab also help in improvement in English grammar. |
| ***Speaking skills*** | Yes | To develop their communication skills, students are regularly assigned topics to speak during class sessions. This exercise helps them to practise expressing their ideas effectively and articulately, while also receiving feedback and guidance from their instructors. Words Worth English language lab has input and output voice devices for improvement in pronunciation. |
| ***Reasoning*** | Yes | The college provides guidance and support to students in developing their reasoning skills for competitive exams. Various initiatives such as workshops and trainings sessions are taken up to prepare them for various competitive exams to achieve their academic and professional goals. On the eve of special days debate programme are also conducted to envisage the thinking. |
| ***Group Discussion*** | Yes | The college places a strong emphasis on involving students in group discussions focused on current national and international issues of significance, promoting their active engagement and critical thinking skills. Group discussions are also conducted on in classrooms to remove the hesitation among students and improve their logical thinking. |
| ***Interview skills*** | Yes | The students are made acquainted with the interview skills so that they may face the interviews for placement after completing their study. The sessions on interview skills are conducted on trainings on personality development. |
| ***Personal Interviews*** | Yes | The college provide students training and guidance in interview skills, enabling them to prepare confidently for jobs upon completion of their studies. |

| | | |
|---|---|---|
| ***Quantitative ability*** | Yes | The college encourages and supports students in their efforts to enhance their quantitative aptitude by providing access to competitive books and resources. This helps them to excel in their studies and future endeavours in careers, improving their overall academic and professional success. |
| ***Verbal Ability*** | Yes | The college fosters a strong sense of association between students and faculty, with regular mutual interactions between them. There is a visible and positive bond between students and faculty members that generates a supportive and collaborative learning environment. |
| ***Mock Test*** | Yes | Mock tests are regularly conducted at the college to prepare students for upcoming exams. These tests provide an opportunity for students to practise their skills and knowledge in a simulated exam environment. The faculty also provides feedback and guidance to help students to improve their performance. |
| ***Some special sessions for personality development*** | Yes | The college conducts 10-days Personality Development Training sessions for 2-3 times during the year to help students to develop their personality and improve their soft skills to prepare them for their professional career. |

**Trainings conducted**

| Sr No | Title of Training | Duration |
|---|---|---|
| **1** | Personality Development Training Programme (under C&P Cell) | November 15-29, 2018 |
| **2** | Personality Development Training Programme (under C&P Cell) | February 12-26, 2019 |
| **3** | Agricultural education fare for awareness about agriculture (under NAHEP-IDP) | February 27-28, 2020 |
| **4** | Personality development (under C&P Cell) | February 17 -29, 2020 |
| **5** | Effective communication and interpersonal skills (under NAHEP-IDP) | May 18-21, 2020 |
| **6** | Communication skills and personality development (under C&P Cell) – Virtual mode | March 15-25, 2021 |
| **7** | Personality development (under SCSP scheme) | February 25 to March 06, 2022 |
| **8** | Foundation training course for ICAR-JRF (PGS) exam (under C&P Cell) | November 25 to December 04, 2022 |
| **9** | One day workshop on career avenues & scholarship/ fellowship (under C&P Cell) | February 4, 2023 |





Personality development course and training for students to enhance their perspectives to the learning and to perform better in their professional career

### 6.5.5. Physical Facilities

**6.5.5.1. Hostels:** *Clearly mention the number of hostels available for the College students for boys and girls, separately with its total capacity, students per room accommodated in each hostel, mess facility, drinking water, indoor games specially for girls, cleaning of hostel premises, transport facility, emergency medical facility etc.*

There are separate hostels for Boys and Girls with accommodation capacity of 150 and 95 students, respectively.



Prakriti Hostel (Boys)




Alaknanda Hostel (Girls)

**Hostels**

| No of Hostels* | Boys– 01 | Girls -01 |
|---|---|---|
| **Total capacity** | 150 | 95 |
| **Students per room** | 03 | 03 |
| **Mess facility** | Available | Available |
| **Drinking water** | Available with R.O. (03) | Available with R.O. (02) |
| **Indoor games** | Table Tennis, Chess, Carrom board etc. | Table Tennis, Chess, Carrom board etc. |
| **Transport facility** | Available (Jeep) | Available (Jeep) |
| **Emergency medical facility** | Dispensary and first aid kit | Dispensary and first aid kit |
| **Cleaning of hostel premises** | Yes | Yes |
| **Rooms and toilet facilities for differently abled students** | Yes | Yes |
| **Ramps for differently abled students** | Yes | Yes |

*Two more hostels, one each for girls and boys are under construction

**6.5.5.2 Examination Hall:** *Mention the availability of number of examination halls, its capacity etc. for the college.*

One examination hall to conduct the examinations with the seating capacity of 250 students is under construction and at present examinations are being conducted in 06 lecture rooms.

| Examination Hall | Numbers | Total capacity |
|---|---|---|
| **Examination Hall** | 01 | 250 students |

**6.5.5.3. Sports and Recreation Facilities:** *Clearly mention the number of indoor and outdoor sports facilities available for the College students. A brief note on day to day management and use of these facilities shall be provided in the report.*

There are well developed playgrounds and different game courts mentioned as under for sports and recreational activities. Indoor recreation facilities for boys and girls are also available at hostels.

| Number and Name of Indoor Sports Facilities | Number and Name of Outdoor Sports Facilities |
|---|---|
| **Table Tennis – 02** | Athletic ground – 01 |
| **Gym -02** | Basketball court – 01 |
| **Yoga - 02** | Cricket ground – 01 |
| **Carrom board - 02** | Badminton court -01 |
| | Volley ball court- 02 |
| | Kabaddi ground – 01 |
| | Football ground-01 |




Indoor game recreational facilities at Alaknanda Hostel (Girls)



Indoor gym facility for resident students at Alaknanda Hostel (Girls)



Night reading hall at Alaknanda Hostel (Girls)



Students run co-operative mess in Prakriti Hostel (Boys)




Formal inauguration of Boys' Hostel by Sh. Manohar Lal Hon'ble Chief Minister of Haryana

## Medical Facilities

There is one dispensary, however, as per agreement with hired doctor/hospital, ambulance facilities provided in case of emergency. Jeep is also available for emergency services.

## Brief report for day to day use and management

The college has appointed a sports coordinator, a game organiser/ coach, and a game attendant to manage and coordinate these activities. The sportscoordinator takes care of the overall functioning of the co-curricular programs and ensures that all activities are conducted smoothly. The game organiser/ coach provides guidance and support to students to help them in improving their skills and excel in their chosen activity. The game attendant is responsible for maintaining the playgrounds and courts. Sports houses are formed for boys and girls, separately. Boys houses have been named as Shaheed Bhagat Singh, Shaheed Udham Singh, Major Dhyan Chand and Youth Icon Neeraj Chopra. Whereas, girls houses have been named as Saina Newal and Sakshi Malik. For indoor games, common room secretary and wing perfects are responsible and extend help to the wardens for day to day management and maintenance of the equipments.

Separate teams for boys and girls are formed based on the number and strength of the students and the college offers several team and individual events, including volleyball, kabaddi, basketball and cricket. Students attend practice sessions in the evenings from 5.00 P.M. to 6.30 P.M. on all working days except during the examination week. The attendance of the students is marked by the coach/ in-charge at the playground.

Overall, the co-curricular activities programme at the college provides students with a platform to explore and showcase their talents, develop team spirit, and enhance their physical and mental well-being.

## Collaboration with MNCs for investment under Corporate Social Responsibility (CSR):




MoU and Interaction with Japanese company for CSR investment

Under CSR following infrastructures/ facilities have been installed/ constructed/ created:

1. Basketball Court
2. Badminton Court boundary cover work
3. Modular furniture (tables and chairs) in library/reading hall
4. Installation of 23KW solar system in Girls Hostel
5. Hundred solar power street lights for college campus

## International Year of Millets (IYoM) 2023:

United Nations declared 2023 as International Year of Millets. The year is being celebrated through organising regular activities about awareness on nutritive value of the millets. The college is organising events in villages and campus through delivering awareness lectures and serving the millet-based meals in hostel messes and camps. Residents, students, visitors and other staff members are also being motivated for integration of millets in their daily diets.




Millets supplemented meal served in Alaknanda hostel mess (girls)



Millets supplemented meal served in Prakriti hostel mess (boys)



The International Year of Millets was celebrated through serving millets based meal to students, staff of GSS School, Banipur and COA, Bawal during annual NSS camp at village Banipur (Rewari)



Millets based products exhibited by contact farmers and being relished by chief guest and dignitaries during Kisan Mela at Bawal – 2023

**6.5.5.4. Auditorium:** *Does the college has auditorium? Mention its year of construction, sitting capacity and how frequently being used for the College functions.*

Yes, under construction.

The auditorium at COA, Bawal will be used to organize academic, cultural and other co-curricular activities of the College. Presently these activities are being organized in lecture halls or tentage.

| Year of construction | Under construction |
|---|---|
| **Seating capacity** | 450 |

**6.5.5.5. Exhibition Hall/Museum (description of events):** *Does the college have the Exhibition Hall/Museum? Mention about its use and special events being conducted in these units.*

There is one Exhibition Hall/Museum in which various samples/ charts related to differentdisciplines and agricultural activities are displayed to impart information to the visitors as well as students.

| Exhibition Hall | One (under process) |
|---|---|
| **Museum** | 01 (At main campus, CCSHAU, Hisar) |

### 6.5.6. Research Facilities

**6.5.6.1. Postgraduate Laboratories and Equipments**: *Clearly mention the department wise PG laboratories and equipment housed in individual laboratory in the Colleges along with any other research unit.*

The college is having well-equipped laboratories for UG and PG students. The PG students of various departments are also admitted in the college. The faculty of this college is also guiding the students of the main campus. Research facilities of main campus as well as of RRS, Bawal are also utilized. Laboratories of the college are well equipped as per norms/guidelines of ICAR and the list of major equipments is as under

**List of major equipments at present in the college**

| S. No. | Name of equipment | Laboratory/ Department |
|---|---|---|
| 1. | Spinix vortex shaker | Plant Pathology |
| 2. | Shaker | Soil Science |
| 3. | Advance binocular microscope | Entomology and Botany |
| 4. | Ahuja digital PA mixer | Extension Education |
| 5. | Ahuja mixer 9 channel | Extension Education |
| 6. | Mega phone /bhopu | Extension Education |
| 7. | Analytical electronic balance | Soil Science |
| 8. | Bee hive | Entomology |
| 9. | BOD incubator 340 L | Plant Pathology and G&PB |
| 10. | Chlorophyll meter | Agronomy |
| 11. | Conductivity meter | Agronomy |
| 12. | Conductivity meter table digital | Soil Science |
| 13. | Deep fridge | Horticulture |
| 14. | Dissecting microscope | Botany |
| 15. | Distillation apparatus | Biochemistry |
| 16. | Double distillation apparatus | Soil Science |
| 17. | Double ring soil infiltrometer | Agronomy |
| 18. | Electronic digital balance | Soil Science |
| 19. | Electronic balance | Soil Science and Agronomy |
| 20. | Electronic digital balance | Plant Pathology, Horticulture and G&PB |
| 21. | Electrode &temp probe | Soil Science |

| | | |
|---|---|---|
| 22. | Vertical autoclave | Plant Pathology |
| 23. | Flame photometer | Soil Science |
| 24. | Double beam UV VIS spectrophotometer | Soil Science |
| 25. | GPS | Soil Science |
| 26. | Hand refractometer | Horticulture |
| 27. | Hot air oven | Agronomy |
| 28. | Hot air oven | Soil Science |
| 29. | Hot air oven | Chemistry |
| 30. | Hot air oven | Chemistry |
| 31. | Hot plate | Soil Science |
| 32. | Insect display showcase | Entomology |
| 33. | Insect rearing cage | Entomology |
| 34. | Kjeldahl system with digestion set | Soil Science |
| 35. | Lab willey grinder | Soil Science |
| 36. | LED display k type kanthal A1 muffle furnace | Extension Education |
| 37. | Light trap | Entomology |
| 38. | Logitech webcam | Extension Education |
| 39. | Magnetic stirrer with hot plate | Plant Pathology |
| 40. | Magnetic stirrer | Soil Science |
| 41. | Micro-processor flame photometer | Soil Science |
| 42. | Microprocessor based pH meter | Soil Science |
| 43. | Microscope | Entomology, Botany and G&PB |
| 44. | Binocular microscope | Plant Pathology and Botany |
| 45. | Modular work station | Language Lab |
| 46. | Modular work station model | Computer Lab |
| 47. | Trinocular microscope with imaging | Extension Education |
| 48. | Non-contact high temperature infrared thermometer | Agronomy |
| 49. | PA speaker model mpa -1500 | Extension Education |
| 50. | Plant canopy analyser | Agronomy |
| 51. | Pressure plate apparatus | Agronomy |
| 52. | pH meter | Soil Science |
| 53. | Refrigerator | Horticulture |
| 54. | Seed germinator | G&PB |
| 55. | Soil tensiometer | Agronomy |
| 56. | Voice recorder | Extension Education |
| 57. | Soxhlet apparatus | Soil Science |
| 58. | Steam steriliser vertical autoclave | Soil Science |
| 59. | Digital conductivity meter | Soil Science |
| 60. | Microprocessor-based pH meter | Soil Science |
| 61. | Tray dryer | Horticulture |
| 62. | Tripod stand for DSLR | Extension Education |
| 63. | UV visible spectrophotometer (single beam) | Soil Science |
| 64. | Video conferencing with complete Installation | Seminar Hall |
| 65. | Shaking machine (rotary shaker) | Soil Science and Chemistry |
| 66. | Water bath 12 L | Soil Science |

| | | |
|---|---|---|
| 67. | Water bath cap 8 ltr - 6 hole | Soil Science |
| 68. | Water still double distillation cap | Soil Science |
| 69. | Wipro smart comb with nylon base | Extension Education |

**6.5.6.2. Research Contingency:** *A note on amount of research contingency for each department shall be provided. Whether it meets the students' demand?*

The college is having UG and PG degree programme. The college has research contingency for all PG and Ph.D. students admitted in COA, Bawal. The teaching and research facilities are also availed at main campus and of RRS, Bawal. Laboratories of the college are well equipped as per norms/guidelines of ICAR.

### 6.5.7. Outcome/Output

**6.5.7.1. Student Performance in National Examination:** *Provide detailed information in tabular form about student Performance in JRF/SRF/NET/ARS and other National Examinations for last five years. Only those students receiving fellowships should be mentioned here.*

| Sr. No. | Name of Examination | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| 1. | JRF | - | - | - | - | 03 |
| 2 | SRF | - | - | - | 01 | - |
| 3. | NET | 04 | 01 | 04 | 10 | 06 |
| 4. | ARS | - | - | - | - | - |
| 5. | Other National Examinations | 01 | - | - | - | 01 |

| Year | Name of student | Guided by | Fellowship |
|---|---|---|---|
| **2018** | Mr. Kanwar Kumar (Entomology) 2017A41D | Dr. Balbir Singh | ASRB-NET |
| **2018** | Mr. Narender Singh (Horticulture) 2016A32M | Dr. Mukesh Kumar | ICAR Fellowship for PG admission in IARI |
| **2018** | Mr. Narender Singh (Horticulture) 2016A32M | Dr. Mukesh Kumar | CSIR-NET |
| **2018** | Mr. Narender Singh (Horticulture) 2016A32M | Dr. Mukesh Kumar | ASRB-NET |
| **2018** | Mr. Vikas Sheoran (Horticulture) 2015A51M | Dr. Mukesh Kumar | ASRB-NET |
| **2019** | Mr. Kuldeep (Soil Science) 2016A69M | Dr. M.K. Jat | ASRB-NET |
| **2020** | Ms. Kajal (Forestry) 2016A84M | Dr. Naresh Kaushik | ASRB-NET |
| **2020** | Mr. Sandeep Nagar (Horticulture) 2014A41M | Dr. Mukesh Kumar | ASRB-NET |
| **2020** | Mr. Sanjay Kumar (Horticulture) 2019A55M | Dr. Mukesh Kumar | ASRB-NET |
| **2020** | Mr. Rajesh Mor (Horticulture) MHU2017H03M | Dr. Mukesh Kumar | ASRB-NET |
| **2021** | Mr. Manish Kumar (Horticulture) MHU2021HD | Dr. Mukesh Kumar | ASRB-NET |
| **2021** | Ms. Kavita (Agronomy) B2015A10BIV | Dr. Amarjeet | ASRB-NET |
| **2022** | Mr. Puneet (Entomology) 2017A38M | Dr. Balbir Singh | ASRB-NET |

| UG Students | | |
|---|---|---|
| **2021** | Mr. Ravi (Agronomy) B2015A21BIV | ASRB-NET |
| **2021** | Mr. Ravi (Agronomy) B2015A21BIV | UGC-NET |
| **2021** | Ms. Sonia (Agril. Economics) B2015A25BIV | ASRB-NET |
| **2021** | Mr. Amit (G&PB) B2015A03BIV | ASRB-NET |
| **2021** | Mr. Ankit Yadav (Agril. Meteorology) B2015A05BIV | ASRB-NET |
| **2021** | Mr. Kavita (Agronomy) B2015A10BIV | UGC-NET |
| **2021** | Mr. Ankit Yadav (Agril. Meteorology) B2015A05BIV | ICAR-SRF Scholarship |
| **2021** | Mr. Preetam (Agronomy) B2015A16BIV | ASRB-NET |
| **2021** | Mr. Preetam (Agronomy) B2015A16BIV | UGC-NET |
| **2022** | Ms. Kavita (Agronomy) B2015A10BIV | UGC-NET |
| **2022** | Mr. Ayush Mishra B2015A06BIV | UGC-NET JRF |
| **2022** | Mr. Shubham (Agril. Extension) B2015A24BIV | UGC-NET JRF |
| **2022** | Mr. Preetam (Agronomy) B2015A16BIV | UGC-NET |
| **2022** | Ms. Sonia (Agril. Economics) B2015A25BIV | ICSSR Doctoral Fellowship Award |
| **2022** | Ms. Kavita (Agronomy) B2015A10BIV | UGC-NET<br>JRF Environmental Sciences |
| **2023** | Ms. Sonia (Agril. Economics) B2015A25BIV | UGC-NET |

**6.5.7.2. Students Placement Profile:** *Provide detailed information in tabular form about student performance in ARS/and other national examinations/State level examinations or equivalent. Year wise placement profile shall be provided.*

| Major Advisor | Name of student | Guided in M.Sc./ Ph.D. | Placement | Organization | Year of placement |
|---|---|---|---|---|---|
| **Dr. Dharam Bir Yadav** | Mr. Rohitash Bajiya (2012A20M) | M.Sc. Ag. (Agronomy) | Asstt. Professor (Agronomy) | AU, Jodhpur | 2018 |
| | Mr. Rajbir Singh Khedwal (2014A24M) | M.Sc. Ag. (Agronomy) | Tech. Asstt. (Agronomy) | CCSHAU, Hisar | 2019 |
| | Mr. Rohitash Bajiya (2012A20M) | M.Sc. Ag. (Agronomy) | Officer Incharge, ARSS, Nagaur | AU, Jodhpur | 2020 |
| | Ms. Santosh Korav (2017A07D) | Ph.D. (Agronomy) | Asstt. Professor (Agronomy) | LPU, Jallandhar | 2020 |
| | Mr. Mohinder Singh (2013A06D) | Ph.D. (Agronomy) | Assoc. Professor (Agronomy) | SGT University, Gurugram | 2021 |
| | Mr. Mohinder Singh (2013A06D) | Ph.D. (Agronomy) | Dy Director (Agronomy) | MICADA, Haryana Govt | 2021 |
| **Dr. N.K. Yadav** | Mr. Mukesh Kumar (2015A98M) | M.Sc. Ag. (Plant Pathology) | Business development manager | Verdesian Life Science, USA | 2017 |
| | Mr. Anupam Maharashi | M.Sc. Ag. (Plant | Asstt. Agri. Res. Officer (Plant | Govt. of Rajasthan | 2018 |

| | | | | | |
|---|---|---|---|---|---|
| | (2013A74M) | Pathology) | Pathology) | | |
| **Dr. Balbir Singh** | Mr. Vinayaka, K.S. (2016A20M) | M.Sc. Ag. (Entomology) | Field Trial Operation Specialist R&D | Buyer Crop Science | 2018 |
| | Mr. Puneet (2017A38M) | M.Sc. Ag. (Entomology) | APPO, (Entomology) | Directorate of Plant Protection Quarantine and Storage, Faridabad | 2020 |
| | Ms. Sonu Kumari (2019A89D) | Ph.D. (Entomology) | SRF | CICR, Sirsa | 2022 |
| | Mr. Anuj (2019A88D) | Ph.D. (Entomology) | Agriculture officer | Punjab National Bank | 2022 |
| **Dr. M.K. Jat** | Mr. Kuldeep Singh Gill 2016A69M | M.Sc. Ag. (Soil Science) | Assistant Field Officer | Soil and Land Use Survey of India | 2022 |
| | Mr. Tilak Raj 2018A93M | M.Sc. Ag. (Soil Science) | Field Officer | Canara Bank | 2019 |
| **Dr. Mukesh Kumar** | Mr. Sandeep Nagar (2014A41M) | M.Sc. Ag. (Horticulture) | Agriculture Officer | Bank of Baroda | 2016 |
| | Mr. Sandeep Nagar (2014A41M) | M.Sc. Ag. (Horticulture) | DHO | Department of Horticulture, Haryana | 2020 |
| | Mr. Narender Singh (2016A32M) | M.Sc. Ag. (Horticulture) | Scientist | ASRB | 2023 |
| | Mr. Vikas Sheoran (2015A51M) | M.Sc. Ag. (Horticulture) | HDO | Department of Horticulture, Haryana | 2020 |
| | Mr. Sanjay Kumar (2019A55D) | Ph.D. (Horticulture) | HDO | Department of Horticulture, Haryana | 2020 |
| | Mr. Ayush (2020A78M) | M.Sc. Ag. (Horticulture) | Young Professional | G&PB, CCS HAU, Hisar | 2022 |
| **UG Students** | | | | | |
| | Mr. Sachin Sharma (B2015A22BIV) | B.Sc. (Hons.) Ag. | AGT | IFFCO | 2019 |
| | Mr. Nitin Kaushik (B2015A13BIV) | B.Sc. (Hons.) Ag. | Technical Assistant | Department of Agriculture and Farmers Welfare, Rohtak | 2019 |
| | Mr. Amit Paliwal (B2015A02BIV) | B.Sc. (Hons.) Ag. | Agriculture Supervisor | Department of Agriculture and Farmers Welfare, Bhiwani | 2019 |
| | Ms. Pooja Rani (B2015A15BIV) | B.Sc. (Hons.) Ag. | Agriculture Field Officer | Punjab National Bank | 2020 |
| | Mr. Mandeep (B2015A11BIV) | MBA | Trainee Officer | Mawana Sugars | 2021 |
| | Mr. Preetam (B2015A16BIV) | M.Sc. Ag. (Agronomy) | Rural Development Officer | Indian Bank | 2022 |


INTERNATIONAL SEMINAR
ON
ENVIRONMENTAL ISSUES AND CHALLENGES IN THE 21ST CENTURY (EICC-2019)
JANUARY 20, 21 & 22, 2019
SPONSORED BY
DEPARTMENT OF SCIENCE AND TECHNOLOGY, NEW DELHI, INDIA
ORGANIZED BY
DEPARTMENT OF ENVIRONMENTAL SCIENCE,
BAREILLY COLLEGE, BAREILLY, U.P., INDIA
Certificate of Participation
This is to certify that
Mr. NARENDRA SINGH
M.Sc. (Fruit Science), C.C.S. Haryana Agricultural University, Hisar, Haryana
has been awarded BEST M.SC. THESIS AWARD
Title : Evolution of Aonla (Phyllanthus emblica Linn) Germplasm for Semi-arid region of Haryana
Dr. Ajay Kumar Sharma
President (EICC-2019)
Principal
Bareilly College, Bareilly
Dr. A.P. Singh
Organizing Secretary (EICC-2019)
Head, Dept. of Env. Science
Bareilly College, Bareilly

Best thesis award (M.Sc.) to Mr. Narendra Singh

**6.5.7.3. Awards/ Recognitions/ Certificates:** *Provide information on awards/recognitions/ certificates in tabular form for last five years separately for students and faculty.*

**Students**

| Sr. No. | Awards/Recognitions/Certificates | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 |
|---|---|---|---|---|---|---|---|
| | Name of the Awards | Students | Faculty | | | | |
| 1. | Best Oral Presentation | - | 2 | 1* | - | - | 1* |
| 2 | Best Poster/Paper Award | 2 | 5 | 1 | 2* | 1+2* | 1* |
| 3. | Young Scientist Award | 1 | 1 | 1* | - | - | 1 |
| 4. | Best Thesis Award | 4 | - | 1 | 3 | - | - |

*Faculty awards

**Other awards (Faculty):**

Weed contest award : 1
Best article : 2
Gold medal faculty : 2
Fellowship : 1

| Major Advisor | Name of student | Guided in M.Sc./ Ph.D. | Award | Organization | Year of conferment |
|---|---|---|---|---|---|
| **Dr. Dharam Bir Yadav** | Ms Charul Chaudhary | Ph.D. (Agronomy) | Weed Contest (1st) | International Weed Sci. Society & HAA on August 28, 2018 | 2018 |
| **Dr. Dharam Bir Yadav** | Mr. Rajbir Singh | M.Sc. Ag (Agronomy) | Best M.Sc. Thesis | Agricultural Technology Development Society, | 2018 |

| | | | | | |
|---|---|---|---|---|---|
| | Khedwal | | Award | Ghaziabad on October 20, 2018 | |
| **Dr. Dharam Bir Yadav** | Mr. Rajbir Singh Khedwal | M.Sc. Ag (Agronomy) | Best Poster Award (First) | ISWS Golden Jubilee International Conference, Jabalpur during November 21-24, 2018 | 2018 |
| **Dr. Dharam Bir Yadav** | Mr. Mohinder Singh | Ph.D. (Agronomy) | Best Ph.D. Thesis Award | Indian Journal of Pure & Applied Biosciences | 2019 |
| **Dr. Mukesh Kumar** | Mr. Narender SIngh | M.Sc. Ag. (Horticulture) | Best M.Sc. Thesis Award | In International Seminar on Environment issues and challenges in the 21st century at Bareilley during January 20-22, 2019. | 2019 |
| **Dr. Dharam Bir Yadav** | Mr. Santosh Korav | M.Sc. Ag. (Agronomy) | Best Master Thesis Award | Kathmandu, Nepal on June 18, 2019 | 2019 |
| **Dr. N.K. Yadav** | Mr. Lokesh Yadav | Ph.D. (Plant Pathology) | 1st Best Poster Award | IPD North Zone during January 9-10, 2020 | 2020 |
| **Dr. Dharam Bir Yadav** | Mr. Santosh Korav | Ph.D. (Agronomy) | Young Scientist Award | Agricultural Technology Development Society, Ghaziabad on Feb. 28, 2021 | 2021 |

## Faculty

| Year | Name of faculty | Name of Awards/ Recognitions/Certificates | Remarks if any |
|---|---|---|---|
| **2018-19** | Dr. Dharam Bir Yadav | Best Researcher Award | Haryana Agronomists Association & International Weed Science Society on August 28, 2018 |
| | Dr. M.K. Jat | Young Scientist Award | In Souvenir & Conference Book of International conference on Global research initiatives for sustainable agriculture and allied sciences held at Rajasthan Agri. Research Institute, Durgapura, Jaipur, Rajasthan on 28-30 October, 2018. |
| | Dr. M.K. Jat | Best Oral Paper Presentation Award (2nd position) | In Souvenir & Conference Book of International conference on Global research initiatives for sustainable agriculture and allied sciences held at Rajasthan Agri. Research Institute, Durgapura, Jaipur, Rajasthan on 28-30 October, 2018. |
| **2019-20** | Dr. Dharam Bir Yadav | Best AICRP Weed Management Centre Award 2018-19 (as Team member) | ICAR-DWR on October 15, 2019 |
| | Dr. Dharam Bir Yadav | Excellent Performer AICRP-Sugarcane Centre Award 2018-19 (As RD) | ICAR-IISR on October 14, 2019 |

| | | | |
|---|---|---|---|
| | Dharam Bir Yadav | Best Poster Award (1st) | GINMA, CCSHAU, Hisar on November 8, 2019 |
| | Dr. Satyajeet | Best Poster Presentation Award (Second Prize) during the "National Seminar on Socio-Digital Approaches for Transforming Indian Agriculture" | Indian Society of Extension Education, ICAR-IARI, New Delhi at CCS Haryana Agricultural University, Hisar (India) held during November 20-22, 2019. |
| | Dr. Satyajeet | Best Extension Worker Award during Agronomist Meet and Students' Weed Contest | Department of Agronomy, CCSHAU, Hisar in collaboration with Haryana Agronomists Association & International Weed Science Society held during January 30-31, 2020 at Hisar. |
| **2020-21** | Dr Rameshwar Singh | Best Poster Award of the International Web Conference on Resource Management and Biodiversity Conservation to Achieve Sustainable Development Goals | Academy of Natural Resource Conservation and management (ANRCM) Lucknow (U.P.), India during September 11-12, 2020 |
| | Dr. Sunita Sheoran | Prof. Rattan Lal Gold Medal and Silver Jubilee Gold Medal for women. | CCSHAU, Hisar on February 3, 2021 |
| | Dr. Dharam Bir Yadav | Best Paper Award (3rd position) | In 4th Int. Conf. on Current approaches in agril., animal husb., and allied sci. for successful entrepreneurship on March 15, 2021 |
| **2021-22** | Dr. Prashant Chauhan | Best Oral Presentation Award | In IPSCONF 2022 held at SKNAU, Jobner-Jaipur, Rajasthan, India from March 23-26, 2022 |
| | Dr. Ankit Kumar | Best Article Award | By Agriculture &Food e-Newsletter on April 01, 2022 |
| | Dr. Ankit Kumar | Best Article Award | By Agriculture &Food e-Newsletter on April 01, 2022 |
| | Dr. Prashant Chauhan | Member of International Society | British Society of Plant Pathology, United Kingdom on June 8, 2022 |
| **2022-2023** | Ms Mehak Nagora | Poster Presentation Award | Research education society during July 16-17, 2022 |
| | Ms. Mehak Nagora | NFSC Followership Award | National Fellowship Society for Schedule Caste on January 16, 2023 |
| **Total** | **17** | | |









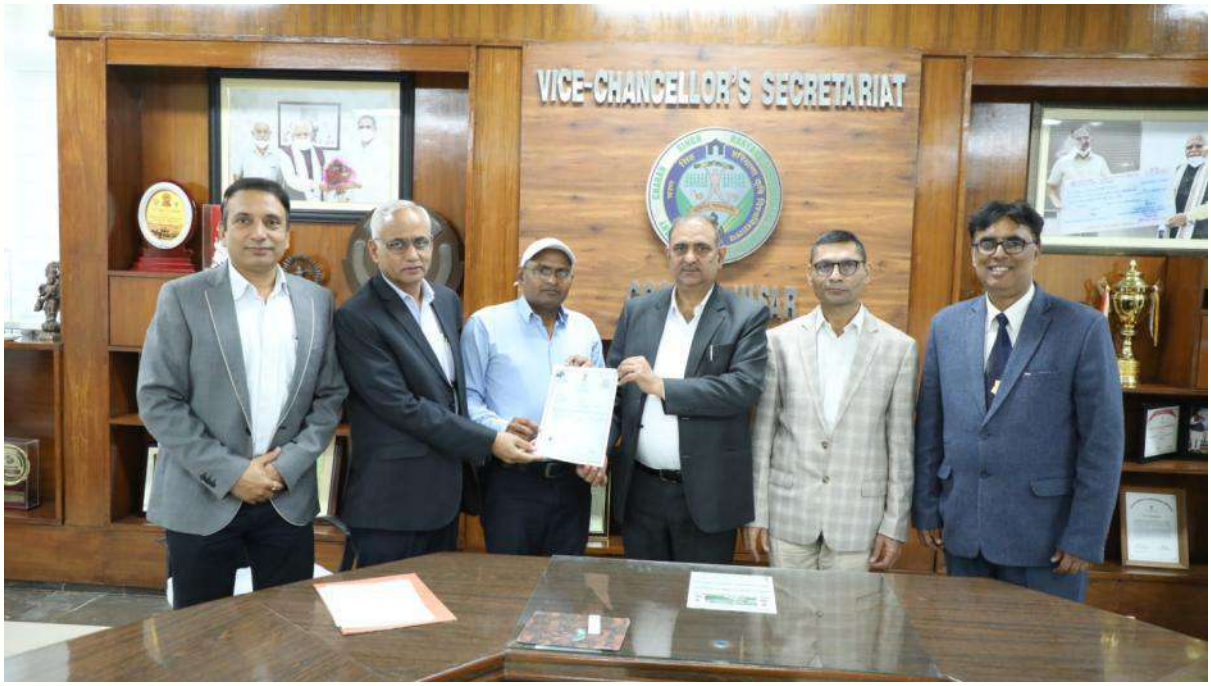




The certificates of Merit, Patent and Gold Medals received by the faculty members of College of Agriculture, Bawal




Distinguished Teacher Award bagged by Dr. Dharam Bir Yadav presented by Sh. Manohar Lal, Hon'ble Chief Minister, Haryana




Prof. B.R. Kamboj presenting patent certificate to Dr. Mukesh Kumar

**6.5.7.4. Employability:** *What are the set of achievements such as skills, understandings and personal attributes that make College students more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy? Provide one page note on the subject.*

The college is committed to the all-round development of its students, with the aim of empowering them to make informed choices about their future career paths. From the outset, the orientation programme is designed to instil a sense of professionalism in the students. They are provided with regular updates about the scope of their chosen agricultural course during weekly tutorial classes as well through organizing regular subject events. Additionally, all students are required to register for co-curricular activities, such as the National Service Scheme (NSS). The NSS participants are engaged in various social welfare campaigns, such as promoting cleanliness, COVID-19 management, electoral awareness programme, plastic menace awareness and planting trees etc. This exposure to community service activities helps the students to develop a sense of social responsibility and character building for nation development.

Practical knowledge of crop cultivation is imparted through the Practical Crop Production courses, which are offered for a year. These courses aim to prepare students to become professional crop advisors to the farming community and promote low external input agriculture in a sustainable manner. The visits to agriculture-based subsidiary income and employment-generating entrepreneurs, such as mushroom and vermicomposting units, beekeeping facilities, dairy farms, and seed production units. These visits give students a better understanding of the practical aspects of agriculture-related business. These visits and interaction with industry creates a sense of self employment.

As part of the degree programme, all students must undergo a 35-day industrial training in the final semester. This training provides students with practical experience and helps them to excel through establishing agro-based entrepreneurs. In addition, students also participate in Rural Agriculture Work Experience for a minimum of two months, where they work with farmers in various villages and learn all package of practices followed by the farmers. This experience provides them with the opportunity to understand the practical problems of agriculture at farmers' fields.

Furthermore, the college offers specialised short (10-days) programmes and trainings on Personality Development and Entrepreneurship to create the interest of students in self-employment. To inspire and motivate students, the college invites alumni who hold apex positions in the private

and government sector to guide and advise them regarding the opportunities available for agriculture professionals. Various interactions and group discussions are organized to inspire and prepare the students for different competitive examinations, fostering the overall knowledge of the subject and become proficient in securing employment.

**6.5.8.** SSR of the College must have the SSR of all its Degree Programme (following section 6.4), then the report of the Colleges shall be considered.

**6.5.9.** Certificate (Applicable when SSR is submitted for Programme& College).

I, the Principal, **Dr. Naresh Kaushik** hereby certify that the information contained in Sections 6.4 and Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the college and degree awarding university.



**Signature of Principal of the College with Date & Seal**

**6.5.10.** Each college shall submit SSR as mentioned in 6.5.8. It shall be prerequisite for the SSR of the Agricultural University.

# Programmes



## B.Sc. (Hons.) Ag.
## M.Sc. (Ag.)
## Ph.D.

## 6.4 Self Study Report for the Programme



CCSHAU College of Agriculture, Bawal Academic Building

The College of Agriculture, Bawal was established in 2015 as one of the constituent colleges of Chaudhary Charan Singh Haryana Agricultural University, Hisar vide Memo No. Acad. /2015/No. 15/A-2/5350-5498 dated 21.08.2015. The foundation stone of the college building was laid down on February 25, 2017 by Shri Manohar Lal, Hon'ble Chief Minister of Haryana.

Bawal is a municipality in Rewari district of Haryana state and lies in the National Capital Region (NCR) of India. It is located on national highway NH 48, about 14 km from Rewari city, 100 km from Delhi and 200km from the main campus of the University at Hisar. Bawal is located at 28.09°N 76.59°E at an elevation of 266 m above mean sea level.

The mandate of the college is nurturing scholarly education in agriculture and allied fields to make students professionally competent and socially sensitive and to provide specialized trainings to the students to promote entrepreneurial and other skills among them.

The college has all facilities for students including smart classrooms, fully equipped laboratories, library, computer section, cafeteria, examination hall, seminar hall etc.

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

The College of Agriculture, Bawal came into existence in 2015 and the classes were started in college in the same year.

### Objectives of the College

- To impart education and training to youth for developing professional skills in agriculture and allied fields
- To collaborate with other academic institutes at national and international level
- To generate production and protection technology for various cropping/ farming/ horticultural /agro-forestry systems and its dissemination to the farmers and other end users
- To assist stakeholders through value-added endeavours, bio-based products, bio-processing, crop diversification etc.

- To monitor climate change impacts on agricultural systems and develop mitigation strategies adopting inter-disciplinary approaches

## Academic programmes

The college offers the following programmes

- B.Sc. (Hons.) Agriculture
- M.Sc. (Ag.) in Agronomy, Soil Science, Plant Pathology, Entomology, Horticulture and Forestry
- Ph.D. in Agronomy, Soil Science, Plant Pathology, Entomology, Horticulture and Forestry

## Admission policy

Admission to the college is based on the merit list of entrance examination conducted by the university. The details of admission and procedure are available on university website, www.hau.ac.in.

## Intake capacity

The intake capacity of college for UG programme is 55. College is also admitting 12 students in M.Sc. (Ag.), 6 in Ph.D. in different disciplines.

## Future planning

- Framing of new courses and revision of existing course curricula of UG and PG programmes with aim to make the students job creators rather than job seekers. Follow the ICAR guidelines in framing in the national level course work.

- Development of the facilities to improve the teaching and learning processes in the college through use of modern technologies.

- Implementation and execution of programmes for students' advisement, counselling and extra-curricular activities for all-round personality development of students and provision of placement services.




Inauguration of Academic Block of COA, Bawal Virtually by
Sh. Manohar Lal, Hon'ble Chief Minister Haryana, on August 31, 2019



First phase of construction, College of Agriculture, Bawal



Second phase of construction, College of Agriculture, Bawal



View of College of Agriculture, Bawal

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| Designation | Sanctioned | In position | Vacant |
|---|---|---|---|
| **Principal** | 01 | 01 | 00 |
| **Professor and equivalent** | 03 | 00 | 03 |
| **Assoc. Professor and equivalent** | 08 | 01 | 07 |
| **Asstt. Professor and equivalent** | 36 | 04+06* | 32 |
| **Total** | **48** | **12** | **42** |

*Outsourced up to 05.06.2023

Faculty in place under Professor and Associate Professor include Personal Promotion (PP). All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**Note 1:** In addition to the above-mentioned faculties, the faculties from Regional Research Station and KVK, Bawal have also been assigned the duties of teaching at COA, Bawal by the Vice Chancellor vide Registrar office Endst. No. Admn. F. 3/2018/34268-95 dated 18.10.2018.

**Note 2:** Twenty-six new faculty joined during the academic session 2022-23.

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place*

| Name of the post | Sanctioned | In position | Vacant |
|---|---|---|---|
| **Administrative-cum-Accounts Officer** | 01 | 01 | 00 |
| **Personal Assistant** | 01 | 01 | 00 |
| **Assistant** | 03 | 02+01* | 00 |
| **Jeep/Car Driver** | 01 | 00 | 01 |
| **Computer Operator** | 01 | 00 | 01 |
| **Store Keeper** | 01 | 01 | 00 |
| **Steno Typist** | 02 | 01 | 01 |
| **Assistant (one for each Deptt.: Agronomy, Agricultural Economics, G & PB, Horticulture, Soil Science and Plant Pathology)** | 06 | 00 | 06 |
| **Clerk (One for each Deptt.: Extension Education, Entomology, Agricultural Engineering, Biochemistry, Animal Science including Fisheries)** | 05 | 00 | 05 |
| **Tractor Driver** | 01 | 00 | 01 |
| **Lab Assistant** | 11 | 02* | 05 |
| **Library Assistant** | 01 | 01 | 00 |
| **Library Attendant** | - | 01+01* | 00 |
| **MBBS Doctor** | - | 01* | 00 |
| **Nursing Staff/ Pharmacist** | - | 01* | 00 |
| **Security Supervisor and Guard** | - | 30** | 00 |
| **Pump Operator** | - | 01* | 00 |

| | | | |
|---|---|---|---|
| **Mali/ Beldar (Landscaping)** | - | 03* | 00 |
| **Hostel Attendant** | - | 03* | 00 |
| **Peon cum messenger** | - | 01* | 00 |
| **Sweeper** | - | 07* | 00 |
| **Total** | 34 | 59 | 20 |

*Contractual/ outsourced staff; **Contractual/ outsourced for whole Bawal campus

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipment, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme*

| Facilities | Numbers | Space Length (ft) x Width (ft) | Speciality to conduct practical hands on training |
|---|---|---|---|
| **Smart lecture halls with Wi-Fi facility** | 06 | 36 x 24 (70 capacity) | The students are taught through advanced teaching tools equipped in lecture halls |
| **Laboratories** | 18 | 36x30, 36x24 and 30x24 | Practical on different subjects |
| **Language lab (English)** | 01 | 36x30 | Communication skills |
| **Computer lab** | 01 | 36x30 | Twenty computers with internet connectivity for practical |
| **Met. Observatory** | 01 | 2000 $m^2$ | Practical exposure on weather observations |
| **Instructional farm** | 01 | 12 acres | Practical crop production |
| **Workshops** | 01 | 20 m x 40 m | Agricultural engineering |
| **Farm area** | - | 166 acres | Research experiments, orchard, nursery and seed production |
| **Any other** | - | 08 acres | ▪ Sports ground for Athletics, Badminton, Basketball, Cricket, Football, Handball, Volleyball (2) and Kho-Kho<br>▪ **Indoor games:** Table Tennis, Gym and Yoga<br>▪ Seed Processing Unit |

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirement*

**The students are provided handsontraining in different courses as per details given below:**

| Name of degree programme | Training/ workshop name | Duration | Mode of training |
|---|---|---|---|
| **UG Programme** | Pest diagnosis | November 20, 2018 | Offline |
| **UG Programme** | Raring of earth worm | February 19, 2019 | Offline |
| **UG Programme** | Training on plant multiplication | December 21, 2021 | Offline |

| | | | |
|---|---|---|---|
| **UG Programme** | Preparation of pickle | January 25, 2022 | Offline |
| **UG Programme** | Nursery technology (under NAHEP-IDP) | January 18-24, 2023 | Offline |
| **UG Programme** | Processing technology of fruit and vegetables (under NAHEP-IDP) | January 27-31, 2023 | Offline |
| **UG Programme** | Demonstration of jam and jelly | January 30, 2023 | Offline |
| **UG Programme** | Organic farming (under NAHEP-IDP) | February 07-13, 2023 | Offline |
| **UG Programme** | Integrated farming system | February 9, 2023 | Offline |
| **UG Programme** | Exposure visit and interaction on organic farming | February 13, 2023 | Offline |



Problem diagnosis in field by the students on November 20, 2018



Exposure and learning about earthworm rearing February 19, 2019



Interaction of students with expert during training on May 19, 2019



Practical demonstration (lemon pickle) during training on fruits and vegetable preservation on January 25, 2022



Exposure and learning about plant multiplication on December 21, 2021



Exposure visit at Richa Food Ind., Dhankot (Gurugram) on January 28, 2023



Valedictory and evaluation by Dr. R.K. Malik (Consultant, CIMMYT) after completion of training on January 31, 2023



Method demonstration (guava jelly) during training on January 30, 2023



Learning about Integrated Farming System on February 9, 2023



Field visit at Organic Farm on February 13, 2023





Interaction with President Awardee Ms. Pooja Sharma at Chandu (Gurugram) on January 28, 2023



Arranged live telecast of International Potato Conclave addressed by Hon'ble Prime Minister on January 28, 2020

**Agron. 301 & 302 (Practical Crop Production I & II)**

Crop planning, raising *Kharif* and *Rabi* crops in multiple cropping system, field preparation, seed treatment, nursery raising, sowing, nutrient management, water management, weed management and management of insect pest and diseases of crops, harvesting, threshing, drying, winnowing, storage and marketing of produce, preparation of balance sheet including cost of cultivation, net returns per student as well as per team of a group of students.



Application of fertilizer during PCP on October 15, 2021



Wheat harvesting in PCP on April 15, 2022

**Agron. 491/ Ag. Econ. 491/ Ext 491: Rural Agricultural Work Experience (RAWE) and Agro Industrial Attachment (AIA)**

This course is designed for hands on training and practical for interaction among interns and farmers when the students are placed in village. The students are asked to interact with farmers on water shed management, high-tech agriculture and natural resource management, documentation of information through survey and discussion with farmers, preparation of farm plan and family budget, information on bank loans for agro-projects, working of agro-based industries (post-harvest technology and agro-processing), preparation of reports, presentation and learning leadership quality, sincerity and devotion.

**Note:** In addition to these practical courses, practical are also carried out by the students in other courses under the supervision of course instructors which includes; preparation of slides (mitosis & meiosis), emasculation and pollination, preparation of culture media, soil sampling and testing, raising of nursery of fruits, flowers and vegetable crops preparation of jam, jelly, candy, squash, RTS, chutney, pickle etc.

**6.4.6. Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

The total student intake from 2019-20 to 2022-23 are given as under:

| Discipline/ Department | Number of Qualified faculty | PG | Ph.D. |
|---|---|---|---|
| **Horticulture** | 3 | 2 | 1 |
| **Forestry** | 2 | 7 | 3 |
| **Soil Science** | 5 | 8 | 3 |
| **Agronomy** | 5 | 8 | 3 |
| **Entomology** | 2 | 8 | 3 |
| **Plant Pathology** | 4 | 8 | 3 |
| **Total** | **21** | **41** | **16** |

**6.4.7. Feedback of Stakeholders (Students, Parents, Industries, Employers, Farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

The college has devised a feedback proforma specifically for UG students, with the added responsibility of each class teacher to obtain feedback from both students and their parents prior to the final examination. The proforma covers all aspects required for the assessmentof quality education in the college.

**6.4.8 Student Intake and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | Students admitted | | | | | |
|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| B.Sc. (Hons.) Ag. | 67 | 61 | 64 | 82 | 76 | 350 |
| M.Sc. (Ag.) Programme | | 12 | 10 | 10 | 10 | 42 |
| Ph.D. Programme | | 06 | 05 | 05 | 05 | 21 |

| Name of the degree programme | Students' attrition (%) | | | | |
|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| B.Sc. (Hons.) Ag. | 2.68 | 1.83 | 3.2 | 7.38 | 0.76 |
| M.Sc. (Ag.) Programme | | 0 | 0 | 0 | 0 |
| Ph.D. Programme | | 0 | 0 | 0 | 0 |

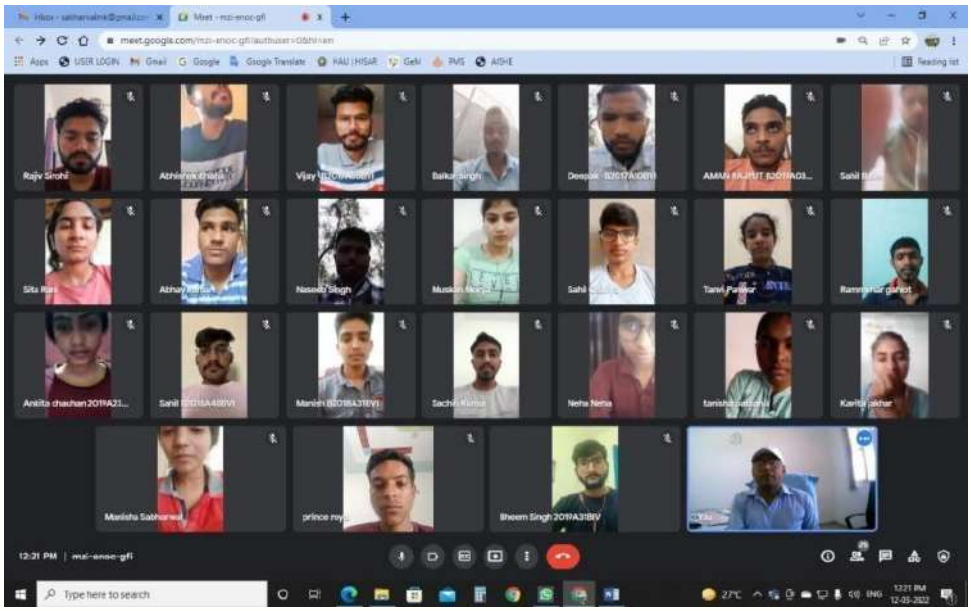
**6.4.9. ICT Application in Teaching and Practical for Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The detail of course curriculum given at 6.5.3.4 under sub head Courses Semester wise are being taught using power point presentation in smart classrooms.

- There are six smart classrooms equipped with audio-visual aids like multimedia, computers and white boards for effective teaching.
- Computer lab for Hands on Training with seating capacity of 30 students.
- Teachers have also been provided internet connected PCs for preparation and updation of lectures.




Celebrated Youth Day on January 12, 2022 in virtual mode



Virtual training on effective communication skills for SC students under SC-SP scheme during COVID-19 pandemic from March 11-20, 2022



Examinations conducted during COVID-19 following proper guidelines

## ICT Application in Curricula Delivery

The application of ICT used along with classroom study and during COVID-19 pandemic for different programmes/ trainings for sharing knowledge of resource persons from different reputed institutes.

| Programme offered | Total courses Theory/ Practical | Type of ICT Application |
|---|---|---|
| B.Sc. (Hons.) Ag. | All courses for UG, PG, and Ph.D. | ▪ The lectures of all the courses were taught digitally through power point presentations using smart classroom<br>▪ Digital *e*-content for the courses has been developed and shared on ERP system of the university to provide free and round the clock access to the students<br>▪ For online classes digital classroom platform like MS Team, Google Classroom, Google meet, WebEx meet etc. were used frequently by the faculty as well as students<br>▪ Curricula content also made available in the form of Digital flipbook for some courses<br>▪ All the classrooms are smart classroom, equipped with smart boards with scanner to deliver the content effectively to the students<br>▪ Online assignments through MS team, Google form, Google Docs and sheets are being conducted and evaluated to encourage the use of ICT among the students |
| Faculty | | ▪ Language lab training for faculty on 29-30.07.2021<br>▪ Smart classroom training on 03.08.2021 |
| Online/ Virtual Training | | • Organised live telecast on International Potato Conclave addressed by Hon'ble Prime Minister on January 28, 2020<br>• Personality developmentworkshop (under NAHEP-IDP) during May 5-7, 2020<br>• Eat right during COVID-19 crises (2 days workshop) on May 15-16, 2020<br>• COA, Bawal conducted online training on ICT for Agriculture Extension: New Concept for 200 participants from twenty states in collaboration with MANAGE Hyderabad during August 23-27, 2021<br>• Personality development and communication skills from March 15-26, 2021 |

| | | |
|---|---|---|
| | | • Organised live telecast of conclave on natural farming, Amul, Anand, Gujarat addressed by Hon'ble Prime Minister on December 16, 2021<br>• Training on Effective communication skills (under SCSP scheme) during March 11-20, 2022<br>• Personality development training under SC-SP scheme from February 25 to March 06, 2022<br>• One day training on CeRa for faculty on April 18, 2022 |




Inauguration of smart classroom and interaction with students by Prof. B.R. Kamboj, Vice Chancellor

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D Degree Programmes, separately, and to be presented college-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme) I, the Principal, **Dr. Naresh Kaushik** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.

**Signature of Principal of the College with Date & Seal**

*Annexure-I*

## SUMMARY OF PUBLICATIONS

**Research Papers:**

| Year | NAAS Rating < 6.0 | NAAS Rating 6.0-8.0 | NAAS Rating > 8.0 | Without NAAS rating | Total |
|---|---|---|---|---|---|
| 2018 | 13 | 4 | 2 | 9 | 28 |
| 2019 | 11 | - | 3 | 8 | 22 |
| 2020 | 17 | 3 | 1 | 11 | 32 |
| 2021 | 17 | 5 | 1 | - | 23 |
| 2022 | 6 | 4 | 6 | 2 | 18 |
| Total | 64 | 16 | 13 | 30 | 123 |

**Other publications:**

1. Books: 03
2. Book chapters: 11
3. Technical bulletins: 13
4. Popular articles: 81
5. Seminar and conferences: 123

## LIST OF FACULTY PUBLICATIONS

| RESEARCH PAPERS<br>**2018** | **NAAS Rating** |
|---|---|
| Dahiya R, Satyajeet and Yadav S. (2018). Impact of front-line demonstration on cotton production technology. *Journal of Cotton Research and Development*, 32(2): 300-305. | 4.78 |
| Dhram Prakash, Benbi DK and Saroa GS. (2018). Land-use effects on phosphorus fractions in Indo-Gangetic alluvial soils. *Agroforestry Systems*, 92: 437-448. | 8.55 |
| Haldhar SM, Kumar R, Samadia DK, Singh B and Singh H. (2018). Role of insect pollinators and pollinizers in arid and semi arid horticultural crops. *Journal of Agriculture and Ecology*, 8(5): 1-25. | 4.36 |
| Jat MK, Purohit HS, Choudhary SK, Singh B and Dadarwal RS. (2018). Influence of INM on yield and nutrient uptake in sorghum-barley sequence. *International Journal of Chemical Studies*, 6(3): 634-638. | - |
| Kakraliya SK, Singh I, Dadarwal RS, Singh LK, Jat RD, Jat HL and Jat ML. (2018). Impact of climate smart-agricultural practices on growth and crop yields of rice (*Oryza sativa*)-wheat (*Triticum aestivum*) system in nourth-western Indo-Gangetic plains. *Indian Journal of Agricultural Sciences*, 88(10): 1543-155. | 6.37 |
| Khedwal RS, Yadav DB and Hooda VS. (2018). Crop residue management in no-till maize: Influence the growth, yield and economics of *Kharif* maize (*Zea mays* L.). *Forage Research*, 44(2): 90-95. | 4.84 |
| Khare N, Pathak DV and Kumar M. (2018). Microbially enriched vermicompost affecting seedling and plant growth in aonlaand Bael. *International Journal of Current Microbiology and Applied Sciences*, 7(4): 2664-72. | - |
| Kumar M, Kumar A, Singh JK, Kumar S and Niwas R. (2018). Influence of soil temperature, moisture and planting depth on black scurf development in potato (*Solanum tuberosum* L.). *Journal of Agrometeorology*, 20(4): 342-344. | 6.55 |
| Kumar P, Yadav SP, Rolania K and Yadav S. (2018). Population dynamics of *Amrascabiguttulabiguttula* on Bt and non Bt cotton and its correlation with abiotic factors. *International Journal of Current Microbiology and Applied Sciences*, 7(9): 2927-2934. | - |
| Moharana PC, Singh RS, Singh SK, Jena RK, Naitam RK, Verma TP, Nogiya M, Meena RL, Gupta DK, Kumar S, Tailor BL and Singh R. (2018). Assessment of quality monitoring indicators under long term rice cultivation in hot arid Ghaggar-flood plains of India. *Archives of Agronomy and Soil Science*, 64(14): 2030–2044. | 9.09 |
| Mohsin M, Yadav JS, Kapoor A, Dhayal BC and Arif M. (2018). Comparative studies on castor based intercropping systems. *Environment and Ecology*, 36(1): 19-22. | 5.25 |
| Nagar S, Kumar M, Sharma JR, Baloda S and Godara RK. (2018). Bael germplasm evaluation for leaf and fruits pulp variability under south Haryana conditions. *International Journal of Current Microbiology and Applied Sciences*, 6(1): 959-964. | - |
| Rolania K, Yadav SS and Singh B. (2018). Efficacy of different insecticides against leafhopper and white fly in Bt Cotton. *Indian Journal of Applied Entomology*, 33(1): 35-37. | - |
| Satyajeet, Yadav SP and Dhanda SK. (2018). Effect of conservation agriculture-based technology on yield and economics of paddy. *International Journal of Current Microbiology and Applied Science*, 7(7): 67-69. | - |
| Satyajeet, Yadav SP, Dhanda SK and Dahiya R. (2018). Response of soluble fertilizer on productivity and profitability of Bt cotton based cropping system in semiarid | 4.78 |

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| environment. *Journal of Cotton Research and Development*, 32(2): 242-244. | |
| Satyajeet, Yadav VPS, Yadav SP and Kumar R. (2018). Status and opportunities of organic farming for sustainable agriculture – successful cases of rural youths in Haryana. *Indian Research Journal of Extension Education*, 18(4): 78-80. | 5.22 |
| Sheoran V, Kumar M, Vijay, Sharma S and Pathak DV. (2018). Effect of seed scarification treatments on ber (*Ziziphus rotundifolia* Lamk.) seedling biomass. *International Journal of Current Microbiology and Applied Sciences*, 7(12): 2591-96. | - |
| Sheoran V, Kumar M, Yadav BS, Yadav G and Sharma JR. (2018). Effect of different seed scarification treatments on seed germination parameters of ber (*Ziziphus rotundifolia* Lamk.) under laboratory conditions. *International Journal of Current Microbiology and Applied Sciences*, 7(12): 1972-80. | - |
| Sheoran Sunita, Antil RS, Dev Raj, Deepika and Grewal KS. (2018). Yield trends and changes in soil fertility in a long-term pearl millet-wheat cropping system managed with organic, inorganic and integrated source of nutrition. *Indian Journal of Agricultural Sciences*, 88(10): 1521-31. | 6.37 |
| Sheoran Sunita, DevRaj, Antil RS, Grewal KS and Singh R. (2018). Effect of weather variables on productivity of wheat managed with organic, inorganic and integrated sources of nutrients. *Journal of Agrometeorology*. 20: 271-275. | 6.55 |
| Singh B, Meena KC, Verma SR and Meena RK. (2018). Impact of KVK training programme on Guar (Cluster Bean) production technology. *International Journal of Agriculture Innovations and Research*, 6(4): 89-91. | - |
| Vinayaka KS, Singh B, Yadav SS and Nayak SB. (2018). Biology of brinjal fruit and shoot borer *Leucinodes orbonalis* (Guenee) and their impact on fruit yield. *Indian Research Journal of Extension Education*, 32(2): 53-58. | 5.22 |
| Vinayaka KS, Singh B, Yadav SS and Nayak SB. (2018). Screening of brinjal genotypes for resistance based on morphological plant character against brinjal fruit borer *Leucinodes orbonalis* (Guenee) *Indian Research Journal of Extension Education*, 33(1): 1-8. | 5.22 |
| Yadav DB, Yadav A, Punia SS and Sagwal OP. (2018). Long-term effects of green manuring and herbicides on soil properties, crop productivity and weed dynamics in rice-wheat cropping system in reclaimed alkali soils of Haryana. *Journal of Soil Salinity and Water Quallity*, 10(1): 104-111. | 4.94 |
| Yadav DB, Singh N, Duhan A, Yadav A and Punia SS. (2018). Penoxsulam + cyhalofop-butyl (premix) evaluation for control of complex weed flora in transplanted rice and its residual effects in rice-wheat cropping system. *Indian Journal of Weed Science*, 50(4): 333–339. | 5.84 |
| Yadav DB, Yadav A and Punia SS. (2018). Ready mix of pinoxaden and clodinafop-propargyl for control of *Phalaris minor* in wheat and its residual effects on succeeding rice crop. *Indian Journal of Weed Science*, 50(1): 42–45. | 5.84 |
| Yadav DB, Yadav A, Punia SS and Duhan A. (2018). Tembotrione for post-emergence control of complex weed flora in maize. *Indian Journal of Weed Science*, 50(2): 133-136. | 5.84 |
| Yadav DB, Yadav A, Punia SS, Singh N and Duhan A. (2018). Pretilachlor + pyrazosulfuron-ethyl (ready-mix) against complex weed flora in transplanted rice and its residual effects. *Indian Journal of Weed Science*, 50(3): 257-261. | 5.84 |
| **2019** | |
| Chaudhary A, Chhokar RS, Yadav DB, Sindhu VK, Ram H, Rawal S, Khedwal RS, Sharma RK and Gill SC. (2019). *In-situ* paddy straw management practices for higher resource use efficiency and crop productivity in Indo-Gangetic Plains (IGP) of India. *Journal of* | 4.57 |

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|---|---|
| *Cereal Research*, 11(3): 172-198. | |
| Dalal V, Kaushik N and Kathwal R. (2019). Effect of sunlight on different agri-silvi-horticulture combination under agroforestry system. *International Journal of Current Microbiology and Applied Sciences*, 8(6): 2732-2738. | - |
| Dehinwal AK, Pahuja SK, Kumar R, Bochalya MS and Chitralekha. (2019). Economic heterosis for fodder yield and its attributing traitsin different environment in forage sorghum (*Sorghum bicolor* L. Moench). *Research Journal of Agricultural Sciences*, 10(3): 558-562. | 4.50 |
| Dehinwal AK, Pahuja SK, Kumar R, Singh H, Sharma S and Chauhan PK. (2019). Study of combining ability for quality component in forage sorghum (*Sorghum bicolor* L. Moench). *International Journal of Pure & Applied Biosciences*, 7(2): 582-590. | - |
| Devi R, Duhan A, Punia SS and Yadav DB. (2019) Degradation dynamics of halosulfuron-methyl in two textured soils. *Bulletin of Environmental Contamination and Toxicology*, 102: 246-251. | 8.15 |
| Dhram Prakash, Benbi DK and Saroa GS. (2019). Effect of moisture and temperature regimes on changes in available phosphorus in texturally different soils. *Haryana Agricultural University Journal of Research*, 45: 15-20. | - |
| Jat RK, Singh R, Kumar M, Jat ML, Parihar CM, Bijarnia D, Sutaliya JM, Jat MK, Parihar MD, Kakraliya SK and Gupta RK. (2019). Ten years of conservation agriculture in a rice–maize rotation of eastern gangetic plains of India: Yield trends, water productivity and economic profitability. *Field Crops Research*, 232: 1–10. | 11.22 |
| Keshavamurthy and Yadav JS. (2019). Effect of row direction and row spacing on microclimate in castor based inter cropping system. Journal of Pharmacognosy and Phytochemistry, 7(3): 1662-65. | - |
| Kumar M, Sharma S, Gaur RK, Yadav BS and Singh N. (2019). Performance of bael (*Aegle marmelos* Corr.) cultivars under arid conditions of Haryana. *Indian Journal of Arid Horticulture*, 1(2): 39-43. | - |
| Kumar M, Pathak DV, Kumar M and Kumar R. (2019). Genomics of bio-control agent tested against *Fusarium oxysporum* and *Ganoderma lucidium* in shisham (*Dalbergia sissoo*). *Journal of Pharmacognosy and Phytochemistry*, 8(6): 596-602. | - |
| Punia SS, Yadav DB, Maun V, Manjeet and Punia T. (2019) Biology and largescale demonstration for management of *Orobanche aegyptiaca* in mustard. *Indian Journal of Weed Science*, 51(3): 266-269. | 5.84 |
| Punia SS, Yadav DB and Chaudhary A. (2019). Integrated weed management in cotton under irrigated conditions of Haryana. *Indian Journal of Weed Science*, 51(2): 158-162. | 5.84 |
| Rani D, Duhan A, Punia SS, Yadav DB and Duhan S. (2019). Behavior of pre-mix formulation of imazethapyr and imazamox herbicides in two different soils. *Environmental Monitoring and Assessment*, 191: 33 (1-8). | 8.51 |
| Satyajeet, Yadav VPS, Yadav SP and Sharma UK. (2019). Constraints faced by farmers in adoption of organic farming. *Indian Research Journal of Extension Education*, 19(1): 89-90. | 5.22 |
| Sheoran V, Kumar M, Sharma JR, Gaur RK and Saini H. (2019). Effect of scarification treatments on growth parameters of ber seedling. *Journal of Pharmacognosy and Phytochemistry*, 8(1): 658-661. | - |
| Vinayaka KS, Singh B, Yadav SS and Nayak SB. (2019). Efficacy of different insecticides against brinjal fruit borer (*Leucinodes orbonalis* G.) and their Impact on fruit yield. *Journal of Entomology and Zoology Studies*, 7(3): 63-66. | - |

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| Yadav DB, Yadav A and Punia SS. (2019). Impact of long-term green manuring and herbicides on weed biomass, crop productivity and profitability in rice (*Oryza sativa*)-wheat (*Triticum aestivum*) cropping system in Haryana. *Indian Journal of Agronomy*, 64(2): 172-179. | 5.55 |
| Yadav DB, Singh NK, Jitender and Yadav A. (2019). Penoxsulam + butachlor: A new ready-mix herbicide for control of complex weed flora in transplanted rice. *Indian Journal of Weed Science*, 51(4): 324–327. | 5.84 |
| Yadav DB, Yadav A and Punia SS. (2019). Effectiveness of triafamone + ethoxysulfuron (pre-mix) against complex weed flora in transplanted rice and its residual effects on wheat. *Indian Journal of Weed Science*, 51(2): 106-110. | 5.84 |
| Yadav DB, Yadav A and Punia SS. (2019). Long-term effects of green manuring and herbicides on weeds and productivity of the rice-wheat cropping system in North-Western India. *Indian Journal of Weed Science*, 51(3): 240-245. | 5.84 |
| Yadav DB, Singh N, Duhan A, Yadav A and Punia SS. (2019). Penoxsulam influence on weed complex and productivity of transplanted rice and its residual effects in rice-wheat cropping system. *Indian Journal of Weed Science*, 51(1): 10-14. | 5.84 |
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# SELF STUDY REPORT






2023

## Chaudhary Charan Singh Haryana Agricultural University
## Hisar, Haryana-125004

# FOREWORD



India's enormous population relies primarily on agriculture, which began to become more commercialised in the 20th century. In order to match the skills and technologies required to meet the rising demand for agricultural produce, it became imperative to update agricultural education. In fact, India has made great strides in agricultural education. With more than sixty agricultural universities today, agricultural education in India has come a long way. Haryana with 1.4% of India's land, contributes 14.1% of the national GDP that has grown 7times since the formation of Haryana in 1966 riding on the research, extension and teaching contribution of the Haryana Agricultural University, Hisar- the largest agricultural University of Asia. Haryana state contributed significantly to the green revolution in India in 1970 that made the country self sufficient in food production.

CCS Haryana Agricultural University, established the College of Agriculture, Kaul in 1974 in the rural area of Kaithal district to provide quality agriculture education in the North-eastern districts of Haryana- referred to as the rice-wheat bowl of the country. The college has magnificent infrastructure with all modern facilities to cater to the academic needs of the students. The college offers four-year B.Sc. (Hons.) Agri. degree programme to impart knowledge in the field agriculture, and hands on training programmes to the students through the latest practical crop production and protection techniques. During the later part of their degree programme, the students get acquainted with the socio-economic factors of the farming and rural economy through a unique field training -Rural Agricultural Work Experience (RAWE)- encompassing multiple gametes of agriculture. Till 2022, a total of 1513 students have graduated from this college. Presently, 211 students are on roll pursuing their graduation in agriculture at COA, Kaul. Recently, Post Graduate programmes in three disciplines viz. Agronomy, Soil Science, and Genetics & Plant Breeding were started in order to impart higher education in agriculture to the students of the state. Riding on these multiple cushions, till now, students of COA, Kaul have bagged a total 28 Gold medals during its journey and 5 numbers of these gold medals were won between years 2017-18 to 2021-22 in UG and 01 in PG programme.

The Self Study Report (SSR) pertaining to the period under report (2017-18 to 2021-22) has been prepared by the SSR Committee for Accreditation of the College of Agriculture, Kaul by the Indian Council of Agricultural Research. The SSR committee has taken due care to include all the necessary inputs regarding the existing status of the college in terms of infrastructure including offices, laboratories, class rooms, hostels, library, sports, residences, farm, co-curricular activities etc. It also includes the status of faculty, office and supporting staff, students etc. I believe, the present document prepared by the SSR committee fulfils the requirement of the accreditation of the College of Agriculture, Kaul.

I appreciate the efforts undertaken by all the faculty and staff members involved in the preparation of this Self Study Report of the College of Agriculture, Kaul.

**Prof. B. R. Kamboj**
Vice Chancellor
CCSHAU, Hisar

# PREFACE

In order to meet the peculiar agriculture education and research needs of the rice bowl of Haryana, Chaudhary Charan Singh Haryana Agricultural University established College of Agriculture at village Kaul in Kaithal district of the state in the year 1974. Initially, the college provided agriculture education for 1st year for B.Sc. (Hons.) Agri. 4-year programme, and initial two years for B.Sc. (Hons.) Agri. 5-year programme. The students of both the streams were later shifted to the main campus at Hisar for completion of their degree. In the year 1983, the College of Agriculture, Kaul was upgraded to a full-fledged college to provide full component of the degree programme.

College of Agriculture, Kaul bodes of an upgraded infrastructure that include state of the art smart class rooms, well-equipped laboratories, seminar hall, well-stacked library, sprawling sports arena with multiple game facilities, and student's farm. Highly qualified and experienced faculty nurture the students in the theoretical as well as practical aspects of agriculture to produce brilliant future-ready graduates and postgraduates in the field of modern agriculture. The infrastructure in the form of well-equipped hostels for boys and girls, Students Activity Centre (SAC), and co-curricular activities including NCC and NSS etc. help develop the students into better human beings. Multiple sports facilities, NCC and NSS activities also inculcate patriotism and overall development of the students. Highly educated faculty and sports staff help impart the best practical education to the students. Unique exposure to practical and classroom teaching followed by one-year practical crop production (PCP) and six months Rural Agriculture Work Experience (RAWE) programme help develop future ready agriculture graduates in various agriculture disciplines. Special orientation is given to the agro-based skill-oriented activities viz. organic farming, sustainable agriculture, bee keeping, mushroom cultivation, vermi-composting, dairying and horticulture, etc. to hone the entrepreneurial skills of the students to venture into production and marketing avenues.

Buoyed by the success of present model education of College of Agriculture, Kaul, the CCSHAU authorities initiated post-graduate programmes in three disciplines viz. Agronomy, Soil Science, and Genetics & Plant Breeding, both for M.Sc. and Ph.D. programmes from the year 2019-20. College's success is attributed to its unique peculiarities particularly its location in rural background in highly productive paddy-wheat region of Haryana, where education on the ancient pattern of "Gurukul" is envisaged to inculcate moral values in the students. Such congenial conditions not only prepare future-ready students to serve farming community in a far better way but also help them scale greater heights of academic excellence, as demonstrated by maximum gold medals won by students of this college amongst the three constituent colleges of the University. College of Agriculture, Kaul has till now, produced 1513 B.Sc. (Hons.) Agri. graduates who are now serving this college and University besides banks, armed forces, cooperative sector and other public and private sectors, successfully.

**Dr. O. P. Chaudhary**
Principal, COA, Kaul

# CONTENTS


| Sr. No. | Particulars | Page(s) |
|---|---|---|
| 6.5 | **Self Study Report of College of Agriculture, Bawal (Rewari)** | **2** |
| **6.5.1** | College Administration | 2 |
| 6.5.1.1 | College Principal's Office Establishment | 2 |
| 6.5.1.2 | Monitoring Mechanism for Quality Education (on-line) | 8 |
| 6.5.1.3 | CC/Board of Studies | 20 |
| 6.5.1.4 | Anti-Ragging Cell | 20 |
| 6.5.1.5 | Biological Waste Disposal Facility | 21 |
| 6.5.1.6 | Institutional Ethics Committee for Experiment on Animals | 21 |
| 6.5.1.7 | Committee for Prevention of Sexual Harassment of Women at Work Places | 21 |
| 6.5.2 | **Faculty** | **22** |
| 6.5.2.1 | Faculty Strength | 22 |
| 6.5.2.2 | Faculty Profile (Department wise) | 22 |
| 6.5.2.3 | Credential of the Faculty | 24 |
| 6.5.2.4 | Technical and Supporting Staff | 31 |
| **6.5.3** | **Learning Resources** | **31** |
| 6.5.3.1 | College Library (digital) | 31 |
| 6.5.3.2 | Laboratories, Instructional Farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc | 33 |
| 6.5.3.3 | Student READY/ In-Plant Training/ Internship/ Experiential Learning Programmes | 36 |
| 6.5.3.4 | Curricula Delivery through IT (smart class rooms/ interactive board etc.) | 39 |
| **6.5.4** | **Student Development** | **41** |
| 6.5.4.1 | Student Intake and Attrition | |
| 6.5.4.2 | Average Number of Students in Theory and Practical Classes | 41 |
| 6.5.4.3 | Admission Process | 41 |
| 6.5.4.4 | Conduct of Practical and Hands on Training | 41 |
| 6.5.4.5 | Examination and Evaluation Process | 41 |
| 6.5.4.6 | NCC/NSS Units | 43 |
| 6.5.4.7 | Language Laboratory | 54 |
| 6.5.4.8 | Cultural Centre | 55 |
| 6.5.4.9 | Personality Development | 57 |
| **6.5.5** | **Physical facilities** | **58** |
| 6.5.5.1 | Hostels | 58 |
| 6.5.5.2 | Examination Hall | 59 |

| | | |
|---|---|---|
| 6.5.5.3 | Sports and Recreation Facilities | 59 |
| 6.5.5.4 | Auditorium | 60 |
| 6.5.5.5 | Exhibition Hall | 60 |
| **6.5.6** | **Research Facilities** | **60** |
| 6.5.6.1 | Postgraduate Laboratories and Equipments | 60 |
| 6.5.6.2 | Research Contingency | 61 |
| **6.5.7** | **Outcome/Output** | **62** |
| 6.5.7.1 | Student Performance in National Examinations | 62 |
| 6.5.7.2 | Students Placement Profile | 62 |
| 6.5.7.3 | Awards/ Recognitions/ Certificates | 62 |
| 6.5.7.4 | Employability | 65 |
| **6.4** | **Self Study Report for the Programme** | **67** |
| 6.4.1 | Brief History of the Degree Programme | 70 |
| 6.4.2 | Faculty Strength | 71 |
| 6.4.3 | Technical and Supporting Staff | 71 |
| 6.4.4 | Classrooms and Laboratories | 72 |
| 6.4.5 | Conduct of Practical and Hands-on-Training | 74 |
| 6.4.6 | Supervision of Students in PG/Ph.D. Programme | 76 |
| 6.4.7 | Feedback of Stakeholders (Students, Parents, Industries, Employers, Farmers etc.) | 76 |
| 6.4.8 | Student Intake and Attrition in the Programme for Last Five Years | 77 |
| 6.4.9 | ICT Application in Teaching and Practical for Curricula Delivery | 78 |
| Annexure-I | **Summary of Publications** | **79** |
| | List of Faculty Publications | 79 |
| | Research Papers Presented in Seminars/Conferences/Workshop etc | 89 |
| | Book chapters | 92 |
| | Popular articles | 93 |
| | Manuals | 96 |
| | Workshop/Conference/Seminar/Training attended by the Faculty | 96 |
| | Trainings Organized by the Faculty at College Campus | 101 |
| Annexure-II | Photographs Of Activates | 102 |

# SELF STUDY REPORT OF COLLEGE OF AGRICULTURE KAUL (KAITHAL)

## About College of Agriculture, Kaul

College of Agriculture, Kaul situated on the outskirts of village Kaul, district Kaithal, Haryana (29.8498$^{o}$ N latitude, 76.6615$^{o}$ E longitude) is an important constituent college of Chaudhary Charan Singh Haryana Agricultural University (CCS HAU), Hisar. College of Agriculture, Kaul has its beginning as a constituent college of Kurukshetra University, Kurukshetra in the erstwhile state of joint Punjab. After creation of the state of Haryana in 1966, Haryana Agricultural University came into being at Hisar in the year 1970. The College of Agriculture, Kaul was integrated into the Haryana Agricultural University in 1974 with the motto to impart quality and scientific education to students in the field of agriculture.

Initially, the academic session was started for B.Sc. (Hons.) Agri. having both *i.e.* 4 year and 5 year programmes at Kaul campus. The classes for 1$^{st}$ year under 4-year programme, and 1$^{st}$ and 2$^{nd}$ year under 5-year programme were initiated at Kaul campus and the rest of classes were conducted at the main campus of HAU, Hisar. Dr. M.S. Chaudhary was the founder Principal who served the college from 28-7-1974 to 11-5-1977 and thereafter, eighteen eminent Professors headed the post of Principal till date, under whose leadership the college has made significant achievements in the field of academics, sports, NCC/NSS and other co-curricular activities. College of Agriculture, Kaul was upgraded to a full-fledged college in 1983 and the first batch completed their graduation in 1986. It is a matter of pride that during the period under consideration (April 2018 to March 2023), from a total of 15 University Gold Medals awarded to the students of B.Sc. (Hons.) Agriculture stream in the University, 07 medals have been won by the students of College of Agriculture, Kaul. Many students won laurels in national level competitions in sports and other co-curricular activities like NCC/NSS *etc.*

During this long journey of 49 years, a total of 1513 students have completed their B.Sc. (Hons.) Agri. degree from this esteemed college. Presently, 211 students including 107 girls are enrolled for B.Sc. (Hons.) Agri. 4-year programe. Later, postgraduate programme of M.Sc. (Agriculture) and Ph.D. was initiated in three disciplines of Agronomy, Soil Science and Genetics & Plant Breeding in the year 2019-20. Presently, 12 M.Sc. students and 9 Ph.D. students are enrolled in this college.

## Objectives

- To cater to the needs of agricultural education for the North-East part of Haryana.
- To have better interaction between College of Agriculture, Hisar and this part of Haryana
- To produce competent agricultural graduates having knowledge of location specific problems with complete rural environment
- Such other purposes asUniversity authorities may direct from time to time

## Academic programmes:

The college is offering the following programmes:

- B.Sc. (Hons.) Agriculture 4-year programme after 10+2 with science
- M.Sc. (Ag.) in Agronomy, Soil Science, and Genetics & Plant Breeding
- Ph.D. in Agronomy, Soil Science, and Genetics & Plant Breeding

**Admission Policy:**

Admission to the college is based on the merit list of the entrance examination conducted by the CCSHAU, Hisar. The details of the admission procedure are available on University website, www.hau.ac.in

**Intake Capacity:**

Current intake capacity of the College is 60 comprising of 32 students (27 Haryana residents + 5 ICAR) of COA, Kaul and 28 students admitted in COA, Bawal are also studying in this college. In addition, this college also admits 6 students in M.Sc. and 3 in Ph.D. in three aforementioned disciplines.

**Future Planning:**

- Framing of new courses and revision of existing course curricula of UG and PG programmes with aim to make the students job creators rather than job seekers.
- Development of facilities to improve the teaching and learning processes in the college through use of modern technologies.
- Implementation and execution of programmes for students' advisement, counselling and extra-curricular activities for all-round personality development of students, and provision of placement services.

## SELF STUDY REPORT OF COLLEGE OF AGRICULTURE, KAUL (KAITHAL)

### 6.5.1. College Administration

**6.5.1.1. College Principal's office establishment:** *Whether the Dean's post sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines? Date of selection of present dean, mode of selection, tenure etc. shall be mentioned. Clearly mention the staff and infrastructure/facilities available in the Dean's Secretariat.*

College of Agriculture, Kaul works under the Dean, College of Agriculture, CCS HAU, Hisar, who is the controlling officer of thecollege. Principal is the adminiustative head of the college of Agricultre- a post sanctioned by the competent authority of the University.

| **Name of Principal:** | **Dr. O.P. Chaudhary** |
|---|---|
| Date of selection of present Principal | Additional Charge *w.e.f.* 13-10-2022 |



Dr. O. P. Chaudhary, Principal, College of Agriculture, Kaul

**Tenure of Principals during 2017-18 to 2021-22:** Details of Principals during the period under report is given below:

| Sr. No. | Name | Period | |
|---|---|---|---|
| | | From | To |
| 1. | Dr. Devi Singh | 06.05.2015 | 31.01.2018 |
| 2. | Dr. Satya Pal Goyal | 01.02.2018 | 30.04.2018 |
| 3. | Dr. K.S. Grewal | 01.05.2018 | 08.05.2018 |
| 4. | Dr. C.P. Mehla | 09.05.2018 | 23.07.2018 |
| 5. | Dr. R.C. Verma | 24.07.2018 | 10.08.2020 |
| 6. | Dr. C.P. Mehla | 11.08.2020 | 31.05.2021 |
| 7. | Dr. P.S.Panwar | 01.06.2021 | 30.09.2022 |

| Mode of Selection | Duty assigned by Worthy Vice-Chancellor of the University |
|---|---|
| Tenure | No fixed tenure |

## Staff of the Principal's office:

| Name of the post | Sanctioned | In position | Vacant |
|---|---|---|---|
| Assistant | 02 | 02 | Nil |
| Jeep/Car Driver | 01 | 01 | Nil |
| Clerk | 03 | 03 | Nil |
| Store Keeper | 01 | Nil | 01 |
| Stenographer | 01 | 01 | Nil |
| Messenger | 04 | 02 | 02 |
| **Total** | **12** | **9** | **3** |



Staff of Principal's Office at College of Agriculture, Kaul

## INFRASTRUCTURE

*(Give the details of the infrastructure available such as furniture, computer etc.)*

| **Principal's Office** | **Fully furnished office for the principal** |
|---|---|
| CCTV surveillance | Principal office has access to the whole office and college premisesthrough CCTV |
| Cashier Room | 01 |
| Store (s) | 01 |
| Strong room | 01 |
| Committee Room | 01 |
| Waiting Lounge / Hall for Visitors | 01 |
| Common room for girl students | 01 |
| Washrooms/Toilets | 01 |
| Furniture & Computers | Office staff has luxurious seating equipped with appropriate furniture, computer withinternet facility (Wi Fi), multi functional printers, photo copiers, scanners *etc*. |
| Wi-Fi facility | Principal office and the whole campus have access to Wi-Fi |

| | | |
|---|---|---|
| **Disciplines** | **Teachers of following disciplines are available in the college.**<br>1. Genetics & Plant Breeding<br>2. Agronomy<br>3. Soil Science<br>4. Entomology<br>5. Plant Pathology<br>6. Horticulture<br>7. Vegetable<br>8. Forestry<br>9. Seed Science and Technology<br>10. Agricultural Meterology<br>11. Agricultural Engineering<br>12. Agricultural Economics<br>13. Extension Education<br>14. Mathematics and Statistics<br>15. Microbiology<br>16. Botany and Plant Physiology<br>17. Bio chemistry<br>18. Zoology<br>19. Food Science and Technology<br>20. Sociology<br>21. English<br>22. Livestock Production Management | Being the constituent college of CCS HAU, Hisar, separate departments do not exist. However, faculty of all the disciplines is in position. |
| **Name of College** | College of Agriculture, Kaul (Kaithal) | |
| **Faculty position** | See section 6.5.2. | |
| **Lecture Halls (No.)** | 04 | |
| **Facilities in the lecture hall like seating capacity, LCD Projector, Computer, CC** | The ultra-modern air conditioned smart classrooms with false ceiling and have a seating capacity of 60 students. These are well equipped with "interactive flat panel" along with mini PC, CCTV cameras, curtains, | |

| | |
|---|---|
| **Camera, Blackboard, screens *etc.*** | power back up (UPS), podium, teaching aids, magnetic pen for writing on to the white board of interactive flat panel,*etc.* |
| **Smart Class rooms (No.)** | 03 |
| **Class/Seminar Rooms (No.)** | 01 |
| **Committee Room (No.)** | 02 |
| **Exhibition Hall** | 01 |
| **College Library** | 01 |
| **Departmental Computer facility** | Each teacher along with office staff have advanced computer, printer and internet facility. |
| **Washrooms/Toilets (No.)** | He – 04, She -04 |
| **Stores (No.)** | one main store; 08 stores in the laboratories and two office stores. |
| **UG Labs (No.)** | 11 |

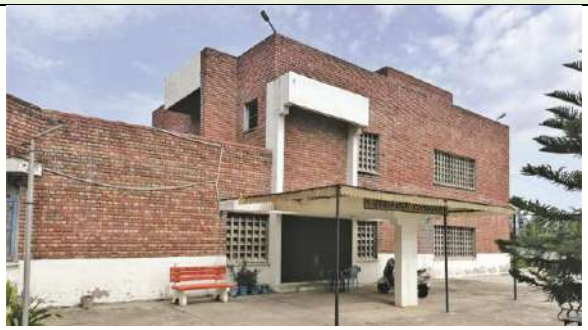
**Specific Labs (Name of each lab, one 1-2 lines description of its functioning):**
The college is completly renovated with provision of air-conditioning of the offices and laboratories.

All laboratories are spacious, well ventilated, air conditioned and provision with facilities of white-board, comfortable sufficient seating, stores, inbuilt office for Lab Attendants/Assistants, *etc.*

1. **Agronomy Lab:** Seed and fertilizer samples; models of farm equipments; glazed photographs of weeds; white board *etc.* are available for practical classes.
2. **Soil Science:** The laboratory is equipped with instruments including EC meter, pH meter, Oganic carbon assembly, Kjeldahl distillation assembly, Spectrophotometer, Flame photometer, Oven, electric stirrer, weighing balance *etc*.
3. **Entomology:** Lab is equipped for teaching insect classification, life stages of pests and beneficial insects, crop damage/material, honey bee boxes, insect collection kits, light traps, pesticide application equipments, *etc*. The laboratory has the largest collection of insect pests of crops. This lab was declared as the Best Entomolgy Lab in India by the last Accreditation Committee. Provision of honey bee apiary is the unique feature of this college.
4. **Plant Pathology:** All essential equipments like compound and simple microscopes, Laminar flow chamber, BOD incubator, autoclaves, specimen samples of crop diseases, glazed pictures, facilities for raising mushroom *etc.* are available.
5. **Horticulture:** Processing and packaging equipments *viz* .screw juice extractor, digital refractometer, hydraulic juice press, fruit mill juicer, pickle mixer, fruit pulper, and models of nursery raising of fruits and vegetable are available.
6. **Experiential learning Programme lab. (Horticulture)**: An ELP module of Horticulture is being run under this lab with cold storage, processing and packaging facilities including shrink wrapping machine, bottle washing assembly, vertical deep freezer for fruits and vegetables, double distillation water apparatus, *etc*.
7. **Extension Education Lab:** A well equipped extension Lab with audio-visual aids like LCD projector, audio mixers, digital camera, tripod, portable PA system, audio recording devices, *etc.* are available.
8. **Chemistry and Biochemistry Lab**.: All the required chemicals, glassware and apparatus are available for conducing organic and inorganic chemistry experiments.
9. **Zoology and Botany Lab**.: Preserved specimens of different organisms, charts, models *etc.* are available.
10. **Genetics and Plant Breeding:** Intruments like microscope, BOD incubators and oven; permanent slides for demonstration of cell division for carrying out the practical facilities for Genetics and Plant Breeding.

11. **Agri. Engineering Lab:** Machinery related to agricultural operations like primary (MB plough, disc plow, chisel plow) and secondary (harrow, cultivator rotavator, leveler) tillage operation, seeding (seed drill), harvesting (sickle, mower, reaper), threshing (thresher) and transportation (tractor and trolley) are available.
12. **Language Lab:** The lab consist of 4k interactive display, thirty desktops and internet connections with language software which help students in listening, speaking, reading and writing skills.

| | |
|---|---|
| Farm area/nethouses/green houses | A total of 32 acres (22 acres of Students' Farm and 10 acres of orchard with different fruits trees) exist for practical studies of the studentsalong with social forest, disease screen house. Additionally, 82 acres of land under Rice Research Station farm is also available at COA Kaul Campus. |
| Any other information which is not covered in the infrastructure may be added preferably in tabular form | |
|  | **Canteen:** Mini shopping complex comprising grossery, stationary and canteen caters to the daily needs of students and employees of the campus. The food items sold are kept disesase following proper hygienic standards. |
|  | **Rest House**: A well-maintained rest house with AC and non-AC rooms caters to the stay needs of officials, and parents of the students. A Farmers' Hostel is available for the stay of visiting farmers. |
|  | **Dispensary:** A dispensary headed by MD Doctor and a Pharmacist is running in the campus to resolve health related issues of students and staff of the college and their families. |
|  | **Library**: The well stocked library posses more than 18000 text and reference books, 36 journals, monographs, manuals *etc*. Additional provision of air-conditioned halls, night reading halls and a Book Bank exist. |

| | |
|---|---|
|  | **Computer Lab**: The well-equipped Computer Lab offers service facilities like internet access, data analysis, documentation, computer typing, scanning, printing, *etc.* |
|  | **Sports complex:** It comprises of international standard 400m athletic track, play grounds for cricket, hand ball, foot ball, basket ball, volley ball, table tennis, badminton *etc.* for the students, staff and their family members. |
|   | **Campus school**: The well furnished primary standard campus school provide KG and elemaentary education to the kids of staff and from nearby villages. |
|   | **Student's activity centre (Auditorium)**: The 275 seating capacity auditorium caters to the various entertainment and cultural activites of the college and residents. Various clubs like Fine arts and Graphic club, Music and Dramatics Club, Literary *etc.* are also housed in multiple halls of auditorium. |
|    | **Girls and Boys Hostel**: Separate hostel facilities for boys and girls are provided in the college with lodging capacity for 204 boys and 65 girls. Hostels are provisioned with dining hall, common room with LCD TV, indoor game hall, Gym *etc.* Solar water heating system is also available for students. Girls hostel is adequately protected and under CCTV coverage. |

| | |
|---|---|
|  | **Dairy unit:** An integrated dairy unit with 16 animals serve as field lab for LPM. It consists of well laid out animal sheds, feed stores, and water facility. It also provides milk facilities to the students and staff of the college. |
|  | **Indoor multipurpose hall**: The foundation stone of an indoor multipurpose hall was laid with state of provision of badminton, table tennis, squash, wrestling, *etc.* for students and staff of the college. |
| In addition to this, the campus of the college is equipped with solar street light; beautifully laid out parks and parking facilities, *etc*. | |

**6.5.1.2. Monitoring Mechanism for Quality Education (on-line):** *Whether the College is having an internal quality assurance system, with appropriate structure and processes, and with enough flexibility to meet the diverse needs of the stakeholders which is required for planning, guiding and monitoring quality assurance and quality enhancement activities of the Colleges.*

- Allotment of courses to competent teachers in position, and aslo from the main compus.
- Attendance of the students of respective courses is regularly monitored through updation on Enterprise Resource Planning (ERP) system through University website as well as manual reports.
- Attendance and quality of education (theory and practical, CCA *etc*.) is further ensured through CCTV surveillance as well as physical visits by the Principal.
- Random and planned visits of higher authorities of the University further firm up quality education, management and delivery.
- To provide quality education to the students, all the e-content in the form of text, e-manuals, video, images, presentations *etc*. are uploaded online on University website and same is monitored by the Principal himself.
- The academic activities of the classes and other activities are periodically reported by the respective class incharges to the competent authority. Monthly review through fixed staff meeting helps make course corrections.
- To ensure quality education, feedback proformas are regularly got filled from the students and parents that are analysed by teachers and management for improving the teaching quality.
- Skill upgradation of teachers is ensured through periodiuc training organized by respcective Departments, DHRM and other institution including ICAR, SAU's *etc.*

**Monitoring of teaching:**

- Online Self Assessment Report (SAR) filled up by each teacher are primarily evaluated by Principal/HOD on various academic parameters of teaching, research, extension, co-curricular activities *etc.* followed by Dean COA, Hisar and finally by Worthy Vice-chancellor of the university. The report is then converyed to the concerned teacher through online mode of ERP module.
- Advisors are allotted to each student who monitor their performance by holding weekly advisory group meeting in the tutorial class scheduled on every Monday. They not only monitor their academic progress, but also their personal problems in college and hostels *etc*.
- The evlauation of PG students are done by their major advisor and advisory committee allotted to each students along with one member nominated by Dean PGS. Dean PGS' nominee look after the maintenance of proper standards and rules as per University norms in conducting the research.
- Beside these, CCTV camera installed also helps in monitoring by the authority.

**Monitoring of research:**

- Monitoring of research work is carried out through evaluation of SAR of the faculty members by competent authority.
- Research activities are monitored through frequent discussions among the teachers and organizing in-house discussion for finalizing the research work which is planned to be executed in the coming years.
- Visits of the higher authority of the University along with the Principal to laboratories, field area, sports grounds *etc.* are regularly carried out.
- Annual reports are also submitted to the Director of Research office and get its approval before being submitted to the Programme Coordinator of the respective schemes.

**Monitoring of extension:**

- Extension activities are monitored through evaluation of SAR of the faculty membersby Principal of the college.
- Farm visit and tour are arranged as and when the problem arises at the farmers' field and it is to be done through Principal's office.



Chaudhary Charan Singh Haryana Agricultural University,
HISAR
SELF-ASSESSMENT REPORT
Self-Assessment Report for the period 2021 -22

Name : Vishal Goyal
Designation: Assistant Soil Chemist
Year of SAR : 2021 - 22

1. (a) Name (in Block Letters) Vishal Goyal
(b) Designation: Assistant Soil Chemist
(c) Department: College Of Agriculture, Kaul
(d) Joining date:
i) In HAU 27 Aug 2014
ii) On the present post:

(e) Period of absence from duty during the year in case the absence is more than a month (details to be specified):

i) On leave of the kind due for personal work:

| S.No. | From Date | To Date | Total Days |
|---|---|---|---|
| 1 | | | |

ii) On leave of the kind due for study purpose:

| S.No. | From Date | To Date | Total Days |
|---|---|---|---|
| 1 | | | |

iii) Study leave for doing Ph.D.:

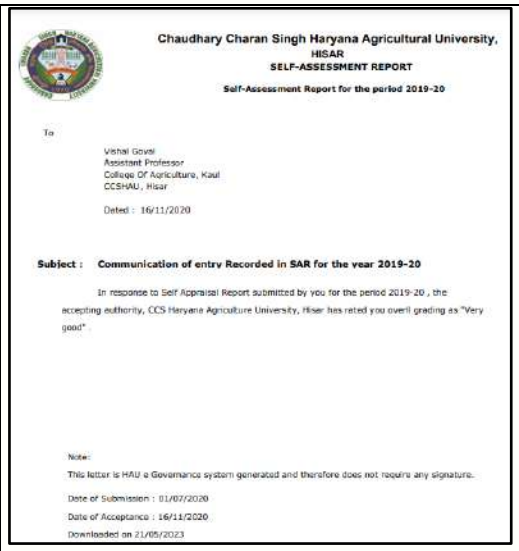
| S.No. | From Date | To Date | Total Days |
|---|---|---|---|
| 1 | | | |

iv) On leave for undergoing training etc:

| S.No | From Date | To Date | Total Days |
|---|---|---|---|
| 1 | | | |

Note1: The purpose of this Self-Assessment report and review is to summarize and evaluate the faculty member's achievements over the past 12 months and to assist him/her in making further improvement.

Note2: The Self-Assessment Reports are written for the period from 1st July to 30th June. The teachers shall initiate their own SARs on time and ensure that these reach the reviewing authority by the end of July. The onus for not initiating the report on time will lie on the teacher himself/. In the cases of failure to initiate SAR, disciplinary action shall be initiated by the competent authority. However, if the teacher concerned repeatedly fails to do so then his annual increment(s) may be withheld by the competent authority.



Chaudhary Charan Singh Haryana Agricultural University,
HISAR
SELF-ASSESSMENT REPORT
Self-Assessment Report for the period 2019-20

To
Vishal Goyal
Assistant Professor
College Of Agriculture, Kaul
CCSHAU, Hisar

Dated : 16/11/2020

**Subject : Communication of entry Recorded in SAR for the year 2019-20**

In response to Self Appraisal Report submitted by you for the period 2019-20 , the accepting authority, CCS Haryana Agriculture University, Hisar has rated you overll grading as "Very good"

Note:
This letter is HAU e-Governance system generated and therefore does not require any signature.

Date of Submission : 01/07/2020
Date of Acceptance : 16/11/2020
Downloaded on 21/05/2023

SAR Proforma and assessement conveyed format

*Mention the impact of monitoring on the outcome of the College with reference to students' excelling in academics, research and extracurricular activities.*

**Students passed out from COA, Kaul during last five years (2017-18 to 2021-22):**

| Academic Years | Under Graduate programme | Post Graduate Programme | | | Ph.D. Programme | | | |
|---|---|---|---|---|---|---|---|---|
| | B.Sc. (Hons.) Agri. 04 year programme | Agronomy | Soil Science | Genetics & Plant Breeding | Agronomy | Soil Science | Genetics & Plant Breeding | Horticulture |
| 2017-18 | 47 | NA | NA | NA | NA | NA | NA | NA |
| 2018-19 | 52 | NA | NA | NA | NA | NA | NA | NA |
| 2019-20 | 41 | NA | NA | NA | NA | NA | NA | NA |
| 2020-21 | 51 | NA | NA | NA | NA | NA | NA | NA |
| 2021-22 | 48 | 02 | 02 | 02 | NA | NA | NA | NA |
| Total | **239** | **02** | **02** | **02** | **-** | **-** | **-** | **-** |

| **No. of students who cleared NET** | | | | | |
|---|---|---|---|---|---|
| 2017-18 | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **Total** |
| NA | NA | NA | 3 | 1 | 4 |

**Student's Awards/Achievements (Academics): Gold medal, Merit Fellowship and Participation**

**Gold Medals from COA, Kaul**

| Sr. No. | Year | Name | Father's name | Admission No. | Award |
|---|---|---|---|---|---|
| **UNDER GRADUATE** | | | | | |
| **1.** | 2019-20 | Ms. Anjali Rana | Sh. Sube Singh | K2016A08BIV | University Merit Gold Medal |
| **2.** | | Ms. Anjali Rana | Sh. Sube Singh | K2016A08BIV | PS Lamba Gold Medal |
| **3.** | 2020-21 | Ms. Prerna Pilania | Sh. Bhupender Singh | K2017A22BIV | University Merit Gold Medal |
| **4.** | | Ms. Prerna Pilania | Sh. Bhupender Singh | K2017A22BIV | PS Lamba Gold Medal |
| **5** | 2021-22 | Ms. Parmod | Sh. Satbir Singh | B2018A19BIV | University Merit Gold Medal |
| **POST GRADUATE** | | | | | |
| **6.** | 2020-21 | Mr. Ravi (M.Sc. Agronomy) | Sh. Jagjeet Singh | 2019A39M | University Merit Gold Medal |

| Academic Years | Awards/Achievements | Remarks |
|---|---|---|
| 2017-18 | **Achievements**<br>▪ Mr. Naveen Kumar, K2014A27BIV and Mr. Onkar Singh, K2014A29BIV got admission in IIM, Ahmedabad and Lucknow, | |

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| | respectively.<br>▪ Mr. Ajay Kumar, K2014AA1BIV and Mr Gagan Arora, K2014AA15BIV got admission in NIAM, Jaipur.<br>▪ Mr. Amit Kumar, K2014AA7BIV and Mr. Sunil Kumar, K2014AA56BIV got admission in IRMA, Anand.<br>**Fellowship (JRF)**<br>▪ Six students *viz*. Mr. Ankit Dahiya, K2014A7BIV, Mr. Ramesh, K2014A42BIV, Mr. Parveen, K2014A34BIV, Mr. Ravi Gautam, K2014A46BIV, Mr. Siddhant Ranjan Padhi, K2014A52BIV and Mr. Narender Pal, K2014A26BIV got admission in IARI, New Delhi. | |
| 2018-19 | **Achievements**<br>▪ Ms. Kalpana Yadav, K2015A17BIV, Ms. Sakshi, K2015A17BIV and Ms. Sonia, B2015A25BIV visited Prague, Czech Republic under NAHEP IDP project for two months training (March-April 2018-19).<br>▪ Ms. Shivani Kalra, K2015A50BIV got admission in ISRO, Hyderabad<br>▪ Ms. Ritu Phogat, K2015A38BIV got admission in NIAM, Jaipur<br>▪ Mr. Abhinav Nain, K2015A1BIV got admission in IRMA Anand.<br>**Fellowship (JRF/NTS)**<br>▪ Ms. Renu, K2015A38BIV cracked ICAR-JRF and got admission in IARI, New Delhi.<br>▪ Ms. Priyanka Dahiya, K2015A32BIV cracked ICAR-NTS exam and got admission in Sher-e-Kashmir University of Agricultural Science &Technology, Jammu.<br>▪ Ms. Shivani, K2015A48BIV cracked ICAR-NTS exam and got admission in Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, (Maharashtra).<br>**Participation**<br>▪ Mr. Dilbagh, B2016A7BIV participated in "*Swachh Bharat* Internship" organized by Department of Drinking water and Sanitation, Govt. of India from 7-23 July, 2018.<br>▪ Mr. Gulshan, B2016A9BIV participated in three days training on "Entrepreneurship Development in Seed Production, Processing and Marketing" organized by ICAR-IIWBR, Karnal from 27-29 June, 2019.<br>▪ Mr. Dilbagh, B2016A7BIV participated in three days training on "Skill-cum-Technology up-gradation Program on Cultivation and Primary Processing of Medicinal and Aromatics plants" Sponsored by CSIR Central Institute of Medicinal and Aromatics plants at Lucknow from 23-25 October, 2018.<br>▪ Mr. Dilbagh, B2016A7BIV participated in four days training on "Mass Multiplication Queen Bee and Royal Jelly Extraction" at Integrated Bee Keeping Development Centre (INDO-Israel Project) Ramnagar, Kurukshetra from 25-28 February, 2019. | |
| 2019-20 | **Achievements**<br>▪ Mr. Amit, B2015A1BIV and Mr. Preetam Kumar, B2015A16BIV cleared ICAR-JRF Exam.<br>▪ Mr. Ajasr, K2016A5BIV cracked CAT got admission in NAARM, Hyderabad (Telangana). | |

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| | ▪ Mr. Amarjeet Singh Narula, K2016A7BIV got admission in SIIB, Pune.<br>▪ Mr. Piyush Malwal K2016A22BIV got admission in VAMANICOM, Pune (Maharashtra).<br>▪ Mr. Haritant Jain, K2016A10BIV got admission in IIM Calcutta (WB)<br>▪ Ms. Anjali Rana, K2016A8BIV and Mr. Sahil, K2016A26BIV were selected for two months (during March-April 2019-20) foreign training under NAHEP IDP project in Australia and New Zealand, respectively.<br>**Fellowship (JRF/NTS)**<br>▪ Mr. Gulshan, B2016A09BIV, and Mr. Sumit Jangra, B2016A21BIV cracked JRF and got admission in IARI, New Dehli.<br>▪ Mr. Vicky Yadav, B2016A25BIV cracked ICAR-NTS exam and got admission in Maharana Pratap University of Agriculture & Technology, Udaipur (Rajasthan).<br>▪ Mr. Sajjan Sharwa, K2016A27BIV cracked ICAR-NTS exam and got admission in Dr. Rajendra Prasad, Central Agricultural University, Pusa, (Samastipur) Bihar.<br>▪ Vandana, K2016A31BIV cracked ICAR-NTS exam and got admission in SKN Agriculture University, Jobner (Rajasthan). | |
| 2020-21 | **Achievements**<br>▪ Ms. Poonam, K2017A20BIV and Mr. Sourab, K2017A31BIV got admission in MANAGE, Hyderabad.<br>▪ Mr. Robin Gotia, B2017A18BIV, Mr. Sammer Singh, B2017A20BIV and Mr. Ajay Kumar, B2017A1BIV got admission in IRMA, Anand.<br>▪ Mr. Suresh, B2017A25BIV got admission in NIAM, Jaipur.<br>**Fellowship (JRF/NTS)**<br>▪ Mr. Kunal, B2017A28BIV cracked JRF and got admission in IARI, New Dehli.<br>▪ Mr. Vipul Malhitra, B2017A28BIV cracked GATE and got admission in ISRO, Dehradun. | |
| 2021-22 | **Achievements**<br>▪ Mr. Ashish, B2018A3BIV got admission in IIM, Ahmdabad.<br>▪ Mr. Ankush, K2018A3BIV, Mr. Shivam, K2018A29BIV and Mr. Sumit, B2018A29BIV got admission in IIRMA, Anand.<br>▪ Ms. Poonam, K2018A23BIV got admission in NAARM, Hyderabad.<br>▪ Mr. Kapil Kantiwal, K2018A12BIV got admission in Delhi Institute of Management.<br>**Fellowship (JRF/NTS)**<br>▪ Mr. Sharad, B2018A26BIV cracked ICAR–JRF and got admission in IARI, New Delhi.<br>▪ Mr. Amandeep, B2018A2BIV cracked ICAR–JRF and got admission in IARI, New Delhi.<br>▪ Ms. Bharati, K2018A5BIV cracked ICAR– NTS and got admission in University of Agricultural Sciences, Dharwad (Karnataka). | |
| **2022-23** | **Achievements**<br>▪ Mr. Karan Singh, B2019A08BIV cracked CAT exam and got admission in IIM Lucknow (UP).<br>▪ Mr. Nitish, K2019A18BIV cracked CAT exam and got admission into | |

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| | IRMA, Anand (Gujarat).<br>▪ Mr. Nukul Mehta, K2019A16BIV, Mr. Mahesh, K2019A12BIV and Mr. Manish Kumar, K2019A13BIV cracked CAT exam and got admission into MANAGE, Hyderabad<br>▪ Ms. Pooja, B2019A13BIV, Ms. Rashmi, B2019A15BIV, Mr. Harsh, K2019A08BIV, Mr. Sahil, K2019A21BIV, Mr. Satender, K2019A23BIV, Mr. Ajay, B2019A01BIV and Mr. Chasin, K2019A06BIV attended two-month foreign training under NAHEP IDP project in Thailand from 18.01.2023 to 18.03.2023.<br>▪ Mr. Ankit, K2019A03BIV attended two-month foreign training under NAHEP IDP project in Vietnam from 15.02.2023 to 15.04.2023.<br>▪ Ms. Krishna, K2019A10BIV, Ms. Preeti, B2019A14BIV, Ms. Chetan, K2019A07BIV, Ms. Meenakshi, K2019A15BIV, Ms. Nisha K2019A17BIV and Mr. Rohit, B2019A18BIV attended two-monthforeign training under NAHEP IDP project in Prague from 23.02.2023 to 23.04.2023. | |

**Student's Awards/Achievements (Extra-curricular activities like Sports, NCC, and NSS etc.): (Gold medal, Merit, Fellowship, Participation)**

| Academic Years | Awards/Achievements | Remarks |
|---|---|---|
| 2017-18 | **Achievements**<br>**Sports**<br>▪ Mr. Sonu Kumar, K2015A53BIV got 1st position in Kabaddi in All India Inter-University Sports & Games held at CCS HAU Hisar on 25-29.03.2017.<br>▪ Ms. Ritu Phogat, K2015A39BIV got 2nd position in Volleyball in All India Inter-University Sports & Games held at CCS HAU Hisar on 25-29.03.2017.<br>▪ Mr. Ravi Gautam, K2014A47BIV and Ms. Kalpana Yadav, K2015A17BIV were adjudged as the Best Athlete among boys and girls, respectively in Annual Athletic Meet of the College of Agriculture, Kaul organised on 20-21.11.2017.<br>▪ Ms. Kalpana Yadav, K2015A17BIV bagged 2nd place in 4x100 m relay race in All India Sports Meet held at UAS Banglore from 30.01.2018 to 03.02.2018.<br>▪ Ms. Ritu Phogat, K2015A39BIV bagged 2nd place in volleyball in All India Agri. Sports Meet held at UAS Banglore from 30.01.2018 to 03.02.2018<br>**Participation**<br>**NCC**<br>▪ Mr. Himanshu Wahi, K2015A15BIV, Mr. Kapil, K2015A18BIV, Mr. Manish Kumar, K2015A22BIV and Mr. Sonu Kumar, K2015A53BIV attended Army Attachment Camp at Ambala Cantt. from 11-25.09.2017. | |

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| | ▪ Fifteen cadets attended Annual Training Camp (ATC) at NCC Academy, Ropar from 13- 22.10.2017.<br><br>▪ Eight cadets participated in Annual Training camp at GITM, Kanipala from 22- 31.01.2018.<br>▪ Thirty-five NCC Cadets participated in International Yoga Day Celebrated at Gurukul, Kurukshetra on 21.06.2018.<br>**NSS**<br>▪ Mr. Navdeep Malik, K2015A27BIV attended National Integration Camp held at GJUS&T, Hisar from 02- 08.10.2017.<br>▪ Mr. Navdeep Malik, K2015A27BIV and Kalpana Yadav, K2015A17BIV attended State level NSS camp from 27.02.2018 to 05.03.2018 at Govt. College Chhachhrauli, Yamuna Nagar.<br>▪ Seven students donated blood at Gurukul, Kurukshetra on 08.01.2018.<br>▪ Fifty-one (51) NSS volunteers participated in Pulse Polio Programme held at village Kaul (Kaithal) during 29-30.01. 2018.<br>▪ Thirty six (36) NSS volunteers participated in NSS Annual Camp held at village Dherdu (Kaithal) during 21-27.03.2018. | |
| 2018-19 | **Achievements**<br>**Sports**<br>• Mr. Ajay Kumar, B2017A01BIV obtained 2nd position in Inter College Championship held on 14.11.2018 at CCSHAU, Hisar.<br><br>**Participation**<br>**NCC**<br>• Mr. Sumit Jangra, B2016A21BIV got "NCC" C-certificate with "A" grade.<br>• NCC cadets organized "cleanness drive" in the campus on 20.09.2018 under "*Swachhta Hi Seva*" campaign.<br>• Celebrated Surgical Strike Day on 29.09.2018.<br>• 16 (sixteen) cadets participated in No. 153 Annual Training Camp organized from 09 to 18 Oct. 2018 at GIMT, Kanipla, Kurukshetra.<br>• International Yoga Day celebrated on 21.06.2018 at Gurukul, Kurukshetra.<br>**NSS**<br>• Mr. Haritant Jain, K2016A10BIV and Ms. Prerna Pilania, K2017A22BIV attended State NSS Camp held at GJUS&T, Hisar from 22-28.03.2019.<br>**Sports**<br>• Mr. Mandeep Kumar, B2017A12BIV participated in North Zone Inter University Cricket at Aligarh Muslim University, Aligarh (U.P.) from 21.12.2018 to 04.01.2019.<br>• Mr. Suresh, B2017A25BIV and Ms. Bhawana, B2018A5BIV participated in All India Inter Agricultural University Sports in Yoga at Kanchipuram (TN) from 04 to 08.02.2019. | |
| 2019-20 | **Achievements:**<br>**NCC** | |

- Ms. Simran, B2018A28BIV got Appreciation Certificate for piloting at Annual Atheletic Meet, held at COA, Kaul from 15-16.02.2019.
- Ms. Poonam, K2018A23BIV got Appreciation Medal for Hosting Camp Closing Ceremony and Cultural programs at Annual Training Camp, Kanipala, Thanesar during 9-18.09.2019.
- Ms. Nitika Sangwan, K2018A20BIV and Ms. Poonam, K2018A23BIV got 1st prize in Kho-kho at CATC, Kanipala during 09-18.09. 2019.
- Five cadets got "A" grade in NCC "C" Certificate Examination 2020.

**Sports**

- College of Agriculture, Kaul team got 1st position in Volley Ball boys team in Inter-College competition held at CCS HAU, Hisar from 4-5.09.2019.
- College of Agriculture, Kaul team got 1st position in Yoga (girl team), 2nd position in Yoga (boys team), in Inter-College competition held on 24.10.2019.
- College of Agriculture, Kaul team got 2nd position in Kabaddi (boys team) in Inter-College competition held at CCSHAU, Hisar on 24.10.2019.s

**Miscellaneous**

- Mr. Dikshant Sheoran, B2017A8BIV, Mr. Mandeep Kumar, B2017A12BIV and Mr. Samar Singh, B2017A20BIV got 2nd position in poster presentation on Bee Keeping under ELP (Experience Learning Programme) two days' workshop on National Incubators Colloquium at CCS HAU, Hisar held from 15-16 .01.2020.

**Participation:**

**NCC**

- Fourteen cadets participated in Combined Annual Training Camp (CATC), Kanipala from 9-18.09.2019.
- Organized three campaigns namely, "Clean India", "Save Water" and "Say No to Plastic" on Gandhi Jayanti on 02.10.2019.
- Organized a rally under "*Beti Bachao Beti Padao Abhiyan*" on 18.10.2019.
- Mr. Yogesh Rajrana, B2017A29BIV, Mr. Ankush Sharma, K2018A04BIV and Mr. Raman Chhokar, K2018A26BIV attended Army Attachment Camp 2 Har Bn NCC, Ambala Cantt. at H.Q. from 16 to 30.07.2019.
- International Yoga Day celebrated on 21.06.2019.

**NSS**

- Twenty-three NSS volunteers participated in NSS Annual camp held at Village Dherdu (Kaithal) during 13-19.04.2019.

**Sports**

- Mr.Vikas Sagwal, B2016A26BIV, Mr. Mukul Kumar, B2018A15BIV and Mr. Robin Ghotia, B2017A18BIV participated in All India Inter Agricultural University Sports Meet from 01-05.03.2020 in Basket Ball at Sri Venkateswara University, Tirupati, Andhra Pradesh.

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| 2020-21 | **Achievements**<br>**NCC**<br>• Mr.Ankush Sharma, K2018A4BIV got 2nd prize in Debate Competition at Annual Training Camp, Kanipala during 21 July-05 Aug. 2020.<br>• Ms. Raman, K2018A26BIV got 2nd position in volleyball & football at Annual Training Camp, Kanipala, Thanesar during 15-30.07.2020.<br>▪ Ms. Simran, B2018A28BIV, Ms. Poonam, K2018A23BIV, Ms. Mehak Sharma, K2018A16BIV, Mr. Raman Chhokar, K2018A26BIV, Ms. Ankush, K2018A4BIV, Ms. Nitika, K2018A20BIV and Ms. Preeti, B2018A21BIV got 'A' grade in NCC C–certificate Exam-2020-21.<br>**NSS**<br>• Mr. Ashish Maan, B2018A3BIV as a group leader received "Best NSS Group" award during NSS Annual Camp, Kaul from 8-14.03.2021.<br>• Ms. Ritika, B2018A24BIV attended National Integration Camp held at Mahatma Jyotiba Rohilkhand University, Bareilly (U.P.) during 10-16.03.2021<br>**Sports**<br>• Ms. Simran, B2018A28BIV and Ms. Poonam, K2018A23BIV got "Appreciation Certificate" for piloting at Annual Athletic Meet held on 27-28.02.2020.<br>• Ms. Khushboo, B2018A13BIV got 1st position in Badminton (Girls), 100m race(Girls) and also got Best Volunteer Award (Girls) during NSS Annual Camp, Kaul in 8-14.03.2021.<br>• Mr. Asmit, B2018A4BIV got 1st position in Table tennis (Boys), 100m race (Boys) and also got Best Volunteer Award (Boys) during NSS Annual Camp, held at Kaul from 8-14.03.2021.<br>**Participation**<br>• Fifty NSS volunteers participated in NSS Annual Camp held at Village Kaul during 13-19.03.2021.<br>• Ms. Ritika, B2018A24BIV attended National Integration Camp held at Mahatma Jyotiba Rohilkhand University, Bareilly (U.P.) during 10-16. 03. 2021.<br>• Thirty students participated CATC, Kaithal from 8-12.02.2021. | |
| **2021-22** | **Achievements**<br>**NCC**<br>▪ Ms. Pooja, B2019A13BIV got 2nd position in English Speech Competition on Indo-Pak1971 during CATC No. 147 of NCC from 18-24.10.2021at Kurukeshtra University, Kurukshetra.<br>▪ Ms. Krishana, K2019A10BIV, Mr. Mahesh, K2019A12BIV and Mr. Sunil, K2019A28BIV obtained "A" Grade in NCC "C" certificate Exam-2022.<br>**NSS**<br>▪ Ms. Meenakshi, K2019A15BIV attended National Integration Camp held at Kurukshetra University, Kurukshetra during18-24.11.2021<br>▪ Mr. Naveen, B2019A11BIV, Mr. Ajay, B2019A01BIV and Ms. Neha, B2019A12BIV attended National Integration Camp held at CCS Haryana Agricultural University, Hisar during 16-22.11. 2021 | |

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| | ▪ Ms. Deepika, K2020A12BIV, Ms. Surbhi, K2020A30BIV, Mr. Rohit Dalal, K2020A22BIV, Mr. Sahil Jangra, K2019A21BIV, Ms. Chetan, K2019A23BIV and Mr. Satender, K2019A23BIV attended National Integration Camp held at College of Agriculture, Bawal, CCS HAU from 21-27.03. 2022.<br>▪ Ms. Amisha, K2020A04BIV attended State Level Youth Red Cross Training Camp held at Shri Nangli Bela Ashram, Bhupatwala, Haridwar from 23-28.03.2022.<br>▪ Fifty NSS volunteers participated in NSS Annual Camp held at Village Dherdu (Kaithal) during 8-14.03.2022.<br>▪ Twenty-two NSS volunteers participated in University Level NSS Camp held at CCS Haryana Agricultural University, Hisar from 24-30 March 2022.<br>**Participation:**<br>**NCC**<br>▪ Thirty-four cadets participated in Combined Annual Training Camp (CATC No. 147) at KU, Kurukshetra from 18-24.10. 2021. | |
| **2022-23** | **Achievement**<br>**NSS**<br>• Twenty-five NSS volunteers got Best Team Award at University level NSS Camp organized by CCS HAU College of Agriculture, Hisar from 07-13.01.2023.<br>**NCC**<br>▪ Ms. Chitra, K2021A08BIV got 1st position in Poster Making competition during Annual Training Camp-2022, held at Arunai Mandir Pehowa, from 30.11.2022 to 07.12.2022.<br>▪ Nine cadets got "A" grade in NCC "C" Certificate Examination 2023.<br>**Sports**<br>• Mr. Nikesh K2021A18BIV won gold medal in High Jump; Mr. Gaurav Saini B2022A07BIV, Mr. Ajay Kumar K2021A02BIV, Mr. Nikesh K2021A18BIV won gold medal in four legged race; Ms. Krittika K2022A12BIV won three bronze medals, Mr. Pardeep K2022A17BIV won two bronze medals, Ms. Surbhi K2020A30BIV, Ms. Sweety K2022A30BIV won one bronze each in different events in 50th CCSHAU Annual Athletic Meet held at CCSHAU Hisar from 08-09.12.2022.<br>• Mr. Nikesh K2021A18BIV, Mr. Ronak B2022A19BIV and Ms. Manisha B2021A12BIV represented Basketball (M), Volleyball (M), Volleyball (W) teams and secured 1st, 2nd, 2nd positions respectively in All India Inter-Agriculture Sports Meet organized at CCSHAU, Hisar on 20-24. 02.2023.<br>**Participation**<br>**NSS**<br>• Fifty (50) NSS volunteers participated in NSS Annual Camp at village Chandlana, Kaithal during 21-27.03.2023.<br>• Ms. Amisha, K2020A04BIV, Ms. Haritima, B2020A09BIV, Mr. Shubham, K2020A36BIV, Mr. Rahul, K2020A20BIV and Mr. Aved, | |

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| | K202A09BIV participated in National Integration Camp at Chaudhary Charan Singh Haryana Agricultural University, Hisar during 26.02.2023 to 04.03.2023<br>**NCC**<br>▪ Mr. Ajay Kumar, K2021A02BIV participated in All India Thal Sainik Camp 2022 held at DGNCC Delhi Cantt. New Delhi from 14-25.09.2022.<br>▪ Twenty-three cadets participated in Annual Training Camp held at Arunai Mandir Pehowa, from 30.11.2022 to 07.12.2022. | |

**Student's Awards/Achievements (Cultural activities like Dramatics, Debate, Art, Painting, Dance, Singing etc.): (Gold medal, Merit, Fellowship, Participation)**

| Academic Years | Awards/Achievements | Remarks |
|---|---|---|
| **2017-18** | **Miscellaneous**<br>▪ 21 Boys and 7 girls participated in Mountaineering Adventure Tour at Rishikesh (Uttarakhand) from 3-7.06.2018. | |
| **2019-20** | **Miscellaneous**<br>▪ Ms. Pooja Dalal, B2019A13BIV, Ms. Krishna, K2019A10BIV, Ms. Monika, 2019A10BIV and Ms. Rashmi B2019A15BIV got 3rd position in Skit competition under Talent Search Competition held at CCS HAU, COA, Kaul on 16.11.2019.<br>▪ Mr. Ankush, K2018A04BIV got 2nd position in English declamation contest, Ms. Ritika, B2018A24BIV got 3rd position in English Poem Writing contest, Mr. Danveer Singh, B2018A7BIV got 1st position in Elocution contest held at CCS HAU, Hisar in collaboration with NAHEP-IDP on 30.04.2020.<br>▪ Mr. Lovish, K2019A11BIV got 2nd position in Yoga in Inter-College competition at CCS HAU, Hisar on 23.10.2019.<br>▪ Mr. Ankush, K2018A04BIV got 2nd in Declamation Competition organized by DAV College, Chika on 18.05.2020.<br>▪ Ms. Ritika, B2018A24BIVgot appreciation award in Declamation Competition organized by DAV College, Chika 18.05.2020.<br>▪ Ms. Ritika, B2018A24BIV got 1st position in Quiz Competition held on 14.11.2019 at COA, Kaul.<br>▪ Ms. Ritika, B2018A24BIV got 3rd position in Poster Making Competition held on 05.6.2019 at COA, Kaul.<br>▪ Mr. Danveer Singh, B2018A7BIV participated in Essay Writing competition on biodiversity and conservation organized by Haryana Forest Department on world's environment day on 05.06.2020.<br>▪ Ms. Gunjan Sharma, K2017A10BIV got 2nd position in Slogan Writing on the occasion of International Day against Drug Abuse and Illicit Trafficking held on 26.06.2020at CCS HAU, Hisar. | |

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|---|---|---|
| **2020-21** | **Achievements:**<br>▪ Ms. Pooja Dalal, B2019A13BIV, secured 1st position in English Declamation Competition and 3rd position in Quiz Competition on National Mathematics Day organised by CCS HAU, Hisar on 18.12.2020.<br>▪ Ms. Pooja, B2018A20BIV got 1st position in Speech Competition during NSS Annual Camp, Kaul in 13-18.03.2021.<br>▪ Ms. Ritika, B2018A24BIV got 3rd position in Rangoli Making during National Integration Camp organised by Mahatma Jyotiba Rohikhand University, Bareilly (U.P.) from 10-16.03.2021.<br>▪ Ms. Ritika, B2018A24BIV got 5th position in Cultural Activity during National Integration Camp organised by Mahatma Jyotiba Rohikhand University, Bareilly (U.P.) from 10-16.03.2021. | |
| **2021-22** | **Achievements:**<br>▪ Ms. Pooja Dalal, B2019A13BIV participated and got 1st position in Public Speaking Event organized by "Young Journalism Cell" of CCS HAU on 31.07.2021.<br>▪ Ms. Neha Yadav, B2019A12BIV got 2nd position in Anchoring event organized by "Young Journalism Cell" of CCSHAU on 31.07.2021.<br>▪ Ms. Chetan Singh, K2019A07BIV and Ms. Nirmala, K2019A18BIV got 1st position in Mathematics Quiz organised by College of Basic Science and Humanitiest, CCS HAU on 21.01.2022.<br>▪ Ms. Preeti Chabba, B2019A14BIV and Ms. Sunaina Devi, K2021A29BIV got 3rd position in Mathematics Quiz organised by College of Basic Science and Humanitiest, CCSHAU on 21.01.2022.<br>**Participation**<br>▪ Mr. Naveen B2019A11BIV, Mr. Ajay, B2019A01BIV and Ms. Neha, B2019A12BIV attended National Integration Camp held at CCS Haryana Agricultural University, Hisar from 16-22.12.2021.<br>▪ Ms. Deepika, K2020A12BIV, Ms. Surbhi, K2020A30BIV, Mr. Rohit Dalal, K2020A22BIV, Mr. Sahil Jangra, K2019A21BIV, Ms. Chetan, K2019A23BIV and Mr. Satender, K2019A23BIV attended National Integration Camp held at College of Agriculture, Bawal, CCS HAU during 21-27.03.2022<br>▪ Mr. Naveen, B2019A11BIV and Ms. Meenakshi, K2019A15BIV attended State NSS Camp held at Chaudhary Ranbir Singh University, Jind during 19-25.10.2021.<br>▪ Ms. Amisha, K2020A04BIV attended State Level Youth Red Cross Training Camp held at Shri Nangli Bela Ashram, Bhupatwala, Haridwar during 23-28.03.2022. | |
| **2022-23** | **Participation**<br>▪ Mr. Dhruv Dhillon, B2021A07BIV attended National Integration Camp held at Kurukshetra University, Kurukshetra during 13-18.11.2022.<br>▪ Mr. Karandeep Singh Sidhu, B2021A10BIV attended National Integration Camp held at Chaudhary Bansi Lal University, Bhiwani BRCM College, Bahal during 23-29.11.2022. | |

| | | |
|---|---|---|
| | ▪ Ms. Amisha, K2020A04BIV, Ms. Haritima, B2020A09BIV, Mr. Shubham, K2020A36BIV, Mr. Rahul, K2020A20BIV and Mr. Aved, K202A09BIV attended National Integration Camp held at Chaudhary Charan Singh Haryana Agricultural University, Hisar during 26.02.23 to 04.03.2023. | |

**6.5.1.3. CC/Board of Studies:** *Whether the CC in the Department level and Board of Studies at the College is in place? The composition of the BoS and date of conduct of meetings for last five years and major recommendations made by the BoS should be given in tabular form.*

Yes. Dean, College of Agriculture, CCSHAU, Hisar is the Controlling Officer of College of Agriculture, Kaul.Departmental Advisory Committees (DAC) exists in each department of the respective Colleges at the main campus. For major academic issues, College of Agriculture, Kaul is governed by the decisions of Board of Studies of the University at the main campus.

**6.5.1.4 Anti-Ragging Cell:***In pursuance to the Judgment of the Hon'ble Supreme Court of India dated 08.05.2009 in Civil Appeal No. 887/2009, the University Grants Commission has framed "UGC Regulations on curbing the menace of ragging in higher educational institutions, 2009" which have been notified on 4th July, 2009 in the Gazette of India. Does the College follow this regulation and subsequent guidelines issued in the matter in letter and spirit? Give details*

Yes, the college follows the regulation and subsequent guidelines issued in the matter. There is an Anti-ragging committee as detailed below:

**A. Composition of committee**

**a) District level committee**

1) Principal
2) SSP, Kaithal/Representative
3) SHO, Kaul
4) Municipal Counsellor, Municipal Committee, Kaul

**b) College level committee**

1) Principal
2) Associate Director Students Welfare
3) Hostel Wardens
4) Security Incharge of the College
5) One Assistant Professor
6) One male student and one female student

**c) Anti Ragging squad of the college:**

1) Security Incharge
2) Hostel Wardens
3) Security Officials

**B. Activities**

The committee is constituted for anti-ragging activity by the institution.The prospectus, the forms for admission and all other literature issued to aspirants for admission must clearly mention that ragging is banned in the institution and any one indulging in ragging is likely to be punished appropriately with punishment which may include expulsion or suspension from

the institution or class for a limited period or fine with a public apology. The punishment also include:

(i) Withholding scholarships or other benefits

(ii) Debarring from representation in events

(iii) Withholding results

(iv) Suspension or expulsion from hostel or mess, and the like

Moreover, the application for admission / enrolment have a printed undertaking that is filled up and signed by the applicant to the effect that he/she is aware of the institution's approach towards ragging and the punishment to which he or she shall be liable if found guilty of ragging. A similar undertaking is also obtained from the parent/guardian of the applicant.

Different committees monitor the events involving ragging, enquire into and report the matter to the competent authority. The committee works out modalities of functioning, frequency of visits, meetings, *etc.* and also check the ragging menace in the College and Hostels**.** Every year one orientation programme is conducted for fresher student, where they are made aware of any mishappening occurring in the college or hostel because of ragging.

**None of the case of ragging has been reported in the College of Agricultural, Kaul (Kaithal) during the period of this report**

**6.5.1.5. Biological waste disposal facility:** *Whether wastes (chemical, biological, radioactive, universal, and recyclable) are generated by a variety of research, clinical, service, maintenance, and cleaning operations at the College level? If yes, then mention the disposal mechanism being adopted as per the government guidelines.*

Research/ work has not been planned/conducted on biological waste, therefore, no biological waste disposal facility is available. In future, if any such research work will be planned, then the University committees at main campus will takecare of this.

**6.5.1.6. Institutional Ethics Committee for Experiment on Animals:** *Whether the institute/College is following CPCSEA guidelines and constituted an Institutional Animal Ethics Committee (IAEC), get their animals house facilities inspected and get their project cleared by CPCSEA and IAEC before commencing them? If Yes, the college should make statement that it is adhering all guidelines in the matter.*

The experiment on animals and humans are not conducted, however, if required the case may sent to Institutional Ethics Committee constituted at CCS HAU, Hisar

**6.5.1.7. Committee for Prevention of Sexual Harassment of Women at Work Places:** *Does the institution is adhering the sexual harassment of women at workplace (Prevention, Prohibition and Redressal Act, 2013) in letter and spirit. If yes, mention the constitution of sexual harassment committees and date of proceedings conducted in last five years in tabular form:*

The committee for sexual harassment of women under Act 2013 has been constituted at University level. No such complaints have been received till date in COA Kaul. The University has clearcut policy framework for dealing the cases pertaining to sexual harassment of the women. Such cases at college level are dealt strictly in compliance to the above said policy in consultation with central committee constituted at University level.

## 6.5.2 FACULTY

**6.5.2.1. Faculty Strength:** *Mention the Faculty position) both in sanctioned and in-position) at the College*

| Designation | Sanctioned | In position | Vacant |
|---|---|---|---|
| Principal | 01 | 01 | Nil |
| Professor and equivalent | 00 | 00 | Nil |
| Associate Professor and equivalent | 01 | 01 | Nil |
| Assistant Professor and equivalent | 18 | 17* | 01 |
| **Total** | **20** | **19** | **01** |

* Two (2)numbers of faculties in place under Professor include Personal Promotion (PP)

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

| Designation | Sanctioned (No.) | In position | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| Professor or equivalent | 0 | - | 1 | 1 | - | - | 02* |
| Associate Professor | 1 | 1 | - | 1 | 1 | 1 | 1 |
| Assistant Professor Or equivalent | 18 | 18 | 18 | 15 | 11 | 11 | 17 |

* 2 numbers of faculties in place under Professor include Personal Promotion (PP)

**6.5.2.2. Faculty Profile:** *Mention department-wise faculty profile in tabular form and mention whether present profile is sufficient to meet the academic requirement of the College (2017-18 to 2022-23)*

| Sr. No. | Name | Designation | Mobile No., and Email | Specialization | Publications | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Full Paper | Conference symposium | Books | Book Chapter | Manual | Annual Research Report |
| 1. | Dr. O.P. Chaudhary | Principal | 9416111775 Chaudharyop@gmail.com | Entomology | 13 | 41 | 00 | 20 | 03 | 68 |
| 2. | Dr. O.P. Lathwal | Professor | 9416781383 lathwal1414@gmail.com | Agronomy | 03 | 01 | 00 | 00 | 00 | 00 |
| 3. | Dr. R.C. Verma | Professor | 9416408008 rcverma8268@gmail.com | Forestry | 02 | 00 | 00 | 00 | 00 | 00 |
| 4. | Dr. Mehar Chand | Professor | 9896321453 Meharhau@gmail.com | Agronomy | 19 | 21 | 00 | 10 | 00 | 13 |
| 5. | Dr. Ashwani Kumar | Assistant Professor | 8168931317 dahiya.ashwani@gmail.com | Plant Pathology | 14 | 05 | 00 | 00 | 00 | 02 |
| 6. | Dr. Subhash Chander | Assistant Professor | 7988098004 panwarsubhash786@gmail.com | Sociology | 42 | 08 | 00 | 04 | 02 | 05 |
| 7. | Dr. Ravikant | Assistant Professor | 8053159201 Rkantazad@gmail.com | Zoology | 13 | 00 | 00 | 02 | 00 | 00 |
| 8. | Dr. Vishal Goyal | Assistant Professor | 7015131167 vishal_goyal11@hau.ac.in | Soil Science | 19 | 04 | 00 | 00 | 01 | 03 |
| 9. | Dr. R.S. Garhwal | Assistant Professor | 9729301016 rsg.rca2011 | Soil Science | 15 | 02 | 00 | 01 | 00 | 00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | @gmail.com | | | | | | | |
| 10. | Dr. S.R. Verma | Assistant Professor | 9414352281 verma.vermasr @gmail.com | Agricultural Extension | 05 | 00 | 00 | 00 | 10 | 00 |
| 11. | Dr. Manender Singh | Assistant Professor | 7919502873 manender86 @gmail.com | Horticulture | 04 | 15 | 00 | 00 | 00 | 00 |
| 12. | Dr. Veer Sain | Assistant Professor | 7357331330 3veersain @gmail.com | Agricultural Economics | 16 | 04 | 00 | 00 | 01 | 00 |
| 13. | Dr. Darshana | Assistant Professor | 8708530146 darshuduhan2 @gmail.com | Agricultural Engineering | 06 | 05 | 00 | 00 | 00 | 00 |
| 14. | Dr. Sonika | Assistant Professor | 9896414482 sonika.ricky.bhankh ar@gmail.com | Genetics &Plant Breeding | 10 | 06 | 00 | 05 | 00 | 03 |
| 15. | Dr. Rinku Poonia | Assistant Professor | 9467905579 rinkupoonia10 @gmail.com | Entomology | 11 | 11 | 00 | 03 | 00 | 00 |
| 16. | Mr. Sunny Kumar | Assistant Professor | 7027223984 sunnymaths21 @gmail.com | Mathematics | 0 | 04 | 00 | 00 | 00 | 00 |
| 17. | Dr. Lila Bora | Assistant Professor | 8295523633 lila.bora @gmail.com | Vegetable Science | 06 | 00 | 00 | 00 | 00 | 00 |
| 18. | Dr. Parvinder | Assistant Professor | 9215255505 Balyanpk @yahoo.com | Agronomy | 04 | 09 | 00 | 00 | 00 | 00 |
| 19. | Dr. Ashish Jain | Assistant Professor | 9416266339 Ashipb @gmail.com | Genetics &Plant Breeding | 05 | 03 | 09 | 03 | 00 | 00 |
| 20. | Total | | | | 207 | 139 | 9 | 48 | 17 | 94 |

**Note:** ***List of faculty publications is given in Annexure-I***



### 6.5.2.3. Credential of the Faculty (2017-18 to 2022-23)

| Sr. No. | Name of the faculty | Designation | Highest qualification | Honours/awards | Any other achievements that contributes to effective teaching and students learning and out come |
|---|---|---|---|---|---|
| **1.** | Dr. O.P. Chaudhary | Professor | Ph.D. | **PATENTS (5)**<br>• Hands free honey bee observation grid frame, Application No. 201811048894 A, 21.8.2020.<br>• Universal strip hanger cum spacer, Application No. 201911010657 A, 25.9.2020.<br>• Multipurpose dispenser for honey bees, Application No. 320896-001, 21.8.2019.<br>• Double entrance honey bee hive (DEHBH), 04.9.2021.<br>• Portable honeybee colony manipulation cum anti robbing enclosure (PHMARE), 16.04.2019.<br>**AWARDS**<br>• **Young Fellow Award - 2019,** For outstanding contribution and recognition in the field of Entomology, during 3rd Global Meet on Science and Technology at National Research Centre on Seed Spices, Ajmer, Rajasthan.<br>• **Best Research Paper Award-2019**, CCS Haryana Agricultural University, Hisar during "International Symposium on *Innopreneurship: A Need of Sustainable Agriculture*" along with my student M. Rathee.<br>• **Best Research Paper Award-2018,** 9thIndian | • Only Scientist invited by NITI Aayog, Govt. of India to formulate Honble' Prime Minister's HONEY Mission.<br>• Member, National Advisory Committee, Khadi & Village Industries Commission, Ministry of Medium Small and Micro Entrprises, Govt. of India.<br>• Member, National Level Advisory Committee for Honey Mission.<br>• Chairman, Committee on "Promotion of natural farming in Haryana" Haryana Kisan Kalyan Pradhikaran, Govt. of Haryana.<br>• Chairman, Committee for mechanized harvesting of sugarcane crop. Cane Department, Govt. of Haryana and Federation of Cooperative Sugar Mills (Sugarfed), Haryana.<br>• In association with Honble' member NITI Aayog, in world's largest study, estimated contribution of honey bees toward Indian agriculture at Rs. 1.13 lakh crores (USD 22.52 billion).<br>• Principal, College of Agriculture, Kaul. District: Kaithal.<br>• Regional Director, Regional Research Station (RRS), Karnal.<br>• Member, AcademicCouncil/Senate, Shri Krishna Ayush University, |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Science Congress Association HW Chapter Conference, GBPUA&T, Pantnagar, along withmy students P.K. Dalal and M. Rathee.<br>• **Best Research Paper Award-2018**, Sam Higginbottom University of Agriculture Technology & Science, Allahabad during "International Conference on *Emerging Issues in Agriculture, Environment and Applied Science*" along with my students M. Rathee and P.K. Dalal.<br>• **Dr. R. Paul Memorial Gold Medal for Best Doctoral Research-2023**of CCS HAU, Hisarto my Ph.D. student Sumit Saini.<br>• **Best Research Paper Award-2018,** Pryagraj.<br>• **Best Research Paper Award-2020,** Central Agricultural University, Imphal, Manipur.<br>• **Best Research Paper Award (2nd position)-2023**International conference, CCS HAU, Hisar along with my student Narender Kumar. | Kurukshetra.<br>• Expert member, FSSAI, Govt. of India.<br>• Member, Ethics Committee, Shri Krishna Ayush University, Kurukshetra.<br>• Member, International Commission of Plant Bee Relationship (ICPBR).<br>• Expert Member, for project formulation of Integrated Beekeeping Development Centre, Govt. of Haryana.<br>• Member, Monitoring Committee of AICRP on Maize.<br>• Consultant, Department of Horticulture, Govt. of Haryana for "ICT based pest surveillance and advisory services for horticultural crops in Haryana". |
| **2.** | Dr. Mehar Chand | Professor | Ph.D. | • **Best Poster Award - 2019** for research paper entitled "*Heterotic effects of maize hybrids of different maturity groups for grain yield*" in International Symposium on Innerpreneurship: A need of Sustainable Agriculture" at CCSHAU, Hisar, Haryana during 2-3, February 2019. | • Member of State Environment Impact Assessment Authority/State Expert Appraisal Committee, Haryana by Ministry of Environment, Forest and Climate Change, Govt. of India.<br>• Member Board of Management of Lala Lajpat Rai University of Veterinary & Animal Sciences, Hisar. |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | • Member of university vigilance committee of CCS Haryana Agricultural University, Hisar.<br>• Member of monitoring team of AICRP on Sugarcane to monitor the progress of AICRP on Sugarcane from 28-11-2018 to 07-12-2018 for East-Coast zone of country.<br>• Member of Corporate and Industrial Relation of the University, Nominated by worthy Vice Chancellor, CCS HAU, Hisar.<br>• Member of Technical Committee of Haryana Pond and Waste Management Authority. |
| **3.** | Dr. Ashwani Kumar | Assistant Professor | Ph.D. | • **Best Poster Presentation Award-2020** on "*Integrated disease management of banded leaf and sheath blight in maize using different biorational products"* in National Symposium on Plant Disease Management for Food Security under Climate Scenario organized by IPS, New Delhi from 9-10 January, 2020. | • - |
| **4** | Dr. Subhash Chander | Assistant Professor | Ph.D. | • **Dr. A.P.J. Abdul Kalam Scientist Award -2019** in 9th International Conference on *Agriculture, Horticulture and Plant Science* organized by "The Society of Tropical Society, New Delhi" held at Dharamshala (H.P.) India on 27-28, June 2019.<br>• **Award of Excellence in Research -2022** in International Conference on Vision 2047: | - |

| | | | | | |
|---|---|---|---|---|---|
| | | | | *Sustainable Development towards Atma Nirbhar Bharat* organized by "Society for Science and Nature, Lukhnow" held at FDDI, Chandigarh (India) on 23-24, December 2022. | |
| **5** | Dr. Vishal Goyal | Assistant Professor | Ph.D. | • **Best Poster presentation award** (Second) -**2019** on "*Impact of integrated nutrient management of STCR on soil physical properties under pearl millet-wheat cropping system*" organised by Indian Society of Soil Salinity and Water Quality under ICAR-CSSRI Golden Jubilee International Conference on soil salinity from 7-9 Feb, 2019.<br>• **Best Poster Presentation Award-2022** on "*Influence of different nutrient management practices on crop productivity and soil microbial properties in wheat under raised bed and flat bed planting system*" in I$^{st}$ International symposium on "Cereals for Food Security and Climate Resilience" organized by Society for Advancement of Wheat and Barley Research, Karnal and Indian Institute of Wheat and Barley Research, Karnal held online from 18-20 January, 2022.<br>• **Appreciation Award** by Worthy Vice-Chancellor of CCS Haryana Agricultural University for being the *Best Worker* for the year 2020-21. | - |

| | | | | | |
|---|---|---|---|---|---|
| **6** | Dr. Manender Singh | Assistant Professor | Ph.D. | • **Young Scientist Award - 2017** awarded by AIASA in 2nd National Agricultural Convention on *Agricultural Skill Development for Doubling Farmers Income* at Bikaner, Rajasthan on 7.10.2017.<br>• **Young Scientist Associate Award - 2017** awarded by Hi-Tech Horticultural Society in Global Meet on *Science & Technology for Ensuring Quality Life* held at Kuala Lampur, Malaysia during 26-30, November, 2017.<br>• **Poster Presentation Award - 2017** awarded by Hi-Tech Horticultural Society in Global Meet on *Science & Technology for Ensuring Quality Life* held at Kuala Lampur, Malaysia during 26-30, November, 2017<br>• **Young Scientist Award - 2018** awarded by ICFA in the "International Conference on *Food & Agriculture*" held at Dhanbad, Jharkhand, India from 29-31, March, 2018.<br>• **Scientist of the Year Award - 2019** awarded in National Conference on Smart Agriculture & Food Security, SAFS-2019, held at Jaipur National University, Jaipur from 18-20, January 2019.<br>• **Excellence in Teaching Award - 2020**awarded in International Web Conference on *Global Research Initiatives for* | - |

| | | | | | |
|---|---|---|---|---|---|
| | | | | *Sustainable Agriculture & Allied Sciences* (GRISAAS- 2020) organized by Astha Foundation, Meerut in Collaboration with CSAUAT, Kanpur; IGKV, Raipur; BAU, Sabour; UAHS, Shivamogga; BAU Ranchi; SKRAU, Bikaner & SSDAT, Meerut (UP) India during 28-30 December, 2020.<br>• **Young Scientist Award-2021** awarded by Society for Scientific development in Agriculture & Technology on the occasion of International Web Conference on *Global Research Initiatives For Sustainable Agriculture & Allied Sciences* (GRISAAS-2021) organized by Astha Foundation Headquarter, Meerut (U.P.) during 13-15 December, 2021. | |
| **7** | Dr. Darshana | Assistant Professor | Ph.D. | • **Best Oral Presentation Award - 2021** on "*Use of Landsat 8 data to monitor vegetation health, water stress and temperature over Northern region of India*" at 30th National Web Conference Soil and Water Management Technologies for Climate Resilience, Agricultural and Environmental Sustainability organized by Soil Conservation Society of India, New Delhi from 14-16 December, 2021. | - |
| **8** | Dr. Sonika | Assistant | Ph.D. | • **Young Women Scientist Award - 2020** by Agro- | - |

| | | | | | |
|---|---|---|---|---|---|
| | | Professor | | Environmental Development Society (AEDS) on the occasion of International web conference on *New Trend in Agriculture, Environmental and Biological Sciences for Inclusive Development* from 21-22 June, 2020. | |
| **9** | Dr. Rinku Poonia | Assistant Professor | Ph.D. | • **Best Oral Presentation Award (Second) - 2020** on " *Diversity and abundance of floral visitors in bitter guard cultivar, PUSA Do Mausami"* presented in National conference on Agricultural Resource Management for Atam Nirbhar Bharat held on 17-19 July, 2020. | - |
| **10** | Dr. Ashish Jain | Assistant Professor | Ph.D. | • **Best Poster Presentation Award - 2018** on "*Screening of cotton genotypes for resistance to sucking pest*" organized by CRDA & ICAR, R.C. NEHR, Umian.<br>• **Best Poster Presentation Award - 2020** on "*DUS Characterization in upland cotton*" organized by CRDA and OUAT, Odisha. | - |

The faculty is sourced from different constituent colleges/departments as per need of the college

**List of retired faculty (2017-2022)**

| Sr. No. | Name of the teacher | Retired on |
|---|---|---|
| **1.** | Dr. B.S. Mehla | 31.05.2017 |
| **2.** | Dr. Ashok Yadav | 31.03.2018 |
| **3.** | Dr. S.P. Goyal | 30.04.2018 |
| **4.** | Dr. A.K. Sarial | 30.04.2019 |
| **5.** | Dr. Ishwar Singh | 30.04.2020 |
| **6.** | Dr. C.P. Mehla | 31.05.2022 |
| **7.** | Dr. P. S. Panwar | 30.09.2022 |

### 6.5.2.4. Technical and Supporting Staff for Department/ Section at COA Kaul:

| Name of the Posts | Sanctioned | In position* | Vacant | Staff recommended by the ICAR/UGC |
|---|---|---|---|---|
| **Principal's office** | | | | |
| Assistant | 2 | 2 | 0 | Nil |
| Clerk | 3 | 3 | 0 | Nil |
| Jeep/Car Driver | 1 | 1 | 0 | Nil |
| Store Keeper | 1 | 0 | 1 | Nil |
| Steno Typist | 1 | 1 | 0 | Nil |
| **Administrative staff for department/section : NA** | | | | |
| Assistant (One each for Department of Agronomy, Agriculture Economics, Genetics &Plant Breeding, Horticulture, Soil Science & Plant Pathology) | NA | NA | NA | NA |
| Clerk (One each for Department Of Extension Education, Entomology, Agriculture Engineering, Biochemistry, Animal Science including Fisheries ) | NA | NA | NA | NA |
| **Tractor Driver** | 01 | 00 | 01 | - |
| Lab. Assistant | 10 | 03 | 07 | - |
| Library Staff: | | | | |
| **Library Assistant** | 02 | 01 | 01 | - |
| **Messanger** | 02 | 01 | 01 | - |
| **Game organiser** | 01 | 01 | 00 | - |
| **Total** | **24** | **13** | **11** | - |

*****All the staff is assigned the responsibilities for the multiple programmes

### 6.5.3. LEARNING RESOURCES

**6.5.3.1 College Library (digital):** *Location of the library, Present staff position (in place), Availability of the following in library, Wi-Fi, No. of books and other reading materials, No. of periodicals and research journals, No. of internet points with number of computers, Seating capacity in library, Employing the latest technology in library sciences, Stocking arrangements of books, Collection of volumes on different subjects, Latest publications in the fields of relevant subjects, Automation and user services through computer, Opening hours, Subscription of journals of national and international repute, national dailies, magazines etc.*

Library at College of Agriculture, Kaul, the hub of academic and a research activity of the University is housed in a centrally located elegant building besides the building of COA, Kaul. It provides information support to its teachers; scientific staff of RRS, Kaul, extension specialists from different KVKs', students and other members drawn from non-teaching staff and general public. Library has large print collection of about 17845 volumes of books and other reading materials which are also available online and can be accessed through *CCSHAU e-library* mobile app. In addition, it has 30 Indian and foreign journals in printed as well as Online form on current subscription. Besides it

subscribes many e-resources *i.e.* indiastat.com; Britannica On-Line Academic Edition (BOLAE); DELNET resources, Scopus Citation Database, NIPA e-Resource Solution for Students for Preparation of Competitive Examinations, NIPA English Writing Improvement Tool, and NIPA Online English Language Development and Improvement Resources which can be accessed through Nehru libraray, CCS HAU, Hisar. Millions of books, journals, technical reports, audio lectures, video lectures, proceedings, institutional repositories, question papers, datasets, reports, thesis, *etc.* are accessible to the University users through National Digital Repository (NDLI).

The Nehru Library of CCS HAU, Hisar is updating an important digital repository in the field of agricultural sciences *i.e.* Krishikosh consisting of full text Ph.D. and M.Sc. dissertations. Full text access to Krishikosh database is accessible to all the SAUs/DAUs/ICAR Institutes the access of which is also given to the students of COA, Kaul.

| Location of the library | COA, Kaul | Remarks |
|---|---|---|
| **Present staff position (in place)** | 03 | |
| **Availability of the following in library** | | |
| **a)** Wi-Fi | Yes | |
| **b)** No. of books and other reading materials | 17845 | |
| **c)** No. of periodicals and research journals | 30 | |
| **d)** No. of internet points with number of computers | 04 | |
| **e)** Seating capacity in library | 200 | |
| **f)** Employing the latest technology in library sciences | Yes, like e-libraray app | |
| **g)** Stocking arrangements of books | As per International code | |
| **h)** Collection of volumes on different subjects | Sufficient | |
| **i)** Latest publications in the fields of relevant subjects | Yes | |
| **j)** Automation and user services through computer | Sufficient | |
| **k)** Opening hours | 9.00 AM to 4:30 PM (on all working days) & 9.30 AM to 10.30 PM (during examinations) | Summer timings 7.00 AM to 2.00 PM |
| **l)** Subscription of journals of national and international repute, national dailies, magazines etc. (mention number) | 30 | |

**6.5.3.2. Laboratories, Instructional farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc.:** *Cleary mention about laboratories, instructional farm, workshop, dairy plant, veterinary clinic, hatchery, ponds etc facilities available in the college with its numbers, space, speciality to conduct practical/hands on training.*

Information pertaining to laboratory facilities in various discipline of College of Agricultural, Kaul is given in thefollowing table:

| Facilities | Numbers | Space Length (m) x Width (m) | Speciality to conduct practical hands on training |
|---|---|---|---|
| Laboratories | 11 | 15m x 25m | Practicals on different subjects |

| | | | |
|---|---|---|---|
| Instructional farm | 01 | 22 acres | Practical Crop Production (PCP) |
| Workshops | 01 | 20m x 40m | Agricultural Engineering |
| Farm area (acres) | 22 | 22 | Practical Crop Production and fodder prodution |
| Horticulture farm (acres) | 10 | 10 | Practical hands on training to students on grafting and budding techniques, Identification of fruit trees, Training and pruning *etc*. |
| Any other: Dairy Unit | 01 | 1/2 acre | For practicals on Live-stock management (LPM) |

## Specific information about Labs:

| Name of the Laboratory | Brief description about lab | Purpose of establishing the lab | Area of the lab and student seating capacity | Facilities available in the lab | Instrument / equipments available in the lab | Any other information about the lab |
|---|---|---|---|---|---|---|
| **Plant Pathology** | All the facilities for plant pathological UG teaching are available and the Lab is well ventilated, well furnished and has sufficient natural light. | For teaching and research. | 15x15 $m^2$ and 30 students. | All the facilities required for practical classes of UG *i.e.* Isolation, culture and identification of pathogens *etc*. is available in this Lab. | Laminar flow, autoclave, Microscopes, oven, BOD, Refrigerator, digital balance, gas connection,hot plate, distillation unit etc. All glasswares and required chemicals are available in the Lab. |   |
| **Soil Science** | Lab established for UG and PG students. All the facilities for analysis of soil and plant are available. | To carry out the soil and plant analysis for practicals of UG and PG students. | 15x15 m and 30 students. | All the facilities required for UG and PG practicals. | pH meter, conductivity meter, electronic balance, hot oven, nitrogen kjeldahl distillation unit, spectro photometer, flame photometer, distilled water assembly, hot plate, electronic |   |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | shaker, water wath, sample rotater *etc.* | |
| **Agricultural Extension** | A well-equipped Extension Lab with seating capacity of 30 students in one batch is available in the college. | To provide practical experience to the students about handling and use of different audio-visual aids for extension purpose. | 27x25 m and 30 students. | Projection of different media, Multimedia recording, mixing and broadcasting, image capturing, video recording, audio visual effect creation, development of digital e-content. Developing of farm publications etc. | Audio-visual aids, like LCD projector, audio mixers, digital camera, Handicam and speakers tripod; portable PA system, audio recording devices, *etc.* |   - |
| **Horticulture and Post-harvest technology** | All the facilities with modern equipments for conducting practicals on fruits and vegetable preservation, models of nursery raising of fruits and vegetable are available. | For training the students regarding post harvest technology and production of value added products like Juices, Jam, Jelly. | 27x25 m and 40 Students. | All the facilities required for UG students. | Grinder, mixer, juicer, drier, washer, deep freezer, hand refractrometer, cold storage with processing and cold storage facilities, shrink wrapping machinefor conducting practical on fruits and vegetable preservation, bottle washing machine, deep freezer vertical for fruits and |   - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | vegetables, double distillation water apparatus | |
| **Agronomy** | Samples of seeds, fertilizers, models of some farm equipments, glazed photographs of weeds, benches for sitting students, black boards etc. are available for practical classes. | For training the students for practical | 27x25 m and 30 students. | All the facilities required for UG and PG students. | Oven, leaf area meter, models of implements, moisture boxes, weighing balance. |  - |
| **Entomology** | A large collection of insects arranged in boxes for identification, honey bee boxes, insect collection kits, light traps and other necessary items are available for practical work. | Conducting practicals for UG students. | 15x15 m and 30 students. | Insect collection kit, microscopes, light traps etc | Oven, microscope, bee keeping boxes, weighing balance. |   - |
| **Zoology and Botony** | Preserved specimens of different organisms, charts, models etc. are available for practical purpose. | For conducting UG students practicals. | 15x15 m and 30 students. | All the facilities required for UG and PG students | Microscpoe, oven, seed counter, incubator. |   - |

| | | | | | | |
|---|---|---|---|---|---|---|
| **LPM** | Different models of live stocks and various equipments for rearing animals and poultry are nicely displayed for showing to the students | Practical purpose for students | 15x15 m and 30 students. | Display models for Murrah buffalo (male and female) and Sahiwal cow. | Lactometer, spinner, brdijo castrator, separator for cream, water bath, balance, refrigerator. |  |
| **Computer Lab.** | Computer Lab is well equipped with computers of latest specification along with internet access, printers scanner *etc*. | This lab is established for providing basic computer education to the students viz. handling, configuration, software uploadingetc. | 24x40 m and 40 students. | Computers with active internet connection. | Computers, Scanner, printers. |  |

### 6.5.3.3. Student READY/ In-Plant Training / Internship / Experiential Learning Programmes:

*Clearly mention about the implementation of Student READY/In-plant training/ Internship/Experiential Learning programmes and learning outcomes as per the guidelines of ICAR. Profit sharing mechanism (amount) shall be mentioned for each ELP unit sanctioned by the ICAR for the college.*

The Student READY (Rural Entrepreneurship Awareness Development Yojana) programme aims to provide rural entrepreneurship awareness, practical experience in real-life situation in rural agriculture and creating awareness to undergraduate students about practical agriculture and allied sciences. The programme helps in building confidence, skill and acquire Indigenous Technical Knowledge (ITK) of the locality and thereby, preparing the pass-out for self-employment. It also aims to provide opportunities to acquire hands-on-experience and entrepreneurial skills.

During the last year of graduation, students are also given hand-on training in Apiculture and Mushroom Production. During the training, the students learn by doing various aspects/techniques/ management of Apiculture and Mushroom cultivation.

### Experiential Learning programmes (ELP)

The Experiential Learning Programme aims for promoting professional skills and knowledge through hands on experience, building confidence and ability to work in project mode and acquire enterprise management capabilities. The programme has provided a very good platform for students with an approach of "*Learning by Doing*" and "*Seeing by Believing*" and gives a new direction to the

Undergraduate students which develop thinking, skillful, expert, manager, human resource in the area of agriculture, horticulture, forestry and other allied disciplines.

During the courses of **Practical Crop Production I & II,** the students do hand-on training on crop planning, raising field crops in multiple cropping systems; field preparation, seed treatment, nursery raising, sowing, nutrient management, water management, weed management and management of insect pest and diseases of crops; harvesting, threshing, drying, winnowing, storage and marketing of produce, preparation of balance sheet including cost of cultivation, net returns per student as well as per team of a group of students.



Students of II$^{nd}$ Year learning to make Ber candy under Experiential Learning Programme



Dignitaries of the University visiting the laboratories and the students activity under ELP

## Internship Programme (Rural Agriculture Work Experience)

Rural Agricultural Work Experience (RAWE) enable the students to gain rural experience, give them confidence and enhance on-farm problem solving abilities in real life situations, especially in contact with farmers, and growers and ultimately help in buildingand strengthening capacity of individual student. This course includes multiple componenets *viz.*

a) Orientation and basic training for 1 week (introduction, objectives, and activities).

b) Rural experience through village placement for 9 weeks (group dynamics in coordination and cooperation among interns and farmers).

c) Crop production technology training including watershed management; high-tech agriculture; natural resource management in different cropping systems and agro-climatic zones of the state; techno-economic survey, documentation of information through survey and discussion with farmers, preparation of farm plans and family budget, information on bank loans for agro-projects.

d) Implications of WTO.

e) Extension Education Programmes: study of programmes and activities of various agricultural developments, extension agencies and institutes.

f) Interactions with the farmers and communication skills for effective extension methods.

Farmers' were also made aware of the University publications like Haryana Khetito aquaintain them with latest agricultural technologies for raising successful field crops. Farmers are also registered with the e-mausam website which is run through the Department of Agrometerology of CCS HAU, Hisar to provide them advance weather prediction in order to plan various agricultural activities in advance.

## Preparation of report

During the last 2 weeks of RAWE programme, the students also learn to prepare reports on their rural experience under RAWE, agro-industrial trainings attained, self employment training received, programmes and activities of various institutions visited, major constraints in crop production and suggestions to improve income of farmers, *etc.* Finally, students present their report that is submitted for evaluation of university level committee. Students are evaluated on multiple criteria including programme, report, presentation, *viva-voce* and other inputs likepunctuality, enthusiasm, conduct, leadership qualities, sincerity and devotion displayed by them.



RAWE students demonstrating the technology to the farmers of the district Sirsa

## In-plant training

In-plant training not only provides industrial exposure to the students but also develop their career in the high-tech industrial requirements. Students are enrolled to reputed companies dealing with agro-inputs, work and produce. Here, students initially get counselled as per their specific intersts in various streams,on the basic concepts and procedures of the selected domain. Students are thus, trained as future-ready graduates to face this competitive world with their acquired knowledge, problem solving attitude in the minimum period. Such trainings being provided in entirely different practical environment, prepare them as future entrepreneurs.

interns go for 5 weeks training with different agro-industries as wide as post harvest technology; agro processing; quality control, evaluation and problem solving in agro based industries;crop production, seed production and testing; soil and water testing, fruit and vegetable technology and nursery management, commercial bee keeping; repair and maintenance of plant protection equipments; mushroom production technology; plant clinic; operation, repair and service of farm machinery, diesel engines, pumping sets and electric motors; dairy and poultry farming; farm forestry and agricultural meteorology,*etc*.




The Interns receiving certificate after successfully completing the In-plant training

**6.5.3.4 Curricula Delivery through IT (smart class rooms/interactive board etc.):** *Whether the College is using smart class rooms/interactive board etc. for teaching and practical's. Number of class rooms upgraded as smart class rooms should be mentioned.*

There are well furnished lecture halls equipped with modern audio-visual aids like Interactice flat panel, multimedia, computers and white boards for effective teaching. Out of the five, four lecture halls are smart classrooms.

| | Curricula's | | | | |
|---|---|---|---|---|---|
| | **Smart class rooms for teaching and practicals** | **Interactive board for teaching and practicals** | **class rooms upgraded as smart class rooms** | **Use of e-manuals*** | **Use of e-websites*** |
| **If Yes, Numbers** | 04 | 04 | 04 | Yes | Yes |

**ICT Application in Curricula Delivery:**

**Use of ICT application in Teaching and Practical for Curricula Delivery**

| Programme offered | Total Courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| B.Sc. (Hons.) Ag. 4 years. | 74 | **1st Yr**-AGM 101, Biochem. 101, BOT 101/ZOO 101, Soils 101, For. 101, Eng. 101, Agron. 101, Agron. 103, Soc 101, GP 102, Micro. 102, SWE 101, Pl. Phy. 102, Ag. Econ. 102, Pl. Path. 102, Ent. 102, Ext. 102, Math 101, Stat. 102<br>**2nd Yr**-Agron. 201, GP 201, Ag. Econ. 201, FMPE 202, VSC 201, For. 201, Hort. 201, LPM 201 Agron. 202, Hort. 202, RBEE 202, Soils 202, SST 202, , Ag. Econ. 202, Ext. 202, Soils 204, Agron. 204, Hort. 204<br>**3rd Yr**- NEMA 301, Soils 301, ENT. 301, PL. Path 301, GP 301, Ent 301, Agron. 301, Comp. 301 Agron. 302, Pl. Path. 302, Hort. 302, Ent. 302, GP 302, Ag. Econ. 302, FST 302, Agron. 303, Agron. 304, Agron. 305, PFE 305, Agron. 306<br>**4th yr**- Agron. 491/AG CON 491/Ext. 491<br>Students need to choose any two modules of (0+10 credit hr) each | Module 1: Agro advisory services<br>Module: 2 Organic production Technology<br>Module 3: Bee keeping<br>Module 4: Mushroom cultivation<br>Module 5: Seed production and technology<br>Module6: Soil, Plant, Fertilizer testing<br>Module 7: Commercial vegetable production.<br><br>Tutorial, NCC, NSS, CCA<br>There is a tutorial class of one hour once in a week to get feedback from the students andtheir problems, if any, are addressed.They are also guided about their future ventures. | ▪ All the classrooms are smart classroom, equipped with smart boards to effectively deliver content to the students.<br>▪ All the lectures in the courses are taught digitally through Power Point Presentations using smart classroom.<br>▪ Digital e-content for the courses have been developed by the concerned faculty and being shared on ERP system of the university to provide free and round the clock access to the students.<br>▪ For online classes, digital classroom platform like MS Team, Google Classroom, Google meet, WebEx meet *etc*. are being used frequently by the faculty as well as students.<br>▪ Curricula content is also being made available in the form of Digital flipbook for some courses. Students prefer this ICT mode of teaching.<br>▪ Online assignments through MS team, Google form, Google Docs and Sheets are being conducted and evaluated to encourage the use of ICT among the students. |

**6.5.4 Student Development:** *Student Development at the College directs its educational efforts at fostering the intellect and character of students by integrating in-class and co-curricular experiences. To accomplish this, the college provides a wide range of educational experiences through programs and activities that complement and support the academic experience in the classroom.*

**6.5.4.1. Student Intake and attrition**

| Name of the degree programme | Actual students admitted in last five years | | | | | | Attrition (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **UG** | 61 | 62 | 56 | 63 | 66 | 73 | 16.4 | 22.6 | 26.8 | 31.7 | 13.6 | 8.2 |
| **PG** | - | - | 7 | 6 | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ph. D.** | - | - | 03 | 03 | 03 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |

**6.5.4.2. Average number of students in theory and practical classes**

| Sr. No. | Name of the Degree programme | Batch of students in theory class | | | | | | Batch of students in practical class | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **1** | UG | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| **2*** | PG | - | - | 1 | 1 | 1 | 1 | - | - | 1 | 1 | 1 | 1 |
| **3** | Ph.D | -- | - | 1 | 1 | 1 | 1 | - | - | 1 | 1 | 1 | 1 |

*Includes Ph. D. students from other departments. and Ph. D (GPB) students who completed M. Sc. (PB) from outside

**6.5.4.3. Admission process**

| Sr. No. | Name of degree programme | Mechanism of Admission (Through written exam / ICAR nominee / Foreign students) | Fee payment mechanism (Cash / Online) | Registration procedure (On-site / Online) | Academic schedule at the start of session (attach calander) |
|---|---|---|---|---|---|
| **1** | UG | Through written test | Online | Online | |
| **2** | PG | Through written test | Online | Online | |
| **3** | Ph.D. | Through written test | Online | Online | |

**6.5.4.4. Conduct of Practical and Hands on training (mention brief report of one page on practical and hands on training in different courses):**

| Sr. No. | Training title | Hands on training conducted year wise (Numbers) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| **1.** | Identification of important species of honey bees | 2 | 2 | 1 | 2 | 1 | 2 | 10 |
| **2.** | Handling of colonies | 3 | 3 | 3 | 1 | 1 | 1 | 12 |
| **3.** | Rearing techniques for | 4 | 4 | 2 | 2 | 2 | 1 | 15 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | queen bee, queen introduction, clipping and marking | | | | | | | |
| **4.** | Honey extraction, pollen, propolis and bee venom collection | 3 | 4 | 4 | 2 | 2 | 1 | 16 |
| **5.** | Processing of bee wax, royal jelly, production and collection | 1 | 1 | 1 | - | - | 1 | 4 |
| **6.** | Honey processing, packaging and honey testing | 2 | 2 | 2 | 2 | 2 | 1 | 11 |
| **7.** | Identification of different edible species of mushroom | 3 | 4 | 4 | 5 | 4 | 0 | 20 |
| **8.** | Sterilization techniques for culture media | 1 | 1 | 1 | 1 | 1 | 0 | 5 |
| **9** | Cultivation techniques, harvesting, packing and storage | 5 | 5 | 4 | 3 | 5 | 0 | 22 |
| **10** | Post harvest technologies (Preservation and storage) | 4 | 4 | 4 | 4 | 1 | 0 | 17 |
| **11.** | Soil and plant testing | 4 | 4 | 5 | 5 | 5 | 0 | 23 |
| **12.** | Groundwater testing for cations ands anions | 2 | 2 | 2 | 2 | 2 | 0 | 10 |
| | Total | 34 | 36 | 33 | 29 | 26 | 7 | 165 |



Hands on trainings conducted at COA, Kaul on agriculture

### 6.5.4.5. Examination and evaluation process

| Sr. No. | Name of degree programme | Examination pattern | | | Evaluation process | | | |
|---|---|---|---|---|---|---|---|---|
| | | Theory (External/ Internal) | Practical (External/ Internal) | Viva-voce | Theory (External /Internal) | Practical (External/Internal) | Comprehensive written | Viva-voce (Thesis and comprehensive) |
| 1 | UG B.Sc. (Hons.) Agri. 4 year programme | External | Internal | Internal | External | Internal | - | - |
| 2 | M.Sc. (Soil Science, Agronomy and Genetics &Plant Breeding) | Internal | Internal | External | External | Internal | - | External |
| 3 | Ph.D.(Soil Science, Agronomy and Genetics &Plant Breeding) | Internal | Internal | External | External | Internal | External | External |

External pattern of examination is followed only for theory portion at the end of the semester for regular courses but for non-credit courses evaluation is done through internal process and the papers for non-credit courses are set at the level of respective course teacher. Grade point in the paper is the total marks obtained by a student out of 100 divided by 10. However, if a student got at least 50 % marks in aggregate in a paper and is failing by 0.5 marks either in theory or practical (not both) of that paper, the awards were rounded off to the next higher number just to pass the student in that paper. The rounding off advantage is not to be counted towards calculating the grade point. This provision is applicable only if the student is failing in not more than two papers.

### 6.5.4.6. NCC/NSS units

**1. NCC Unit**

**Existence and Functioning of NCC Unit and how it is benifiting the student development (A brief report)**



The College of Agriculture, Kaul is functioning under 10 HAR NCC Bn, Kurukshetra with an authorized total strength of one ANO (Lieutenant Dr. R.S. Garhwal) and 53 cadets including Senior Division and Senior Wing cadets. The unit has an enrolled strength of 53 cadets ofwhich 18 are girls. Cadets enrolled were given institutional training and have option to participate in adventurous activities, community development programmes, various camps at national level and annual training camps; youth exchange programmes, sports and cultural activities. The NCC Company of the college comes under the Ambala Group of Haryana and Chandigarh NCC Directorate. Associate NCC Officer (ANO) and various other Permanent Instructor staffs took classes on various common and specialized subjects.Parades are arranged on every Wednesday and Thursday. The cadet sare detailed timely to attend several types of camps conducted at the All India level, state and unit levels *etc*. Cadets actively participated in social service activities like blood donation, tree planting, campus cleaning, pulse polio immunization project, community works, AIDS awareness programmes, cancer awareness programmes, waste cleaning programmes, *etc*. The students opting for NCC keep themselves inclined towards military services and for this purpose majority of the students usually passes vigorous tests/examinations for securing B and C certificates which in turn help in their selection to commission ranks.



COA, Kaul NCC Cadets conducted various activities during NCC Annual Training Camp-147 at Kurukshetra University, Kurukshetra from 18-24.10.2021



UO Ajay Kumar conducted various activities at All India Thal Sainik Camp 2022 at Delhi Cantt. from 14.09.2022 to 25.09.2022

NCC Cadets of COA Kaul conducted *Har Ghar Tiranga-Ghar Ghar Tiranga* Rally in Kaul village

**Year wise Strength of NCC Cadets**

| Year | 1st Year | 2nd Year | 3rd Year | B Certificate Passed | 'C' Certificate passout | |
|---|---|---|---|---|---|---|
| | | | | | **'A'Grade** | **'B'Grade** |
| 2017-18 | 18 | 19 | 16 | 17 | 1 | 7 |
| 2018-19 | 16 | 18 | 19 | 14 | 1 | 1 |
| 2019-20 | 19 | 16 | 18 | 15 | 5 | 8 |
| 2020-21 | 18 | 19 | 16 | 18 | 7 | 6 |
| 2021-22 | 16 | 18 | 19 | 18 | 3 | 14 |
| 2022-23 | 19 | 16 | 18 | 15 | 9 | 1 |

## 2. NSS Unit

### Existence and Functioning of NSS Unit and how it is benifiting the student development (A brief report)

National Service Scheme (NSS) came into existence in colleges and universities of India on 24th September, 1969 on the birth centenary of Mahatma Gandhi. He believed that the students should do something positive to raise the life of the villagers to higher material and moral levels. In CCSHAU the NSS unit was established in 1970. The overall objective of NSS is to serve the community by the students by following the instructions of college. It aims at improvement in personality through service to the community. NSS volunteers from NSS Unit of College of

Agriculture, Kaul are actively participating in various activities under Annual NSS Camps, University Level NSS Camps, State Level NSS Camps, National Integration Camps, National Youth Festivals and training under Red Cross Society *etc*.




College of Agriculture, Kaul, organized a seven days NSS Camp at Village Dherdu (Kaithal) from 13.04.2019 to 19.04.2019




NSS volunteer from COA, Kaul attended National Integration Camp held at Chaudhary Bansi Lal **University,** Bhiwani BRCM College, Bahal and Kurukshetra University during November, 2021 and 2022




State Level NSS Camp held at Chaudhary Ranbir Singh University, Jind during 19-25 October, 2021




National Youth Camp held at Hubballi, Dharwad, Karnataka during 12-16 January, 2023

**NSS volunteers participated in various NSS Events**

| Session | Annual Camp | University Level Camp | State NSS Camp | National Integration Camp | National Youth Festival | Youth Red Cross Training | Total volunteers participated |
|---|---|---|---|---|---|---|---|
| 2017-18 | 36 | 00 | 02 | 00 | 00 | 00 | 38 |
| 2018-19 | 00 | 00 | 02 | 00 | 00 | 00 | 02 |
| 2019-20 | 23 | 00 | 00 | 00 | 00 | 00 | 23 |
| 2020-21 | 50 | 00 | 02 | 05 | 00 | 00 | 57 |
| 2021-22 | 50 | 22 | 00 | 06 | 00 | 01 | 79 |
| 2022-23 | 50 | 25 | 00 | 07 | 01 | 00 | 83 |
| Total | 209 | 47 | 06 | 18 | 01 | 01 | **282** |

**The major activities of NSS and NCC unit is summarised below:**

| Year | Activities undertaken/ Salient Achievements |
|---|---|
| **2017-18** | • Celebration of World Environment Day on 05.06.2017<br>• Celebration of International Yoga Day on 21.06.2017 |
| **2018-19** | • NCC cadets organized cleanness drive in the campus under *Swachhta Hi Seva* compaign on 20.09.2018<br>• Celebrated Surgical Strike Day on 29.09.2018 |
| **2019-20** | • A rally to aware the people to cast their votes held on 22.10. 2019<br>• *Parthenium* awareness camp celebrated from16-22.08.2019<br>• Cleanliness drive on 02.10.2019<br>• Anti-plastic use awareness on the occasion Gandhi Jayanti 02.10. 2019<br>• Celebration of International Yoga Day on 21.06.2019<br>• Organized a rally under "*Beti Bachao Beti Padao Abhiyan*" on 18.10.2019 |
| **2020-21** | • Annual NSS camp organised from 13-19.03.2021<br>• Cleanliness drive on 02.10.2020<br>• *Parthenium* awareness camp from 16-22.08.2020<br>• National Youth Day on 12.01.2020<br>• Celebration of International Yoga Day on 21.06.2021 |
| **2021-22** | • *Parthtenium* eradication drive from16-22.08.2021<br>• Annual NSS camp organised from 08-14.03.2022<br>• Covid – 19 awareness rally on 28.08.2021 |







Activities organized during Annual Athletic Meet during 15-16.02.2019

3. **Mountaineering Club:** Mountaineering club organised traking and river rafting tour to Rishikesh, Uttarakhand on 03.07.2018




Agricultural Education day celebrated on 03.12.2018




Prize Distribution Function organized on 23.04.2018



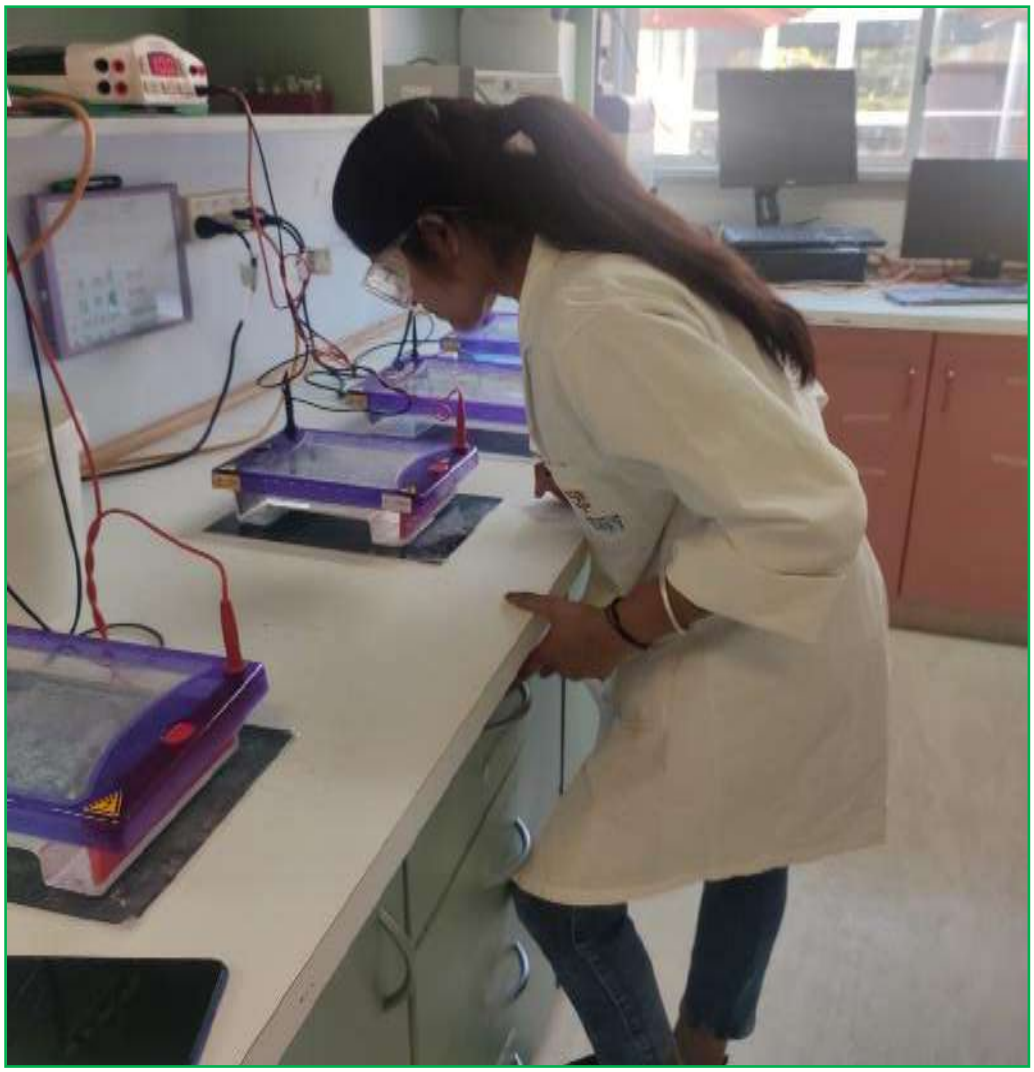
Activities during Mountaneering Tour on 03.07.06.2018




Annual Athletic Meet 27-28 Feb, 2020



COA, Kaul student visited Czech University of LifeSciences, Pragueunder NAHEP-IDP from 25 March, 2019 – 25 May, 2019



COA Kaul student visited University of Sydney, Plant Breeding Institute under NAHEP-IDP from 12.03.2020 to 12.06.2020



International Yoga Day 21 June 2022



Cleanliness drive by students of COA, Kaul during 02.09.2022



Governor of Haryana, Sh. Bandaru Dattatreya visited the ELP Stall
organised on occasion of Kisan Diwas at CCS HAU, Hisar on 23.12.2021)



Vice Chancellor along with other dignitories of the University visiting the stall of COA, Kaul during *rabi* krishi mela held from 13-14.09.2021



Agriculture Minister of the State Sh. Jai Parkash Dalal visited the stall of COA, Kaul during Krishi Mela held on 09-10.03.2021



Cleaning activity preformed by NSS Volunteers during Annual NSS Camp at village Dherdu (Kaithal) during 8-14 March, 2022




Rally on social issues during Annual NSS Camp at village Dherdu (Kaithal) during 8-14 March, 2022

**6.5.4.7.Language laboratory**:*Student has a good command of the language for communication purposes with clarity and accuracy being vital for effective and efficient communication. What help one to acquire such proficiency in a language is the process and the method of learning that language. In this regard mention the type of methods:*

Multimedia and high-tech language laboratory was established in the college in the year 2023 with an outlay of Rs. 50.00 lakhs. The language Lab has the facility of thirty (30) computers with interactive flat panel and fast internet connection. It's a furnished air conditioned lab with computer tables and chairs for the students. The Language Lab is used to facilitate class room engagement and interaction *via* computer-based exercises and activities to maximize proficiency in language components (vocabulary and pronunciation) and in language skills (listening, speaking, reading and writing). The English Language Lab provides a diverse experience from the conventional system of teaching and learning English language communication skills and offers advanced features such as authentic recorded materials spoken by different native speakers that expose the students to the near – ideal pronunciation of native speakers. Students are trained on developing their listening and speaking skills with special sessions that focused on pronunciation and communication competence. A blended methodology of language teaching is adopted in the language lab with the teacher explaining the language concepts, guiding the students through the different modules and then the students proceeding to practice them individually at their own computer systems in the lab. The learning is teacher assisted at the outset with the teacher introducing the course materials and then it proceeds to self-guided independent learning where the students individually focus and practice on language skills

that they are less proficient in. Also, teachers monitor student's lab activities and receive instant reports on their performance in tasks/exercises which is utilized to customize the teaching and learning activities to maximize language competence in the lab and in the classroom.

**6.5.4.8. Cultural centre:** *Does the college have cultural centre to empower student leaders to explore, celebrate, and educate the campus community about the diversity among them? Does the college offer and inclusive and reflective space, multicultural programming and support services that encourage positive interaction, academic, persistence, and growth among students, faculty, and staff?*

| | | |
|---|---|---|
| *Does the college have cultural center to empower students, leaders to explore, celebrate and educate the campus community about the diversity among them.* | Yes | The Auditorium/Students activity centre was established on Aug, 27 2001,with a seating capacity of 275 and a full fledged stage. It is regularly used by the students to perform educational, recreatioinal activities for the college staff, students and campus residents. Few important aspects include celebrtation of Freshers day, dance and dramatics club activities, NSS events, *etc.* Where students work in unison, imbibe leadership and cooperational abilities, *etc.* Multi cultural linguistic events inculcate in students the comeraderie sharing and learning habits. Multiple halls allow running the offices of various clubs that are run by the students under the guidance of teachers<br>**Music and DramaticsClub**<br>The Music and Dramatics club takes the responsibility of organizing various cultural activities such as dance, drama, skit and help in building confidence among the students and also refresh the students from the loads of studies. The cultural activities like quiz, rangoli, mehandi competition are organised in the students activity centre (Auditorium) regularly by the students of the college. |
| *Does the college offer inclusive and reflective space, multi cultural programming and support services that encourage positive interaction, academic persistence and growth among students, faculty and staff?* | Yes | The college has sufficient facility to organize multi-dimensional cultural activities for encouraging positive interaction among teachers, students and all the campus residents. Quiz and competitions are organized for academic persistence and growth of the students, faculty and staff of the college. Every year three major cultural programmes *viz.* Freshers' Day, Teachers Day and Farewell function are organized in which all the stakeholders (students, staff and residents) actively participate.<br>**Art and Graphics Club**<br>College of Agriculture, Kaul has Art and Graphics Club in which 40 students are selected and involved in various activities organised like poster making, designing of templates for PowerPoint presentation, assignment making, developing educational material, farm publication, designing, painting, drawing, photography, calligraphy, paint making, lithography, visual art, rangoli making, world cloud *etc*. This club organise above activities and competition for the purpose of developing creativity among the students. On the basis of performance, the students are rewarded and awarded. Our students take part in various competitions at college, university and national level and for that trainings are specially organized.<br>**Literary Club:**<br>This club aims at overall personality development of students by training them in speech activity in front of public and increasing their knowledge of general affairs. Declamation and debate contests were held among the |

| | | |
|---|---|---|
| | | students to develop leadershipship quality and overall personality development.<br>**Young Journalism Cell**<br>Young Journalism Cell works for the coverage of college events and preparing reports about activities organised by college including academic activities, sports events,NSS & NCC events, cultural, arts/graphics activities, extension/research activities *etc*.The students of Young Journalism Cell have been trained in the photography, videography, news writing and publishing in the print, electronic and social media. |



Declamation contest (Literary club)





Cultural programme organised by Music and Dramatic club





Poster making competition organised by Art and Graphics club during 15.02.2023

**6.5.4.9. Personality Development:** *Personality development programme is aimed at increasing employability of the students. Whether the college has provisions for inclusion of functional grammar in Standard English, speaking skills, reasoning, group discussions interview skills, personal interviews, quantitative ability, verbal ability, mock tests and some special sessions to promote the personality development in the students?*

| *Whether the college has provisions for inclusion of the following* | | |
|---|---|---|
| *Functional Grammar in standard English* | Yes | The faculty of the college takes care of the English speaking and writing skills of the studentsby conducting declamation, debate contests *etc*. Gramatical errors by the students are regularly pointed out and improved through English course and by faculties of the college. The course curriculum of on English takes care of the needs of students related to English language and grammer. |
| *Speaking skills* | Yes | Students are encouraged to speak English as the language of communication in the premises of college. |
| *Reasoning* | Yes | At some of the occasions, the students are apprised and got involved in enhancing the reasoning skills for competitive exams. |
| *Group Discussion* | Yes | Emphasis is always given on involvement of the students for group discussions on latest issues of the national and international |

| | | |
|---|---|---|
| | | importance |
| *Interview skills* | Yes | The students are made acquainted with the interview skills so that they may face the interviews for placement after completing their study with confidence. They are guided and trained about the mannerism, question-answer skill and other behavioural issues to perform in the interviews. |
| *Personal Interviews* | Yes | At several occasions the students are interviewed personally for improvements in their personal interactions. |
| *Quantitative ability* | Yes | Quantitative ability of the students are improved by conducting tests during the tutorial classes individually by the teachers of the college. The students remain engaged in studying the competitive books for enhancing their quantitative aptitude. |
| *Verbal Ability* | Yes | There is strong bonding of students with the faculty and both the partners can be seen interacting at any point of time in the college. |
| *Mock Test* | Yes | The students are prepared for their exams by conducting regular mock tests by the faculty during the tutorial classes in every semester. |
| *Some special sessions for personality development* | Yes | Trainings on Personality Development for the students are organised at the college regularly. Recently, 10 days training programme was organised for the same. |

### 6.5.5. Physical Facilities

**6.5.5.1. Hostels:** *Clearly mention the number of hostels available for the College students for boys and girls, separately with its total capacity, students per room accommodated in each hostel, mess facility, drinking water, indoor games specially for girls, cleaning of hostel premises, transport facility, emergency medical facility etc.*

There are separate hostels for boys and girls having accommodation capacity of 204 and 100, respectively. There is one dispensary and one jeep is available for transport to the nearby hospitals during emergency.

**Hostels**

| **No of Hostels** | **Boys - 01** | **Girls -01** |
|---|---|---|
| **Total capacity** | 204 | 100 + two 10-type quarters are converted for accommodation to 16 students (additional capacity of 65 students is being added) |
| **Students per room** | 36 rooms are singlebedded and 56 dormerties are triple-bedded | 22 rooms are single bedded and 12 dormerties are triple bedded |
| **Mess facility** | Available | Available |
| **Drinking water** | Available with R.O. | Available with R.O. |
| **Indoor games** | Table tennis, chess, gym, ludo, carom, *etc.* | Table tennis, chess, gym, ludo, carom, *etc.* |
| **Transport facility** | Available (jeep & minibus) | Yes |
| **Emergency medical facility** | Dispensary | Yes |
| **Cleaning of hostel premises** | Twice a day | Twice a day |

**Game facilities in the Hostels:**

| Games | Indoor | | | Outdoor |
|---|---|---|---|---|
| **S**tudents | Gym | TT | Carrom/chess/ludo | Volly ball |
| Boys | Yes | Yes | Yes | Yes |
| Girls | Yes | Yes | Yes | Yes |

**6.5.5.2 Examination Hall:***Mention the availability of number of examination halls, its capacity etc. for the college.*

Examinations (midterm and final) are conducted during prescribed period in five (05) lecture/ smart class rooms and one examination hall. Practical exams are conducted in the 11 respective leboratories and emamination/ lecture halls as per need.

| Examination Hall | Numbers | Total capacity |
|---|---|---|
| **Examination Hall** | 01 | A separate hall exists for examinations with the seating capacity of 50 students in the college. |
| **Lecture/smart class rooms** | 05 | 280 |
| **Total** | 06 | 330 |

**6.5.5.3. Sports and recreation facilities:** *Clearly mention the number of indoor and outdoor sports facilities available for the College students. A brief note on day to day management and use of these facilities shall be provided in the report.*

There are well laid-out playgrounds and different play courts for sports and recreational activities. Additionally, hostels also consist of separate indoor games facilities for boys and girls as mentioned earlier (6.5.5.1).

| No. and name of Indoor sports facilities | No. and name of Outdoor sports facilities |
|---|---|
| Table Tennis tables – 02 | Athletic ground - 01 |
| GYM -02 | Basket ball court – 02 |
| Chess, ludo, carom | Cricket ground – 01 |
| | Badminton court -01 |
| | Volley ball court- 02 |
| | Kabaddi ground - 01 |
| | Foot ball ground – 01 |
| | Hand ball ground - 01 |

**Brief note for day to day use and management:**

**a) Sports facilities:**

Students are deived into four houses. Inter house competition are conducted during Annual Athletic Meet where winners are suitably awarded good sports persons also take part in inter college and inter university competition. The students of 1$^{st}$, 2$^{nd}$ and 3$^{rd}$ year in each semester have to mendatorly opt forco-curricular activities (CCA). The students have to optany of the sport/music/drama activity etc. as per his/her choice. There is a provision of Sports Coordinator (faculty member), game organizer/coach and a game attendant who conducts/coordinates these activities. Separate boys and girls team are formed for volleyball, kabaddi, basketball, cricket *etc,* depending on the number and strength of the students. Students practice in the evening hours (6:00 to

7:30 PM in summers and 5.00 to 6.30 PM in winters) in the college playgrounds on all working days except the examination week under the guidance of the sports organizer/coach. The attendance of the students is recorded by the coach in the playground and accordingly the grades in CCA are given based on student's attendance and performance. The maintenance of the playgrounds/courts is done with the help of game attendants, maintenance unit and other supporting staff of the college.



Glimpses of Sports activities

**6.5.5.4. Auditorium:** *Does the college have auditorium? Mention its year of construction, sitting capacity and how frequently being used for the College functions.*

| | |
|---|---|
| **Year of construction** | **August 2001** |
| **Seating capacity** | 275 |
| **Frequency being used for College Functions** | Fortnightly or as per need |

**6.5.5.5. Exhibition Hall/Museum (description of events):** *Does the college have the Exhibition Hall/Museum? Mention about its use and special events being conducted in these units.*

There is one exhibition hall depicting information about the university & college of Agriculture, Kaul. Various samples related to different disciplines are displayed to impart information to the visitors as well as students.

| | |
|---|---|
| **Exhibition Hall** | **01** |

## 6.5.6. RESEARCH FACILITIES

**6.5.6.1. Postgraduate laboratories and Equipments**: *Clearly mention the department wise PG laboratories and equipment housed in individual laboratory in the Colleges along with any other research unit.*

College is having PG degree programme in three disciplines (Agronomy, Soil Science, and Genetics &Plant Breeding) and the UG laboratories are being used for conducting/analysing experiments of PG students. A separate well equipped PG Lab has been established in the discipline of Soil Science. UG laboratories of the college are well equipped as per norms/guidelines of ICAR and the major equipments are listed under:

**List of major equipments at present in the college**

| S. No. | Name of equipment | Cost (in Rupees) | Location/Lab |
|---|---|---|---|
| **1.** | Kelplus Automatic Macro Block and Digestion system | 267216 | Soil Lab |
| **2.** | Hot air Oven | 75900 | Soil Lab |
| **3.** | Rotary shaker Horizontal | 57000 | Soil Lab |
| **4.** | Wiley Grinder | 54000 | Soil Lab |
| **5.** | Spectrophotometer | 274312 | Soil Lab |
| **6.** | Conductivity meter | 59800 | Soil Lab |
| **7.** | BOD Incubator | 60000 | Soil Lab |
| **8.** | Electronic balance | 76518 | Soil Lab |
| **9.** | Multimedia projector | 66607 | Soil Lab |
| **10.** | Flame photometer | 50873 | Soil Lab |
| **11.** | Spectrophotometer | 397000 | Soil Lab |
| **12.** | Seed germination Chamber | 79600 | Botony Lab |
| **13.** | Digital research triangular microscope | 269859 | Botony Lab |
| **14.** | Trinocular sterozoom microscope | 87984 | Ento Lab |
| **15.** | Heavy duty universal wood working machine | 56100 | Ag. Engn Lab |
| **16.** | Amar Plot thersher | 52000 | Ag. Engn Lab |
| **17.** | Agriculture thresher | 12500 | Ag. Engn Lab |
| **18.** | Rotavator- Field King | 96000 | Ag. Engn Lab |
| **19.** | Tractor Massey | 571920 | Ag. Engn Lab |
| **20.** | Deep freezer | 56410 | Hort. Lab |
| **21.** | Cold storage | 498375 | Hort. Lab |
| **22.** | Fruit pulper (capacity 400-500 kg/hr) | 76500 | Hort. Lab |
| **23.** | Screw juice extractor | 74000 | Hort. Lab |
| **24.** | Hydraulic juice press | 173600 | Hort. Lab |
| **25.** | PP cap sealing machine | 86800 | Hort. Lab |
| **26.** | Shrink Wrapping machine | 93600 | Hort. Lab |
| **27.** | Mechanical dehydrator | 18990 | Hort. Lab |
| **28.** | Pickle mixer (Capacity 100 kgs) | 12500 | Hort. Lab |

**6.5.6.2. Research Contingency:** *A note on amount of research contingency for each department shall be provided. Whether it meets the students' demand?*

The PG degree programme and its research contingency for student's demand are met through state Scheme (1012 A-9 Agri (A) state) of the college.

| S.No. | Years | Allotment Rs. | Balance amount Rs. | Spent in the year Rs. |
|---|---|---|---|---|
| 1 | 2019-20 | 742654 | 742654 | - |
| 2 | 2020-21 | 1387348 | 913667 | 371681 |
| 3 | 2021-22 | 2396861 | 361639 | 586288 |
| 4 | 2022-23 | 1684683 | 610641 | 544949 |

### 6.5.7. Outcome/Output

**6.5.7.1. Student Performance in National Examination:** *Provide detailed information in tabular form about student Performance in JRF/SRF/NET/ARS and other National Examinations for last five years. Only those students receiving fellowships should be mentioned here.*

| Sr. No. | Name of Examination | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | **Total** |
|---|---|---|---|---|---|---|---|---|
| **1.** | JRF | 6 | NA | 3 | NA | NA | - | **09** |
| **2** | NET | NA | NA | NA | 3 | 1 | - | **04** |
| **3.** | Other National Examinations IIM, IRMA, NAARM, NIAM, MANAGE, ISRO, SIIB, VAMNICOM, DMI. Etc. | 6 | 03 | 04 | 06 | 06 | 06 | **31** |

**6.5.7.2. Students Placement Profile:** *Provide detailed information in tabular form about student performance in ARS/and other national examinations/State level examinations or equivalent. Year wise placement profile shall be provided.*

| S.No | Years | No. of students | Placement organisation |
|---|---|---|---|
| 1. | 2017-18 | 08 | State govt. (07), Bank (01) |
| 2. | 2018-19 | 08 | DDA (01), Bank (04), IFFCO (01), SAU (01), State govt. (01), |
| 3. | 2019-20 | 07 | Bank (04), NABARD (01), FCI (02) |
| 4. | 2020-21 | 04 | Bank (03), FCI (01) |
| 5. | 2021-22 | 03 | Sate govt. (01), FCI (01), Bank (01) |

**6.5.7.3. Awards/Recognitions/Certificates:** *Provide information on awards/recognitions/certificates in tabular form for last five years separately for students and faculty.*

**Students:**

| **Sr. No.** | **Awards/Recognitions/ Certificates** | | **Year-wise Gold Medal Winners** | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 |
| | **Name of the Awards** | **By No. of Students** | | | | | |
| **1.** | University Merit Gold Medal | 05 | - | 01 | 01 | 02 | 01 |
| **2.** | P.S. Lamba Gold Medal | 02 | - | - | 01 | 01 | - |

**Faculty:**

| Year | Name of faculty | Name of Awards/ Recognitions/Certificates | Remarks if any |
|---|---|---|---|
| **2017-18** | Dr. O.P. Chaudhary | • **Best research paper award 2018,** 9th Indian Science Congress Association HW Chapter Conference, GB Pant Univ. Agri.& Technology, Pantnagar, along withmy students PK Dalal and M Rathee<br>• **Best research paper** award 2018, Sam Higginbottom University of Agriculture Technology & Science, Allahabad during "International Conference on emerging issues in agriculture, environment and applied science" along with my students M. Rathee and P.K. Dalal<br>• **Best research paper award 2018,** Prayagraj | |
| | Dr. Manender Singh | • **Young Scientist Award-2017** awarded by (AIASA) in 2nd National Agricultural Convention on Agricultural Skill Development for Doubling Farmers Income held on 7.10.2017 at Bikaner, Rajasthan.<br>• **Young Scientist Associate Award-2017** awarded by Hi-tech horticultural society in Global Meet on Science & Technology for Ensuring Quality Life held during 26-30, November, 2017 at Kuala Lampur, Malaysia<br>• **Poster Presentation Award-2017** awarded by Hi-tech horticultural society in Global Meet on Science & Technology for Ensuring Quality Life held during 26-30, November, 2017 at Kuala Lampur, Malaysia<br>• **Young Scientist Award-2018** awarded by ICFA in the "International Conference on Food & Agriculture" held during 29-31March, 2018 at Dhanbad, Jharkhand, India | |
| **2018-19** | Dr Mehar Chand | • **Best poster award** for research paper entitled "Heterotic effects of maize hybrids of different maturity groups for grain yield" in International Symposium on Innerpreneurship: A need of Sustainable Agriculture" at CCSHAU, Hisar, Haryana during 2-3February, 2019 | |
| | Dr. Manender Singh | • **Scientist of the Year Award-2019** awarded in National Conference on Smart Agriculture & Food Security, SAFS-2019, held during 18-20January, 2019 at Jaipur National University, Jaipur | |
| | Dr. Ashish Jain | • **Best poster presentation award** 2018 on "Screening of cotton genotypes for resistance to sucking pest organized by CRDA & ICAR, R.C. NEHR, Umian | |
| **2019-20** | Dr. O.P. Chaudhary | • **Patent** for Portable honeybee colony manipulation cum anti robbing enclosure (PHMARE), 16.04.2019<br>• **Patent** for Multipurpose dispenser for honey bees, Application No. 320896-001, 21.8.2019<br>• **Young Fellow Award 2019,** For outstanding contribution and recognition in the field of Entomology, during 3rd Global Meet on Science and Technology at National Research Centre on Seed Spices, Ajmer, | |

| | | | |
|---|---|---|---|
| | | Rajasthan<br>• **Best research paper award** 2019, CCS Haryana Agricultural University, Hisar during "International Symposium on Innopreneurship: A Need of Sustainable Agriculture" along with my student M Rathee | |
| | Dr. Ashwani Kumar | • **Best Poster presentation award-2020** on "Integrated disease management of banded leaf and sheath blight in maize using different biorational products in National Symposium on Plant Disease Management for Food Security under Climate Scenario organized by IPS, New Delhifrom 9-10, January, 2020 | |
| | Dr. Vishal Goyal | • **Best Poster presentation award (Second) -2019-20** on "Impact of integrated nutrient management of STCR on soil physical properties under pearl millet-wheat cropping system organised by *Indian Society of Soil Salinity and Water Quality* from 7-9 Feb, 2019 under ICAR-CSSRI golden jubilee International conference on soil salinity | |
| | Dr Subhash Chander | • **Dr. A.P.J. Abdul Kalam Scientist Award** - 2019 in 9th International Conference on Agriculture, Horticulture and Plant Science organized by "The Society of Tropical Society, New Delhi" on June 27-28, 2019 held at Dharamshala (H.P.) India. | |
| **2020-21** | Dr. O.P. Chaudhary | • **Patent** for Universal strip hanger cum spacer, Application No. 201911010657 A, 25.9.2020<br>• **Patent** for Hands free honey bee observation grid frame, Application No. 201811048894 A, 21.8.2020<br>• **Best research paper award 2020,** Central Agricultural University, Imphal, Manipur | |
| | Dr. Manender Singh | • **Excellence in Teaching Award-2020** awarded in International web Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS- 2020) organized by Astha Foundation, Meerut, during 28-30 December 2020 | |
| | Dr. Vishal Goyal | • **Appreciation award** by worthy Vice-Chancellor o, CCS HAU, Hisar for best worker in the year 2020-21 | |
| | Dr. Sonika | • **Young women scientist award** by Agro-Environmental Development Society (AEDS) on the occasion of International web conference on new trend in agriculture, environmental and biological sciences for inclusive development during June 21-22, 2020 | |
| | Dr. Rinku Poonia | • **Best oral presentation award (Second)** on " Diversity and abundance of floral visitors in bitter guard cultivar, *PUSA Do Mausami* presented in National conference on agricultural resource management for Atam Nirbhar Bharat held on 17-19 July 2020 | |
| | Dr. Ashish Jain | • **Best poster presentation award** 2020 on "DUS Characterization in upland cotton organized by CRDA and OUAT, Odisha | |
| **2021-22** | Dr. O.P. Chaudhary | • **Patent** for Double entrance honey bee hive (DEHBH), 04.9.2021 | |

| | | | |
|---|---|---|---|
| | Dr. Vishal Goyal | • **Best poster presentation award** 2022 in I[st] International symposium on "Cereals for Food Security and Climate Resilience" on the Topic "Influence of different nutrient management practices on crop productivity and soil microbial properties in wheat under raised bed and flat bed planting system" organized by Society for Advancement of Wheat and Barley Research, Karnal and Indian Institute of Wheat and Barley Research, Karnal held online between January 18- 20, 2022 | |
| | Dr. Manender Singh | • **Young Scientist Award-2021** by Society for Scientific development in Agriculture &Technology on the occasion of International Web Conference On Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021) organized by Astha Foundation, Meerut (U.P.) during 13-15 December, 2021 | |
| | Dr. Ashwani Kumar | • **Best Poster Presentation Award 2022** "Beta-tubulin gene in the differentiation among different isolates of (*Fusarium moniliforme* Sheld.) incitant of bakanae disease of rice by PCR analysis". IV[th] International Conference in Hybrid Mode on Innovative and Current Advances in Agriculture & Allied Sciences (ICAAAS-2022) at Himachal Pradesh University, Summer Hill, Shimla (H.P.) India during 12-14 June, 2022 | |
| | Dr. Darshana | • **Best oral presentation award**on "Use ofLandsat 8 Data to monitor vegetation health, water stress andtemperature over Northern region of India" at 30[th] National web conferencesoil and water management technologies for climateresilience, Agricultural and EnvironmentalSustainability,organizedbysoil conservation society of India, New Delhi from 14-16 December, 2021 | |
| Total | | **29** | |

**6.5.7.4. Employability:** *What are the set of achievements such as skills, understandings and personal attributes that make College students more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy? Provide one-page note on the subject.*

The College of Agriculture, Kaul is entrusted for professional education in the domain of Agriculture. The course curriculum for the degree programme is pro-employment and entrepreneurship development. The students of this college are made capable so that after doing their degree from here, they can get employment in any government or non-government organization. Along with the technical education in agriculture science, we also provide life skills to the students & shape themto face any challenge in their life. This college ensure all round development of the students so that they can choose their own future streams in career planning. Right from the beginning, the orientation programme is undertaken to develop the spirit of professionalism among them. We provide need based and customised support to the students during the degree programme. The students are imparted human values and ethics at weekly interval in their tutorial classes along

with the scope of agriculture course which they have opted in their career. It is mandatory for all the students to get themselves register for co-curricular activities *i.e.* NSS, NCC. The students of NSS/NCC streams are involved in various social welfare campaigns like cleanliness, Pulse Polio, plantations *etc*. so that they can contribute in different social activities.

To ensure employability of the students, sufficient number of exposure visits are arranged to agriculture based subsidiary endeavours as well as employment generating entrepreneurs like mushroom, vermi- composting, bee keeping, dairy farming, seed production units *etc*. All the students undergo a special industrial training for 35 days in the last semester of the degree programme which help them to establish their own agro-based small scale enterprises. Practical knowledge of cultivation of crops is rendered to the students through the Practical Crop Production (PCP) course offered for one year so that they can get skills in production and management; and may become the professional crop advisors to the farming community for practising low external input agriculture in a sustainable manner.

To provide work experience to the graduates, Rural Agriculture Work Experience (RAWE) programme is organized as a part of curriculum to allow students to gain vitalexperience while working with the farmers for a duration of two months in different villages.It provides them an opportunity to understand the practical problems of agriculture in real time situations. After attaining practical knowledge of agriculture and allied fields like animal husbandry and horticulture, they may adapt scientific farming while conserving the precious resources simultaneously.

Apart from the technical knowledge in the field of agriculture and allied sectors, the college endeavor to provide knowledge and skills to the students in the field of behavioural science along with soft skills like communication, decision making, active listening, problem solving, team building, leadership, public speaking *etc.* Some specialised short duration trainings onpersonality and entrepreneurship development are organized to create student'sinterest in self-employment. In order to motivate and inspire the students at special occasions, the passed out alumni of the college working at apex positions in private and government sectors are invited to guide and advise our students regarding the opportunities of agriculture professionals in respective sectoral organisations. Such numerous interactions and group discussions motivate students to preparefor different competitive examinations and employment opportunity.

**6.5.8.** SSR of the College must have the SSR of all its Degree Programmes (following section 6.4), then the report of the Colleges shall be considered.

**6.5.9.** Certificate (Applicable when SSR is submitted for Programmes & College).

I, the Principal hereby certify that the information contained inSections 6.4 and Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the college and degree awarding university.



**Signature of the Principal of the college with Date & Seal**

**6.5.10.** Each college shall submit SSR as mentioned in 6.5.8. It shall be prerequisite for the SSR of theAgricultural University.



# SELF STUDY REPORT

## FOR

# PROGRAMMES

## OF

## COLLEGE OF AGRICULTURE
## KAUL (KAITHAL)

## APRIL 2018 TO MARCH 2023

# SELF STUDY REPORT FOR PROGRAMMES

## 6.4. Self Study Report for the Programme

| Name of the College: College of Agriculture, Kaul | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Under-graduate Programme** | | | | | | | | | | | | | | | | | | |
| Degree Programme offered by the College | | **Specialization** | **Year of start** | **No. of seats** | | | | | | | **No. of students passed out** | | | | | | | |
| | | | | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **Y6** | **Total** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **Y6** | **Total** |
| **a. B.Sc./ B.Tech.** | | Agriculture | 1974 | 50 | 50 | 54 | 54 | 54 | 60 | 322 | 49 | 47 | 52 | 41 | 51 | 48 | 288 |
| **B .Any other (diploma etc.)** | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Post-graduate programme** | | | | | | | | | | | | | | | | | | |
| Name of the Department | | | | | | | | | | | | | | | | | | |
| Degree Programme offered by the Department | | **Specialization** | **Year of start** | **No. of seats** | | | | | | | **No. of students passed out** | | | | | | | |
| | | | | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **Y6** | **Total** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **Y6** | **Total** |
| **a. M.Sc. (Agri.)** | | GPB | 2019 | - | - | 2 | 2 | 2 | 2 | 8 | - | - | - | 2 | 2 | - | 4 |
| | | Agronomy | 2019 | - | - | 2 | 2 | 2 | 2 | 8 | - | - | - | 2 | 2 | - | 4 |
| | | Soil Science | 2019 | - | - | 2 | 2 | 2 | 2 | 8 | - | - | - | 2 | 2 | - | 4 |
| **b. Ph.D.** | | GPB | 2019 | - | - | 1 | 1 | 1 | 1 | 4 | - | - | - | Nil | Nil | - | |
| | | Agronomy | 2019 | - | - | 1 | 1 | 1 | 1 | 4 | - | - | - | Nil | Nil | - | |
| | | Soil Science | 2019 | - | - | 1 | 1 | 1 | 1 | 4 | - | - | - | Nil | Nil | - | |
| **c. Any other (diploma *etc.)*** | | Diploma in Agrochemical and Fertilizers | 2021 | - | - | - | 18 | Nil | | | - | - | - | - | - | 18 | 18 |

Y1 = 2017-18……. Y6 = 2022-23 (till date)

Note: M.Sc and Ph.D. programmes started w.e.f 2019-20

**6.4.1. Brief History of the Degree Programme:** Clearly mention in which year the degree program was initiated along with its objective and accomplishments.

| | |
|---|---|
| Objectives of initiating UG programme (Principal office)- in bullet form | The college adopts the following goals and objectives which permeate in offering of various curricula and undertake research and extension activities by its departments to:<br>• To impart knowledge on agriculture and allied sciences.<br>• To impart hands on and practical knowledge in agriculture<br>• To disseminate technologies developed by the university through various extension activities.<br>• To identify the problems faced by the farmers reading agriculture and to solve them.<br>• To impart skills and knowledge on commercial agricultural production practices |
| Accomplishments of UG programme ( Principal office) in bullet form | B.Sc. (Hons.) Agri 4-Year Programme<br>In College of Agriculture, admissions in under graduate programme *i.e.* B.Sc. (Hons.) Agriculture 4 year are made every year. Based on the overall performance over 4 years, Gold Medal is awarded to a student having highest OGPA in the degree programme every year. |
| Objectives of initiating M.Sc /M.Tech. programme (Department) in bullet form | • To impart higher education to the students of this area<br>• To strengthen the College of Agriculture<br>• To promote research activities in the college |
| Accomplishments of programmes (Department) in bullet form | **M.Sc. (Soil Science, Agronomy and Genetics &Plant breeding)**<br>In College of Agriculture, Kaul admissions in post graduate programme *i.e.* M.Sc. Agriculture are made every year. Based on the overall performance over 4 years, Gold Medal is awarded to a student having highest OGPA in the degree programme every year. |
| Objectives of initiating Ph.D. programme (Department) in bullet form | • To impart higher education to the students of this area<br>• To strengthen the College of Agriculture<br>• To promote research activities in the college |
| Accomplishments of programmes (Department) in bullet form | **Ph. D. (Soil Science, Agronomy, and Genetics & Plant breeding)**<br><br>In College of Agriculture, Kaul admissions in post graduate programme *i.e.* Ph. D. Agriculture are made every year. Based on the overall performance over 4 years, Gold Medal is awarded to a student having highest OGPA in the degree programme every year. Departmental gold medal for the best thesis award is also adjudged every year. |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Sanctioned Faculty | Faculty sanctioned | | | Faculty in place | | | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|---|---|---|---|
| | | Teaching | Research | Extension | Teaching | Research | Extension | |
| 1. | Principal | 01 | - | - | 01 | - | - | No |
| 2. | Professor and equivalent | 0 | - | - | - | - | - | No |
| 3. | Associate Professor and equivalent | 01 | - | - | 01 | - | - | No |
| 4. | Assistant Professor and equivalent | 18 | - | - | 17 | - | - | No |
| 5. | Guest faculty (specify) | 00 | - | - | 00 | - | - | No |
| 6. | Contractual faculty (specify) | 00 | - | - | 00 | - | - | No |
| 7. | Adjunct faculty (specify) - Emeritus Scientist | 00 | - | - | 00 | - | - | No |
| 8. | Placement officer | 00 | - | - | 00 | - | - | No |
| 9. | Any other (specify) - Emeritus Scientist | 00 | - | - | 00 | - | - | No |

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Sanctioned Technical and supporting staff | Technical and supporting staff in place | Vacant position | Technical and supporting staff recommended by the ICAR/UGC |
|---|---|---|---|---|
| 1. | **Office staff** | | | |
| | Assistant | 2 | 0 | 0 |

| | | | | |
|---|---|---|---|---|
| | Clerk | 3 | 0 | 0 |
| | PA/Steno | 01 | 0 | 0 |
| | Messenger | 04 | 02 | 0 |
| 2. | **Lab staff** | | | |
| | Lab Assistant | 06 | 03 | 0 |
| | Any other (Store Keeper) | 01 | 01 | 0 |
| 3. | **Field staff** | | | |
| | Beldar | 02 | 01 | 0 |
| 4. | **Driver** | 02 | 01 | |
| 5. | Any other (specify) | - | - | - |

***6.4.4.*** **Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| | |
|---|---|
| Name of College/Department | College of Agriculture, Kaul |
| No. of lecture rooms with sitting capacity | 5 (capcity of 60 each) |
| No. of lecture rooms with Smart Board | 01 |
| No. of smart class-rooms | 03 |
| No. of labs under Principal's office with specialized purpose | 11 |
| Farm facilities | Yes, 32 acres (22 acres of Students' farm and 10 acres of orchard with different fruits trees)<br>Additionally, 82 acres of land under Rice Research farm is also available at COA Kaul, Campus. |
| Workshops | 01 |
| Any other instructional units being utilized for the award of the Degree Programme | 01 (Dairy Unit) |

**List of Major Equipments (Equipments costing more than Rs. 50,000)**

| S. No. | Name of equipment | Date of purchase | Cost (in Rupees) | Location/Lab |
|---|---|---|---|---|
| 1 | Kelplus Automatic Macro Block and Digestion system | 08-06-2017 | 267216 | Soil Lab |
| 2 | Hot air Oven | 25-04-2017 | 75900 | Soil Lab |
| 3 | Rotary shaker Horizontal | 15-05-2017 | 57000 | Soil Lab |
| 4 | Wiley Grinder | 25-04-2017 | 54000 | Soil Lab |
| 5 | Spectrophotometer | 21-06-2017 | 274312 | Soil Lab |
| 6 | Conductivity meter | 04-10-2014 | 59800 | Soil Lab |

| | | | | |
|---|---|---|---|---|
| 7 | BOD Incubator | 31-03-2002 | 60000 | Soil Lab |
| 8 | Electronic balance | 04-10-2014 | 76518 | Soil Lab |
| 9 | Multimedia projector | 17-12-2014 | 66607 | Soil Lab |
| 10 | Flame photometer | 07-10-2014 | 50873 | Soil Lab |
| 11 | Seed germination Chamber | 31-03-2002 | 79600 | Botany Lab |
| 12 | Digital research triangular microscope | 20-10-2006 | 269859 | Botany Lab |
| 13 | Trinocular sterozoom microscope | 31-12-1998 | 87984 | Ento. Lab |
| 14 | Heavy duty universal wood working machine | 08-04-1987 | 56100 | Ag. Engg. Lab |
| 15 | Amar plot thersher | 31-03-2008 | 52000 | Ag. Engg. Lab |
| 16 | Agriculture thresher | 31-03-2017 | 12500 | Ag. Engg. Lab |
| 17 | Rotavator- Field King | 20-03-2020 | 96000 | Ag. Engg. Lab |
| 18 | Tractor Massey | 25-03-2016 | 571920 | Ag. Engg. Lab |
| 19 | Deep freezer | 31-03-2001 | 56410 | Horti. Lab |
| 20 | Cold storage | 03-06-2014 | 498375 | Horti. Lab |
| 21 | Pulper fruit capacity 400-500 kg/hr | 24-06-2015 | 76500 | Horti. Lab |
| 22 | Screw Juice extractor | 24-06-2015 | 74000 | Horti. Lab |
| 23 | Hydraulic juice press | 24-06-2015 | 173600 | Horti. Lab |
| 24 | PP cap sealing machine | 24-06-2015 | 86800 | Horti. Lab |
| 25 | Shrink Wrapping machine | 24-06-2015 | 93600 | Horti. Lab |
| 26 | Mechanical dehydrator | 24-06-2015 | 18990 | Horti. Lab |
| 27 | Pickle mixer Capacity 100 kgs | 24-06-2015 | 12500 | Horti. Lab |



Laboratories of COA, Kaul with instruments and chemicals

**Mention theory and practical batches for UG Programme (to be supplied by Principal's office)**

| Year | Theory | | | | Practical | | | |
|---|---|---|---|---|---|---|---|---|
| | 1st year | 2nd year | 3rd year | 4th year | 1st year | 2nd year | 3rd year | 4th year |
| **2017-18** | 01 | 01 | 01 | 01 | 02 | 02 | 02 | 02 |
| **2018-19** | 01 | 01 | 01 | 01 | 02 | 02 | 02 | 02 |
| **2019-20** | 01 | 01 | 01 | 01 | 02 | 02 | 02 | 02 |
| **2020-21** | 01 | 01 | 01 | 01 | 02 | 02 | 02 | 02 |
| **2021-22** | 01 | 01 | 01 | 01 | 02 | 02 | 02 | 02 |

**Mention theory and practical batches for PG Programmes (to be supplied by Department)**

| Year | Theory | | Practical | |
|---|---|---|---|---|
| | M.Sc./M.Tech.* | Ph.D.* | M.Sc./M. Tech. | Ph.D. |
| **2017-18** | - | - | - | - |
| **2018-19** | - | - | - | - |
| **2019-20** | 01 | 01 | 01 | 01 |
| **2020-21** | 01 | 01 | 01 | 01 |
| **2021-22** | 01 | 01 | 01 | 01 |
| | | | | |
| TOTAL | **03** | **03** | **03** | **03** |

*Includes Ph. D. students from other departments. and Ph.D. (GPB) students who completed M. Sc. (PB) from outside

***6.4.5.* Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

**Information to be supplied by the Departments.**

| Degree programme | Total courses | Practicalcourses | Hands-on-trainingcourses | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| **B.Sc. (Hons.) Agri.** | 07 | Module 1: Agro-advisory services | NA | NA |
| | | Module: 2 Organic production Technology | Organic production Technology | • Identification and nursery raising of important agro-forestry tress and tress for shelter belts<br>• Quality analysis of organic inputs and products.<br>• Computation of relative economics of organic production programmes.<br>• Socio-economic impacts; marketing and export potential of organic products<br>• Visit to an organic farm<br>• Quality standards, inspection, certification and labeling and |

| | | | | |
|---|---|---|---|---|
| | | | | accreditation procedures for<br>• Farm produce from organic farms |
| | | Module 3: Bee keeping | Bee Keeping | • Identification of important species of honey bees<br>• Handling of colonies<br>• Rearing techniques for queen bee, queen introduction, clipping and marking<br>• Management of bacterial, viral and fungal diseases of honey bees<br>• Identification and management of parasitic mites, wax moths, ants and wasps, and predatory birds<br>• Honey extraction, pollen, propolis and bee venom collection<br>• Processing of bee wax, royal jelly, production and collection<br>• Honey processing, packaging and honey testing |
| | | Module 4: Mushroom cultivation | Mushroom cultivation | • Identification of different edible species of mushroom<br>• Sterilization techniques for culture media<br>• Isolation and purification of cultures<br>• Mother spawn production, multiplication of spawn<br>• Cultivation techniques, harvesting, packing and storage;<br>• Disease and weed management<br>• Post-harvest technologies (preservation and storage) |
| | | Module 5: Seed production and technology | Seed production and technology | • Selection of suitable area/ locations for high quality seed/ planting material production<br>• Determination of land requirement and isolation distance in field crops & vegetable crops<br>• Seed production techniques of self pollinated crops<br>• Seed production techniques of cross-pollinated crops<br>• Hybrid seed production in field crops;<br>• Hybrid seed production in vegetable crops<br>Roguing in seed production plots |
| | | Module 6: Soil, plant, fertilizer test | Soil, plant, fertilizer test | • Collection and preparation of soil samples; Determination of texture, bulk density; Estimation of soil pH, EC, organic carbon, available NPKS, micronutrients (Zn, Cu, Mn, Fe).<br>• Quantitative rating of plant analysis data andin interpretation of results, critical |

| | | | | |
|---|---|---|---|---|
| | | | | nutrient concentration, critical nutrient ranges<br>• Collection of water samples; Quality criteria, classification and suitability of irrigation water, and water quality index; Determination of pH, EC, cations (Ca++, Mg++, Na+,K+) |
| | | Module 7: Commercial vegetable production | Commercial vegetable production | • Identification of vegetable seeds and plants<br>• Planning and layout of a kitchen garden<br>• Preparation of nursery beds<br>• Preparation of seedbeds<br>• Seed treatment before sowing with raising of vegetable seedlings in field and portrays in different seasons; Hardening of seedlings and treatments for hardening |

| **Degree programme** | Total courses | Practical courses | Hands-on-training courses | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| B.Sc. (Hons.) Agri. | 74 | 07 | 06 | • The students are getting sufficient theory and hands on trainings as per curriculum.<br>• They additionally get enterprenourship training and hand holding. |
| M.Sc. | Courses are taught at main campus of CCS HAU, Hisar | | | |
| Ph.D. | | | | |

**6.4.6. Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Detailsof M.Sc. programmes offered by the Department:**

| **Name of Department** | **Numberof students on roll** | **Numberof PG faculty** | **Student-teacher Ratio** |
|---|---|---|---|
| **COA, Kaul** | 06 | 02 | 3:1 |

**Detailsof Ph.D.programmes offered by the Department:**

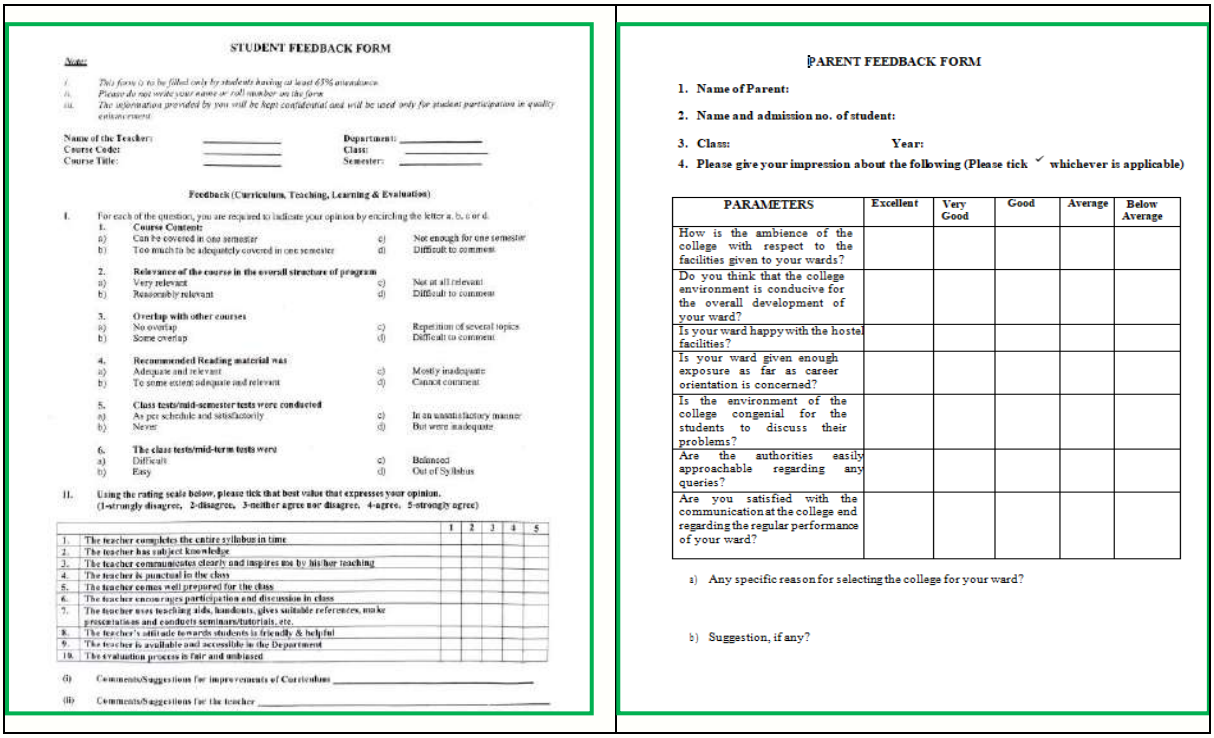
| **Name of Department** | **Numberof students on roll** | **Numberof PG faculty** | **Student-teacher Ratio** |
|---|---|---|---|
| **COA, Kaul** | 3 | 2 | 1.5:1 |

***6.4.7.* Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues*

*raised in the feedback?*

The feedback for each courses is duly filled in the proforma by students of the college at the end of semester. Suggestions related to live rock samples for identification purpose, bee keeping unit, mushroom unit, food processing instruments and machinery procurement *etc*. were received. College of Agriculture authorities immediately followed and acted upon the suggestions and samples of rocks and minerals were procured and bee keeping unit was established. Machinery and equipments for food processing were also procured.

Feedback proforma by parents of the students are also got filled in every year. Suggestions are asked to improve academic activities of the college in relation to their wards, in addition to cultural sports activities library opening during exam time *etc*. The demands are kept to the Principal of the college and were acted accordingly.



STUDENT FEEDBACK FORM

Note:

i. *This form is to be filled only by students having at least 65% attendance.*
ii. *Please do not write your name or roll number on the form.*
iii. *The information provided by you will be kept confidential and will be used only for student participation in quality enhancement.*

Name of the Teacher: _____ Department: _____
Course Code: _____ Class: _____
Course Title: _____ Semester: _____

Feedback (Curriculum, Teaching, Learning & Evaluation)

I. For each of the question, you are required to indicate your opinion by encircling the letter a, b, c or d.

1. **Course Content:**
a) Can be covered in one semester c) Not enough for one semester
b) Too much to be adequately covered in one semester d) Difficult to comment

2. **Relevance of the course in the overall structure of program**
a) Very relevant c) Not at all relevant
b) Reasonably relevant d) Difficult to comment

3. **Overlap with other courses**
a) No overlap c) Repetition of several topics
b) Some overlap d) Difficult to comment

4. **Recommended Reading material was**
a) Adequate and relevant c) Mostly inadequate
b) To some extent adequate and relevant d) Cannot comment

5. **Class tests/mid-semester tests were conducted**
a) As per schedule and satisfactorily c) In an unsatisfactory manner
b) Never d) But were inadequate

6. **The class tests/mid-term tests were**
a) Difficult c) Balanced
b) Easy d) Out of Syllabus

II. **Using the rating scale below, please tick that best value that expresses your opinion.**
**(1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree)**

| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1. | The teacher completes the entire syllabus in time | | | | | |
| 2. | The teacher has subject knowledge | | | | | |
| 3. | The teacher communicates clearly and inspires me by his/her teaching | | | | | |
| 4. | The teacher is punctual in the class | | | | | |
| 5. | The teacher comes well prepared for the class | | | | | |
| 6. | The teacher encourages participation and discussion in class | | | | | |
| 7. | The teacher uses teaching aids, handouts, gives suitable references, make presentations and conducts seminars/tutorials, etc. | | | | | |
| 8. | The teacher's attitude towards students is friendly & helpful | | | | | |
| 9. | The teacher is available and accessible in the Department | | | | | |
| 10. | The evaluation process is fair and unbiased | | | | | |

(i) Comments/Suggestions for improvements of Curriculum _____

(ii) Comments/Suggestions for the teacher _____

PARENT FEEDBACK FORM

1. **Name of Parent:**
2. **Name and admission no. of student:**
3. **Class:** **Year:**
4. **Please give your impression about the following (Please tick ✓ whichever is applicable)**

| PARAMETERS | Excellent | Very Good | Good | Average | Below Average |
|---|---|---|---|---|---|
| How is the ambience of the college with respect to the facilities given to your wards? | | | | | |
| Do you think that the college environment is conducive for the overall development of your ward? | | | | | |
| Is your ward happy with the hostel facilities? | | | | | |
| Is your ward given enough exposure as far as career orientation is concerned? | | | | | |
| Is the environment of the college congenial for the students to discuss their problems? | | | | | |
| Are the authorities easily approachable regarding any queries? | | | | | |
| Are you satisfied with the communication at the college end regarding the regular performance of your ward? | | | | | |

a) Any specific reason for selecting the college for your ward?

b) Suggestion, if any?

6.4.8. **Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, inthe tabular form, shall be provided.*

| Name of the Degree Programme | | B.Sc (to be supplied by Dean's office) | M.Sc (to be supplied by Department) | PhD (to be supplied by Department) |
|---|---|---|---|---|
| **Actual student admitted in last five years** | 2017-18 | 61 | 0 | 0 |
| | 2018-19 | 62 | 0 | 0 |
| | 2019-20 | 56 | 7 | 3 |
| | 2020-21 | 63 | 6 | 3 |
| | 2021-22 | 66 | 6 | 3 |
| | 2022-23 | 73 | 6 | 3 |
| **Attrition (%)** | 2017-18 | 16.4 | 0 | 0 |
| | 2018-19 | 22.6 | 0 | 0 |

| | | | | |
|---|---|---|---|---|
| | 2019-20 | 26.8 | 0 | 0 |
| | 2020-21 | 31.7 | 0 | 0 |
| | 2021-22 | 13.6 | 0 | 0 |
| | 2022-23 | 8.2 | 0 | 0 |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teachingprogramme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

**Use of ICT application in teaching and practical for curricula delivery**

| Courses | Total courses | Theory | Practical | Type of ICT Application |
|---|---|---|---|---|
| B.Sc. (Hons.) Agri. | 74 | 51 | 23 | All the lectures in all the courses are taught digitally through Power Point Presentations using smart classroom. Online lecture notes are also supplied to the students. Information through goggle forms are also seeked. |

The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph. D. Degree Programmes, separately, and to be presented College-wise.

**6.4.10.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.11.** Certificate (Applicable when SSR is submitted for Programme)

I, the Principal, College of Agriculture, Kaul hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of the Principal of the College with Date & Seal**

*Annexure-I*

# LIST OF FACULTY PUBLICATIONS

## RESEARCH PAPERS

| S. No. | Publication details | NAAS Rating |
|---|---|---|
| 1. | Anju, Ravikant, Urmila and Sonika (2021). Spider: Biology of webs and silk formation. *Agriculture Letters*, **2**: 35-39. | - |
| 2. | Anju, Ravikant, Urmila and Sonika (2021). Spider: Biology of Webs and Silk Formation. *Agriculture Letters*,**2**(2):35-39. | - |
| 3. | Bhatnagar, P., Chand, M., Lata, P., Singh, F. and Sagar, R. (2020). Apiculture: History and Scope. *Biotica Research Today*, **2**(10): 1036-1039. | - |
| 4. | Bora, L. and Bisht, R. (2017). Character association and relationship among brinjal genotype using SSR markers (*Solanummelongena* L).*HortFlora Research Spectrum*,**6**(1):15-20. | - |
| 5. | Chakholoma, M., Nimbal, S., Jain, A. and Kumar, M. (2022). Combining ability analysis for yield and fibre quality traits in American cotton (*Gossypium hirsutum* L.) genotypes. *Ekin Journal of Crop Breeding and Genetics*, **8**(1): 61-69. | 4.88 |
| 6. | Chander, S. and Kumari, V. (2023). Knowledge and adoption of Custom Hiring Centres among farmers of Haryana.*International Journal of Education and Management Studies*,**13**(1): 13-17. | 4.58 |
| 7. | Chander, S. and Kumari, V.(2023). Socio-economic impact of Custom Hiring Centres on farmers of Haryana.*International Journal of Social Sciences Review*, **8**(4-6): 97-100. | 4.42 |
| 8. | Chander, S.and Tyagi, R. (2021). Knowledge and adoption of direct seeded rice method among farmers in Haryana - A Sociological Analysis. *Research Journal of Agricultural Sciences-An International Journal*, **12**(3): 985-989. | 4.54 |
| 9. | Chander, S., Kathpalia, J.and Kumari, V. (2018). Socio-economic factors affecting the problem of dowry among rural women of Haryana. *Indian Journal of Health and Well-being*,**9**(5): 789-792. | 4.11 |
| 10. | Chander, S., Kathpalia, J.and Kumari, V. (2018). Socio-economic impact of debt on small and marginal farmers in Palwal and Mewat districts of Haryana. *International Journal of Education and Management Studies*, **8**(1): 186-190. | 4.58 |
| 11. | Chander, S., Kathpalia, J. and Kumari, V. (2020). Socio-economic construction of dowry among rural women of Haryana (India). *International Journal of Engineering Applied Sciences and Technology*,**4**(12): 610-614. | 0 |
| 12. | Chander, S., Kathpalia, J. and Kumari, V. (2021). Sociological appraisal of crop insurance scheme among farmers of Haryana.*The Pharma Innovation Journal*, **10**(6): 530-535. | 5.23 |
| 13. | Chander, S., Kathpalia, J., Tyagi, R. and Malik, J. S. (2020). Indebtedness among small and marginal farmers in Palwal and Mewat Districts of Haryana (India).*Indian Journal of Extension Education*, **56(**2): 72-76. | 5.95 |
| 14. | Chander, S., Kumari, V.and Kathpalia, J. (2019). Socio-economic impact of crop insurance scheme on farmers in Haryana - A sociological analysis. *Indian Journal of Health and Well-being*, **10**(4-6): 132-135. | 4.11 |
| 15. | Chander, S., Kumari, V.and Tyagi, R. (2019). Knowledge of laws about crime against women in Haryana - A sociological analysis.*International Journal of Education and Management Studies*, **9**(2): 106-108. | 4.58 |
| 16. | Chander, S.,Kumari, V.and Tyagi, R. (2020). Social construction of laws related to crime among women with reference to Haryana.*International Journal of Social Sciences Review*, **8**(4-6): 97-100. | 4.42 |
| 17. | Chander, S.,Kumari, V.and Tyagi, R. (2020). Socio-economic factors affecting the crop insurance scheme in Haryana – A sociological analysis.*Journal of Pharmacognosy and Phytochemistry*, **9**(2): 42-45. | - |

| | | |
|---|---|---|
| 18. | Chander, S., Tyagi, R.and Kathpalia, J. (2020). Knowledge of direct seeded rice method among farmers of Haryana. *Journal of Community Mobilization and sustainable Development*,**15**(1): 75-79. | 5.67 |
| 19. | Chander, S., Tyagi, R. and Kathpalia, J. (2020). Adoption of direct seeded rice cultivation technology among Farmers of Haryana - A Sociological Analysis.*Journal of Community Mobilization and sustainable Development,* **15**(2): 333-338. | 5.67 |
| 20. | Chander, S.,Tyagi, R., Kathpalia, J. and Kumari, V. (2018). Knowledge of direct seeded rice method among farmers of Haryana. *Indian Journal of Health and Well-Being*, **9**(6): 939-942. | 4.11 |
| 21. | Chaudhary, O.P. and Poonia, R. (2018). Qualitative decline of pollinator spectrum in sunflower agro ecosystem. *Indian Journal of Ecology*, **45**(3): 592-597. | 5.79 |
| 22. | Chittaragi, A. and Kumar, A. (2021). Crop residues as the substrate for the cultivation of medicinal mushroom *Lentinulaedode* sp. *Journal Mycopathol Research*, **59**(4): 403-406. | - |
| 23. | Chittaragi, A., Kumar, A. and Muniraju, K.M. (2018). Evaluation of various lignocellulosic products for the cultivation of Shiitake mushroom, *Lentinulaedode* sp. *International Journal CurrentMicrobiology and Applied Sciences*,**7**(4): 2199-2203. | - |
| 24. | Chittaragi, A., Kumar, A. and Singh, S. (2018). Effect of different media on mycelia growth of Lentinulaedodes. *International Journal Current Microbiology and Applied Sciences*,**7**(4): 2193-2198. | ** (Not decided) |
| 25. | Chittaragi, A., Kumar, A. and Singh, S. (2020). Optimization of the spawn of shiitake mushroom, Lentinulaedodes. *International Journal of Botany Studies*, **5**(6): 531-532. | - |
| 26. | Chouhan, V., Kumar, A, and Singh, R. (2021). Evaluation of fungicides for management of brown leaf spot disease of rice. *ME Journal of Applied Sciences and Technology*, **4**(4):75-79. | - |
| 27. | Dahiya, D.S., Sheoran, S., Devraj, Antil, R.S. and Goyal, V. (2017). Effect of conjunctive use of Bio gas slurry and chemical fertilizers on crop productivity and soil health under wheat-pearl millet cropping system. *Indian Journal of Fertilizers*, **13**(2): 58-65. | 2.90 |
| 28. | Dahiya, T., Ravikant, Singh, G., Singh, R. and Singh, S. (2020). Applications and possible modes of action of probiotics in aquaculture. *International Journal of Agricultural Sciences*, **12**(8): 9753-9700. | 4.82 |
| 29. | Dahiya, T., Ravikant and Singh, G. (2020). Effect of *Lactobacillus sporogenes*probiotic bacteria on the intestinal histopathology of Indian magur (*C. batrachus*) inoculated with pathogenic bacteria, *Micrococcus* sp. *International Journal of Current Microbiology and Applied Sciences*, **9**(2): 2344-2348. | 5.38 |
| 30. | Dahiya, T., Singh, G, Ravikant and Kumar, S. (2022). Comparison of effects of birds, cracking, spoiling and falling on the percent economic losses in four pomegranate verities-ganesh, mridula, bhargva and knadhari. *Agricultural Research Journal, 59(2): 120-125.* | 4.71 |
| 31. | Darshana, Pandey, A. and Srivastava, P. (2018). Rainfall variability and its association with El Niño Southern Oscillation in Tons River Basin, India. *Meteorology and Atmospheric Physics*, **130** (4), 405-425. | 8.21 |
| 32. | Deswal, D., Chander,S. and Kumari,V. (2021). Role of female headed households in agricultural production in rural Haryana: A sociological analysis.*The Pharma Innovation Journal*, **10**(5): 69-75. | 5.23 |
| 33. | Deswal, S., Singh, M., Kumar, K. and Tehlan, S.K. (2020). Efficiency of biofertilizers in increasing the production potentials of seed spices. *A Review Progressive Research: An International Journal*,**15** (Special): 287-291. | 3.78 |
| 34. | Dev, P., Prakash, S., Singh, M., Kumar, V. and Bhadana, G. (2017). Study on the impact of foliar application of bioregulators and nutrients on the reproductive parameters of Okra (*Abelmoschusesculentus* L. Moench) Cultivation. *Journal of Pharmacognosy and Phytochemistry* SP**1**: 449-452. | 5.20 |
| 35. | Pal, D.,Kumar, S., Garhwal, R.S. and Kumar, A. (2022). Soil compaction: Its causes, effect and solution in agriculture. *Journal of Plant Development Sciences*,**14**(4): 377-385. | 4.13 |

| | | |
|---|---|---|
| 36. | Pal, D.,Sharma, M.K., Garhwal, R.S., Dinesh, Kumar, S. and Kumar, A. (2022). Pedologicaldevelopmemt of guava growing soils in north-east Haryanausing field morphology rating system. *Frontiers in Crop Improvement*,**10**: 2307-2312. | 4.67 |
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1. Phogat, V.K., Dahiya, R. and Goyal, V. (2020) Laboratory manual for course on "Fundamentals of Soil Science" Department of Soil Science, CCS Haryana Agricultural University, Hisar, 2020. University publication no. CCSHAU/PUB# 20-0048.
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**Workshop/Conference/Seminar/Training attended by the Faculty**

1. *Dr. Mehar Chand* attended and made two oral presentations in *Annual Convention (2018) and Asian Conclave of Sugar Millers Vision- 2022.* Organised by North India Sugarcane and Sugar Technologists Association from May 7-8, 2018 at Chandigarh.
2. *Dr. Mehar Chand* attended and presented progress of Crop production of AICRP on Sugarcane during Group Meeting of AICRP on Sugarcane held from September 22-23, 2017 at TNAU, Coimbatore.
3. *Dr. Mehar Chand* attended "3rd Agri leadership summit - 2018" organized by Department of Agriculture and Farmers Welfare, Govt of Haryana from March 24-26, 2018 at Rohtak.
4. *Dr. Mehar Chand* attended National Seminar on Honey bee from July 7-8, 2017 at CSSRI, Karnal organized by CCSHAU, Hisar and MHU, Karnal.
5. *Dr. Mehar Chand* attended and presented one oral and one poster in International Symposium on Sugarcane Research Since Co 205: 100 years and beyond, Organised by ICAR-SBI, TNAU, SISMA and Society for Sugarcane Research and Development at Coimbatore from September 18-21, 2017.
6. *Dr. Mehar Chand* attended National Symposium on Plant Disease Management for Food Security under Climate Change Scenario during January 9-10, 2020 held at ICAR-IIWBR, Karnal.

7. *Dr. Mehar Chand* participated and presented progress of Sugarcane Crop Production section in 33rd Biennial Workshop of All India Coordinated Research Project on Sugarcane through online mode during October 19-20, 2020 organized by IISR, Lucknow.
8. *Dr. Vishal Goyal* attended the International conference and presented the research paper in Golden Jubilee Salinity Conference-2019 on "Resilient Agriculture in saline environments under changing environment: Challenges & Opportunities" held at CSSRI, Karnal from 7-9 February 2019.
9. *Dr. Vishal Goyal, Dr. S.R. Verma, Dr. Rinku Poonia, Dr. R.S. Garhwal* and *Dr. Parvinder Balyan*attended the International conference on "Climate resilient agriculture for food security and sustainability CCS, Haryana Agricultural University, Hisar from 17-19 February 2023.
10. *Dr. Vishal Goyal* attended the 86th Annual Convention of Indian Society of Soil Science held at Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharastra, from November 15-18, 2022.
11. *Dr. Manender Singh* attended Global Meet on Science & Technology for Ensuring Quality Life held during 26-30, November, 2017 at Kuala Lampur, Malaysia.
12. *Dr. Manender Singh* attended the International Conference on Advances in Agricultural and Biodiversity Conservation for Sustainable development (ABCD-2017) during 27-28 October, 2017 at Brahaspati Bhawan, C.C.S. University, Meerut (U.P.) India.
13. *Dr. Manender Singh* attended the International Conference on Food & Agriculture" (ICFA-2018) held during March 29-31, 2018 in Dhanbad, Jharkhand, India.
14. *Dr. Manender Singh* attended National Conference on Smart Agriculture & Food Security, SAFS-2019, held during January 18-20, 2019 at Jaipur National University, Jaipur.
15. *Dr. Manender Singh* attended attended and presented the paper at International Symposium on "Innopreneurship: A need of Sustainable Agriculture at CCS HAU Hisar from 02-03, February 2019.
16. *Dr. Manender Singh and Dr. Parvinder Balyan* participated and attended Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends and Future Scenario held during 6-8, November, 2019 at CCS HAU Hisar.
17. *Dr. Manender Singh* attended XIII National Symposium of IAUA-2019 (Vice-Chancellor Conference) on Low Budget Natural Farming at Gurukul, Kurukshetra on dated 20.09.2019.
18. *Dr. Manender Singh* attended and participated in a two-day workshop on National Incubators Colloquium at CCS HAU, Hisar on dated 15-16 Jan, 2020.
19. *Dr. R.S. Garhwal and Dr. Manender Singh* attended online National Conference on "Agricultural Resource Management for Atmanirbhar Bharat" organized by COA, Central Agriculture University, Imphal during 17-19 July 2020.
20. *Dr. Manender Singh* attended online International Web Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS- 2020) organized by Astha Foundation, Meerut in Collaboration with CSAUAT, Kanpur; IGKV, Raipur; BAU, Sabour; UAHS, Shivamogga; BAU Ranchi; SKRAU, Bikaner & SSDAT, Meerut (UP) India during 28-30 December 2020.
21. *Dr. Manender Singh* participated and Poster Presentation in International Web Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021) organized by Astha Foundation Headquarter, Meerut (U.P.) during 13-15 December, 2021.
22. *Dr. Manender Singh* attended and Oral presentation in 5th International Conference on Advances in smart agriculture and biodiversity conservation for sustainable development, SABCD-2022, by Jaipur National University, Jaipur from March 4-6, 2022.

23. *Dr. Subhash Panwar* attended the International Conference on "Economic toEarthonomics: shifting Paradigms, Policy Paralysis, and Worsening Sustainability" BPS Mahila Vishwa-vidyalya, Sonepat on March 9-11,2022.
24. *Dr. Subhash Panwar* attended International Conference on Vision 2047: Sustainable Developments towards Atma Nirbhar Bharat (VSANB-2022) Organized by Society for Science and Nature incollaboration with Indian Council of Forestry Research & Education hosted by Footwear Design & Development Institute (FDDI), Chandigarh (Ministry of Commerce & Industry, Govt. of India) Chandigarh on December 23-24, 2022.
25. *Dr. Veer Sain* attended the National seminar on Agrometeorological Interventions for Enhancing Farmers' Income (AGMET-2020) on "Studies on the price analysis and forecasting of Mustard crop in Mahendergarh district of Haryana" on 20-22 January 2020.
26. *Dr. Veer Sain* attended the Webinar on "Studies on the Price Analysis and Forecasting of Gram Crop in Bhiwani District of Haryana". Indian Journal of Economics and Development Volume 16 No. SS, 2020, 000-000 DOI: 10.35716/tsoed2020/NS20-055 on 22 June 2020.
27. *Dr. Veer Sain* attended the Webinar on International web conference on food security through sustainable agriculture (FSSA) VAKSANA "Application of market information system of cotton crop in Sirsa district of Haryana"on 21-22 sept.2021, pp:128.
28. *Dr. Veer Sain* attended the National Seminar on mathematical science: Repositories of logical thoughts and analytical tools "Role of market information system (MIS) by traders in cotton crop in Sirsa district of Haryana" on 22 Dec. 2020, UIN: 1602.

| Sr. No. | Name of Training/ Workshop/ Conference | Organization where training was received | Year | Duration |
|---|---|---|---|---|
| Dr. Manender Singh | | | | |
| **1.** | 'Climate resilient agro-technologies for enhanced crop and water productivity under water–deficit agro-ecologies' | Division of Agronomy, ICAR–Indian Agricultural Research Institute, New Delhi | 22–29 September, 2017 | 08 days |
| **2.** | Induction Training | CCS HAU, Hisar | 28 Nov-29 Dec, 2018 | 30 days |
| **3.** | Elsevier empowering Agriculture research in India in association with CeRA | CCS HAU, Hisar | 24August, 2018 | 01 day |
| **4** | PSA Growers Training Course | Department of Horticulture and Vegetable Science, at DHRM, CCS HAU, Hisar | 27 May 2019 | 01 day |
| **5** | Non-conventional approaches for genetic improvement of perennial horticultural crops | Division of Fruits and Horticultural Technology, ICAR-IARI, New Delhi | 17 Jan -6 Feb, 2020 | 21 days |
| **6** | Communication and presentation skills for extension personnel | Extension Education Institute, Nilokheri, Haryana | 4-7August, 2020 | 04 days |
| **7.** | Hydroponic: The future of food without soil | Division of Basic Science and Humanities, faculty of Horticulture, SKUAST-Kashmir | 17-26 March, 2022 | 10 days |
| Dr R. S. Garhwal | | | | |
| **1** | National Conference on "Agricultural Resource | Central Agricultural University, Imphal through on line platform. | 17-19 July, 2020 | 03 days |

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| | Management for Atmanirbhar Bharat | | | |
| **2** | PRCN course | NCC Officers Training Academy, Kamptee, Nagpur | 04 Nov. 2019 to 01 Feb, 2020 | 90 days |
| **3** | Refresher Course on Educational Technology | DHRM, CCS HAU, Hisar | 21 September to 11October, 2021 | 21 days |
| Dr. Vishal Goyal | | | | |
| **1.** | Computer application | AAREM, DHRM, CCSHAU, Hisar | 16 May to 5 June, 2018 | 21 days |
| **2.** | Advances in simulation modelling and climate change research towards knowledge based research | Centre for Environmental Studies and Climate Research Agriculture (CESCRA), IARI, New Delhi | 13 Nov to 3 Dec, 2018 | 21 days |
| **3.** | Recent Technologies of Agribusiness management and Agri-Entrepreneurship (Online mode) | RajmataVijayarajeScindiaKrishiVishwa-Vidhalaya, Gwalior (MP) and National Agricultural Development Co-operative Ltd, Baramulla, J&K | 8-28 Oct., 2020 | 21 days |
| **4.** | Entrepreneurial Prospects in Agriculture and Allied fields | DHRM, CCS HAU, Hisar | 10-30 Feb. 2023 | 21 days |
| Dr. Rinku Poonia | | | | |
| **1** | Induction training | DHRM, CCSHAU, Hisar | 08 Sept. – 08 Oct., 2020 | 31 days |
| **2** | Scientific management of *Apis mellifera* colonies for nutritional and economic security | Department of Entomology, CCSHAU, Hisar | 25 Jan. -03 Feb., 2022 | 10 days |
| Dr. Sonika Bhankar | | | | |
| **1** | Induction Training Course | DHRM, CCSHAU, Hisar | 18 Nov, - 17 Dec., 2019 | 30 days |
| **2** | One-day workshop on "Awareness and Use of scopus Citation Database" | Nehru Library, CCSHAU, Hisar | 20 Nov., 2019 | 01 day |
| **3** | Technology interventions towards transformation of agriculture, sericulture, animal husbandry and allied sectors into sustainable enterprises for atmanirbhar bharat | Central Sericultural Research & Training Institute (CSRTI), Central Silk Board Ministry of Textiles, Government of India, Mysuru, Karnataka and AEDS | 11-31 Oct., 2020 | 21 days |
| **4** | Extension of commercialized vegetable processing technologies | EEI, Nilokheri, Karnal | 24-28 Aug., 2020 | 5 days |
| **5** | Refresher Course on Extension Management | AAREM, DHRM, CCSHAU, Hisar | 4-24 May, 2022 | 21 days |
| **6** | Training in accounts for teachers and technical employees for departmental examination | DHRM, CCS HAU, Hisar | 31 Aug., 04 Sept., 2021 | 05 days |
| **7** | Awareness and use of scopus citation and indexing database, | College of Agriculture, Kaul | 25 March, 2022 | One day |

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|---|---|---|---|---|
| | and other e-resources | | | |
| Dr. Ashwani Kumar | | | | |
| **1** | Advancement of physiological strategies for crop improvement against abiotic stresses conducted | ICAR-CSSRI, Karnal | 20-29 Aug., 2018 | 10 days |
| **2** | Agricultural research methodologies practices and their management | CAU-College of Horticulture & Forestry, Pasighat, Arunachal Pradesh | 4-24 Oct, 2021 | 21 days |
| **3** | Entrepreneurship strategies in agriculture, horticulture, animal husbandry & allied sectors for economic development of india | DEE, Uttar Banga Krishi Vishwa-Vidhyalaya,Cooch Behar, West Bengal | 01-21 Dec.2021 | 21 days |
| Mr. Sunny Kumar | | | | |
| **1** | Induction Training | AAREM, DHRM, CCSHAU, Hisar | 08 Sept. - 08 Oct., 2020 | 30 days |
| **2** | Refresher course on statistical tools and techniques for analysis of agricultural data | AAREM, DHRM, CCSHAU, Hisar | 8-28 July, 2020 | 21 days |
| **3** | Attended online workshop on "Zero to Infinity" | Placement cell, Department of Mathematics, Shaheed Udham Singh Govt. College Matak Majri, Indri (Karnal) | 18-22 Jan., 2022 | 05 days |
| Dr. S.R. Verma | | | | |
| **1** | Accounts and Rules of CCS HAU | AAREM, DHRM, CCS HAU, Hisar | 07-11 May, 2018. | 05 days |
| **2** | Induction Training | AAREM, DHRM, CCS HAU, Hisar | 07 June to 07 July, 2018 | 31days |
| **3** | Advances in agricultural extension and advisory services | National Institute of Agricultural Extension Management (MANAGE), Hyderabad | 01 - 21 Nov., 2018 | 21 days |
| **4** | Trainers training programme for skill training | Agricultural Skill Council of India, New Delhi at SKRAU, Bikaner | 20 -22 Sept., 2018 | 03 days |
| **5** | National Training Planning Workshop 2020 | National Institute of Agricultural Extension Management (MANAGE), Hyderabad | 30-31 Jan., 2020 | 02 days |
| **6** | Mastering the techniques of effective online teaching | Faculty Development Centre, G.B. Pant University of Agriculture & Technology, Pantnagar, (Uttrakhand) | 25-27 Feb., 2021 | 03 days |
| **7** | Innovations in Educational Technology | ICAR National Academy of Agricultural Research Management (NAARM), Hyderabad | 04-08 Oct., 2021 | 05 days |
| Dr. Darshana | | | | |
| **1.** | Workshop on awareness and use of scopus citation database | Nehru Library, CCS HAU, Hisar | 29 Nov., 2019 | 01 day |
| **2.** | Winter school on artificial intelligence in agriculture | ICAR-Indian Agricultural Statistic Research Institute, New Delhi | 15 Feb.- 7 March, 2022. | 21 days |
| **3.** | Winter school on water productivity enhancement in scarcity zones: approaches and applications | Centre for Natural Resources Management, S. D. Agricultural University, Sardarkrushinagar, district Banaskantha, Gujarat | 18 Jan- 7 Feb., 2023 | 21 days |

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|---|---|---|---|---|
| Dr. Ravi Kant | | | | |
| **1** | 30th ICAR –CAFT course on Mocrobila genomics and proteomics in diagnosis and control of disease of veterinary importance | ICAR-Centre for advance faculty training, Department of Veterinary Microbiology, LLRUVAS, Hisar | 07 -27 Nov., 2017 | 21 days |
| **2** | 32nd ICAR –CAFT course on 'Recent advances in cell based technologies for animal disease diagnostics and therapeutics' | ICAR-Centre for advance faculty training, Department of Veterinary Microbiology, LLRUVAS, Hisar | 11-31 Oct., 2018 | 21 days |
| **3** | Faculty development program on teaching learning and assessement (online) | Teaching learning centre, Central University of Rajasthan | 23 Nov- 3 Dec. 2020 | 10 days |
| **4** | Refresher course on extension management From | AAREM, DHRM, CCSHAU, Hisar | 04 24 May, 2022 | 21 days |
| Dr. Subhash Chander | | | | |
| **1** | Biodiversity Governance | NIRD & Panchayati Raj, MORD, Govt. of India | 11-13 March, 2019 | 04 days |
| **2** | Refresher course on Language Skills (Online) | DHRM, CCSHAU, Hisar | 27 May-16 June 2020 | 21 days |

## Trainings Organized by the Faculty at College Campus:

**1.** Two-week training on 'Agripreneurship for the students' of COA, Kaul from 20.09.2019 to 03.10.2019 for 40 students.

2. Two-week training on 'Personality Development for the students' of COA, Kaul from 04.03.2020 to 17.03.2020 for 40 students.
3. Ten days training on 'Dairy Farming for students'of COA, Kaul from 20.12.2021 to 30.12.2021 for 50 students.
4. NAHEP Training on 'Basic of entrepreneurship development in agriculture' from 02-04, June, 2020.
5. 'Post-harvest of fruits and vegetables for value addition'from 3-12, January, 2022.

***Annexure II***

## PHOTOGRAPHS OF ACTIVITES



Annual Athelatic Meet 2020



Mountneering tour during 2018




Celebration of Agricultural Education Day, 2018



Prize distribution function, 2018





Students of third year performing transplanting of paddy under PCP



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# COLLEGE OF AGRICULTURAL ENGINEERING & TECHNOLOGY




# SELF STUDY REPORT





2023

## Chaudhary Charan Singh Haryana Agricultural University
## Hisar, Haryana-125004




ENGINEERS'
DAY


ENGINEERS'

# FOREWORD



Haryana is one of the leading states for agriculture production in the country despite occupying only 1.4% of the total geographical agricultural area of the country. It is one of the largest contributors of food grain to the central pool.

Though the country is fast marching onto the path of modernity through industrialization yet agriculture sector remains the backbone of the economy. Agriculture helps industry too and provides raw material to it.In addition to feeding our population, agriculture also contributes in a prominent way to the country's export endeavours, employment generation and socio-economic upliftment of rural masses.

The advancements in the areas of food and agriculture have been possible due to an intelligently planned and conscientiously imparted agricultural education. Under-graduate and post-graduate programmes in Agricultural Engineering are consistently modified as per recommendations of Deans and BSMA committees and needs of society. Agricultural engineers have vital role to play in a rapidly changing scenario. Natural resources are shrinking/depleting, availability of manpower for agricultural operations is reducing and expectation for sustainable growth in agriculture is increasing. This scenario has increased the responsibility of agricultural engineers to help in conserving natural resources, reducing drudgery and achieving timeliness in agricultural operations etc.

CCSHAU, Hisar was among the first four universities to receive accreditation from ICAR in 2001 for its excellence in teaching, research and extension. Since then it has gone from strength to strength and has fortified its teaching, research and extension activities further. It now has collaborative programmes with the ICAR Institutes in education and research. The University believes in innovative ventures and I am happy to note that COAE&T has taken several ground-breaking initiatives. CCSHAU is a leader amongst the higher education institutes of the country and has won many prestigious awards and honours.

The University is creating new vistas in its chosen fields and has become truly a global university with various international MoU's and an increased student reach.

Accreditation is a process of authorization or official approval of the profile, strengths, and achievements of an institution. The Self Study Report of the College of Agricultural Engineering & Technology give us an opportunity to acquaint stakeholders afresh with our goal to provide holistic education to our students in the field of agricultural engineering.

The commitment of all members of the SSR Committee of the College in preparing the SSR is really appreciated and acknowledged.

**Prof. B. R. Kamboj**
Vice Chancellor
CCSHAU, Hisar

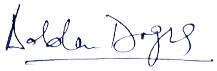
# PREFACE

College of Agricultural Engineering and Technology (COAE&T), established in 1992, is one of the constituent colleges of Chaudhary Charan Singh Haryana Agricultural University (CCS HAU), Hisar. As per the mandates of CCS HAU, the college has made significant contribution in the field of Teaching, Research and Extension. The College offers four year degree programme of B.Tech. (Agricultural Engineering). Besides this, the College also offers M.Tech. (Agricultural Engineering), with specialisation in the disciplines of Farm Machinery and Power Engineering (FMPE), Processing and Food Engineering (PFE), Renewable and Bio-energy Engineering (RBEE) and Soil and Water Engineering (SWE) and Ph. D. (Agricultural Engineering) with specialisation in the disciplines of Farm Machinery and Power Engineering (FMPE), Processing and Food Engineering (PFE) and Soil and Water Engineering (SWE) . The course curriculum is updated from time to time as per the guidelines of different committees constituted by the Indian Council of Agricultural Research (e.g. Deans' and BSMA committee).

The alumni of COAE&T have earned respect and recognition and are well placed in different sectors ranging from engineering, marketing, business, administration, research and education. The role being played by our alumni is a testimony to the fact that our graduates are capable to fulfil the expectations of diversified job market. The faculty of the college have developed/ tested several technologies for the efficient management of natural resources, post harvest management of agricultural produce and mechanisation of different agricultural operations. The Farm Machinery Testing Centre being run by the Department of Farm Machinery and Power Engineering is one of the best farm machinery testing centre amongst the centres running in different agricultural universities of our country.

The COAE&T was accredited from ICAR for B.Tech.(Agricultural Engineering) and M.Tech. (Agricultural Engineering) upto 31.3.2023 and hence, has submitted this Self Study Report (SSR) seeking further accreditation for different academic programmes being offered by the college. This document contains SSRs for B.Tech. (Agril. Engg.) as well as M.Tech. (Agri. Engg.) programmes in the disciplines of FMPE, PFE, RBEE and SWE. The information contained in this SSR is based on facts and available official records. While preparing the SSR, care has been taken to follow the procedures and guidelines issued by the ICAR.

The motivation and support received from Prof. B.R. Kamboj, Vice-Chancellor, CCS HAU, Hisar, during the preparation of this document is respectfully acknowledged. Valuable inputs and support of Deans, Directors and other Officers of the University, Heads of Departments and faculty of COAE&T are thankfully acknowledged. Special efforts made by the Director HRM, Dr.Aparna, Dr. Kushal Raj and Dr.Rajinder Kumar are gratefully acknowledged.



**Prof. Baldev Dogra**
Dean, COAE&T
CCS HAU, Hisar

# CONTENTS


| Sr. No. | Topics | Page No. |
|---|---|---|
| | **Preface** | |
| | **Foreword** | |
| **1.** | **Self-Study Report of College of Agricultural Engineering & Technology** | 1 |
| **6.5.1.** | College Administration | 2 |
| **6.5.2** | Faculty | 21 |
| **6.5.3** | Learning resources | 31 |
| **6.5.4** | Student Development | 39 |
| **6.5.5** | Physical facilities | 45 |
| **6.5.6.** | Research Facilities | 47 |
| **6.5.7.** | Outcome/Output | 49 |
| **2.** | **Self-Study Report of Programme -1 (B.Tech. Agricultural Engineering)** | |
| **6.4.1** | Brief History of the Degree Programme | 57 |
| **6.4.2** | Faculty Strength | 58 |
| **6.4.3** | Technical and Supporting staff | 59 |
| **6.4.4** | Classrooms and Laboratories | 60 |
| **6.4.5** | Conduct of Practical and Hands-on-Training | 66 |
| **6.4.6** | Supervision of students in PG/Ph.D. programmes | 67 |
| **6.4.7** | Feedback of stakeholders (Students, parents, industries, employers, farmers etc.) | 67 |
| **6.4.8** | Student intake and attrition in the programme for last five years | 67 |
| **6.4.9** | ICT Application in Curricula Delivery | 67 |
| **3.** | **Self-Study Report of Programme -2 [M.Tech.and Ph.D. (Agril. Engg.) with Specialization in Farm Machinery & Power Engineering]** | |
| **6.4.1** | Brief History of the Degree Programme | 71 |
| **6.4.2** | Faculty Strength | 72 |
| **6.4.3** | Technical and Supporting staff | 73 |
| **6.4.4** | Classrooms and Laboratories | 74 |

| | | |
|---|---|---|
| **6.4.5** | Conduct of Practical and Hands-on-Training | 76 |
| **6.4.6** | Supervision of students in PG/Ph.D. programmes | 80 |
| **6.4.7** | Feedback of stakeholders (Students, parents, industries, employers, farmers etc.) | 80 |
| **6.4.8** | Student intake and attrition in the programme for last five years | 80 |
| **6.4.9** | ICT Application in Curricula Delivery | 81 |
| **4.** | **Self-Study Report of Programme -3 [M.Tech.and Ph.D. (Agril. Engg.) with Specialization in Processing & Food Engineering]** | |
| **6.4.1** | Brief History of the Degree Programme | 85 |
| **6.4.2** | Faculty Strength | 86 |
| **6.4.3** | Technical and Supporting staff | 86 |
| **6.4.4** | Classrooms and Laboratories | 86 |
| **6.4.5** | Conduct of Practical and Hands-on-Training | 88 |
| **6.4.6** | Supervision of students in PG/Ph.D. programmes | 92 |
| **6.4.7** | Feedback of stakeholders (Students, parents, industries, employers, farmers etc.) | 92 |
| **6.4.8** | Student intake and attrition in the programme for last five years | 92 |
| **6.4.9** | ICT Application in Curricula Delivery | 93 |
| **5.** | **Self-Study Report of Programme -4 [M.Tech. and Ph.D. (Agril. Engg.) with Specialization in Soil & Water Engineering]** | |
| **6.4.1** | Brief History of the Degree Programme | 97 |
| **6.4.2** | Faculty Strength | 98 |
| **6.4.3** | Technical and Supporting staff | 99 |
| **6.4.4** | Classrooms and Laboratories | 99 |
| **6.4.5** | Conduct of Practical and Hands-on-Training | 101 |
| **6.4.6** | Supervision of students in PG/Ph.D. programmes | 103 |
| **6.4.7** | Feedback of stakeholders (Students, parents, industries, employers, farmers etc.) | 104 |
| **6.4.8** | Student intake and attrition in the programme for last five years | 104 |
| **6.4.9** | ICT Application in Curricula Delivery | 104 |
| **6.** | **Self-Study Report of Programme -5 [M.Tech. (Agril. Engg.) with specialization in Renewable & Bio-Energy Engineering]** | |
| **6.4.1** | Brief History of the Degree Programme | 109 |

| | | |
|---|---|---|
| **6.4.2** | Faculty Strength | 109 |
| **6.4.3** | Technical and Supporting staff | 110 |
| **6.4.4** | Classrooms and Laboratories | 110 |
| **6.4.5** | Conduct of Practical and Hands-on-Training | 113 |
| **6.4.6** | Supervision of students in PG/Ph.D. programmes | 115 |
| **6.4.7** | Feedback of stakeholders (Students, parents, industries, employers, farmers etc.) | 115 |
| **6.4.8** | Student intake and attrition in the programme for last five years | 115 |
| **6.4.9** | ICT Application in Curricula Delivery | 116 |
| | **Annexures** | 117-176 |

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COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
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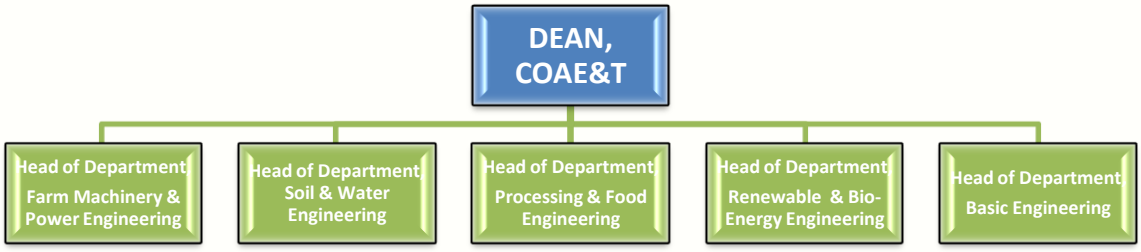
# SELF STUDY REPORT FOR COLLEGE OF AGRICULTURAL ENGINEERING & TECHNOLOGY

The College of Agricultural Engineering and Technology (COAE&T) is a Constituent college at the main campus of the Chaudhary Charan Singh Haryana Agricultural University(CCS HAU) in Hisar. Initially, the Academic Council CCS HAU meeting on June 11, 1987, vide agenda item BB-12 approved the B. Tech. (Agricultural Engineering) undergraduate curriculum with an intake of 20 students under the College of Agriculture. Later on, the COAE&T was founded on August 21, 1992, following the 142nd Board of Management meeting, as approved vide agenda item B-26 on March 24, 1992. Master of Technology (Agril. Engg.) was started in the department of Farm Power & Machinery and Soil & Water Engineering in 1993. Thereafter, Department of Agricultural Processing & Energy was established in August 1996 with UG and PG degrees. The section of Basic Engineering was founded in October 1996 to serve UG and PG students. In 2013-14, B. Tech. admittance slots were fixed to 35 to focus on individual student instruction and personal attention. The Ph.D. program started in all three departments in 2016. In March of 2017, the Department of Basic Engineering and the Department of Renewable and Bio-Energy Engineering were established. According to Fifth Deans' Committee recommendations, the syllabi and curricula were updated to address future challenges and recent developments, with more emphasis on Student Ready Programme to expose students to different agricultural issues. Agricultural engineers help to increase crop production and farmer income. Agricultural engineers help to ensure farm operation timeliness through efficient agricultural implements and machinery, land and water management, post-harvest technology and processing, and energy conservation.

## Mandate/Objectives

* Nurturing scholarly education in different branches of study in the discipline of Agricultural Engineering
* Furthering the advancement of learning and pursuit of research in the discipline of Agricultural Engineering
* Undertaking the extension by transferring well-proven technology for the benefit of the farming community

**Organizational Set up**



### 6.5.1. College Administration

**6.5.1.1. College Dean's office Establishment:** *Whether the Dean's post sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines.* **YES**
*Date of selection of present Dean, mode of selection, tenure etc. shall be mentioned. Clearly mention the staff and infrastructure/facilities available in the Dean's Secretariat.*

Following the ICAR Model Act, the appropriate authority sanctioned the Dean's position, and Thus, CCSHAU recruited for four years through a nationwide open selection. The present Dean was appointed and joined on January 11, 2022.

**Staff of the Dean Secretariat***

| Name of the post | Sanctioned | In position | Vacant |
|---|---|---|---|
| Dean | 01 | 01 | 00 |
| Establishment | | | |
| AAO/ Supdt. | 01 | 00 | 01 |
| Personal Sec./ Personal Asstt. | 01 | 01 | 00 |
| Office Assistants (No.) | 02 | 02 | 00 |
| Clerks (No.) | 02 | 01 | 01 |
| Sr. Scale Steno | 01 | 01 | 00 |
| Jr. Scale Steno | 01 | 01 | 00 |
| Storekeeper (No.) | 02 | 02 | 00 |
| Jeep Driver (No.) | 02 | 02 | 00 |
| Messengers (No.) | 02 | 00 | 02 |
| Helper (No.) | 02 | 01 | 01 |
| Security Guards (No.) | 02 | 00 | 02 |
| Sweeper | 01 | 01 | 00 |
| Total | 20 | 13 | 07 |

**Additional staff is also engaged through out sourcing policy as and when needed.*

Hospital and hostel facilities are essential university facilities. The University's Estate and Maintenance office handles positions related to building maintenance. The position of Hostel Warden, Assistant Warden, Cook, Assistant Cook, and Mess Helper fall under the purview of the University level Students' Welfare Directorate.

**Infrastructure /facilities available in the Dean's Secretariat**

The Dean's Secretariat has adequate infrastructure and facilities for the efficient coordination and implementation of various academic activities.

| | |
|---|---|
| **Dean's Office** | Office Table – 1, Executive chair- 1,Visitor chairs-15, Computer-2 |
| PS Office | Office Table – 1, Chair- 1, Visitor chairs-3, Computer-1 |
| AAO Office | Office Table – 5, Chair- 5, Visitor chairs-5, Computer-4 |
| Cashier Chamber | Office Table – 1, Chair- 1, Visitor chairs-1, Computer-1 |
| Store (s) | Office Table – 10 |
| Committee Room | 1 (Computer- 01, Projector- 01, AC- 02, Lecture stand- 01, Round Table- 01, Chairs- 30) |
| Waiting Lounge / Hall for Visitors | 01 |
| Common room for girl students | 01 |
| Washrooms/Toilets (College | 10 (She-4, He-6) |

| | |
|---|---|
| level) | |
| College canteen | 01 |
| Computer Centre (College Level) | 01 with 38 computers |
| Departments | 1. Department of Farm Machinery & Power Engineering<br>2. Department of Processing & Food Engineering<br>3. Department of Soil & Water Engineering<br>4. Department of Renewable & Bio-Energy Engineering<br>5. Department of Basic Engineering |
| Lecture Halls (No.) | 05 Lecture Rooms<br>➢ L.R. 1- With seating capacity 55, with LED cum Blackboard, CCTV-Camera<br>➢ L.R 2- With seating capacity 55, with LED cum Blackboard, CCTV-Camera<br>➢ L.R 3- With seating capacity 55, with Blackboard, CCTV-Camera<br>➢ L.R. 4-With seating capacity 42, with Blackboard, CCTV-Camera<br>➢ L.R. 5-With seating capacity 42, with Blackboard, CCTV-Camera |
| Smart Class rooms (No.) | 02 |
| Seminar Rooms (No.) | 01 |
| Committee Room (No.) | 01 |
| Stores (No.) | 06 (one in Dean's office and one in each department) |

**6.5.1.2. Monitoring Mechanism for Quality Education (on-line):** *Whether the College is having an internal quality assurance system, with appropriate structure and processes, and with enough flexibility to meet the diverse needs of the stakeholders which is required for planning, guiding and monitoring quality assurance and quality enhancement activities of the Colleges. How effectively monitoring of teaching, research and extension across the departments is being conducted. Mention the impact of monitoring on the outcome of the College with reference to students' excelling in academics, research and extracurricular activities.*

Yes, the college has a monitoring mechanism in place.

- The college has a Board of Studies (BOS), a College Project Review Committee (CPRC), and a Departmental Advisory Committee (DAC) for each department. These committees oversee college research, extension, and course content quality. The College Steering Committee, Equivalence Committee, Time Table, and Date Sheet Committee were also established.
- The college has an internal quality assurance system with the appropriate structure and processes, as well as sufficient adaptability to accommodate the diverse requirements of its stakeholders. An Internal Quality Assurance Committee comprised of all department heads has been constituted.
- Each student is assigned a faculty advisor who oversees their daily activities and performance and personality development after admission to the college. Advisors support students with academics and extra curricular. Advisors help students with personal and academic issues in tutorial classes controlling officers hold department-specific technical review sessions to oversee funds utilization.
- Faculty members keep an eye on undergraduates while they participate in summer internships. Teachers are strongly encouraged to participate in relevant national and international seminars. Faculty members are permitted duty leave to fulfill their pedagogical responsibilities.

**Monitoring of Teaching:**

- Self-evaluation reports (SARs) are required annually of all faculty members, whereas confidential reports (CRs) are required annually of all other employees. After being evaluated by Deans and Directors, SARs are sent on to the Vice Chancellor for final approval. Graduate students must get approval from both the Departmental Advisory Committee and the Advisory Committee before beginning work on their thesis or dissertation. Graduate students often present departmental seminars to professors for critique. The synopsis goes through one more round of internal review before being sent off to the Dean of the PGS for stamp of approval.
- The classrooms have been equipped with CCTV cameras. The college often organises national seminar/ workshops and invited lectures to better expose the staff and students to the latest developments in the field of education.

**Monitoring of Research:**

- The Director of Research, ADR, Dean COAE&T, and HODs of the pertinent and linked departments convene the Annual Technical Programme Meeting to examine and oversee research in all departments. Faculty members present departmental scheme research results at Annual Technical Committee meetings.
- A technical programme committee discusses research action plans. The competent authority approves tour programmes and diaries.

**Monitoring of Extension:**

- The extension activities to be conducted by faculty members are discussed with the concerened HoDs and further finalized during Station Advisory committee (SAC) meetings.
- The controlling authority approves tour schedules/diaries and itinerary programmes.
- Stakeholder feedback is considered for future enhancements.

**Impact of Monitoring on the Outcome of the College**

**Students Passed Out during**

| Programmes | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | TOTAL |
|---|---|---|---|---|---|---|
| **B.Tech.** | 37 | 38 | 29 | 32 | * | 136 |
| **M.Tech.** | 10 | 7 | 6 | 6 | 4 | 33 |
| **Ph.D.** | - | - | 3 | 6 | * | 9 |

*Result awaited

**No. of students who cleared NET/ GATE:**

| Year | Nos. | Name | Admn. No. | JRF/SRF/GATE/CAT/ARS NET |
|---|---|---|---|---|
| **2018-19** | 1. | Bharat Bhushan | 2014AE06BIV | JRF-2018 & NET |
| | 2. | Deepak | 2014AE08BIV | JRF 2018, GATE 2019 |
| | 3. | Hemant Kumar | 2014AE12BIV | GATE 2018 |
| | 4. | Krishan Kanahiya | 2014AE14BIV | JRF 2018 |
| | 5. | Praveen Saini | 2014AE23BIV | JRF 2018, GATE 2019 |
| | 6. | Sunil Kumar | 2014AE33BIV | JRF-2018 |
| | 7. | Ajay Kumar | 2015AE02BIV | JRF-2019 |
| | 8. | Ankush | 2015AE04BIV | JRF |
| | 9. | Mukesh | 2015AE15BIV | JRF |
| | 10. | Vinay Bansal | 2015AE33BIV | GATE 2019 |
| **2019-20** | 1. | Akshay Kumar | 2016AE05BIV | GATE-2020, JRF-2020 |

| | | | | |
|---|---|---|---|---|
| | 2. | Aman Deep | 2016AE06BIV | GATE-2020 |
| | 3. | Asmit Dey | 2016AE11BIV | GATE-2020 |
| | 4. | Baljeet Singh | 2016AE12BIV | JRF-2020 |
| | 5. | Gourav | 2016AE17BIV | GATE-2020 |
| | 6. | Harsh Vardhan Bhatt | 2016AE19BIV | GATE-2020 |
| | 7. | Jasdeep | 2016AE22BIV | GATE-2020 |
| | 8. | Karan Singh | 2016AE25BIV | JRF-2020 |
| **2020-21** | 1. | Gaurav | 2017AE06BIV | GATE-2021 |
| | 2. | Gulshan kumar | 2017AE07BIV | GATE-2021 |
| | 3. | Sabitra Pokhrel | 2017AE29BIV | GATE-2021 |
| | 4. | Yashpal Yadav | 2017AE39BIV | GATE-2021 |
| | 5. | Mukesh kumar | 2018AE43B(L)II | JRF 2021 |
| | 6. | Amandep Singh | 2012AE09M | NET 2020 |
| | 7. | Narender Kumar | 2010AE10M | NET 2020 |
| | 8. | Ravi Siwan | 2009AE211M(R) | NET 2020 |
| | 9. | Praveen Saini | 2014AE23BIV | SRF-2020 |
| **2021-22** | 1. | Ajay | 2018AE01BIV | JRF & GATE 2022 |
| | 2. | Akshay Kumar | 2018AE04BIV | GATE 2022 |
| | 3. | Ankit Jangra | 2018AE06BIV | JRF & GATE 2022 |
| | 4. | Deepika | 2018AE10BIV | JRF 2022 |
| | 5. | Gurpreet Singh | 2018AE11BIV | GATE 2022 |
| | 6. | Jaishree | 2018AE13BIV | GATE 2022 |
| | 7. | Nitikakumari | 2018AE17BIV | JRF &GATE 2022 |
| | 8. | Pritam Kumar | 2018AE20BIV | GATE 2022 |
| | 9. | Rohit | 2018AE25BIV | GATE 2022 |
| | 10. | Sakshi | 2018AE26BIV | JRF 2022 |
| | 11. | Shalu | 2018AE29BIV | GATE 2022 |
| | 12. | Amandep Singh | 2012AE09M | NET 2021 |
| | 13. | Narender Kumar | 2010AE10M | NET 2021 |
| | 14. | Rahul Singh Pannu | 2020AE01D | NET 2021 |
| **2022-23** | 1. | Ajay Kumar | 2015AE02BIV | SRF 2022 (AIR 2) |
| | 2. | Akshay Kumar | 2016AE05BIV | SRF-2022 |
| | 3. | Baljeet Singh | 2016AE12BIV | SRF-2022 |
| | 4. | RamKishore | 2019AE30BIV | GATE 2023 |

## Students' Placements

| Year | Nos. | Name | Admn. No. | Placement |
|---|---|---|---|---|
| **2018-19** | 1. | Dinesh Raheja | 2014AE09BIV | Technical Assistance, CWC, Kurukshetra |
| | 2. | Hemant Kumar | 2014AE12BIV | Physics Faculty, Allen Kota |
| | 3. | Hizbullah | 2014AE13BIV | HOD, Drip Irrigation of Modern Technique, MoA |
| | 4. | Krishan Kanahiya | 2014AE14BIV | SRF, CSSRI, Karnal |
| | 5. | Manjeet Kumar | 2014AE19BIV | APO, DAFW, Ambala |
| | 6. | Parveen | 2014AE22BIV | Associate Process Excellence, Country Gurugram |
| | 7. | Ramandeep Khatkar | 2014AE27BIV | Product Manager, Axtria India Pvt. Ltd., Gujrat |

| | | | | |
|---|---|---|---|---|
| | 8. | Sunil Jangra | 2014AE31BIV | Demand and Supply Planner, MUTRECO, Hyderabad |
| | 9. | Vishal Kaushik | 2014AE34BIV | AG-3, FCI |
| | 10. | Dikshant | 2015AE36B(L)II | Territory Manager, Mahindra Swaraj Division, Jhansi |
| | 11. | Vipin Kumar | 2015AE40B(L)II | Sales officer, TAFE, Bhiwani |
| | 12 | Sunil Kumar | 2012AE04M | Asstt. Professor, PFE, CCSHAU |
| | 13. | Ajay | 2015AE01BIV | Software engineer, BUREAU CPS - Noida, Bhiwani |
| | 14. | Aman Garg | 2015AE03BIV | Sub Divisional engineer, NRFMTTI, Hisar |
| | 15. | Ankush Kumar | 2015AE05BIV | ManagemetTrainee, Reliance Retail, Heydrabad |
| | 16. | Chirag Mehta | 2015AE08BIV | Clerk, Kurukshetra University, Kurukshetra |
| | 17. | Kartikeya Sharma | 2015AE10BIV | Manager, Escorts Kubota Limited, Faridabad |
| | 18. | Faisal Khan | 2015AE09BIV | Territory Manager, John Deere, Rajasthan |
| | 19. | Makhan | 2015AE11BIV | IBPS Clerk, Punjab National Bank, Faridabad |
| | 20. | Rahul | 2015AE22BIV | Upper Division Clerk, ESIC, Haryana |
| | 21. | Rahul Yadav | 2015AE23BIV | Asstt Manager, Sarva Graamin Bank, Bhiwani |
| | 22. | Ravi Kumar | 2015AE24BIV | RRB Clerk, Palwal |
| **2019-20** | 1. | Ajay Kumar | 2016AE04BIV | Lab Attendant, CCL COVS, LUVAS, Hisar |
| | 2. | Aman Deep | 2016AE06BIV | Junior Engineer (Agri.), Rajasthan |
| | 3. | Bharti Yadav | 2016AE13BIV | Risk Analyst, American express, Gurgaon |
| | 4. | Harsh Vardhan Bhatt | 2016AE19BIV | Analyst, HSBC, Banglore |
| | 5. | Himanshu | 2016AE20BIV | Assistant Manager, RRB, Bhiwani |
| | 6. | Mohit Sharma | 2016AE27BIV | Clerk, DC Office, Panchkula |
| | 7. | Muskansoni | 2016AE28BIV | Assistant product manager, Escorts Ltd., Faridabad |
| | 8. | Yogesh Rajput | 2016AE38BIV | Assistant product manager, Escorts Ltd., MP |
| | 9. | Karan Arora | 2017AE41B(L)II | Associate, Country Delight, Gurugram |
| | 10. | Sonu | 2017AE44B(l)II | Sub Divisional Engineer, NRFMTTI, Hisar |
| | 11. | Devender | 2016AE39B(L)II | Sales Officer, TAFE, Haryana |
| | 12. | Karan Singh | 2016AE25BIV | M Tech Student, SKUAST-Kashmir,Srinagar |
| | 13. | Jasmeet Singh | 2016AE23BIV | MBA Student, IRMA, Anand |
| **2020-21** | 1 | Mukul Saini | 2017AE20BIV | Associate Excellence, Country Delight Faridabad |

| | | | | |
|---|---|---|---|---|
| | 1 | Pooja Poonia | 2017AE26BIV | Upper Division Clerk, ESIC, Haryana |
| | 2 | Sabitra Pokhrel | 2017AE29BIV | M Tech Student, IIT Kharagpur |
| | 3 | Shivanshi Yadav | 2017AE30BIV | MSc Geoinformatics, IIRS-ISRO, Dehradun |
| | 4 | Vivek | 2017AE38BIV | Higher Degree, Canada |
| | 5 | Keshav Goel | 2017AE18BIV | MBA Student, IRMA, Anand |
| | 6 | Jaivir Singh | 2017AE12BIV | MBA Student, IRMA, Anand |
| | 7 | Hargunjot Singh | 2017AE10BIV | MBA Student, IRMA, Anand |
| | 8 | Vikram Singh | 2017AE34BIV | PG Diploma, SRCC, DU, Delhi |
| **2021-22** | 1. | Ajay | 2018AE01BIV | M Tech Student, ICAR-IARI, New Delhi |
| | 2. | Ankit Jangra | 2018AE06BIV | M Tech Student, ICAR-IARI, New Delhi |
| | 3. | Deepika | 2018AE10BIV | M Tech Student, CCS HAU, Hisar |
| | 4. | Jaishree | 2018AE13BIV | M Tech Student, IIT, Bombay |
| | 5. | Nitika Kumari | 2018AE17BIV | M Tech Student, ICAR-IARI, New Delhi |
| | 6. | Sakshi | 2018AE26BIV | M Tech Student, MPUAT, Udaipur |
| | 7. | Shalu | 2018AE29BIV | M Tech Student, NIT, Kurukshetra |
| | 8. | Sherya Garg | 2018AE30BIV | MBA Student, MANAGE, Hyderabad |
| | 9. | Yogesh | 2018AE40BIV(R) | MBA Student, IRMA, Anand |
| **2022-23*** | 1. | Amandep Singh | 2017AE05D | Asstt. Scientist, SWE, CCSHAU |
| | 2. | Ravi Siwan | 2009AE211M(R) | DES, CCSHAU |
| | 3. | Narender Kumar | 2017AE03D | DES, CCSHAU |
| | 4. | Kapil Singla | 2002AE115M | DES, CCSHAU |

*5 more students have been placed upto the report uploading.

## Student's Awards

| Year | Awards |
|---|---|
| **2018-19** | Athira C.R. 2017AE14M Gold Medal (Academic) |
| **2019-20** | Peter WaboiMwaurah 2018AE5M Gold Medal (Academic) |
| **2020-21** | Vinod Kumar 2016AE3D Gold Medal (Academic) |
| **2022-23** | Pradhuman Bishnoi 2021AE45BIV Gold medal (Debate)<br>16th National Inter University Debate Competition, GBPA&T, Pantnagar |
| | Pradhuman Bishnoi 2021AE45BIV Third Prize (Cultural), Haridwar |

## Student's Awards (Extra-curricular activities like Sports, NCC, NSS)

| Year | Awards | | |
|---|---|---|---|
| **2018-19** | XIX All India Inter-Agricultural Universities Sports & Games Meet, 2018-19 held at PAU, Ludhiana(January 2-5, 2019) | | |
| | Nirmala | Silver | 4X400M Relay |
| | Amandeep | Bronze | Basket Ball |
| | Yogesh | Bronze | Basket Ball |
| **2019-20** | XX All India Inter-Agricultural Universities Sports & Games Meet, 2019-20 held at Sri Venkateswara Veterinary University, Tirupati, Andhra Pradesh (March 1-5, 2020) | | |

| | | | |
|---|---|---|---|
| | Nirmala (2015AE18BIV) | Silver | 200M |
| | Nirmala | Silver | 400M |
| | Nirmala | Bronze | 4X100M Relay |
| **2020-21** | Covid lockdown | | |
| **2021-22** | Pragya Choudhary | Gold medal | state level NSS camp from 17th to 23rd November 2021 at GJUS&T, Hisar (Haryana) |
| | Akash | second prize in dance competition | National Integration camp from 19th to 25th November, 2021 at Maharishi Dayanand University, Rohtak (Haryana) |



NSS unit of COAE&T Sadbhavna Divas Rally in August, 2019 in CCSHAU



Vaccination Drive at Campus School, NSS volunteers participated in the drive



Student Nisha Solanki has participated in Drone festival of India, New Delhi (Pragati Maidan) during27-28 May 2022 and interacted regarding drone operator technology.

**6.5.1.3. CC/Board of Studies:** *Whether the CC in the Department level and Board of Studies at the College is in place? The composition of the BoS and date of conduct of meetings for last five years and major recommendations made by the BoS should be given in tabular form.*

Yes, College of Agricultural Engineering & Technology has DAC at the Department level and Board of Studies at College level.

## Board of Studies

The Board of Studies is responsible for proposing new courses of study, modifications to curricula, etc. for the various programmes offered by the University. The Board of Studies also routinely reviews the teaching standards.

**Composition**

| | | |
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| **Chairperson** | **:** | Dean, COAE&T |
| **Members** | **:** | HOD, Farm Machinery & Power Engineering<br>HOD, Processing and Food Engineering<br>HOD, Soil and Water Engineering<br>HOD, Renewable and Bio-energy Engineering<br>HOD, Basic Engineering<br>Dr. M.S. Sidhpuria, Special Invitee |
| **Secretary** | **:** | Dr.Vijya Rani, HOD, FMPE |

## Date of conduct of meetings for last five years and major recommendations

| | | |
|---|---|---|
| **2018-19** | **06.10.2018**<br><br>**15.11.2018** | • The Course content of Tractor Mechanic & Tractor Operator under Skill Development Programme in Certificate/Diploma Courses at SNIATTE, CCSHAU, Hisar was considered by the BOS and approved.<br>• The courses of M.Tech. (Agril. Engg.) with specialization in Renewable Energy Engineering and Ph.D. (Agril. Engg.) with specialization in Renewable Energy Engineering, were recommended for approval from RIC. |
| **2019-20** | **14.11.2019**<br><br>**12.02.2020** | • The course catalogue for B.Tech. COAE&T was approved in accordance to 5th Deans' Committee, ICAR. Considering the importance of UGC Module on Consumer affairs, DSW office may explore the possibilities to organize special lecture/short duration course for the UG students.<br>• Two new certificate courses "Food Processing" and "Design, Installation, operation and maintenance of protected agriculture structures" was recommended for approval. |
| **2020-21** | **19.01.2021** | • Dr. Ravi Gupta was assigned as Nodal Officer to work on the modalities and requirements for approval of M.Tech./Ph.D. from AICTE.<br>• The BOS recommended the qualification for the post of Dean, COAE&T for approval from RIC |
| **2021-22** | **26.04.2022** | • The information related to AICTE-CII Survey of Industry-linked Technical Institutes 2021 was presented by Dr. Nitin Kumar, Department of Processing and Food Engineering and reported to the Dean, COAE&T. |
| | **26.04.2022** | • Regarding admission policy 2022-23, the decision of not having admission in Ph.D. will be continued. |
| **2022-23** | **13/12/2022** | • Admission of WPCOS candidate in COAE&T, CCSHAU, Hisar was discussed and denied due to non matching of the required educational qualification for admission to M.Tech. (Agril. Engg. ) at COAE&T, CCS HAU, Hisar.<br>• The course ME-501, Mechatronics and robotics in Agriculture was recommended by BOS to be changed to ME 501/EE 508 and same may be proposed in BSMA<br>• Deptt. of Basic Engineering was allowed to explore the possibilities for starting M. Tech. in their core disciplines because of non possibility of Co-major |

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| | | supervisor to other departments.<br>• Dean, COAE&T updated the BOS members regarding the MOU between DCRUST, Murthal and CCS HAU |

**Departmental Advisory Committee:** The Departmental Advisory Committee (DAC) renders advice to Head for upgradaion of teaching, research and extension within each department of the college.

**Composition of DAC:**

**Department of Farm Machinery & Power Engineering**

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| Chairperson | : | Dr. Vijaya Rani, HOD |
| Secretary | : | Er. Naresh |
| Members | : | Dr. Anil Kumar,Er. Swapnil Choudhary, Er. Swapnil Choudhary,Er. Bharat Patel,Dr. Ganesh Upadhyay |

**Date of conduct of meetings for last five years and major recommendations**

| | Date | Major Recommendations |
|---|---|---|
| **2018-19** | **11.04.2018** | • The Departmental Advisory Committee approved the name of Er. Anil Kumar, Assistant Professor, Deptt. of FMPE for participation in summer school on "Adaptation of energy Efficient Agricultural Technology for climate Change Mitigation" from 04-24, June 2018 held by College of Agricultural Engineering and Post Harvest Technology, Ranipool, Gangtok, Sikkim. |
| | **16.04.2018** | • Er. Anil Kumar, Assistant Professor, will look after the work of the scheme C(a)Dte-R-1-Agri. (A)-State, in place of Er. Bharat Patel, DES, of Department of Farm Machinery & Power Engineering, COAE&T, CCS HAU, Hisar.<br>• The Title and objectives of the scheme C(a)Dte-R-1 Agri. (A)-State was discussed and finalized. |
| | **09.07.2018** | • Allotment of courses to faculty members for B.Tech (Agril. Engg.) and B. Sc. (Agriculture) Program for the 1st Semester 2018-19<br>• Allotment of courses to faculty members for M.Tech.&Ph.D. Program for the 1st Semester 2018-19<br>• The Departmental Advisory Committee approved the name of Er. Mukesh Jain, Er. Bharat Patel, Er. Swapnil Choudhary and Er. Naresh for participation in two week training on "Robotics and Automation", in last fortnight of July, 2018 to be held at COAE&T, CCS HAU, Hisar. |
| | **15.09.2018** | • The problems of adopted villages will be identified and project work to some UG students of FMPE department will be given on those problems.<br>• The faculty of the department will actively participate in activities related to cleanliness in and around college premises.<br>• The students of M.Tech. (2018-19) were allotted Major Advisor vide rule number 27.1, 27.2 and 54$^{th}$ amendment of University Calendar Volume II.<br>• The Departmental Advisory Committee approved the name of Er. Anil Kumar, Assistant Professor, FMPE to attend and present paper on "An Overview of In-Situ Mechanical Management of Paddy Straw in Haryana" in International Conference on Worldwide Research Initiatives for Agriculture Science and Technology from 24 to 26, October, 2018 held at Sher-e-Kashmir University of Agricultural Sciences and Technology, Kashmir, J&K. |

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| | **05.10.2018** | • The Course content of Tractor Mechanic & Tractor Operator under Skill Development Programme in Certificate/Diploma Courses at SNIATTE, CCSHAU, Hisar were approved. |
| | **26.12.2018** | • Courses allotted to faculty members for B. Tech. (Agril. Engg.) and B. Sc. (Agriculture) Program for the 2nd Semester 2018-19<br>• Courses allotted to faculty members for M.Tech. and Ph.D. Program for the 2nd Semester 2018-19<br>• The Departmental Advisory Committee approved the name of Er. Anil Kumar and Er. Mukesh Jain, Assistant Professors to attend and present paper at the 53rd ISAE (Indian Society of Agricultural Engineers) Annual Convention from January 28-30, 2019 going held at Institute of Agricultural Sciences, Banaras Hindu University (BHU), Varanasi, UP. |
| | **21.01.2019** | • The Departmental Advisory Committee approved the name of Er. Anil Kumar, Er. Mukesh Jain, Er. Swapnil Choudhary and Er. Naresh to attend and present paper in International symposium on "Innopreneurship: A need of Sustainable Agriculture" & Rao Bahadur Dr. Ram Dhan Singh Fifth Memorial Lecture from 2-3 Feb., 2019 held at CCS Haryana Agricultural University, Hisar. |
| | **20.04.2019** | • The Departmental Advisory Committee approved the name of Er. Ajit Singh Sangwan for participation in "Short Course on Language & Interactive Skills" from 23th April to 2nd May, 2019 held at DHRM, CCS HAU, Hisar. |
| **2019-20** | **08.07.2019** | • Courses allotted to faculty members for B. Tech. (Agril. Engg.) and B. Sc. (Agriculture) Programme for 1st Semester, 2019-20<br>• courses allotted to faculty members for M. Tech. and Ph.D. Programme for 1st Semester 2019-20<br>• The committee approved the filing of patent for the following two machines:<br>▪ Tractor PTO operated paddy thresher cum dryer cum dehusker cum polisher<br>▪ Tractor mounted carrot harvester<br>• The committee approved the name of Er. Mukesh Jain, Assistant Professor, Deptt. of FMPE to attend and present a paper on "On-farm production of brown rice for nutritional security" in "International Conference on Harnessing Scientific, Technological Innovations and Entrepreneurship for Sustainable Development in Africa and Asia" held during September 2-4, 2019 at HAWK University of Applied Sciences and Arts, Goettingen, Germany.<br>• The committee approved the submission of paper titled "Optimization of Combine Crop Parameters for Harvesting of CSR – 30 paddy variety by Head Feed Combine" authored by Ingole Omprakash Avdhut, Anil Kumar, Mukesh Jain, Vijaya Rani and Naresh in journal of "Agricultural Engineering Today". |
| | **17.07.2019** | • The committee approved the name of Er. Anil Kumar, Assistant Professor of department for participation in "Refresher Course on Research Management" from 25th July to 14th August, 2019 held at DHRM, CCS HAU, Hisar.<br>• The committee approved the submission of paper titled "Comparative performance and economic feasibility of different sprayers in cotton crop" authored by Aman, Anil Kumar, Vijaya Rani, Bharat Patel and Mukesh Jain in journal of "The Indian Journal of Agricultural Sciences". |
| | **19.07.2019** | • The committee approved the name of Er. Mukesh Jain, Assistant Professor of department for participation in "Refresher Course on Research Management" from 25th July to 14th August, 2019 held at DHRM, CCS HAU, Hisar. |
| | **22.07.2019** | • Er. Naresh hasassisgened the duties of updation of record for the training/workshop/seminar/conference/activities/researchpaper/abstract/patent/book/book chapter/lecture etc. of the faculty member. |
| | **26.08.2019** | • The students of M. Tech. (2019-20) were allotted Major Advisor vide rule number 27.1, 27.2 and 54th amendment of University Calendar Volume II. |
| | **29.08.2019** | • The committee approved the name of Er. Naresh and Er. Bharat Patel for participation in short course on "Advances in sugarcane mechanization technologies to reduce cost of operations & drudgery for enhancing farmers income" from September 16 - 25, 2019 held at Indian Institute of Sugarcane |

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| | | Research, Lucknow (UP).<br>• The committee approved the name of Er. Swapnil Choudhary and Er. Bharat Patel for participation in winter school training programme on "Application of Sensors, Instrumentation, artificial intelligence and machine learning in Precision Agriculture" from February 11th to March 02nd, 2019 held at ICAR-CIAE, Bhopal (MP). |
| | **19.12.2019** | • Courses allotted to faculty members for B. Tech. (Agril. Engg.) for the 2nd Semester 2019-20<br>• Courses allotted to faculty members for M. Tech. and Ph.D. Program for the 2nd Semester 2019-20<br>• The name of Er. Swapnil Choudhary has been recommended for PI of All India Coordinated Research Project (AICRP) on Farm Implements and Machinery (FIM), ICAR Scheme. |
| **2020-21** | **31.08.2020** | • The name of Dr. Ganesh Upadhyay, Assistant Professor (FMPE) was approved to attend "Induction Training Course" held at DHRM, CCS HAU, Hisar from 9th September to 9th October, 2020. |
| | **08.10.2020** | • Revised allotment of M. Tech and Ph.D. courses to faculty for the 1st Semester 2020-21.<br>• Offered and allotment of new Ph.D. courses to faculty for 1st Semester 2020-21 |
| | **19.11.2020** | • The name of Dr. Mukesh Jain, Assistant Professor (FMPE) was approved to attend "Training on Extension Management" held at DHRM, CCS HAU, Hisar from December 01-21, 2020. |
| | **27.01.2021** | • The students of M. Tech. (2020-21) were allotted Major Advisor vide rule number 27.1, 27.2 and 54th amendment of University Calendar Volume II.<br>• The students of Ph.D. (2020-21) were allotted Major Advisor vide rule number 27.1, 27.2 and 54th amendment of University Calendar Volume II.<br>• The name of Dr. Anil Kumar, Assistant Professor (FMPE) wasapproved to attend online traning on "Communication Skills and Technical Writing" held at Directorate of Human Resource Management, CCS HAU, Hisar from 03-23 February, 2021 |
| | **03.02.2021** | • Allotment of courses to faculty members for B. Tech. (Agril. Engg.) Program for the 2nd Semester 2020-21<br>• Allotment of courses to faculty members for M. Tech. and Ph.D. Program for the 2nd Semester 2020-21 |
| | **05.04.2021** | • Dr. Vijaya Rani as Major Advisor has allotted student Mr. Mohit Kumar vide rule number 27.1, 27.2 and 54th amendment of University Calendar Volume II.<br>• DAC has approved agenda for the remuneration for examination duties (UG, PG and other Exams) as per other state universities (GJU, KUK, MDU etc.) |
| | **06.05.2021** | • The committee recommended the name of Dr. Anil Kumar, Assistant Professor (FMPE) as Principal Investigator and Er. Naresh, Assistant Professor (FMPE) as Co-PI of Farm Machinery Testing Scheme.<br>• Er. Bharat Patel, Assistant Scientist (FMPE) is working in the state research scheme and he will look after work of this scheme.<br>• Re-allotment of Courses taken by Dr. Mukesh Jain during 2nd Semester, 2020-21. |
| | **17.05.2021** | • The department advisory committee discussed the agenda of Dr. Mukesh Jain, who is selected and joined as Director of NRFMT&TI, Hisar on deputation basis and wants to continue as major advisor of allotted PG students. The committee has no objection in continuation of Dr. Mukesh Jain as major advisor of PG students. |
| **2021-22** | **02.06.2021** | • The name of Dr. Ganesh Upadhyay, Assistant Scientist (FMPE) was approved to attend National Level Online Hands on Four Week Training Programme on "Applications of Computer Aided Engineering in Agriculture" during 07th June - 03rd July, 2021organized by Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani (M.S.) India. |

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| | **20.07.2021** | • The respective PI of the experiments willsend the results of planned experiments according to the treatments taken for the year 2020-21 to him as soon as possible in proper format. |
| | **19.08.2021** | • Allotted of UG, PG and Ph.D. courses to faculty for the 1st Semester 2021-22<br>• The name of Dr. Vijay Rani, Associate Professor & Head and Dr. Anil Kumar, Assistant Professor (FMPE) was approved to attend online training course on "Effective Extension Methods for Upscaling and Outscaling of Wheat and Barley Production Technologies" organized by Extension Education Institute, Nilokheri from September 1-10, 2021. |
| | **06.09.2021** | • The name of Dr. Anil Kumar was approved to attend and present a paper on "An overview of management of paddy in rice-wheat cropping system" in National Conference on "Managing Weather and Climate Risk in Agriculture" during 28-30 September, 2021 organized by Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir. |
| | **17.09.2021** | • The name of Dr. Ganesh Upadhyay, Assistant Scientist (FMPE) have been approved to attend National Online Hands-on Training on 'Data Science and Machine Learning Using Python' from 25$^{th}$ September, 2021 organized by Sher-e-Kashmir University of Agricultural Sciences & Technology, Kashmir in collaboration with NIELIT. |
| | **05.10.2021** | • The name of Dr. Ganesh Upadhyay was approved to attend and present a paper on "Novel Microcontroller based Draft Force Sensing Units for Measurement of Drawbar Power of Agricultural Implements" in "XV Agriculture Science Congress & ASC Expo" organized by National Academy of Agricultural Sciences and Banaras Hindu University at Institute of Agricultural Sciences, Banaras Hindu University, Varanasi from November 13-16, 2021. |
| | **27.10.2021** | • Er. Naresh took admission in Ph.D. as in-service candidate and applied for study leave of one year to complete his course work of programme. So, re-allotted courses of 1st Semester, 2021-22.<br>• Department advisory committee approved the title and name of authors of the one Hindi article for submission<br>• The name of Dr. Vijaya Rani, Associate Professor & Head and Dr. Anil Kumar, Assistant Professor (FMPE) was approved to attend and present the two papers in "55$^{th}$ Annual Convention of Indian Society of Agricultural Engineers" through online mode to be organized during 23-25 November, 2021 in Patna jointly by ISAE, New Delhi and Dr. Rajendra Prasad Central Agricultural University (RPCAU), Pusa, Samastipur, Bihar.<br>• The name of Er. Naresh was approved to attend and present a paper on "In-situ paddy straw management machinery for paddy-wheat crop rotation system" through online mode in "XV Agriculture Science Congress & ASC Expo" organized by National Academy of Agricultural Sciences and Banaras Hindu University at Institute of Agricultural Sciences, Banaras Hindu University, Varanasi from November 13-16, 2021. |
| | **12.11.2021** | • The name of Dr. Vijaya Rani, Associate Professor & Head (FMPE) has approved to attend and present a paper on "Development of a multi-row biogas slurry applicator" in "55$^{th}$ Annual Convention of Indian Society of Agricultural Engineers" through online mode to be organized during 23-25 November, 2021 in Patna jointly by ISAE, New Delhi and Dr. Rajendra Prasad Central Agricultural University (RPCAU), Pusa, Samastipur, Bihar. |
| | **02.12.2021** | • The students of M. Tech. (2021-22) were allotted Major Advisor vide rule number 27.1, 27.2 and 54$^{th}$ amendment of University Calendar Volume II.<br>• The students of Ph.D. (2021-22) were allotted vide rule number 27.1, 27.2 and 54$^{th}$ amendment of University Calendar Volume II.<br>• The name of Dr. Vijaya Rani was approved to attend ICAR Sponsored Winter School on "Farm Mechanization for Facilitating Conservation Agriculture & Climate Smart Technology" from January 4-24, 2022 organized by ICAR - Central Institute of Agricultural Engineering, Nabibagh, Berasia Road, Bhopal- |

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| | | 462038 (M.P.) |
| | **02.02.2022** | • Allotted PG student (ICAR) to the faculty member<br>• Dr. Ganesh Upadhyay has assigned the duty for incorporating the suggestion for technical programme for year 2021-22. |
| | **09.03.2022** | • Allottedcourses to faculty members for B. Tech. (Agril. Engg.) Program for the 2nd Semester 2021-22<br>• Allotted courses to faculty members for M. Tech. and Ph.D. Program for the 2nd Semester 2021-22 |
| | **13.04.2022** | • The revised structure and syllabi for M.Tech. and Ph.D. in Agricultural Engineering with specialization in Farm Machinery and Power Engineering was discussed in details and approved for further consideration by BOS, COAE&T |
| **2022-23** | **01.08.2022** | • The Vision of the department was discussed in detail and finalized by the Department advisory committee. |
| | **09.08.2022** | • Allotment of UG and PG courses to faculty for the 1st Semester 2022-23<br>• Department advisory committee approved the title and name of authors of the Abstracts for submission in 56th Annual Convection of ISAE to be held at Tamil Nadu Agricultural University, Coimbatore (Tamil Nadu). |
| | **06.10.2022** | • The newly admitted M. Tech. (FMPE) students of Academic Year 2022-23 were allotted to the faculty members<br>• The name of Dr. Anil Kumarwas approved to attend and present a paper on "Constraints and strategies for sustainability of rice wheat cropping system in Indo-gangetic plains" in National Conference on "Advances in Agrometeorological Interventions for Climate Resilience Agriculture (AGMET 2022)" organized during 02-04 November, 2022 at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu. |
| | **28.11.2022** | • The name of Dr. Vijaya Rani, Er. Swapnil Choudhary and Dr. Ganesh Upadhyay was approved to attend Annual Workshop of AICRP on FIM (ICAR) to be held at OUAT, Bhubaneswar (Odisha) during January 19-21, 2023. |
| | **06.12.2022** | • Course No. ME 501, Mechatronics and Robotics in Agriculture as per BSMA will be shared by department of Basic Engineering (Electronics + Mechanical) and Farm Machinery & Power Engineering (EE/ME-501/FMPE). The course no. of above course in the catalogue will be decided by the concern department.<br>• Course No. FMPE 516, Advanced Manufacturing Technologies as per BSMA will also be shared (ME-507/FMPE 516) among these two departments. |
| | **02.01.2023** | • AllottedUG and PG Courses to faculty for the 2nd Semester 2022-23 |

## Department of Soil & Water Engineering

Chairperson : Dr.R.K. Jhorar, HOD
Secretary : Dr. Sanjay Kumar
Members : Dr. M.S. Sidhpuria, Dr. Mukesh Kumar,Dr. Ram Naresh

| Year | Date | Major Recommendations |
|---|---|---|
| **2018-19** | 16-07-2018 | • Allotted U.G. & P.G courses for Ist semester 2018-19.<br>• Allotted U.G. students for the project work, SWE-411 for Ist Semester 2018-19.<br>• Approved the proposal submitted by Dr. Sanjay Kumar, Er Mukesh Kumar and Er. Ram Naresh to attend a two weeks training programme, organized by COAE&T on Robotics and Automation from 17.07-2018 to 30-07-2018. |
| | 21-09-2018 | • Allotted of M.Tech. students<br>• Allotted of Ph.D. students |
| | 31-12-2018 | • Allotted U.G. & P.G courses for IInd semester 2018-19. |
| | 29-01-2019 | • AllottedU.G. & P.G courses for Ist semester 2019-20.<br>• AllottedU.G. students for the project work, SWE-411 for Ist Semester 2019-20. |
| **2019-20** | 16-07-2019 | • AllottedU.G. & P.G courses for Ist semester 2019-20.<br>• AllottedU.G. students for the project work, SWE-411 for Ist Semester 2019-20 |

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| | 08-05-2020 | • NominatedDr. Mukesh Kumar for refresher course entitled "Language Skills" from 27 May to 16 June, 2020 (three weeks), conducted by AAREM, DHRM, CCS HAU Hisar. |
| **2020-21** | 04-07-2020 | • AllottedU.G. & P.G courses for I$^{st}$ semester 2019-20.<br>• Allotted advisor to UG students |
| | 25-08-2020 | • Reopened Ph.D. programme in the department |
| | 08-10-2020 | • Allotted courses to faculty members for Ph.D. programme in the department |
| | 02-01-2021 | • Allottedadvisor to M.Tech. students.<br>• Allotted advisor to Ph.D. students. |
| | 18-01-2021 | • Discontinuation of Ph.D. programme in the department |
| | 22-01-2021 | • Nominated Er. Ram Nareshfor refresher course entitled "Communication Skills and Technical Writing" from 03.02.2021 to 23.02.2021 (three weeks), conducted by AAREM, DHRM, CCS HAU Hisar. |
| | 03-02-2021 | • Allotted of UG courses<br>• Allotted M.Tech. courses<br>• Allotted Ph.D. courses |
| | 15-02-2021 | • Nomination of Er. Sundeep Kumar to attend the Three Weeks Online Certificate Course on Basic Geo-Informatics for Climate Smart Agriculture from February 22 to March 14, 2021 to be organized by Centre for Advanced Agricultural Science and Technology (CAAST) for Climate Smart Agriculture and Water Management (CSAWM) and Mahatma Phule Krishi Vidyapeeth (Agricultural University), Rahuri, Maharashtra.<br>• Nominated Dr.Sanjay Kumar to attend the International Conference on Water Resource Management from February 26 to 27, 2021 organized by MAUA&T Udaipur, Rajasthan. |
| | 09-06-2021 | • Discussed about certificate course on design, installation, operation and protected agriculture structures and associated system. |
| **2021-22** | 10-08-2021 | • Allotted U.G. & P.G courses for I$^{st}$ semester 2021-22 |
| | 07-09-2021 | • Discussed the syllabus for comprehensive examination (Ph.D. ) |
| | 16-09-2021 | • Nominated Dr. Ram Naresh for refresher course entitled "Refresher course on Educational Technology" from 21.09.201 to 11.10.2021 (three weeks), conducted by AAREM, DHRM, CCS HAU Hisar |
| | 28-10-2021 | • Allotted advisor to M.Tech. students |
| | 10.02.2022 | • Allotted U.G. courses for II$^{nd}$ Semester 2021-22<br>• Allotted P.G. courses for II$^{nd}$ Semester 2021-22<br>• Participated faculty members Dr. Kuldeep Singh Er. Mukesh Kumar on 24$^{th}$ to 26$^{th}$ March 2022 in conference/workshop/training. |
| | 25.02.2022 | • Approved Participation of Dr. Darshan Duhan from 15$^{th}$ Feb to 7$^{th}$ March 2022 in Conference/Workshop/Training |
| | 08.03.2022 | • Discussed and considered syllabus for BSMA. |
| | 26.04.2022 | • Approved participation of faculty members Dr. Kuldeep Singh and Er. Mukesh Kumar from 4$^{th}$ May to 24 May 2022 in conference workshop/training. |
| | 21.05.2022 | • Approved participation of Dr. Darshana in conference/workshop/training from 11$^{th}$ to 13$^{th}$ June 2022. |
| | 17.06.2022 | • Approved participation of Dr. Narender Kumar and Er. Ravi from 27$^{th}$june to 27$^{th}$july 2022 in conference/workshop/training |
| **2022-23** | 19.07.2022 | • Allotted U.G & P.G Courses for 1$^{st}$ Semester 2022-23<br>• Discussed on Technical Programme of Research |
| | 30.08.2022 | • Re-allotted of P.G. Courses for 1$^{st}$ Semester 2022-23 |
| | 05.09.2022 | • Allotted Major advisor to M. Tech. &Ph.D. students |
| | 09.12.2022 | • Approved participation of faculty members in conference/workshop/training |
| | 02.01.2023 | • Allotted U.G & P.G Courses for II$^{nd}$ Semester 2022-23<br>• Approved participation of faculty members Er. Kapil, DES Dr. Love Kumar |

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| | | Assis. Scientist from 11th Janurary to 10 Feb 2023 in conference/workshop/ training |

## Department of Processing and Food Engineering

Chairperson : Dr. Ravi Gupta
Secretary : Dr. Nitin Kumar
Members : Er. Sunil Kumar
: Dr. Anil Panghal

| | Date | Major Recommendations |
|---|---|---|
| **2018-19** | **18.05.2018**<br><br>**16/07/2018**<br><br><br><br>**17.10.2018**<br><br>**22.12.2018** | • The committee recommended the Er. Sunil Kumar to participate in the training pragramme on post-harvest management and storage techniques at National Institute of Plant Health Management, Hyderabad.<br>• DAC approved the name of Dr. D K Sharma, Dr V K Singh, Dr Nitin Kumar and Er Sunil Kumar for participataion in two weeks training programme on Robotics and Automation at COAE&T, CCS HAU, Hisar<br>• Allotted PG students to faculty<br>• Approved submission of RPF III in the AICRP project<br>• DAC approved the participation of Dr D K Sharma and Dr V K Singh in the 53rd ISAE Annual Convention and International Symposium at BHU, Varanasi, India.<br>• Approved updation of Departmental profile on HAU website |
| **2019-20** | **01.04.2019**<br><br>**27.09.2019**<br>**09.10.2019**<br><br>**11.11.2019**<br>**14.01.2020** | • Approved renaming the laboratories and their allotment to faculty members.<br>• Approved website updation<br>• Allottedmajor advisors for M. Tech and Ph.D. students<br>• Approved participation of Dr. Arun Kumar, Er. Sunil Kumar and Dr. Nitin Kumar in winter school at CIPHET, Ludhiana<br>• Participation of Er. Sunil Kumar in the winter school organized at NDRI, Karnal, India<br>• Approved participation of Dr. Anil Panghal in AMI conference at CUH, Mahendergarh, India<br>• The three months certificate course on Food Processing under IDP project was approved by the DAC |
| **2020-21** | **22.06.2020** | • Approved participation of Dr. Nitin Kumar in the refresher course at DHRM, CCS HAU, Hisar was approved by the DAC. |
| | **30.01.2021** | • Cross listing of the courses FPT 202 and FPT 203 was discussed in the DAC<br>• Allotted advisors to new PG students<br>• Finalization of the technical programme was discussed<br>• Approvedagenda forregular monitoring of the research work of PG students and their presentation<br>• Compilation of question papers and formulation of question bank was discussed |
| **2021-22** | **11.02.2022** | • Allotted advisors to the newly admitted Ph.D. students was discussed in the DAC |
| **2022-23** | **16.12.22** | • Approved participation of the faculty members in the 38th Annual Workshop of AICRP on PHET at CPCRI, Kasargod, India was discussed |
| | **10.01.2023** | • Association of Ph.D. scholar with faculty members in UG practical classes was discussed and approved in the DAC. |

## Department of Renewable & Bio Energy Engineering

Chairperson : Dr. Y.K. Yadav, HOD
Secretary : Dr.Yadvika
Members : Dr. Gaurav Chaudhary, Er. Nishant Chaudhary, Dr. Parvesh Antil

| | Date | Major Recommendations |
|---|---|---|
| **2018-19** | **30.06.2018** | • Finalized the course content of M.Tech.&Ph.D.<br>• Finalized technical programme of the department |
| **2019-20** | **30.01.2019** | • Dr Y.K. Yadav and Dr.Yadvika were nominated to participate and present their papers in the International Symposium on Innopreneurship: A need of Sustainable Agriculture & Rao Bahadur Dr. Ram Dhan Singh Fifth Memorial Lecture to be held at CCS HAU, Hisar from February 2-3,2019. |
| | **05.01.2019**<br><br>**30.12.2019** | • Approved participation of Parmod Sharma and KanishkVerma in the 53rd ISAE Annual Convention and International Symposium on Engineering Technologies for precision and Climate Smart Agriculture (January 28-30, 2019) at Banaras Hindu University (BHU), Varanasi, U.P., India.<br>• Courses for UG and PG courses alloted |
| **2020-21** | **22.06.2020** | • Dr. Gaurav Chaudhary requested for publication of edited books with John Wiley & Sons- Scrvener publishing house was discussed and approved. The details of books are as<br>• Book series 1: Advances in Biofeedstocks& Biofuels<br>• Book series 2: Bioprocessing in Food Science.<br>• The course distribution for UG classes for the 1st Semester of 2020-21 has been discussed and the courses were distributed.<br>• The final year B.Tech., (Agri. Engg.) students allotted to the department of RBEE was further allotted to the faculties of the department. |
| | **01.09.2020** | • Participated of new faculty (Dr. Gaurav Chaudhary, Asst. Prof. RBEE) in Induction training course being organised by DHRM-CCS HAU Hisar, a mandatory training for newly appointed faculty. |
| | **01.09.2020** | • Participated of new faculty (Er. Nishant Chaudhary) in Induction training course being organised by DHRM CCS HAU Hisar, a mandatory training for newly appointed faculty. |
| | **20.08.2020** | • DAC discussed and recommended for collaboration on the following project for "Converting waste to wealth" onward submission through Director of Research. |
| | | • Approved agenda for the components of the AICRP on Energy in Agriculture &Agro-based Industries (EAAI) should work under the newly created Department of Renewable and Bio-Energy Engineering (RBEE), CCS HAU Hisar |
| | **19.08.2020** | • Discussed the concept note for two collaborative projects<br>• PAU Ludhiana: Ex-situ utilization of paddy straw in briquetting machine and utilization of developed briquettes for direct and bio transformed fuels.<br>• NDRI Karnal: Waste to wealth-Co-fermentation of dairy waste and agro-waste for viable bioethanol production engineered stress-tolerant yeast using multienzyme co-immobilization,Co-PI from HAU: Dr. Gaurav Chaudhary |
| | **30.07.2020** | • Offered UG courses during the 1st semester 2020-21 |
| **2021-22** | **02.02.2021** | • Course distribution of UG & PG classes for 2nd Semester of 2020-21 was discussed and allotted.<br>• The distribution of PG students for their major advisor was discussed and students were allotted to the faculty |

| | | |
|---|---|---|
| | **10.08.2021** | • Allotted courses for UG & PG<br>• Distribution of UG students was done<br>• Proposal for establishment of RE lab in CCS HAU, Hisar was approved |
| | **21.09.2021** | • Submission of Project proposal to National Livestock Mission, GOI, Ministry of Fishries, Animal Husbandry and Dairying, Dept. of Animal Husbandry and Dairying by Dr. Gaurav Chaudhary (PI), Er. Nishant Chaudhary (Co-PI) and Dr. Sanjoy Ghosh as Collaborator from IIT Roorkee. Was approved |
| | **22.09.2021** | • Committee was informed that one project entitled "Fractionation of paddy straw and its valorization" costing approx. Rs. 20 lakhs was already submitted to DST Haryana by Dr.Gaurav Chaudhary. |
| | | • Project proposal entitled" Production of feed enzymes using agro-/food residues as substrate for additive to poultry feed" for the submission under 'National Livestock Mission' under submission Research and Development, Extention and Innovation, of Ministry of Fishries, Animal Husbandry and Dairying, Government of India was discussed and approved for the further submission to the agency. |
| | | • The committee recommended to add Dr. Gaurav Chaudhary as a member of project submission committee. |
| **2022-23** | **03.02.2022** | • Allotted PG students |
| | **15.02.2022** | • Approved the request of Nitin, SRF to attend "3rd International Conference On recent advances In Bio-Energy Research (ICARBR-2022)" conference.<br>• Allotted of UG/PG courses for 2nd Semester 2021-22 |
| | **09.03.2022** | • Finalized renewable Energy Engineering courses as per BSMA report |
| | **20.08.2022** | • Approved revision of M.Tech. course<br>• Approved allotment of courses for UG<br>• Approved distribution of UG students<br>• Joint Indo-Canadian Project Proposal |
| | **13.10.2022** | • Approved participation of Dr. Gaurav Chaudhary in Refresher Course on 'Enterpreneurial Prospects in Agricultural & Allied Sciences' from November 03-22, 2022 being organised by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCS HAU, Hisar in collaboration with College of Home Science. |
| | **29.11.2022**<br><br>**09.11.2022** | • Approved request of Dr. Y.K. Yadav to attend Short-term Trainingon IPR at DHRM, Hisar<br>• Approved request of Dr. Y.K. Yadav to attend World Renewable Energy Congress XXI<br>• Advisor allotted M. Tech Students<br>• Allotted UG/PG courses for 2nd semester 2022-23 |

## Department of Basic Engineering

Chairperson : Dr. Amarjit Kalra, HOD
Secretary : Dr. Sandeep Bhardwaj, Convener
Members : Dr. Sandeep Dhundara, Dr.Yadvika, Dr. Parvesh Antil

| | **Date** | **Major Recommendations** |
|---|---|---|
| **2018-19** | **19.02.2018** | • Basic Engineering, New Department was created by the Board of Management vide item No. A-13 in its 225th Meeting held on 07.02.2017 so the proposed Departmental Advisory Committee of Department of Basic |

| | | |
|---|---|---|
| | | Engineering, COAE&T was constituted with two faculty member from other Department. |
| **2019-20** | **26.07.2019** | • The UG & PG courses were approved by 3rd Departmental Advisory Committee by the Department of Basic Engineering. |
| | | • Dr. Parvesh Antil allowed to attend International workshop on Biomass conservation technology for crop residue management from 19-28Nov2019 at COAE&T, CCSHAU, Hisar |
| **2020-21** | **17.06.2020** | • Approved refresher course on statistical tools and technique for analysis of agriculatural data conducted by AAREM, DHRM in collaboration with Deptt. Mathematics and Statistics, CCS HAU from 8-28 July, 2021 to Dr. Parvesh Antil |
| | **31.08.2020** | • Dr. Sandeep Dhundhara was allowed for Induction training course from 09sept-09 Oct,2020 at DHRM, CCSHAU, Hisar |
| **2021-22** | **21.12.2021** | • Approved the participation of online FDP on Solar Sprayer based village micro grids potential in Punjab from 5-7jan,2022 at UIET, PU, Chdto Dr. Sandeep Dhundhara |
| **2022-23** | **10.08.2022** | • Basic requirement of mechanical labs with required staff was recommended and forwarded to administration for approval. |
| | **30.11.2022** | • BSMA syllabus discussed with some modifications and thereafter approved |
| | **04.01.2023** | • DAC adopted the BoS suggestion for starting M.Tech. in Civil, Mechanical Engg. and Electrical Engg. field. |
| | **27.01.2023** | • DAC approved the participation of Dr. Amerjeetkalra, Dr. Rajenderkumar, Dr. Sandeep Bhardwaj in conference at CCS HAU from 17-19 Feb 2023 |
| | **13.02.2023** | • DAC approved the participation of Dr. Rajender Kumar for traning at CCS HAU from 13-22 March,2023 |

**6.5.1.4 Anti-Ragging Cell:** *In pursuance to the Judgment of the Hon'ble Supreme Court of India dated 08.05.2009 in Civil Appeal No. 887/2009, the University Grants Commission has framed "UGC Regulations on curbing the menace of ragging in higher educational institutions, 2009" which have been notified on 4th July, 2009 in the Gazette of India. Does the College follow this regulation and subsequent guidelines issued in the matter in letter and spirit? Give details*

Yes, the college conforms to the applicable regulation and subsequent guidelines. The Dean of the College of Agricultural Engineering and Technology has established a Anti-ragging committee to combat harassment.

**Composition of committee:**

Anti Ragging Squad committee has been constituted by the Dean, College of Agricultural Engineering & Technology. The following Vigilance Committee was constituted for prevention of ragging in the College.

1. Dr. Sanjay Kumar, Professor, SWE
2. Dr. Parvesh Antil, Asstt. Prof., Basic Engineering
3. Dr. Arun Kumar, Asstt. Prof., RBEE
4. Dr. Nitin Kumar, Asstt. Prof., PFE
5. Er. Bharat Patel, Asstt. Prof., FMPE

The Committee investigates incidents of misconduct and reports its findings to the appropriate authority. The committee devises guidelines for operation, frequency of visits, meeting schedules, etc., and also combats the ragging problem in the College and Hostels.Every year, a programme of orientation is conducted for new students**.**In the past five years, no incidents of ragging have been reported in the College of Agricultural Engineering & Technology.

**6.5.1.5. Biological waste disposal facility:** *Whether wastes (chemical, biological, radioactive, universal, and recyclable) are generated by a variety of research, clinical, service, maintenance, and cleaning operations at the College level? If yes, then mention the disposal mechanism being adopted as per the government guidelines*

Yes, the Chemical safety, Biological safety regulations are followed in the institute.The Committee monitors the fire safety measures and waste management procedures, including chemical and biological storage and disposal. The Estate Office of the University takes care of safety aspects and biological waste disposal generated by research, maintenance and cleaning operations. Moreover, the University has Institutional Bio Safety Committee (IBSC) registered with Department of Biotechnology, Ministry of Science and Technology, registered by Gazette Notification with Registration No. D 221. The University takes care of safety aspects and biological waste disposal generated during research, maintenance and cleaning operations of the College.

The Bio Safety Committee (IBSC) duly approved from Department of Biotechnology, Ministry of Science and Technology is as follows:

| S. No. | Name, Designation & Present affiliation | Composition |
|---|---|---|
| 1. | Dr. Jeet Ram Sharma, Director of Research, CCSHAU, Hisar | Chairman |
| 2. | Dr. Priti Malik, Lady Medical Officer, CCSHAU, Hisar | Biosafety Officer |
| 3. | Dr. Sushila Mann, Professor, Deptt. of Animal Biotechnology, LUVAS, Hisar | Outside Expert |
| 4. | Dr. Neeraj Kumar, Dean, COBS&H, CCSHAU, Hisar | Internal Member |
| 5. | Dr. Surender Pahuja, Dean, College of Agriculture, CCSHAU, Hisar | Internal Member |
| 6. | Dr. Leela Wati, Prof. & Head, Deptt. of Microbilogy, CCSHAU, Hisar | Internal Member |
| 7. | Dr. Hawa Singh Saharan, Prof. & Head, Deptt. of Plant Pathology, CCSHAU | Internal Member |
| 8. | Dr. Sangeeta Sindhu, Assoc. Prof. & Head, Deptt. of Food & Nutrition, CCSHAU, Hisar | Internal Member |
| 9. | Dr. Sanjay Kumar Thakral, Prof. & Head, Deptt. of Agronomy, CCSHAU, Hisar | Internal Member |
| 10. | Dr. Rachna Gulati, Officer in-Charge, College of Fisheries Science, CCSHAU, Hisar | Internal Member |
| 10. | Dr. Namita Singh, Professor, Deptt. of Bio& Nanotechnology, GJUS&T, Hisar | DBT Nominee |
| 11. | Dr. Shikha Yashveer, Asstt. Professor, Deptt. of MBB&B, CCSHAU, Hisar | Member Secretary |

**6.5.1.6. Institutional Ethics Committee for Experiment on Animals:** *Whether the institute/College is following CPCSEA guidelines and constituted an Institutional Animal Ethics Committee (IAEC), get their animals house facilities inspected and get their project cleared by CPCSEA and IAEC before commencing them? If yes, the college should make statement that it is adhering all guidelines in the matter.*

Yes, Ethical committee pursue the cases related to the animal research etc. Moreover, University level committee monitoring the reports and administrative control over the activities at centre level by following CPCSEA guidelines.The University has Institutional Animal Ethics Committee registered with CPCSEA (Now renamed as CCSEA) vide letter No.25/12/2017-CPCSEA dated 26.08.2022 and works in full compliance. The registration number is 2187/GO/Re/S/22 /CPCSEA. The Institutional Animal Ethics Committee duly approved from CPCSEA is as follows:

| S. No. | Name | Composition |
|---|---|---|
| 1. | Dr. S.K. Sehrawat | Chairman |
| 2. | Dr. Pushpa Kharb | Biological Scientist |
| 3. | Dr. Suresh Kumar | Veterinarian |
| 4. | Dr. Ravikant, | Scientist Incharge of Animal House Facility |
| 5. | Dr. Sangeeta C. Sindhu | Scientist from different biological discipline |
| 6. | Dr. Rachna Gulati | Member Secretary |

Yes, the College is adhering to all guidelines in the matter.

**6.5.1.7. Committee for Prevention of Sexual Harassment of Women at Work Places:** *Does the institution is adhering the sexual harassment of women at workplace (Prevention, Prohibition and Redressal Act, 2013) in letter and spirit. If yes, mention the constitution of sexual harassment committees and date of proceedings conducted in last five years in tabular form:*

Yes, a committee was constituted by the Dean for prevention of sexual harassment.

**Prevention of Sexual Harassment Committee:**

**Chairperson** : Dr. Baldev Dogra, Dean, COAE&T
**Convener** : Dr. Vijaya Rani, Professor & HOD, FMPE
**Members** : Dr. Yadvika, Associate Professor
Dr. Parvesh Antil, Asstt. Professor
Sh. Mukesh, S.S.S.
Smt. Babita, Clerk
Ms. Ekta, 2018FST30D
Ms. Pragya Chaudhary, 2019AE21BIV
Mr. Prince Goyat, 2019AE25BIV

**No complaint has been received pertaining to sexual harassment from any students in this college during the last five year.**

## 6.5.2 Faculty:

**6.5.2.1. Faculty Strength:** *Mention the Faculty position (both in sanctioned and in-position) at the College.*

| Designation | Sanctioned | In Place* | Vacant |
|---|---|---|---|
| Professor and equivalent | 1 | 1 | 0 |
| Assoc. Professor and equivalent | 10 | 7 | 3 |
| Asstt. Professor and equivalent | 26+9# | 20+9# | 6 |
| Total | 46 | 37 | 9 |

* Faculty in place working as Professor (07) and Associate Professor (01) include Personal Promotion (PP) as a personal measure. #Faculty at outstations/other colleges

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes. Faculty appointed in teaching also carries research and extension activities; likewise faculty appointed in research also carries teaching and extension activities.

**6.5.2.2. Faculty Profile*:***Mention department wise faculty profile in tabular form and mention whether present profile is sufficient to meet the academic requirement of the College:*

| S. No. | Name and Designation | Mobile No. and email | Specialization | Publications in number | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Full paper | Conference etc. | Books | Book chapters | Man-ual | Annals/ research reports |
| **Farm Machinery & Power Engineering** | | | | | | | | | |
| 1 | Dr. Vijaya Rani Prof. & Head | 8607930921 vizayarani@yahoo.com | Farm Machinery & Power Engineering | 50 | 70 | 3 | 1 | 8 | 3 |
| 2 | Dr. Mukesh Jain Assistant Professor | 9416397798 mukeshjainhisar@ rediffmail.com | Farm Machinery and Power Engineering | 30 | 45 | 5 | 2 | 5 | 7 |
| 3 | Dr. Anil Kumar Assistant Professor | 9254011044 anilsaroha@hau.ac.in | Conservation Agriculture and Farm Mechanization | 45 | 50 | - | - | 7 | 6 |
| 4 | Er. Swapnil Choudhary Assistant Scientist | 9074859376 fmpeswapnil@hau.ac.in | Development and evaluation of Agricultural Machinery | 14 | 30 | - | - | 2 | 5 |
| 5 | Er. Naresh Assistant Professor | 9729209010 sihagnaresh@hau.ac.in | Testing and evaluation of farm machinery | 22 | 25 | - | - | 5 | 7 |
| 6 | Er. Bharat Patel Assistant Scientist | 8837839918 bharatpatel@hau.ac.in | Spraying and farm mechanization | 18 | 21 | - | - | 3 | 2 |
| 7 | Dr. Ganesh Upadhyay Assistant Scientist | 8670648931 ganesh.upadhyay0@hau.ac.in | Farm Mechanization, Tillage and Traction, Precision Agriculture | 17 | 6 | - | 1 | - | - |
| 8 | Er. Ajit Sangwan | 9416397530 er.ajitsangwan@gmail.com | Farm Machinery | 45 | 50 | - | - | 1 | - |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ( KVK Kaithal) District Extn. Specialist | | and Power Engineering | | | | | | |
| 9 | Dr.Charan Singh Kamboj Senior Research Fellow | 7988101779 ckamboj9671@gmail.com | Processing and Food Engineering | 10 | 15 | - | - | - | - |
| **Processing & Food Engineering** | | | | | | | | | |
| 1 | Dr. Ravi Gupta Prof. and HOD | ravigupta2300@yahoo.com, 7501112404 | Processing and Food Engineering | 15 | - | 4 | - | - | 6 |
| 2 | Dr. D.K. Sharma Senior Scientist | 9416846103 dksharma.hau@gmail.com | Processing and Food Engineering | 22 | 6 | | | 1 | 5 |
| 3 | Dr. V.K. Singh Assistant Professor | 9992661719 vijurss@gmail.com | Post Harvest Process &Food Engineering | 46 | 8 | | | 3 | 6 |
| 4 | Dr. Nitin Kumar Asstt. Scientist | 9466263889 nitin@hau.ac.in | Food packaging and shelf-life studies | 37 | - | 5 | 1 | | 4 |
| 5 | Dr. Anil Panghal Asstt. Scientist | 9988049760 anilpanghal@hau.ac.in | Food Science and Technology | 54 | - | 2 | 12 | - | - |
| 6 | Er. Sunil Kumar Assistant Scientist | 9990177757 sksaroha@hau.ac.in | Processing &Food Engineering | 30 | 2 | - | 5 | 1 | 4 |
| **Soil & Water Engineering** | | | | | | | | | |
| 1 | Dr. R.K. Jhorar Professor & Head | 9416586022 jhorar@hau.ac.in | Soil & Water Engineering | 52 | 35 | - | 3 | 3 | - |
| 2 | Dr. M.S. Sidhpuria Professor | 9215639341 mssidhpuria@rediffmail.com | Irrigation and Drainage Engineering / SWE | 16 | 33 | - | 07 | 9 | 15 |
| 3 | Dr. Sanjay Kumar Professor | 9416509900 Sanjay7228@hau.ac.in | Soil and Water Engg. | 83 | 89 | - | 27 | - | 21 |
| 4 | Dr. Ram Naresh Assistant | 8950094020 ramnaresh.hau@gmail.com | Soil & Water Engineering | 5 | 3 | - | - | - | - |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Professor | | | | | | | | |
| 5 | Dr. Kuldeep Singh DES (Agril. Engg.) | 9416179400 dkuldeepv@gmail.com | Soil and Water Engg. | 14 | 8 | 1 | 1 | - | - |
| 6 | Dr. Mukesh Kumar Assistant Professor | 9728954490 mukeshdandi@hau.ac.in | Soil and Water Engg. | 9 | 5 | - | - | - | - |
| 7 | Dr. Sundeep Kumar Antil District Extn. Specialist | 9466780360 sundeepkumar@hau.ac.in | Soil and Water Engg. | 17 | 17 | - | - | - | 10 |
| 8 | Er Kapil DES (AgrilEngg) | 7735640936 k.singla@hau.ac.in | Soil and Water Engg. | 8 | 4 | 2 | 0 | 4 | - |
| 9 | Dr. Narender Kumar DES (AE) | 9728758583 Narendergoswami17@hau.ac.in | Soil and Water Engg. | 21 | 7 | 28 | 1 | 1 | - |
| 10 | Er. Ravi Kumar DES (AE) | 9729816750 Ravisiwan2005@gmail.com | Soil and Water Engg. | 3 | 5 | - | - | - | - |
| 11 | Dr. Amandeep Singh Assitant Scientist | 9729300724 amandeepsingh@hau.ac.in | Soil and Water Engg. | 19 | - | 1 | 2 | - | - |
| 12 | Dr. Love Kumar Assistant Scientist | 7828976304 lovekumarhau@hau.ac.in | Soil and Water Engg. | 10 | 5 | 3 | 3 | 4 | 1 |
| **Renewable & Bio Energy Engineering** | | | | | | | | | |
| 1 | Dr. Y. K. Yadav Prof.& Head | 98885580366 profykyadav@yahoo.co.in | Renewable Energy | 52 | 22 | 5 | 6 | 4 | 15 |
| 2 | Dr.Yadvika Associate Professor | 9812166028 yadvika6@yahoo.co.uk | Renewable & Bioenergy | 40 | 25 | 1 | 10 | 10 | 26 |
| 3 | Dr. Arun Attkan Assistant Professor | 9416713102 arun.pfe@hau.ac.in | Renewable Energy & Food processing | 21 | - | 4 | - | 1 | - |
| 4 | Dr. Gaurav Chaudhary Assistant Professor | 9456552110 gauravchaudhary@hau.ac.in | Bioenergy & Bioprocess Engg. | 8 | 1 | 6 | 1 | - | 2 |
| 5 | Er. Nishant Chaudhary Assistant Professor | 7082009652, | Innnovation centre for Agriwaste Mgt | 15 | - | 1 | - | - | - |
| 6 | Dr.Vinod Kumar | 9468023707 vinodghorla@yahho.in | Renewable Energy | 7 | 2 | 3 | 0 | 0 | 0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ResearchAssociate | | | | | | | | |
| 7 | Dr. Kanishk Verma SRF | 9896004886 kanishk57@gmail.com | Renewable Energy | 5 | 5 | - | - | - | - |
| 8 | Dr. Nitin Karwasra SRF | 9992448883karwasra.nitin@gmail.com | Renewable Energy | 4 | 1 | - | 2 | 0 | 0 |
| 9 | Dr. Raveena Kargwal SRF | 9416362328raveenakargwal@gmail.com | Bioenergy | 10 | 7 | - | 4 | 0 | 0 |
| 10 | Dr. Sonu SRF | 9355532487samsaini1533@gmail.com | Bioenergy | 5 | - | - | 1 | - | - |
| **Basic Engineering*** | | | | | | | | | |
| 1 | Dr. Amarjit Kalra Professor & Head | 9991887304 amarjitkalra@gmail.com | Electronics Engineering | 16 | 2 | - | - | 8 | - |
| 2 | Dr. Rajender Kumar Assistant Professor | 9466004220 rksingh@hau.ac.in | Mechanical Engineering | 29 | 4 | 1 | - | 5 | - |
| 3 | Dr. Sandeep Bhardwaj Assistant Professor | 9560538850 bsandeep@hau.ac.in | Civil Engineering | 18 | 1 | - | 1 | - | - |
| 4 | Dr. Sandeep Dhundara Assistant Professor | 9812460221, sandeep08@hau.ac.in | Electrical Engg | 29 | 8 | - | 6 | - | - |
| 5 | Dr. Parvesh Antil Assistant Professor | 9812881721 parveshantil@hau.ac.in | Mechanical Engineering | 30 | 9 | - | 4 | - | - |

* Dr. M.L. Bansal has retired on 30.04.2019

**6.5.2.3. Credentials of the Faculty:** *Whether the institution has employed competent faculty members qualified to accomplish the mission and goals of the institution?* **YES**

*Give the highest qualification received by each faculty, related work experiences in the field, professional licensure and certifications, honors and awards, continuous documented excellence in teaching, or other demonstrated competencies and achievements that contribute to effective teaching and student learning outcomes.*

| S. No. | Name and Designation | Highest qualification | Honours/awards | Any Other Achievement that contributes to effective teaching and student learning and outcome |
|---|---|---|---|---|
| **Farm Machinery & Power Engineering** | | | | |
| 1. | Dr. Vijaya Rani Prof. & Head | Ph.D. | • Best paper award ISAE 2015<br>• Best paper awardISAE 2017<br>• Appreciation letter by Dean COAE&T for Coordination activities of COAE&T for Accreditation peer review team | • Co-ordinates B.Tech Training programme and placed students in reputed companies<br>• Prepared manual for Teaching<br>• Established combine lab under CSR |

| | | | | |
|---|---|---|---|---|
| | | | from ICAR | |
| 2. | Dr. Mukesh Jain Assistant Professor | Ph.D. | • Best Book award of ISAE 2017 | • Co-ordinates B.Tech Training programme and placed students in reputed companies<br>• Prepared manual for Teaching |
| 3. | Dr. Anil Kumar Assistant Professor | Ph.D. | • Best paper award of ISAE 2017 | • Power point presentations of the courses related to Farm Machinery and Power Engineering have been developed<br>• Developed Books/Manual/ Display charts etc. |
| 4. | Er. Swapnil Choudhary Assistant Scientist | M. Tech. | • University Gold Medal in M. Tech Degree Programme (2015)<br>• Best poster award GINMA-2019, CCS HAU, Hisar | • Power point presentations of the courses related to Farm Machinery and Power Engineering have been developed<br>• Developed Books/Manual/ Display charts etc. |
| 5. | Er. Naresh Assistant Professor | M. Tech. | • Best poster award GINMA-2019, CCS HAU, Hisar<br>• Appreciation letter by Dean COAE&T 2020 for compilation of information regarding AICTE and ICAR accreditation | • Power point presentations of thecourses related to Farm Machinery and Power Engineering have beendeveloped.<br>• Developed /Manual/Display chartsetc. |
| 6. | Er. Bharat Patel District Extension Specialist | M. Tech | • Best Paper Award from Bhartiya Krishi Anusandhan Patrika | • Power point presentations of thecourses related to Farm Machinery and Power Engineering have beendeveloped.<br>• Developed /Manual/Display charts etc. |
| 7. | Er. Ajit Sangwan DES ( KVK Kaithal) | M. Tech. | - | • Power point presentations of thecourses related to Farm Machinery and Power Engineering have beendeveloped.<br>• Developed /Manual/Display charts etc. |
| 8. | Dr. Ganesh Upadhayay Assistant Scientist | Ph.D. | - | • Power point presentations of thecourses related to Farm Machinery and Power Engineering have beendeveloped.<br>• Developed /Manual/Display charts etc. |
| **Processing and Food Engineering** | | | | |
| 1. | Dr. Ravi Gupta Professor & Head | Ph.D. | • Merit fellowship | • Co-ordination of UG and PG student. |
| 2. | Dr. D.K. Sharma Senior Scientist | Ph.D. | • GATE Fellowship | • Practical manuals<br>• PPT for different courses, Training placements etc |
| 3. | Dr. V.K. Singh Assistant Professor | Ph.D. | | • On lien (Since 2022) |
| 4. | Dr. Nitin Kumar Asstt. Scientist | Ph.D. | • DST Fellowship | • Training and Placement of UG and PG Students |

| | | | | |
|---|---|---|---|---|
| 5. | Er. Sunil Kumar Assistant Scientist | M. Tech | • Merit Fellowship | |
| **Soil and Water Engineering** | | | | |
| 1. | Dr. R.K. Jhorar Professor &Head | Ph.D. | • GATE fellowship of MHRD during M.Tech.<br>• Sandwich fellowship of WageningenUniversity for Ph.D.<br>• Best teacher award by CCS HAU (ICAR sponsored) for 2010-11<br>• Best Poster paper Award (2017) (SWE) from Indian Society of Agricultural Engineers | • Co-authored practical manuals on i) Hydrology, ii)Soil and Water Conservation Engineering and iii)Irrigation Engineering and Equipment Design.<br>• Developed charts as teaching and extension aids onvarious aspects of soil and water engineering.<br>• Prepared and distributed detailed course material to support on line teaching during corona pandemic |
| 2. | Dr. M.S. Sidhpuria Professor | Ph.D. | • Chaudhary Devi Lal Outstanding All India Co ordinate Research Project (AICRP) Award for the year 2009 was awarded to (AICRP) for Dryland Agriculture, Hyderabad<br>• Vice Chancellor Bronze medal in B. Tech.<br>• GATE Fellowship<br>• CSIR Senior Research Fellowship | • Development of power point presentation for PG courses |
| 3. | Dr. Sanjay Kumar Professor | Ph. D. | • Merit Scholarship during B. Tech.<br>• Merit Scholarship during M.Tech. | • Developed charts as teaching and extension aids on various aspects of soil and water engineering.<br>• Prepared and distributed detailed course material to support on line teaching during corona pandemic |
| 4. | Dr. Ram Naresh Assistant Professor | M.Tech. | • ICAR JRF, Fellowship<br>• Best Poster paper Award (SWE) from IndiaSociety of Agricultural Engineers (2019-2020) | • PPT of courses<br>• Teaching charts,<br>• Software/application development |
| 5. | Dr. Mukesh Kumar Asst. Scientist | Ph.D. | ASRB NET | - |
| 6. | Dr. Kuldeep Singh DES (KVK, Sonipat) | Ph.D. | ASRB NET | - |
| 7. | Dr. Sundeep Kumar Antil District Extension Specialist | Ph.D. | Second position in Best Poster Award (2017) in Golden Jubilee International conference on Gender Issues and Socio-Economic Perspectives for Sustainable Rural Development held during 23-25 Oct. 2017 at CCSHAU, Hisar. | • Prepared course material for UG B.Sc. Agri for online teaching during COVID-19 pandemic |
| 8. | Er Kapil DES (Agril Engg) | M. Tech. | ASRB Net | |

| | | | | |
|---|---|---|---|---|
| 9. | Dr. Narender Kumar DES (Agri. Engg) | Ph.D. | ASRB Net | |
| 10 | Er. Ravi Siwan DES (Agri. Engg) | M. Tech. | ASRB Net | |
| 11. | Dr Amandeep Singh Assistant Scientist | Ph.D. | ASRB Net | |
| 12. | Dr. Love Kumar Assistant Scientist | Ph.D. | • Qualified NTS of ICAR and also received IGKV-Fellowship He also became the first rank holder of Ph.D., CET-IGKV entrance examination.<br>• Qualified ICAR-NET in Land Water Management Engineering.<br>• Best M.Tech. Thesis Award in 2018 and Best Ph.D. Thesis Awardin 2022.<br>• Best Poster Paper Award (2016) (Soil and Water Engineering) from Information Technology Research Academy New Delhi<br>• Best Poster Paper Award (2017) (Soil and Water Engineering) from soil conservation society of india | |
| **Renewable & Bio Energy Engineering** | | | | |
| 1. | Dr. Y.K. Yadav Professor & Head | Ph. D. | • WREN Pioneer Award by World Excellence Award 2012 for Research and Innovation in Solar Energy at IIT, Delhi<br>• Distinguished Service Award for Energy in Agriculture byISAE<br>• Best Paper Awardby ISAE-2015 | • Developed course curriculum and courses for renewable energy forUG and PG<br>• Developed of Teaching Text andPractical for renewable energy<br>• Developed renewable energytechnology park for teaching &demonstration<br>• Developed of Audiovisualaids for teaching and use of ICT |
| 2. | Dr.Yadvika Assistant Scientist | Ph.D. | • Best paper award 2015<br>• Best Poster award 2015<br>• Best poster award 2016<br>• SRF Fellowship | • Developed of Audiovisualaids in Renewable energy<br>• Developed of manual/display charte |
| 3. | Arun Attkan Assistant Professor | | • UGC Fellowship | |
| 4. | Gaurav Chaudhary Assistant Professor | | • GATE 2007,2008,2010<br>• UGC JRF 2008<br>• UGC SRF 2010<br>• SERB- NPDF (National Post Doctoral Fellowship) 2017 | • Developed new Bioenergy Lab<br>• Prepared & distributed power point presentation to support teaching during Covid-19 pandemic |
| 5. | Er. Nishant Chaudhary Assistant Professor | | • MHRD scholarship (2014) | |

| | | | | |
|---|---|---|---|---|
| **Basic Engineering** | | | | |
| 1. | Dr. Amarjit Kalra Professor | Ph.D. | • Best paper award ISAE 2017<br>• FAO fellowship (2008) | • Prepared and distributed detailed course material to support on line teaching during corona pandemic |
| 2. | Dr Rajender Kumar Assistant Professor | Ph.D. | • Awarded INSACSIR-<br>• DAE/BRNSCICS Travel Fellowship toAustralia in 2015.<br>• Awarded appreciation letter by Dean, COAE&T in 2016<br>• Awarded appreciation letter by DSW, CCSHAU in 2018<br>• Technical adviser to conference at DCRUST, Murthal (2020) | • Authored practical manuals on i) HMT, ii) Workshop Technology practices iii) CAD & CAM teaching manual (iv) CAD & CAM practical manual (v) co-authored of Electrical machines practical manual<br>• Developed display boards/ charts as teaching and extension aids on various aspects of Mechanical Engineering.<br>• Training manuals/chapter for SC/ST Youth students<br>• Popular articles in Farmers magazine and various training programme for welfare of students & farmers.<br>• New laboratory setup for students for CAD/CAM and HMT<br>• Organize/ participated various Camps ( NI camp, polio camp, 10days camp, blood donation for NSS students<br>• Prepared and distributed detailed course material to students including develop and deliver lectures on Edu - Sat for Tech. Edu. Deptt., Haryana |
| 3. | Dr. Sandeep Bhardwaj Assistant Professor | Ph.D. | • QIP Fellow (AICTE<br>• Sponsored)<br>• Gate Fellowship (MHRD<br>• Sponsored) | • Training manuals for SC/ST youth students<br>• Popular articles in farmers magazine<br>• Laboratory development for construction material testing<br>• Organized/ participated various Camps (NI camp, polio camp) for NSS students |
| 4. | Dr. Sandeep Dhundara Assistant Professor | Ph.D. | • Research Award 2016, 2018, UIET, Panjab University, Chandigarh<br>• Best Paper Award, 12th IEEE India International Conference, INDICON-2015<br>• Awarded Senior Research Fellowship (SRF) by Council of Scientific & Industrial Research (CSIR)-HRDG Govt. of Indi | • PPT of courses<br>• Prepared and distributed detailed course material to support on line teaching during corona pandemic |
| 5. | Dr. Parvesh Antil Assistant Professor | Ph.D. | • TEQIP for Ph.D. (Jan 2014-Oct17)<br>• GATE 2011 | • PPT of courses<br>• New HMT lab developed |

### 6.5.2.4. Technical and Supporting Staff:

There are 96 sanctioned positions at the College, including Technical and Supporting Staff. Forty of the 96 positions are occupied, while the remaining 56 are vacant. The following is a list of the sanction, filled, and vacant positions:

| Sr. No. | Name of the Posts | Sanctioned | In position | Vacant |
|---|---|---|---|---|
| | **Technical Staff** | | | |
| **1.** | Instrumentation Engineer | 1 | 1 | 0 |
| **2.** | Assistant Engineer (Electronics) | 1 | 1 | 0 |
| **3.** | Workshop Engineer | 1 | 1 | 0 |
| **4.** | Lab Assistant | 3 | 2 | 1 |
| **5.** | Lab Technician | 1 | 1 | 0 |
| **6.** | Mechanic | 17 | 7 | 10 |
| **7.** | Driver-cum-mechanic | 2 | 2 | 0 |
| **8.** | Fitter | 5 | 0 | 5 |
| **9.** | Turner | 2 | 1 | 1 |
| **10.** | Auto Electrician | 1 | 1 | 0 |
| **11.** | Welder | 3 | 1 | 2 |
| **12.** | Carpenter | 1 | 0 | 1 |
| **13.** | Workshop Mate | 1 | 0 | 1 |
| **14.** | Technical Assistant | 1 | 0 | 1 |
| **15.** | Machine man | 1 | 0 | 1 |
| **16.** | Sr. Motor Rewinder | 1 | 0 | 1 |
| **17.** | Foremen | 4 | 1 | 3 |
| **18.** | Sr. Mechanic (Ref. & AC) | 1 | 0 | 1 |
| **19.** | Sr. Tractor Mechanic | 1 | 0 | 1 |
| **20.** | Sr. Lab assistant | 1 | 1 | 0 |
| **21.** | Assistant foreman | 1 | 0 | 1 |
| | **Supporting Staff** | | | |
| **22.** | Computer Operator | 1 | 0 | 1 |
| **23.** | Attendant | 1 | 0 | 1 |
| **24.** | Tracer | 3 | 0 | 3 |
| **25.** | Store Keeper | 3 | 2 | 1 |
| **26.** | Driver | 2 | 2 | 0 |
| **27.** | Clerk | 9 | 7 | 2 |
| **28.** | Typist | 1 | 1 | 0 |
| **29.** | Helper | 5 | 1 | 4 |
| | **Other Staff** | | | |
| **30.** | Superintendent | 1 | 0 | 1 |
| **31.** | Assistant | 3 | 3 | 0 |
| **32.** | Personal Assistant | 1 | 1 | 0 |
| **33.** | Sweeper | 2 | 1 | 1 |
| **34.** | Stenographer (Jr/Sr) | 3 | 2 | 1 |
| **35.** | Messenger | 5 | 0 | 5 |
| **36.** | Blacksmith | 1 | 0 | 1 |
| **37.** | Well Observer | 1 | 0 | 1 |
| **38.** | Vehicle Attendant | 2 | 0 | 2 |
| **39.** | Security Guard | 2 | 0 | 2 |
| | Total | **96** | **40** | **56** |

### 6.5.3. Learning resources

**6.5.3.1 College Library (digital):** *Location of the library, Present staff position (in place), Availability of the following in library, Wi-Fi, No. of books and other reading materials, No. of periodicals and research journals, No. of internet points with number of computers, Seating capacity in library, Employing the latest technology in library sciences, Stocking arrangements of books, Collection of volumes on different subjects, Latest publications in the fields of relevant subjects, Automation and user services through computer, Opening hours, Subscription of journals of national and international repute, national dailies, magazines etc.*

Yes, The College of Agricultural Engineering and Technology has the facility of digital library. The students can explore their library related facility through Desktop digitally even on their mobile with their unique username allotted to them just their after admission and class enrolment. Every faculty has their access to their own allotted computers in their departments. Moreover, CCS Haryana Agricultural University has a Nehru Library, elegantly situated in the centre of campus, is the hub of academic and research activities.It has an extensive collection of books, journal volumes, and other documents. Using RFID-enabled identification badges, RFID-enabled kiosks allow users to independently issue and return documents. The RFID System and Koha Library Management Software are used for all automated services. OPAC (Online Public Access Catalogue) enables users to access the availability of Books and other documents from the campus-wide network, allowing them to readily locate the documents they need in the Library.The Library's online catalogue is publicly accessible via AgriCat (Union Catalogue of Indian Agricultural Libraries) and WorldCat via the Internet. Through AgriCat, university students and faculty can access the catalogues of all Indian agricultural libraries and verify the availability of the desired documents. University students and faculty have access to the internet for academic and research purposes through the library. For this purpose, the library has a well-equipped computer centre with 32 of the most up-to-date PCs equipped with Internet access and a provision for laptop users as well. The library has a smart classroom that is well-equipped for teaching M.Sc. and Ph.D. students and providing training programmes for faculty and students. A well-equipped conference room is also used for academic purposes in the library.

Summer library hours are 7:00 a.m. to 8:00 p.m., and holiday hours are 7:00 a.m. to 2:00 p.m. The winter working hours are 8.30 a.m. to 9 p.m., and the holiday hours are 9 a.m. to 4 p.m. There are 6 Reading Rooms with a total capacity of 650 readers. The Night Reading Hall has a seating capacity of 80 readers and is equipped with modern amenities, including exquisite furniture, an air-conditioned environment, and an uninterrupted electrical supply. It opens immediately after the library closes and remains open until midnight every day of the week.

The library has approximately 3.82 lakhsvolumes of books and other reading material in print. In addition, the library subscribes to 106 Indian and international print and online journals. In addition, it subscribes to a number of e-resources, including indiastat.com; Britannica On-Line Academic Edition (BOLAE); DELNET resources; Scopus Citation Database; NIPA e-Resource Solution for Students Preparing for Competitive Examinations; NIPA English Writing Improvement Tool; and NIPA Online English Language Development and Improvement Resources. Through this e-resource, the library provides access to more than 4,300,000 Question Banks.Academic Collection also includes the purchase of 2,319 e-books (perpetual access) and an annual subscription to EBSCO e-Books (more than 2,30,00 e-books). These downloadable e-books are accessible at the University and in a few outstations. From the University's library portal, online access to 14 international and 92 national journals was made available. ThroughCeRA-consortium of E-Resources on Agriculture, the library provides access to over 2,659 e-journals published by highly regarded publishers. Through EBSCO Database, the library provides access to more than 2.32 million electronic volumes.The Book

Bank enables students to borrow textbooks at nominal fees for the entire semester, with the option to purchase them at a 10–35% discount.Reprographic services such as black-and-white and colour photocopying and document digitization are provided at nominal rates. This college's students utilise the Nehru Library's literature on College of Agricultural Engineering & Technology subjects as well as all of the library's other resources.

**6.5.3.2. Laboratories, Instructional farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc.:** *Cleary mention about laboratories, instructional farm, workshop, dairy plant, veterinary clinic, hatchery, ponds etc facilities available in the college with its numbers, space, speciality to conduct practical/hands on training.*

The table that follows provides details about the laboratory facilities available in the various departments of the College of Agricultural Engineering & Technology.

| Sr. No. | Facilities | Numbers | Space Length (m) x Width (m)/ $m^2$ | Speciality to conduct practical | Speciality to conduct hands on training |
|---|---|---|---|---|---|
| | **Laboratories** | | | | |
| **Department of Farm Machinery & Power Engineering** | | | | | |
| 1 | Farm Machinery Lab | | 150$m^2$ | • Different manual, animal and self-propelledmachineries are available in the lab to show the components and working of the machineries to the students.<br>• Projector facility is also available to show the field working videos of the machineries. | • Experienced experts/scientists &technicians are available for conducting the trainings. |
| 2 | Farm Power Lab | | 150$m^2$ | • The laboratory contains cut sections and models for various tractor and engine systems such as fuel system, gear system, differential, electrical system and complete tractor assembly for exposing the students to tractors, engines and their systems. | • The experiments conducted in the laboratory for familiarization of students with various systems, their working principles, types, study of tractor mechanics. |
| 3 | Ergonomics Lab | | 155$m^2$ | • The facilities are available in the lab to study the anthropometry of agricultural workers, physiological parameters such as heart rate, blood pressure, calibration of subject, respiration rate, | • Training about the operation of different equipments used for human parameter measurements is given to the students of UG & PG courses. |

| | | | | | |
|---|---|---|---|---|---|
| | | | | oxygen consumption, general fatigue, overall discomfort, noise and vibration etc. | |
| 4 | Implement Yard | | 318m$^2$ | • Different operational agricultural machinery is available to show the students and visitors (farmers) of the department. | - |
| 5 | Tractor workshop located at Director Farm | | 540m$^2$ | • Facilities are available for repair & maintenance of tractors and agricultural machinery and students of UG & PG courses are made aware about the problems in the tractor and their remedies. | • Training of operation, repair & maintenance of tractors and agricultural machinery given to the students by the experienced tractor mechanics & workers. |
| 6 | Machinery workshop | | 300m$^2$ | • Facilities for the students, conducting classes on practical learning of machinery fabrication are available.<br>• Facilities like lathe machine, shaper, hydraulic press, welding set, carpentry shop etc. are available for conducting practical classes. | • Experienced staff gives training to the students about operation and working of the machineries available in the workshop. |
| **Department of Processing & Food Engineering** | | | | | |
| 1 | Engineering Properties Lab | | 7 m x 4.8 m (33 m$^2$) | • Various machineries related to unit operations in agricultural processing are available to conduct practical class. | Testing and evaluation of agricultural processing equipment |
| 2 | Fruits & Veg. Processing Lab | | 15 m x 10.9 m (163 m$^2$) | • Sorting, washing, grading, waxing and machineries are availale to conduct practical class. | Shrink wrapping of citrus fruits, Testing and evaluation of Fruits& Veg. Processing Plant |
| 3 | Agro Processing Centre | | 15 m x 9.7 m (145 m$^2$) | • Cleaning, grading, sorting, grinding, pricking equipment are avaible for training of farmers and entrepreneurs. | Primary processing of agricultural produces, sevaluationof agricultural processing equipments. |
| 4 | Food Quality Lab | | 7 m x 4 m (92 m$^2$) | • Teaching qualitative and microbial analysis of fruits and vegetables to UG and PG students. | Qualitative analysis and storage study |
| 5 | Engineering Work Shop | | 13 m x 5 m (65 m$^2$) | • Design and development of equipment pertaining Agricultural produces | Fabrication of low cast equipments |

| | | | | | |
|---|---|---|---|---|---|
| | | | | processing | |
| 6 | Food Engineering Lab | | 15 m x 10 m (150 $m^2$) | • Extrusion and food packaging related operations | Production of Extruded products and packaging technology |
| **Department of Soil & Water Engineering** | | | | | |
| 1 | Soil & Water Conservation Engineering Lab | | 152 $m^2$ approx. | • Study of irrigation watermeasurement, soil moisture and soil conservation structures | • Discharge measurement, soil moisture sensors design of soil conservation structures, rainfall frequency analysis |
| 2 | Irrigation & Drainage Engineering Lab | | 156 $m^2$ approx. | • Study of Irrigation Sprayers and agricultural drainage | • Sprayer characteristics curves<br>• Design of surface and subsurface drainage system. |
| 3 | Soil & Water Engineering Field Lab | | 12500 $m^2$ approx. | • Study of discharge measurement, soil conservation structures, water table, underground drainage system. | • Parshal flumes Water table contour maps, in-situ hydraulic conductivity measurement, study of components and uniformity coefficient of drip and sprinkler irrigation system |
| 4 | GIS Lab | | 16.8 $m^2$ approx. | • Familiarization with RS &GIS software and its application in water resource management. | • Interpolation, Map overlaying, Watershedcharacterization. |
| **Department of Renewable and Bio-Energy Engineering** | | | | | |
| **1** | Energy Lab | | 200 $m^2$ | • Design and development of low cost solar operated equipment | Evaluation of solar tunnel dryer, solar dryer, biogas plant etc. |
| **2** | Bio-Energy Lab | | 50 $m^2$ | • Development of Biofuel &value-added products | Biofuel production & analysis of biomass |
| **Department of Basic Engineering** | | | | | |
| 1 | Civil Engineering Lab | | 14.3m x 10.6 m (152$m^2$) | • Amenities for the students, as well as classes that focus on on practical learning of study of Design of structure and Soil Mechanics.<br>• Study UTM machine for mechanics of solid practical applications. | - |
| 2 | Hydraulics Engineering Lab | | 14.3 m x 10.6 m (152 $m^2$) | • Facilities for the students, as well as classes that focus on on practical learning of study of study of Fluid Mechanics and fluid machines. | - |
| 3 | Computer Lab | | 7.3 m x 4.85 m (35 $m^2$) | • Facilities for the students, as well as classes that focus on on practical learning of study of | • Hands on training on computer application and Computer-Aided Design etc. |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Computer programming, Web designing & applications. | |
| 4 | Electronics Lab | | 7.15 m x 4.85 m (35 $m^2$) | • Practical study of Digital Electronics and Linear integrated circuits. | - |
| 5 | Electrical Lab | | 14.3 m x 10.6 m (152 $m^2$) | • Experimental set up of Electrical circuits for students with study of DC motors & DC Generators.<br>• Study of Induction motors. | - |
| 6 | Engineering Drawing Hall | | 14.3 m x 10.6 m (152 $m^2$) | • Study of Engineering Drawing | Hands on training on drawing & others |
| 7. | Heat and Mass Transfer | | 14.3 m x 10.6 m (152 $m^2$) | • Facilities for the students, as well as classes that focus on on practical learning of study of mass transfer applications, emissivity measurement, conduction, convention etc. | |

## LAB FACILITIES



Farm Power Lab



Farm Machinery Lab



Agro Processing Centre



Food Engineering Lab



Fruits and Vegetables Processing Lab



Food Quality Lab



Soil & Water Conservation Engineering Lab



Irrigation & Drainage Engineering Lab



Soil & Water Engineering Field Lab



GIS Lab





Mirco plots with fertigation unit



Mechanics of Solid Lab



Electrical Machines and Power Utilization laboratory



Heat and Mass Transfer Lab



Civil Engg. Lab



Refrigeration and Air-conditioning Lab



Auto-CAD Lab



Engineering Workshop



Energy Park

**6.5.3.3. Student READY/ In-Plant Training / Internship / Experiential Learning Programmes:**

*Clearly mention about the implementation of Student READY/In-plant training/ Internship/Experiential Learning programmes and learning outcomes as per the guidelines of ICAR. Profit sharing mechanism (amount) shall be mentioned for each ELP unit sanctioned by the ICAR for the college.*

The College of Agricultural Engineering and Technology offers professional education in courses like, Project on Farm Machinery and Power Engineering, Design and Maintenance of Green House, Project on Processing and Food Engineering, Remote Sensing and GIS Applications, Renewable energy resources and Project on Soil and Water Engineering. Students learnt steps to prepare compost, vermicompost and biofertilizers under ELP with title "Composting and Bio-fertilizers production" and learntprimary and secondary processing of food produce under ELP with title "Centre for Agro Processing and Engineering Services". Besides these the following is specifically included under student READY program as per 5$^{th}$ Deans' Committee recommendations

***Skill development Training-I:***

Experience with practical uses in sectors of interest (agricultural machinery and power engineering, food processing, renewable energy, soil and water engineering, information technology, etc.).

***Skill development Training-II:***

Students will be immersed in an environment representative of their chosen profession like technical parts of training and presentation report preparation.

***Industrial Attachement/Internship:***

Internships with relevant companies and institutions in the tractor and agricultural machinery sector; emphasis on precision farming. Sprayers, irrigation systems, water-saving techniques, and water-shed administration. Agricultural Engineering is a field that combines theoretical study with hands-on experience in food production, processing, value addition, renewable and bio-energy, and other related fields to give students a well-rounded education.

***Experimental Learning on campus:***

Experience with production technology; conducting standard tests on agricultural equipment; analyzing test results; writing up test reports. Agro-Process Engineering; Agro-Processing; Food Product Development; Model Plants for Food Processing and Value Addition; Selected Grain and Fruit Processing and Packaging. RBEE refers to the process of creating, deploying, and taking care of renewable energy hardware and software. Agriculture-related SWE tasks include: watershed project formulation; well and Sprayer maintenance and servicing; irrigation and drainage system design; installation of weirs and flumes for water measurement; and farm irrigation and drainage system development.

***Project Planning and Report Writing:***

Field/lab studies; project report writing and presentation.

**6.5.3.4 Curricula Delivery through IT (smart class rooms/interactive board etc.):** *Whether the College is using smart class rooms/interactive board etc. for teaching and practical's. Number of class rooms upgraded as smart class rooms should be mentioned.*

Yes, the College of Agricultural Engineering and Technology is equipped with two smart classrooms and interactive whiteboards for classroom and laboratory instruction. There is one seminar room and one committee room for students and faculty to discuss their research topics and live interaction. In each department of the college, students have access to Smart Class rooms so that they can learn in a dynamic way. The tools from multimedia presentations such as PowerPoint presentations and smart boards are used a lot by the faculty to make their teaching and learning more effective. The use of online assignment, lecture upload and use of ERP facilitates the student needy updation etc. The facility of computers to each faculty, and Lab consisting about thirty eight computers, a University website, campus-wide networking with Wi-Fi facilities, CCTV cameras, etc., make up the college's robust ICT infrastructure. Technology and Internet access are available in every college department for administrative, instructional, and scholarly work. Because of this set-up, ICT may be used in classrooms, labs, and extension programmes to better serve students. The governance of the faculty and student system is enhanced by their official ID including emails, online course enrollment, fee payment, grade submission, and student attendance etc. Faculty members from all departments utilize E-courses on websites and E-manuals to deliver curriculum. The college is well equipped computer lab with internet facility exclusively reserve for students about 38 computers, one printer and one plotter with power backup batteries since year 2008.Type of ICT Application used in curricula:

- All the Department of College uses PPT, Internet, smart classroom, digital cameras, e-mail, whatsApp groups etc for students.
- Faculty member of all the departments also use E-courses on websites and E-manuals for curricula delivery.




Computer Labs

**6.5.4 Student Development:** *Student Development at the College directs its educational efforts at fostering the intellect and character of students by integrating in-class and co-curricular experiences. To accomplish this, the college provides a wide range of educational experiences through programs and activities that complement and support the academic experience in the classroom.*

**6.5.4.1. Student Intake and attrition:** *The information about student intake and attrition, for the college as a whole but separated in UG, PG and Ph.D. categories shall be provided in tabular form for last five year.*

| Name of the degree programme | Actual students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **UG** | 41 | 49 | 47 | 53 | 49 | 7.31 | 6.12 | 14.89 | 11.32 | 6.12 |
| **PG** | 10 | 10 | 17 | 5 | 6 | 10 | 10 | 11.76* | - | - |
| **Ph. D.** | 2 | 3 | 5 | 1 | 3 | - | - | 20 | - | - |

***Due to placements/ pandemic**

**6.5.4.2. Average number of students in Theory and Practical Classes:** *Mention the degree programme-wise number of students sitting in a class for theory and practical, separately in tabular form.*

| Sr. No. | Name of the Degree Programme | Batch of students in theory class | Batch of students in practical class |
|---|---|---|---|
| 1 | **B. Tech.** | • One batch with 49 students in 1st to 3rd year each.4th year students divided into four batches | • Two batches with about 25 students in 1st to 3rd year each. 4th year students divided into four batches |
| 2 | **M.Tech.** | • One batch with 3-4 students of 1st year and 2nd year each in each Department | • One batch with 3-4 students of 1st year and 2nd year each in each Department |
| 3 | **Ph.D.** | • One batch with 1-3 students of 1st year and 2nd year each in each Department | • One batch with 1-3 students of 1st year and 2nd year each in each Department |

**6.5.4.3. Admission process:** *Clearly give complete mechanism of admission for UG, PG and Ph.D. programmes, fee payment mechanism, registration procedure, academic schedule publication at the start of the semester etc. Write information in one page only.*

The College of Agricultural Engineering & Technology offers undergraduate, post-graduate, and doctoral degrees. The number of seats at UG, PG, and Ph.D. as well as all other admission policy provisions, are determined by the Academic Council in accordance with section 23 of the Haryana and Punjab Agricultural Universities Act, 1970 and other rules framed from time to time by the competent authority as prescribed under this act. University Calendar II details the Rules and Regulations for all undergraduate and post-graduate programmes offered by CCS HAU.

**UG programs:** Section 21 of the Haryana and Punjab Agricultural Universities Act of 1970 holds the Dean accountable to the Vice-Chancellor for all matters pertaining to college organisation and the conduct of resident instruction for undergraduate students. The Registrar is accountable to the Vice Chancellor for all matters pertaining to admissions to undergraduate courses, the credit burden of students, the maintenance of academic records, attendance records, and the awarding of degrees and medals.

**PG programs:** The Dean of Postgraduate Studies is responsible for the coordination of postgraduate programmes and the organisation and administration of postgraduate instruction. Dean, PGS is also responsible for coordinating the research conducted by postgraduate students and maintaining communication with the administration. The Dean of Postgraduate Studies is accountable to the Vice-Chancellor for all matters pertaining to resident instruction for postgraduate students, including admission requirements, the quality of courses offered, the total course load required for degree

programmes, the standard of instruction, evaluation methods, practical training, and the student advisory committee.

**Mechanism of admission:**

**UG programme:** The JEE Main entrance exam is administered by NTA, New Delhi, to Haryana residents, while the ICAR exam is administered to candidates from other states.

**PG programme:** Entrance test conducted by HAU and ICAR test for other state candidates.

**Ph.D. programme:** Entrance test conducted by CCS HAU, Hisar and ICAR test for other state candidates.

**Fee payment mechanism:** Fee payment is totally online and follow up the ERP system.

**Registration procedure:** At the time of registration, online process follows.

**Academic schedule:** Academic schedule (academic calendar) is prepared, sent to various departments, distributed among faculty, and posted on the notice board at the beginning of each new semester.

**6.5.4.4. Conduct of Practical and Hands on training** *(mention brief report of one page on practical and hand on training in different courses)*

As per 5$^{th}$ Deans' Committee Recommendations core courses and professional elective courses are offered at UG level in different departments. These courses besides imparting theoretical knowledge also provide practical skills and hands-on-training as per the curriculum requirements.

Department of FMPE conducted practical and Hands on training through the experiments conducted in the laboratory for familiarization of students with different systems, their working principles, types, study of tractor mechanics. Training about the operation of different equipments used for human parameter measurements is given to the students of UG and PG courses.

The Department of PFE provided hands-on and practical training on testing and evaluating agricultural processing instruments. The dehydration of fruits and vegetables Extraction of fruit and vegetable juices using a multipurpose juice extractor Visit to a milk processing plant, preparation of soymilk from soybean milk at a soymilk processing plant, preparation of potato crisps by machine, pricking of aonla by machine, etc.

Department of SWE conducted practical and Hands on training on discharge measurement, design of soil conservation structures, rainfall frequency analysis, Design of surface and subsurface drainage system, Water table contour maps, in-situ hydraulic conductivity measurement, study of components and uniformity coefficient of drip and sprinkler irrigation system etc.

Practical and hands-on training on surveying, Engineering drawings,designof Reinforced Concrete beams using limit state and working stress methods, hands-on training on computer application, experimental set up of electrical circuits for students, study of DC motors and DC generators, study of induction motors, etc. were provided by the Department of Basic Engineering.

The Department of RBEE conducted a practical evaluation of solar tunnel dryers, solar dryers, solar biogas plants, biomass characterization, proximate and ultimate analyses, briquetting, pelleting, biomass disintegration, etc.

**6.5.4.5. Examination and evaluation process:** *The evaluation of students' performance is a central task of College administration. A brief report on examination and evaluation process for UG, PG and Ph.D. be given separately mentioning external/internal components. System of evaluation should clearly be mentioned for UG, PG and Ph.D.*

A brief report on examination and evaluation process for UG, PG and Ph.D. is given below separately mentioning external/internal components.

## UG programs

**Examination system:** The examination system for B. Tech. (Agricultural Engineering) 4-year programs is external for theory and internal for practical.

**Evaluation:** The theory examination answer scripts are getevaluatedby the Controller of Examinations. Marks for the practical examination are submitted by the relevant Instructor to the Controller of Examinations, who coordinates their compilation and submission to the Registrar.A student is deemed to have passed the relevant course(s) if he or she earns 40% or more in theory and practical separately and 50% or more in the aggregate, with the additional condition that the student must maintain a certain OGPA.

Ending 1st year = 3.5/10.0; Ending 2nd year = 4.0/10.0; thereafter = 5.0/10.0

There is no provision for supplementary examination. Student who are declared fail in one or the other course are required to repeat that course, when offered in routine provided they have maintained the required OGPA.

**Grading**: Based on the evaluation in each course, the students are awarded grades as per the following scheme.

| OGPA | Description of performance |
|---|---|
| **9.00 to 10.00** | 90 to 100% |
| **8.00 to 8.99** | 80 to 89.9% |
| **7.00 to 7.99** | 70 to 79.9% |
| **6.00 to 6.99** | 60 to 69.9% |
| **5.00 to 5.99** | 50 to 59.9% |
| **4.00 to 4.99** | 40 to 49.9% |

The students must obtain a minimum OGPA of not less than 5.0 to qualify for the degree. Based on the position of result, Detailed Marks Card (DMC) is issued to all the students. The DMC clearly shows GPA/OGPA at the end of each semester. On completion of degree, division is indicated in the DMC of final semesters (year) as under:

| OGPA | Division |
|---|---|
| **5 to 5.99** | 2nd class |
| **6.00 to 7.49** | 1st class |
| **7.5 and above** | 1st class with distinction |

## PG and Ph.D. Programs

**Examination system and evaluation:** Mid-term and end-term internal examinations are administered for theory.Two sets of question papers for each course are set for mid-term and end-term each and are submitted to the concerned HOD. For both mid-term and end-term date sheet is prepared at college level and examinations are conducted centrally. On the day of examination, the Dean/ Supdt. selects one question paper for each course for distribution among students. Practical is also conducted internally by the course instructor. For practical courses only, practical exams are conducted by the course teacher and one more teacher nominated by the HOD. Evaluation of both theory and practical is internal. Weightage for theory and practical examinations is given below:

| Credit hours (Theory & Practical) | Weightage/Marks | | |
|---|---|---|---|
| | Mid-Term | End-Term | Practical |
| 1 + 0 | 40 | 60 | - |
| 1 + 1 | 20 | 30 | 50 |
| 2 + 1 | 25 | 45 | 30 |
| 2 + 2 | 20 | 30 | 50 |
| 3 + 1 | 30 | 45 | 25 |
| 3 + 2 | 25 | 35 | 40 |
| 2 + 0 | 40 | 60 | - |
| 3 + 0 | 40 | 60 | - |
| 1 + 2 | 10 | 20 | 70 |

**Comprehensive examination (Written and Viva Voce/Oral):** In Ph.D. , after completion of 75% course work separately in major and minor subjects, written comprehensive exam is conducted. In major subject two papers are conducted and in minor subject one paper is conducted. Paper setting and evaluation is internal. Qualifying marks is 60%. Viva-Voce/Oral comprehensive exam is conducted by external examiner and grading is satisfactory/unsatisfactory.

**Thesis evaluation:**

| Evaluation steps | Master's program | Doctoral program |
|---|---|---|
| **i) Submission** | After thesis seminar | • After thesis seminar<br>• One research paper should have been accepted and second submitted or one patent filed out of thesis work |
| **ii) Evaluation** | External (One examiner) | External (Two examiners) |
| **iii) Viva Voce** | By Advisory Committee and one external examiner | By Advisory Committee and one external examiner |
| **iv) Assessment** | Satisfactory/Unsatisfactory | Satisfactory/Unsatisfactory |

**Grading:** For PG and Ph.D. programs grading is done on a 10 point scale.

(i) Minimum passing grade in a course: 6.00
(ii) Minimum OGPA to continue and to obtain degree: 6.50

**6.5.4.6. NCC/NSS units:** *Clearly mention the existence and functioning of these units and how it is benefiting the student development. A brief report should be given (without photographs).*

**NCC Unit**

NCC unit of **College of Agril. Engg. & Technology** has been functioning with COA as a single unit within the University. It is offered for three years to undergraduate students. Character, discipline, leadership, a secular outlook, a spirit of adventure, and ideals of charitable service are taught to the students. The goal of NCC training is to create a human resource of organised, trained, and motivated youth for leadership in all aspects of life, as well as personnel who are always available for national service. The students undergo a rigorous training by doing drill, weapon training, sports and cultural activities, social activities, blood donations etc. Students participate in a number of camps, including Army Attachment Camp, Basic Leadership Camp, Advance Leadership Camp, National Integration Camp, Annual Training Camp, ThalSena Camp, and others. Minimum of two casmpsare required to obtain a 'C' Certificate.In the past five years, the pass rate for 'B' and 'C' certificate examinations has been nearly 100 percent with excellent grades.Apart from military training, non-military subjects just like history and culture of India, health and hygiene, religions, customs, traditions, ethics of Indian

society are also taught. The students are made to be well-versed in the legacy of freedom movement. Students occasionally discuss any current issue of social, moral, scientific, environmental, and national importance.

**NSS Unit**

The National Service Scheme (NSS) is an Indian government-sponsored public service programme administered by the Indian government's department of youth affairs and sports. In 2006, the NSS unit at the College of Agricultural Engineering and Technology was established. The engineering students register them as both required and elective courses in the first/second and third/fourth years, respectively. These volunteers work tirelessly day and night to ensure that everyone in need in our society receives assistance. The NSS conducts many camps, each of which comes into one of four general categories: cleaning, afforestation, stage shows or processions to raise awareness of social issues, and inviting doctors for health camps. The NSS unit of B.Tech. Students held a seven-day camp in the village of Arya Nagar to raise environmental awareness and many camps organized during the period in nearby villages. Many students have participated in State-level youth Red Cross training camps, National Integration camps, Pulse polio camps and Blood Donation camps, National Adventure camps, and camps organised at CCSHAU in December 2021. The student's participation, along with their perseverance and medals at various platforms, establishes a record for merit.

**6.5.4.7. Language laboratory**: *It is required of any student to have a good command of the language for communication purposes, with clarity and accuracy being vital for effective and efficient communication. What help one to acquire such proficiency in a language are the process and the method of learning that language. Mention which of these types of Conventional, Lingua Phone, Computer Assisted Language Laboratory and Multimedia Hi-Tech Language Laboratory are being used for language teaching in the college.*

English is taught by instructors working in the Department of language and Haryanvi Culture, College of Basic Sciences & Humanities. Practicals/ Tutorials are conducted in the language lab of this department. College language instructors also utilise smart classrooms, mobile phones, and YouTube in addition to conventional methods. The college has made special efforts to enhance the students' communication abilities. Undergraduates are encouraged to use the software and YouTube to enhance their spoken English. Moreover, language Lab facilities are available with the concerned teacher and thus, facilitate the students as and when required.

For language teaching in the college, besides conventional methods, teachers use facility of smart classrooms, mobile phones and YouTube, the college has been making special drives to improve the communication skills of the students. UG students are motivated to use the software to improve spoken English. Occasionally, the Directorate of Student wefare organises training programmes in communication skills and spoken English.

**6.5.4.8. Cultural centre:** *Does the college have cultural center to empower student leaders to explore, celebrate, and educate the campus community about the diversity among them? Does the college offer and inclusive and reflective space, multicultural programming and support services that encourage positive interaction, academic, persistence, and growth among students, faculty, and staff?*

The cultural activities of the university are absolutely curriculum-based and designed to foster the personal growth of registered students. Students at the university are prepared to participate in the university's cultural programmes as well as festivals and other competitions outside the university. For cultural activities the classes are also conducted regularly. The Cultural Activities of the Directorate

are intended to be an enticing aspect of personality development for the undergraduate students of the University's constituent colleges. This activity has remained a Credit Activity (0+1). This club is one of the largest and most popular at the university, attracting an average of 200 students per year.

In addition to providing regular training to enrolled students in Music, HFLC (Haryanvi folklore and culture), and dramatics of constituent colleges, more talented students receive intensive training consisting of extra classes. Such activities serve as a source of motivation for students to develop their personalities and channel their youthful energy in a constructive manner. Special efforts were made to introduce students to Indian folklore and culture, with an emphasis on "SWANG" Since 1973, when it received recognition for regular credit activity, the club has been continuously seeking for, promoting, cultivating, and developing talent in music, dance, and drama among university students.

**6.5.4.9. Personality Development:** *Personality development programme is aimed at increasing employability of the students. Whether the college has provisions for inclusion of functional grammar in Standard English, speaking skills, reasoning, group discussions interview skills, personal interviews, quantitative ability, verbal ability, mock tests and some special sessions to promote the personality development in the students?*

The Students C&P Cell within the Directorate of Students' Welfare has been established to keep university students apprised about potential employment opportunities and to assist them in making prudent decisions regarding their future academic/professional careers. The Students Counselling & Placement Cell has been associated with the students' multifaceted development in an effort to provide them with the opportunity to develop their personalities and confront future challenges with greater confidenceThe directorate has initiated an ambitious programme to improve the students' managerial, administrative, communicative, technical, and self-employment-oriented skills in recognition of the current need to strengthen these efforts. The institute within the Directorate of Students' Welfare has been entrusted with four responsibilities: providing university students with training, placements, liaison with major industries, and guidance. The Students C&P Cell is responsible for coordinating the organisation of campus interviews for outgoing students. In addition to assisting students in finding employment, the cell has assisted students in appearing for competitive examinations and obtaining admissions, scholarships, and fellowships at recognised institutions in India and abroad. The contemporary World of Work is distinguished by two distinct characteristics. As a result of globalisation and the liberalisation of the economy, there are fewer opportunities for employment in the public sector than ever before, while the private banking/insurance/agricultural inputs sector offers more employment opportunities than ever before.

### 6.5.5. Physical Facilities

**6.5.5.1. Hostels:** *Clearly mention the number of hostels available for the College students for boys and girls, separately with its total capacity, students per room accommodated in each hostel, mess facility, drinking water, indoor games specially for girls, cleaning of hostel premises, transport facility, emergency medical facility etc.*

Presently, the number of hostels is sufficient to accommodate all registered students. In accordance with the standards, dormitory and cubicle rooms are assigned to students in all hostels. In student accommodations, there are almirahs, study tables, beds, and chairs. Student hostel prefects provide assistance to hostel wardens. The hostels are equipped with all modern amenities and facilities, such as Wi-Fi, LED televisions with dish antennas, a gym, a volleyball court, an inverter in

the mess and common area, a water cooler with water purification, a mosquito catcher, a solar water heating system, LPG supply in the mess, furniture, periodicals and national newspapers. There are air-conditioned night reading rooms, indoor sports facilities such as table tennis, a canteen, and a desert refrigerator in the common room areas, as well as well-ventilated cubical and dormitory rooms with electric fans. During the summer, the pupils are also permitted to use the desert cooler in their rooms. Every hostel has a cooperative canteen managed by students under the supervision of the hostel wardens. Consideration is given to the hygiene of the hostel's facilities.

**Transport facility**

Students have access to a central transport facility, when necessary. The vehicles can be obtained from the university's transport office for visits under various courses and educational tours. Within the campus, females and boys have access to e-rickshaws for transportation. Students are encouraged to use bicycle or walking to commute between different utilities.

**Medical Facilities**

- There is a 20-bed hospital on campus that is well-equipped. In addition to other support personnel, the hospital has one Senior Medical Officer, three Medical Officers, one Dental Surgeon, two Pharmacists, and three staff nurses. Students, university employees, their dependents, and other trainees/visitors have access to round-the-clock medical assistance.
- Casualty services are available 24/7. Every week, the Special Immunisation Clinic, T.B. Clinic, Diabetic Clinic, and Antenatal Clinic are held. Two weeks of medications for patients with chronic disease are administered and supervised. The outdoor/emergency patients are attended to by the Senior Medical Officer and Medical Officers, and the hospital's indoor facility is accessible around the clock.
- The Dental Surgeon also provides RCT and dental surgical procedures for patients, and the dental unit has been air-conditioned to improve patient care facilities. X-rays of CCSHAU/LUVAS employees and their dependents are performed in the department of Vet. Clinics. ICU, dental X-rays, and laboratory tests are performed in the Campus Hospital.
- There is an Amartya Shiksha Yojana and Personal Accident Policy that costs Rs 100 upon admission and provides Rs 1,00,000/- in accidental insurance. There is a facility available for emergencies. In the event of an emergency, the Campus Hospital provides ambulance services.

**6.5.5.2 Examination Hall:** *Mention the availability of number of examination halls, its capacity etc. for the college.*

The college has one exam hall that can accommodate 90 students. The college's lecture halls are also utilised for administering UG and PG examinations as needed. Moreover, the central exam hallis vailable at the University level where facilities can be availed as and when required for any examination purpose to the college.

**6.5.5.3. Sports and recreation facilities:** *Clearly mention the number of indoor and outdoor sports facilities available for the College students. A brief note on day to day management and use of these facilities shall be provided in the report.*

Sports are an integral component of the curriculum. During the four semesters of their UG degree programme, each student must enrol for at least one sport or co-curricular activity in order to meet the degree's requirements. With sports and other activities, the Giri Centre for student welfare and activities is an outstanding feature of this university. It features two indoor Badminton courts with seating for 600 spectators, two indoor squash courts, leisure

rooms, and two indoor multipurpose gymnasiums with sufficient seating. In the University Sports Complex, there are grounds, courts, tracks, and links. In addition, an international standard synthetic track has been installed in the Athletic Stadium. Volleyball courts are equipped with lighting for night play. The grounds for hockey, football, and cricket are well maintained.

**6.5.5.4. Auditorium:** *Does the college have auditorium? Mention its year of construction, sitting capacity and how frequently being used for the College functions.*

Yes, multipurpose hall having sitting capacity of 90 is used for college functions. Auditoriums of other colleges and Indira Gandhi Auditorium is used,, as and when required.

**6.5.5.5. Exhibition Hall / Museum (description of events):** *Does the college have the Exhibition Hall/Museum? Mention about its use and special events being conducted in these units.*

Yes, the College has exhibition hall to have various events. However, the College activities are also exhibited in University Exhibition Hall in Gandhi Bhawan through Dr. Mangal Sain museum.

### 6.5.6. Research Facilities

**6.5.6.1. Postgraduate laboratories and Equipments**: *Clearly mention the department wise PG laboratories and equipment housed in individual laboratory in the Colleges along with any other research unit.*

**Farm Machinery and Power Engineering**

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Tri-axial Vibration Meter | Machinery Testing Lab |
| 2. | Soil Compaction Meter | Machinery Testing Lab |
| 3. | Thresher multipurpose Tractor operated | Implement Yard |
| 4. | P.T.O. Torque Sensor | Machinery Testing Lab |
| 5. | Soil Compaction Meter | Machinery Testing Lab |
| 6. | Patte Meter | Machinery Testing Lab |
| 7. | Straw Baler | Implement Yard |
| 8. | Spectrometer with Teflon pipe connector | Engine Testing Lab |
| 9. | Paddy Transplanter | Implement Yard |
| 10. | Paddy Combine Harvester | Implement Yard |
| 11. | Fully Automatic Dynamometer | Machinery Testing Lab |
| 12. | Self Propelled Rotary Weeder | Implement Yard |
| 13. | Sample preparation machine for spectrometer | Engine testing lab |
| 14. | Tractor operated two row vegetable transplanter | Implement Yard |
| 15. | Tractor Operated Power Weeder (Three Row) One No. | Implement Yard |
| 16. | Tractor operated Power Weeder (two Row) Two Nos. | Implement Yard |
| 17. | Carrot Digger | Implement Yard |
| 18. | Rotary Plough | Implement Yard |
| 19. | Tractor Drawn Rotary Weeder (Three Row) | Implement Yard |
| 20. | Unmanned aerial vehicle | Testing lab |
| 21. | Pneumatic planter | Implement Yard |
| 22. | Auto steer system | Installed in tractor |

**Processing and Food Engineering**

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Extruder | Food Engineering Lab |

| | | |
|---|---|---|
| 2. | Deep Freezer | Food Engineering Lab |
| 3. | Shrink Packaging Machine | Food Engineering Lab |
| 4. | Carrot Washer | Fruits & Veg. Processing Plant Lab |
| 5. | Honey Filtration Machine | Fruits & Veg. Processing Plant Lab |
| 6. | Aonla Pricking Machine | Fruits & Veg. Processing Plant Lab |
| 7. | Maize Sheller | Fruits & Veg. Processing Plant Lab |
| 8. | Data Acquisition System | Fruits & Veg. Processing Plant Lab |
| 9. | Protein Estimation System & Distillation | Agro Processing Centre |
| 10. | Software tools ergonomics analysis | Agro Processing Centre |
| 11. | Advance Ergonomics tools with wireless | Agro Processing Centre |
| 12. | Data Logger with Sensors | Agro Processing Centre |
| 13. | Anthropometric Rods | Agro Processing Centre |
| 14. | Electronic balance | Agro Processing Centre |
| 15. | Multipurpose Juice Extraction System | Agro Processing Centre |
| 16. | Texture Analyzer | Food Quality Lab |
| 17. | Gas Analyzer | Food Quality Lab |
| 18. | Spectrophotometer | Food Quality Lab |

## Soil and Water Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Aqua probe | Soil & Water Conservation Engineering Lab. |
| 2. | Moisture tester/ Gauge | Soil & Water Conservation Engineering Lab. |
| 3. | Plant Canopy Analyser PAR-80 | Soil & Water Conservation Engineering Lab. |
| 4. | TDR | Soil & Water Conservation Engineering Lab. |
| 5. | Infiltrometer | Soil & Water Conservation Engineering Lab. |
| 6. | Submersible Sprayer “Cut Model” | Soil & Water Conservation Engineering Lab. |
| 7. | Moisture tester/ Gauge | Soil & Water Conservation Engineering Lab. |
| 8. | Cone Penetrometer | Soil & Water Conservation Engineering Lab. |
| 9. | Anemometer | Soil & Water Conservation Engineering Lab. |
| 10. | Drip Irrigation System | Soil & Water Conservation Engineering Lab. |
| 11. | Conductivity Meter | Soil & Water Conservation Engineering Lab. |
| 12. | Tensiometers | Soil & Water Conservation Engineering Lab. |
| 13. | Micro plots with fertigation facilities | Soil & Water Engineering Field Lab |

## Basic Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Tensile Testing Machine | Civil lab |
| 2. | Hydraulic Bench Attachment | Civil lab |
| 3. | UV-VIS Spectrophotometer | Civil lab |
| 4. | Emissivity measurement (HMT) | Mech. lab |
| 5. | Computers & accessories | Mech. lab |
| 6. | Electrical Machines | Electrical Machines and Power Utilization laboratory |

## Renewable and Bio-Energy Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Laminar Air Flow | Bio energy Lab |
| 2. | Autoclave | Bio energy Lab |
| 3. | Water Bath | Bio energy Lab |

| | | |
|---|---|---|
| 4. | pH Meter | Bio energy Lab |
| 5. | Analytical weighing Balance | Bio energy Lab |
| 6. | Centrifuge | Bio energy Lab |
| 7. | Microwave Oven | Bio energy Lab |
| 8. | Muffle Furnace (Fully & Semi Prog.) | Bio energy Lab |
| 9. | Refrigerated centrifuge | Bio energy Lab |
| 10. | Spectrophotometer (UV-Vis) | Bio energy Lab |
| 11. | Kjehldahl appratus | Bio energy Lab |
| 12. | Slurry dewatering machine | Bio energy Lab |
| 13. | Waste decomposer | Bio energy Lab |
| 14. | Moisture Analyser | Bio energy Lab |
| 15. | Pyranometer | Renewable Energy Lab |
| 16. | Sun Shine recorder | Renewable Energy Lab |
| 17. | Solar PV simulator | Renewable Energy Lab |
| 18. | Tunnel Dryer | Renewable energy park |
| 19. | Solar convection dryer | Renewable energy park |
| 20. | Solar desiccant seed dryer | Renewable energy park |
| 21. | Cabinet dryer | Renewable energy park |
| 22. | Solar PV cold storage | Renewable energy park |
| 23. | Solar Hara | Renewable energy park |
| 24. | Briqutting machine | Renewable energy park |
| 25. | Palliating machine | Renewable energy park |
| 26. | Vermi compost separator | Renewable energy park |
| 27. | Shredder | Renewable energy park |
| 28. | Chopper | Renewable energy park |
| 29. | Mixer | Renewable energy park |
| 30. | Biogas plants | Renewable energy park |
| 31. | Solar powered Sprayer | Renewable energy park |
| 32. | Solar street lights | Renewable energy park |

**6.5.6.2. Research Contingency:** *A note on amount of research contingency for each department shall be provided. Whether it meets the students' demand?*

| **Name of the College/ Department** | **Research Contingency (Rs.)** | | | | | |
|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | **2020-21** | **2021-22** | **2022-23** | **G. Total** |
| COAE&T | 99,84,926 | 8,92,82,570 | 2,19,05,577 | 1,82,20,815 | 2,15,66,755 | 16,09,60,643 |

Yes, research contingency sufficient to meets the students' demand.

### 6.5.7. Outcome/Output

**6.5.7.1. Student Performance in National Examination:** *Provide detailed information in tabular form about student Performance in JRF/SRF/NET/ARS and other National Examinations for last five years. Only those students receiving fellowships should be mentioned here.*

| **Sr. No.** | **Name of Examination** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** |
|---|---|---|---|---|---|---|
| **1.** | JRF | 3 | 3 | 1 | 3 | - |
| **2** | SRF | - | 1 | 1 | - | - |
| **3.** | NET | - | 1 | 8 | 5 | - |
| **4.** | GATE | 1 | 6 | 4 | 8 | 1 |
| **5.** | Other National | 14 | 4 | 6 | 11 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Examinations including Banks | | | | | |

**6.5.7.2. Students Placement Profile:** *Provide detailed information in tabular form about student performance in ARS/and other national examinations/State level examinations or equivalent. Year wise placement profile shall be provided.*

| Sr. No. | Placement through Examination | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|---|
| 1. | ARS | - | - | - | - | - |
| 2 | Other National Examinations (SSC, CGL) | 12 | - | 2 | 1 | - |
| 3 | Other National Examinations (GATE, CAT etc) | 1 | 6 | 4 | 8 | 1 |
| 4. | State Level Examinations or Equivalent (Bank etc.) | 14 | 4 | 6 | 11 | - |
| 5. | Placement through Interviews including Govt | 2 | - | 2 | - | 4 |

**6.5.7.3. Awards/Recognitions/Certificates:** *Provide information on awards/recognitions/certificates in tabular form for last five years separately for students and faculty.*

**Student's Awards**

**Awards/Recognitions/Certificates**

| Year | Name of the Awards | Name of Students/ Faculty |
|---|---|---|
| **Students** | | |
| 2018-19 | Gold medal (academic) | Athira C.R. 2017AE14M |
| | Silver (Sports) | Nirmala (2015AE18BIV) |
| | Bronze (Sports) | Amandeep |
| | Bronze (Sports) | Yogesh |
| 2019-20 | Gold medal (Academic) | Peter WaboiMwaurah 2018AE5M |
| | Silver & Bronze (Sports) | Nirmala (2015AE18BIV) |
| 2020-21 | Gold medal (Academic) | Vinod Kumar 2016AE3D |
| 2021-22 | Pragya Choudhary (Academic) | Gold medal |
| 2022-23 | Pradhuman Bishnoi 2021AE45BIV | Gold medal (Debate), GBPA&T, Pantnagar |
| | Pradhuman Bishnoi | Third Prize (Cultural), Haridwar |
| **Faculty** | | |
| 2018-19 | Awarded appreciation letter by DSW, CCSHAU in 2018<br>Research Award 2016, 2018, UIET, Panjab University, Chandigarh | Dr.Rajender Kumar<br>Dr. Sandeep Dhundhara |
| 2019-20 | Appreciation letter by Dean COAE&T, 2020 | Dr. Vijaya Rani |
| | Appreciation letter by Dean COAE&T, 2020 | Dr. Mukesh Jain |
| | Appreciation letter by Dean COAE&T, 2020 | Er. Naresh |
| | Best poster award in GINMA-2019 during Nov 06- | Er. Swapnil Choudhary |

| | | |
|---|---|---|
| | 08, 2019 | |
| 2021-22 | Best Presentation in National conference organized by Deptt of Math & Stat., CCSHAU, Hisar | Dr. Sandeep Bhardwaj |
| | Best Poster Presentation in IV$^{th}$ International Conference in Hybrid Mode on Innovative and Current Advances in Agriculture & Allied Sciences (ICAAAS-2022) during 12-14 June 2022 at Himachal Pradesh University, Summer Hill, Shimla (H.P.) India | Dr. Amandeep Singh |

**6.5.7.4. Employability:** *What are the set of achievements such as skills, understandings and personal attributes that make College students more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy? Provide one page note on the subject.*

- An institution industry cell committee has been constituted in the college which worked with counselling and placement cell of this University.
- It investigates opportunities in the private sectors and coordinates campus placement drives.
- This cell also approaches different institutes/training centers for the trainings and internship of the students as per their course curriculum

**Students' Counselling and Placement Cell:**

- The Counselling and Placement Cell of the Directorate, in collaboration with the Department of Employment of Haryana, has established a University Employment Information and Guidance Bureau, which provides students with information on employment opportunities, competitive examinations, scholarships/fellowships, etc.
- It provides training/coaching for entrance exams, investigates employment opportunities in the public and private sectors, and coordinates campus interviews.
- In addition, the Cell publishes a biweekly newsletter titled "Career Bulletin" for University students to keep them informed about employment opportunities, admissions, scholarships, fellowships, etc. in India and abroad.
- The Counselling and Placement Cell also guides students and provides pertinent information regarding financial aid for starting their own businesses.

**6.5.8.** SSR of the College must have the SSR of all its Degree Programmes (following section 6.4), then the report of the Colleges shall be considered.

**6.5.9.** Certificate (Applicable when SSR is submitted for Programmes& College).

I, the Dean Dr. Baldev Dogra, College of Agricultural Engineering & Technology hereby certify that the information contained inSections 6.4 and Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the college and degree awarding university.

Baldev Dogra

**Signature of the Dean of the college with Date & Seal**

**6.5.10.** Each college shall submit SSR as mentioned in 6.5.8. It shall be prerequisite for the SSR of the Agricultural University.

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

# Programmes



1. **B.Tech. Agricultural Engineering**
2. **M.Tech. & Ph.D. (Agril. Engg.) with specialization in Farm Machinery and Power Engineering**
3. **M. Tech. & Ph.D. (Agril. Engg.) with specialization in Processing and Food Engineering**
4. **M. Tech. & Ph.D. (Agril. Engg.) with specialization in Soil and Water Engineering**
5. **M. Tech. (Agril. Engg.) with specialization in Renewable and Bio Energy Engineering**

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

# Programme # 1



## B.Tech.

## Agricultural Engineering

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

## 6.4. About the College

The College of Agricultural Engineering and Technology (COAE&T) is a Constituent college at the main campus of the Chaudhary Charan Singh Haryana Agricultural University (CCS HAU) in Hisar. Initially, the Academic Council CCS HAU meeting on June 11, 1987, vide agenda item BB-12 approved the B. Tech. (Agricultural Engineering) undergraduate curriculum with an intake of 20 students under the College of Agriculture. Lateron, the COAE&T was founded on August 21, 1992, following the 142nd Board of Management meeting, as approved vide agenda item B-26 on March 24, 1992. Master of Technology (Agril. Engg.) was started in the department of Farm Power & Machinery and Soil & Water Engineering in 1993. Thereafter, Department of Agricultural Processing & Energy was established in August 1996 with UG and PG degrees. The section of Basic Engineering was founded in October 1996 to serve UG and PG students. In 2013-14, B. Tech. admittance slots were fixed to 35 to focus on individual student instruction and personal attention. The Ph.D. program started in all three departments in 2016. In March of 2017, the Department of Basic Engineering and the Department of Renewable and Bio-Energy Engineering were established.According to Fifth Deans' Committee recommendations, the syllabi and curricula were updated to address future challenges and recent developments, with more emphasis on Student Ready Programme to expose students to different agricultural issues. Agricultural engineering help to increase crop production and farmer income. Agricultural engineers help toensure farm operation timeliness through efficient agricultural implements and machinery, land and water management, post-harvest technology and processing, and energy conservation.

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

| YEAR | MILESTONES |
|---|---|
| **1987** | The Department of Agricultural Engineering and Technology under the College of Agriculture launched the B. Tech. (Agricultural Engineering) undergraduate degree programme. |
| **1992** | The Department evolved into the College of Agricultural Engineering and Technology, which was inaugurated on August 21, 1992. |
| **1993** | Two departments, Farm Power & Machinery and Soil & Water Engineering, were established, and the College started to award the Master of Technology in Agricultural Engineering in these departments. |
| **1996** | Another department of Agricultural Processing & Energy was established, and the M.Tech. programme was initiated. In addition, the Section of Basic Engineering was created. |
| **2010** | Farm Machinery & Power Engineering and Processing & Food Engineering are the new names for the two departments, as recommended by the 4th Deans' Committee of ICAR and approved by the university's Academic Council. |
| **2014** | Vice Chancellor Dr. K.S. Khokhar placed the foundation stone for the Farm Machinery Testing Centre on August 16, 2014. |
| **2016** | Ph.D. programme started in three departments (FMPE, SWE, PFE). |
| **2017** | Two new departments viz. Renewable Bio-Energy Engineering and Basic Engineering were created. |
| **2017** | Curriculum was revised and implemented in accordance with the recommendations of the Fifth Deans' Committee. |
| **2017** | M.Tech. Started in RBEE |
| **2023** | BSMA syllabus has been approved by BOS of COAE&T |

**Objectives:**

- Nurturing scholarly education in different branches of study in the discipline of Agricultural Engineering.
- Furthering the advancement of learning and pursuit of research in the discipline of Agricultural Engineering.
- Undertaking the extension by transferring well-proven technology for the benefit of the farming community.

**Accomplishments:**

- 862 students have graduated from the college since inception (1987) to till 31.03.2023.
- Alumni of the college are serving Govt. and privates sectors.
- Some of the alumni of the college are established as Entrepreneurs.
- Number of passed out students have obtained admission in other institutes of repute for higher education.
- Many B.Tech. Students often qualify the GATE & CAT examination.

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

| Designation | Sanctioned | In Place* | Vacant | As per 5$^{h}$ Deans' Committee |
|---|---|---|---|---|
| Professor and equivalent | 1 | 1 | 0 | 05 |
| Assoc. Professor and equivalent | 10 | 7 | 3 | 10 |
| Asstt. Professor and equivalent | 26+9$^{\#}$ | 20+9$^{\#}$ | 6 | 20 |
| Total | 46 | 37 | 9 | 35 |

* Faculty in place working as Professor (07) and Associate Professor (01) include Personal Promotion (PP) as a personal measure. $^{\#}$Faculty at outstations/other colleges

| S. No. | Name | Designation | Qualification | Specialization |
|---|---|---|---|---|
| | **Farm Machinery & Power Engineering** | | | |
| 1 | Dr. Vijaya Rani | Prof. and Head | Ph.D. | Farm Machinery & Power Engineering |
| 2 | Dr. Mukesh Jain | Assistant Professor | Ph.D. | Farm Machinery and Power Engineering |
| 3 | Dr. Anil Kumar | Assistant Professor | Ph.D. | Farm Machinery and Power Engineering |
| 4 | Er. Swapnil Choudhary | Assistant Scientist | M.Tech. | Farm Machinery and Power Engineering |
| 5 | Er. Naresh | Assistant Professor | M.Tech. | Farm Machinery and Power Engineering |
| 6 | Er. Bharat Patel | District Extension Specialist | M.Tech. | Farm Machinery and Power Engineering |

| | | | | |
|---|---|---|---|---|
| 7 | Er. Ajit Singh | District Extension Specialist | M.Tech. | Farm Machinery and Power Engineering |
| 8 | Dr. Ganesh Upadhyay | Assistant Scientist | Ph.D. | Farm Machinery and Power Engineering |
| | **Processing & Food Engineering** | | | |
| 1 | Dr. Ravi Gupta | Professor & Head | Ph.D. | Processing & Food Engineering |
| 2 | Dr. D.K. Sharma | Senior Scientist | Ph.D. | Processing and Food Engineering |
| 3 | Dr. V.K. Singh | Assistant Professor | Ph.D. | Post Harvest Process & Food Engineering |
| 4 | Dr. Anil Panghal | Assistant Professor | Ph.D. | Post Harvest Process & Food Engineering |
| 5 | Er. Sunil Kumar | Assistant Scientist | M.Tech. | Processing & Food Engineering |
| 6 | Dr. Nitin kumar | Assistant Professor | M.Tech. | Processing & Food Engineering |
| | **Soil & Water Engineering** | | | |
| 1 | Dr. R.K. Jhorar | Professor &Head | Ph.D. | Soil & Water Engineering |
| 2 | Dr. M.S. Sidhpuria | Professor & Chief Engineer (EO) | Ph.D. | Irrigation and Drainage Engineering/ SWE |
| 3 | Dr. Sanjay Kumar | Professor &ADSW | Ph.D. | Soil &Water Engineering |
| 4 | Dr. Ram Naresh | Assistant Professor | Ph.D. | Soil & Water Engineering |
| 5 | Dr. Mukesh Kumar | Asst. Scientist | Ph.D. | Soil & Water Engineering |
| 6 | Dr. Kuldeep Singh | DES( KVK, Sonipat) | Ph.D. | Soil & Water Engineering |
| 7 | Dr. Sundeep Kumar | DES( KVK, Panipat) | Ph.D. | Soil & Water Engineering |
| 8 | Er Kapil | DES (AgrilEngg) | M.Tech. | Soil & Water Engineering |
| 9 | Dr. Narender Kumar | DES (AE) | Ph.D. | Soil & Water Engineering |
| 10 | Er. Ravi | DES (AE) | M.Tech. | Soil & Water Engineering |
| 11 | Dr Amandeep Singh | Assitant Scientist | Ph.D. | Soil & Water Engineering |
| 12 | Dr. Love Kumar | Assistant Scientist | Ph.D. | Soil & Water Engineering |
| | **Renewable & Bio Energy Engineering** | | | |
| 1 | Dr. Y.K. Yadav | Professor & Head | Ph.D. | Renewable & Bio-energy Engineering |
| 2 | Dr.Yadvika | AssociateProfessor | Ph.D. | Renewable and BioenegyEngg |
| 3 | Dr. Arun Kumar Attkan | Assistant Professor | Ph.D. | Food Processing and Renewable enegy |
| 4 | Dr. Gaurav Chaudhary | Assistant Professor | Ph.D. | Bio-Energy & Bio-process Engineering |
| 5 | Dr. Nishant Chaudhary | Assistant Professor | M.Tech. | Bio-chemical Engg. |
| | **Basic Engineering** | | | |
| 1 | Dr. Amarjit Kalra | Professor& Head | Ph.D. | Electronics Engineering |
| 2 | Dr.Rajender Kumar | Assistant Professor | Ph.D. | Mechanical Engineering |
| 3 | Dr. Sandeep Bhardwaj | Assistant Professor | Ph.D. | Civil Engineering |
| 4 | Dr. Parvesh Antil | Assistant Professor | Ph.D. | Mechanical Engineering |
| 5 | Dr. Sandeep Dhundhara | Assistant Professor | Ph.D. | Electrical Engineering |

***Note:*** *All the faculty of this programme is assigned the responsibilities for the multiple programmes.*

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

Total number of sanctioned post for technical and supporting staffs is 96 and presently filled and vacant numbers of staffs are 40 and 56 respectively. Details of name of the posts, sanctioned, in position and vacant are as follows:

| Sr. No. | Name of the Posts | Sanctioned | In position | Vacant |
|---|---|---|---|---|
| | **Technical Staff** | | | |
| 1. | Instrumentation Engineer | 1 | 1 | 0 |
| 2. | Assistant Engineer (Electronics) | 1 | 1 | 0 |
| 3. | Workshop Engineer | 1 | 1 | 0 |
| 4. | Lab Assistant | 3 | 2 | 1 |
| 5. | Lab Technician | 1 | 1 | 0 |
| 6. | Mechanic | 17 | 7 | 10 |
| 7. | Driver-cum-mechanic | 2 | 2 | 0 |
| 8. | Fitter | 5 | 0 | 5 |
| 9. | Turner | 2 | 1 | 1 |
| 10. | Auto Electrician | 1 | 1 | 0 |
| 11. | Welder | 3 | 1 | 2 |
| 12. | Carpenter | 1 | 0 | 1 |
| 13. | Workshop Mate | 1 | 0 | 1 |
| 14. | Technical Assistant | 1 | 0 | 1 |
| 15. | Machine man | 1 | 0 | 1 |
| 16. | Sr. Motor Rewinder | 1 | 0 | 1 |
| 17. | Foremen | 4 | 1 | 3 |
| 18. | Sr. Mechanic (Ref. & AC) | 1 | 0 | 1 |
| 19. | Sr. Tractor Mechanic | 1 | 0 | 1 |
| 20. | Sr. Lab assistant | 1 | 1 | 0 |
| 21. | Assistant foreman | 1 | 0 | 1 |
| | **Supporting Staff** | | | |
| 1. | Computer Operator | 1 | 0 | 1 |
| 2. | Attendant | 1 | 0 | 1 |
| 3. | Tracer | 3 | 0 | 3 |
| 4. | Store Keeper | 3 | 2 | 1 |
| 5. | Driver | 2 | 2 | 0 |
| 6. | Clerk | 9 | 7 | 2 |
| 7. | Typist | 1 | 1 | 0 |
| 8. | Helper | 5 | 1 | 4 |
| | **Other Staff** | | | |
| 1. | Superintendent | 1 | 0 | 1 |
| 2. | Assistant | 3 | 3 | 0 |
| 3. | Personal Assistant | 1 | 1 | 0 |
| 4. | Sweeper | 2 | 1 | 1 |
| 5. | Stenographer (Jr/Sr) | 3 | 2 | 1 |
| 6. | Messenger | 5 | 0 | 5 |
| 7. | Blacksmith | 1 | 0 | 1 |
| 8. | Well Observer | 1 | 0 | 1 |
| 9. | Vehicle Attendant | 2 | 0 | 2 |
| 10. | Security Guard | 2 | 0 | 2 |
| | Total | **96** | **40** | **56** |

**Note:** All the staff is assigned the responsibility for the multiple programmes

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional*

*units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

## List of classroom and functional laboratories

| **No. of lecture rooms with sitting capacity** | **4** |
|---|---|
| Lecture Room No. | Seating capacity |
| 1 | 55 |
| 2 | 55 |
| 3 | 55 |
| 4 | 42 |
| 5 | 42 |
| **Others facilities** | |
| No. of lecture rooms with LED | 2 |
| No. of smart class-rooms | 2 |
| No. of labs under Dean's office with specialized purpose | 24* |
| Farm facilities (Field lab) | 2 |
| Workshops | 2 |
| Any other instructional units being utilized for the award of the Degree Programme | Implement yard, Energy Park |

## *Details of the laboratories

| **S. No.** | **Laboratories Functional** | **Activities** |
|---|---|---|
| **Department of Farm Machinery & Power Engineering** | | |
| 1 | Farm Machinery Lab | Different manual, animal and self propelled machineries are available in the lab to show the components and working of the machineries to the students. Projector facility is also available to show the field working videos of the machineries. |
| 2 | Farm Power Lab | The laboratory contains cut sections and models for various tractor and engine systems such as fuel system, gear system, differential, electrical system and complete tractor assembly for exposing the students to tractors, engines and their systems. |
| 3 | Ergonomics Lab | The facilities are available in the lab to study the anthropometry of agricultural workers, physiological parameters such as heart rate, blood pressure, calibration of subject, respiration rate, oxygen consumption, general fatigue, overall discomfort, noise and vibration etc. |
| 4 | Implement Yard | Different operational agricultural machinery is available to show the students and visitors (farmers) of the department. |
| 5 | Combine harvesting technology training lab | Different components and working models of combine harvester are available to show the students and visitors (farmers) of the department. |
| 6 | Tractor workshop located at Director Farm | Facilities are available for repair & maintenance of tractors and agricultural machinery and students of UG & PG courses make aware about the problems in the tractor and their remedies. |
| 7 | Machinery workshop | Facilities for the students, conducting classes on practical learning of machinery fabrication are available. |

| | | |
|---|---|---|
| | | Facilities like lathe machine, shaper, hydraulic press, welding set, carpentry shop etc. are available for conducting practical classes. |
| **Department of Processing & Food Engineering** | | |
| 1 | Teaching Lab | Study of the unit operations pertaining to Agricultural produces processing |
| 2 | Fruits & Veg. Processing Plant | Sorting, washing, grading, waxing and drying of fruits and vegetables |
| 3 | Agro Processing Centre | Cleaning, grading, sorting, grinding, pricking of agricultural produces. |
| 4 | Quality Assurance Lab | Qualitative analysis of fruits and vegetables |
| 5 | Engineering Work Shop | Design and development of equipment pertaining Agricultural produces processing |
| **Soil & Water Engineering** | | |
| 1 | Soil & Water Conservation Engineering Lab | Study of irrigation water measurement, soil moisture and soil conservation structures |
| 2 | Irrigation & Drainage Engineering Lab | Study of Irrigation Sprayers and agricultural drainage |
| 3 | Soil & Water Engineering Field Lab | Study of discharge measurement, soil conservation structures, water table, underground drainage system. |
| 4 | GIS Lab | Familiarization with RS & GIS software and its application in water resource management. |
| **Department of Renewable and Bio-Energy Engineering** | | |
| 1 | Renewable energy lab | Different solar heat based equipment's like solar water heater, solar tunnel dryer, solar convection dryer etc. and solar photovoltaic based systems like solar Sprayering system, solar powered cold storage are available along with solar photovoltaic simulator for UG and PG teaching available |
| 2 | Bioenergy Laboratory | Biogas plants, centrifuge, stirrers, muffle furnace, water bath, analytical weighing machine, autoclave, laminar air flow, spectrophotometer, kjehl dahl apparatus etc. are available to conduct the experiments for bioenergy. |
| **Department of Basic Engineering** | | |
| 1 | Civil Engineering Lab (CE) | Facilities for the students, conducting classes on practical learning of study of Soil Mechanics. Study of Strength of Material with UTM machine. Conduct survey and collect field data. |
| 2 | Hydraulics Engineering Lab (CE) | Facilities for the students, conducting classes on practical learning of study of Fluid Mechanics. Design the Reinforced Concrete beams using limit state and working stress methods. |
| 3 | Computer Lab (MechanicalEngg) | Facilities for the students, conducting classes on practical learning of study of Web designing & applications. Computer programming |
| 4 | Electronics Lab (EE) | Practical study of Digital Electronics, Linear integrated circuits. |
| 5 | Electrical Lab (EE) | Experimental set up of Electrical circuits for students. Study of DC motors & DC Generators. Study of Induction motors. |
| 6 | Drawing Hall (ME) | Study of Engineering Drawing |
| **7.** | HMT Lab (ME) | Faculty to have the Practical exposure with the conduction, connection, emissivitymeasurement etc. |
| **8.** | RAC Lab (ME) | Faculty to the practical exposure with refingerationunit,air condition units, compressors, condensers, etc. |

## List of major equipments available in the department:

### Farm Machinery and Power Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Tri-axial Vibration Meter | Machinery Testing Lab |
| 2. | Soil Compaction Meter | Machinery Testing Lab |
| 3. | Thresher multipurpose Tractor operated | Implement Yard |
| 4. | P.T.O. Torque Sensor | Machinery Testing Lab |
| 5. | Soil Compaction Meter | Machinery Testing Lab |
| 6. | Patte Meter | Machinery Testing Lab |
| 7. | Straw Baler | Implement Yard |
| 8. | Spectrometer with Teflon pipe connector | Engine Testing Lab |
| 9. | Paddy Transplanter | Implement Yard |
| 10. | Paddy Combine Harvester | Implement Yard |
| 11. | Fully Automatic Dynamometer | Machinery Testing Lab |
| 12. | Self Propelled Rotary Weeder | Implement Yard |
| 13. | Sample preparation machine for spectrometer | Engine testing lab |
| 14. | Tractor operated two row vegetable transplanter | Implement Yard |
| 15. | Tractor Operated Power Weeder (Three Row) One No. | Implement Yard |
| 16. | Tractor operated Power Weeder (two Row) Two Nos. | Implement Yard |
| 17. | Carrot Digger | Implement Yard |
| 18. | Rotary Plough | Implement Yard |
| 19. | Tractor Drawn Rotary Weeder (Three Row) | Implement Yard |
| 20. | Unmanned aerial vehicle | Testing lab |
| 21. | Pneumatic planter | Implement Yard |
| 22. | Auto steer system | Installed in tractor |

### Processing and Food Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Extruder | Food Engineering Lab |
| 2. | Deep Freezer | Food Engineering Lab |
| 3. | Shrink Packaging Machine | Food Engineering Lab |
| 4. | Carrot Washer | Fruits & Veg. Processing Plant Lab |
| 5. | Honey Filtration Machine | Fruits & Veg. Processing Plant Lab |
| 6. | Aonla Pricking Machine | Fruits & Veg. Processing Plant Lab |
| 7. | Maize Shelller | Fruits & Veg. Processing Plant Lab |
| 8. | Data Acquisition System | Fruits & Veg. Processing Plant Lab |
| 9. | Protein Estimation System & Distillation | Agro Processing Centre |
| 10. | Software tools ergonomics analysis | Agro Processing Centre |
| 11. | Advance Ergonomics tools with wireless | Agro Processing Centre |
| 12. | Data Logger with Sensors | Agro Processing Centre |
| 13. | Anthropometric Rods | Agro Processing Centre |
| 14. | Electronic balance | Agro Processing Centre |
| 15. | Multipurpose Juice Extraction System | Agro Processing Centre |
| 16. | Texture Analyzer | Food Quality Lab |
| 17. | Gas Analyzer | Food Quality Lab |
| 18. | Spectrophotometer | Food Quality Lab |

## Soil and Water Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Aqua probe | Soil & Water Conservation Engineering Lab. |
| 2. | Moisture tester/ Gauge | Soil & Water Conservation Engineering Lab. |
| 3. | Plant Canopy Analyser PAR-80 | Soil & Water Conservation Engineering Lab. |
| 4. | TDR | Soil & Water Conservation Engineering Lab. |
| 5. | Infiltrometer | Soil & Water Conservation Engineering Lab. |
| 6. | Submersible Sprayer "Cut Model" | Soil & Water Conservation Engineering Lab. |
| 7. | Moisture tester/ Gauge | Soil & Water Conservation Engineering Lab. |
| 8. | Cone Penetrometer | Soil & Water Conservation Engineering Lab. |
| 9. | Anemometer | Soil & Water Conservation Engineering Lab. |
| 10. | Drip Irrigation System | Soil & Water Conservation Engineering Lab. |
| 11. | Conductivity Meter | Soil & Water Conservation Engineering Lab. |
| 12. | Tensiometers | Soil & Water Conservation Engineering Lab. |
| 13. | Micro plots with fertigation facilities | Soil & Water Engineering Field Lab |

## Basic Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Tensile Testing Machine | Civil lab |
| 2. | Hydraulic Bench Attachment | Civil lab |
| 3. | UV-VIS Spectrophotometer | Civil lab |
| 4. | Emmissivity measurement | HMT Lab (Mech. Engg) |
| 5. | Computers & accessories | Mech. lab |
| 6. | Electrical Machines | Electrical Machines and Power Utilization laboratory (Elect. Engg.) |

## Renewable and Bio-Energy Engineering

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Laminar Air Flow | Bioenergy Lab |
| 2. | Autoclave | Bioenergy Lab |
| 3. | Water Bath | Bioenergy Lab |
| 4. | pH Meter | Bioenergy Lab |
| 5. | Analytical weighing Balance | Bioenergy Lab |
| 6. | Centrifuge | Bioenergy Lab |
| 7. | Microwave Oven | Bioenergy Lab |
| 8. | Muffle Furnace (Fully & Semi Prog.) | Bioenergy Lab |
| 9. | Refrigerated centrifuge | Bioenergy Lab |
| 10. | Spectophotometer (UV-Vis) | Bioenergy Lab |
| 11. | Kjehldahlappratus | Bioenergy Lab |
| 12. | Slurry dewatering machine | Bioenergy Lab |
| 13. | Waste decomposer | Bioenergy Lab |
| 14. | Moisture Analyser | Bioenergy Lab |
| 15. | Pyranometer | Renewable Energy Lab |
| 16. | Sun Shine recorder | Renewable Energy Lab |
| 17. | Solar PV simulator | Renewable Energy Lab |
| 18. | Tunnel Dryer | Renewable energy park |
| 19. | Solar convection dryer | Renewable energy park |
| 20. | Solar dessicant seed dryer | Renewable energy park |

| | | |
|---|---|---|
| 21. | Cabinet dryer | Renewable energy park |
| 22. | Solar PV cold storage | Renewable energy park |
| 23. | Solar Hara | Renewable energy park |
| 24. | Briquttingmachie | Renewable energy park |
| 25. | Pelleting machine | Renewable energy park |
| 26. | Vermicompost separator | Renewable energy park |
| 27. | Shredder | Renewable energy park |
| 28. | Chopper | Renewable energy park |
| 29. | Mixer | Renewable energy park |
| 30. | Biogas plants | Renewable energy park |
| 31. | Solar powered Sprayer | Renewable energy park |
| 32. | Solar street lights | Renewable energy park |



**Soil & Water Conservation Engineering Lab**



**Irrigation & Drainage Engineering Lab**



**Soil & Water Engineering Field Lab**



**GIS Lab**





**Micro plots with fertigation unit**



**Universal Testing Machine for Tensile/compressive and bending testing**



**Electrical Machines and Power Utilization laboratory**



**Heat and Mass Transfer**



**Mechanics of Solid- Civil Engg. Lab**

**Theory and practical batches for UG Programmes**

| Sr. No. | Name of the Degree Programme | Batch of students in theory class | Batch of students in practical class |
|---|---|---|---|
| 1 | **B. Tech.** | • One batch with 49 students in 1st to 3rd year each.4th year students divided into four batches | • Two batches with about 25 students in 1st to 3rd year each. 4th year students divided into four batches |

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Hands-on-training courses |
|---|---|---|---|
| B.Tech | 62 | CE 101, ME 101, ME 103, ME 203, RBEE 201, RBEE 301, RBEE 302, FMPE 304, FMPE 391/ PFE 391/ SWE 391/RBEE 391, FMPE 411/ PFE 411/ SWE 411/RBEE 411, FMPE 412/ PFE 412/ SWE 412/RBEE 412 | FMPE 390/ PFE 390/ SWE 390/ RBEE 390, FMPE 490/ PFE 490/ SWE 490/RBEE 490, FMPE 491/ PFE 491/ SWE 491/RBEE 491 |

**How far students are getting desired practical and hands-on-training as per the curriculum:**

Conduct 89 theory credits, 106 practical credits, and two full-time training sessions**.**

| Course No. | Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|
| PFE/FMPE /SWE /RBBE 390 | 5(0+5) | One-month summer training in the field of Agricultural Engineering | Exposure to industrial and institutional applications in selected field of interest (FMPE, PFE, SWE, RBEE, Information technologies etc.) |
| PFE/FMPE /SWE /RBEE490 | 5(0+5) | One-month summer training in the field of Agricultural Engineering | Exposure to an environment in which students are expected to be associated in their future career, preparation of training report technical aspects of the training and presentation |
| FMPE 491/ PFE 491/ SWE 491/RBEE 491 | 10 (0+10) | Project Planning and Report Writing (Student READY) | Exposure to industrial and institutional applications in selected field of interest |

**6.4.6 Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

There are enough 21 PG faculty available in the College to accommodate the Masters/Ph. D. Students in various disciplines i.e. FMPE, PFE, SWE, RBEE, BE.

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system for inclusion the new recommendation to the courses through academic council. Earlier 4$^{th}$ and 5$^{th}$ Dean's committee's recomodationshave already implemented and BSMA is likely to be adopted by the colleges and the University well in time. Moreover, there is a system of annual self-evaluation reports (SAR) for all teaching faculty. SARs are evaluated for efficacy by the Deans and Directors before being approved by the Vice-Chancellor.

**6.4.8 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | Actual students admitted in last five years | | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| UG | 41 | 49 | 47 | 53 | 49 | | 7.31 | 6.12 | 14.89 | 11.32 | 6.12 |

**6.4.9 ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

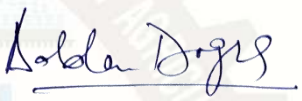
There is sufficient use of ICT in teaching as well as lab classes (practical) for the delivery of curriculum. For ICT applications, instruments such as Power Point, YouTube, CD-ROM, Software-AutoCAD, GIS, etc. are utilised.

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, Dr. Baldev Dogra, COAET hereby certify that the information contained in the Sections 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# Programme # 2



# M.Tech. and Ph.D. (Agril. Engg.) with Specialization in Farm Machinery & Power Engineering

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

## 6.4. About the Department

The Department of Farm Machinery and Power Engineering (Earlier called as Department of Farm Power & Machinery) was created in August, 1993 with starting of M.Tech. (Agril.Engg.) with specialization in Farm Machinery and Power Engineering. The doctoral programme in the department has been started since 2016. The department deals with undergraduate, postgraduate and doctoral teaching, research and extension activities. Its aim is to promote academic excellence in the students in the field of Farm Machinery and Power Engineering. The courses at the UG, PG and Ph.D. level have been designed to equip the students with the knowledge of design, development and maintenance of farm machinery and tractor. In addition to courses related to Farm Machinery and Power Engineering, department also deals with testing of farm machineries for assurance of quality implements to the farmers. The name of department was changed from Farm Power and Machinery (FPM) to Farm Machinery and Power Engineering (FMPE) during the year 2013.

### Objectives of the Department

- Development /adoption of total package of precise, high capacity energy efficient equipment for major crops, vegetables, horticulture crops and dry-land area of state for large as well as small land holding by use of tractors or power tillers.
- To strengthen R&D centre with instrumentation, data acquisition and analysis facilities for systematic and reliable performance testing of agricultural machines.
- To promote custom hiring services through entrepreneurship by developing machinery bank, Agro service centre etc.
- Efficient and precise application of plant protection chemicals.

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

Degree programme (M. Tech.) was initiated in 1993 with specialization in Farm Power and Machinery. Nomenclature of the programme was changed to Farm Machinery and Power engineering in 2010. Entry qualification for master's programme is B.Tech. (Agril.Engg.). Minimum duration of the programme is 2 years and maximum duration is 4 years. Ph. D. Programme (Agricultural Engineering) with specialization in Farm Machinery & Power Engineering was started in 2016 with one seat for regular student and one for in-service candidate.

### Objectives of the M.Tech. Programme

- Its aim is to promote academic excellence in the field of farm machinery and power engineering.
- To equip the students with the knowledge of design, development and maintenance of farm machinery and tractor.
- To conduct research in thrust areas related to farm machinery and power.

### Accomplishments of M.Tech.Programme:

- Till date, the Department of Farm Machinery & Power Engineering has registered 42 M.Tech. students. During the period under report eight students have completed and eleven students are pursuing M.Tech. degree in the department.
- Three students qualified NET in the last five years.
- Two students have joined as Assistant Professor and one student joined as ADO in bank during last five years.
- Six students went for higher studies (Ph.D.).

- Er. Nitin Karwasra, paased out student of M.Tech. programme got best paper award in 52nd Annual convention of ISAE published on his M.Tech. research work.
- Faculty and students' research brought out many research papers, abstracts and popular articles (Annexure FMPE 1)
- Some of the alumni of the college have established their Entrepreneurs.

**Objectives of the Ph.D. Programme:**

- To produce quality and specialized human resource in the areas of farm machinery and power engineering.
- To undertake research studies to address various issues related to farm machinery, power sources, machinery development and precision agriculture
- To inculcate entrepreneurship abilities among the PG students

**Accomplishments of Ph.D. Programme:**

- Two students have passed from the Department since inception.
- One student qualified NET in the last five years.
- Students under the guideance of teachers brought out many research papers (AnnexureFMPE 1).
- Post graduates from the department are serving at reputed positions in Govt. sectors.

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

Four posts of Associate Professor/equivalent and six posts of Assistant Professor and equivalent are sanctioned. There are one Professor, two Assistant Professors and two Assistant Scientists working in the department. Two DES (FMPE) equivalents to Assistant Professor are posted at KVKs. Out of these two one's headquartering is shifted to the department.

**Farm Machinery & Power Engineering**

| Designation | Sanctioned | In Place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| Professor and equivalent | 0 | 0 | 0 | 1 |
| Assoc. Professor and equivalent | 4 | 2 | 2 | 2 |
| Asstt. Professor and equivalent | 6 | 5* | 1 | 4 |
| Total | 10 | 7 | 3 | 7 |

* Faculty in place working as Professor (01) include Personal Promotion (PP) as a personal measure.

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**Faculty Profile:**

**Farm Machinery & Power Engineering**

| S. No. | Name | Designation | Qualification | Specialization |
|---|---|---|---|---|
| 1 | Dr. Vijaya Rani | Professor & Head | Ph.D. | Farm Machinery & Power Engineering |
| 2 | Dr. Mukesh Jain | Assistant Professor | Ph.D. | Farm Machinery and Power Engineering |
| 3 | Dr. Anil Kumar | Assistant Professor | Ph.D. | Farm Machinery and Power Engineering |
| 4 | Er. Swapnil Choudhary | Assistant Scientist | M.Tech. | Farm Machinery and Power Engineering |
| 5 | Er. Naresh | Assistant Scientist | M.Tech. | Farm Machinery and Power Engineering |
| 6 | Er. Bharat Patel | Assistant Scientist | M.Tech. | Farm Machinery and Power Engineering |
| 7 | Er. Ajit Singh* | DES, FMPE | M.Tech. | Farm Machinery and Power Engineering |
| 8 | Dr. Ganesh Upadhyay | Assistant Scientist | Ph.D. | Farm Machinery and Power Engineering |

* Posted at outstation

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Staffs | Sanctioned | In position | Vacant |
|---|---|---|---|---|
| **Technical** | | | | |
| 1 | Workshop Engineer | 1 | 1 | 0 |
| 2 | Mechanic | 9 | 3 | 6 |
| 3 | Driver-cum-mechanic | 2 | 2 | 0 |
| 4 | Turner | 2 | 1 | 1 |
| 5 | Fitter-cum-operator | 4 | 0 | 4 |
| 6 | Workshop Mate | 1 | 0 | 1 |
| 7 | Auto Electrician | 1 | 0 | 1 |
| 8 | Welder | 2 | 0 | 2 |
| 9 | Carpenter | 1 | 0 | 1 |
| 10 | Vehicle Attendant | 2 | 1 | 1 |
| 11 | Blacksmith | 1 | 0 | 1 |
| 12 | Technical Assistant | 1 | 0 | 1 |
| 13 | Machineman | 1 | 0 | 1 |
| **Supporting** | | | | |
| 1 | Clerk | 1 | 1 | 0 |
| 2 | Assistant | 1 | 1 | 0 |
| 3 | Steno-Typist | 1 | 1 | 0 |
| 4 | Store-Keeper | 1 | 0 | 1 |
| 5 | Tracer | 1 | 0 | 1 |
| 6 | Helper | 2 | 0 | 2 |
| 7 | Messenger | 1 | 0 | 1 |
| 8 | Sweeper | 1 | 0 | 1 |
| **Total** | | **37** | **11** | **26** |

**Note:** All the staff is assigned the responsibilities for the multiple activities.

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

The department has well established Farm Machinery Testing Centre with three labs, one ergonomics lab, one spray Sprayer testing lab and one engine testing lab. There is two UG lab and one departmental library. Hence, sufficient numbers of labs are there to meet the course curricula requirements.

## List of Classroom and functional laboratories

| **No. of lecture rooms with sitting capacity** | **2*** |
|---|---|
| Lecture Room No. | Seating capacity |
| 1 | 42 |
| 2 | 42 |
| **Other Facilities** | |
| No. of labs under HOD, FMPE office with specialized purpose | 5 |
| Farm facilities (Field lab) | - |
| Workshops | 1 |
| Any other instructional units being utilized for the award of the Degree Programme<br>* *Class room facilities are available at the college level* | - |

## Details of the laboratories

| S. No. | Laboratories | Activities |
|---|---|---|
| 1 | Farm Machinery Lab | Different manual, animal and self propelled machineries are available in the lab to show the components and working of the machineries to the students. |
| 2 | Farm Power Lab | The laboratory contains cut sections and models for various tractor and engine systems such as fuel system, gear system, differential, electrical system and complete tractor assembly for exposing the students to tractors, engines and their systems. |
| 3 | Ergonomics Lab | The facilities are available in the lab to study the anthropometry of agricultural workers, physiological parameters such as heart rate, blood pressure, calibration of subject, respiration rate, oxygen consumption, general fatigue, overall discomfort, noise and vibration etc. |
| 4 | Sprayer Testing Lab | Sprayers testing facility are available according to the BIS codes. |
| 5 | Engine Testing Lab | Engines of up to 80 kW powers are tested in the lab under the prescribed condition according to the BIS code. |

## List of equipments at present available in the department

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Straw Baler | Implement Yard |
| 2. | Tri-axial Vibration Meter | Machinery Testing Lab |
| 3. | Soil Compaction Meter | Machinery Testing Lab |
| 4. | Thresher multipurpose Tractor operated | Implement Yard |
| 5. | P.T.O. Torque Sensor | Machinery Testing Lab |
| 6. | Patte Meter | Machinery Testing Lab |
| 7. | Spectrometer with Teflon pipe connector | Engine Testing Lab |
| 8. | Paddy Transplanter | Implement Yard |
| 9. | Paddy Combine Harvester | Implement Yard |
| 10. | Fully Automatic Dynamometer | Machinery Testing Lab |
| 11. | Self Propelled Rotary Weeder | Implement Yard |
| 12. | Sample preparation machine for spectrometer | Engine testing lab |
| 13. | Spatial Drill | KVK Kaithal |
| 14. | Tractor operated two row vegetable transplanter | Implement Yard |
| 15. | Tractor Operated Power Weeder (Three Row) | Implement Yard |
| 16. | Tractor operated Power Weeder (two Row) | Implement Yard |
| 17. | Carrot Digger | Implement Yard |
| 18. | Happy seeder | KVK, Kaithal |
| 19. | Rotary Plough | Implement Yard |
| 20. | Tractor Drawn Rotary Weeder (Three Row) | Implement Yard |
| 21. | Un-manned aerial vehicle (Drone) | Testing lab |
| 22. | Pneumatic planter | Implement Yard |
| 23. | Auto steer system | Installed in tractor |

## Lab Facilities



Farm Power Lab



Implement Shed



Combine harvesting Technology Training Lab



Engine Testing Lab



Sprayer Testing Lab



Ergonomics Lab

**Theory and practical batches for PG Programmes**

At PG level, the department of Farm Machinery & Power Engineering offers 4 core and 11 professional optional courses, of which 4 core and 8 professional optional courses have practical components. Minimum three weeks training in industry, one master seminar and 20 credit hours of research are compulsory to be completed for the M. Tech. degree.

- There are limited seats in M.Tech.programme with an average of 4-5 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory and practical classes in all the courses with an average of 4-10 students.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only one batch for theory and practical classes in all the courses. For Ph.D., the department of Farm Machinery and Power Engineering offers 9 courses and 6 courses has practical components.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

Sound grasp of the theory is important for a professional degree. Some of the skills are acquired through practical and hands-on training. Hence, it is important to provide learning material and opportunities that allows students to get involved in activities that increase their knowledge and skills. At PG level department offers 4 core and 8 professional optional courses having practical components. Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements.

| Course No. | Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|
| FMPE-501* | 4 (3+1) | • Statement and formulation of design problems.<br>• Design of farm power systems.<br>• Design of mechanisms & prototypes in farm machinery. | • Development & formulation of design problems<br>• Development of mechanism and prototype of farm machinery. |
| FMPE-502* | 3 (2+1) | • Relationship of soil parameters to the forces acting on tillage tools.<br>• Wheel slippage and tyre selection<br>• Design and performance of traction devices and soil working tools. | • Found relationship soil parameters to the force acting on tillage tool.<br>• Get knowledge about selection of tyre according to the working condition.<br>• Develop traction devices and soil working tools. |
| FMPE-503* | 3 (2+1) | • Laboratory and field testing of selected farm equipment.<br>• Material testing and its chemical composition.<br>• Non-destructive testing techniques. | • Get knowledge of lab and field testing of farm machinery.<br>• Know about determining chemical composition of metals used in construction of machinery and its testing.<br>• Learn about Non-destructive testing techniques. |
| FMPE-504* | 4 (3+1) | • Vibration measurement and analysis equipment<br>• Determination of modulus of elasticity, rigidity, and MI by free vibration test.<br>• Detailed analysis of multi- degree of freedom system. | • Measure vibration and do analysis of measuring equipments.<br>• Perform different vibration test on machineries.<br>• Evaluation of logarithmic decrement and damping factor.<br>• Do analysis of multi- degree of freedom system. |
| FMPE-505 | 3 (2+1) | • Calibration of instruments<br>• Experiment on LVDT, strain gauge transducer, inductive and capacitive pickups, speed measurement using optical devices.<br>• Making of thermocouples and their testing- basic electronic circuits and application of linear ICs. | • Do calibration of instruments<br>• Perform experiments on different electronics devices.<br>• Make thermocouples and do testing of basic electronic circuits.<br>• Learn about the use of linear ICs |
| FMPE-506 | 3 (2+1) | • Mathematical modeling and analysis<br>• Computer use in solving problems of optimization, writing of | • Students make mathematical models and analysis them related to farm machinery.<br>• Use computer for solving problems |

| | | | |
|---|---|---|---|
| | | algorithms and decision making. | and decision making related to farm machinery. |
| FMPE-507 | 2 (1+1) | • Practice on software development process and modeling techniques.<br>• Use of CAD software in solving engineering problems related to design of farm machinery. | • Student's practice on software development process and modeling techniques.<br>• Learn and Practice on CAD software in solving engineering problems related to design of farm machinery |
| FMPE-508 | 3 (2+1) | • Design of tractor engine, hydraulic system and other systems.<br>• Design driver seat, place area and control | • Practice on design of tractor engine, hydraulic system and other systems.<br>• Student's design driver seat, place area and control. |
| FMPE-509 | 3 (2+1) | • Management problems and case studies. | • Student's get knowledge how to manage machinery on farm and scheduling of operations.<br>• Application of programming techniques to the problems of farm power and machinery selection. |
| FMPE-510 | 3 (2+1) | • Experiments on measurement of physical and mental capacities and limitations of human-being in relation to the stress and environment.<br>• Anthropometric measurements of human body<br>• Human response to dust, noise and vibrations, case studies on ergonomics. | • Do lab experiments on measurement of physical and mental capacities and limitations of human-being in relation to the stress and environment.<br>• Take anthropometric measurements of human body<br>• Take human response to dust, noise and vibrations and do case studies on ergonomics. |
| FMPE-511 | 3 (2+1) | • Determination of physical properties, aerodynamic properties, thermal properties and electrical properties of various food materials. | • Measurement of different engineering properties of various food materials are taken by the students.<br>• Students apply these engineering properties in design and operation of agricultural equipment and structure. |
| FMPE-514 | 1 (0+1) | • The research problem -literature review -types of research, experimental & quasi-experimental research-causal comparative & correlation research Survey research- sampling techniques.<br>• Optimization software – GAMES – applications, electronic spread sheet – solver.<br>• Image analysis software – applications.<br>• General computational software for research – MATLAB – applications – statistical applications,<br>• Report writing – interpretation and reporting. | • Practice on different software that helps in research of the student.<br>• Make presentations and present to the faculty. |

| | | | |
|---|---|---|---|
| | | • Scientific writing techniques.<br>• Presentation -techniques. | |
| **Ph.D. Programme** | | | |
| FMPE 601** | 3 (3+0) | • Advances in farm machinery and power engineering | • New machineries and their working procedure<br>• Lab & Field evaluations of the machinery<br>• Tractor dynamics, development of the model and computer-aided designing.<br>• Checking, interpretation and statistical analysis of results. |
| FMPE 602** | 3 (3+0) | • Mathematical modeling in farm machinery and power engineering | • Simulation for system modeling<br>• Prediction models for traction devices<br>• Analysis of random data<br>• Formulation and analysis of models |
| FMPE 603 | 2 (2+0) | • Energy conservation and management in production agriculture | • Energy requirement of different operations in agricultural production systems<br>• Planning and management of agricultural production systems for energy conservation and energy returns assessment<br>• Energy use planning and forecasting |
| FMPE 604 | 3 (2+1) | • Computer aided analysis and design of farm machinery | • Design process, modeling using CAD, architecture of CAD system.<br>• Agricultural engineering system analysis<br>• Steps in feasibility analysis, cost analysis.<br>• Design of farm machinery with the help of CAD |
| FMPE 605 | 4 (3+1) | • Machinery for natural resource management and precision farming | • Introduction to GIS and GPS, study of models - farm machinery usage.<br>• Precision farming using GIS and GPS.<br>• Mechanism of power shovels, drag lines, earth diggers, clamshells etc.<br>• Earth work estimation, unit cost of operation,<br>• Work scheduling, machinery maintenance and entrepreneurship |
| FMPE 606 | 4 (3+1) | • Soil mechanics | • Physical and engineering properties of soil.<br>• Pressure distribution diagram and earth pressure<br>• Stability requirements of a foundation, soil rating, soil loading tests<br>• Housel's bearing capacity method, perimeter area ratio method. |
| FMPE 607 | 3 (2+1) | • Dynamics of farm machinery | • Farm machine systems characteristics and evaluation.<br>• Analysis of forces, motion and their equilibrium in the elements of farm machines.<br>• Dynamic balancing and stability of farm machines,<br>• Analysis of typical problems in tractor implement system. |
| FMPE 608 | 3 (2+1) | • Production technology | • Product, risk analysis.<br>• Get knowledge of workshop planning and layout.<br>• Know about workshop practices applied in prototype production<br>• Know about common tool and press |

| | | | |
|---|---|---|---|
| | | | operations<br>• Do practice of welding; welding processes; metal cutting and machining process<br>• Get knowledge about Non-traditional methods of machining.<br>• Know about computer aided manufacturing system, CNC, DNC, robotics etc. |
| FMPE 609 | 1 (0+1) | • Special problem in farm machinery and power engineering | • Planning and formulation of a problem related to Farm Power and Machinery Engineering & identification of suitable solutions |

***Compulsory courses*

**6.4.6 Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**i) Supervision of students in M.Tech.programme offered by the department**

| Year | Numberofstudents on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 10 | 4 | 2.50:1 |
| 2019-20 | 6 | 4 | 1.50:1 |
| 2020-21 | 6 | 7 | 0.86:1 |
| 2021-22 | 7 | 7 | 1:1 |
| 2022-23 | 10 | 7 | 1.43:1 |

**i) Supervision of students in Ph.D. programme offered by the department**

| Year | Number of students on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 3 | 3 | 1:1 |
| 2019-20 | 3 | 4 | 0.75:1 |
| 2020-21 | 3 | 4 | 0.75:1 |
| 2021-22 | 4 | 4 | 1:1 |
| 2022-23 | 3 | 7 | 0.43:1 |

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system for inclusion the new recommendation to the courses through academic council. Earlier 4th and 5th Dean's committee's recomodations have already implemented and in current BSMA is likely to be adopted by the colleges and the University well in time. Moreover, there is a system of annual self-evaluation reports (SAR) for all teaching faculty. SARs are evaluated for efficacy by the Deans and Directors before being approved by the Vice-Chancellor.

**6.4.8 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Tech.** | 3 | 2 | 4 | 3 | 3 | 20* | 33* | 0 | 0 | 0 |
| **Ph.D.** | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 25* | 33* |

***Due to placements/ pandemic**

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

There is sufficient application of ICT in teaching as well as lab classes (practical) for curricula delivery. For ICT application, some tools are used such as Power point presentations, YouTube, CD-ROM, Software-AutoCAD, GIS etc.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)
I, the Dean COAE&T, Dr. Baldev Dogra hereby certify that the information contained in the Sections 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.

**Signature of Dean of the College with Date & Seal**

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

# Programme # 3



# M.Tech. and Ph.D. (Agril. Engg.) with Specialization in Processing & Food Engineering

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

## 6.4. About the Department

The Department of Processing & Food Engineering (Earlier called as Department of Agriculture Processing & Energy) was established in March 1996. The Department deals with undergraduate and postgraduate teaching, research and extension activities. In addition to courses related to processing, department also deals with various courses in the upcoming field of energy like renewable energy sources, energy management in food processing industries etc. Department deals with the innovations in the field of Food Processing which are vital for agro-processing, transforming the raw material to the finished products at an increased rate of production, productivity and at a reduced cost of production and to meet the demands as well. Food Processingdeal all aspects of the unit operation involved in processing the raw material to the finished products, their packaging and safe storage too. The name of Department was changed from Agriculture Processing & Energy (APE) to Processing & Food Engineering (PFE) during the year 2013.

### 6.4.1. Brief History of the Degree Programme:

*Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

- M.Tech. was started in discipline "Agricultural Processing & Food Engineering" with 3 seats in the Department 1996.
- The name of degree was changed from Agricultural Processing & Food Engineering to Processing & Food Engineering (PFE) during the year 2013.
- Started Ph. D. Programme (Agricultural Engineering) with specialization in Processing & Food Engineering in 2016 with one seat for regular student and one for in-service candidate.

**Objectives of the Programme:**

- To promote academic excellence in the field of Processing & Food Engineering.
- To equip the students with the knowledge of design, development Agro processing machinery
- To provide academic excellence to students in the following thrust areas:
  - Development of crop specific post harvest techniques for reduction in quantitative & qualitative losses of farm produce.
  - Development of machines for different post harvest unit operations
  - Reduction in post harvest losses
  - Income and employment generation through Agro-Processing Centers in rural areas - Hermetic storage of grains

**Accomplishments:**

- Thirty-three students have passed from the Department till date.
- Four students qualified NET in the last five years.
- Four students have joined as Assistant Professor and two students joined as AO in bank during last five years.
- Seven students enrolled for higher studies (Ph.D.) during last five years.
- Students' research brought out 42 Research papers, **2 Patent**, 2 Best paper award, 12 Book Chapters/Books, 15 Popular articles and 25 abstracts **(Annexure PFE I).**
- Alumni of the Deptt. are serving Govt. and privates sectors.
- Some of the alumni of the deptt. have established their Entrepreneurs.

**Objectives and accomplishmentsof the Ph.D. Programme**

- To promote academic excellence in the field of Processing & Food Engineering.

- To equip the students with the knowledge of design, development Agro processing machinery
- To provide academic excellence to students in the following thrust areas:
  - Development of crop specific post harvest techniques for reduction in quantitative & qualitative losses of farm produce.
  - Development of machines for different post harvest unit operations
  - Reduction in post harvest losses
  - Development of novel food packaging materials and novel processing techniques

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

**Processing &Food Engineering**

| Designation | Sanctioned | In Place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **Professor and equivalent** | 0 | 0 | 0 | 1 |
| **Assoc. Professor and equivalent** | 1 | 1* | 0 | 2 |
| **Asstt. Professor and equivalent** | 6 | 4 | 2 | 4 |
| | 7 | 5 | 2 | - |

* Faculty in place working as Professor (01) include Personal Promotion (PP) as a personal measure

**Note:** All the faculty of this programme is assigned theresponsibilities for the multiple programme.

**Faculty Profile:**

**Processing & Food Engineering**

| S. No. | Name | Designation | Qualification | Specialization |
|---|---|---|---|---|
| **1** | Dr. Ravi Gupta | Professor & Head | Ph.D. | Post Harvest Technology |
| **2** | Dr. D.K. Sharma* | Senior Scientist | Ph.D. | Processing and Food Engineering |
| **3** | Dr. V.K. Singh[#] | Assistant Professor | Ph.D. | Post Harvest Process & Food Engineering |
| **4** | Er. Sunil Kumar | Assistant Professor | M.Tech. | Processing & Food Engineering |
| **5** | Dr. Nitin Kumar | Assistant Scientist | Ph.D. | Processing & Food Engineering |
| **6** | Dr. Anil Panghal | Assistant Scientist | Ph.D. | Food Science & Technology |

* Faculty working in other department and [#]on lien

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

**Note:** All the staff (1 clerk, 1 welder, 1 Mechanic, 1 Lab Assistant) s is assigned the responsibilities for the multiple activities.

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other*

*instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

## List of Classroom and functional laboratories

| **No. of lecture rooms with sitting capacity** | **2*** |
|---|---|
| Lecture Room No. | Seating capacity |
| 1 | 42 |
| 2 | 42 |
| **Facilities** | |
| No. of labs under HOD, PFE office with specialized purpose | 6 |
| Farm facilities (Field lab) | 1 |
| Workshops | 1 |
| Any other instructional units being utilized for the award of the Degree Programme<br>* *Class room facilities are available at the college level* | - |

## Details of the laboratories

| S. No. | Laboratories | Activities |
|---|---|---|
| 1 | Engineering Properties Lab | Practical conducted pertaining to the unit operations pertaining to Agricultural produces processing. |
| 2 | Fruits & Vegetables Processing Lab | Sorting, washing, grading, waxing and drying of fruits and vegetables |
| 3 | Agro Processing Centre | Cleaning, grading, sorting, grinding, and pricking of agricultural produces. |
| 4 | Food Quality Lab | Qualitative analysis of fruits and vegetables |
| 5 | Engineering Work Shop | Design and development of equipment pertaining Agricultural produces processing |
| 6 | Food Engineering Lab | Extrusion and food packaging related operations |

## LAB FACILITIES



Agro Processing Centre



Food Engineering Lab



Fruits and Vegetables Processing Lab



Food Quality Lab

**List of equipments at present available in the department**

**Processing and Food Engineering**

| S. No. | **Name of equipment** | **Location/Lab** |
|---|---|---|
| 1 | Extruder | Food Engineering Lab |
| 2 | Deep Freezer | Food Engineering Lab |
| 3 | Shrink Packaging Machine | Food Engineering Lab |
| 4 | Carrot Washer | Fruits & Veg. Processing Plant Lab |
| 5 | Honey Filtration Machine | Fruits & Veg. Processing Plant Lab |
| 6 | Aonla Pricking Machine | Fruits & Veg. Processing Plant Lab |
| 7 | Maize Shelller | Fruits & Veg. Processing Plant Lab |
| 8 | Data Acquisition System | Fruits & Veg. Processing Plant Lab |
| 9 | Protein Estimation System & Distillation | Agro Processing Centre |
| 10 | Software tools ergonomics analysis | Agro Processing Centre |
| 11 | Advance Ergonomics tools with wireless | Agro Processing Centre |
| 12 | Data Logger with Sensors | Agro Processing Centre |
| 13 | Anthropometric Rods | Agro Processing Centre |
| 14 | Electronic balance | Agro Processing Centre |
| 15 | Multipurpose Juice Extraction System | Agro Processing Centre |
| 16 | Texture Analyzer | Food Quality Lab |
| 17 | Gas Analyzer | Food Quality Lab |
| 18 | Spectrophotometer | Food Quality Lab |

**Theory and practical batches for PG Programmes**

- There are limited seats in M.Tech.programme with an average of 4-5 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory and practical classes in all the courses.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only one batch for theory and practical classes in all the courses. For Ph.D., the department of Processing & Food Engineering offers 9 courses and 6 courses has practical components.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

The Department of Processing & Engineering offers 14 courses at Maters level. Out of these 14 courses, 14 courses provide practical skills and hands-on training. Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements. In addition to these courses, one course on Masters Research also provides hands-on-training in research.

| **Course No.** | **Credit Hours** | **Practical and Hands-on-training** | **How far students are getting desired practical and hands-on-training as per the curriculum** |
|---|---|---|---|
| PFE 501* | 2+1 | Solving problems on steady and unsteady state conduction with or without generation; | Acquaint and equip students about hydrological process and analysis of hydrological data required for design process. |
| PFE 502*/<br><br>FMPE 511 | 2+1 | Experiments for the determination of physical properties like, length, breadth, thickness, surface area, bulk density, porosity, true density, coefficient of friction, angle of repose and colour for various food grains, fruits, vegetables, spices and processedfoods, | Provide the knowledge of different techniques of measurement of engineering properties and their importance in the design of processing equipments |
| PFE 503* | 2+1 | Solving problems on single and multiple evaporator, distillation, crystallisation, extraction, leaching, membrane separation and mixing. | Study of unit operations of food industries and their design features. |
| PFE 504* | 2+1 | Calculation of heating and cooling load; design calculation of moisture condensation in agricultural buildings; study of moisture migration behaviour in storage bins; design aspect of cold storage. | Acquaint and equip the techniques to control temperature, humidity and other composition of air to create favourable environment in the agricultural<br><br>structures. |
| PFE 505@/<br>FST 527 | 2+1 | Identification of energy efficient processing machines. Assessment of energy consumption, production and its cost in food processing plants, visit to related food processing industry. | Acquaint and equip the students with different energy management techniques including energy auditing of food industries. |
| PFE 506@ | 2+1 | Physical properties of cereals and pulses, raw and milled products quality evaluations; parboiling and drying; terminal velocities of grains and their fractions; study of paddy, wheat, pulses and oilseeds milling equipments; planning and layout of various milling plants. | Provide the knowledge of post harvest technology of cereals, pulses and oilseeds with special emphasis on their equipments |
| PFE 507 | 2+1 | Design and drawing of mechanical dryers, milling equipment, separators, evaporators, mixers and | Design features of different food processing equipments being used in the industries and with the layout, planning of different food |

| | | | |
|---|---|---|---|
| | | separators. | and processing plants. |
| PFE 508 | 2+1 | Determination of size, shape, density, area-volume-mass relationship of fruits and vegetables, sugar-acid ratio of fruits, evaluation of washer, grader and packaging methods. | Processing of fruits and vegetables and the design features of the equipments used for their processing. |
| PFE 509 | 2+1 | Experiments in slaughtering, dressing, wholesale and retail cutting: Curing, preservation of meat and meat products | To acquaint and equip the students with processing of meat and meat products and thedesign features of the equipments used for their processing. |
| PFE 510@/FST 505 | 2+1 | Identification and testing of packaging materials; Determination of wax from wax paper; Testing of lacquered tin plate sheets. | Packaging methods, packaging materials, packaging machineries, modern packaging techniques etc. |
| PFE 511 | 2+1 | Microbiological examination of food, hazard analysis, premises design, HACCP project plan; CCP, CCP Decision tree, HACCP control chart. | Provide the knowledge latest standards to maintain food quality as well as to study HACCP protocol. |
| PFE 512@ | 2+1 | Kinetics of one substitute reactions, kinetics of growth in batch cultures, designconsideration for bioreactors, media preparation and sterilization, microprocessor basedmonitoring of bioprocess parameters. | Acquaint and equip the students with the basic principles of biochemical and process engineering. |
| PFE 513 | 2+1 | Quality evaluation of stored products, design of storage structures, cold storage, load estimation, construction, maintenance, static pressure drop. | Safe storage of food materials, design of storage structures and the design of different material handling equipments used in the industries |
| PFE 514@/ SST 507 | 2+1 | Operation and performance evaluation of various seed processing equipments | Processing of seeds, operation and maintenance of different seed processing machinery & dryers. |
| **Compulsory courses; @Courses open for PG students of other Deptt. /Colleges: To be taught by:  Processing & Food Engineering;  Processing & FoodEngineering and Food Science & Technology* | | | |
| **Ph. D. Programme** | | | |
| PFE 601 | 2+1 | Texture classification. Relation of food texture with structure and rheology. Principles and practices of objective texture measurements, viscosity measurements. Sensory methods of texture and viscosity measurements and their correlation. Rheological properties of foods. | Mathematical models and their application along with pipe line design and Sprayer selection for non-Newtonian fluids. Recent advances in textural, rheological and viscoelastic characteristics of foods and their associated mathematical models. |
| PFE 602 | 3+0 | Low temperature preservation - advantages and applications cooling | Acquaint and equip the students with the |

| | | | |
|---|---|---|---|
| | | and cold storage –freeze concentration and membrane separation process - hurdle technology - principles and applications - food irradiation -, microwave processing - microwave equipment - hydrostatic pressure treatment of food - application of heat energy and ultrasound | principles of advances in food processing |
| PFE 603 | 2+1 | Introduction to mathematical, correlative and explanatory models. Formulation, idealization and simplification of the problems. Probability models, series and linear mathematical approximation, dynamic and interacting dynamic processes. Applications of mathematical modelling techniques to food processing operations like parboiling, convective drying, pasteurization, dehydration, shelf-life prediction, fermentation, aseptic processing | Acquaint and equip the students with the principles of mathematical models in food processing |
| PFE 604 | 2+1 | Isotherm models, psychrometry, construction and use of psychrometric charts. Air flow and resistance, principles and equipments for air movement and heating, drying methods and theory of drying, driers, classification and other allied equipment, drying models. Heat requirements and thermal efficiency of drying system, aeration, tempering and dehydration, operation of driers and their controls, selection of driers, performance testing of grain driers | Acquaint and equip the students with the principles of advances in drying of food materials |
| PFE 605 | 2+1 | Generation of by-products, agricultural and agro industrial byproducts/ wastes, properties, on site handling, storage and processing. Collection of wastes, utilization pattern as fuel, agricultural waste fired furnaces: Mechanism, construction and efficiency, suitability of wastes as fuel, fuel briquettes, briquetting process, equipment, factors affecting briquetting. Utilization of wastes for paper production, production of particle board, utilization, by-products from rice mill, rice husk, rice bran, utilization | Acquaint and equip the students with the principles of agricultural waste and byproduct utilization |

| **Ph. D. Programme: Ph.D. programme has been discontinued since 2021-22** |
|---|

**6.4.6 Supervision of students in PG/Ph.D. programmes:***Number of students being supervised by Faculty in case of Masters/ Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**i) Supervision of students in M.Tech.Programme offered by the department**

| Year | Numberofstudents on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 8 | 6 | 1.3 : 1 |
| 2019-20 | 6 | 6 | 1 : 1 |
| 2020-21 | 7 | 5 | 1.4 : 1 |
| 2021-22 | 2 | 5 | 2.5 : 1 |
| 2022-23 | 2 | 4 | 0.5 : 1 |

**Ph.D. programmes:**

| Year | Numberofstudents on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 2 | 6 | 0.33:1 |
| 2019-20 | 5 | 6 | 0.8:1 |
| 2020-21 | 4 | 5 | 0.8:1 |
| 2021-22 | 4 | 5 | 0.8:1 |
| 2022-23 | 4 | 4 | 1:1 |

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system for inclusion the new recommendation to the courses through academic council. Earlier 4th and 5th Dean's committee's recomodations have already implemented and in current BSMA is likely to be adopted by the colleges and the University well in time. Moreover, there is a system of annual self-evaluation reports (SAR) for all teaching faculty. SARs are evaluated for efficacy by the Deans and Directors before being approved by the Vice-Chancellor.

**6.4.8 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Tech.** | 4 | 5 | 4 | 1 | 1 | 13* | 33* | 43* | 50* | 50* |
| **Ph.D.** | 1 | 3 | 1 | 0 | 0 | - | 33* | - | 33* | - |

***Due to placements/ pandemic**

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

There is sufficient application of ICT in teaching as well as lab classes (practical) for curricula delivery. For ICT application, some tools are used such as Power point presentations, YouTube, CD-ROM, Software-AutoCAD, GIS etc.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean COAE&T, Dr. Baldev Dogra hereby certify that the information contained in the Sections 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.

Baldev Dogra

**Signature of Dean of the College with Date & Seal**

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

# Programme # 4



# M.Tech. and Ph.D. (Agril. Engg.) with Specialization in Soil & Water Engineering

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

## 6.4. About the Department

The Department of Soil & Water Engineering was established in the year 1993. The department deals with undergraduate and postgraduate teaching, research and extension activities. Its aim is to promote academic excellence in the field of Soil and Water Engineering. The courses at the UG and PG level have been designed to equip the students with the knowledge of hydrology, crop water requirement, irrigation methods, groundwater, drainage and soil & water conservation as well as advanced fields of micro-irrigation, GIS and remote sensing etc. The department also conduct research under different fields of Soil and Water Engineering pertaining to farmers' problems and advancement in the field.

**Objectives of the Department**

- Imparting education in the field of Soil and Water Engineering to both undergraduate students i.e. B.Tech. (Agril. Engg.)/B.Sc. (Hons) Ag. and post graduate students i.e. M.Tech. (Agril. Engg.) with specialisation in Soil and Water Engineering and Ph.D. in Soil & Water Engineering
- Advancement of learning and prosecution of research in the field of Soil and Water Engineering
- Undertaking Extension activity for farmers in the field of Soil and Water Engineering.

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

Post graduate programme of M.Tech. was started in 1993 with 3 seats in the Department. The Ph.D. programme in the Department was started in 2017. Entry qualification for master's programme is B.Tech Agricultural Engineering.

**Objectives of initiating M.Tech.programme**

- To generate human resource in the field of Soil & Water Engineering.
- To provide academic excellence to students in the following thrust areas:
  - Evaluation and modification of the farm irrigation and drainage practices
  - Development of decision support systems for different water management practices
  - Rainwater harvesting and management
  - Irrigation and fertigation scheduling with drip irrigation system
  - Identification of measures for the conservation of energy

**Accomplishments:**

- 47 students have passed M.Tech. from the Department since inception.
- 9students qualified NET in the last five years.
- 7 students enrolled for higher studies (Ph.D.) during last five years.
- Students' research brought out good quality research papers.
- Post graduates from the department are serving at reputed positions in Govt. and privates' sectors.

**Objectives of initiating Ph.D. programme:**

- To produce quality and specialized human resource in the areas of Soil & Water Engineering.
- To undertake research studies to address various issues related to Soil & Water Engineering related to farm irrigation and drainage practices, rainwater harvesting, development of DSS,

irrigation and fertigation scheduling, energy conservation in Sprayers, groundwater, evapotranspiration studies.

- To inculcate entrepreneurship abilities among the PG students

**Accomplishments:**

- 6 students have passed Ph.D. from the Department since inception.
- Two students qualified NET in the last five years.
- Students' research brought out 24 research papers.
- Post graduates from the department are serving at reputed positions in Govt. sectors.

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the DegeeProgramme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

**Soil & Water Engineering**

| Designation | Sanctioned | in Place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| Professor and equivalent | 0 | 0 | - | 1 |
| Assoc. Professor and equivalent | 2 | 2* | 0 | 2 |
| Asstt. Professor and equivalent | 3 | 3* | 0 | 4 |
| **Total** | **5** | **5** | **0** | 7 |

* Faculty in place working as Professor (03) include Personal Promotion (PP) as a personal measure.

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**Faculty Profile:**

**Soil & Water Engineering**

| S. No. | Name | Designation | Qualification | Specialization |
|---|---|---|---|---|
| 1 | Dr. R.K. Jhorar | Professor &Head | Ph.D. | Soil & Water Engineering |
| 2 | Dr. M.S. Sidhpuria | Professor | Ph.D. | Soil & Water Engineering |
| 3 | Dr. Sanjay Kumar | Professor | Ph.D. | Soil & Water Engineering |
| 4 | Dr. Ram Naresh | Assistant Professor | Ph.D. | Soil & Water Engineering |
| 5 | Dr. Kuldeep Dahiya* | DES, KVK (Sonipat) | Ph.D. | Soil & Water Engineering |
| 6 | Dr. Sandeep Antil* | DES, KVK (Sonipat) | Ph.D. | Soil & Water Engineering |
| 7 | Dr. Mukesh Kumar** | Assistant Scientist (COA) | Ph.D. | Soil & Water Engineering |
| 8 | Dr. Narender* | DES, KVK (Sirsa) | Ph.D. | Soil & Water Engineering |
| 9 | Er. Ravi Kumar* | DES, KVK (Jind) | M.Tech. | Soil & Water Engineering |
| 10 | Er. Kapil Singla* | DES, KVK (Yamunanagar) | M.Tech. | Soil & Water Engineering |
| 11 | Dr. Amandeep** | Assistant Scientist (COA) | Ph.D. | Soil & Water Engineering |
| 12 | Dr. Love Kumar | Assistant Professor | Ph.D. | Soil & Water Engineering |

* Posted at outstations, ** Posted at COA, CCS HAU, Hisar

**6.4.3. Technical and Supporting staff:** The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.

| S. No. | Designation | Sanctioned | In Place | Vacant |
|---|---|---|---|---|
| | **Technical** | | | |
| 1 | Well observer | 1 | 0 | 1 |
| | **Supporting** | | | |
| 1 | Tracer | 1 | 0 | 1 |
| 2 | Helper | 1 | 0 | 1 |
| 3 | Messenger | 1 | 0 | 1 |
| | **Total** | **4** | **0** | **4** |

**Note:** All the staff of this programme is assigned theresponsibilities for the multiple programmes.

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of Classroom and functional laboratories**

| **No. of lecture rooms with sitting capacity** | **2*** |
|---|---|
| Lecture Room No. | Seating capacity |
| 1 | 42 |
| 2 | 42 |
| **Other Facilities** | |
| No. of labs under HOD, SWE office with specialized purpose | 4 |
| Farm facilities (Field lab) | - |
| Workshops | - |
| Any other instructional units being utilized for the award of the Degree Programme<br>* *Class room facilities are available at the college level* | Irrigation and Drainage facility at research farm of CCS HAU |



Soil & Water Conservation Engineering Lab



Irrigation and Drainage Engineering Lab



Soil & Water Engineering Field Lab



GIS Lab

## Details of the laboratories

| S. No. | Laboratories | Activities |
|---|---|---|
| 1 | Soil & Water Conservation Engineering Lab | Study of water measurement, soil conservation structures |
| 2 | Irrigation and Drainage Engineering Lab | Study of Irrigation Sprayers and agricultural drainage |
| 3 | Soil & Water Engineering Field Lab | Study of water measurement, soil conservation structures, water table, underground drainage system |
| 4 | GIS Lab | Familiarization with GIS software and its application in water resource management |

## List of equipments at present available in the department

| S. No. | Name of equipment | Location/Lab |
|---|---|---|
| 1. | Aqua probe | Soil & Water Conservation Engineering Lab. |
| 2. | Moisture tester/ Gauge | Soil & Water Conservation Engineering Lab. |
| 3. | Plant Canopy Analyser PAR-80 | Soil & Water Conservation Engineering Lab. |
| 4. | TDR | Soil & Water Conservation Engineering Lab. |

| | | |
|---|---|---|
| 5. | Infiltrometer | Soil & Water Conservation Engineering Lab. |
| 6. | Submersible Sprayer "Cut Model" | Soil & Water Conservation Engineering Lab. |
| 7. | Moisture tester/ Gauge | Soil & Water Conservation Engineering Lab. |
| 8. | Cone Penetrometer | Soil & Water Conservation Engineering Lab. |
| 9. | Anemometer | Soil & Water Conservation Engineering Lab. |
| 10. | Drip Irrigation System | Soil & Water Conservation Engineering Lab. |
| 11. | Conductivity Meter | Soil & Water Conservation Engineering Lab. |
| 12. | Tensiometers | Soil & Water Conservation Engineering Lab. |
| 13. | Micro plots with fertigation facilities | Soil & Water Engineering Field Lab |

**Theory and practical batches for PG Programmes**

- At M.Tech.level, the Department of SWE offers 16 courses and 09 courses have practical components besides research work. There is only batch for theory classes and one batch for practical classes in all the courses with an average of 4-8 students.

Similarly, there are limited seats in Ph.D. programmes. Hence, there is only one batch for theory and practical classes in all the courses.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

Besides imparting theoretical knowledge, following courses provide practical skills and hands-on-training as per the curriculum requirements to the students.

**Conduct of Practical and Hands-on-Training in M.Tech. Soil & Water Engineering**

The Department of Soil & Water Engineering offers 16 courses at Masters level. Out of these 16 courses, 9 courses provide practical skills and hands-on training. Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements. In addition to these courses, one course on Masters Research also provides hands-on-training in research. ForPh.D., the Department of SWE offers 11 courses and 3 courses have practical components besides one course on research.

| **Course No.** | **Credit Hours** | **Practical and Hands-on-training** | **How far students are getting desired practical and hands-on-training as per the curriculum (bullet form)** |
|---|---|---|---|
| **M.Tech.Programme** | | | |
| SWE 501 | **3 (**2+1**)** | Hydrological process and analysis of hydrologicaldata required for design process. | • Rainfall analysis<br>• Runoff computation<br>• Construction of hydrographs<br>• Delineation of watershed<br>• Hydrograph analysis<br>• Reservoir and channel routing<br>• Hydrologic models |
| SWE 502 | **3 (**2+1**)** | Irrigation principles, design consideration ofsurface irrigation and | • Design and evaluation of border furrow, check basin, sprinkler and micro |

| | | | |
|---|---|---|---|
| | | micro irrigation systems and their evaluation. | irrigation<br>• computation of frictional losses<br>• Design of underground water conveyance systems<br>• Economics of irrigation methods |
| SWE 503 | **3 (**2+1**)** | Importance and phenomenon of drainage systemalong with design consideration of surface and sub-surface drainage systems. | • Measurement of in-situ hydraulic conductivity<br>• Estimation of drainage coefficient andleaching requirements<br>• Delineation of waterlogged areas through isobar, isobath andtopographic maps.<br>• Design of surface and subsurface drainage systems<br>• Design of filter and envelop materials |
| SWE 504 | 3 **(**2+1**)** | Occurrence, development and hydraulics of groundwater flow | • Water table contour maps and determination of groundwater flow<br>• Estimation of aquifer characteristics<br>• Problems on non leaky and leaky aquifers<br>• Analysis of Sprayering test data<br>• Computation of interference of wells<br>• Groundwater computer simulation models |
| SWE 505 | 3 **(**2+1**)** | Process of degradation of soil and water resourcesand their remedial measures including design of structures | • Design of drop spillway, chute spillway, drop inlet spillway<br>• Hydraulic jump calculation, design of bench terrace, contour bunds and contour trenches<br>• Design and problems on earthen dam<br>• Silt detention tanks and check dams |
| SWE 511 | 3 **(**2+1**)** | Techniques of Remote Sensing and application of GIS forland and water resources management. | • Familiarization with remote sensing and GIS hardware, software and their principle of working<br>• Methods of establishing ground truth<br>• Comparison between ground truth andremotely sensed data<br>• Use of GIS packages. |
| SWE 512 | 3 **(**2+1**)** | Watershed management modeling and modeling systems. | • Preparation of watershed development proposal,<br>• Preparation of watershed evaluationreport.<br>• Application of models of flood and drought phenomenon.<br>• Application of watershed models |
| SWE 592 | 1 **(**0+1**)** | Special soil and water engineering related problem | • Identification, planning and formulation of the problem<br>• Review of literature<br>• Report preparation and presentation. |
| SWE 595 | 1 **(**0+1**)** | Industry/Institute Training | • Exposure to industry<br>• In plant training in the relevant industry/institution related to Soil and Water Engineering field. |

| Ph. D. Programme | | | |
|---|---|---|---|
| SWE 601 | 3(3+0) | Advanced Hydrology | • Stochastic analysis of hydrological data<br>• Simulation and synthetic methods inhydrology<br>• Test for randomness and trend<br>• Model parameter estimation |
| SWE 602 | 3(3+0) | Advanced Hydro-dynamics in Soil Aquifer Systems | • Physical and mathematical concept of soil aquifer system.<br>• Confined seepage under hydraulic structures.<br>• Application of analytic theory<br>• Dynamics of groundwater spreading |
| SWE 603 | 3(3+0) | Modeling Soil Erosion Processes | • Mechanics of soil erosion.<br>• Estimation of critical wind velocity for erosion<br>• Theory of particle and sediment<br>• transport<br>• Watershed modeling |
| SWE 604 | 3(2+1) | Soil and Water Systems Simulation and Modelling | • Systems engineering for water management<br>• Rainfall-runoff models<br>• Overlandand Channel flow simulation<br>• Flood control |
| SWE 605 | 2(2+0) | Hydro-Chemical Modeling | • Review of hydrodynamics in flow through porous media<br>• Hydrodynamic dispersion convection<br>• Adsorption in solute transport<br>• Contaminanttransport |
| SWE 606 | 3(3+0) | Plant Growth Modelling and Simulation | • Crop growth modeling<br>• Types ofmodels<br>• Plantenvironment, process<br>• Quantitative analysis of plant processes |
| SWE 607 | 2(2+0) | Advances in Irrigation and Drainage | • Surface irrigation system and modeling<br>• Atomationandfertigation design<br>• Synthetic materials for drainage systems<br>• Controlled drainage |
| SWE 608 | 3(2+1) | Design of Pressurised Irrigation System | • Pipeline hydraulic and economics<br>• Design of travelling, centre pivot and linear moving systems<br>• Clogging problems-causes and remedial measures<br>• Design strategy for micro irrigation systems |
| SWE 609 | 1(0+1) | Special Problem in Soil & Water Engg. | • Planning and formulation of a problem related to Soil and Water Engineering andidentification of suitable solutions |

**6.4.6 Supervision of students in PG/Ph.D.programmes:** *Number of students being supervised byFaculty in case of Masters/Ph. D.Programme (as per ICAR/UGC guidelines). Mention the realistic*

*figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**Supervision of students in M.Tech.programmes offered by the Department**

| Year | Numberofstudents on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 8 | 5 | 0.6 : 1 |
| 2019-20 | 8 | 5 | 0.6 : 1 |
| 2020-21 | 11 | 5 | 2.2 : 1 |
| 2021-22 | 7 | 5 | 1.4 : 1 |
| 2022-23 | 5 | 5 | 1: 1 |

**Supervision of students in Ph.D. programmes offered by the Department**

| Year | Numberofstudents on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 6 | 3 | 2:1 |
| 2019-20 | 6 | 3 | 2:1 |
| 2020-21 | 8 | 3 | 2.67 : 1 |
| 2021-22 | 7 | 5 | 1.4: 1 |
| 2022-23 | 5 | 5 | 1: 1 |

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system for inclusion the new recommendation to the courses through academic council. Earlier 4$^{th}$ and 5$^{th}$ Dean's committee's recomodations have already implemented and in current BSMA is likely to be adopted by the colleges and the University well in time. Moreover, there is a system of annual self-evaluation reports (SAR) for all teaching faculty. SARs are evaluated for efficacy by the Deans and Directors before being approved by the Vice-Chancellor.

**6.4.8 Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Tech.** | 4 | 3 | 4 | 1 | 1 | - | 33* | 25* | - | - |
| **Ph.D.** | 1 | - | 2 | 0 | 3 | - | - | - | - | - |

***Due to placements/ pandemic**

**6.4.9 ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

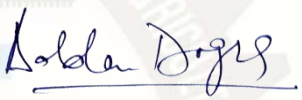
There is sufficient application of ICT in teaching as well as lab classes (practical) for curricula delivery. For ICT application, some tools are used such as Power point presentations, YouTube, CD-ROM, Software-AutoCAD, GIS etc.

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean COAE&T, Dr. Baldev Dogra hereby certify that the information contained in theSection 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College Date& Seal**

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

# Programme # 5



# M.Tech. (Agril. Engg.) with Specialization in Renewable & Bio-Energy Engineering

CC SHAU
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
1992

**6.4.1 Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

Degree programme (M. Tech.) was initiated in 2020with specialization in Renewable & Bio-Energy Engineering. Entry qualification for master's programme is B.Tech. (Agril.Engg.). Minimum duration of the programme is 2 years and maximum duration is 4 years.

**Objectives of the M.Tech.Programme**

- Its aim is to promote academic excellence in the field of Renewable & Bio-Energy Engineering.
- To equip the students with the knowledge of design, development and maintenance of the renewable energy technologies and process development for biofuels and other value-added products.
- To conduct research in thrust areas related to Renewable & Bio-Energy**.**
- Testing and poularization of renewable energy technologies suitable for Haryana state.

**Accomplishments of M.Tech.Programme:**

- Till date the Department of Renewable & Bio-Energy Engineering has produced oneM.Tech. students from the start of master's program i.e. 2020.

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

Five posts of Assistant Professor/equivalent are sanctioned. There are one Professor (promoted through CAS), one Associate Professor (promoted through CAS) and two Assistant Professors in the department.

**Renewable & Bio-Energy Engineering**

| Designation | Sanctioned | In Place* | Vacant | Faculty recommended by the ICAR/UGC |
|---|---|---|---|---|
| **Professor and equivalent** | 0 | 0 | 0 | 1 |
| **Assoc. Professor and equivalent** | 0 | 0 | 0 | 2 |
| **Asstt. Professor and equivalent** | 5 | 4* | 1 | 4 |
| **Total** | **5** | **4** | **1** | 7 |

* Faculty in place working as Professor (01) and Associate Professor (01) include Personal Promotion (PP) as a personal measure.

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**Renewable & Bio-Energy Engineering**

| S. No. | Name | Designation | Qualification | Specialization |
|---|---|---|---|---|
| **1** | Dr. Y. K. Yadav | Professor & Head | Ph.D. | Renewable Energy |
| **2.** | Dr.Yadvika | Associate Professor | Ph.D. | Renewable & Bio-Energy |
| **3.** | Dr. Gaurav | Assistant Professor | Ph.D. | Bio-Energy& Bioprocessing Engg. |

| | | | | |
|---|---|---|---|---|
| | Chaudhary | | | |
| **4.** | Dr. ArunAtkan | Assistant Professor | Ph.D. | Food processing and Renewable Energy |
| **5.** | Dr. Nishant* | Assistant Professor | M.Tech. | Bio-chemical Engg. |

*Working with ICAWM, CCSHAU

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree* Programme including farm and field workers need to be mentioned for both sanctioned and in-*place.*

| S. No. | Staffs | Sanctioned | In position | Vacant |
|---|---|---|---|---|
| **Technical** | | | | |
| 1 | Lab Technician | 1 | 1 | 0 |
| 2 | Lab Assistant | 1 | 1 | 0 |
| **Supporting** | | | | |
| 1 | Clerk | 1 | 1 | 0 |

*Note: All the staff is assigned the responsibilities for the multiple activities.*

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of Classroom and functional laboratories**

| **No. of lecture rooms with sitting capacity** | **2*** |
|---|---|
| Lecture Room No. | Seating capacity |
| 1 | 42 |
| 2 | 42 |
| **Other Facilities** | |
| No. of labs under HOD, RBEE office with specialized purpose | 5 |
| Farm facilities (Field lab) | - |
| Workshops | 1 |
| Any other instructional units being utilized for the award of the Degree Programme<br>* *Class room facilities are available at the college level* | - |

**Details of the laboratories**

| S. No. | Laboratories | Activities |
|---|---|---|
| 1 | Renewable energy lab | Different solar heat-based equipment's like solar water heater, solar tunnel dryer, solar convection dryer etc. and solar photovoltaic based systems like solar Sprayering system, solar powered cold storage are available along with solar photovoltaic simulator for UG and PG teaching available |
| 2 | Bioenergy Laboratory | Biogas plants, centrifuge, stirrers, muffle furnace, water bath, analytical weighing machine, autoclave, laminar air flow, spectrophotometer, kjehl dahl apparatus etc. are available to conduct the experiments for bioenergy. |

**LAB FACILITIES**

## 1. Renewable Energy Lab& Park:













## 2. Bioenergy Laboratory:











**List of equipments at present available in the department**

| S. No. | **Name of equipment** | **Location/Lab** |
|---|---|---|
| 1. | Laminar Air Flow | Bioenergy Lab |
| 2. | Autoclave | Bioenergy Lab |
| 3. | Water Bath | Bioenergy Lab |
| 4. | pH Meter | Bioenergy Lab |
| 5. | Analytical weighing Balance | Bioenergy Lab |
| 6. | Centrifuge | Bioenergy Lab |
| 7. | Microwave Oven | Bioenergy Lab |
| 8. | Muffle Furnace (Fully & Semi Prog.) | Bioenergy Lab |
| 9. | Refrigerated centrifuge | Bioenergy Lab |
| 10. | Spectophotometer (UV-Vis) | Bioenergy Lab |
| 11. | Kjehldahlappratus | Bioenergy Lab |
| 12. | Slurry dewatering machine | Bioenergy Lab |
| 13. | Waste decomposer | Bioenergy Lab |
| 14. | Moisture Analyser | Bioenergy Lab |
| 15. | Pyranometer | Renewable Energy Lab |
| 16. | Sun Shine recorder | Renewable Energy Lab |

| | | |
|---|---|---|
| 17. | Solar PV simulator | Renewable Energy Lab |
| 18. | Tunnel Dryer | Renewable energy park |
| 19. | Solar convection dryer | Renewable energy park |
| 20. | Solar dessicant seed dryer | Renewable energy park |
| 21. | Cabinet dryer | Renewable energy park |
| 22. | Solar PV cold storage | Renewable energy park |
| 23. | Solar Hara | Renewable energy park |
| 24. | Briquttingmachie | Renewable energy park |
| 25. | Pelleting machine | Renewable energy park |
| 26. | Vermicompost separator | Renewable energy park |
| 27. | Shredder | Renewable energy park |
| 28. | Chopper | Renewable energy park |
| 29. | Mixer | Renewable energy park |
| 30. | Biogas plants | Renewable energy park |
| 31. | Solar powered Sprayer | Renewable energy park |
| 32. | Solar street lights | Renewable energy park |

**Theory and practical batches for PG Programmes**

- At PG level, the department of Renewable & Bio-Energy Engineeringoffers 4 core and 10 professional optional courses, of which 2 core and 2 professional optional courses have practical components. Onemaster seminar and 20 credit hours of research are compulsory to be completed for the M. Tech. degree.
- There are limited seats in M.Tech.programme with an average of 4-5 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory and practical classes in all the courses with an average of 4-10 students.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

Sound grasp of the theory is important for a professional degree. Some of the skills are acquired through practical and hands-on training. Hence, it is important to provide learning material and opportunities that allows students to get involved in activities that increase their knowledge and skills. At PG level department offers 2 core and 2 professional optional courses along with 20 masters research credits have practical components.Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements.

| **Course No.** | Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|
| **RBEE 501*** | 2+1 | • Study of a box type solar cooker, study of a solar distillation plant, | • Study of different solar energy harvesting techniques |

| | | | |
|---|---|---|---|
| | | • Study of direct and indirect solar dryer,<br>• Study of solar photovoltaic power generation and water Sprayering systems,<br>• Study of biomass briquetting/palleting machines,<br>• Study and testing of improved cookstoves,<br>• Study of a biomass gasifiers,<br>• Study of a KVIC and Deenbandhubiogas plants,<br>• Study and testing of biogas appliances,<br>• Study of techniques for utilization of biogas-spent slurry,<br>• Study of wind energy conversion systems and devices. | • Study of cookstoves<br>• Biogas plants<br>• Wind conversion technologies |
| **RBEE 502*** | 2+1 | • Characterization of Biomass: Proximate, biochemical and ultimate;<br>• Size reduction techniques: shredders, grinders, hammer mills;<br>• Bailing of biomass;<br>• Densification techniques: Pelletization, briquittting;<br>• Combustion of biomass: cookstoves;<br>• Biomass geyser; Pyrolysis: Biochar, bio-oil and syngas;<br>• Gasification: Study of gasifiers;<br>• Biofuel production: ethanol,<br>• Solvent extraction of hydrocarbons;<br>• Biogas: measuring instruments,<br>• Burners;<br>• I.C. engine performance;<br>• Composting techniques: pot, windrow, pit, vermicompost etc. | • Understanding biomass composition<br>• Processing of biomass<br>• Conversion technologies of biomass |
| **RBEE 505** | 2+1 | • Study of energy use pattern in various processing units i.e., rice mills, sugar mills, dal mills, oil mills, milk plants, food industries etc.<br>• Energy audit study and management strategies in food processing plants.<br>• Identification of energy efficient processing machines.<br>• Assessment of energy consumption, production and its cost in food processing plants,<br>• visit to related food processing industry. | • Auditing and identification of different energy inputs<br>• Management of energy usage<br>• Visit of food processing industry |
| **RBEE 508*** | 2+1 | • Studies on greenhouse cooling system,<br>• performance evaluation of fan-pad cooling system,<br>• studies on greenhouse irrigation system, | • Understanding greenhouse effect practically<br>• Applications of the greenhouse effect |

| | | | |
|---|---|---|---|
| | | • studies on greenhouse automation systems,<br>• one-week training/internships in greenhouse technology and management,<br>• studies on different root substrates and hydroponics cultivation,<br>• studies on greenhouse lighting system. | |

** Compulsory courses*

**6.4.6 Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**i) Supervision of students in M.Tech.programme offered by the department**

| Year | Numberofstudents on roll | Numberof PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | - | - | - |
| 2019-20 | - | - | - |
| 2020-21 | 5 | 3 | 1.66:1 |
| 2021-22 | 6 | 3 | 2.00:1 |
| 2022-23 | 7 | 4 | 1.75:1 |

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

There is a system for inclusion the new recommendation to the courses through academic council. Earlier 4th and 5th Dean's committee's recomodations have already implemented and in current BSMA is likely to be adopted by the colleges and the University well in time. Moreover, there is a system of annual self-evaluation reports (SAR) for all teaching faculty. SARs are evaluated for efficacy by the Deans and Directors before being approved by the Vice-Chancellor.

**6.4.8 Student intake and attrition in the programme for last five years:** Year wise information on *sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in* the tabular form, shall be provided.

| | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Tech.** | - | - | 5 | 1 | 1 | - | - | - | - | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

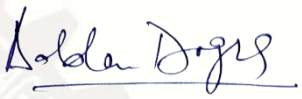
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I, the Dean COAE&T, Dr. Baldev Dogra hereby certify that the information contained in the Sections 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

***Annexure- COAE&T-I***

## PATENTS/ DESIGN PATENT GRANTED/ APPLIED

### FMPE

1. An Integrated Paddy Thresher with Dryer, De-Husker and Polisher (Application No.: TEMP/E-1/31160/2019-DEL, Dated: 22-07-2019)
2. An Agricultural Machine for Harvesting Root Vegetables (Application No.: TEMP/E-1/39624/2019-DEL, Dated: 17-09-2019)
3. Tractor operated straw combine suitable for paddy and wheat crops (Application No.: TEMP/E-1/36311/2020-DEL, Dated: 30.07.2020)

### PFE

4. Pedal operated machine for pricking fruits and vegetables, Nitin Kumar, D K Sharma and M K Garg, Patent No 406360Grant Date: 29-7-2020
5. A Pricking Machine for Pricking Fruit. M K Garg, Dinesh Sharma, Patent No.342783 Grant Date: 12-9-2022
6. Patent for HAU Solar Assisted Sugarcane Juice Extraction Cart is registered in the name of Chaudhary Charan Singh Haryana Agricultural University Indian Design Application No. 109573 Dated: 16/02/2021

*Annexure- COAE&T-II*

## REFRESHERS/ FDP COURSES/SYMPOSIA/ WORKSHOPS/TRAINING ATTENDED

| Year | Name of Faculty | Section/ Department / College | Name of Seminars/ Conferences/Symposia/ Workshops / Refresher/ FDP/Training / Consultancy visits / Special assignments with Venue etc. | National/ International | Date(s) |
|---|---|---|---|---|---|
| **Department of Farm Machinery & Power Engineering** | | | | | |
| 2017 -18 | Er. Bharat Patel | | • Participated in Induction Training Course conducted by AAREM, Directorate of Human Resource Management, CCS HAU, Hisar<br>• Participated in 3 days Workshop on "Natural & Spiritual Farming" organized by DeenDayalUpadhyay Centre of Excellence for Organic Farming, CCS HAU, Hisar<br>• Participated in two days Summit on "National Startup Summit" held at CCS HAU, Hisar | National<br>National<br>National | 29/11/2018 to 29/12/2018<br>28/11/2017 to 30/11/2017<br>01/06/2018 to 02/06/2018 |
| | Er. Anil Kumar | | • Attended 52nd Annual convention of ISAE and National symposium on "Doubling farmers income through technological interventions" held at COAE&T, Anand Agricultural University, Anand, Gujrat<br>• Attended 21 days Summer school on "Adaptation of energy efficient agricultural technologies for climate change mitigation" held at CAEPHT, Ranipool, Gangtok, Sikkim sponsored by ICAR | International<br>National | 08.01.2018 to 10.01.2018<br>04.06.2018 to 24.06.2018 |
| | Er. Naresh | | • Induction Training Course conducted by AAREM, Directorate of Human Resource Management, CCS HAU, Hisar.<br>• Symposium and celebration of "Agriculture Education Day" at auditorium of COA, CCS HAU, Hisar.<br>• XXXII Annual Workshop of AICRP on "Farm Implements and Machinery" from 20th to 22nd December 2017 at UAS Raichur (Karnataka).<br>• Two Days Overview Training Programme of MatLab Software from in Deans Committee Room of COAE&T, CCS HAU Hisar. | National<br>National<br>National<br>National | 04.01.2018 to 03.02.2018<br>03.12.2017<br>20.12.2017 to 22.12.2017<br>09.05.2018 to 10.05.2018 |
| | Er. Swapnil Choudhary | | • XXXII Annual Workshop of AICRP on "Farm Implements and Machinery" at UAS Raichur (Karnataka).<br>• Induction Training Course conducted by AAREM, Directorate of Human Resource Management, | National<br>National | 20.12.2017 to22.12.2017<br>04.01.2018 to 03.02.2018 |

| | | | | | |
|---|---|---|---|---|---|
| | | | CCS HAU, Hisar.<br>• Two Days Overview Training Programme of MatLab Software from in Deans Committee Room of COAE&T, CCS HAU Hisar.<br>• National Startup Summit (NSUS-2018) at CCS HAU, Hisar. | <br>National<br><br>National | <br>09.05.2018 to10.05.2018<br><br>01.06.2018 to 02.06.2018 |
| **2018 -19** | Er. Bharat Patel | | • Participated in two weeks training programme on "Robotics and Automation" conducted at College of Agricultural Engineering and Technology in collaboration with Directorate of Human Resource Management, CCSHAU Hisar<br>• Participated in three days training of master trainer for Agri. Skills development organized by Agriculture Skill Council of India at SNIATTE, CCS HAU Hisar<br>• Attended a programme on "Zero budget natural farming" at Gurukul, Kurukshetra, Haryana | National<br><br>National<br><br>National | 17/07/2018 to 30/07/2018<br><br>03/01/2018 to 05/01/2018<br><br>07/10/2018 to 08/10/2018 |
| | Er. Anil Kumar | | • Attended International conference on "Worldwide Research Initiatives for Agriculture, Science and Technology" at Sher-e-kashmir University of Agricultural Sciences & Technology, Kashmir, J&K.<br>• Attended 53rd Annual convention of ISAE and International symposium on "Engineering technologies for precision and climate smart agriculture" at BHU, Varanasi.<br>• Attended International symposium on "Innopreneurship: A need of sustainable agriculture" at CCS HAU, Hisar. | International<br><br>International<br><br>International | 24.10.2018 to 26.10.2018<br><br>28.01.2019 to 30.01.2019<br><br>02.2.2019 to 03.02.2019 |
| | Er. Naresh | | • Two weeks training on "Robotics and Automation" conducted at College of Agricultural Engineering and Technology in collaboration with Directorate of Human Resource Management, CCSHAU from.<br>• Seven days residential "Faculty Development Programme at MDU, Rohtak.<br>• International Symposium on Innopreneurship: A Need of Sustainable Agriculture held at CCS HAU, Hisar. | National<br><br>National<br><br>International | 17.07.2018 to 30.07.2018<br><br>24.05.2019 to 30.05.2019<br><br>02.02.2019 to 03.02.2019 |
| | Er. Swapnil Choudhary | | • Two weeks training on "Robotics and Automation" conducted at College of Agricultural Engineering and Technology in collaboration with Directorate of Human Resource Management, CCSHAU from.<br>• Sensitization Workshop on Crop Residue Management organized at CCS HAU, Hisar. | National<br><br>National | 17.07.2018 to 30.07.2018<br><br>10.08.2018 |

| | | | | | |
|---|---|---|---|---|---|
| | | | • Indo-US Brain Storming Workshop on "Identification of industry Needs and Skill Gaps for Market Driven Agriculture" at Auditorium College of Agriculture, CCS HAU, Hisar.<br>• XXXIII Annual Workshop of AICRP on "Farm Implements and Machinery" at MPKV Rahuri (Maharashtra).<br>• International Symposium on Innopreneurship: A Need of Sustainable Agriculture held at CCS HAU, Hisar. | National<br><br>National<br><br>International | 14.09.2018 to 15.09.2018<br><br>08.01.2019 to 10.01.2019<br><br>02.02.2019 to 03.02.2019 |
| | Er. Ajit Singh | | • Participated in "Short Course on Language & Interactive Skills" from 23th April to 2nd May, 2019 to be held at DHRM, CCS HAU, Hisar. | National | 23.04.2019 to 02.05.2019 |
| | Dr. Vijaya Rani | | • Participated in two weeks training programme on "Robotics and Automation" conducted at College of Agricultural Engineering and Technology in collaboration with Directorate of Human Resource Management, CCSHAU, Hisar from 17.07.2018 to 30.07.2018. | National | 17.07.2018 to 30.07.2018 . |
| | Dr. Mukesh Jain | | • Participated in two weeks training programme on "Robotics and Automation" conducted at College of Agricultural Engineering and Technology in collaboration with Directorate of Human Resource Management, CCSHAU, Hisar from 17.07.2018 to 30.07.2018. | National | 17.07.2018 to 30.07.2018 . |
| 2019 - 2020 | Er. Bharat Patel | | • Attended short Course training programme on "Advances in sugarcane mechanization technologies to reduce cost of operations & drudgery for enhancing farmers income" held on dated at ICAR-Indian Institute of Sugarcane Research (IISR), Lucknow (UP) | National | 19/09/2019 to 25/09/2019 |
| | | | • Attended "Winter School training on Application of Sensors, Instrumentation, artificial intelligence and machine learning in Precision Agriculture" at ICAR-CIAE Bhopal | National | 14/02/202 to 05/03/2020 |
| | Er. Anil Kumar | | • Participated in "Refresher Course on Research Management" from held at DHRM, CCS HAU, Hisar. | National | 25.07.2019 to 14.08.2019 |
| | Er. Naresh | | • Ten days short course on "Advances in sugarcane mechanization technologies to reduce cost of operations and drudgery for enhancing farmer's income" organized by ICAR-Indian Institute of sugarcane Research, Lucknow. | National | 16.09.2019 to 25.09.2019 |
| | Er. Swapnil Choudhary | | • Golden Jubilee International Conference on New Millennia | International | 06.11.2019 to |

| | | | | | |
|---|---|---|---|---|---|
| | | | Agriculture - Novel Trends and Future Scenario at CCSHAU, Hisar. | | 08.11.2019 |
| | | | • XXXIV Annual Workshop of AICRP on "Farm Implements and Machinery at CCSHAU, Hisar. | National | 04.12.2019 to 06.12.2019 |
| | | | • Winter School training on Application of Sensors, Instrumentation, artificial intelligence and machine learning in Precision Agriculture at ICAR-CIAE Bhopal. | National | 14.02.2020 to 05.03.2020 |
| | Dr. Ganesh Upadhyay | | • Golden Jubilee International Conference on New Millennia Agriculture - Novel Trends and Future Scenario held in CCS HAU, Hisar | International | 06.11.2019 to 08.11.2019 |
| | Dr. Mukesh Jain | | • Participated in "Refresher Course on Research Management" from held at DHRM, CCS HAU, Hisar. | National | 25.07.2019 to 14.08.2019 |
| **2020 -21** | Er. Naresh | | • "Web based International Training on Automation and Robotics in Agriculture" organized by PAU, Ludhiana through virtual platform (Zoom) during. | National | 22.07.2020 to 31.07.2020 |
| | | | • District level Kisan Seminar organized by Agriculture and Farmer's Welfare Department, Hisar | National | 04.09.2020 |
| | Er. Swapnil Choudhary | | • "Web based International Training on Automation and Robotics in Agriculture" organized by PAU, Ludhiana through virtual platform (Zoom) during. | National | 22.07.2020 to 31.07.2020 |
| | | | • XXXV Annual Workshop of AICRP on "Farm Implements and Machinery" organized by ICAR-CIAE, Bhopal through virtual platform (Zoom). | National | 23.02.2021 to 25.02.2021 |
| | Dr. Ganesh Upadhyay | | • "Web based International Training on Automation and Robotics in Agriculture" organized by PAU, Ludhiana | International | 22.07.2020 to 31.07.2020 |
| | | | • Induction Training Course conducted by AAREM, Directorate of Human Resource Management, CCS HAU, Hisar | National | 08.09.2020 to 08.10.2020 |
| | | | • XXXV Annual Workshop of AICRP on "Farm Implements and Machinery" at CCS HAU, Hisar | National | 23.02.2021 to 25.02.2021 |
| | Dr. Mukesh Jain | | • Attended "Training on Extension Management" held at DHRM, CCS HAU, Hisar. | National | 01.12.2020 to 21.12.2020 |
| **2021 -22** | Er. Anil Kumar | | • Attended online training course on "Effective Extension Methods for Upscaling and Outscaling of Wheat and Barley Production Technologies" organized by Extension Education Institute, Nilokheri, Karnal. | National | 01.09.2021 to 10.09.2021 |

| | | | | | |
|---|---|---|---|---|---|
| | Er. Naresh | | • XV Agricultural Science Congress & ASC Expo organized by NAAS and BHU at Institute of Agricultural Sciences, Banaras Hindu University, Varanasi. | International | 13.11.2021 to 16.11.2021 |
| | | | • Webinar on "Engineering Interventions for reducing human drudgery in Cotton Crop" organized under ICAR-NAHEP-IDP Project by the Department of FMPE, COAE&T, CCS HAU, Hisar. | National | 08/07/2021 |
| | Er. Swapnil Choudhary | | • Webinar on "Engineering Interventions for reducing human drudgery in Cotton Crop" organized under ICAR-NAHEP-IDP Project by the Department of FMPE, COAE&T, CCS HAU, Hisar. | National | 08/07/2021 |
| | | | • Participated in XXXVI Annual Workshop of AICRP on "Farm Implements and Machinery" organized by ICAR-CIAE, Bhopal through virtual platform (Zoom) | National | 22.02.2022 to 24.02.2022 |
| | Dr. Ganesh Upadhyay | | • Applications of Computer Aided Engineering in Agricultureorganized by Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani | National | 07.06.2021 to 03.07.2021 |
| | | | • Data Science and Machine Learning Using Pythonorganized by Sher-e-Kashmir University of Agricultural Sciences & Technology, Kashmir in collaboration with NIELIT, Chandigarh | National | 27.09.2021 to 01.11.2021 |
| | | | • XV Agricultural Science Congress & ASC Expo organized by NAAS and BHU at Institute of Agricultural Sciences, BHU, Varanasi | International | 13.11.2021 to 16.11.2021 |
| | | | • Webinar on "Engineering Interventions for reducing human drudgery in Cotton Crop" organized under ICAR-IDP-NAHEP Project by the Department of FMPE, COAE&T, CCS HAU, Hisar | National | 08.07.2021 |
| | | | • XXXVI Annual Workshop of AICRP on "Farm Implements and Machinery" organized byICAR-CIAE, Bhopal through virtual platform (Zoom) | National | 22.02.2022 to 24.02.2022 |
| | Dr. Vijaya Rani | | • Attended online training course on "Effective Extension Methods for Upscaling and Outscaling of Wheat and Barley Production Technologies" organized by Extension Education Institute, Nilokheri, Karnal. | National | 01.09.2021 to 10.09.2021 |
| | | | • Attended ICAR Sponsored Winter School on "Farm Mechanization for Facilitating Conservation Agriculture & Climate Smart Technology" organized by ICAR - Central Institute of Agricultural | National | 04.01.2022 to 24.01.2022 |

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| | | | Engineering, Nabibagh, Berasia Road, Bhopal. | | |
| **2022 -23** | Er. Naresh | | • 56th Annual Convention of Indian Society of Agricultural Engineers on Agricultural Engineering Innovation for Global Food Security and International Symposium on India @2047: Agricultural Engineering Perspective' organized by ISAE and Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu. | International | 09.11.2022 to 11.11.2022 |
| | | | • International conference on 'Climate Resilient Agriculture for Food Security and Sustainability' | International | 17.02.2023 to 19.02.2023 |
| | | | • One day International Workshop on "Crop Residue Management through Biomass Conversion Technologies. | National | 02.03.2023 |
| | Er. Swapnil Choudhary | | • Training and Visit (T & V) workshop for month of June 2022 organized by SNIATTE, CCS HAU, Hisar | National | 08/06/2022 |
| | | | • International conference on 'Climate Resilient Agriculture for Food Security and Sustainability at CCS HAU, Hisar. | International | 17.02.2023 to 19.02.2023 |
| | | | • One day International Workshop on "Crop Residue Management through Biomass Conversion Technologies at COAE&T, CCS HAU, Hisar. | International | 02.03.2023 |
| | Dr. Ganesh Upadhyay | | • 56$^{th}$Annual convention of ISAE and International Symposium on "India @2047 Agricultural Engineering Perspective" at TNAU, Coimbatore | National | 09.11.2022 to 11.11.2022 |
| | | | • International conference on 'Climate Resilient Agriculture for Food Security and Sustainability' held in CCS HAU, Hisar | International | 17.02.2023 to 19.02.2023 |
| | | | • XXXVII Annual Workshop of AICRP on "Farm Implements and Machinery" at OUAT, Bhubaneswar | National | 19.01.2023 to 21.01.2023 |
| **DEPARTMENT OF BASIC ENGINEERING** | | | | | |
| 2017 -18 | Dr. Rajender Kumar | | • Annual Convention of Indian Society of Agricultural Engineers (ISAE) and National Symposium on "Doubling Farmers' Income through Technological Interventions", organized by AAU, Anand, Gujrat | International | Jan 08-10, 2018 |
| | Dr. Sandeep Bhardwaj | | • IndoRock 2017 ISRMTT, Delhi | National | 25$^{th}$-27$^{th}$ October 2017 |
| 2018 -19 | Dr. Rajender Kumar | | • 53$^{rd}$ Annual Convention of Indian Society of Agricultural Engineers (ISAE) and International Symposium on "Engineering Technologies for precision & climate smart agriculture" at Varanasi | International | Jan 28-30, 2019 |
| | Dr. Parvesh Antil | | • One week STC on modeling and simulation on MATLAB through ICT conducted by MechEnggDeptt., | | 21-25/5/2018 |

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| | | | NIEC, New Delhi from 21/5/2018 to 25/5/2018 (one week) | | |
| 2019-20 | Dr. Rajender Kumar | | • 3rd National Conference on Medical Instrumentation,Biomaterials and Signal Processing (NCMBS-20) organized by DCRUST, Murthal | National | Feb 26-27, 2020 |
| | Dr. Sandeep Bhardwaj | | • AICTE Training And Learning (ATAL) AcademyIndian Institute of Space Science and Technology, Department of Space,Government of India. | National | 02.11.2020 to 06.11.2020 |
| | Dr. Parvesh Antil | | • Attended Induction Training Course conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS HAU Hisar. | | 1.06.19 to 01.07.19 |
| 2020-21 | Dr. Rajender Kumar | | • Conference organized by and at DCRUST, Murthal<br>• One week training course on Development of Laboratory Instruction organized by National Institute of Technical Teachers' Training & Research (NITTTR), Kolkata.<br>• One week training course on Implications & Realities of Industry 4.0 organized by SLIET, Longowal under TEQIPIII. | International | March 22-23, 2021<br>8-12 June, 2020<br>21-25 Dec, 2020 |
| | Dr Sandeep Bhardwaj | | • FDP on Innovations managementEducation Research at Delhi University.<br>• International webinar on recent advances in Geotechnical Engg. Research& practices.<br>• Online refresher course on Extension Management AAREM at CCSHAU, Hisar. | National<br>National<br>National | 17-30.08.2020<br>01-10.07.2020<br>11-31.12.2020 |
| | Dr Parvesh Antil | | • Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in Collaboration with Department of Mathematics & Statistics, CCS HAU, Hisar from 08-28 July, 2020 | National | 08-28 July, 2020 |
| | Dr. Sandeep Dhundhara | | • Conference on Integrated Interdisciplinary Innovations in Engineering (ICIIIE 2020) held at UIET, Panjab University, Chandigarh (Online Virtual Conference Platform)<br>• Induction Training Course at Academy of Agricultural Research | International | August 28-30, 2020<br>08 Sept., |

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| | | | and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar<br>• Delivered expert lecture on the topic "*Overview of MATLAB Software and its applications*" in three days webinar on "Introduction to Matlab and its applications" Organized under Institutional Development Plan (IDP) of National Agricultural Higher Education Project at CCS Haryana Agricultural University, Hisar | National<br><br>National | 2020 to 08 Oct., 2020<br><br>27-29 April, 2020 |
| 2021-22 | Dr.Rajender Kumar | | • International Conference on Contemporary Advances in Mechanical Engineering (ICCAME-2021), organized by the Department of mechanical Engineering, Chandigarh Engineering College, Landran Mohali, Punjab<br>• Online FDP on Optimization Techniques for Engineering Applications organized by NIT, Warangal | International | August 27-28, 2021<br><br>April 7-15th , 2021 |
| | Dr. Sandeep Bhardwaj | | • National Conference on Mathematical Sciences for Applied and Agricultural Sciences<br>• Refresher course on Educational Technology, HAU. Hisar | National | 22nd Feb., 2022.<br><br>21Sept-11.10.2021 |
| | Dr ParveshAntil | | • Paper presented in 55th Annual Convention of ISAE and International symposium on 'Emerging trends in Agricultural Engineering Education, Research and Extension' organized by ISAE and DRPCAU, Pusa, Samastipur, Bihar at Patna, Bihar | International | November 23-25, 2021 |
| | Dr. Sandeep Dhundhara | | • Delivered expert lecture on "*Role of batteries in Village Microgrids*" in INDO-UK International Partnership Development Workshop on Solar Sprayer-based villagemicrogrids-potential for tackling theenergy/water/food nexus in Punjab(January05 - 07, 2022) Organized by: University Institute of Engineering and Technology,Panjab University, Chandigarh andBirmingham City University (UK) | International | 06-01-2022 |
| 2022-23 | Dr. Amarjit Kalra, Dr.Rajender Kumar and Dr.Sandeep Bhardwaj | | • International Conference on climate Resilient Agriculture for food Security and Sustainability at CCSHAU, Hisar | International | Feb 17-19,2023 |
| | Dr. Sandeep Dhundhara | | • 3 months International Training on "*Agrirobotics& Automation Agriculture*" at the School of Computing, Engineering and Built | International | December 28, 2022 to March 27, 2023 |

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| | | | Environment, Birmingham City University (BCU), Birmingham, UK from under NAHEP-IDP<br>• Organised three days' training on "Installation of Electrical appliances for Farming" under National Agricultural Higher Education Project (NAHEP)-Institutional Development Programme (IDP) at CCS Haryana Agricultural University, Hisar | National | 9-11 Jan 2023 |
| **DEPARTMENT OF RENEWABLE & BIO-ENERGY ENGINEERING** | | | | | |
| 2017-18 | Dr.Yadvika | | Participated in the three-day Workshop of AICRP on "Energy in Agriculture &Agro-based Industries" held at TNAU, Coimbatore, Tamil Nadu.<br>Participated in "National Startup Summit" held at CCSHAU, Hisar.<br>Participated in 'Workshop on Natural and Spiritual Farming', CCSHAU Hisar.<br>Delivered lecture on 'Biogas Technology' in one-day workshop on 'ODF Sustainability and Gobardhan Scheme' at Red Bishop-Panchkula under Swachh Bharat Mission-Gramin. | National<br>National<br>National<br>National | 17-19th January 2018<br>1-2nd June 2018<br>28-30th Novembe r 2018<br>31st May 2018 |
| 2018-19 | Dr. Arun Kumar Attkan | | Participated in 31 Days Induction Training Programme at the Directorate of Human Resource Management from at CCS HAU Hisar. | National | 29th Novembe r to 29th December , 2019 |
| | | | Participated in one-day Workshop on Digital Field Book at DHRM, CCSHAU, Hisar. | National | 12, December 2019 |
| | | | Participated in 7 Days residential Faculty Development Program (FDP) at MDU Rohtak | National | 24-30th May, 2019 |
| 2018-19 | Dr.Yadvika | | Participated in training programme on "Robotics and Automation" conducted by College of Agricultural Engineering & Technology in collaboration with Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar.<br>Workshop on Elsevier Empowering Agriculture Research in India in association with CeRA.<br>Participated in the XXIIndWorkshop of AICRP on "Energy in Agriculture &Agro-based Industries" held at UAS, Raichur, Karnataka.<br>Lecture at 4th Agri Leadership Summit - 2019 IIHM, Ganaur, Sonepat. | National<br>National<br>National<br>National | 17-30th July, 2018<br>24.8.18<br>10-12th December 2018<br>15-17th February, 2019 |

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| 2019-20 | Arun Kumar Attkan | | Winter school on "Application of Sensors, Instrumentation, Artificial Intelligence and Machine Learning in Precision Agriculture" at ICAR-CIAE, Bhopal. | National | 14th February to 5thMarch 2020 |
| | Dr. Yadvika | | Participated in training programme on "International Pedagogy" under World Bank funded IDPproject at University of Illinois, Urbana Champaign, US.<br>Co-Organized MHRD-SPARC sponsored International Workshop on 'Biomass Conversion Technologies'.<br>Participated in Training cum interaction programme during on "Sampling, design and schedules for implementation of energy audit survey" at IASRI, New Delhi organized by ICAR. | International<br>International<br>National | 25th June – 25th September 2019<br>19-28th November 2019<br>1-2ndNovember 2019 |
| **2020-21** | Dr. Gaurav Chaudhary | | Short Term training program on Bio-energy: Technologies and Transitions organized by NIT Kurukshetra. | National | 13-17 May, 2020 |
| | | | Participated in 31 Days Induction Training Programme at the Directorate of Human Resource Management from at CCS HAU Hisar. | National | 8-9-2020-8-10-2020 |
| **2021-22** | Dr. Yadvika | | Participated in Virtual Training Programme on "Skill Development Programme on Renewable Energy for Administrators (with focus on Solar Energy)" organized by HIPA in collaboration with HAREDA.<br>Participated in online Short-Term Training Program on "Bio-Energy: Technologies & Transitions" sponsored by TEQIP-III at Webex platform.<br>Participated in one week Faculty Development Program on "Nanomaterials for Energy Harvesting and Biomedical Applications" organized by Nanomaterials for Photovoltaic and Biomaterials Laboratory (NPBL), Department of Humanities and Basic Sciences at Godavari Institute of Engineering and Technology (Autonomous), Rajamahendravaram, Andhra Pradesh, INDIA.<br>Attended and made online presentation in XXIV Annual Review Workshop of AICRP. | National | 26-30, October 2020<br>13-17 May, 2020<br>8-22nd May 2020<br>9-11th February 2021 |
| 2022-23 | Dr. Gaurav Chaudhary | | Refresher Course on "Entrepreneurial Prospects in Agricultural and Allied Sciences" | National | January 10-30, 2023 |
| | Dr. Yadvika | | Attended and made online presentation in XXV Annual Review Workshop of AICRP. | | 20-22nd December 2022 |
| **DEPARTMENT OF SOIL & WATER ENGINEERING** | | | | | |
| **2017-18** | Dr. R.K. | | 52nd Annual Convention of Indian | National | Jan. 8-10, 2018 |

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| | Jhorar | | Society of Agricultural Engineers (ISAE) at AAU, Anand, Gujrat. | | |
| | Dr. Ram Naresh | | Training on Robotics and Automation | National | 17.07.2018to30.08.2018 |
| **2018-19** | Dr. R.K. Jhorar | | International conference on "Global Water Security for Agriculture and Natural Resources", organized by the American Society of Agricultural and Biological Engineers (ASABE), in partnership with the Indian Society of Agricultural Engineers (ISAE) at Hyderabad. | International | Oct 3-6, 2018 |
| | | | National workshop on "Sustainability of Indian Agriculture: Natural Resource perspective with special reference to water" organised by ICAR-IIWM, Bhubaneswar. | National | Oct 11, 2018 |
| | | | International conference on 'Research Frontiers in Precision Agriculture, orgnanised at IIT Bombay, Mumbai. | International | Oct 24-26, 2018 |
| | | | IAUA Golden Jubilee International Conference on "Agricultural Education-Sharing Global Experiences" organised by Indian Agricultural Universities Association (IAUA) at New Delhi. | International | Nov 23-25, 2018 |
| | | | Workshop on "Outcome Measurements in Surface Irrigation" organised by C&AG of India at New Delhi. | National | Jan 23, 2019 |
| | | | 53rd Annual Convention of ISAE and International Symposium on "Engineering Technologies for Precision and Climate Smart Agriculture" organised at BHU Varanasi. | International | Jan 28-30, 2019 |
| **2018-19** | Dr. R.K. Jhorar | | International Symposium on "Innopreneurship: A need of Sustainable Agriculture" organised at CCS HAU Hisar | International | Feb. 2-3, 2019 |
| | Dr. Sanjay Kumar | | Academic Leadership Program from at NITTTR, Sector 26, Chandigarh. | National | 8-10Sept., 2018 |
| | | | Application of Micro and Sub Surface Irrigation in Forestry | National | 16 Oct., 2018 |
| | | | Robotics and Automation | National | 17-30 July, 2018 |
| **2019-2020** | Dr. R.K. Jhorar | | National Symposium on "Ranking of Agricultural Universities in India" CCS HAU Hisar. | National | Sept. 19-20, 2019 |
| | | | Workshop on "Benchmarking for Minor Irrigation Projects, National Hydrology Project (NHP)" organised by Department of Water Resources, Nagaland at Kohima. | National | Oct 18, 2019 |

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| | | | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario (GINMA-2019) at CCSHAU, Hisar. | International | Nov 06-08, 2019 |
| | | | Consultation workshop on "Conjunctive use of water in India: Current status and way forward" organised by the International Water Management Institute (IWMI) at New Delhi. | National | Dec 16, 2019 |
| | | | "National Incubators Colloquium" organised by ABIC, CCS HAU Hisar and". | National | Jan 15-16, 2020 |
| | Dr. Sanjay Kumar | | New Millennia Agriculture- Novel Trends and Future Scenario | International | 6-8Nov., 2019 |
| | | | Joint MRes& PhD Program- CCS Haryana Agricultural University & Western Sydney University (WSU) | National | 20-22ndNovember, 2019. |
| **2020-21** | Dr. Ram Naresh | | Training on "Communication Skills and Technical Writing | National | 03.02.2021 to 23.02.2021 |
| | Dr. Sanjay Kumar | | Emerging technologies and adaptation in geotechnical engineering | International | 08 May, 2021 |
| **2021-22** | Dr. Ram Naresh | | Refresher Course on Educational Technology | National | 21.09.2021 to 11.10.2021 |
| **2022-23** | Dr. M S Sidhpuria | | Executive Leadership Program for Educationists at Art of Living International Centre Benguluru | National | Oct 30-Nov1,2022 |
| | Dr. Love Kumar | | Induction Training organized by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar | National | Jan 24 – Feb 23, 2023 |
| | Dr. Ram Naresh | | Conference on "Climate Resilient Agriculture forFood Security and Sustainability" | International | 17.02.2023 to19.02.2023 |
| **DEPARTMENT OF PFE** | | | | | |
| **2019** | Dr. Anil Panghal | | Golden Jubilee International Conference on New Millenia Agriculture, Novel Trends and Future Scenario, GINMA 2019, held at CCS HAU, Hisar 2019 | International | November 6-8, 2019 |
| | Er. Sunil Kumar | | International Symposium "Innopreneurship: A Need of Sustainable Agriculture" (ISINSA- 2019) held at CCS HAU, Hisar | International | February 2-3, 2019 |

***Annexure- COAE&T-III***

## TRAINING/ IDP/ CERTIFICATE COURSES ORGANIZED/ CONDUCTED

| | ***SR. No*** | ***Training details (duration)*** | ***No. of participants*** |
|---|---|---|---|
| *FMPE* | 1. | Manufacturing better quality crop-residue management machinery (19.08.2019 to 23.08.2019) | 30 |
| | 2. | Robotics and Automation (17.07.2018 to 30.07.2018) | 30 |
| | 3. | Campus to Corporate (24.02.2020 to 29.02.2020) | 30 |
| | 4. | Campus to Corporate (02.03.2020 to 07.03.2020) | 30 |
| | 5. | Robotics and Automation (25.02.2020 to 01.03.2020) | 20 |
| | 6. | Robotics and Automation (02.03.2020 to 07.03.2020) | 20 |
| | 7. | UAV application of pesticides for crop protection (21/11/2022 to 23/11/2022). | 25 |
| | 8. | UAV application of pesticides for crop protection (28/11/2022 to 30/11/2022). | 25 |
| | 9. | Application of UAVs for crop health monitoring using hyperspectral/ multispectral imagery (05/12/2022 to 07/12/2022). | 25 |
| | 10. | Application of UAVs for crop health monitoring using hyperspectral/ multispectral imagery (12/12/2022 to 15/12/2022). | 25 |
| *SWE* | 1 | Design, Installation, Operation and Maintenance of Protected Agriculture Structures from 8/11/2021 to 18/02/2022 | 20 |
| *PFE* | 1 | 90 days certificate course on “Food Processing” in 2022 conducted that was funded by IDP from 25-6-2019 to 24-9-2019 | 25 |
| | 2 | 3 days Training on Valorisation of horticultural wastes in 2023 (Batch 1 from 01-02-2023 to 03-02-2023; Batch 2 from 06-02-2023 to 08-02-2023). | 25 |
| | 3 | 15 days Training Programme on AutoCAD for B.Tech. Students in collaboration with DSW from 16-10-1019 to 30-02-2019. | 20 |
| | 4 | 3 days Training on Value added products from cereals and millets in 2023 (Batch 1 from 10-02-2023 to 14-02-2023; Batch 2 from 16-02-2023 to 20-02-2023) | 25 |
| *RBEE* | 1 | Second generation Bio Ethanol Production, January 2-4, 2023 | 20 |
| | 2 | Biogas Production from Agro- Waste Residue, January 5-7, 2023 | 25 |
| | 3 | Second generation Bio Ethanol Production, January 16-18, 2023 | 22 |
| | 4 | Biogas Production from Agro- Waste Residue, January 19-21, 2023 | 25 |
| *BE* | 1 | Installation of Electrical appliances for Farming, 9-11 Jan 2023 | 25 |

***Annexure- FMPE I***

## RESEARCH PAPER

| Sr. No. | Title | Naas Rating |
|---|---|---|
| | **2018** | |
| 1. | Choudhary, S. (2018). Potential, availability and projections of animal farming in India. *Int J Avian & Wildlife Biol*, *3*(3), 219-220. | - |
| 2. | Kerketta, A. K., Mishra, B. P., Choudhary, S., & Mahilang, K. K. S. (2018). Development of Subsoiler Suitable for Chhattisgarh Plain. *Int. J. Pure App. Biosci*, *6*(1), 1478-1485. | 4.74 |
| 3. | Kumar, A., Naresh., Rani, V., & Jain, M. (2018). Performance evaluation of happy seeder after paddy harvested with combine harvester. *Haryana Agricultural University Journal of Research*; 48(1), 7-10. | - |
| 4. | Kumar, S., Jain, M., Rani, V., Kumar, V., Kumar, A., & Naresh. (2018). Plant growth and yield response of tillage in wheat crop with rotavator and Subsoiler Combination and no tillage. *Int. J. Curr. Microbiol. App. Sci*, 7(03), 1597–1600. | 5.38 |
| 5. | Kumar, S., Jain, M., Rani, V., Kumar, V., Kumar, A., & Naresh. (2018). Effect of Various Tillage Practices on Soil Physical Properties. *Int. J. Curr. Microbiol. App. Sci.* 7(3), 1591-1596. | 5.38 |
| 6. | Kumar, V., Jain, M., Rani, V., Kumar, A., Kumar, S., & Naresh, J. (2018). A review of soil compaction-concerns, causes and alleviation. *Int. J. Plant Soil Sci*, *22*, 1-9. | 4.77 |
| 7. | Kumar, V., Rani, V., Jain, M., Kumar, A., & Kumar, S. (2018). A Study on Physical Properties of Okra Seed: Abelmoschus esculentus (L.). *Adv. Res*, *14*, 1-7. | 4.80 |
| 8. | Kumar, V., Rani, V., Jain, M., Kumar, A., Kumar, S., & Naresh. (2018). Design of 'Anjul' Seed Metering Mechanism for Round Seeds and its Seed Pattern Characteristics. *Int. J. Curr. Microbiol. App. Sci*. 7(3), 1536-1543. | 5.38 |
| 9. | Kumar, V., Rani, V., Jain, M., Kumar, A., Kumar, S., & Naresh. (2018). Parameters Optimization of 'Anjul' Seed Metering Mechanism for Okra Seeds. *Int. J. Curr. Microbiol. App. Sci*. 7(3), 1544-1550. | 5.38 |
| 10. | Kumar, V., Rani, V., Jain, M., Kumar, A., Kumar, S., & Naresh. (2018). A review of soil compaction- concerns, causes and alleviation. *Int. J. Curr. Microbiol. App. Sci*., 22(4), 1-9. | 5.38 |
| 11. | Kumar, V., Rani, V., Jain, M., Kumar, A., Kumar, S., & Naresh.(2018). Performance evaluation of manually operated ridge vegetable planter for Okra. *Current Journal of Applied Science and Technology*, 26(5), 1-8. | 4.71 |
| 12. | Kumar, V., Rani, V., Jain, M., Kumar, A., Kumar, S., & Naresh. (2018). Design and Development of Manually Operated Ridge Vegetable Planter. *International Archive of Applied Sciences and Technology*, 9(2), 43-48. | 4.45 |
| 13. | Kumar, V., Rani, V., Jain, M., Kumar, A., Kumar, S., & Naresh.(2018). A Study on Physical Properties of Okra Seed: Abelmoschus esculentus (L.). *Advances in Research*, 14(3), 1-7. | 4.80 |
| 14. | Mishra, P. K., Singh, M., Sharma, K., & Patel, B. (2018). Modification and Development of Self-Propelled Walk behind Finger Type Cotton Stripper. *Agricultural Engineering Today*, *42*(3), 70-77. | 4.23 |
| 15. | Naresh., Rani, V., Jain, M., Kumar, A., &Narender. (2018). Design and development of tractor operated carrot digger. *Agricultural Mechanization in Asia, Africa and Latin America*, 49(3),79-85. | 6.14 |
| 16. | Upadhyay, G., &Raheman, H. (2018). Performance of combined offset disc harrow (front active and rear passive set configuration) in soil bin. *Journal of Terramechanics*, 78, 27-37. | 8.28 |

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| | **2019** | |
| 17. | Avdhut, I.O., Kumar, A., Jain, M., Rani, V., & Naresh. (2019). Optimization of parameters for harvesting of paddy by head feed combine. *Agricultural Engineering Today*, 43(4),18-26. | 4.23 |
| 18. | Ingole, O. A., Kumar, A., Mukesh, S., Rani, V., Kadwasra, N., & Verma, K. (2019). Optimization of combine and crop parameters for harvesting of scented and non-scented paddy (Oryza sativa) by head feed combine. *Indian Journal of Agricultural Sciences*, *89*(3),522-530. | 6.37 |
| 19. | Manjeet, S., Karun, S., Pramod, M., Bharat, P., & Singh, S. K. (2019). Precision attributes-based index for the selection of efficient agricultural machinery. *Scientific Research and Essays*, *14*(4),24-31. | - |
| 20. | Upadhyay, G., & Raheman, H. (2019). Comparative analysis of tillage in sandy clay loam soil by free rolling and powered disc harrow. *Engineering in Agriculture, Environment and Food*, 12(1), 118-125. | - |
| 21. | Upadhyay, G., & Raheman, H. (2019). Specific draft estimation model for offset disc harrows. *Soil and Tillage Research*, 191, 75-84. | 13.3 |
| | **2020** | |
| 22. | Kharb, S.S., Antil, P., Singh, S., Singh, K., Sihag, P. and Kumar, Anil (2020). Machine learning based erosion behavior of silicon carbide reinforced polymer composites. *Silicon.* 13, 1113–1119. | 8.94 |
| 23. | Kumar, A, Antil, S. K., Rani, V., Antil, P., Jangra, D., Kumar, R., and Pruncu, C.I. (2020). Characterization on Physical, Mechanical, and Morphological Properties of Indian Wheat Crop. *Sustainability*, 12, 2067. | 9.8 |
| 24. | Kumar, A., Antil, S. K., Rani, V., Antil, P., Jangra, D., Kumar, R., &Pruncu, C. I. (2020). Characterization on physical, mechanical, and morphological properties of Indian wheat crop. *Sustainability*, *12*(5), 2067. | 9.8 |
| 25. | Kumar, A., Rani, V., Jain, M., Kumar, R., & Karwasra, N. (2020). Paddy straw retrieval by using straw baler for use as animal feed. *Forage Res*, 46(1), 84-87. | 4.84 |
| 26. | Naresh, Rani, V., Jain, M., & Kumar, A. (2020). Performance evaluation of single row tractor operated carrot digger. *Agricultural Engineering Today*; 44(4), 1-7. | 4.23 |
| 27. | Upadhyay, G., &Raheman, H. (2020). Comparative assessment of energy requirement and tillage effectiveness of combined (active-passive) and conventional offset disc harrows. *Biosystems Engineering*, 198, 266-279. | 11.0 |
| 28. | Upadhyay, G., &Raheman, H. (2020). Effect of velocity ratio on performance characteristics of an active-passive combination tillage implement. *Biosystems engineering*, *191*, 1-12. | 11.0 |
| | **2021** | |
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***Annexure- PFE I***

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| Sr. No. | Title | Naas Rating |
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***Annexure- SWE I***

## RESEARCH PAPERS

| Sr. No. | Title | Naas Rating |
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## ABSTRACT

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# COLLEGE OF BASIC SCIENCES & HUMANITIES



# SELF STUDY REPORT





2023

## Chaudhary Charan Singh Haryana Agricultural University
## Hisar, Haryana-125004


ICAR-Sponsored Winter School
Dr. B.R. Kamboj






URBAN FARMING EXPO AND FLOWER FEST-2022
19-20 DECEMBER, 2022
ORGANIZED BY
Agritourism Centre
Department of Botany & Plant Physiology
HAU Social Welfare Society, Landscape Unit

# FOREWORD



It is indeed a matter of gratification that we embark on the journey towards accreditation from the Indian Council of Agricultural Research (ICAR). The report of the College of Basic Sciences & Humanities represents a comprehensive assessment of our academic programs, research activities, infrastructure, and overall institutional development.

The College of Basic Sciences & Humanities is a glorious institution of academic excellence, research innovation, and community engagement. Our commitment towards providing quality education and producing skilled professionals in the fields of basic sciences and humanities has been unwavering. The College offers a wide range of undergraduate courses and postgraduate programmes that integrate sciences and humanities to provide a holistic education to our students. Our faculty members, renowned experts in their fields, are committed in delivering high-quality instructions, promoting research-driven learning, and fostering an environment conducive to critical thinking and innovation among students.

Research and innovation are integral to its mission as a leading institution in basic sciences and humanities. Through several research initiatives, all the faculty and students strive to generate knowledge, discover new technologies and contribute to the advancement of scientific understanding in our fields of expertise. They are actively engaged in pioneering research that addresses various pressing challenges in sustainable development of the society.

Accreditation from ICAR is a significant milestone for any institution. It signifies recognition of our academic and research endeavours, and our commitment to uphold the highest standards of education and research. We are determined to meet and exceed the benchmarks set by ICAR, continuously enhancing the quality of our programs, infrastructure, and support services.

I would like to extend my heartfelt appreciation to the self-study committee, faculty, staff, students, and all stakeholders who have contributed their time, expertise, and valuable insights in the preparation of this self-study report. I am confident that this self-study report will serve as a foundation for our ongoing efforts towards accreditation from ICAR.

**Prof. B. R. Kamboj**
Vice Chancellor
CCSHAU, Hisar

# PREFACE

It is my privilege as the Dean, College of Basic Sciences and Humanities, Chaudhary Charan Singh Haryana Agricultural University to submit this Self Study Report for validation & accreditation to Indian Council of Agricultural Research. The College of Basic Sciences and Humanities (COBS&H) was established in 1970 as one of the constituent colleges of CCS Haryana Agricultural University, Hisar. The College has a magnificent four storey building. The College offers M.Sc. and Ph.D. degree programmes in various disciplines. The admission to M.Sc. and Ph.D. programmes are through Common Entrance Test conducted by the University. The College also offers basic sciences and humanities courses to undergraduate and post graduate students of all constituent colleges of the University. It also offers two P.G. Diploma courses namely, "Communication skills in English" and "English-Hindi Translation".

The COBS&H has eleven departments namely Botany & Plant Physiology, Chemistry, Biochemistry, Food Scienc & Technology, Languages & Haryanavi Culture, Mathematics & Statistics, Physics, Microbiology, Molecular Biology, Biotechnology & Bioinformatics, Sociology and Zoology and one Computer Section.

The Faculty of the College is well qualified, competent and highly dedicated. Several faculty members have received ICAR sponsored Best Teacher Award and recognition from National/International Societies. The faculty has implemented several adhoc research projects from outside national & international agencies, and published quality research papers in high-impact factor journals. The College has filed 14 patent applications, one published and two have already been granted.

The COBS&H has the honour of having distinguished persons achieving Padamshree Award, positions of Vice-Chancellors of various Indian Universities and being the senior administrators in organizations like ICAR, CSIR, CCMB and ICRISAT.

The COBS&H has modern smart class rooms, CCTV cameras, air-conditioned committee room and an auditorium with modern audio-visual facilities having with seating capacity of about 315 persons. The college has 23 net houses, two transgenic green houses, one centre of bio-fertilizer production and technology, biogas plant and composting pits. The college has a computer centre for imparting computer literacy, providing internet and Wi-Fi services, technical support for marking attendance on AEBAS (Aadhar Enabled Biometric Attendance Systems), use of Anti Plagiairism Software - Turnitin to ensure the academic integrity of the research work, implementation of the IUMS (Integrated University Management System) modules for the digitization of the work and process, mangement and regular updation of university website, video-conferencing system.

The COBS&H has well equipped laboratories with various sophisticated instruments like Fourier transform infrared spectroscopy, Atomic absorption spectrometer, Gel documentation system, HPLC, Particle size analyzer, Flash chromatography system, Impedance analyzer, Chlorophyll meter, Gas sensor setup, Multichannel electrochemical workstation, Multimode spectrophotometer, Bioreactor, PCR machine, Automatics protein analyzer, etc.

The COBS&H has a Botanical Garden covering an area of 10.5 acres with rich plant biodiversity of about 600 plant species comprising of various ornamental foliage, seasonal flowering plants, bamboo species, ferns, cacti/succulent plants, medicinal/ aromatic plants, horticultural plants like chrysanthemums, roses, aquatic plants, climbers, shrubs, herbs and trees. The collection of planting material has been maintained for imparting knowledge to students, scientists and visitors.

The effective teaching, stringent examination and evaluation procedures have made the students to excel in their respective fields. The faculty of college strives tirelessly to upgrade skills & knowledge of students to make them responsible citizens of India. The students are provided holistic education with the commitment to serve the country. This SSR is a communication of sincere efforts to present the goals of the college.

A total of about 206 PG students have qualified NET/JRF (UGC, CSIR, ICAR) and other competitive exams in past five years. Several students have secured fellowships including INSPIRE, CSIR, ICMR, UGC etc. The alumni of the college have found placements in reputed Institutions such as ASRB, DRDO, CSIR, ICAR, SAUs, Govt. Colleges, public/private institutions/industries etc.

We look forward to a rewarding interaction with the ICAR Peer Review team during their forthcoming visit to our institution.



**Prof. Neeraj Kumar**
Dean, COBS&H
CCS HAU, Hisar

# CONTENTS


| | |
|---|---|
| **About the College** | |
| 6.5.1. College Administration | 2 |
| 6.5.2. Faculty | 40 |
| 6.5.3. Learning Resources | 58 |
| 6.5.4. Student Development | 66 |
| 6.5.5. Physical Facilities | 87 |
| 6.5.6. Research Facilities | 89 |
| 6.5.7. Outcome Output | 91 |
| 6.5.8. Certificate<br>6.5.9. Certificate<br>6.5.10. Certificate | 94 |
| PROGRAMMES | 95 |
| Biochemistry | 97 |
| Botany and Plant Physiology | 109 |
| Chemistry | 129 |
| Food Science and Technology | 141 |
| Mathematics and Statistics | 157 |
| Microbiology | 175 |
| Molecular Biology, Biotechnology and Bioinformatics | 189 |
| Physics | 211 |
| Sociology | 223 |
| Zoology | 235 |
| Languages and Haryanvi Culture | 255 |
| Computer Section | 263 |
| ANNEXURES | 271 |

# SELF STUDY REPORT OF
# COLLEGE OF BASIC SCIENCES AND HUMANITIES

Established in 1964, as a part of the erstwhile PAU Ludhiana, the College of Basic Sciences and Humanities became one of the independent constituent Colleges of Haryana Agricultural University, Hisar in 1970. **Dr. S.R.Vyas** was the founder Dean of this College. Initially started with the trimester system of education, it was replaced by semester system in 1987-88. The College runs M.Sc. and Ph.D. programmes in different disciplines *i.e.*, Biochemistry, Bioinformatics, Botany, Chemistry, Environmental Sciences, Food Science and Technology, Mathematics, Microbiology, Molecular Biology and Biotechnology, Physics, Plant Physiology, Sociology, Statistics and Zoology. The Food Science and Technology discipline was started in 1996. In 2002, Centre of Food Science and Technology was established as a multidisciplinary centre of excellence in Food Science & Technology after taking some components from allied departments of University viz., Foods and Nutrition, Horticulture, Microbiology, Animal Products Technology and Agricultural Processing & Energy. Department of Biotechnology was created in 1997 with faculty merger from Genetics, Microbiology, Biochemistry and Plant Breeding departments promoting interdisciplinary research. Departments of Mathematics, Statistics and Physics, Botany and Plant Physiology have started M.Sc. courses in Physics and Environmental Science from 2017-18, respectively. A separate Physics department was created in 2018. Department of Physics has started Ph.D. programme from 2019. Department of Mathematics & Statistics has started Ph.D. programme in mathematics from 2019 and Department of Botany and Plant Physiology has started Ph.D. programme in Environmental Science from 2020.

The College imparts quality education to postgraduate students of Basic Sciences and Humanities. It also undertakes teaching of undergraduate and post graduate students from all constituent colleges of the University. The College is a symbol of performance, potential and progress. Its iconic status of 52 years makes it an unrivalled institute of research, teaching and extension.

The Collegehas a unique distinction and privilege to have faculty honoured with –

- Padam Shri (Dr. J.B. Chowdhury)
- Vice Chancellors of CCS Haryana Agricultural University, G.B. Pant University of Agriculture and Technology, Pant Nagar (Uttarakhand), OPJS University, Rajasthan
- Rafi Ahmed Kidwai, Hari Om Ashram Trust, ICAR team awards.
- Fellows of NAAS, IAS, NASI etc.
- The faculty has secured several prestigious International Fellowships (Rockefeller Foundation's PDF and BCF, DAAD, DUO, Indo-Japan Exchange, INSA-DFG, AHRD Fellowships (ICAR), DBT Overseas Associate fellowship), for post-doctoral, research and teaching.
- Faculty members (Dr. Urmil Verma, Dr. Rajvir Singh, Dr. S.C. Goyal, Dr. U.K. Varshney, Dr. Pushpa Kharb, Dr. S.S. Sindhu) have received ICAR sponsored "Best Teacher Award" of the University in the past.
- The faculty has been awarded several competitive research grants over the years from international agencies such as UNDP, PL480, Rockefeller Foundation, USA and National agencies like DBT, DST-GOI, SERB, ICAR, CSIR, DRDO, UGC, SPARC, RKVYand Private agencies.

- Several students were awarded Jawahar Lal Nehru best thesis award by ICAR. Several students were also bestowed with V.D. Kashyap Gold Medal and Silver Jubilee Gold Medal for best thesis.
- Several teachers are on Editorial Boards of high ranking journals, member Board of Studies in other Institutions.
- Our students are pursuing higher degrees in reputed National and International Institutes and have been selected as faculty in reputed Institutions such as DRDO, ICGEB, SAUs, Universities, Government Colleges, Public/ Private Institutions/Industries.

## VISION

- To impart basic education integrating teaching, research and extension in areas relevant to agriculture with academic excellence

## MISSION AND GOAL

- To produce quality human resource
- To conduct basic research in state/nation's priority areas related to agriculture
- To develop technologies to combat various constraints in agricultural production in the country
- To reduce the gap between existing and novel technical innovations, development of products and their speedy commercialization

## OBJECTIVES

- To impart knowledge in various disciplines of basic sciences to the students from constituent colleges of the university
- To strengthen and achieve excellence in teaching, research and to develop quality human resource in various disciplines of basic sciences
- To develop skills and values among students to make them competent not only for government services and industries but also as entrepreneurs
- To develop technologies that can contribute towards the upliftment of the Indian rural economy, employment generation and increased avenues of self employment
- To develop new technologies for sustainable agricultural production and to refine existing technologies. These are communicated to the stakeholders through class room teaching, seminars, exhibitions, expert lectures and through lab and field demonstrations
- To develop linkage with national and international universities, industries and to promote public-private partnership

**6.5.1. College Administration:** *Whether the Dean's post has been sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines? Date of selection of person, Dean mode of selection, tenure etc. shall be mentioned. Clearly mention the staff and infrastructure/facilities available in the Dean's Secretariat.*

Yes, the Dean's post is sanctioned by the appropriate authority as per ICAR Model Act. The Dean is appointed on a tenure basis for a period of four years through open selection on All India basis. **Dr. Neeraj Kumar** has been appointed Dean, College of Basic Sciences and Humanities on March 30, 2022.

### 6.5.1.1. College Dean's Office Establishment

| DEAN'S SECRETARIAT | | |
|---|---|---|
| **Dean's Name** | | **Dr. Neeraj Kumar** |
| | | **Staff available with Dean** |
| **Staff** | **Sanctioned posts** | **In position (filled)** |
| AAO/ Supdt. | 01 | 01 |
| Personal Secretary/ Personal Assistant | 01 | 01 |
| Office Assistants (Nos.) | 03 | 03 |
| Junior Scale Stenographer (Nos.) | 02 | 02 |
| Store Keeper (Nos.) | 01 | 00 |
| Clerks (Nos.) | 02 | 01 |
| SLA (Nos.) | 01 | 01 |
| Driver | 01 | 01 |
| Liftman | 01 | 01 |
| Daftri (Nos.) | 01 | 01 |
| Sweeper(Nos.) | 08 | 02 |
| Plant Observer (Nos.) | 01 | 01 |
| Mate (Nos.) | 01 | 01 |
| Messengers (Nos.) | 03 | 00 |

### Infrastructure available in Dean's Secretariat

Different sections of the Dean's secretariat (establishment and accounts branch, academic branch, PS office, AAO/superintendent office, cashier desk, store, committee room, common room for girl students) are well furnished and have all the facilities required to carry out their work. There are 5 wash rooms, 1 for Dean, 2 females and 2 males. In addition, there is an auditorium with a seating capacity of about 315 persons. The details of the infrastructure in the secretariat are as under:

| **Dean's Office** | **:** | **Dean's Chamber, Sofa Set, Computer with Printer, Scanner, Table, Chairs, Cupboard, AC, Phone** |
|---|---|---|
| Establishment and Accounts Branch | : | Tables, Chairs, Almirahs, Cupboards, Computers |
| Academic Branch | : | Tables, Chairs, Almirah, Cupboards, Computers |
| PS Office | : | Chair, Table, Sofa, Computer, Almirahs, Cooler, Phone |
| AAO/Superintendent Office | : | Table, Chair, Phone, Cooler |
| Cashier Desk | : | Table, Chair, Cooler, Almirah, Rack |
| Store | : | Table, Chair, Almirah, Computer, Racks |
| Committee Room | : | 01 with seating capacity of 50 persons and equipped with LCD, Video Conferencing Facility |
| Waiting Lounge / Hall for Visitors | : | 01 with Sofas, Tables, Chairs, Drinking Water |
| Common Room for Girl Students | : | 01 with Sofas, Tables, Chairs |
| Washrooms/Toilets | : | 05 (1 for Dean, 2 Females and 2 Males) |
| Auditorium | : | 01, Established in 1976 with seating capacity of 315 persons, stage, interactive podium and LCD Facility |
| Lift and Ramp | : | Differently abled friendly |
| Computer Centre (College Level) | : | 01 (with 60 Computers and 8 Printers) |
| Departments | : | 11 + Computer Section<br>1. Biochemistry<br>2. Botany and Plant Physiology |

| | | |
|---|---|---|
| | | 3. Chemistry<br>4. Food Science and Technology<br>5. Languages and Haryanvi Culture<br>6. Mathematics and Statistics<br>7. Microbiology<br>8. Molecular Biology, Biotechnology and Bioinformatics<br>9. Physics<br>10. Sociology<br>11. Zoology |
| Examination Hall with Dean's Office (no.) | : | 01, Ground floor with seating capacity of 40, Blackboard and CCTV |
| Conference Hall | : | 01<br>Situated in Centre for Bio-fertilizer Production and Technology, Department of Microbiology with seating capacity of 40<br>Equipped with LCD projector with Screen |
| Smart Class Rooms (No.) | : | 01, Ground floor with seating capacity of more than 40, with LCD Projector and Interactive Board, Blackboard |
| Seminar/ Lecture Rooms (No.) | : | **15** (All Departments and Computer section) |
| Biochemistry | : | **01** (Room No. 436), Seating capacity- 40 with LCD Projector, Computer, CCTV, Blackboard and Screen, Interactive Board. |
| Botany and Plant Physiology | : | **01** (Room No. 326), Seating capacity- 40 with LCD Projector, Computer, CCTV Camera, Blackboard and Screen, Interactive Board |
| Chemistry | : | **01** (Room No. 141), Seating capacity- 30 with LCD Projector, Computer, CCTV, Blackboard and Screen, Interactive Board. |
| Food Science and Technology | : | **02** (Room No. 5, 101), Seating capacity- 30 with LCD Projector, Computer, Blackboard and Screen |
| Languages and Haryanvi Culture | : | **01** (Room No. 410), Seating capacity- 30 with LCD Projector, Computer, CCTV, Blackboard and Screen |
| Mathematics and Statistics | : | **01** (Room No. 14), Seating capacity- 40 with LCD Projector, Computer, CCTV, Blackboard and Screen, Interactive Board. |
| Microbiology | : | **01** (Room No. 220), Seating capacity- 40 with LCD Projector, Computer, CCTV, Blackboard and Screen, Interactive Board. |
| Molecular Biology, Biotechnology and Bioinformatics | : | **02**(Room No. 23, 24) **01**(Room No. 110 at College of Biotechnology), Seating capacity- 40 with LCD Projector, CCTV, Blackboard and Screen, Interactive Board. |
| Physics | : | **01** (Room No. 04), Seating capacity- 30 with LCD Projector, CCTV, Blackboard and Screen |
| Sociology | : | **01** (Room No. 203), Seating capacity- 40 with LCD Projector, Computer, CCTV, Blackboard and Screen |
| Zoology | : | **01**(Room No. 313), Seating capacity- 40 with LCD Projector, Computer, CCTV, Blackboard and Screen |
| Computer Section | : | **01**, Seating capacity- 40 with LCD Projector, Computer, CCTV, White Board and Screen, 86" Interactive Flat Panel with OPS |
| Exhibition Hall | : | 01 at ground floor with Display Boards and Tables |
| College Library | : | Central Library available and<br>Departments have separate Libraries |
| | | |
| Departmental Library | : | 11 |

| | | |
|---|---|---|
| Biochemistry | : | Room No. 416; 211 M.Sc. and 92 Ph.D. Theses |
| Botany and Plant Physiology | : | Room No. 318; 2 Books, 185 M.Sc. and 99 Ph.D. Theses |
| Chemistry | : | Room No. 143; 95Books, 185 M.Sc. and 48 Ph.D. Theses |
| Computer Section | : | 32 Books |
| Food Science and Technology | | Room No. 7; 81 Books, 235 M.Sc. and 18 Ph.D. Theses |
| Languages and Haryanvi Culture | : | Room No. 410; 201Books |
| Mathematics and Statistics | : | Advanced Computational Lab; 73 Books,99 M.Sc. Theses and 42 Ph.D. Theses |
| Microbiology | : | Room No. 235; 242 Books, 278M.Sc. and 131 Ph.D. Theses |
| Molecular Biology, Biotechnology and Bioinformatics | : | Room No. 113 at College of Biotechnology; 169 Books, 184M.Sc. and 86 Ph.D. Theses |
| Sociology | : | Room No. 203; 350 Books, 148 M.Sc. and 47 Ph.D. Theses |
| Zoology | : | Room No. 42; 75 M.Sc. and 128 Ph.D. Theses |
| Departmental Computer Facility | : | • Each faculty member of COBS&H has computer facility with internet connection<br>• The office of each Department of COBS&H has computer facility with internet connection<br>• Department of Mathematics & Statistics and Computer Section have Computer Lab for students<br>1. Mathematics and Statistics (Room No. 15): 16 computers<br>2. Computer Section: 58 computers with internet connection |

## Washrooms/Toilets

| Washrooms/Toilets (No.) | : | He | She | Other |
|---|---|---|---|---|
| Dean Office | : | 02 | 02 | 01 |
| Departments | : | 15 | 14 | 03<br>01 (Bio-fertilizer Lab.) |

## Stores

| | | |
|---|---|---|
| Dean Office | : | 01 (Room No. 12) |
| Biochemistry | : | 01 (Room No. 425) |
| Botany and Plant Physiology | : | 01 (Room No. 330) |
| Chemistry | : | 01 (Room No. 140) |
| Languages and Haryanvi Culture | : | 01 (Room No 406) |
| Mathematics and Statistics | : | 01 (Room No. 7) |
| Molecular Biology, Biotechnology and Bioinformatics | : | 01 (Room No. 106 at College of Biotechnology) |
| Sociology | : | 01 (Room No. 208) |
| Zoology | : | 01 (Room No. 317) |
| Microbiology | : | 01 (Room No. 116) |
| Food Science and Technology | : | 01 (Room No. 6) |
| Total | : | 11 |





**Facilities for differently abled persons: Ramp, Lift and Car Parking**

Central facilities include Directorate of Students Welfare, Library, Estate and Maintenance Office, Hospital and Hostel facilities.

**6.5.1.2 Monitoring Mechanism for Quality Education:***(Whether the College is having an internal quality assurance system, with appropriate structure and processes, and with enough flexibility to meet the diverse needs of the stakeholders which is required for planning, guiding and monitoring quality assurance and quality enhancement activities of the Colleges):*

Yes, the College has an Internal Quality Assurance Cell (IQAC). Since its revised constitution in 2021-22, after Covid pandemic meetings were held.

**Composition of Internal Quality Assurance Cell (IQAC)**

(a) Chairperson: Dr.Neeraj Kumar, Dean, COBS&H

(b) Senior teachers and administrative official:

1. Dr. Manju S. Tonk, Professor, Department of Mathematics and Statistics
2. Dr. Rachna Gulati, Officer Incharge, COFS
3. Dr. R.K. Gupta, Professorand Head, Department of Zoology
4. Dr. Vinod Kumari, Professorand Head, Department of Sociology
5. Dr. Rita Dahiya, Professorand Head, Department of Physics
6. Sh. Harpal Singh, Superintendent, COBS&H

(c) External Experts:

1. Dr. Lajpat Rai, Professor (Retd.), Mathematics and Statistics, COBS&H, CCS HAU, Hisar
2. Dr. A.S. Nandwal, Plant Physiologist (Retd.),COBS&H, CCS HAU, Hisar

(d) Director/Coordinator: Member Secretary

Dr. Leela Wati, Professor and Head, Department of Microbiology

The IQAC started working towards realizing the goals of quality enhancement and sustenance. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the performance of college. The IQAC is playing a significant role in maintaining and channelizing the efforts and measures of the college towards academic excellence.

**Functions of IQAC**

- Implementing and improving choice based credit system for curricula of the campus courses

- Monitoring the teaching-learning process
- Emphasizing on filling of vacant teaching and non teaching posts
- Encouraging organization of conferences/seminars/workshops *etc*. by departments
- Supporting and encouraging the research projects sponsored by the university and outside agencies
- Strengthening trainings and placement of students
- Facilitating alumni interactions at department level
- Suggesting new inter-disciplinary programmes in the departments
- Capacity building and trainings for faculty and staff competence
- Organizing trainings for skill development and entrepreneurship
- Ensuring extra guidance to students of SC/ST, OBC and weaker section
- Reviewing internal quality assurance at the end of the year
- Improving teaching based on feedback from the students, teachers and parents
- Quick redressal of common complaints and women empowerment
- A non-smoking and zero tolerance for ragging college

**Monitoring of Teaching**

- At the end of the Academic Year, teachers write their Self-Assessment Report in discussion with Head of Departments which is submitted to the Vice-Chancellor through Controlling Officers. In this report, they present the work done in the past year and future plan of the work. Self-Appraisal Report of individual teachers is evaluated by HOD, Dean/DR/DEE and VC. The comments of final accepting authority are communicated to the teacher for further improvement.
- Evaluation of teachers through feedback proforma from students.
- Programme of work, synopsis and thesis work of PG students is approved by Departmental faculty, Advisory Committee and finally approved by the Dean, PGS.
- The synopsis seminar brings suggestions which are included in final version. The internal evaluation by expert further improves it before submission to the Dean PGS for final approval.
- CCTV cameras have been installed in the lecture rooms/ Seminar rooms which can be monitored in Dean's office.
- Faculty members and students are encouraged to attend trainings, summer school etc. and financial assistance is provided.
- To monitor the students' progress, advisory committee meetings are convened regularly and advise the student regarding finalization of programme of work and research work.
- In case of non-teaching staff, confidential reports are written and approved by their Controlling Officers, these are also communicated for further improvement.
- Regular reports are sent to stake-holders in general and to agency from where grant is received specifically.
- The dignitaries or eminent scientists visiting CCSHAU interact with faculty members and students and sometimes they deliver talk on the field of specialization which is very near to our university priority areas. There is a provision of study leave, sabbatical leave for faculty.
- For retention of faculty members, they are given re-employment upto the age of 63 years. There is a well-defined process in the university. The proposals for re-employment either come through Head of the Departments or the interested faculty member can give direct

application to Registrar which is then forwarded to Chairman of the committee for re-employment.

### Monitoring of Research

- The University monitors the quality of research work of faculty members by conducting Research Project Committee (RPC) and Technical Programmes (TP) meetings. RPC discusses the Research schemes that need modifications in the title or objectives and proposals received from different departments are discussed in RPC meetings for further implementation.
- Technical Programme meetings are conducted under the chairmanship of Director of Research and in presence of Dean of concerned college to discuss research outcomes of different schemes and future plan of work.
- In Technical Programme, all HODs and faculty members from related field are invited to participate in the discussion. Faculty members present their work and future plan through power point presentations and if the committee feels the programme of work is modified as per the suggestions.
- Mid-term appraisal meetings are held to review the research work, bottle necks and future course of action.

The Project Review Committee (PRC) has been constituted in the College for submission of projects to external agencies for funding to review and approve the projects. It is mandatory for all scientists to get the projects enroute through PRC before submitting to Project Monitoring and Evaluation Committee of University. At college level, the following Project Review Committee has been constituted.

1. Dr. Neeraj Kumar, Dean COBS&H, Chairman
2. Dr. Sudhir Kumar, Dean COB, Member
3. Dr. Leela Wati, HOD, Microbiology, Member
4. Dr. Rita Dahiya, HOD, Physics, Member-Secretary
5. Dr. O. P. Sheoran, Professor, Mathematics and Statistics, Member

### Monitoring of Extension

To promote institution – neighbourhood – community network and student engagement, contributing to good citizenship, service orientation and holistic development of students and society. Different activities are undertaken at College level and University.

The Dean, COBS&H has constituted the following DHAKAD Committee for overall development of students in compliance to the office Endst. No. DSW/22/2946-49 dated 13-07-2022 regarding DHAKAD Programme implementation in CCS HAU initiated by Haryana State Narcotics Control Bureau, Government of Haryana.

1. Nodal/Senior Dhakad: Dr. R. K. Gupta, Professor and Head, Zoology, Dhakad: Lakshay, Nikita
2. Nodal/Senior Dhakad: Dr. Manoj Kumar, Assistant Professor, Mathematics and Statistics, Dhakad: Ajay
   Sharma, Surbhi
3. Nodal/Senior Dhakad: Dr. Rakesh Sehrawat, Assistant Professor, Microbiology, Mukesh Kumar, Pratiksha
4. Nodal/Senior Dhakad: Dr. Devender Singh, Assistant Professor, LHC, Dhakad: Prince Boora, Jyoti

5. Nodal/Senior Dhakad: Dr. Rahul Kumar, Assistant Professor, Chemistry, Dhakad: Sanchit, Pooja
6. Nodal/Senior Dhakad: Dr. Sushil Nagar, Assistant Professor, Biochemistry, Dhakad: Sunil, Kajal Kumari
7. Nodal/Senior Dhakad: Dr. Vinay Kumar, Assistant Professor, Physics, Dhakad: Sunil Kumar, Raman Devi
8. Nodal/Senior Dhakad: Dr. Subhash Chander, Assistant Professor, Sociology, Dhakad: Amit, Manisha
9. Nodal/Senior Dhakad: Dr. Anita, Assistant Professor, Botany and Plant physiology, Dhakad: Pankaj, Gayatri

To create awareness among students and employees of the College about the threats posed by alcohol, tobacco and other drug abuse, the following Drug Prevention Committee has been constituted:

1. Dr. R. K. Gupta, Professor and Head, Zoology, Coordinator
2. Dr. Rakesh Sehrawat, Assistant Professor, Microbiology, Member
3. Dr. Devender, Assistant Professor, LHC, Member
4. Dr. Vinay Kumar, Assistant Professor, Math & Stat, Member
5. Dr. Vinay Kumar, Assistant Professor, Physics, Member
6. Dr. Bas Kaur, Assistant Professor, Sociology, Member
7. Dr. Sarita, Assistant Scientist, Botany and Plant Physiology, Member
8. Dr. Vinod Sangwan, Assistant Scientist, Biochemistry, Member
9. Dr. Jayant Sindhu, Assistant Professor, Chemistry, Member



Anti-drug oath taking ceremony

**Programmes/Activities undertaken**

- Organized seminar on "Indian Constitution and Dr. B.R. Ambedkar" on the occasion of 127th Birth Anniversary of Dr.Ambedkar on 13.04.2018.
- Organized seminar on "Dr. Ambedkar's thoughts on Social and Economic Justice" on the occasion of 128th Birth Anniversary of Dr.Ambedkar on 12.04.2019.
- Organized seminar on Role of "Dr. B.R. Ambedkar on Land and Water Reform" on the occasion of Constitution Day on 26.11.2019.
- Organized seminar on "Dr. B.R. Ambedkar: Samajik Samrasta Ke Agradoot" on the occasion of 131st Birth Anniversary of Dr.Ambedkar on 13.04.2022.




- Government of India celebrated 'Azadi ka Amrut Mahotsava' in commemoration of 75 years of Independence. During this celebration the CCS Haryana Agricultural University Hisar, Haryana, India organized an online lecture series by renowned scientists in their respective fields. In this context, Keynote Speaker, Dr. Rajesh Jalota delivered a lecture in the webinar entitled 'Reducing Carbon Emissions- Simple Solutions to Complex Problems' on June 03, 2022 through Zoom Meeting.



- The College of Basic Sciences & Humanities celebrated the '**World Environment Day**' on 4th June, 2022 in which tree plantation was done in the college campus.
- आजादी के अमृत महोत्सव के तहत मौलिक विज्ञान एवं मानविकी महाविद्यालय के "हर घर तिरंगा" कार्यक्रम का आयोजन किया गया | प्रत्येक विभाग अध्यक्ष ने अपने -अपने विभाग में तिरंगा फहराया , जिसमें विभाग के सभी सदस्यों तथा विद्यार्थियों ने भाग लिया | इसके उपरांत महाविद्यालय के सामने प्रांगण में सभी ने मिलकर तिरंगा फहराया जिसमें कॉलेज के अधिष्ठाता महोदय डॉक्टर नीरज कुमार सभी विभागाध्यक्ष, प्राध्यापक वर्ग, कर्मचारी वर्ग तथा विद्यार्थियों ने बढ़ -चढ़कर भाग लिया | सभी ने देशभक्ति की भावना से ओत-प्रोतहोकर भारत माता की जय–जयकार की|




**आजादी के अमृत महोत्सव के तहत "हर घर तिरंगा" कार्यक्रम**




- Department of Sociology is involved in organization of various extension activities in adopted village "Shamsukh" under Unnat Bharat Abhiyan, Adarsh Gram Yojna and Swachh Bharat Abhiyan. Dr. Vinod Kumari, Convener; Dr.Jatesh Kathpalia, Dr. Rashmi Tyagi, Dr. Subhash Chander and Dr. Bas Kaur are members during the period under report. Following important activities were undertaken and expert lectures were delivered by the faculty.

## Progress Report of Adopted Village 'Shamsukh' for the Year 2018-19

| Sr.No. | Dated | Name of faculty | Awareness/Activities Campaigns |
|---|---|---|---|
| 1. | 28.04.2018 | Dr. Subhash Chander, Assistant Professor | MGNREGS and Rodent Control |
| | | Dr. Ravi Kant, Assistant Professor | |
| 2. | 26.05.2018 | Dr. Vinod Kumari, Professor and Head | Change in Food Habits during Summer Season |
| | | Dr. Virender Hooda | Stubble Burning |
| | | Dr. Ashok Kumar | Kisan Mela |
| 3. | 29.06.2018 | Dr. Vinod Kumari, Professor and Head | Health during Raining Season |
| | | Dr.JateshKakthpalia, Assistant Scientist | Importance of Cleanliness |
| 4. | 31.08.2018 | Dr. Rashmi Tyagi, Assistant Professor | Importance of Sports in Education |
| | | Dr.Shikha, Assistant Professor; | Waste Management |
| 5. | 29.09.2018 | Dr. Rashmi Tyagi, Assistant Professor | Benefits of Nuclear and Joint Families |
| | | Dr. Dharam Prakash Assistant Professor | Conservation of Soil Nutrients |
| 6. | 18.10.2018 | Dr. Vinod Kumar, Professor and Head | Sanitation and Cleanliness |
| | | Dr. Subhash Chander, Assistant Professor | Elementary Education System in Haryana |
| 7. | 16.11.2018 | Dr. Vinod Kumari, Professor and Head | Environment and Health |
| | | Dr. Jatesh Kathpalia, Assistant Scientist | Paddy Straw Management |
| | | Dr. Rashmi Tyagi, Assistant Professor | Environmental Conservation |
| | | Dr. Rekha, Assistant Professor | Preparing Seasonal Vegetable Pickle |
| 8. | 29.01.2019 | Dr. Vinod Kumari, Professor and Head | Importance of Nutrients |
| | | Dr. Rashmi Tyagi, Assistant Professor | Mahilaon Ki Samaj Mein Sakriya Bhoomika |
| | | Dr. Subhash Chander Assistant Professor | Importance of Education in Agricultural Field |
| | | Dr. Rekha, Assistant Professor | Preparation of Notorious Ladoos |
| 9. | 14.03.2019 | Dr. Jatesh Kathpalia, Assistant Scientist | Traditions of Haryana |
| | | Dr. Krishna Hooda, Professor and Head | Haryanvi Sanskriti |
| | | Dr. Manju S.Tonk, Professor and Head | Science and Our Culture |

## Progress Report of Adopted Village 'Shamsukh' for the Year 2019-20

| Sr.No. | Dated | Name of faculty | Awareness/Activities campaigns |
|---|---|---|---|
| **1.** | 28.05.2019 | Dr. Jatesh Kakthpalia, Assistant Scientist | Importance of Agricultural Technologies |
| | | Dr. Shikha Mehta, Assistant Professor | Biogas Plant and its Utility |
| **2.** | 25.06.2019 | Dr. Vinod Kumari, Professor and Head | Save Water in Day-to-Day Life |
| | | Dr. Jathesh Kathpalia, Assistant Scientist | Importance of Water Saving for Future Generation |
| | | Dr. Ram Naresh, Assistant Professor | Water Management Techniques |
| **3** | 30.07.2019 | Dr. Rashmi Tyagi, Assistant Professor | Jeevan mein Aage Badhena ke liya Sakaratamak Soch Jaruri |
| | | Dr.Gajender, Assistant Professor | Fishery Management |
| **4** | 28.08.2019 | Dr. Vinod Kumari, Professor and Head | Care of Rural Women's Health and Nutrition |
| | | Dr. Subhash Chander Assistant Professor | Mahatma Gandhi Rural Employment Guarantee Skill |
| | | Dr. Lalita Kumari Assistant Professor | How to Prepare Plazo with Cutting and Stitching |
| **5** | 27.09.2019 | Dr. Rashmi Tyagi, Assistant Professor | Dengue and Cleanliness |
| | | Dr. Bas Kaur, Assistant Professor | Women Security |
| | | Dr. S.K. Sharma, Assistant Professor | Stubble Burning |
| **6** | 31.10.2019 | Dr. Vinod Kumari, Professor and Head | Environment and Health Aspects |
| | | Dr. Subhash Chander Assistant Professor | Stubble Burning |
| **7** | 29.11.2019 | Dr. Vinod Kumari, Professor and Head | Life Style and Food Habit |
| | | Dr. Subhash Chander Assistant Professor | Impact of Alcoholism and Drug Addiction |
| **8** | 18.12.2019 | Dr. Jatesh Kathpalia, Assistant Scientist | Income through Agricultural Technologies |
| | | Dr. Shikha Mehta, Assistant Professor | Vermi-Compost and its Utility |
| **9** | 24.02.2020 | Dr. Bas Kaur, Assistant Professor | Nutritional Requirement for Teenagers |
| | | Dr. Rekha, Assistant Professor | Preparing Pickle of Lemon and Chilli |

## Progress Report of Adopted Village 'Shamsukh' for the Year 2020-21

| Sr.No. | Dated | Name of faculty | Awareness/Activities campaigns |
|---|---|---|---|
| **1.** | 26.05.2020 | Dr. Jatesh Kathpalia, Assistant Scientist | How to Stay Safe from Corona |
| | | Dr. Shikha Mehta, Assistant Professor | Biogas Plant |
| | | Dr. Rajvir Singh, Dean, COBS&H | Rasoi Ek Oshadhalya |
| **2.** | 30.06.2020 | Dr. Vinod Kumari, Professor and Head | Awareness among Women regarding COVID-19 |
| | | Dr. Bas Kaur, Assistant Professor | Green Consumering |
| | | Dr. Baljeet Saharan, Associate Professor | Bio-fertilizer Products |
| **3.** | 30.07.2020 | Dr. Subhash Chander Assistant Professor | Role of Custom Hiring Centres in Crop Residue Management |
| | | Dr. Ravi Kant, Assistant Professor | Rodent Control |
| **4.** | 27.08.2020 | Dr. Rashmi Tyagi, Assistant Professor | Role of SHGs in Empowering Women |
| | | Dr. Saroj Yadav, Assistant Professor | Textile and Apparel Designing |
| **5.** | 29.09.2020 | Dr.Jatesh Kathpalia, Assistant Scientist | Vashvik Mahamari Ke Daur Mein Rashtriya Ekta |
| | | Dr. Dharamvir Malik Assistant Professor | Fishery Management |
| **6.** | 30.10.2020 | Dr. Subhash Chander Assistant Professor | Impact on Stubble Burning on Environment |
| | | Dr. Rashmi Tyagi, Assistant Professor | Integrated Farming |
| | | Dr. Anita Kumari, Assistant Professor | Maintenance of Plants in Winter Season |
| **7.** | 30.11.2020 | Dr. Jatesh Kathpalia, Assistant Scientist | Krishi and Krishi Mela |
| | | Dr. Krishan Yadav, Associate Director | Kisan Mela |
| **8.** | 30.12.2020 | Dr. Bas Kaur, Assistant Professor | Organic Farming and its Benefits |
| | | Dr. Baljeet Saharan, Associate Professor | Vermi-compost |
| | | Dr. Jatesh Kathpalia, Assistant Scientist | Kisan Diwas |
| | | Dr. Vinod Kumari, Professor and Head | Care of Children in Winter during Covid-19 |
| **9.** | 31.01.2021 | Dr. Subhash Chander Assistant Professor | Importance of Agricultural Education |
| | | Dr. Rashmi Tyagi, Assistant Professor | Water Conservation in Agricultural Sector |

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| **10.** | 28.02.2021 | Dr. Rohtash,<br>Assistant Scientist | Soil and Water Testing |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Integrated Crops |
| **11.** | 30.03.2021 | Dr. Jatesh Kathpalia,<br>Assistant Scientist | Gaon KeTeejTayohar |
| | | Dr. Bas Kaur,<br>Assistant Professor | Bujaraghamari Asli Darohar |
| | | Dr. Ravi Kant,<br>Assistant Professor | Kirtako Se Hone Wali Samasayan Aur Unka Samadhan |

## Progress Report of Adopted Village 'Shamsukh' for the Year 2021-22

| Sr.No. | Dated | Name of Faculty | Awareness/Activities campaigns |
|---|---|---|---|
| **1.** | 30.04.2021 | Dr. Vinod Kumari,<br>Professor and Head | Corona Safety Measures |
| | | Dr.Jatesh Kathpalia,<br>Assistant Scientist | Ped Lagaayen Oxygen Badayen |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Corona Mein Vaccination Bahut Jaroori |
| **2.** | 26.05.2021 | Dr. Vinod Kumari,<br>Professor and Head | Tips to Keep Hygine |
| | | Dr.Jatesh Kathpalia,<br>Assistant Scientist | World No Tobacco |
| | | Dr. Bas Kaur,<br>Assistant Professor | Corona Mein Oxygen Ka Mehtav |
| **3.** | 16.07.2021 | Dr.Jatesh Kathpalia,<br>Assistant Scientist | Water Conservation Techniques |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | ChaayadarPedo Ki Mehta |
| | | Dr. Subhash Chander<br>Assistant Professor | Importance of Agricultural Education for Farming Community |
| **4.** | 28.09.2021 | Dr. Vinod Kumari,<br>Professor and Head | Suhdh Paryavaran Evam Achhe Swasthaya Ke Liya Apanaye Zavik Kheti |
| | | Dr.Jatesh Kathpalia,<br>Assistant Scientist | Parali Parbandhan Kese Karein |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Bachon Ka Mansik Evam Sharirik Vikas |
| | | Dr. Bas Kaur,<br>Assistant Professor | LadkaLadkiEk Samman |
| | | Dr. Shikha Mehta,<br>Assistant Professor | Biogas Plant and its Utility |
| **5.** | 18.10.2021 | Dr. Rashmi Tyagi,<br>Assistant Professor | Importance of Integrated Farming System in Haryana |
| | | Dr. Subhash Chander<br>Assistant Professor | Effects of Stubble Burning on Environment |
| | | Dr. Bas Kaur,<br>Assistant Professor | Water Conservation among Farming Communities of Haryana |
| **6.** | 21.10.2021 | Dr. S.K. Sehrawat,<br>Director of Research | Agricultural Benefits |

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|---|---|---|---|
| | | Dr. Rajvir Singh,<br>Dean, COBS&H | Advanced Agricultural Technology |
| | | Vinod Kumari,<br>Professor and Head | BadleteParivarikRishte |
| | | Dr.Jatesh Kathpalia,<br>Assistant Scientist | Use of Agricultural Technology |
| | | Dr.Baljeet Saharan<br>Associate Professor | Bio-fertilizers |
| **7.** | 30.11.2021 | Vinod Kumari,<br>Professor and Head | Corona Dushman Ka Naya Roop Omikron Ehitat Batein Ke Jarroot |
| | | Dr.Jatesh Kathpalia,<br>Assistant Scientist | Mahila Sashktikaran |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Dengue Bukhar Evam UskaBachav |
| **8.** | 31.12.2021 | Dr.Jatesh Kathpalia,<br>Assistant Scientist | How to Save Water |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Drip Irrigation |
| | | Dr. Sanjay Kumar,<br>Professor | Water Conservation in Agriculture by Farmers |
| **9.** | 31.01.2022 | Dr. Vinod Kumari,<br>Professor and Head | Role of Women in Upliftment of Rural Society |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Fertigation System |
| | | Dr. Subhash Chander<br>Assistant Professor | Contribution of MNREGS in Panchayati Raj System in Haryana |
| | | Dr. Bas Kaur,<br>Assistant Professor | Bagwani Phaslion Ke Pahydae |
| | | Dr. Devender,<br>Assistant Professor | Organic Farming and its Importance |
| **10.** | 28.02.2022 | Dr.Jatesh Kathpalia,<br>Assistant Scientist | Antarrashtriya Mahila Diwas – Mahila Sashktikaran ka Pratik |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Krishi Paryatan Gramino Ke Liye Aamdani Ka Satrot |
| | | Dr. Bas Kaur,<br>Assistant Professor | Pariakshon Ke Duran Bachon Ko Dein Santulit Aahar |
| | | Dr. Veenu Sangwan,<br>Assistant Professor | Preparation of Pearl Millet's ladoo |
| **11.** | 31.03.2022 | Dr. Vinod Kumari,<br>Professor and Head | Pani Ke Choti Bachat Aur Fayda Jayda |
| | | Dr. Rashmi Tyagi,<br>Assistant Professor | Lok Sahitya Ka Samaj Mein Mehtav |
| | | Dr. Krishna Hooda,<br>Professor | Folklore |
| | | Dr. Bas Kaur,<br>Assistant Professor | Bujarag Hamari Asli Darohar |
| | | Dr. Ravi Kant,<br>Assistant Professor | Kirtako Se Honewali Samasayan Aur Unka Samadhan |

## Progress Report of Adopted Village 'Nangthla' for the Year 2022-23

| Sr.No. | Dated | Name of faculty | Awareness/Activities campaigns |
|---|---|---|---|
| **1.** | 30.04.2022 | Dr. Vinod Kumari, Professor and Head | Observing Personal Hygiene for Better Health |
| | | Dr. Jatesh Kathpalia, Assistant Scientist | Health Issues of Women and Children |
| | | Dr. Rashmi Tyagi, Assistant Professor | Empowerment of Women |
| | | Dr. Bas Kaur, Assistant Professor | Importance of Cleanliness Around Us |
| **2.** | 21.05.2022 | Dr. Vinod Kumari, Professor and Head | Gender Sensitization – Need of the Hour |
| | | Dr. Jatesh Kathpalia, Assistant Scientist | Importance of Girls' Child Education |
| | | Dr. Rashmi Tyagi, Assistant Professor | Vocational Courses – Scope and Career Opportunities for Girls |
| **3.** | 27.06.2022 | Dr. Jatesh Kathpalia, Assistant Scientist | Deen Dayal AnantayodaVa Swayam Sahayata Samooh Yojna Se Gram Mahilayo Me Badta Swarojgar |
| | | Dr. Rashmi Tyagi, Assistant Professor | Ghar Se AamdaniKe Liye Chote Vyavsaaye Kaise Shuru Karein |
| | | Dr. Bas Kaur, Assistant Professor | Gramiyon Mein Suti Kadadon Ka Mehtav |
| | | Dr. Neelam Saini, Instructor | How to Make Hand Bags and Cloth Mobile Covers |
| **4.** | 10.08.2022 | Dr.Jatesh Kathpalia, Assistant Scientist | Fundamental Rights and Duties |
| | | Dr. Rashmi Tyagi, Assistant Professor | Patriotism |
| | | Dr. Subhash Chander Assistant Professor | Historical Background of National Flag |
| | | Dr. Bas Kaur, Assistant Professor | National Anthem and Emblem |



Lecture-cum-demonstration "How to conserve soil nutrients" in adopted Village, Nangthala on 28.02.2023

**Department of Microbiology**

- Biofertilizers are sold via PPP mode through MoU signed between Department of Microbiology, CCS HAU with Habitat Genome Primary Producers Company, village Ramayan, Hisar since July 2018




Centre of Biofertilizer Production and Technology




Various Types of Biofertilizers

- The faculty members of Microbiology attend weekly duties at ATIC helpline throughout the year to guide farmers regarding Biofertilizers, Composting and Biogas Technology.

- Microbial-based technologies such as Solid State Biogas Plant, Composting and Biofertilizers Production are demonstrated at Kisan Mela/ Krishi Mela, Kisan Diwas and other Mela organised by the university.



Prof. B. R. Kamboj, Vice-Chancellor, CCSHAU conversing about biofertilizer at demonstration stall during Kisan Mela 2022



Sh. Manohar Lal Khattar, Hon'ble Chief Minister, Haryana and other dignitaries gracing the occasion of Kisan Mela, 2023



Dignitaries gracing the occasion of Kisan Mela, 2023

- Demonstrations are conducted by the scientists of Microbiology Department for validation of the 'Decomposer Technology' through exhaustive multi-locational farmer's field trials in different districts.



Scientists demonstrating the farmers about Decomposer Technology at farmers' field



Application of microbial culture at farmers' field for paddy straw degradation

### Department of Molecular Biology, Biotechnology and Bioinformatics

- The department is engaged in large scale production of high quality planting material of different Crops Species, Horticultural, Medicinal and Ornamental Plants using Plant Tissue Culture Techniques.
- Plants raised through Tissue Culture Techniques are sold in the department and Kisan Mela's



Bandaru Dattatreya, Hon'ble Governor of Haryana conversing with Prof. B. R. Kamboj, Vice-Chancellor CCSHAU, Hisar at Plant Tissue Culture Centre on October 2, 2021



Prof B.R. Kamboj Vice-Chancllor , CCSHAU, Hisar conversing about plants raised through Tissue Culture at demostration stall during Kisan Mela 2022-23

## FOOD SCIENCE AND TECHNOLOGY

### Programmes/Activities undertaken

- Value added food products were sold seasonally through ATIC and HAU mart by the Centre under Experiential Learning Programme (EL-4), Self Finance (SF-56) and Plan Scheme (1140/C(a)Dte-R-1-Agri. (A) State) and also during Kisan Mela (*Rabi* and *Kharif*), Kisan Diwas, Flower Shows, Geeta Jayanti Mahotsav, Exhibitions, etc.

- Final year students of B.Sc. (Hons.) Agril. of COA, Hisar; COA, Kaul and COA, Bawal and PG students were trained to develop value added food products from fruits, vegetables, cereals, pulses and oilseeds under ELP scheme
- CFST exhibits and technologies were also displayed at University Exhibition cum Haryana Rural Antique Museum, Registrar Office, Agri. Business Incubation Centre, HAU mart and during various University programmes on and off University campus to disseminate awareness and information to the visitors

**Sale of Value added Food Products**

| Year | Sale of food products (Rs.) |
|---|---|
| 2018-19 | 2,19,440/- |
| 2019-20 | 3,75,040/- |
| 2020-21 | 19,600/- |
| 2021-22 | 2,05,900/- |
| 2022-23 | 1,48,782/- |

- Exhibits and technologies were displayed by CFST in University Pavilion at Agri Leadership Summit-2019 (ALS-2019) at International Horticulture Market, Ganaur, Sonipat from February 15-17, 2019
- Orientation and visit of trainees under PAHAL-2019 from ABIC on October 5, 2019
- Exhibited technologies and value added food products at CFST stall during Golden Jubilee International Conference Exhibition held in front of College of Agriculture from November 6-8, 2019
- Exhibits were displayed at CFST stall in *"Krishak Mahila Sammelan*" organized by I.C. College of Home Science on December 14, 2019
- Exhibited technologies and sold value added food products in National Incubators Colloquium at CFST stall in front of College of Home Science, CCSHAU, Hisar from January 15-16, 2020
- Displayed technologies and sold value added products at CFST stall in Golden Jubilee Flower Carnival and Competitions organized by Agri. Tourism Centre,CCSHAU, Hisar from January 15-16, 2020
- Developed narrated power point slides concerning CFST and participated in Virtual Kisan Mela organized by CCSHAU, Hisar on October13-14, 2020
- Video recording/shooting of the activities of CFST and exhibited technologies in Kisan Mela (*Kharif*) organized by CCSHAU, Hisar from March9-10, 2021
- Demonstrated and displayed innovative activities of centre for welfare of the farming community in the University exhibition at Geeta Jayanti Mahotsav organized by District Administration, Hisar at Government PG College Ground from December 12-14, 2021

- Display food samples and demonstrated innovative activities, carried out for the welfare of the farming community in the exhibition pavilion at State level Livestock Show organized by Animal Husbandry & Dairying Department, GOI at Bhiwani from February 25-27, 2022



Sh. Bandaru Dattatreya, Hon'ble Governor of Haryana gracing the occasion of Kisan Diwas and Kisan Mela




Farmer's Visit

- CFST exhibits were also displayed in front of ground area of Innovative Centre for Agri Waste Management during Kisan Mela (*Kharif*) on March 15-16, 2022
- Exhibited food samples in Geeta Mahotsav celebration, 2022 at old Government College Ground, Hisar from December 02-04, 2022
- CFST technologies were also exhibited in Urban Farming Expo Flower Fest organized by department of Botany and Plant Physiology in collaboration with Agri-tourism centre in Botanical Garden, CCSHAU, Hisar from December 19-20, 2022

## AWARDS

- CFST stall got second prize in Agro-Industrial Exhibition held during Kisan Mela (*Rabi*) organized from October 04-05, 2018 at Mela Ground, CCSHAU, Hisar
- CFST won second position in CCSHAU, Hisar group for demonstrating valuable goods and technologies in Agro-Industrial Exhibition during Krishi Mela (*Rabi*) held at CCSHAU, Hisar from September 11-12, 2019
- CFST unit EL-4 won first position in Miscellaneous group for demonstrating valuable goods and technologies in Agro-Industrial Exhibition held during Krishi Mela (*Rabi*) at CCSHAU, Hisar from September 13-14, 2022

### Activities/Awareness Campaigns

| S. No. | Date | Name of Faculty | Title | Activities/ Awareness Campaigns |
|---|---|---|---|---|
| **2018-19** | | | | |
| 1. | August 01, 2018 | Dr. Rekha | "National Cadet Corps" during orientation programme at I.C. College of Home Science | Awareness lecture |
| 2. | November 16, 2018 | Dr. Rekha | "Seasonal vegetables pickles" to rural women and school students at adopted village Shamsukh | Awareness and demonstration |
| 3. | January 29, 2019 | Dr. Rekha | "Food processing- nutritious laddoo" to rural women and school students at adopted village Shamsukh | Awareness and demonstration |
| 4. | February, 04-08, 2019 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "Preparation of pineapple squash" in training on "Fruits and vegetables preservation" for SC/ST candidates organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 5. | February, 19-23, 2019 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "Preparation of pineapple and kinnow squash" in training on "Fruits and vegetables preservation" for SC/ST candidates organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 6. | March, 1-5, 2019 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "Preparation of pineapple and kinnow squash" in training on "Fruits and vegetables preservation" for SC/ST candidates organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 7. | March 12-19, 2019 | Dr. Rajbala Grewal | On three topics i.e., "Importance of fruits and vegetable preservation", "Processed products of potato" and "Tomato products" | Awareness and demonstration in training on "Fruits |

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| 8. | | Dr. Saleem Siddiqui | On two topics i.e., "Postharvest handling of fruits and vegetables" and "Minimal processing of fruits and vegetables" | and vegetables processing" for SC youth of Haryana organized at CFST, CCSHAU, Hisar |
| 9. | | Dr. Rakesh Gehlot | On two topics i.e., "Fruit RTS drink" and "Fruit squash and sharbat" | |
| 10. | | Dr. Rekha | On two topics i.e., "Delicious pickles" and "Delicious fruit chutneys" | |
| 11. | | Dr. Anju Kumari | On two topics i.e., "Microorganisms in fruits and vegetables preservation" and "Fruit vinegar" | |
| 12. | | Dr. Ritu | "Murabba and candy from fruits and vegetables " | |
| 13. | April 11-23, 2019 | Dr. Rekha | "Trademark" in training on "Awareness in developing & managing Intellectual Property Rights" for the students of University, organized by Students' Counselling & Placement Cell, DSW, CCSHAU, Hisar | Awareness lecture |
| **2019-20** | | | | |
| 14. | July 10, 2019 | CFST Faculty | Facilitated and coordinated the visit of newly recruited staff of ABIC to CFST for activities and technologies of the Centre | Awareness and interaction session |
| 15. | August 23, 2019 | Dr. Anju Kumari | International training experiences in the area of "Food processing" at University of Auckland, New Zealand under NHAEP- Institutional development plan project (IDP) at CFST. | Seminar |
| 16. | September 3-4, 2019 | Dr. Rakesh Gehlot<br>Dr. Rekha<br>Dr. Anju Kumari<br>Dr. Ritu | ABIC incubates with respect to their project/idea in PAHAL AOP under RKVY RAFTAAR organized by ABIC, CCSHAU, Hisar | Awareness and interaction session |
| 17. | October 16, 2019 | Dr. Rekha<br>Dr. Anju Kumari<br>Dr. Ritu | Judgement of various competitions organized by PFE, COAE&T, CCSHAU, Hisar on the occasion of World Food Day celebration | Judgement of food products samples |
| 18. | October 15 to November 15, 2019 | Dr. Rekha<br>Dr. Ritu | Coordinated HAU e-mart activities | Awareness and sale of HAU-ELP products |
| 19. | January 28, 2020 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of tomato ketchup and tomato chutney" and "Preparation of kinnow squash" in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 20. | February 03, 2020 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "Preparation of apple and mixed fruit jam" in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 21. | February 11-15, 2020 | Dr. Anju Kumari | "Preparation of tomato ketchup, tomato sauce and tomato chutney" in training on "Fruits and vegetables preservation" at KVK, Bhiwani | Awareness and demonstration |
| 22. | February 26 to March 04, | Dr. Rakesh Gehlot | On three topics i.e., "Preparation of RTS and nectar", "Preparation of squash and sharbat" and | Awareness and demonstration in |

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| | 2020 | | "troubleshooting after training programme" | training on "Fruits and vegetables processing" for SC youth organized at CFST, CCSHAU, Hisar |
| 23. | | Dr. Rekha | On three topics i.e., "Delicious potato products", "Tomato products" and "Fruit cheese" | |
| 24. | | Dr. Anju Kumari | On three topics i.e., "Microorganisms in fruits and vegetables preservation", "Fruit preserve" and "Fruit vinegar" | |
| 25. | | Dr. Ritu | On three topics i.e., "Fruit candy", "Fruit chutney" and "Delicious pickles" | |
| 26. | March 02, 2020 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "preparation of apple and mixed fruit jam" in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 27. | March 05, 2020 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "preparation of apple and mixed fruit jam" in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| **2020-21** | | | | |
| 28. | December 11, 2020 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "preparation of apple and mixed fruit jam" in training on "Fruits and vegetables preservation" for SC/ST candidates organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 29. | December 11, 2020 | Dr. Anju Kumari | "Socialization" and "Presentation skills" in online refresher course on "Extension management" from December 11-31, 2020 at AAREM, DHRM, CCSHAU, Hisar | Awareness lecture |
| 30. | December 21-25, 2020 | Dr. Rekha | "Postharvest handling and preservation of mushroom" in training on "Mushroom production" organized by KVK, Sadalpur | Awareness lecture |
| 31. | December 30, 2020 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "Preparation of apple and mixed fruit jam" in training on "Fruits and vegetables preservation" for SC/ST candidates organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 32. | January 12-16, 2021 | Dr. Ritu | Two lecture delivered in training on "Dairy farming" organized by KVK, Sadalpur, Hisar | Awareness lecture |
| 33. | January 15-16, 2021 | Dr. Rakesh Gehlot | On two topics i.e., "Beverage from guava, kinnow and lemon" and "Confectionery products from aonla and guava" | Awareness and demonstration in training programme on "Food processing and value addition" for ABIC incubates |
| 34. | | Dr. Rekha | "Overview of food processing food preservation techniques" | |
| 35. | | Dr. Ritu | "Food safety, quality and packaging" | |
| 36. | January 19, 2021 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS and nectar of guava" and "Preparation of apple and mixed fruit jam" in training on "Fruits and vegetables preservation" for SC/ST candidates organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |

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| 37. | February 22-26, 2021 | Dr. Rekha | On two topics "Methods of fruits and vegetables preservation" and "Preparation of guava jelly" in training on "Kitchen gardening" organized by Department of EECM, COHS, CCSHAU, Hisar | Awareness and demonstration |
| **2021-22** | | | | |
| 38. | July 12-14, 2021 | Dr. Rekha | On four topics i.e., "Lemon and bael squashes, RTS drink, and rose syrup in three days training on "Summer beverages" to the rural women from village, Gawar from Hisar and Mandori, Fatehabad conducted online from CFST and organized by EECM, COHS, CCSHAU, Hisar | Awareness and demonstration |
| 39. | July 12-16, 2021 | Dr. Ritu | "Fruits and vegetables preservation" organized by SNIATTE, DEE, CCSHAU, Hisar | Awareness lecture |
| 40. | September 06, 2021 | Dr. Ritu | Webinar conducted by CCSHAU, KVK, Kurukshetra | Awareness lecture |
| 41. | September 09, 2021 | Dr. Rekha | "Processing and preservation of fruits & vegetables- jam, jelly, tomato ketchup, pickles etc." to women farmers organized by PNB FTC, Sacha Khera, Jind | Awareness and demonstration |
| 42. | September 15 and 17, 2020 | CFST Faculty | Coordinated visit and orientation programme of newly appointed teachers/scientists of CCSHAU, Hisar in the Centre | Awareness and interaction session |
| 43. | September 14-18, 2021 | Dr. Rakesh Gehlot | On two topics i.e., "Fruit RTS drink and nectar" and "Fruit jam" in training on "Fruits and vegetables preservation" for SC/ST community of Haryana organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 44. | September 20-24, 2021 | Dr. Rakesh Gehlot | On two topics i.e., "Fruit RTS beverages" and "Mixed fruit jam" | Awareness and demonstration in training on "Fruits and vegetables preservation" for SC/ST community of Haryana, organized by SNIATTE, CCSHAU, Hisar |
| 45. | | Dr. Rekha | "Sweet and sour lemon pickle" | |
| 46. | | Dr. Anju Kumari | "Role of micro-organisms in fruits and vegetables preservation" | |
| 47. | October 01-08, 2021 | Dr. Rekha | "Practical demo of food product preparation and visit to CFST" in training on "Dairy farming" for the unemployed rural youth, organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 48. | October 01-08, 2021 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS drink from fruits" and "Preparation of squashes from fruits" at vocational training programme on "Processing and value addition" under ARYA project at KVK, Mahendergarh | Awareness and demonstration |
| 49. | November 21, 2021 | Dr. Anju Kumari | "Time management" at seven day state NSS camp held from November 16-22, 2021 at Chaudhary Bansi Lal University, Bhiwani | Awareness lecture |
| 50. | November 22-26, 2021 | Dr. Rekha | "Postharvest handling and preservation of mushroom" | Awareness lecture in vocational training on "Mushroom |
| 51. | | Dr. Ritu | "Mushroom production and hygiene at primary level" | |

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| | | | | production" organized by KVK, Sadalpur |
| 52. | February 02-06, 2022 | Dr. Rekha | On two topics "Preparation of apple jam" and "Drying of peas and its bottling" in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 53. | February 05-09, 2022 | Dr. Rekha | On two topics "Preparation of apple jam" and "Drying of peas and its bottling" in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 54. | February 09-13, 2022 | Dr. Rekha | On two topics "Preparation of apple jam" and "Drying of peas and its bottling" in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 55. | February 17-21, 2022 | Dr. Rakesh Gehlot | "Hands on demonstration of different food processing development methods and products" | Awareness and demonstration in training on "Fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar |
| 56. | | Dr. Rekha | On two topics i.e., "Preparation of apple jam" and "Drying of peas and its bottling" | |
| 57. | February 18, 2022 | Dr. Rekha | Technical session on "Food processing" under two months agripreneurship orientation program "PAHAL 2021-22" andincubation program "SAFAL 2021-22" under RKVY-RAFTAAR scheme, MoA&FW, GOI organized by ABIC, CCSHAU, Hisar | Awareness lecture |
| 58. | February 21-25, 2022 | Dr. Rakesh Gehlot | "Hands on demonstration of different food processing development methods and products" | Awareness and demonstration in training on "Fruits and vegetables preservation" for SC candidates organized by SNIATTE, CCSHAU, Hisar |
| 59. | | Dr. Rekha | On two topics i.e., "Preparation of apple jam" and "Drying of peas and its bottling" | |
| 60. | February 25, 2022 | Dr. Anju Kumari | "Quiz competition", National Science Day-2022 | Judgement of student participants |
| 61. | March 03, 2022 | Dr. Rekha | "Processing and preservation of fruits & vegetables- jam, jelly, tomato ketchup, pickles etc." to women farmers organized by PNB FTC, Sacha Khera, Jind | Awareness and demonstration |
| 62. | March 8-12, 2022 | Dr. Rekha | "Preparation of dodha burfi" | Awareness and demonstration in training on "Marketing of milk and milk products" organized by SNIATTE, |
| 63. | | Dr. Ritu | "Value addition of dairy milk" | |

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| | | | | CCSHAU, Hisar |
| 64. | March 08-12, 2022 | Dr. Rekha | On two topics i.e., "Preparation of apple jam" and "Drying of peas and its bottling" | Awareness and demonstration in training on "Entrepreneurship development through fruits and vegetables preservation" organized by SNIATTE, CCSHAU, Hisar from |
| 65. | March 14-23, 2022 | Dr. Anju Kumari | On two topics i.e., "Entrepreneurship development through community based primary processing and value addition under IFS" and "Value added mushroom products" in training on "Integrated farming system for small and marginal famers" organized by COA, CCSHAU, Hisar | Awareness lecture |
| 66. | March 22, 2022 | Dr. Rekha | Under a training programme "Ladli" with the school girls organized by PNB FTC, Sacha Khera, Jind | Awareness and interactive session |
| 67. | April 25-29, 2022 | Dr. Rakesh Gehlot | On three topics i.e., "Preparation of RTS, nectar, squash, crush and syrup", "preparation of sauce/ketchup, chutney, jam, cheese, leather and toffee" and "preparation of pickles, preserve, candy and dehydrated products | Awareness and demonstration in training programme on "Food processing and value addition" for progressive farmers of Haryana organized by CFST, CCSHAU Hisar |
| 68. | | Dr. Rekha | On three topics i.e., "Preparation of maize and bajra biscuits", "preparation of eggless/sponge cakes and muffins" and "processing of instant halwa and upma mix, pasta, noodles, laddoo and dodha burfi | |
| 69. | | Dr. Anju | Probiotic lassi powder and symbiotic watermelon jam | |
| 70. | | Dr. Ritu | Value added porridge | |
| 71. | May25-29, 2022 | Dr. Rakesh Gehlot | Visit to CFST by trainees in training on "Value added food products from Bael" organized by SNIATTE, CCSHAU, Hisar | Awareness and interaction session |
| 72. | June 6-8, 2022 | Dr. Rekha | Training on "Bakery products preparations" organized by SNIATTE, CCSHAU, Hisar | Awareness and demonstration |
| 73. | June 7, 2022 | Dr. Ritu | "Writing skill competition" during the celebration of World Food Safety Day by DSW, CCSHAU, Hisar | Judgement of student participants |
| 74. | June 26-28, 2022 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of different types of pickles-part I" and "Preparation of different types of pickles-part II" | Awareness and demonstration in training on "Pickles making" organized by SNIATTE, CCSHAU, Hisar |
| 75. | | Dr. Rekha | "Preparation of value added products from seasonal fruits and vegetables" | |
| **2022-23** | | | | |
| 76. | October 11-15, 2022 | Dr. Rakesh Gehlot | On three topics i.e., "Preparation of pickles", "Preparation of tomatobased value added products" | Awareness and demonstration in |

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| | | | and "Preparation of RTS/sharbat/squashes" | training on "Fruits and vegetables preservation" organized under the project RKVY RAFTAAR by SNIATTE, CCSHAU, Hisar |
| 77. | | Dr. Rekha | On two topics i.e., "Drying of seasonal fruits, vegetables and mushrooms" and "Preparation of fruit cakes" | |
| 78. | October 17-21, 2022 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS/squash from pineapple" and "Preparation of guava nectar and pomegranate sharbat" | Awareness and demonstration in training on "Fruits and vegetables preservation" organized under the project RKVY RAFTAAR by SNIATTE, CCSHAU, Hisar |
| 79. | | Dr. Rekha | On three topics i.e., "Preparation of different types of fruit jams", "Preparation of fruit custard and cakes" and "Drying of seasonal vegetables/fruits and its bottling" | |
| 80. | | Dr. Anju | Preparation of fermented products from fruits and vegetables | |
| 81. | October 16, 2022 | Dr. Ritu | "Photography competition" on World Food Day organized by Young Journalism Cell, CCSHAU, Hisar | Judge |
| 82. | November 15-19, 2022 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS/squash from pineapple" and "Preparation of guava nectar and pomegranate sharbat" | Awareness and demonstration in training on "Fruits and vegetables preservation" organized under the project RKVY RAFTAAR by SNIATTE, CCSHAU, Hisar |
| 83. | | Dr. Rekha | On two topics i.e., "Preparation of different types of fruit jams" and "Drying of seasonal vegetables/fruits and its bottling" | |
| 84. | | Dr. Anju | Preparation of fermented products from fruits and vegetables | |
| 85. | | Dr. Ritu | Preparation of fruit custard and cakes | |
| 86. | December 01-07, 2022 | Dr. Rakesh Gehlot | On two topics i.e., "Preparation of RTS/squash from pineapple" and "Preparation of guava nectar and pomegranate sharbat" | Awareness and demonstration in training on "Fruits and vegetables preservation" organized under the project "Improvement in the livelihood of SC/ST farmers of Haryana" by SNIATTE, CCSHAU, Hisar |
| 87. | | Dr. Rekha | On two topics i.e., "Preparation of different types of fruit jams" and "Drying of seasonal vegetables/fruits and its bottling" | |
| 88. | | Dr. Anju | "Preparation of fermented products from fruits and vegetables" | |
| 89. | | Dr. Ritu | "Preparation of fruit custard and cakes" | |
| 90. | December 12-16, 2022 | Dr. Rakesh Gehlot | "Preparation of products like upma, chocolates, etc." | Awareness and demonstration in training on "Bakery" organized by SNIATTE, CCSHAU, Hisar for SC/ST candidates |
| 91. | | Dr. Rekha | On two topics i.e., "Drying of vegetables and its use in preparation of baked products" and "Types of cookies and muffins; types of biscuits from wheat/maize/bajra" | |

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| 92. | December 19-23, 2022 | Dr. Rakesh Gehlot | "Preparation of products like upma, chocolates, etc." | Awareness and demonstration in training on "Bakery" organized by SNIATTE, CCSHAU, Hisar for SC/ST candidates |
| 93. | | Dr. Rekha | On two topics i.e., "Drying of vegetables and its use in preparation of baked products" and "Types of cookies and muffins; types of biscuits from wheat/maize/bajra" | |

**6.5.1.2** : Mention the impact of monitoring on the outcome of the College with reference to students' excelling in academics, research and extracurricular activities

## M.Sc. Students passed out during Last Five Years

| M.Sc. Students | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Department** | **Specialization** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
| | | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** |
| **Biochemistry** | Biochemistry | 4 | 6 | 4 | 6 | 4 | **24** | 4 | 1 | 5 | 5 | 1 | **16** |
| **Botany and Plant Physiology** | Botany | 0 | 3 | 3 | 2 | 2 | **10** | 0 | 0 | 0 | 3 | 2 | **5** |
| | Plant Physiology | 3 | 4 | 1 | 3 | 4 | **15** | 2 | 3 | 3 | 3 | 2 | **13** |
| | Environmental Science | 3 | 3 | 1 | 2 | 3 | **12** | 0 | 0 | 3 | 2 | 1 | **6** |
| **Chemistry** | Chemistry | 4 | 8 | 8 | 7 | 5 | **32** | 1 | 5 | 4 | 7 | 7 | **24** |
| **Food Science &Technology** | Food Science and Technology | 4 | 4 | 4 | 4 | 4 | **20** | 5 | 2 | 6 | 2 | 2 | **17** |
| **Mathematics and Statistics** | Mathematics | 0 | 1 | 1 | 1 | 2 | **5** | 0 | 0 | 0 | 1 | 0 | **1** |
| | Statistics | 3 | 3 | 3 | 2 | 1 | **12** | 2 | 2 | 3 | 1 | 2 | **10** |
| **MBB&B** | Molecular Biology, Biotechnology& Bioinformatics | 4 | 8 | 8 | 7 | 5 | **32** | 2 | 4 | 8 | 6 | 7 | **27** |
| **Microbiology** | Microbiology | 5 | 6 | 9 | 12 | 9 | **41** | 1 | 4 | 5 | 6 | 6 | **22** |
| **Physics** | Physics | 3 | 2 | 3 | 3 | 2 | **13** | 0 | 4 | 3 | 1 | 3 | **11** |
| **Sociology** | Sociology | 8 | 4 | 6 | 4 | 4 | **26** | 2 | 5 | 7 | 2 | - | **16** |
| **Zoology** | Zoology | 7 | 4 | 4 | 6 | 5 | **21** | 3 | 6 | 6 | 7 | 4 | **26** |

## Ph.D. Students passed out during Last Five Years

| Ph.D. Students | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Department** | **Specialization** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
| | | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** |
| Biochemistry | Biochemistry | 3 | 5 | 3 | 4 | 2 | **17** | **0** | **1** | **1** | **2** | **2** | **6** |
| Botany and Plant Physiology | Botany | 0 | 4 | 5 | 5 | 1 | **15** | 0 | 0 | 0 | 0 | 0 | **0** |
| | Plant Physiology | 2 | 5 | 6 | 3 | 2 | **18** | 2 | 0 | 2 | 1 | 4 | **9** |
| | Environmental Science | 0 | 3 | 4 | 2 | 5 | **14** | 0 | 0 | 0 | 0 | 0 | **0** |
| Chemistry | Chemistry | 2 | 11 | 8 | 6 | 7 | **34** | 3 | 2 | 5 | 3 | 3 | **16** |
| Food Science and Technology | Food Science and Technology | 3 | 3 | 3 | 3 | 4 | **16** | 1 | 0 | 2 | 3 | 1 | **7** |
| Mathematics and Statistics | Mathematics | 0 | 05 | 03 | 03 | 02 | **13** | 0 | 0 | 0 | 0 | 0 | **0** |
| | Statistics | 3 | 3 | 3 | 2 | 1 | **12** | 2 | 2 | 3 | 1 | 2 | **10** |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBB&B | Molecular Biology, Biotechnology & Bioinformatics | 8 | 7 | 1 | 8 | 2 | **26** | 7 | 9 | 4 | 3 | 5 | **28** |
| Microbiology | Microbiology | 3 | 6 | 11 | 10 | 9 | **39** | 7 | 3 | 2 | 3 | 6 | **21** |
| Physics | Physics | 0 | 3 | 2 | 2 | 3 | **10** | 0 | 0 | 0 | 0 | 0 | **0** |
| Sociology | Sociology | 2 | 5 | 6 | 8 | 3 | **24** | 0 | 0 | 4 | 3 | 1 | **8** |
| Zoology | Zoology | 4 | 7 | 4 | 4 | 6 | **21** | 2 | 2 | 3 | 1 | 8 | **16** |

### Diploma Students passed out during Last Five Years

| **Diploma Students** | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sr. No.** | **Department** | **Specialization** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
| | | | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** |
| **1** | Language and Haryanvi Culture | Diploma in Communication Skills in English | 20 | 20 | 20 | 20 | 20 | **100** | 3 | 7 | 7 | 7 | Awaited | **24** |
| | | Diploma in Hindi-English Translation | 20 | 20 | 20 | 20 | 20 | **100** | 3 | 2 | 8 | 9 | Awaited | **22** |

A. Studentscleared NET/ARS/GATE or any other examination: Two hundred seven(207) **(All DepartmentsAnnexure VII).**

**B.** During the period under review, one hundredtwenty eight (128) students were awarded fellowships from outside agencies **(All Departments Annexure VIII).**

**C. Research Publications of Students**

The M.Sc. and Ph.D. students of the college published their research in referred journals of National and International repute as below-

| **Department** | **M.Sc.** | | **Ph.D.** | |
|---|---|---|---|---|
| | **Number** | **NAAS Rating** | **Number** | **NAAS Rating** |
| Biochemistry | 11 | 4.77-10.05 | 29 | 3.95-13.51 |
| Botany and Plant Physiology | 10 | 4.13-6.56 | 17 | 4.50-8.93 |
| Chemistry | 14 | 4.75-12.29 | 29 | 4.75-14.07 |
| Food Science and Technology | 31 | 5.21-10.97 | 47 | 4.45-20.00 |
| Mathematics and Statistics | 08 | 3.17-5.38 | 50 | 3.73-7.52 |
| Microbiology | 12 | 5.04-5.53 | 49 | 3.95-10.05 |
| Molecular Biology, biotechnology and Bioinformatics | 07 | 5.31-6.37 | 44 | 4.73-16.44 |
| Physics | 02 | 5.10-6.82 | 04 | 6.57-9.5 |
| Sociology | 11 | 3.89-5.30 | 10 | 4.13-5.38 |
| Zoology | 40 | 5.11-6.21 | 49 | 4.20-12.06 |

Details are provided in individual programme.

One hundred thirty six (136) students were placed in Government and Private organizations under report**(All Departments Annexure V).**

**Student Participation in Conferences/ Seminars/ Symposiums/ Workshops**

Forty seven (47) M.Sc. students **(All Departments Annexure III)** and three hundred eight (309) Ph.D. students **(All Departments Annexure III)** attended and presented their work in Conferences/ Seminars/ Symposiums/ Workshops as under-

| Programme | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total* |
|---|---|---|---|---|---|---|---|
| M.Sc. | 07 | 09 | - | 03 | 19 | 09 | 47 |
| Ph.D. | 28 | 64 | 13 | 49 | 93 | 62 | 309 |
| Total | 35 | 73 | 13 | 52 | 112 | 71 | 356 |

***Total number includes the students who attended multiple events**

**6.5.1.3 CC/Board of Studies:** *Whether the CC in the Department level and Board of Studies at the College is in place? The composition of the BoS and date of conduct of meetings for last five years and major recommendations made by the BoS should be given in tabular form.*

Yes, College of Basic Sciences and Humanities has Board of studies (BOS) at college level and Departmental Advisory Committee (DAC) at department level**.**These are constituted with the approval of the Competent Authority.

**Composition of BOS**

**Chairperson:** Dean, COBS&H

**Members:**

1. HOD, Biochemistry
2. HOD, Botany and Plant Physiology
3. HOD, Chemistry
4. HOD, Languages and Haryanvi Culture
5. HOD, Mathematics and Statistics (Member Secretary)
6. HOD, Microbiology
7. HOD, Molecular Biology, Biotechnology and Bioinformatics
8. HOD, Physics
9. HOD, Sociology
10. HOD, Zoology and Aquaculture
11. Incharge, Computer Section
12. HOD, CFST

**Role of Board of Studies**

- The college has a Board of Studies which is responsible for proposing new courses, curricula modification, number of seats for admission and procedures *etc*. for the various programs offered by the college.
- The Boards of Studies prescribes syllabi so as to ensure integrated and well-balanced courses of study.

- The Board of Studies also overviews the standards of teaching and research regularly.

**Date of Conduct of Meetings for Last Five Years and Major Recommendations made by the BOS/ HODs Meeting are given below:**

| | | |
|---|---|---|
| **2018-19** | | |
| 1. | 27.06.2018 | Starting PG programme in Mathematics |
| | | Deciding about the course MBB-533 |
| | | New PG Courses in Sociology |

| | | |
|---|---|---|
| **2019-20** | | |
| 1. | 15.07.2019 | To start M.Sc./Ph.D. programme in the discipline of Mathematics,Physics and Botany. |
| 2. | 20.12.2019 | No. of seats of different programmes |
| | | Change of qualification if any (Minimum qualifications for admission of fresh as well as in service candidates) |
| | | Industrial visits included in the syllabus of following courses: MICRO-505 (Microbial Biotechnology), MICRO-508 (Environmental Microbiology), MICRO-510 (Industrial Microbiology), MICRO-601 (Advances in Fermentation). |
| | | |
| **2020-21** | | |
| 1. | 19.03.2020 | Starting Ph.D. programme in the discipline of Environmental Science in Department of Botany and Plant Physiology |
| | | Introduction of a new deficiency course SOC 403 |
| | | Change in Credit hours and Shifting of SOC 511 in 1st semester instead of 2nd semester. |
| **2021-22** | | |
| | | ---------- |
| **2022-23** | | |
| 1. | 14-03-2022 | No. of Seats of different programmes. |
| | | Change of qualification if any (Minimum qualifications for admission of fresh as well as in service candidates. |
| | | a) Proposal for Gold Medal in department of Mathematics and Statistics, COBS&H for M.Sc. topper in the name of Dr. Deepak Grover, Ex-HOD, Mathematics and Statistics<br>b) M.A. (English) 5 seats and Ph.D. (English) 2 seats in the department of Language and Haryanvi Culture |
| 2. | 27.04.2022 | Restructuring masters' and doctoral course curricula and syllabi of BSMA. |
| | | Change of qualification if any (Minimum qualifications for admission of fresh as well as in service candidates). |
| | | M.A. English (5 seats) and Ph.D. English (2 seats) in the Department of Languages and Haryanvi Culture. |
| | | Change in rules for thesis submission for M.Sc. and Ph.D. |
| | | a) Maximum number of credit hours registered per semester may be increased to 24<br>b) Synopsis submission period limit may also be extended till third semester for M.Sc. and 4th Semester for Ph.D.<br>c) Each HOD to ensure regarding offering compulsory courses preferably during first semester<br>d) The time table and examination schedule of courses where multidisciplinary students get registered may be planned at Dean level |

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|---|---|---|
| | | e) Industrial visit be included in masters' / doctoral programme of Microbiology (Micro 503, Micro 506, Micro 507, Micro 509, Micro, 510 Micro 601, Micro 604 & ENS 603 & ENS 504) |
| 3. | 08.08.2022 | "Har Ghar Tiranga"Programme. |
| **2023** | | |
| 1. | 16.01.2023 | Nomination of Secretary, BOS |
| | | Finalization of Course Curriculum of BSMA |
| | | a) The proposal of modification/addition of service courses of computer science offered by the Computer Section to different departments.<br>b) Requirement of funds for exhibition Hall of the College.<br>c) Strengthening of teaching and research in the COBS&H. |
| 2. | 14.02.2023 | No. of seats of different programmes |
| | | Change of qualification if any (Minimum qualifications for admission of fresh as well as in service candidates) |
| | | a) Nomenclature of degree<br>b) Nomenclature of Department of Zoology & Aquaculture" as "Department of Zoology". |

**Composition of Departmental Advisory Committee (DAC)**

**Chairperson:** HOD

**Members:**

1. Professor (Member)
2. Ex. HODs (Member)
3. Associate Professor/Scientist (Member)
4. Assistant Professor/Scientist (Member - Secretary)

**Role of DAC**

- The Departmental Advisory Committee is responsible for management of teaching, research and extension within each department of the college.

**6.5.1.4.: Anti-Ragging Cell:** *In pursuance to the Judgment of the Hon'ble Supreme Court of India dated 08.05.2009 in Civil Appeal No. 887/2009, the University Grants Commission has framed "UGC Regulations on curbing the menace of ragging in higher educational institutions, 2009" which have been notified on 4th July, 2009 in the Gazette of India. Does the College follow this regulation and subsequent guidelines issued in the matter in letter and spirit? Give details.*

Yes, the college has Anti-ragging committee which follows regulation and subsequent guidelines issued in the matter. This Anti-ragging committee is constituted by the Dean.

**Anti-ragging Committee**

**A. Composition of the Committee:**

**Teachers**

Dr. Aparna, HOD, LHC
Dr. Baljeet Singh Saharan, Senior Scientist, Microbiology
Dr. Dharmbir Singh, Assistant Professor, COFS
Dr. Manoj Kumar, Assistant Professor, Department of Maths and Statistics
Dr. Vinod Goyal, Assistant Professor, Department of Botany and Plant Physiology

Dr. Sarita Devi, Assistant Professor, Department of Botany and Plant Physiology
Dr. Ajay Pal, Assistant Professor, Department of Biochemistry
Dr. Devender Singh, Assistant Professor, LHC
Dr. Jayant Sindhu, Assistant Professor, Department of Chemistry
Dr. Bas Kaur, Assistant Professor, Department of Sociology

**PG Students**

Ms. Phagun Mehta D/o Professor, S.K. Mehta, Department of Mathematics and Statistics
Mr. Ajay Shama, S/o Sh. Netra Prasad Sharma, Department of Mathematics and Statistics
Mr. Sunil Kumar, S/o Sh. Rohtash Kumar, Department of Physics
Ms. Mansi D/o Dr. Ram Niwas, Department of Chemistry

**Non-Teaching Staff**

Sh. Jai Singh, Personal Assistant, Dean, COBS&H
Sh. Rajesh Kumar, Assistant, Dean, COBS&H
Ms. Pooja Rani, JSS, COBSH

**Parents**

Dr. R. P. Sihag, 1845, Sector-14, Hisar, Haryana – 9416307523
Sh. Ramgopal Verma, H. No. 748 Near Old Jindal Park, Mill Gate, Hisar, Haryana – 8607802440
Sh. Gulshan Kamra, H. No. 45, Gali No. 3, Jawahar Nagar, Hisar, Haryana – 9996795444

**B. Activities**

1. The committee monitors the events involving ragging, enquire into and report to the Dean, COBSH and work out modalities of functioning, frequency of visits, meetings *etc.* The committee check the ragging menace during the college hours in and around the college premises and also make surprise raids on hostels and other places vulnerable to incidents of ragging.
2. Anti-ragging Committee is functional and Ragging is banned in the University. The University has adopted the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 009 as well as the directions of the Hon'ble Apex Court. The Haryana Prohibition of Ragging in Educational Institution Ordinance/Rule 2012 has also been adopted by the University *w.e.f.* 27.9.2012. Rules on Curbing the Menace of Ragging 2012 are at Chapter-IX of this Prospectus.
3. The application form for admission, enrolment or registration contains an undertaking by the students and parents, mandatorily in English and in Hindi and/or in one of the regional languages known to the parents/guardians of the applicant, as provided in the English language in Proforma II to these Rules, to be filled up and signed by the parents/guardians of the applicant to the effect that he/she has read and understood the provisions of these Rules as well as the provisions of any other law for the time being in force, and is aware of the prohibitions of ragging and the punishments prescribed, both under penal laws as well as under these Rules and also affirm to the effect that his/her ward has not been expelled and or debarred by any institution and further aver that his/her ward would not indulge, actively or passively, in the act or abet the act of ragging and if found guilty of ragging and/or abetting ragging, his/her ward is liable to be proceeded against under these Rules or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of his/her ward.

4. The Dean/Principal shall punish the student found guilty of ragging after following the prescribed procedure.
5. The Anti-Ragging Committee of the University shall take an appropriate decision, in regard to punishment or otherwise, depending on the facts of each incident of ragging and nature and gravity of the incident of ragging established in the recommendations of the Anti-Ragging Squad.
6. The Anti-Ragging Committee may, depending on the nature and gravity of the guilt established by the Anti-Ragging Squad, recommend, to those found guilty, one or more of the following punishments, namely;
   - i) Suspension from attending classes and academic privileges.
   - ii) Withholding/withdrawing scholarship/ fellow-ship and other benefits.
   - iii) Debarring from appearing in any test/examination or other evaluation process.
   - iv) Withholding results.
   - v) Debarring from representing the institution in any regional, national or international meet, tournament, youth festival *etc*.
   - vi) Suspension/expulsion from the hostel.
   - vii) Cancellation of admission.
   - viii) Rustication from the institution for period upto three years.
   - ix) Expulsion from the institution and consequent debarring from admission to any other institution for a period of three years.
   - x) Forfeiting campus placement opportunity or recommendations
   - xi) Imposition of fine upto Rs. 25000/-

**No instance of ragging has been reported during the last five years from the college.**

**6.5.1.5. Biological Waste Disposal Facility:** *Whether wastes (chemical, biological, radioactive, universal, and recyclable) are generated by a variety of research, clinical, service, maintenance, and cleaning operations at the College level? If yes, then mention the disposal mechanism being adopted as per the government guidelines.*

Yes, the waste generated by various research and cleaning operations is collected and disposed off at sites meant for disposal at University level. The chemical, biological and recyclable wastes are generated through research, *service*, maintenance, and cleaning operations. The University has constituted Institutional Biosafety Committee for reviewing research on genetically modified crops:

1. Dr. Jeet Ram Sharma, Director of Research, Chairman
2. Dr. Shikha Yashveer, Assistant Professor, Member-Secretary
3. Dr. Priti Malik, Lady Medical Officer, Biosafety officer
4. Dr. Sushila Maan, Professor, Outside Expert
5. Dr. Namita Singh, Professor, GJUS&T, DBT Nominee
6. Dr. Neeraj Kumar, Dean, COBS&H, Internal Member
7. Dr. Neeraj Kumar, Professor and Head, MBB, Internal Member
8. Dr. Surender Pahuja, Professor and Head, Genetics & Plant Breeding, Internal Member
9. Dr. Leela Wati, Professor and Head, Internal Member
10. Dr. Hawa Singh Saharan, Professor and Head, Internal Member
11. Dr. Sangeeta Sindhu, Professor and Head, Internal Member
12. Dr. Sanjay Kumar Thakral, Professor and Head, Internal Member
13. Dr. Rachna Gulati, Officer Incharge, COFS, Internal Member

The College has also constituted Chemical and Biosafety Committee (CCBC) for reviewing projects and research activities that involve possible biological, chemical, and physical hazardous at the laboratories. The CCBC also monitor the fire safety arrangements and waste management practices including storage and disposal of chemicals, biological and other materials. The committee conduct training programs to educate students and faculty about laboratory safety issues to avoid any unwanted event. The overall motto of CCBC is to ensure the safety of students, faculty and staff, mitigate environmental pollution and eventually improve the research standard.

The Dean, COBS&H has also constituted the committee to assess the ways of disposing waste in various departments of the College**.** Committee comprised of following members:

1. Dr. Neeraj Kumar, Dean COBS&H, Chairman
2. Dr. Rahul Kumar, Assistant Professor, Chemistry, Member-Secretary
3. Dr. Ajay Pal, Assistant Professor, Biochemistry, Member
4. Dr. Ravikant, Assistant Professor, Zoology, Member
5. Dr. Jayant Sindhu, Assistant Professor, Chemistry, Member
6. Dr. Vinod Goyal, Assistant Scientist, Botany & Plant Physiology, Member
7. Dr. Anuj Rana, Assistant Scientist, Microbiology, Member
8. Dr. Vinay Kumar, Assistant Professor, Physics, Member

College of Basic Sciences and Humanities, CCS HAU Hisar conducted a training on "Chemical and Biosafety Practices in the Laboratory" for the newly admitted M.Sc. and Ph.D. students of the College from 10-20 October, 2022. This training involved lectures on Laboratory Safety Practices pertaining chemical, biological, fire, electric hazardous among the others. Hands-on Training was also provided to the students from various departments namely Microbiology, Chemistry, Biotechnology, Plant Physiology and Zoology department. The training was organized under the supervision of "Chemical and Biosafety Committee" of the College.

Faculty members from Biotechnology, Chemistry, Microbiology, Physics, Botany and Plant Physiology and Zoology delivered lectures and hands on training on safety aspects in the laboratory considering subject specific safety issues. The participating students were made aware about roles and responsibilities of researcher and students conducting experiments and handling hazardous materials, bioagents, chemicals. Further, safety aspects related to the instrumental operation to ensure risk free work in the laboratory were also provided. This training benefitted the students by education them about appropriate precautions and safe guards for good lab safety practices.




Training on Laboratory Safety Techniques

**6.5.1.6. Institutional Ethics Committee for Experiment on Animals:** *Whether the Institute/College is following CPCSEA guidelines and constituted an Institutional Animal Ethics Committee (IAEC), get their animals house facilities inspected and get their project cleared by CPCSEA and IAEC before commencing them? If Yes, the college should make statement that it is adhering all guidelines in the matter.*

Yes, the University has constituted Institutional Ethical Committee for reviewing the all research project and research proposals related to animals in the university:

1. Dr. Naresh Jindal, Director of Research, LUVAS
2. Dr. Jeet Ram Sharma, Director of Research, CCS HAU, Hisar
3. Dr. Manju Mehta, Dean COHS, CCS HAU, Hisar
4. Dr. Neeraj Kumar, Dean COBS&H, CCS HAU, Hisar
5. Chief Medical Officer, Civil Hospital, Hisar
6. Dr. Preeti Malik, Senior Medical Officer, University Hospital, CCS HAU, Hisar
7. Professor and Head, Department of Sociology, CCS HAU, Hisar
8. Dr. Pooja Kataria, MD, Department of Community Medicines, MAMC Agroha
9. Mrs. Saroj Bala, Legal Expert, H.No. 2360, Sector 9 & 11, Hisar
10. Dr. A.S. Nandwal, Professor, (Retired), Member from the Community
11. Associate Director (BS/HS), Directorate of Research, CCS HAU, Hisar
12. Additional Director of Research, CCS HAU, Hisar

The College has also constituted Ethics Committee which follows regulation and animals are maintained in a proper and healthy manner and are not subjected to unnecessary pain or suffering before, during and after performance of experiments on them.

1. Dr. Neeraj Kumar, Dean COBS&H, Chairman
2. Dr. R. K. Gupta, HOD, Zoology, Member
3. Dr. Leela Wati, HOD, Microbiology, Member
4. Dr. Sushila Singh, Assistant Professor, Chemistry, Member
5. Dr. Ajay Pal, Assistant Professor, Biochemistry, Member
6. Dr. Anita, Assistant Scientist, Botany and Plant Physiology, Member

**6.5.1.7. Committee for Prevention of Sexual Harassment of Women at Work Places:** *Does the institution is adhering the sexual harassment of women at workplace (Prevention, Prohibition and Redressal Act, 2013) in letter and spirit:*

The Vice-Chancellor has constituted the following Internal Complaints Committee for considering the cases of sexual harassment of women for Campus at CCS HAU, Hisar till further orders:

1. Dr. Manju Singh Tonk, Professor, Department of Mathematics and Statistics
2. Smt. Kailash Rani, SSS, O/o CAU
3. Dr. S. K. Sharma, Assistant Scientist, Senior Welfare Officer, CCS HAU
4. Sh. Kapil Arora, Incharge legal Cell
5. Smt. Sudesh Devi W/o Sh. Jagat Singh, Mahils Welfare Society, H. No. 1618, Sector-13, Hisar (NGO)

The Dean, COBS&H has also constituted a committee for prevention of sexual harassment.

1. Dr. Neeraj Kumar, Dean, COBS&H, Chairman
2. Dr. Manju S. Tonk, Professor and Head, Mathematics and Statistics, Member
3. Dr. Krishna Hooda, Professor, LHC, Member
4. Dr. Jayanti Tokas, Associate Professor, Biochemistry, Member
5. Dr. Hemant Poonia, Assistant Professor, Mathematics and Statistics, Member
6. Dr. Subhash Chander, Assistant Professor, Sociology, Member
7. Dr. Sachin Kumari, Assistant Professor, Chemistry, Member
8. Ms. Monika, Junior Scale Stenographer, Dean, COBS&H, Member

### 6.5.2 FACULTY

**6.5.2.1. Faculty Strength:** *Mention the Faculty position (both in sanctioned and in-position) at the College.*

There are 08 sanctioned posts of Professors/equivalent, 19 Associate Professors/equivalent and 100 Assistant Professor/equivalent in the college. Currently total faculty strength (in position) of the college is 67 including 02 Professor/equivalent, 05 Associate Professor/equivalent and 61 Assistant Professor/equivalent. Faculty of Basic Science and Humanities is also posted in College of Agriculture CCS HAU main campus, Bawal and Kaul. The faculty is involved in teaching, research and extension activities and also guides students.

Some posts of Assistant Professors/equivalent have been advertised and are expected to be filled very soon.

| Designation | Sanctioned | In position* | Vacant posts | As per fifth Deans' Committee |
|---|---|---|---|---|
| Professor and equivalent | 08 | 02 | 06 | There is no UG programme in the college |
| Associate Professor and equivalent | 19 | 5 | 14 | |
| Assistant Professor and equivalent | 100 | 61 | 39 | |
| **Total** | **127** | **67** | **60** | |

***Includes personal promotes**

**Details of Department wise Faculty Strength**

| Sr. No. | Department name | Designation | | |
|---|---|---|---|---|
| **Professor and equivalent** | | | | |
| | | Sanctioned | In position | Vacant |
| **1** | Biochemistry | 2 | 0 | 2 |
| **2** | Botany and Plant Physiology | 1 | 1* (Lien) | 0 |
| **3** | Chemistry | 1 | 0 | 1 |
| **4** | Computer Section | 0 | 0 | 0 |
| **5** | LHC | 0 | 0 | 0 |
| **6** | Food Science and Technology | 1 | 0 | 1 |
| **7** | Mathematics and Statistics | 1 | 0 | 1 |
| **8** | MBB | 0 | 0 | 0 |
| **9** | Microbiology | 1 | 0 | 1 |
| **10** | Physics | 0 | 0 | 0 |
| **11** | Sociology | 0 | 0 | 0 |
| **12** | Zoology | 1 | 1 | 0 |
| | Total | 08 | 2 | 6 |
| **Associate Professor and equivalent** | | | | |
| **1** | Biochemistry | 2 | 1 | 1 |
| **2** | Botany and Plant Physiology | 1 | 1* | 0 |
| **3** | Chemistry | 2 | 1 | 1 |
| **4** | Computer Section | 0 | 0 | 0 |

| | | | | |
|---|---|---|---|---|
| **5** | Food Science and Technology | 1 | 0 | 1 |
| **6** | LHC | 1 | 0 | 1 |
| **7** | Mathematicsand Statistics | 3 | 0 | 3 |
| **8** | MBB | 1 | 0 | 1 |
| **9** | Microbiology | 7 | 2 | 5 |
| **10** | Physics | 0 | 0 | 0 |
| **11** | Sociology | 0 | 0 | 0 |
| **12** | Zoology | 1 | 0 | 1 |
| | Total | 19 | 5 | 14 |
| **Assistant Professorand equivalent.** | | | | |
| **1** | Biochemistry | 6 | 3 | 3 |
| **2** | Botany and Plant Physiology | 11 | 3 | 8 |
| **3** | Chemistry | 8 | 6 | 2 |
| **4** | Computer Section | 3 | 2 | 1 |
| **5** | Food Science and Technology | 7 | 4+1* | 2 |
| **6** | LHC | 7 | 2+1*+2** | 2 |
| **7** | Mathematics and Statistics | 10 | 5+2* | 3 |
| **8** | MBB | 15 | 7 | 8 |
| **9** | Microbiology | 13 | 9+2* | 2 |
| **10** | Physics | 6 | 1+2 * | 3 |
| **11** | Sociology | 8 | 4+1* | 3 |
| **12** | Zoology | 6 | 3+1* | 2 |
| | Total | 100 | 61 | 39 |
| | Grand Total | 127 | 68 | 59 |

*Promoted to professor
** Promoted to Associate Professor

**6.5.2.2. Faculty Profile (department wise):** *Mention department wise faculty profile in tabular form and mention whether present profile is sufficient to meet the academic requirement of the College.*

| Sr. No. | Faculty Name | Designation | Mobile and Email | Specialization | Full paper | Conference /Symposium | Books | Book Chapter | Manual | Annual/Research reports | Any other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BIOCHEMISTRY** | | | | | | | | | | | |
| 1. | Dr. Jayanti Tokas | Associate Professor | 9729989988, jiyahau@hau.ac.in | Plant and Food Biochemistry | 45 | 10 | - | 8 | - | - | - |
| 2. | Dr. Vinod Kumar | Assistant Scientist | 9418443491, sangwan.vinod@hau.ac.in | Plant Biochemistry and Enzymology | 55 | - | - | 20 | 1 | - | - |
| 3. | Dr. Nisha Kumari* | Assistant Scientist | 9468117723, nishaahlawat211@gmail.com | Plant Biochemistry | 35 | 3 | - | 4 | - | - | - |
| 4. | Dr. Shiwani Mandhania * | Assistant Biochemist | 9466812467, smbiochem@gmail.com | Plant Biochemistry | 37 | 1 | 4 (Edited) | 1 | 1 | - | Bulletin 05, Patents filed: 1 |
| 5. | Dr. Sushil Nagar | Assistant Scientist | 9813448824, sushilnagar@hau.ac.in | Biochemistry | 29 | - | 1 | - | - | - | Popular Article 05, Patent filed: 01 |
| 6. | Dr. Neeraj Kharor* | Assistant Scientist | 9541379660, neerajkharor@hau.ac.in | Biochemistry | 22 | 2 | - | 1 | - | 5 | Popular Article 01, Certificate of Appreciation -2, Research Abstract-13, Registration of Germplasm-1, Variety Research-7 |
| 7. | Dr. Ajay Pal | Assistant Professor | 8168668505, ajaydrdo@hau.ac.in | Bionanotechnology | 70 | - | 1 | 10 | 1 | - | Patent Granted:1 |
| **BOTANY AND PLANT PHYSIOLOGY** | | | | | | | | | | | |
| 8. | Dr. K.D. Sharma | Dean PGS cum Professor | 9416397453, kamald@hau.ac.in | Abiotic Stress and Crop Physiology | 98 | 18 | - | 20 | 1 | - | Popular Articles - 3, Research Abstracts - 90 |
| 9. | Dr. Neeraj Kumar | Dean cum Professor | 9255198544, neerajhau@yahoo.co.in | Abiotic Stress Physiology | 70 | 20 | 2 | 7 | - | - | Popular Articles -2, Research – Abstracts - 92, Radio Talk – 3 |
| 10 | Dr. Renu Munjal* | Principal Scientist | 9466018199, munjalrenu@hau.ac.in | Abiotic Stress Physiology | 55 | 30 | - | 20 | - | - | Popular Articles -04, Research Abstract-50 |
| 11. | Dr. Sridevi T. | Professor | 9779183010,stallapragada21@ | Environmental Sciences | 10 | 2 | - | 1 | - | - | Popular Articles -05, |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | gmail.com | | | | | | | | Research Abstract-03 |
| 12. | Dr. Anita Kumari | Assistant Scientist | 9466331523, anitahsr@hau.ac.in | Abiotic Stress Physiology | 20 | 6 | - | 8 | - | - | Chapter in Training Manuals - 5, Research Abstracts-45 |
| 13. | Dr. Sarita Devi | Assistant Scientist | 9416996353, sarita@hau.ac.in | Abiotic Stress Physiology and Phytoremediation | 42 | 5 | 2 | 21 | - | - | Popular Articles - 7, Chapters in Training Manuals - 3, Research Abstracts - 96 |
| 14. | Dr. Vinod Goyal* | Assistant Scientist | 9868465940, vinod.goyal@hau.ac.in | Abiotic Stress Physiology | 21 | 15 | 1 | 6 | 1 | - | - |
| 15. | Dr. Sukham Madaan* | Assistant Scientist | 9466744080, sukham20@gmail.com | Abiotic Stress Physiology | 9 | - | - | 1 | - | - | Popular Article-1, Research Abstract-20 |
| 16. | Dr. P Bhasker | Assistant Scientist | 94168142023, bhaskarhau@gmail.com | Abiotic Stress Physiology | 21 | 18 | 1 | 2 | Bulitin 1 | - | Popular Article-05, Research Abstracts-30, Chapters in Workshop-1 |
| **CHEMISTRY** | | | | | | | | | | | |
| 17. | Dr. Rajni Kant | Associate Professor | 7988582711 rajniorganic@gmail.com | Natural Product and Organic Chemistry | 30 | 15 | - | - | - | - | Patent filed :5 Patent Granted :1 |
| 18. | Dr. Sushila Singh | Assistant Professor | 8199939339, singhsushila@hau.ac.in | Nanochemistry and Natural Products | 33 | 7 | - | 4 | - | - | Popular Articles-13 |
| **19.** | Dr.Anushree | Assistant Chemist | 7290807066, anushree@hau.ac.in | Inorganic-Organic Hybrid Materials for Energy and Environment | 18 | 26 | - | 4 | - | - | - |
| 20. | Dr. Sonu Chauhan | Assistant Chemist | 9812373800, sonuchauan@hau.ac.in | Organic Chemistry | 13 | 3 | - | 1 | - | - | - |
| 21. | Dr. Jayant Sindhu | Assistant Professor | 9711605443, jayantchem@gmail.com | Organic Synthesis and Fluorophore Developent | 54 | 3 | - | 1 | - | - | - |
| 22. | Dr. Sachin Kumari | Assistant Professor | 9812008680, sachindalal@hau.ac.in | Organic / Inorganic Chemistry | 13 | 6 | - | 1 | - | - | - |
| 23. | Dr. Rahul Kumar | Assistant Professor | 9411776212 rahuldhaka@hau.ac.in | Physical/Analytical Chemistry | 25 | 15 | - | 5 | - | - | Patent-01, Popular-1 |
| 24 | Dr. Anil Duhan* | Assistant Scientist | a.duhan@rediffmail.com 9466051639 | Analytical Chemistry | 35 | 06 | - | 02 | - | 02 | Bulletin- 05 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | Dr. Sushil* | Assistant Scientist | sushilahlawat08@gmail.com 9416342952 | Agrochemical and Pesticide Residual Chemistry | 07 | 03 | - | 01 | - | - | - |
| 26 | Dr. Ravi Kumar* | Junior Phytochemist | ravibeniwal@hau.ac.in 9996501981 | Organic Synthesis, Natural Products Based Drug Discovery, Phytochemistry of Medicinal and Potential Crops | 16 | 03 | - | - | - | - | - |
| 27 | Dr.Vipan Nagpal* | Assistant Scientist | vanynagpal@hau.ac.in 9416630867 | Phytochemistry of Medicinal and Potential Crops | 19 | 10 | - | - | - | - | - |
| **COMPUTER SECTION** | | | | | | | | | | | |
| 28. | Dr. Ram Niwas | Assistant Professor | 9416386708 rniwas@hau.ac.in | DBMS, Statistical Analysis | 21 | 2 | - | - | - | - | |
| 29. | Ms. Sheetal Choudhary | Assistant Professor | 9050551930 sheetal.phougat@hau.ac.in | Computer Science, Artificial Intelligence | 5 | 7 | - | 2 | - | - | Popular Articles - 2, Chapter in Training Manuals - 2, Abstracts/Posters – 10 |
| **FOOD SCIENCE AND TECHNOLOGY** | | | | | | | | | | | |
| 30. | Dr. RakeshGehlot | Professor and Head | 9416252185 rakagehlot@gmail.com | Fruit and Vegetables processing | 42 | - | - | 1 | - | - | - |
| 31. | Dr. Rekha | Assistant Professor | 9467238876 rekhaphogat@gmail.com | Food Science and Technology | 34 | 9 | - | - | - | - | TV Talk-1 Leaflets-3 Popular Articles-3 |
| 32. | Dr. AnjuKumari | Assistant Professor | 9034887002 anjugaina@hau.ac.in | Food Microbiology | 31 | 6 | - | 10 | - | - | - |
| **33.** | Dr. Ritu | Assistant Professor | 9812736768 ritu3400@gmail.com | Food Science and Technology | 43 | 6 | - | 6 | - | - | - |
| 34. | Dr. Kanika Pawar | Assistant Professor | 7015247120,kanikapawar@gmail.com | Food Science and Technology | 27 | 16 | - | - | 03 | 02 | Popular Articles-22 |
| **LANGUAGE AND HARYANVI CULTURE** | | | | | | | | | | | |
| 35. | Dr. Aparna | Associate Professor | 9416240941, aparna@hau.ac.in | English Literature, Phonetics & Spoken English | 21 | 7 | 1 | 1 | 0 | 0 | Chapters in Training Manuals - 22, Abstracts/Posters etc.-9 |
| 36. | Dr. Krishna Hooda | Professor | 9416586171, Hooda_krishna@yahoo.com | Hindi Literature | 21 | 14 | 1 | 1 | 4 | 0 | Popular Articles-8, Abstract-1 |
| 37. | Dr. Manju Mehta* | Associate Professor | 9255526303, manjunagpalmehta@gmail.com | English Literature | - | - | - | - | 1 | - | - |
| **38.** | Dr. Poonam | Assistant Professor | 9468186586, poonam.mor@ | Afro-American Literature | 16 | 12 | 0 | 5 | 2 | | Popular Articles 05 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mor | | hau.ac.in | | | | | | | | |
| **39.** | Dr. Devender Singh | Assistant Professor | 7009443017, devenderboora1210@gmail.com | American Literature | 28 | 10 | 1 | 3 | - | - | Seminars/Conference: 55, Co-Course Director in Trainings :6, National Award- 1 |
| **MATHEMATICS AND STATISTICS** | | | | | | | | | | | |
| 40. | Dr.Manju Singh Tonk | Professor | 9996210277, manjutonk@gmail.com | Real & Complex Analysis and Operations Research | 8 | 4 | - | - | 1 | - | Abstracts 10, Research Article: 2, Lectures delivered-3, Copyright-4 |
| 41. | Dr. O.P.Sheoran | Professor (Statistics) | 9416241326, opsheoran@hau.ac.in | Statistical Programming, Multivariate &Genetical statistics | 14 | - | - | - | - | - | Research Abstracts:6, Lecture Delivered: 30, Copyright-9, Papersetter-08 |
| 42. | Dr. Manoj Kumar | Assistant Professor (Statistics) | 8708752390,m25424553@gmail.com | Sampling Techniques and Regression Analysis | 26 | 7 | - | 2 | - | - | Research Abstracts:22, Training attended: 08, Lecture Delivered: 11 |
| 43. | Dr. Vinay Kumar | Assistant Professor (Statistics) | 9896221071, vinay.stat@gmail.com | Computational and Bayesian Statistics, Regression Analysis | 29 | 1 | Edited Book -1 | 3 | 2 | - | 4 Copyrights, 23 Extension Lectures delivered |
| 44. | Dr. Vikash | Assistant Professor (Mathematics) | 9569254780, vikash@hau.ac.in | Image processing and Knot theory | 4 | 3 | - | 1 | 1 | - | Research Abstracts:25, Training attended: 03, Lecture Delivered: 8 |
| **45** | Dr. Hemant Poonia | Assistant Professor (Mathematics) | 9468192071, pooniahemant80@gmail.com | Fluid dynamics and Operations Research | 25 | 10 | - | - | 1 | - | Research Abstracts:20, Training attended: 05, Lecture Delivered: 10, Copyright-2 |
| **46.** | Dr. Sarita Rani | Assistant Professor (Statistics) | 9467772688, saritamalik@hau.ac.in | Design of Experiment | 5 | 3 | - | - | - | - | Copyright-1, Lectures Delivered-5, Abstracts-7, Training-3 |
| **47.** | Dr. Nitin Bhardwaj* | Assistant Scientist | 7289857340, nitinbhardwaj.mdu@hau.ac.in | Reliability Theory | 30 | 18 | 5 | - | 2 | | Bulletin-1, Abstracts-10 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **48.** | Dr. Joginder* | Assistant Scientist | 9541341233, joginder.stats@hau.ac.in | Reliability and Statistical Modelling | 25 | 15 | 1 | 3 | - | - | - |
| 49. | Dr. Monika* | Assistant Scientist | 8130447714, monika1804@hau.ac.in | Sample Surveys, Statistical Modelling | 30 | 4 | 2 | 1 | - | - | - |
| **50.** | Mr. Sunny** | Assistant Professor | 7027223984.sunnymaths21@gmail.com | MATHEMATICS | - | 2 | - | - | - | - | Abstracts-4 |
| **MOLECULAR BIOLOGY AND BIOTECHNOLOGY** | | | | | | | | | | | |
| **51.** | Dr. Sudhir Kumar | Professor (Bioinformatics) | 9466242051, sudhir@hau.ac.in | Molecular docking and simulation | 52 | 20 | - | 7 | 4 | - | BOYSCAST Fellow |
| **52.** | Dr. Shikha Yashveer | Assistant Professor (Biotechnology) | 9896104989, shikhayashveer@gmail.com | Molecular Breeding; Nanotechnology;Genetic Engineering | 35 | 4 | - | 15 | 7 | | Bulletin:1; Training Attended:7; Abstracts: 25 |
| **53.** | Dr. Upendra Kumar | Assistant Professor (Biotechnology) | 9411259621, upendra@hau.ac.in | Molecular Breeding and functional genomics | 46 | 14 | 4 | 8 | 3 | | Patent published: 1, Popular Articles: 2 Abstracts: 23 |
| **54.** | Dr. Nita Lakra | Assistant Scientist (MBB) | 8130283959, nitahaubotany2019@gmail.com | Plant Stress Physiology and Molecular Biology (Proteomics and Metabolomics) | 31 | 4 | - | 15 | 7 | | Bulletin:1; Training Attended:7; Abstracts: 25 |
| 55. | Dr. Anil Panwar | Assistant Professor (Bioinformatics) | 9416928750, anilpanwar@hau.ac.in | Molecular docking and simulation | 30 | 4 | - | 1 | 1 | | Patent filed:1 |
| 56. | Dr. Neeru Singh Redhu | Assistant Professor (Bioinformatics) | 9466833480, redhuneeru95@hau.ac.in | Bioinformatics and Computational Biology | 23 | 9 | - | 20 | 7 | - | Bulletin:1 Abstracts: 23 |
| 57. | Dr. NavjeetAhalawat | Assistant Professor | 7032198208, navjeet@hau.ac.in | Bioinformatics, Computational Biophysics | 19 | 0 | 0 | 2 | 0 | | |
| **MICROBIOLOGY** | | | | | | | | | | | |
| 58. | Dr. Leela Wati | Principal Scientist | 9416397853, lwkraj@hau.ac.in | Fermentation, Biofuels, Plant Microbe Interactions | 85 | 16 | 2 | 18 | 2 | - | Popular articles 35, Bulletin 1, Abstract: 100 |
| 59. | Dr. Rajesh Gera | Principal Scientist | 9416961450, gera@hau.ac.in | Microbial Diversity | 80 | 60 | 1 | 6 | 1 | - | Bulletin:4, Abstracts 100, Popular Articles 25 |
| 60. | Dr. Baljeet Singh Saharan | Senior Scientist | 7988485885, baljeetsaharan@hau.ac.in | Bioremediation, Plant Microbial Interactions, Biofertilizers, Natural Farming | 99 | 75 | 3 | 5 | - | - | Popular Articles 16; Report of validation of results of Natural |

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| | | | | | | | | | | | Farming and Organic Farming to Govt of India |
| 61. | Dr. Kamla Malik | Assistant Scientist | 9466263614, kamlamalik06@gmail.com | Biofuels, Fermentation, Waste management and Nanotechnology | 55 | 61 | 1 | 28 | - | 4 | Popular Artcles-26 |
| 62. | Dr. Rakesh Kumar | Assistant Professor | 9813046403, sehrawatrk@hau.ac.in | Molecular Microbiology, Biological control, PGPR | 45 | 46 | - | 13 | 1 | - | Patents filed: 4 |
| 63. | Dr. Seema Sangwan | Assistant Professor | 9468210204, seema_sangwan80@yahoo.co.in | Biofuels, Biosurfactant Production, Bioremediation | 26 | 32 | - | 16 | - | - | Patent Granted: 1 (2018), Patent filed: 3 |
| 64. | Dr. Meena Sindhu | Assistant Scientist | 9812229970, meenasindhu20@gmail.com | Fermentation, Enzymology, Bioactive peptides, Biopolymer, | 21 | 6 | - | 5 | - | - | Popular Article: 10 |
| 65. | Dr. Monika Kayasth | Assistant Microbiologist | 9416278032, monakayasth@gmail.com | Soil Microbiology, Molecular Microbiology | 15 | 7 | - | 1 | - | - | Popular Article: 7 |
| 66. | Jagdish Parshad | Assistant Scientist | 9466480040, jagdishhau@hau.ac.in, lect.jagdish@gmail.com | Soil Microbiology, Bioremediation, Environmental Microbiology and Biofertilizer | 33 | 14 | 1 | 3 | - | 2 | Popular Article: 15 |
| 67. | Dr. Shikha Mehta | Assistant Scientist | 9467871981, shikhamicrobio@gmail.com | Biofuels, Bioenegy and Biocomposting | 22 | 11 | - | 7 | - | - | Popular Articles: 7 |
| 68. | Dr. Anuj Rana | Assistant Scientist | 9971576603, anujrana@hau.ac.in | Molecular Biology, PGPR, Plant-Microbe and Microe-Microbe Interaction, Functional Genomics | 18 | 26 | - | 15 | - | 1 | USA Patent: 1 |
| 69. | Dr. Poonam Ranga | Assistant Microbiologist | 8950733958, rangamicro@yahoo.co.in | Bioremediation | 12 | 10 | - | 2 | - | - | Popular Articles: 15 |
| **PHYSICS** | | | | | | | | | | | |
| 70. | Dr. Paul Singh | Professor | 7015961161, psmehla@gmail.com | Nuclear Physics | 3 | - | - | - | - | - | - |
| 71. | Dr. Rita Dahiya | Professor | 9896174050, ritadahiya@hau.ac.in | Soil Physics and Material Science | 34 | 15 | - | 7 | 5 | - | - |
| 72. | Dr. Vinay Kumar | Assistant Professor | 9720114213, vinay23@hau.ac.in | Material Science | 25 | 5 | - | 4 | - | - | - |
| **SOCIOLOGY** | | | | | | | | | | | |
| 73. | Dr. Vinod Kumari | Professor | 9416305511, vinodkumari2000@yahoo.com | Rural sociology, Energy, Health, Women Empowerment, Science and Technology | 49 | 9 | - | 3 | 2 | 5 | - |

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| 74. | Dr.Jatesh Kathpalia | Assistant Scientist | 9416244846, kathpaliajatesh@gmail.com | Rural Sociology, Education, Crime against Women,Agricultural Technology | 50 | 14 | - | 6 | - | 5 | - |
| 75. | Dr. Rashmi Tyagi | Assistant Professor | 8000650006, rt64064@gmail.com | Women in Agricultural and Rural Sociology and Crime Studies | 37 | 14 | - | 7 | - | 5 | - |
| 76. | Dr. Subhash Chander | Assistant Professor | 7988098004, panwarsubhash786@gmail.com | Rural Sociology, Indebtedness, Panchayati Raj Institution, Crime against Women and Agricultural Technology | 42 | 10 | - | 2 | 2 | 5 | - |
| 77. | Dr. Baskaur | Assistant Professor | 8708955591, baskaurbisnoi01@gmail.com | Sociology and Nutritional Status of Children | 9 | 10 | - | 2 | 2 | 3 | - |
| 78. | Dr. Rijul Sihag* | Assistant Scientist | 9888957282, rijulsihag@yahoo.com | Rural Sociology, Women Empowerment, Socio-Economic Development | 6 | 4 | - | - | - | - | Popular Articles-2 |
| **ZOOLOGY** | | | | | | | | | | | |
| 79. | Dr. Rachna Gulati | Professor | 9416266015, jdccshau@gmail.com | Acarology | 11 | - | - | - | - | - | - |
| 80. | Dr. R. K. Gupta | Professor | 9812096774, gupta_raj123@yahoo.co.in | Vermitechnology | 20 | - | - | - | - | - | - |
| 81. | Dr. Dharambir Singh | Assistant Professor | 9812096774, dharambir.titu@gmail.com | Vermitechnology | 24 | - | - | - | - | - | - |
| 82. | Dr. Ravikant | Assistant Professor | 9466264314, rkantazad@hau.ac.in | Rodentology | 14 | - | - | - | - | - | - |
| 83. | Dr. Tejpal Dahiya | Assistant Professor | 9467482165, dahiyakuk@gmail.com | Avian Biology | 19 | - | - | - | - | - | - |
| 84. | Dr. Gajender Singh | Assistant Scientist/ DES | 9416380349, drgajendersingh1@gmail.com | Fishery Sciences | 8 | - | - | - | - | - | - |
| 85. | Dr. Shikha Ahalawat | Assistant Professor | 8630602825 shikhaahlawat81@gmail.com | Nematology | 4 | - | - | - | - | - | - |

*Faculty posted outside College

**Retired Faculty during Period under Report:**

| Sr. No. | Name | Designation | Mobile&Email | Specialization |
|---|---|---|---|---|
| **BIOCHEMISTRY** | | | | |
| **1.** | Dr. Veena Jain | Principal Scientist | Veena.nicejain@gmail.com 9416993463 | Plant Biochemistry |
| **2.** | Dr. H R Singhal | Professor | singalhr59@gmail.com 9416489005 | Plant Biochemistry |

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| **3.** | Dr. L.K. Chugh | Senior Scientist | chuglk@yahoo.co.in 9416485109 | Pearl Millet Biochemistry |
| **BOTANY AND PLANT PHYSIOLOGY** | | | | |
| **4.** | Dr. Sunita Sheokand | Professor | 9416674592, sunitasheokand@hotmail.com | $N_2$-fixation, Stress Physiology and Phytoremediation |
| **5.** | Dr. Jitender Kumar | Professor | 9416371970, sandoojajk@gmail.com | Post-Harvest Physiology |
| **CHEMISTRY** | | | | |
| **6.** | Dr. V.K. Madan | Principal Scientist | 9416346333 vikku60@gmail.com | Phytochemistry |
| **7.** | Dr. Rajvir Singh | Professor | 9416397283 singhrajvir1962@gmail.com | Synthetic and Natural Product Chemistry |
| **COMPUTER SECTION** | | | | |
| **8.** | Dr. Devender S. Tonk | Professor | 7015391617 dev7699@gmail.com | Applied Statistics and Statistical Computing |
| **LANGUAGE AND HARYANVI CULTURE** | | | | |
| **9.** | Dr. Sushma Anand | Professor | 9996000529 | LHC |
| **MATHEMATICS AND STATISTICS** | | | | |
| **10.** | Dr. B.K. Hooda | Professor | bkhooda@gmail.com, 9315385447 | Statistical Inference and Multivariate |
| **11.** | Dr. Urmil Verma | Professor | vermas21@hotmail.com, 9416926933 | Time Series and Regression Analysis |
| **12.** | Dr. D.R. Aneja | Professor | 19draneja57@gmail.com, 8708405831 | Design of Experiment and Genetics Statistics |
| **MBBB** | | | | |
| **13.** | Dr. Neelam R. Yadav | Senior Scientist | 8053013070 nryadav@hau.ernet.in | Plant Biotechnology |
| **14.** | Dr. Pushpa Kharb | Professor | 9416346306pkharbhau@gmail.com | Plant Biotechnology |
| **MICROBIOLOGY** | | | | |
| **15.** | Dr. Sneh Goyal | Principal Scientist | 9416240932 snehgoyal@gmail.com | Soil Microbiology |
| **16.** | Dr. S. S. Sindhu | Principal Scientist | 9416650057 Sindhuss58@gmail.com | Soil Microbiology |
| **17.** | Dr. D. V. Pathak | Principal Scientist | 9416632846 Pathak_dv@rediffmail.com | Biofetilizer Technology |
| **FOOD SCIENCE AND TECHNOLOGY** | | | | |
| **18.** | Dr. Raj Bala Grewal | Director | 9416252214 grewalrb@gmail.com | Food Science and Nutrition |
| **19.** | Dr. Saleem Siddiqui | Professor and Head | 9416397847 saleemcfst@gmail.com | Post Harvest Technology |
| **PHYSICS** | | | | |
| **20.** | Dr. Paul Singh | Professor | 7015961161 psmehla@gmail.com | Nuclear Physics |

**6.5.2.3. Credentials of the Faculty:** *Whether the institution has employed competent faculty members qualified to accomplish the mission and goals of the institution? Give the highest qualification received by each faculty, related work experiences in the field, professional licensure and certifications, honors and awards, continuous documented excellence in teaching, or other*

*demonstrated competencies and achievements that contribute to effective teaching and student learning outcomes.*

The faculty of the college is highly qualified with international exposure in teaching as well research. The faculty members have won national, international awards, honours and recognitions, such as Commonwealth Fellowship, National Biotechnology Associate ship, Rafi Ahmed Memorial award, Hari Om Ashram Trust Award, DRDO Young Scientist Award, Henry Doubleday Research Fellowship, DAAD fellowship, Humboldt A. V. Fellowship, Rock feller Fellowship, EC Fellowship, DBT overseas Fellowship, Japanese Government Fellowship etc.

- The faculty acts as expert paper setter and external examiner for several Universities in UG, PG and Ph.D. programmes.
- The faculty members are using their expertise in their research work, guiding of students as well as in teaching.
- Several faculty members have brought patents to the university while several patent applications are in pipeline.
- Technologies have been developed and a few of these have been commercialized.
- The faculty has brought laurels to the university by bagging prestigious national and international awards like Rafi Ahmed Kidwai Award, Hari Om Ashram Award, Monsanto Beachell Award etc.
- They are using power point presentation, internet and interactive teaching by speaking and written assignments.
- The faculty has published several manuals, e- books/ articles related to research and teaching in their respective disciplines.
- Several faculty members are on selection boards of other universities such as KUK, ARS, MDU, CDLU, PAU etc.
- Faculty attends refresher courses, seminars, symposia etc on regular basis.
- Faculty is also handling DST sponsored FIST and PURSE schemes.

**Credentials of the Faculty are given in the following Table:**

| S. No. | Name, Designation Highest Qualification | Honors/Awards /Any other achievement* |
|---|---|---|
| **1.** | Dr. Leela Wati, Professor and Head, Ph.D. | • Developed protocol for conversion of paddy straw into ethanol<br>• Popularization of solid state biogas technology |
| **2.** | Dr. Rajesh Gera, Ph.D., Additional Director of Research, Director Store & Purchase | • PI- RKVY RAFTAR (ABIC) |
| **3.** | Dr. Baljeet Singh Saharan, Sr. Scientist, Ph.D.; Post Doc. (Germany & USA) | • Member of National Committee Nominated by Director General (ICAR) to Re-validate the results of SPNF model vide letter no. F.No. NRM/7-3/2019-AFC Dated 15.05.2019.<br>• Louis Pasteur National Academic Excellence Award 2021<br>• Award certificate of excellence in reviewing by Asian Research Journal of Agriculture in recognition of outstanding contribution to the quality of journal, Regent Street, London, UK (Certificate No: SDI/HQ/PR/Cert/90870/DRB). |

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| | | • Best article award for article entitled "Natural Farming: Advantages of Mixed Cropping During Vegetable Farming" which got published in Volume 04 – Issue 09 in Agriculture & Food: e-Newsletter<br>• Member of BOM (Chancellors' nominee), CSK HPKV, Palampur, 2019-21<br>• Member of BOM (Chancellors' Nominee), Veer Narmad South Gujarat University, Surat<br>• Member of BOM (Chancellors' nominee), Gujarat University, Ahmadabad 2022-24<br>• Nominated member (Governors' nominee) of Board of Management of CSKHPKV, Palampur, HP (2019-21)<br>• Member PG Board of Studies Kurukshetra University, Kurukshetra<br>• Member, NCERT Committee for development of syllabi for schools<br>• Member ICAR committee for development of syllabus for PG courses in natural farming<br>• Member Committee for development of UG and PG syllabus for degree in natural farming by government of Gujarat |
| **4.** | Rakesh Kumar, Assistant Professor, Ph.D. | • Young Scientist Award by Society for Scientific Development in Agriculture & Technology |
| **5.** | Kamla Malik, Ph.D. | • Received "Letter of Appreciation" for remarkably work and devotion to duty from Former Vice Chancellor, CCS HAU, Hisar 2020.<br>• Received Best oral presentation award during International Conference "Water, Agriculture, Dairy and Food Processing for Sustainable Economy (WADFPSE2022) held at Eternal; University, Baru Sahib, Sirmour, Himachal Pradesh on March 25- 26, 2022.<br>• Nominated and completed International training programme under NAHEP-IDP project (2021-22) for three months (15 November, 2021 to 14 February, 2022) training in Texas A & M University, College Station, Texas, USA |
| **6.** | Dr. Seema Sangwan, Assistant Professor, Ph. D. | • Granted patent: (1) Dhamija, S.S. and Sangwan, S. (2018) A renewable resource drives starchy raw material to ferment fast in to ethanol. Patent No. 303453.International fellowship for training on International Pedagogy under NAHEP-Institutional Development Plan (IDP) project for Capacity Building of Faculty of CCS HAU, Hisar.;<br>• Received Research Grant (2022) of Rs 30 lakh for R&D project entitled "Development of liquid fertilizer from agro-industrial waste for mitigating climate change and environmental pollution" has been approved by Haryana State Council for Science Innovation and Technology, Science and Technology Department, Panchkula, Haryana. |
| **7.** | Jagdish Parshad, Assistant Scientist, M.Sc. | • Young Scientist Award for outstanding contribution and recognition in the field of Science, Bioscience, Agriculture & Medical Science on World Biosciences Congress 2022<br>• Best poster award in the National Conference on Maize for Resource Sustainability, Industrial Growth and Farmers Prosperity held during February 23-25, 2022 at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India.<br>• Appreciation letter received for best centre award of AICRP Weed Management |
| **8.** | Dr. Anuj Rana, Ph.D., PDF | • Best oral presentation award in International Conference organized by Association of Microbiologist of India, held at Central University of Haryana Mahendargarh, Nov 15-18 (2019). |

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| | | • Appreciated for coordinating USAID funded CAAI-VT project (2020-21) and organizing International workshops on Capacity development for agricultural innovation systems in collaborations with CAAI-Afghanistan, Virginia Tech-USA for holding an Indo-US-Afghanistan training modules by Director of Research, CCSHAU, Hisar.<br>• Appreciated for coordinating GRAIN (Grain Research & Innovation) Program in collaboration with Michigan State University, USA and guidance to international students by Dean PGS, CCSHAU, Hisar.<br>• Nominated as Coordinator International Affairs Cell by Vice Chancellor CCSHAU, Hisar.<br>• One United States patent published (US2023/0026437 A1 dated Jan 26, 2023. |
| **9.** | Shikha Mehta, Assistant Scientist, Ph.D. | • Silver Jubilee Gold Medal for Women for best Ph.D thesis, CCS HAU, Hisar<br>• Received Gold Medal for securing first class and first position in M.Sc. (Microbiology), MDU, Rohtak<br>• Best poster Award in Golden Jubilee International Conference on New Millennia Agriculture Novel Trends & Future Scenario, CCS HAU, Hisar from November 6-8, 2019. |
| **10.** | Ram Niwas, Assistant Professor, Ph.D. | • Letter of appreciation of copyright on " Online Analysis tools for computation of LC50, LD50 or GR50 (Probit Analysis) given by Vice - Chancellor |
| **11.** | Shikha Ahalawat, Assistant Professor, Ph.D. | • Teacher of the Year Award – 2020; received in 4th International Conference on "Global Approaches in Natural Resource Management for Climate Smart Agriculture (GNRSA- 2020) during Pandemic Era of COVID-19" held at Conference Hall, Shobhit Deemed University, Modipuram, Meerut, UP, from 26 – 28 February 2021. |
| **12.** | Dr. Devender Singh, Assistant Professor, Ph.D. | • Conferred with Dr. Sarvepalli Radha krishnan Global Educator Award-2022 |
| **13.** | Dr. Rita Dahiya, Professor, Ph.D. | • ICAR Sponsored Best Teacher Award for the year 2011-12 , DAAD fellowship for research work in Germany in 2008 & 2002 and INSA-DFG fellowship for research in Germany in 2004, and International training in the area of 'Carbon sequestration and climate change' at Colorado State University, Fort Collins, USA during 2009-2010 sponsored by NAIP, ICAR, New Delhi |
| **14.** | Dr. Vinay Kumar, Assistant Professor, Ph.D. | • Awarded Project entitled "Study the impact of Swift heavy ion irradiation on Molybdenum disulfide ($MoS_2$) for Application as Gas Sensor" (2022) funding agency IUAC, New Delhi. INDIA |
| **15.** | Dr. K.D. Sharma, Professor, Ph.D., Dean, PGS | • Acted as Director of RDS Seed Farm, CCS HAU- Hisar |
| **16.** | Dr. Neeraj Kumar, Professor, Ph.D., Dean, COBS&H | • Acted as Additional Director of Research, CCS HAU- Hisar<br>• Professor and Heads, Department of Biochemistry, Chemistry, Botany and Plant Physiology and Molecular Biology and Biotechnology |
| **17.** | Dr. Renu Munjal, Professor, Ph.D. | • Awarded a SPARC project entitled "Combining rust resistance with non-structural carbohydrates (NSC) in wheat to achieve food security." in 2019-20<br>• Visited Copenhagen University, Denmark for ASEM-DUO-Indian Professor fellowship sponsored by Government of South Korea from 7$^{th}$ November to 6$^{th}$ December, 2021. |

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| | | • Collaborated in development of various varieties of wheat WH 1270, WH1184, WH 1142, WH 1124, WH 1105, WHD 948, WHD 943, WH 1025 and WH 1021<br>• Professor and Head of the Department from December 2017 to November 2021<br>• Received DUO professor award in 2020 |
| **18.** | Dr. Sridevi T., Professor, Ph.D. | • Coordinator of KVK Panchkula, CCS HAU Hisar |
| **19.** | Dr. Anita Kumari, Assistant Scientist, Ph.D. | • Awarded project entitled "Leveraging genetic resources for accelerated genetic improvement of Linseed using comprehensive genomics and phenol typing approaches" as a part of network project funded by DBT, New Delhi in 2020.<br>• Collaborated in development of mustard varieties RH 725 and RH 761 |
| **20.** | Dr. Sarita Devi, Assistant Scientist, Ph. D., PDF | • Award for International training under NAHEP – Institutional Development Plan Project (IDP) for the year 2019 sponsored by Indian Council of Agricultural Research and World Bank at Victoria Research Station, Australia from 19th April to 18th July, 2019.<br>• Awarded best poster presentation award in Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario organized by CCS Haryana Agricultural University, Hisar, India from November 6-8, 2019<br>• Collaborated in development of sorghum variety CSV 44F |
| **21.** | Dr. Vinod Goyal, Assistant Scientist, Ph.D. | • Awarded a SPARC project entitled "Combining rust resistance with non-structural carbohydrates (NSC) in wheat to achieve food security." in 2019-20<br>• Visited Wuzberg, Germany for ASEM-DUO-Indian Professor fellowship (1 month) sponsored by Government of South Korea from 19th August to 8th September, 2022.<br>• Collaborated in development of various varieties of mustard RH 1424 and RH 1706 |
| **22.** | Dr. L.K. Chugh, Professor (Retired) | • Bajra Section, awarded Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Pearl Millet Improvement in the 57th Annual Group Meeting of All India Coordinated Research Project on Pearl Millet held online from March 02-03, 2022 |
| **23.** | Dr. Jayanti Tokas, Associate Professor, Ph.D. | • Best Oral presentation award in 6th International conference on Current Issues in Agricultural, Biological and Applied Sciences for sustainable development from June 11-13, 2022 organized by Kalimpong Science Centre, Kalimpong, West Bengal.<br>• Outstanding Scientist Award in the International Best Scientist Awards, held on 18th& 19thJan, 2020, New Delhi, India, Organized by VDGOOD Professional Association |
| **24.** | Dr. Ajay Pal, Assistant Professor, Ph.D. | • Conferred with 'Best Researcher Award' in International Scientist Awards 2019 on Engineering, Science and Medicine by VDGOOD-Technology Factory on 16 November, 2019. |
| **25.** | Dr. Nisha Kumari, Assistant Professor, Ph.D. | • Young Scientist Award" in International Conference on "Recent Advances in Agricultural, Environmental & Applied Sciences for Global Development" was held on September 27-29, 2019 at Dr. Yashwant Singh Parmar University of Horticulture and Forestry, Nauni, Solan, Himachal Pradesh |

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| **26.** | Dr. Shiwani Mandhania, Assistant Scientist, Ph.D. | • Filed a patent (Application No.: 201811004928) on "A method for removal of gossypol from cotton seed" during 2018 |
| **27.** | Dr. Vinod Kumar, Assistant Scientist, Ph.D. | • Filed a patent application on "Bottle gourd (Lagenaria siceraria) tablet preparation incorporated with biocellulose from *Gluconacetobacter liquefaciens* and a method thereof" Application No.: 202211056545, filed on 01.10.2022, Inventors: Anju Kumari, Anil Panghal, Ritu, Rakesh Kumar, Bharti Dixit, Rakesh Gehlot, D S Duhan, Vinod Kumar<br>• Best Oral Presentation Award in National Conference "Himalayan Cereals for Food and Nutritional Security: Currents Status and Opportunities" held at Department of Biochemistry, GBPUA&T, Pantnagar on September 06, 2022 |
| **28.** | Dr. Sushil Nagar, Assistant Scientist, Ph.D. | • Research Excellence Award 2021, awarded by Institute of Scholars (InSc)<br>• Filed a patent application on "Method for xylan extraction from corncob and wheat bran", Application No.: 202211056375, filed on 30.09.2022, Inventors: Sushil Nagar, Kajal Kumari, Vinod Kumar |
| **29.** | Dr. Neeraj Kharor, Assistant Scientist, Ph.D. | • Forage Section, CCSHAU Hisar AICRP on Sorghum, Hisar Centre received Best Center Award for the overall performance during the period 2021-2022 on 29.04.<br>• Bajra Section, awarded Best ICAR-AICRP Centre Award (2021-22) for significant contribution in the field of Pearl Millet Improvement in the 57$^{th}$ Annual Group Meeting of All India Coordinated Research Project on Pearl Millet held online from March 02-03, 2022 |
| **30.** | Dr. Sushila Singh, Assistant Professor, Ph.D. | • BEST ARTICLE AWARD (article id 31456), published in Volume 02, Issue 09 in Agriculture & Food: e-Newsletter, ISSN: 2581 -8317.<br>• BEST ARTICLE AWARD (article id31166), published in Volume 02, Issue 08 in Agriculture & Food: e-Newsletter, ISSN: 2581 -8317. |
| **31.** | Dr. Anushree, Assistant Scientist, Ph.D. | • MOST IMPACTFUL ARTICLE, In Vigyan Varta: An International E-Magazine for Science Enthusiasts for the month of August, 2022, vol-3, page no. 141-144, E-ISSN: 2582-9467. |
| **32.** | Dr. Vinod Kumari, Professor, Ph.D. | • Awarded by Om Sterling Global University in appreciation of education, training, research and development services provided for the benefits of society |
| **33.** | Dr. Jatesh Kathpalia, Assistant Scientist, Ph.D. | • Dr. A.P.J. Abdul Kalam Scientist Award, 2020 by The Society of Tropical Agriculture, New Delhi<br>• Best Paper Presenter Award in International Conference by BPSMV, Sonipat<br>• Scientist of the year for outstanding contribution in the field of rural sociology and women empowerment |
| **34.** | Dr. Rashmi Tyagi, Assistant Professor, Ph.D. | • Dr. A.P.J. Abdul Kalam Scientist Award, 2020 by The Society of Tropical Agriculture, New Delhi<br>• Best Paper Presenter Award in International Conference by BPSMV, Sonipat<br>• Distinguished Scientist for outstanding contribution in the field of rural sociology and women empowerment |
| **35.** | Dr. Subhash Chander, Assistant Professor, Ph.D. | • Dr. A.P.J. Abdul Kalam Scientist Award, 2019 by The Society of Tropical Agriculture, New Delhi |
| **36.** | Dr. Upendra Kumar, | • Visiting Scientist, Stockbridge School of Agriculture, University of |

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|---|---|---|
| | Assistant Professor, Ph.D., PDF | Massachusetts, Amherst, USA<br>• Elected Fellow of "The Linnaean Society of London" in 2021<br>• Certificate of Appreciation from Vice-Chancellor, CCS HAU, Hisar for the award of SPARC projects with the University of Massachusetts, Amherst, USA.<br>• Received Certificate of Recognition from The Science and Engineering Research Board (SERB) and the American Chemical Society (ACS) acknowledge and appreciate for reviewing the posters of SERB-ACS National Postdoctoral Fellowship (NPDF) Research Poster Competition 2021, under the category of Life Sciences.<br>• Best paper presentation award in 12th International Wheat Genetic Symposium (12thIWGS) September 8-14, 2013, Pacifico Yokohama, JAPAN.<br>• Received Young Scientist Award (2015) given by Uttarakhand Council for Science & Technology, Govt. of Uttarakhand<br>• Received a merit certificate for best presentation award at Golden Jubilee International Conference on "New Millennia Agriculture-Novel Trends and Future Scenario" organised by the Directorate of Research, CCS HAU, Hisar from November 6-8,2019.<br>• Member Faculty of CCS HAU, Institutional Innovation Cell, Ministry of Human Resource Development, Govt. of India |
| **37.** | Dr. Nita Lakra, Assistant Scientist, Ph.D. | • UGC-Dr. D.S. Kothari Post Doctoral Fellow , 2015<br>• Invitation to visit UMASS, Amherst, MA, USA (July 2016): Under a Bilateral Agreement between the University of Massachusetts Amherst and the Jawaharlal Nehru University, New Delhi for research collaboration.<br>• Special acknowledgment: A text book of Biotechnology editor H.K. Das (Wiley) 5th edition correction and editing of chapter 15 (Plant biotechnology). ISBN: 78-81-265-1014-6.<br>• Awarded SERB-SURE project grant, 2023 |
| **38.** | Dr. Neeru Singh Redhu, Assistant Professor, Ph.D. | • Received "Certificate of Appreciation" for outstanding contribution for organizing National Symposium on Transgenic Crops in India: Progress and Challenges, March 16-17, 2016.<br>• Received "Certificate of Honour" for outstanding contribution for organizing National Conference on Trends in Nanobiotechnology, November 29-30, 2016.<br>• Received "Letter of Appreciation" for remarkably work and devotion to duty from Dean College of Basic Sciences and Humanities, CCS HAU, Hisar 2017.<br>• Received Best oral presentation award during International Conference "Reimaging Rainfed Agro-ecosystems - challenges & Opportunities (ICRA-2022) held at ICAR-CRIDA, Hyderabad on December 22- 24, 2022. |
| **39.** | Dr. Rakesh Gehlot Professor and Head, CFST with additional charge of the Head, Department of Horticulture | • Filed two patents |
| **40.** | Dr. Rekha, Assistant Professor, Ph.D. | • Best oral presentation award in the online national seminar on "Mathematical Sciences: Repositories of Logical Thoughts and Analytical Tools" organised by the Department of Mathematics & Statistics, |

| | | |
|---|---|---|
| | | CCSHAU, Hisar on December 22, 2020. |
| **41.** | Dr. Anju Kumari, Assistant Professor, Ph.D. | • International training on "Food processing" from the Department of Chemical & Materials Engineering, Faculty of Engineering, The University of Auckland, New Zealand under NHAEP- institutional development plan project (IDP) from April 01 to June 29, 2019<br>• Received distinction in Post Graduate Diploma in Education Technology & Management from NAARM and University of Hyderabad, India in 2020.<br>• Filed three patents |
| **42.** | Dr. O.P. Sheoran, Professor and Head, Ph.D. | • Received V.D. Kashyap Gold Medal for best thesis work for the year 2010-11.<br>• Worked as Co-Principal Investigator in ICAR Ad hoc Project entitled "To obtain optimum plans for Partial Diallel Crosses and to prepare package for important mating designs".<br>• Software package named "Statistical Package for Mating Designs (SPMD)" has been Patented/copyrighted by National Research and Development Council (NRDC), New Delhi.<br>• Development of Online Statistical Analysis tools (OPSTAT) to cater the agricultural scientific community for their statistical analysis work. This tool has been used by more than 26 lakhs times across 143 countries since 7.2.2022 to 14.5.2023 as reported by google analytics.<br>• Automation of university functioning for the offices of Comptroller (GUC, Budget, AUC, CPF/GPF); Registrar (Human resource database, Entrance Examination), XEN-elect. (Electricity bills, telephone bills).<br>• Worked as Nodal officer (College of Basic Sciences in prestigious IDP project of the University)<br>• Worked as Incharge Computer Section of the University<br>• Granted Copyright on "Principal Component Analysis - Online Statistical Analysis Tool" (Registration Number SW-13417/2020).<br>• Granted copyright on Development of Online Analysis Tool for Computation of LC50, LD50 or GR50 (Probit analysis) Registration Number SW-13437/2020).<br>• Granted Copyright on "Online tool For Analysis of Series of Experiments in Randomized Block Designs" (Registration Number SW-13436/2020).<br>• Granted Copyright on Development of online analysis tool for analysis of augmented designs from Copyright Office, Govt. of India (Registration Number SW-14301/2021).<br>• Granted Copyright on Development of online analysis for k-means cluster analysis from Copyright Office, Govt. of India (Registration Number SW-14121/2021).<br>• Granted Copyright on Development of online of Latin Square Design and Strip Plot Design (Registration Number SW-14302/2021).<br>• Granted Copyright on Development of Web based Application for Post-Hoc Test for Comparisons of Means (Registration Number SW-14220/2021).<br>• Received a letter of appreciation by Honorable Vice-Chancellor, CCS HAU for brining 3 copyrights in the name of CCS HAU Hisar (Registration Number SW-13417/2020, SW-13437/2020 and SW-13436/2020)<br>• Working as Head of the department from Aug 23, 2022 |
| **43.** | Dr. Manju Singh Tonk Professor, Ph.D., SPIO, COBS&H | • Granted Copyright on "Online tool For Analysis of Series of Experiments in Randomized Block Designs" (Registration Number SW-13436/2020).<br>• Granted Copyright on "Principal Component Analysis - Online Statistical Analysis Tool" (Registration Number SW-13417/2020). |

| | | |
|---|---|---|
| | | • Granted copyright on Development of Online Analysis Tool for Computation of LC50, LD50 or GR50 (Probit analysis) (Registration Number SW-13437/20<br>• Worked as Incharge IPR Cell and BPD unit from August, 2017 to November, 2019<br>• Worked as Incharge IQAC of COBS&H<br>• Certificate of Honor presented by HAUTA in recognition of the Manuals authored in the field of Mathematics.<br>• Received a letter of appreciation by Honorable Vice-Chancellor, CCS HAU for securing copyrights in the name of Chaudhary Charan Singh Agricultural University, Hisar. |
| **44.** | Dr. Hemant Poonia, Assistant Professor, Ph.D. | • Got an appreciation letter by Honorable Vice-Chancellor, CCS HAU on Teacher's Day (05-09-16) for delivering effective and interactive teaching.<br>• Best Paper Certificate awarded by International Academy of Science, Engineering and Technology (IASET) Society in 2016.<br>• Got a certificate of Best Oral Presentation for his research work entitled "Optimization of farm land resources of marginal and small farmers using linear programming model" in the national seminar on "Mathematical Sciences: Repositories of Logical Thoughts and Analytical Tools" held on December 22, 2020 organized by the Department of Mathematics and Statistics, CCS HAU, Hisar.<br>• Granted Copyright on Development of Mathematical Modelling for Prediction of P.T.O Power Requirement for Rotavator (Registration Number SW-13325/2020).<br>• Granted Copyright on "Principal Component Analysis - Online Statistical Analysis Tool" (Registration Number SW-13417/2020).<br>• Received a letter of appreciation by Honorable Vice-Chancellor, CCS HAU for securing a copyright on "Principal Component Analysis- Online Statistical Analysis Tool" in the name of Chaudhary Charan Singh Haryana Agricultural University, Hisar. (Registration Number SW-13417/2020) |
| **45.** | Dr. Vinay Kumar, Assistant Professor,Ph.D. | • Granted Copyright on Development of online analysis tool for analysis of augmented designs from Copyright Office, Govt. of India (Registration Number SW-14301/2021).<br>• Granted Copyright on Development of online analysis for k-means cluster analysis from Copyright Office, Govt. of India (Registration Number SW-14121/2021).<br>• Granted Copyright on Development of online of Latin Square Design and Strip Plot Design (Registration Number SW-14302/2021).<br>• Granted Copyright on Development of Web based Application for Post-Hoc Test for Comparisons of Means (Registration Number SW-14220/2021). |

**6.5.2.4. Technical and Supporting Staff (No.):** *Whether the College has appointed (in place) sufficient technical/laboratory/firm staff to cater the need of practical and field experiments. Mention department wise distribution to technical, supporting and field staff in the tabular form.*

In eleven departments and one computer section, 22 technical, 16 supporting and 07 field staff are in positions.

| Department | I. Technical | II. Supporting staff | III. Field staff |
|---|---|---|---|
| Biochemistry | 03 | 01 | 00 |
| Botany and Plant Physiology | 02 | 02 | 02 |
| Chemistry | 02 | 01 | - |
| Food Science and Technology | 03 | 02 | 02 |
| Languages and Haryanvi Culture | - | 01 | - |
| Mathematics and Statistics | - | 01 | - |
| Microbiology | 03 | 02 | 01 |
| MBBB | 03 | 03 | 02 |
| Physics | 03 | - | - |
| Sociology | - | 01 | - |
| Zoology | - | - | - |
| Computer Section | 03 | 02 | - |
| **Total** | **22** | **16** | **07** |

### 6.5.3. LEARNING RESOURCES

**6.5.3.1 College Library (digital):** *Location of the library, Present staff position (in place), Availability of the following in library, Wi-Fi, No. of books and other reading materials, No. of periodicals and research journals, No. of internet points with number of computers, Seating capacity in library, Employing the latest technology in library sciences, Stocking arrangements of books, Collection of volumes on different subjects, Latest publications in the fields of relevant subjects, Automation and user services through computer, Opening hours, Subscription of journals of national and international repute, national dailies, magazines etc.*

There is digital library in the College. Each faculty member and students have access to the digital library. Most of the departments of the college have departmental libraries with good collection of books and theses which are accessible to students and faculty. In departmental libraries of the College, there are 1245 books, 1600 M.Sc. theses and 691 Ph. D theses.

- CCS Haryana Agricultural University has a centrally located Nehru Library with Library Advisory Committee to decide the guidelines for its smooth functioning.
- The Committee comprises Vice-Chancellor as its Chairman and University Librarian as its Member-Secretary. All the Deans/Directors, Registrar, Comptroller, Principal- College of Agriculture, Kaul and President of HAUTA are its ex-officio members, while one HOD, one faculty member and one PG student from each College are nominated by the Vice-Chancellor for two academic years.
- Students are encouraged to consult the library which is well equipped with a large number of books and other facilities like Krishikosh, CeRA (Consortium for e-resources in Agriculture), BOLAE (Britannica Online Academic Edition), Scopus database, DELNET (Developing Library Network) database, NDL (National Digital Library) resources and video conferencing. The library provides access to e-dictionary, Thesaurus, Biography of world

great personalities and e-books. It is the hub of academic and research activities of the University; housed in a centrally located elegant building.

- It provides information support to teachers, scientists, extension specialists, students, and other members including non-teaching staff and general public.
- Library regularly conducts training programmes for faculty and students and gets feedback. Suggestions are incorporated in creating better facilities to its users.
- Videoconferencing facility and multimedia service are other important facilities provided to Library users. Entire collection of library has been made bar-coded for automated circulation activities.
- Library security has been monitored by CCTV Security System.
- Implementation and maintenance of Anti-Plagiarism software (Turnitin)
- Implementation of IUMS/ERP modules for the Digitization of University Work.

**6.5.3.2 Laboratories, Instructional Farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc.:** *Clearly mention about laboratories, instructional farm, workshops, diary plant, veterinary clinic, hatchery, ponds etc. facilities available in the College with its numbers, space, specialty to conduct practical/hands on training.*

**Under Graduate Laboratories**

| Departments | | Number | Lab no. | Location | Facility in the lab |
|---|---|---|---|---|---|
| Biochemistry | : | 01 | Biochem. 1 (Lab No. 3) | COBS&H | Chemicals, Reagents, Glassware etc. and Equipment |
| Botany and Plant Physiology | : | 02 | Bot.1, 319 | COBS&H | Facility to conduct different Botany and Plant Physiology Courses Practical |
| Chemistry | : | 01 | 409 | COBS&H | Burette, Pipettes, other Glassware, Reagents, Chemicals, Furnace etc. |
| Languages and Haryanvi Culture | : | 01 | -- | COBS&H | Computers,Interactive Board, Language Software |
| Microbiology | : | 01 | 413 A | COBS&H | Microscopes, Glass Slides, Stains, Petri Plates |
| Physics | | 01 | 413 B | COBS&H | All facility for Undergraduate Practical available |
| Zoology | : | 01 | Zoo 315 | COBS&H | Preserved specimen of different Phylum, Tissue SlidesFacility for conducting Physiological Tests |
| Computer Section | : | 01 | Lab-I | Computer Section | Desktop Computers with Internet and various Programmes |
| **Total** | : | **09** | | | |

In addition to UG and PG laboratories, there are specialized research laboratories in each department for conducting research in specific areas. The information regarding these laboratories in the various departments of the College is as under:

| Departments | Name and number | Specialty to conduct practical/hands on training |
|---|---|---|
| Biochemistry | **05** | |
| | Lab No. 415 | Differential expression and proteome studies, purification and characterization of agriculturally important enzymes |
| | Lab No. 417 | Synthesis and application of nanoparticles in agriculture |
| | Lab No. 420 | Synthesis and application of nanoparticles in agriculture |
| | Lab No. 424 | Evaluation of food and fodder crops for quality traits and anti-nutritional factors |
| | Lab No. 432 | Purification, characterization and immobilization of enzymes |
| Botany and Plant Physiology | **07** | |
| | Lab No. 318 | For practical classes and research work of student |
| | Lab No. 319 | Conduct different Botany and Plant Physiology courses practical for UG students |
| | Lab No. 320 | Identification of salt and heavy metal hyperaccumulator plants |
| | Lab No. 329 | Identification of physiological markers (MSI, RSI, photosynthetic efficiency, photochemical quantum yield, CTD, pollen viability) under different abiotic stresses |
| | Lab No. 331 | Physiological changes in response to agricultural pollutants and strategic research for environment and climate resilient sustainable agriculture |
| | Lab No. 334 | $N_2$-fixation mechanism (leghemoglobin, nitrogenase activity and oxidative metabolism) under abiotic stress condition in different nodules |
| | Lab no. 318 | Conduct different Botany and Plant Physiology courses practical for UG students |
| Chemistry | **07** | |
| | Lab No. 123 | Natural product and heterocyclic synthesis lab |
| | Lab No. 407 | Green chemistry and nano innovation lab |
| | Lab No. 137 | Functionalized materials research lab. |
| | Lab No. 127 | Advanced organometallic synthesis lab |
| | Lab No. 124 | Diversity oriented organic synthesis lab |
| | Lab No. 138 | Porous material lab |
| | Lab No. 117 | Sustainable chemistry lab |
| Computer Section | **01** | |
| | Network Lab | Installation of Local Area Network equipment and Servers |
| Mathematics and Statistics | **01** | |
| | Lab No. 15 | Used by UG/PG and professional elective students to develop teaching material and other assignment work. |
| Microbiology | **08** | |
| | Lab No. 202 | Molecular characterization of microorganisms |
| | Lab No. 207 | Development of biocontrol agents for various pests and diseases of crops |

| | | |
|---|---|---|
| | Lab No 217 | For study of microbial interactions with plants |
| | Lab No. 222 | Development of strategies for bioremediation of polluted sites |
| | Lab No. 225 | For study of microbes and their activities in soil |
| | Lab No. 229 | Study of microbial fermentations |
| | Lab Nos. 237 & 234 | Production of different biofuels |
| | Lab Nos. 115A and B | Study of microbial genomics |
| Molecular Biology and Biotechnology | **06** | |
| | Lab Nos. 01 & 02 | Bioinformatics Lab |
| | Lab No. 05 (COBT) | Functional Genomics and Molecular Breeding |
| | Lab No. 102 (COBT) | Computational and Biophysics Lab |
| | Lab No. 104 (COBT) | Molecular Biology Lab |
| | Lab No. 108 (COBT) | Plant Proteomics and Metabolomics Lab |
| Physics | **03** | |
| | Lab No. 112 | Advanced equipment lab |
| | Lab No. 115 | Material synthesis lab |
| | Lab No. 404 | Thin film lab |
| Zoology | **06** | |
| | Lab No. 302 | Vermiculture lab experiments |
| | Lab No. 305 | Animal physiological studies, Animal behavior study |
| | Lab No. 306 | **S**tudying taxonomical aids |
| | Rodentology Lab No. 307 | Rodent pest management |
| | Avian Biology Lab 310 | Avi-faunal study lab |
| | Acarology Lab No. 311 | Mites management lab |
| Food Science and Technology | **07** | |
| | Lab No. 1 | Fruits and vegetables processing and quality analysis |
| | Lab No. 2 | Pilot plant for spray drying of foods |
| | Lab No. 3 | Chemical and nutritional quality assessment |
| | Lab No. 4 | Instrumental analysis of foods |
| | Lab No. 5 | Food microbial quality management |
| | Lab No. 6 | Pilot plant for fruits and vegetables processing |
| | Lab No. 7 | Cereal processing and quality analysis |

### Farm Area/Net Houses/Green Houses Facilities with College

| **Departments** | **Number** | **Facility** |
|---|---|---|
| Biochemistry | 05 Net house | Growing crops for biochemical characterization |
| Botany and Plant Physiology | 07 Screen House | For conducting of experiments |
| Microbiology | 06 Screen House, | For evaluation of microbial strains<br>Biogas production experiments |

| | | |
|---|---|---|
| | Biogas plants,<br>Composting pits | Compost preparation |
| Molecular Biology and Biotechnology (COBT) | 01, High-tech Containment Facility,<br>02, Green House,<br>03, Polyhouse | For growing transgenic plants<br><br>For conducting experiments<br>Growing crops for molecular characterization |
| Physics | 01 Screen House | For conducting experiments |
| Zoology | 04 Screen house | For earthworm and plant mite rearing |
| Total | **29** | |

Any other information which is not covered in the infrastructure may be added preferably in tabular form

| **Departments** | **Facility** |
|---|---|
| Botany and Plant Physiology | Botanical Garden |



Vice-Chancellor Prof. B.R. Kamboj during Inaugural Ceremony of "Urban Expo and Flower Fest-2022"

The Department of Botany and Plant physiology, College of Basic Sciences and Humanities, CCSHAU, Hisar has a Botanical Garden covering 10.5 acres land with rich plant diversity of more than 600 plants species comprising of various ornamental foliage, seasonal flowering plants, bamboospecies, ferns, cacti/succulent plants, medicinal/ aromatic plants, horticultural plant like chrysanthemums, roses, aquatic plants, climbers, shrubs, herbs and trees. The collection of planting material has been maintained for imparting knowledge to students, scientists and visitors. The department has also done pioneering work in conserving the indigenous plant species and efforts have also been made for introduction of exotic plant species. Eminent dignitaries from various places used to visitthis unique botanical garden. Botanical Garden is well established site and very helpful in updating of knowledge and interest of students/Scientists and other users about plant world.

| | |
|---|---|
| Microbiology | Center of Biofertilizers Production and Technology |

The Department of Microbiology has been producing biofertilizers for the last 40 years as per the demand of farmers and other farm agencies. The biofertilizers produced are:

- *Rhizobium* biofertilizer (Rhizoteeka) for nitrogen fixation in different pulses and legumes like moong, urd, arhar, soybean, pea, gram, berseem and ground etc.
- *Azotobacter* biofertilizer (Azoteeka) for nitrogen fixation in different crop plants including vegetables, flowers and fruits etc.

- PSB biofertilizer (Phosphoteeka) for solubilization of insoluble/ fixed P in the soil for all crop plants.
- Biocontrol bioinoculants (Bioteeka) *Azotobacter chroococcum* strain HT-54 for control of molya disease in wheat and barley; and *Gluconoacetobacterdiazotropicu*s controlling root knot nematode in cotton
- A well-equipped unit for biofertilizer production. Since July, 2018, the biofertilizers are produced and sold through Public Private Partnership mode with M/S HABITAT Genome Improvement Primary Producers Company Pvt. Ltd. Village Ramayan, Hisar.

Conference hall having 40 seating capacity for training to students, entrepreneurs and farmers regarding biofertilizer production and application.

| | |
|---|---|
| Molecular Biology, Biotechnology and Bioinformatics | Three transgenic greenhouses |

The transgenic greenhouses are used by the department to conduct experiments on development of transgenics of crops of agricultural importance. The facilities are also used by post graduate students for their approved thesis work.

| | |
|---|---|
| Zoology | Museum (Room No. 316) |

The Museum house preserved specimen of invertebrate and vertebrate phyla belonging to different orders. Stuffed animals, skeletal systems, display boxes, models, charts etc are also displayed in the museum. It is used for taxonomy practical by undergraduate and post graduate students.

### 6.5.3.3 Student READY/In-Plant Training/Internship/Experiential Learning Programmes:

*Clearly mention about the implementation of Student READY. In-plant training/Internship/ Experimental Learning Programmes and learning outcomes as per the guidelines of ICAR. Profit sharing mechanism (amount) shall be mentioned for each ELP unit sanctioned by the ICAR for the College.*

#### 1. Experiential Learning Unit in Department of Microbiology/ MBB&B

**Title:** Production of medicinal and Aromatic plants through Tissue Culture and Production of Biofertilizers

**Income/Revenue generated :** Rs. 68,000/-

**Expertise gained**

- Students were able to isolate and purify the potential bioinoculants
- The trained students were able to produce biofertilizers at large scale.

**Status of EL Unit**

- PG students of the department are using the created facilities for their research work.
- UG students of college of Agriculture are getting biofertilizer training regarding bioinoculants through module 8.

#### 2. Experiential Learning Programme in Food Science and Technology

**Title:** Processing of fruits, vegetables and some other food items (EL-4)

**Number of students trained:** Total 49 students including 35 under graduate, along with M.Sc. and Ph.D. students were trained during the last five years.

**Income/Revenue generated:** Total sale of value added food products was worth Rs. 3,99,468/- during the period under report.

**Expertise gained:** The students were imparted practical demonstrations for processing, packaging, labelling, and sale of following value added food products from fruits, vegetables and grain crops:

- Ready-to-serve (RTS) drink from pineapple, guava, mango, ber, papaya and bael;
- Squashes from mango, pineapple, orange, bael, guava and papaya;
- Syrups from pomegranate, orange, raw mango-mint, rose and almond;
- Preserve/murrabba and candy from aonla, bael, ber, karonda and carrot;
- Sauces/Ketchup, chutneys, pickles, confectioneries and dehydrated products
- Biscuits, cakes, muffins and instant mixes;



Student activity during Experiential Learning Programme of Food Science and Technology

Students were also trained for calculating cost of production, GST, price fixation and profit sharing along with maintenance of records. They displayed, supervised, sold products and disseminated awareness/information/knowledge to the visitors *i.e.*, farmers, women, self- help groups, students, dignitaries and participated in various events like Kisan Mela/Training/ Exhibition Conferences/HAU Mart/ Flower Show/Kisan Diwas/ Geeta Mahotsav etc. during various programmes held at and/or outside CCSHAU through stall ELP during various functions/events organized and represented by university.

**Status of ELP:** Experiential Learning Programme envisaged proactive training, imparted to students in agriculture and its allied enterprises. It aimed to stress upon the importance of entrepreneurship in student minds for developing entrepreneurship skills. The ELP was conducted during the last semester of final year students of Undergraduate Programme *i.e.*, B.Sc. (Hons.) Ag. The entire scheme of experiential learning followed the established system of "Earn While You Learn". Expenditure limit under ELP increased up to Rs 2.0 lac from initial seed money of Rs. 50000/-.

### 3. In-Plant Training in Food Science and Technology

All M.Sc. students were imparted compulsory four weeks training after completion of the major course work during semester break in reputed Food Industry/ Organization and submit report. During period under review, sixteen students successfully completed In-Plant training in India and Abroad.

***6.5.3.4.1.*** **Curricula Delivery through IT (Smart Class Rooms/Interactive Board etc.):** *Whether the College is using smart class rooms/interactive board etc. for teaching and practicals. Number of class rooms upgraded as smart class rooms should be mentioned.*

The College of Basic Sciences and Humanities has robust ICT infrastructure comprising more than one hundred computers, one smart class room/interactive board for teaching, lecture rooms with computer facility, Wi-Fi facilities, CCTV cameras, *etc.* The faculty members of the college use ICT in teaching, practical, office and research purposes. Every department has one Seminar Room with computer, LCD projector and internet connection. Every faculty members have computer printer and internet connection in their offices. The office of every department has computer facility with internet connection. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube and CD ROM in teaching different courses at UG, PG and Ph.D. level.

- Two hundred Desktops are available in the college with specifications of: i3, i5 and i7 Core, 500GB/1TB HDD and 2 GB/4 GB RAM.
- All the computers are connected through LAN for better connectivity.
- Computers are well equipped with recent software such as Microsoft Office, SPSS, SAS and Turnitin to improve writing skills of students and assist them in checking plagiarism of research thesis.
- In College every node is connected with internet and free of cost Wi-Fi facility is available in the hostel rooms.
- Regular courses of computers and special trainings on use of ICT are provided to teachers/students.
- Students deliver seminars and lectures in smart class rooms enabled with LCD Projector and internet.

**Type of ICT Application used in Curricula**

Faculty of each department uses power point presentations, white board, YouTube and CD ROM in teaching courses at UG, PG and Ph.D. level. The Department of Botany & Plant Physiology uses power point presentations, white board, YouTube and CD ROM in teaching courses at UG, PG and Ph.D. level. The Centre of Food Science and Technology uses power point presentations, white board, e-manuals. The Department of Chemistry uses power point presentations, white board, YouTube and CD ROM. The Department of Languages and Haryanvi Culture uses power point presentations, white board. The Department of Mathematics and Statistics uses power point presentations, white board, CD ROM, e manuals etc. The Department of Molecular Biology, Biotechnology and Bioinformatics uses power point presentations, white board, YouTube and CD ROM in teaching courses at UG, PG and Ph.D. level. The Department of Microbiology uses power point presentations, white board, YouTube and CD ROM in teaching different courses. The Department of Sociology uses power point presentations, YouTube and CD ROM in teaching courses at UG and PG level. The Department of Zoology uses power point presentations, white board, in teaching all courses atUG, PG and Ph.D. level. The faculty also use of CeRA, digital library, Youtube videos, digital camera, emails etc. And Whatsapp groups were also created for teaching the courses.

### 6.5.4 STUDENT DEVELOPMENT

**6.5.4.1 Student Intake and Attrition:** *The information about student intake and attrition, for the college as a whole but separated in UG, PG and Ph.D. categories shall be provided in tabular form for last five year.*

| Degree program | Actual students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| PG | 46 | 49 | 47 | 54 | 52 | 5.30 | 13.76 | 11.10 | 8.66 | 4.20 |
| Ph. D. | 29 | 65 | 58 | 56 | 45 | 3.30 | 6.80 | 2.80 | 1.25 | - |

**6.5.4.2 Number of Students in Theory and Practical Classes:** *Mention the Degree Programme wise number of students sitting in a class for theory and practical. Complete list of academic programmes (UG and discipline wise masters and Ph.D.) for which accreditation is sought, need to be provided. The list should provide only programmes in which students are already passed out.*

The college offers courses to students of this college in different disciplines. These courses are open to students of different departments of other colleges as well.

- The number of students varies in each course.
- Some of the courses being compulsory for different disciplines of the college and other colleges, the strength of students vary between 40-100.
- Courses taken under minor subject are in high demand and number of enrolments is more.
- Ph.D. courses (600 series) are generally taken by students of the department and number of students vary from 2-10 students in such course.
- Batches in Practical courses vary from 1-3, each batch has about 20-25 students.

**6.5.4.3 Admission Process:** *Clearly give complete mechanism of admission for UG, PG and Ph.D. programmes, fee payment mechanism, registration procedure, academic schedule publication at the start of the semester etc. Write information in one page only.*

- The College ensures publicity and transparency in the admission process through advertisement in the local dailies, national dailies, websites, and conducting common entrance tests through centralized university system.
- The admission process for the college is transparent. Prior advertisement regarding admission process is published in the national newspaper and also on the university web portal. There is entrance examination for the admission and OMR sheets are being checked using software to avoid any kind of bias and omissions. There is strict observation during the entrance examination including photographs of candidates, thumb impression and signature. The doubtful case, if any, is debarred from admission.
- Process of admission is through Common entrance examination for all the masters' and Ph.D. programme.
- The minimum percentage of marks for admission to all the Masters' and in the college and affiliated college of the university is 60% for General category and 57% for SC/ST candidates. Admission is based on the merit in the entrance examination.

- The minimum cut off marks in the Common Entrance Test for the M.Sc. programmes are 40% for General Category and 38% marks for Scheduled Caste candidates.

### Strategies adopted to Increase/Improve Access for Following Categories of Students

- Distribution of seats for admission against the seats meant to be filled in with candidates having Haryana Resident Certificate at Master's Level Programmes is as under:
- (i) Scheduled Castes 20%
- (ii) Backward Classes Block –A (BC-A) 16%
- Block –B (BC-B) 11%
- Roster for Master's programmes is followed. Roster points for reservation for different categories in a block of 100 seats in each college is as under:
- Scheduled Castes (20%)
- Backward Classes: Block-A (16%) and Block-B (11%)
- Person with Disability (3%)
- General Category: Rest of the points belong to the general category.
- One additional seat in each college is created for SC, BC(A), BC(B)& Person with Disability (PwD) category if candidate (s) of these categories are available. Admission against this seat is made on the basis of inter se merit amongst the candidates of the relevant category. Admission to Ph.D. programme in one discipline giving representation to above category is restricted to not more than 50% of the prescribed seats for Haryana Residents.

### PG Programmes – At a Glance (2022-23)

| Programme | Disciplines | Eligibility | Number of seats |
|---|---|---|---|
| M. Sc. | Biochemistry | B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/ B.Sc.(Hons.) Biochemistry (Chemistry +Botany + Biochemistry)/B.Sc. (Hons.)Biochemistry (Chemistry +Zoology + Biochemistry)/B.Sc. (Hons.)Chemistry/B.Sc. Biochemistry (Chemistry + Botany + Biochemistry)/B.Sc.Biochemistry (Chemistry + Zoology + Biochemistry) / B.Sc. Biochemistry/B.Sc.(Hons.) Biochemistry(Zoology+Botany+Biochemistry). | 4+2* |
| | Bioinformatics | B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4year/ B.Sc. (Hons.) Biochemistry (Chemistry + Botany + Biochemistry)/ B.Sc. (Hons.) Biochemistry (Chemistry + Zoology + Biochemistry)/ B.Sc. (Hons.) Biotechnology (Chemistry + Botany + Biotechnology)/ B.Sc. (Hons.) Biotechnology (Chemistry + Zoology + Biotechnology)/ B.Sc. (Hons.) Microbiology (Chemistry + Botany + Microbiology)/ B.Sc. (Hons.) Microbiology (Chemistry + Zoology + Microbiology)/ B.Sc. (Physics + Chemistry + Maths)/ B.Sc. Agri. Biotechnology (Botany + Biotechnology)/ B.Sc. Agri. Biotechnology (Zoology + Biotechnology)/ / B.Sc. Biochemistry (Chemistry + Botany + Biochemistry)/ B.Sc. Biochemistry (Chemistry + Zoology + Biochemistry)/ B.Sc. Biotechnology (Chemistry + Botany + Biotechnology)/ B.Sc. Biotechnology (Chemistry + Zoology + Biotechnology)/ B.Sc. Microbiology (Chemistry + Botany + Microbiology)/ B.Sc. Microbiology (Chemistry + Zoology + Microbiology)/ B.Sc. Biotechnology/ B.Sc. (Hons.) | 3+2* |

| | | | |
|---|---|---|---|
| | | Biotechnology (Zoology + Botany + Biotechnology)/ B.Sc. Microbiology/ B.Sc. (Hons.) Microbiology (Zoology + Botany + Microbiology)/ B.Sc. Biochemistry/ B.Sc. (Hons.) Biochemistry (Zoology + Botany + Biochemistry)/ B.Sc. Life Science/ B.Sc. Bioinformatics | |
| | Botany | B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/ B.Sc.(Hons.) Biochemistry (Chemistry +Botany + Biochemistry)/B.Sc. (Hons.)Biotechnology (Chemistry + Botany + Biotechnology)/B.Sc. (Hons.) Botany/ B.Sc.(Hons.) Microbiology (Chemistry + Botany + Microbiology)/B.Sc. Agri. Biotechnology (Botany + Biotechnology)/B.Sc. Biochemistry (Chemistry + Botany+ Biochemistry)/B.Sc. Biotechnology (Chemistry + Botany + Biotechnology)/B.Sc. Microbiology (Chemistry +Botany + Microbiology) / B.Sc. Biotechnology/B.Sc.(Hons.) Biotechnology (Zoology +Botany + Biotechnology) / B.Sc. Microbiology/ B.Sc.(Hons.) Microbiology (Zoology+Botany+ Microbiology) / B.Sc.Biochemistry/B.Sc. (Hons.) Biochemistry (Zoology+Botany+Biochemistry) | 1+0* |
| | Chemistry | B.Sc(Hons.)Agri,/B.Sc. Agri. 4 year B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Biochemistry (Chemistry+ Botany+ Biochemistry)/B.Sc. (Hons.) Biochemistry (Chemistry +Zoology +Biochemistry)/B.Sc. (Hons.) Biotechnology (Chemistry + Botany + Biotechnology)/B.Sc. (Hons.) Biotechnology (Chemistry + Zoology +Biotechnology)/B.Sc. (Hons.) Chemistry/B.Sc. (Hons.) Microbiology (Chemistry +Botany + Microbiology)/B.Sc. (Hons.) Microbiology (Chemistry + Zoology +Microbiology)/B.Sc. (Physics + Chemistry + Math)/B.Sc. Biochemistry (Chemistry +Botany + Biochemistry)/B.Sc. Biochemistry (Chemistry + Zoology +Biochemistry)/B.Sc. Biotechnology (Chemistry + Botany + Biotechnology)/B.Sc. Biotechnology (Chemistry + Zoology + Biotechnology)/B.Sc. Microbiology(Chemistry +Botany + Microbiology)/B.Sc. Microbiology (Chemistry +Zoology +Microbiology) | 5+1* |
| | Food Science and Technology | B. Tech. Agril. Engg./B. Tech. FST/B. Tech. Food Technology/B.Sc. (Botany+Zoology+Chemistry)/B.Sc. (Food and Nutrition)/B.Sc. (Hons.) Agri./B.Sc. Agri. 4year/ B.Sc. (Hons.) Biochemistry (Chemistry+Botany+ Biochemistry)/ B.Sc.(Hons.) Biochemistry (Chemistry+Zoology+ Biochemistry)/ B.Sc. (Hons.)Biotechnology (Chemistry+ Botany+Biotechnology)/B.Sc. (Hons.)Biotechnology (Chemistry+ Zoology+Biotechnology)/B.Sc. (Hons.) HomeScience/ B.Sc. (Hons.) Microbiology (Chemistry+ Botany+ Microbiology)/B.Sc.(Hons.) Microbiology (Chemistry+ Zoology+Microbiology)/B.Sc. Agri. Biotechnology (Botany+ Biotechnology)/B.Sc. Agri. Biotechnology (Zoology +Biotechnology)/B.Sc. Biochemistry (Chemistry+Botany+Biochemistry)/B.Sc.Biochemistry (Chemistry+Zoology+ Biochemistry)/B.Sc. Biotechnology (Chemistry+Botany+ Biotechnology)/B.Sc. Biotechnology (Chemistry+Zoology+ Biotechnology)/B.Sc. Community Science/B.Sc. Food Tech./B.Sc. FST/B.Sc.Home Science/B.Sc. Microbiology (Chemistry+Botany+ Microbiology)/B.Sc.Microbiology (Chemistry+Zoology+ Microbiology)/B.Sc. Biotechnology/B.Sc.(Hons.) Biotechnology (Zoology+Botany+ Biotechnology)/ | 3+1* |

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|---|---|---|---|
| | | B.Sc.Microbiology/B.Sc.(Hons.) Microbiology (Zoology+ Botany+ Microbiology)/ B.Sc.Biochemistry/B.Sc. (Hons.) Biochemistry (Zoology+Botany+Biochemistry) | |
| | Mathematics | B.Sc. (Hons.)/B.Sc./B.A. with Mathematics as one of the subjects. | 2+0* |
| | Microbiology | B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/ B.Sc.(Hons.) Biochemistry (Chemistry +Botany + Biochemistry)/B.Sc. (Hons.)Biochemistry (Chemistry +Zoology + Biochemistry)/ B.Sc. (Hons.) Biotechnology(Chemistry + Botany + Biotechnology)/ B.Sc. (Hons.) Biotechnology (Chemistry +Zoology + Biotechnology)/B.Sc. (Hons.) Microbiology (Chemistry + Botany +Microbiology)/B.Sc. (Hons.) Microbiology (Chemistry + Zoology +Microbiology)/B.Sc. Agri. Biotechnology (Botany + Biotechnology)/B.Sc. Agri.Biotechnology (Zoology + Biotechnology)/B.Sc. Biochemistry (Chemistry + Botany + Biochemistry)/B.Sc. Biochemistry (Chemistry + Zoology +Biochemistry)/B.Sc.Biotechnology (Chemistry + Botany + Biotechnology)/ B.Sc. Biotechnology(Chemistry + Zoology + Biotechnology)/ B.Sc. Microbiology (Chemistry+Botany+ Microbiology)/ B.Sc. Microbiology (Chemistry +Zoology + Microbiology) / B.Sc. Biotechnology/ B.Sc.(Hons.) Biotechnology (Zoology +Botany + Biotechnology) / B.Sc. Microbiology / B.Sc. (Hons.) Microbiology (Zoology+Botany+Microbiology) | 8+4* |
| | Molecular Biology and Biotechnology | B.Sc. (Botany+ Zoology + Chemistry / B.Sc. (Hons.) Agri. / B.Sc. Ag. 4 year / B.Sc. (Hons.) Biochemistry/ (Chemistry + Botany + Biochemistry) / B.Sc. (Hons.) Biochemistry/ (Chemistry + Zoology + Biochemistry)/ B.Sc. (Hons.) Biotechnology (Chemistry + Botany + Biotechnology) / B.Sc. (Hons.) Biotechnology (Chemistry + Zoology + Biotechnology) / B.Sc. (Hons.) Microbiology (Chemistry + Botany + Microbiology) / B.Sc. (Hons.) Microbiology (Chemistry + Zoology + Microbiology) / B.Sc. Agri. Biotechnology (Botany + Biotechnology) / B.Sc. Agri. Biotechnology (Zoology + Biotechnology) / B.Sc. Biochemistry (Chemistry + Botany + Biochemistry) / B.Sc. Biochemistry (Chemistry + Zoology + Biochemistry) / B.Sc. Biotechnology (Chemistry + Botany + Biotechnology) / B.Sc. Biotechnology (Chemistry + Zoology + Biotechnology) / B.Sc. Microbiology (Chemistry + Botany + Microbiology) / B.Sc. Microbiology (Chemistry + Zoology + Microbiology) / B.Sc. Biotechnology / B.Sc. (Hons.) Biotechnology (Zoology + Botany + Biotechnology) B.Sc. Microbiology / B.Sc. (Hons.) Microbiology (Zoology + Botany + Microbiology) / B.Sc. Biochemistry / B.Sc. (Hons.) Biochemistry (Zoology + Botany + Biochemistry) | 3+1* |
| | Plant Physiology | B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/ B.Sc.(Hons.) Biochemistry (Chemistry +Botany + Biochemistry)/B.Sc. (Hons.)Biotechnology (Chemistry + Botany + Biotechnology)/B.Sc. (Hons.) Microbiology (Chemistry + Botany + Microbiology)/B.Sc. Agri. Biotechnology (Botany +Biotechnology)/B.Sc. (Hons.) Botany/B.Sc. Biochemistry (Chemistry + Botany +Biochemistry)/B.Sc. Biotechnology (Chemistry + Botany +Biotechnology)/B.Sc.Microbiology (Chemistry +Botany + | 3+1* |

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|---|---|---|---|
| | | Microbiology) | |
| | Physics | B.Sc. (Hons.) Physics/B.Sc. (Physics + Chemistry + Math)/B.Sc. (Physics + Math+ Comp. Sc.) / B.Sc. (Physics+Math+Computer Application) | 3+0* |
| | Sociology | B.A./B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/ B.Sc. (Hons.) Home Science/B.Sc.Community Science/B.Sc. Home Science | 4+0* |
| | Statistics | B. Tech./B.Sc. (Hons.) Agri. 4 yr/ B.Sc. (Hons.)Mathemeatics / B.Sc.(Hons.) Statistics / B.Sc. (Physics + Chemistry + Math) / B.Sc. (Physics + Math + C.Sc.)/ B.Sc. with Statistics as one of the subject / B.Sc. (Physics+Math+Computer Application) | 2+1* |
| | Zoology | B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/B.Sc. (Hons.) Biochemistry (Chemistry +Zoology + Biochemistry)/B.Sc. (Hons.)Biotechnology (Chemistry + Zoology + Biotechnology)/B.Sc. (Hons.)Microbiology (Chemistry + Zoology + Microbiology)/B.Sc. (Hons.)Zoology/B.Sc. Agri. Biotechnology (Zoology +Biotechnology)/B.Sc.Biochemistry (Chemistry + Zoology + Biochemistry)/B.Sc. Biotechnology (Chemistry + Zoology + Biotechnology)/ B.Sc. Microbiology (Chemistry+Zoology + Microbiology) /B.Sc. Biotechnology/ B.Sc.(Hons.) Biotechnology (Zoology +Botany + Biotechnology) / B.Sc. Microbiology/ B.Sc.(Hons.) Microbiology (Zoology+Botany+ Microbiology)/ B.Sc. Biochemistry /B.Sc.(Hons.)Biochemistry (Zoology+ Botany+Biochemistry) | 5+0* |
| | Environmental Science | B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/ B.Sc.(Hons.) Biochemistry (Chemistry +Botany + Biochemistry)/B.Sc. (Hons.)Biochemistry (Chemistry +Zoology + Biochemistry)/B.Sc. (Hons.) Biotechnology(Chemistry + Botany + Biotechnology)/B.Sc. (Hons.) Biotechnology (Chemistry +Zoology + Biotechnology)/ B.Sc. (Hons.) Botany/ B.Sc. (Hons.) Zoology/ B.Sc.(Hons.) Chemistry/B.Sc. (Hons.) Microbiology (Chemistry + Botany +Microbiology)/B.Sc. (Hons.) Microbiology (Chemistry + Zoology +Microbiology)/B.Sc. Agri. Biotechnology (Botany + Biotechnology)/B.Sc. Agri. Biotechnology (Zoology + Biotechnology)/B.Sc. Biochemistry(Chemistry + Botany + Biochemistry)/B.Sc. Biochemistry (Chemistry + Zoology +Biochemistry)/B.Sc. Biotechnology (Chemistry + Botany + Biotechnology)/B.Sc. Biotechnology (Chemistry + Zoology + Biotechnology)/B.Sc. Microbiology(Chemistry +Botany + Microbiology)/B.Sc. Microbiology (Chemistry +Zoology +Microbiology) | 3+1* |
| Ph.D. | Biochemistry | M.Sc. Biochemistry/ Ag. Biochemistry/ Plant Biochemistry | 2+ 1* |
| | Bioinformatics | M.Sc. / M.Tech. in Bioinformatics / Bioinformatics & Computational Biology, Information Technology, Computer Science, Biotechnology, Molecular Biology & Biotechnology, Biochemistry, Biophysics, Chemistry, Bio-Nanotechnology, Nanotechnology, Life Sciences, Biomedical Engineering, Chemical Engineering, Agriculture Engineering, Biochemical Engineering. | 1+ 1* |
| | Chemistry | M.Sc. (Chemistry) | 4+1* |
| | Environmental Science | M.Sc. in Environmental Science | 2+0* |
| | Mathematics | M.A./M.Sc. in Mathematics/ Applied Mathematics | 1+0* |
| | Microbiology | M.Sc. (Microbiology/ Ag. Microbiology) | 8+2* |
| | Molecular | M.Sc. Molecular Biology and Biotechnology/ | 2+1* |

| | | | |
|---|---|---|---|
| | Biology and Biotechnology | Biotechnology/Ag.Biotechnology/Genetic Engineering/M.Sc. in Biosciences/Plant Sciences/Life Sciences with specialization in Biotechnology | |
| | Physics | M.Sc. in Physics | 1+0* |
| | Plant Physiology | M.Sc. Plant Physiology/Crop Physiology/Biosciences/Plant Science with specialization in Plant Physiology | 2+1* |
| | Sociology | M.Sc. (Sociology/Rural Sociology/ M.A. Sociology) | 3+0* |
| | Statistics | M.Sc. (Statistics/Mathematical Stat./Applied Statistics/Ag. Statistics) | 1+1* |
| | Zoology | M.Sc. (Zoology) | 5+0* |
| | Food Science and Technology | M.Sc.(Food Science/Food Scienceand Technology/Food Technology) | 2+1* |

*Seats filled through ICAR

### Mechanism of Admission

- Prospectus is made available on university website i.e. http://hau.ac.in for submission of on-line application forms.
- There is Common Entrance Test for M.Sc.as well as Ph.D. in all the disciplines in the college.
- Admission is based on Merit in the Common Entrance Test. The minimum cut off marks in the Common Entrance Test for the above M.Sc. programmes are 40% for General Category and 38% marks for Scheduled Caste candidates (there will be no negative marking) to get admission in Master's Programme as per qualification.
- Eligibility for ICAR nominees for Ph.D. degree is for (a) In-service candidates from State Agricultural Universities/ICAR Institutes. (b) The Candidates who have qualified ICAR-SRF (PGS) examination.
- The minimum qualifications for admissions of fresh as well as in-service candidates shall be 60% marks (where OGPA is not given) or a grade point average of 6.5 (10.00 basis) at Master's level in the subject concerned from a recognized University.
- As per Govt. policy and guidelines received, there is reservation in admission policy, fee concession, granting fellowship, free books, free trainings, Computers *etc.* (Details available in the prospectus on University website).
- The Result of Entrance Tests/Agriculture Aptitude/Common Entrance Test is displayed on University website http://hau.ernet.in. Candidates are advised to visit this website.
- Attendance in person at the time of Counselling is compulsory.
- Admission Committee for the Post Graduate programmes is as under: Dean, Postgraduate Studies Chairperson Concerned Dean(s)/Director Member Registrar or Assistant Registrar (Acad.) Member Admission Committee verify the eligibility of the candidates for particular programme before Counselling.
- Thereafter, candidate is allowed provisional admission on the basis of merit, as per rules and subject to availability of seats.
- The candidates admitted have to pay fee there and then and register themselves on due date (s) failing which they will forfeit their claim of admission.

### Fee Payment Mechanism

The fees can be paid on line using a portal available at the website.

**Registration Procedure**

- Registration for the first semester of the programme is part of admission and is governed by admission rules.
- Registration for subsequent semesters takes place on the date notified in academic calendar.

**Academic Schedule**

1. Academic calendar is provided at the start of the semester.
2. Every student is required to attend at least 75% of the lectures delivered and practicals conducted separately.
3. Final examination is held as per schedule given in the academic calendar
4. HOD ensures that a major advisor is assigned to each post-graduate student within one month after admission, in consultation with the post-graduate faculty of the Department in which the student is doing his/her major work.
5. The Advisory committee for each student is approved by the Dean, PGS on the recommendations of the advisor through the Head of the Department, Dean of the College, in the same semester.
6. The major advisor guides the student in planning the programme of his/her studies and in the choice of courses. He/she will also help in determining the credit load which the student can safely and conveniently carry in each semester and advises regarding the addition and withdrawal of courses. He/she keeps in touch with the academic progress of the student.
7. The CCS HAU team/individual student is allowed to participate in authorized tournaments, declamation and other contests of national level, state level and inter-university level are given benefit of attendance to the extent of maximum of two participations with a total duration of 10 days in a semester.
8. In the Ph.D. programme, besides the examination and other exercises, there is also written and viva-voceexamination.
9. The M.Sc. thesis is evaluated by an Examining Committee constituting Student's Advisory Committee and One external examiner appointed by the Dean, PGS.
10. The Ph.D. thesesare evaluated by two external examiners of different institutions. The final oral examination conducted by an Examining committee constituting Student's Advisory Committee and one external examiner from other institutions out of the two to whom the thesis were sent for evaluation.
11. The student(s) who have normally completed 75% of the course work can apply for overseas pre-doctoral fellowships and are permitted for research in foreign country.
12. The students with first position in OGPA are given certificates in Prize Distribution Function organized by the college.

**6.5.4.4. Conduct of Practical and Hands on Training:** *Mention the brief report on how the practical and hand-on-training is being conducted in different courses to meet the student satisfaction. Write information is one page only.*

College of Basic Sciences and Humanities lay emphasis on practical component of post graduate courses. It motivates students, help them to develop important skills and improve their understanding of theory through practical experience. These courses besides imparting theoretical knowledge also provide practical skills and hands-on-training as per the curriculum requirements. As per 5$^{th}$ Deans' Committee Recommendations courses are offered by all departments for Under Graduates of College of Agriculture, IC College of Home Science and College of Agriculture Engineering and Technology. Courses with practical components provide practical skills and hands-on training as per the curriculum requirements.

The **Department of Biochemistry** provides practical skills and hands on trainings in separation of biomolecules using GLC and HPLC, Radioisotopy, Purification of Enzymes, Extraction of DNA/RNA using ELISA, Western Blotting, Fluorescent Antibody Test, Polymerase Chain Reaction. Students are also exposed to techniques related with carotenoids estimation, trypsin and chymotrypsin inhibitor activities in seeds, Estimation of sugars, proteins, vitamins in fruits. Two courses, viz., Techniques in Biochemistry and Advanced Techniques in Biochemistry are 100 per cent practical oriented. Undergraduates are exposed to **p**reparation of solutions and buffers, quality and quantity determination of sugar and proteins, Paper chromatography and TLC.

In the Department of **Botany and Plant Physiology**, students study various methods for studying the plant water status, effect of abiotic stresses (salt, water, high and low temperature) on plant growth and development and role of hormones under abiotic stresses. The students study the bioassays for different plant growth hormones (Auxins, Cytokinin**,** Gibberellins, ABA, Ethylene and their physiological effects in plants. Students get acquainted with study of different growth and yield parameters in different crops. Students learn the procedurefor extraction of chlorophyll content, photosynthetic activity, stomatal conductance, computer applications in plant physiology, crop productivity and modelling. Students get acquainted with various methods of testing seed viability, vigour and nutrient sufficiency and deficiency levels. Undergraduatestudents conduct experiments on physiological processes like imbibition, osmosis, transpiration, respiration, photosynthesis. Students were acquainted with the structure, types and modifications of root, stem, leaves and flowers.

**Centre of Food Science and Technology** train the students to develop value added food products from fruits, vegetables, cereals, pulses and oilseeds through practical demonstrations and hands on practice. Efforts are made for building entrepreneurship spirit and business management competence among the students. After doing experiments with their own hands, studentsacquaint with properties, role of various constituents in foods, interaction and changes during processing, importance of various foods and nutrients in human nutrition, different groups of micro-organisms associated with food, their activities, destruction and detection in food. The Centre also has the facilities to acquaint the studentswith basic principle of Food Engineering and its Processes, with importance of various foods process, their evaluation, food quality parameters and control systems, food standards, regulations, specifications. The Centre also acquaints the students with packaging methods, packaging materials, packaging machineries, modern packaging techniques etc.

The **Department of Chemistry** has the facilities to conduct experiments on Infrared, Mass spectrometry, pH meter, conductivity, refractometry, chromatography, viscosity, Complex preparation, Complexometric titrations, Magnetic properties, Quantitative analysis, Synthetic preparation, Compounds Identification *etc*. Students are able to Gas layer chromatography for pesticides estimation Analytical Techniques for active pesticides and pesticide formulation. Students are able to understand Organic compounds preparation, Dyes preparation and Intermediates identification. The courses helpthe students in Identification of radicals, removal of colour stains from cloths, detection of elements and organic functional groups. Students got basic knowledge about the Titration by EDTA method, BOD and COD in water sample, Chromatographics analysis and Organic functional groups.

Students are benefitted by the courses offered in the **Department of Languages and Haryanvi Culture.** The undergraduate students are given some imaginary situations to practise conversation to overcome their hesitation in speaking. Keeping in view their spoken English; the students were able to recognize the different phonetic symbols and the sounds they represent. Students

were able to read and comprehend the different newspapers and magazines with ease. The students were benefitted by having the magical mixture of grammar, vocabulary and phonetics. Students were given the guidelines for facing interviews and mock interviews were also conducted so that they could get confidence for appearing in interviews. They could learn pronunciation of English words because now they knew the proper use of dictionary. Keeping in mind the need of the hour, the students were taught how to speak in front of audience which definitely brought positive change in them. They were prepared for group discussion which is very important criteria for the selection process in jobs.

By performing practical exercises, students taking courses of **Department of Mathematics, and Statistics** acquainted with the basic concepts of statistics and mathematics applicable in agriculture and its allied fields. Problems based on AP, GP and binomial expansion, Matrices, Inverse of Matrices and solution of system of equations, differentiation and Integration equip the students to carry out scientific studies. The courses also help in **c**onducting basic, applied and adaptive research in statistics and promote the application of advanced statistical techniques through the use of latest computing techniques for data management and analysis using different software packages. **The Computer Section** offers four practical oriented courses which are taken as minor or supporting courses. These practical courses helped the student to become familiarize with computers, different softwares, hardwares etc.

**The Department of Molecular Biology, Biotechnology and Bioinformatics** has the facilities for estimation of proteins; RNA and DNA, SDS-PAGE of proteins, DNA isolation, purification and characterization, DNA restriction analysis, Polymerase chain reaction, preparation of growth media for bacterial culture, Gel electrophoresis- agarose and PAGE (nucleic acids and proteins), Isolation of plasmid DNA from bacteria, Recombinant DNA construction, Inoculation, subculturing and plant regeneration, Anther and pollen culture; embryo rescue; protoplast isolation, and culture, Gene transfer and selection of transformed tissues/plants, Immunoassays including ELISA; western blotting, Dot blot analysis; Southern hybridization; Molecular markers (RAPD, SSR, AFLP etc) and their analysis; SNP identification and analysis; Proteomics (2D gels, mass spectrometry, etc.); RNAi (right from designing of construct to the phenotyping of the plant); Yeast 1 and 2-hybrid interaction.

Practicals on Bioinformatics help the students to gain expertise on use of INTERNET and students are able to perform searches on MEDLINE, CD-ROM; bibliographic databases; RASM OL, M OLM OL, M X, VRMLetc, use of molecular model packages and visualization tools. The courses also provide information on Gene Information Resources: GenBank, EMBL, Protein Information Resources: Swiss-Prot, BLOCKS, Gene Prediction Tools: GENSCAN, GRAIL; Structural Databases: PDB, CSD, RELIBASE, REBASE, File Format Converter; Tools: BABEL, ReadSeq, NCBI Resources; Visualization tools – RasMol, QMol, SwissPDB, Pymol, Modeling Tools: MODELLER, SwissPDB, Geno3D, Docking Tools: Chimera, Dock, AutoDock, GRAMM, Hex, Argus Lab.; Proteomics Tools: EXPASY, CDART, 3D-Structure Optimization Tools, Sequence Analysis Tools: BLAST, FASTA, EMBOSS, TCOFFEE, Phylogenetic Analysis; Tools: Phylip, NTSYS, CLUSTALW/CLUSTALX, BIOEDIT.

**The Department of Microbiology** offers practical and hands on training in ten M.Sc. courses out of 12 courses. By conducting practicals with their own hands, students are able to isolate, characterize and maintain different microorganisms, Students are made familiar to different techniques used for characterization of metabolites, cell size and growth behavior of microbes.They are able to apply modern techniques like gene transfer, electroporation, plasmid isolation and their application to construct microbe with desired traits. Students are able to enumerate microbial activity

in different kinds of soils, isolate and develop new microbial products of commercial use. Students get basic knowledge about the microbiology lab, staining techniques and media preparation, culture and isolation of bacteria, algae & fungi of agriculture importance, staining techniques and media preparation**,** production of biofertilizers**.** They are also able to understand the biological aspects of viruses, role of microbes in environment, its pollution abatements and standards of environment pollution.

**The Department of Physics** has facilities to conduct experiment to undergraduate and postgraduate students. The Department provides hands on training using Fourier transform infrared spectrometer, Impedance analyzer, Thermal properties analyzer, Photo luminescence setup, Tube furnace, Geiger muller counter, Gas sensor setup, PN junction diode, Multichannel electrochemical workstation, etc.

**The Department of Sociology** conducts field study-cum-institutional visits, prepare field projects for analysing the problems of agriculture and rural society and make theme based group which help students to understand the concepts and proper methodology. Assignments for e.g. functioning of Gram Panchayat, caste system, jajmani system, Mahatma Gandhi National Rural Employment Guarantee Scheme, education system *etc*. are given to students so that they gain exposure. Students are also exposed to application of computers in social research. Undergraduate Course is based on participatory process with the teacher playing the role of facilitators, the learners' centred approach adopted by the teacher includes activities designed as interactive and experimental with the resulting emphasis on learning by doing the exercises such as group discussion, case study, exercise/game, self –analysis by students about their styles and behaviour, role play and participants' presentations.

**The Department of Zoology** have practical portion in all M.Sc. courseswhich ameliorated students' knowledge about biochemical and cytological techniques, mounting the specimen, histology, tissues, organ systems, skeleton, morphological and behavioral characters of organisms, developmental stages, regeneration and metamorphosis in animals. Students are able to recognize different organisms belonging to invertebrates and vertebrate phyla. Students are benefitted by conducting experiments with their own hands. (They are able to recognize and identify different organisms belonging to invertebrates and vertebrate phyla.) Students collect the insects and other invertebrates from different habitats and preserve the organisms. Students are able to prepare seven types of keys to identify class, orders and species. Students are able to extract mites from stored grains, plants, soil, animals and house dust, observe damage symptoms. Students are able to culture different species of plant mites, stored mites, earthworms and entomopathogenic fungi for management of mites.

### Conferences/ Seminars/Webinars/Workshops/Trainings etc. Organised

### Computer Section

1. "State Eligibility Test in Computer Appreciation and Application (SETC)" from 05.03.2018 to 09.03.2018 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM, CCS HAU, Hisar, Haryana, India.

2. “State Eligibility Test in Computer Appreciation and Application (SETC)” from 04.02.2019 to 08.02.2019 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM, CCS HAU, Hisar, Haryana, India.
3. “How to Skill Up during COVID-19” from 05.08.2020 to 14.08.2020 in collaboration with Director of Research, CCS HAU, Hisar, Haryana, India.
4. “Statistical Data Analysis for Research Scholars” from 18.02.2019 to 27.02.2019 at Computer Section in collaboration with Directorate Student Welfare, CCS HAU, Hisar, Haryana, India.
5. “Statistical Data Analysis for Research Scholars” from 14.10.2019 to 24.10.2019 at Computer Section in collaboration with Directorate Student Welfare, CCS HAU, Hisar, Haryana, India.
6. “Statistical Data Analysis for Research Scholars” from 24.02.2020 to 04.03.2020 at Computer Section in collaboration with Directorate Student Welfare, CCS HAU, Hisar, Haryana, India.
7. "Basic Level Computer Appreciation Course" from 13.09.2021 to 22.09.2021 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM, CCS HAU, Hisar, Haryana, India.
8. “State Eligibility Test in Computer Appreciation and Application (SETC)” from 22.12.2021 to 26.12.2021 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM, CCS HAU, Hisar, Haryana, India.
9. “State Eligibility Test in Computer Appreciation and Application (SETC)” from 05.09.2022 to 09.09.2022 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM, CCS HAU, Hisar, Haryana, India.
10. “Basic Level Computer Appreciation Course (BLCA)” from 16.11.2022 to 29.11.2022at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM, CCS HAU, Hisar, Haryana, India.



Basic Level Computer Appreciation Course (BLCA)

### Department of Botany and Plant Physiology

- Two daysWorkshop Hands-On Training Program on "Basic and Advanced Instrumentation in Plant Physiology" from 10-11 January, 2019.
- International Workshop on "Molecular Mapping of Economic Traits using High-Throughput Technologies" by the department under the SPARC project, MHRD, GOI from 8th to 17th July, 2019.
- International Workshop on "Plant Genomics" by the department under the SPARC project, MHRD, GOI from 25th February – 5th March, 2020.

### Department of Mathematics and Statistics

- National e-seminar entitled "Mathematical Sciences: Repositories of Logical Thoughts and Analytical Tools" on Dec 22, 2020.
- Online Webinar on "Computational Techniques for Applied Sciences" on July 06-07, 2020.
- Symposium on "Connecting the World with Data we can Trust" on October 20, 2020.
- workshop on **"**Recent Computational Techniques of Mathematical Sciences for Researchers" to celebrate National Mathematics Day on Jan. 22, 2020
- National Conference entitled "Mathematical Sciences for Applied and Agricultural Research" on Feb. 22, 2022 in blended mode.
- National Level Refresher Course on "Statistical Tools and Techniques for Analysis of Agricultural Data for the teachers and scientists of SAUs from July 8-28, 2020 conducted by AAREM in collaboration with Department of Mathematics and Statistics, CCSHAU, Hisar.
- Refresher course on "Statistical Methods and Data Analysis" for faculty members of CCSHAU and other universities in collaboration with Directorate of Human Resource, CCSHAU, Hisar.

### Department of Microbiology

- Twelve days International Indo-US-Afghanistan CAAI Workshop on "Capacity Development for Agricultural Innovation Systems: Agricultural Research and Climate-Smart Agriculture Approaches" from 7-18 March, 2020at CCSHAU campus.
- Two days Online Indo-US Afghanistan International Workshop on "Development of Essential Research Capabilities: Design, Implement and Perform Analysis in Applied Research" 23 & 29th June 2020.
- International Workshop on "Climate Change" on at 16th, 23rd, 30th July and 6th August 2020.
- Three days Online Indo-US Afghanistan International workshop on "Integrated Pest Management" 14, 15 and 22 September 2020.
- Two days Online International Webinar on "Deep learning for Detection and Management of Plant Disease" 8thand 12thMarch, 2021 in collaboration with Jagan Nath University, Bahadurgarh, India and CCSHAU, Hisar.
- Two days Online Indo-US Afghanistan International Workshop on "Training on Agribusiness Experiential Learning" on 5thand 6th April 2021.
- Three days Online Indo-US Afghanistan International workshop on "Basic and Advance Laboratory/Farm Technologies in Agriculture" on 28th-30th June, 2021.
- Webinar on "Evaluation of Zero Budget Natural Farming (ZBNF) Model under different Cropping Systems in Haryana" on 10th August 2021.
- Webinar on "Sustainable technologies for crop residue management" on 24th August 2021.

- International Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on topic of "What can the Microbiome tell us about the Conditions in Agricultural Soil" on 29th September 2021.
- International Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on topic of "Antibiotic Resistance in Agro environments between: Epidemiology and Microbial Ecology" on 24th May 2022.
- International Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on topic of "Your Future after Undergraduate or Postgraduate Degree" on 9th September 2022.

**Centre of Food Science and Technology**

- "Fruits and Vegetables Processing" for SC youth at CFST, CCSHAU, Hisar from February 20-27, 2018
- "Fruits and Vegetables Processing" for SC youth at CFST, CCSHAU, Hisar from March 12-19, 2019
- "Fruits and Vegetables Processing" for SC Youth at CFST, CCSHAU, Hisar from February 26 to March 04, 2020
- "Food Processing and Value Addition" for ABIC Incubateesat CFST, CCSHAU, Hisar from January 15-16, 2021
- "Food Processing" for students from Amritsar Group of Colleges, Amritsar, Punjab from April 08-14, 2021
- "Food Processing and Value Addition" at CFST, CCSHAU, Hisar for Progressive and Innovative Farmers/Lady Farmers of Haryana from April 25-29, 2022 in CFST

**6.5.4.5. Examination and Evaluation Process:** *The evaluation of student's performance is a central task of College administration. A brief report on examination and evaluation process for UG, PG and Ph.D. be given separately mentioning external/internal components. System of evaluation should clearly be mentioned for UG, PG and Ph.D.*

The evaluation of P.G. students is internal. Academic performance of the students is reviewed annually on the basis of their performance in different courses and general conduct. Students whose performance is below prescribed standard (less than 6.5 for PG) are dropped out after one year and are informed that improvement in the future semester is necessary to obtain the minimum scholastic standards.

- The course work to be offered in M.Sc. or Ph.D. programme is designed for the individual student considering the research mandate of the department as well as state and national priorities in agriculture.
- Monitoring is done through mid-term and final exams and practical exams.
- Speaking assignments are also given.
- Performance reports or semester reports are provided to student and the major advisor.
- Once the programme of work is finalized, the student has to clear all the courses.
- The students also submit the synopsis of the proposed research work in M.Sc. and Ph.D. This is first evaluated by advisory committee and then presented in the department as synopsis seminar.
- The improvements are incorporated in accordance with the suggestions received. The synopsis is further evaluated by a concerned teacher and after addressing to his/her comments, submitted through HOD to Dean, Post Graduate Studies for approval.

### PG and Ph.D. Programs

**Examination System and Evaluation:** For theory, mid-term and end-term internal examinations are conducted. Two sets of question papers for each course are set for mid-term and end-term each and are submitted to the concerned HOD. For both mid-term and end-term date sheet is prepared at college level and examinations are conducted centrally. On the day of examination HOD selects one question paper for each course for distribution among students. Practical is also conducted internally by the course instructor. For practical courses, practical exams are conducted by the course teacher and one more teacher nominated by the HOD. Evaluation of both theory and practical is internal. Weightage for theory and practical examinations is given below:

| Credit hours (Theory and Practical) | Weightage/Marks | | |
|---|---|---|---|
| | Mid-Term | End-Term | Practical |
| 1 + 0 | 40 | 60 | - |
| 1 + 1 | 20 | 30 | 50 |
| 2 + 1 | 25 | 45 | 30 |
| 2 + 2 | 20 | 30 | 50 |
| 3 + 1 | 30 | 45 | 25 |
| 3 + 2 | 25 | 35 | 40 |
| 2 + 0 | 40 | 60 | - |
| 3 + 0 | 40 | 60 | - |
| 1 + 2 | 10 | 20 | 70 |

**Comprehensive Examination (Written and Viva-voce/Oral):** In Ph.D., after completion of 75% course work separately in major and minor subjects, written comprehensive exam is conducted. In major subject two papers are conducted and in minor subject one paper is conducted. Paper setting and evaluation is internal. Qualifying marks is 60%. Viva-voce/Oral comprehensive exam is conducted by external examiner and grading is satisfactory/ unsatisfactory.

### Thesis Evaluation

| Evaluation steps | Master's program | Doctoral program |
|---|---|---|
| i) Submission | After thesis seminar | • After thesis seminar<br>• One research paper should have been accepted/presentedin national/international/symposium/conference/seminar or one patent submitted/filed in lieu of the research publication out of the thesis work |
| ii) Evaluation | External (One examiner) | External (Two examiners) |
| iii) Viva Voce | Open Viva-voce: External Examiner, Advisory Committee, faculty members and students | Open Viva-voce: External Examiner, Advisory Committee, faculty members and students |
| iv) Assessment | Satisfactory/Unsatisfactory | Satisfactory/Unsatisfactory |

**Grading:** For PG and Ph.D. programs grading is done on a 10 point scale.

(i) Minimum passing grade in a course: 6.00
(ii) Minimum OGPA to continue and to obtain degree: 6.50

**6.5.4.6. NCC/NSS units:** *Clearly mention the existence and functioning of these units and how it is benefiting the student development. A brief report should be given (without photographers).*

The NCC/NSS units are available at university level for participation of students.

**6.5.4.7. Language Laboratory:** *It is required of any student to have a good command of the language for communication purpose, with clarity and accuracy being vital for effective and efficient communication. What helps one to acquire such proficiency in a language is the process and the method of learning that language. Mention which of these type of conventional, Lingua phone, Computer Assisted Language Laboratory and Multimedia Hi-Tech Language Laboratory are being used for language teaching in the College.*

Students are motivated to improve spoken English. In addition to routine teaching methods, teachers use smart classrooms, group discussions and internet use (YouTube) so that students have good command of the language. The college magazine published also gives a very good platform to improve language expression among students. LCD, audio visual aids, cassette recorders and computers are used by the faculty for effective teaching. Professional courses, experts lectures, seminars, workshops, conferences etc. are organized from time to time. The college has been making special drives to improve the communication skills of the students by organizing declamation contest, quizzes etc. Spectrum PG magazine is released bi-yearly by university.

**6.5.4.8. Cultural Centre:** *Does the College has cultural cent to empower student leaders to explorer, celebrate, and educate the campus community about the diversity among them? Does the College offers an inclusive and reflective space, multicultural programming and support services that encourage positive interaction, academic persistence and growth among students, faculty and staff?*

Yes, the following Cultural Forum has been constituted by the Dean, COBS&H for the College of Basic Sciences and Humanities.

| | |
|---|---|
| **Patron:** | Dr. Neeraj Kumar, Dean, COBS&H |
| **Advisors:** | Dr. Krishna Hooda, Professor, Languages and Haryanvi Culture |
| | Dr. Manju Singh Tonk, Professor and Head, Mathematics and Statistics |
| **President:** | Dr. Aparna, Professor and Head, Languages and Haryanvi Culture |
| **Vice-president:** | Dr. Rashmi Tyagi, Assistant Professor, Sociology |
| **Secretary:** | Dr. Seema Sangwan, Assistant Professor, Microbiology |
| **Joint Secretary:** | Dr. Devender Singh, Assistant Professor, Languages & Haryanvi Culture |
| **Treasurer:** | Dr. Ajay Pal, Assistant Professor, Biochemistry |

**Conveners of Various Committees**

| | |
|---|---|
| **Discipline:** | Dr. Rakesh Kumar, Assistant Professor, Microbiology (Convener) |
| | Dr. Subhash Chander, Assistant Professor, Sociology (Co-Convener) |
| **Function Arrangements:** | Dr. Kamla Malik, Assistant Scientist, Microbiology (Convener) |
| | Dr. Bas Kaur, Assistant Professor, Sociology (Co-Convener) |
| **Science Activities:** | Dr. Sushila Singh, Assistant Professor, Chemistry (Convener) |
| | Dr. Anita Kumari, Assistant Plant Physiologist, Botany and Plant Physiology, (Co-Convener) |
| **Literary Activities:** | Dr. Jayanti Tokas, Associate Professor, Biochemistry (Convener) |

| | |
|---|---|
| | Dr. Poonam Mor, Assistant Professor, LHC (Co-Convener) |
| **Theatre Activities:** | Dr. Sarita Devi, Assistant Scientist, Botany & Plant Physiology (Convener) |
| | Dr. Sheetal Chaudhary, Assistant Professor, Computer Section, (Co-Convener) |
| **Music and Dance:** | Dr. Mahender Kumar, Folk Musician, LHC (Convener) |
| | Dr. Sachin Kumari, Assistant Professor, Chemistry (Co-convener) |
| **Graphic Arts:** | Dr.Jatesh Kathpalia, Assistant Scientist. Sociology (Convener) |
| | Dr. Ravikant, Assistant Professor, Zoology (Co-convener) |

**Members**

1. Dr. Vinay Kumar, Assistant Professor, Physics
2. Dr. Meena Sindhu, Assistant Scientist, Microbiology
3. Dr. Shikha Mehta, Assistant Scientist, Microbiology
4. Dr. Anuj Rana, Assistant Scientist, Microbiology
5. Dr. Monika Kayasth, Assistant Microbiologist, Microbiology
6. Dr. Sushil Nagar, Assistant Scientist, Biochemistry
7. Dr. Rahul Kumar, Assistant Professor, Chemistry
8. Dr. Anushree, Assistant Chemist, Chemistry
9. Dr. Sarita Rani, Assistant Professor, Mathematics and Statistics
10. Dr. Vikash, Assistant Professor, Mathematics and Statistics
11. Dr. Shikha Ahlawat, Assistant Professor, Zoology

**The Dean COBS&H has constituted the following College Magazine Committee** to inform, inspire, entertain and create awareness on a number of current social issues to a diverse readership.

**Patron-in-chief**

**Dr. B.R.Kamboj**

Vice-Chancellor, CCS HAU, Hisar

**Patron**

**Dr. Neeraj Kumar**

Dean, COBS&H, CCS HAU, Hisar

**Science Section**

Dr. Leela Wati, Principal Scientist, Department of Microbiology

Dr. Seema Sangwan, Assistant Professor, Department of Microbiology

Dr. Ajay Pal, Assistant Professor, Department of Biochemistry

Dr. Vinod Goyal, Assistant Scientist, Department of Botany and Plant Physiology

**English Section**

Dr. Aparna, Associate Professor, Department of Language and Haryanvi Culture

Dr. Poonam Mor, Assistant Professor, Department of Language and Haryanvi Culture

Dr. Devender Singh, Assistant Professor, Department of Language and Haryanvi Culture

### Hindi Section

Dr. Krishna Hooda, Professor, Department of Language and Haryanvi Culture

### Extra/co-curricular Activity Section

Dr. Manju S. Tonk, Professor, Department of Mathematics and Statistics

Dr. Jatesh Kathpalia, Assistant Scientist, Department of Sociology

Dr. Rashmi Tyagi, Assistant Professor, Department of Sociology

### Layout and Designing

Dr. Sushila Singh, Assistant Professor, Department of Chemistry

Dr. Anita Kumari, Assistant Scientist, Department of Botany and Plant Physiology

Dr. Vinay Kumar, Assistant Professor, Department of Physics

### Student Editors

Ms. Sonam Sihag, Ph.D. Scholar, Department of Biochemistry

Ms. Shaikh Tabassum, Ph.D. Scholar, Department of Microbiology

Mr. Mukul, Ph.D. Scholar, Department of Botany and Plant Physiology

Ms. Nishu Sehrawat, M.Sc. Student, Department of Microbiology

Ms. Jyoti Yadav, PGDC, Department of LHC

## The Following Students got Prizes in the College, State and National Events

| Year | Name of students |
|---|---|
| **2018** | • Ms. Kavita Rani - Scientist Associate Award from "Society for Scientific Development in Agriculture and Technology", at "International Conference on GRISAAS-2018", Rajasthan Agricultural Research Institute, Durgapur, Jaipur, Raj., India.<br>• Ms. Dhinu Yadav - Best Oral Presentation Award during 2nd international conference on ABAS, 20-22 October, 2018, Swami Vivekanand Subharti University, Meerut, U.P. (India).<br>• Ms. Dhinu Yadav - Best Poster Award (Second position) during International Conference on GRISAAS, 28-30 October 2018, Rajasthan Agricultural Research Institute, Durgapura, Jaipur (India).<br>• Ms. Sonam Antil - S.R. Vyas Gold Medal for Academic session 2018-19. |
| **2019** | • Ms. Parvesh Devi - Best Paper (Oral) Presentation Award, Proceedings of International conference on Advances in Basic Sciences held at department of Physics GDC Memorial College,Bahal,Haryana on February 7-9, 2019<br>• Ms. Neelam Rani (2018BS16D) - 2nd position in Best Poster Presentation during Symposium on "Avenues and challenges in life science" on February 22, 2019 at St. Wilfred's PG College, Jaipur.<br>• Ms. Shikha Bidhan - Best Research Scholar Award - 2019 by Agricultural Technology Development Society, Ghaziabad (U.P) on the occasion of 3rd International Conference on Global Initiatives in Agricultural and Applied Sciences for Eco-friendly Environment from June 16-18, 2019 at Tribhuvan University, Kathmandu, Nepal.<br>• Ms. Manish Jangra (2018BS15D) - 1st position in Best Oral Presentations during International Conference on "Stewardship towards sustainability" from September, 6-7, 2019 at SGT University, Gurugram, Haryana<br>• Ms. Sonam Antil - Best Poster Award during Golden Jubliee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario (GINMA), on 6-8 November 2019, CCSHAU, Hisar.<br>• Mr. Pankaj Sharma - Best Poster Award during 60th Annual Conference of Association of Microbiologists of India (AMI), 15-18 November, 2019, Central University of Haryana<br>• Ms. Diksha (2019BS27D) - S.R. Vyas Gold Medal for Academic session 2019-20<br>• Ms. Dhinu Yadav - Silver Jubilee Gold Medal for Women for Academic session 2019-20<br>• Mr. Naseer (2014FST39D)- Best Ph.D. Thesis award in 2019 by Society of Integrated Development of Agriculture, Veterinary and Ecological Sciences, Jammu |
| **2020** | • Ms. Savita Rani - Best Research Scholar Award during National Conference on Recent Trends and New Frontiers in Biotechnology, Agriculture Science and Environment (NCRTNFBASE) on 22- 23 February, 2020, St John's College, Agra.<br>• Ms. Barkha Rana - S.R. Vyas Gold Medal for Academic session 2020-21.<br>• Ms. Ritu Devi BEST ARTICLE AWARD: article id 31166, published in Volume 02, Issue 08 in Agriculture & Food: e-Newsletter, ISSN :2581 -831 on 14 August, 2020.<br>• Ms. Monika Moond BEST ARTICLE AWARD: article id 31456, published in Volume 02, Issue 09 in Agriculture & Food: e-Newsletter, ISSN :2581 -8317 on 15 September, 2020. |
| **2021** | • Ms. Neel Kamal - Best Student Award by Microbiologists Society, India for the Academic session 2020-2021<br>• Ms. Anu Bala 2019BS62D - Best poster award in International webinar on 'Alternative therapies to mitigate microbial resistance' from February 23-24, 2021 at ICAR-IVRI, Izatnagar<br>• Ms. Ankita (2018FST48M) -University Level Gold Medal in recognition of her having secured highest OGPA in M.Sc. for the year 2020-21 |

| | |
|---|---|
| **2022** | • Ms. Minakshi (2020BS04D) - 2nd position in Best Poster Presentation during National Symposium on "Crop protection through bio-rational approaches – current trends and future prospective & national meeting of Indian Plant Pathological Society (NZ)" on 10 March, 2022 at Department of Plant Pathology, College of Agriculture, CCS HAU, Hisar.<br>• Ms. Renu (2018BS28D) - Second prize in oral presentation in International Conference on "Recent Innovations in biological research, from March 17-18, 2022 at Krishnammal College for Women, Coimbatore, Tamil Nadu, India.<br>• Ms. Rashmita (2021BS06PGDC) - 1st prize in National Level Online Slogan Writing Competition organized by English Literary Society, Dyal Singh College, Karnal on 14 May,2022<br>• Ms. Alka (2018BS23D) - Third prize for the poster in XXXIV annual convention of Indian association of veterinary microbiologists, immunologists and specialists in infectious diseases and national conference on 'Current trends in immunodiagnostics & vaccinology for health of livestock and poultry' held at CAFT LUVAS from May 27-28, 2022.<br>• Ms. Rajita Beniwal - Best Paper award during the National conference on "Sustainable Environmental perspectives; A journey from Ancient India" organized by Environmental Studies and Department of Botany, Deendayal Upadhyaya College, University of Delhi in association with Paryanvaran Gatividhi, Sharanya (NGO), New Delhi on 5-6 June,2022 (online).<br>• Ms. Nidhi Sharma - Best Poster Award during International Conference on Recent Advances and Innovations in Biological and Applied Sciences (RAIBAS) on 14-16 June, 2022, SGT University, Gurugram.<br>• Ms. Aarti (2017BS32D) - 1st position in Best Oral Presentation during International Conference on "Recent advances and innovations in biological and applied sciences (RAIBAS 2022)" from June 14-16, 2022 at SGT University, Gurugram.<br>• Ms. Sapna (2017BS31D) - 2nd position in Best Poster Presentations during ISPP North Zonal Seminar-2022 on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, 2022, at Sugarcane Breeding Institute Regional Centre, Karnal<br>• Ms. Babita Rani (SRF) - 3rd position in Best Poster Presentations during ISPP North Zonal Seminar-2022 on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, 2022, at Sugarcane Breeding Institute Regional Centre, Karnal.<br>• Ms. Aarti (2017BS32D) - 3rd position in Best Oral Presentations during ISPP North Zonal Seminar-2022 on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, 2022, at Sugarcane Breeding Institute Regional Centre, Karnal.<br>• Ms. Diksha - Best Poster Presentation Award during 7th International Conference on "Opportunities and Challenges in Agriculture, Environmental & Biosciences for Global Development (OCEABGD) on 29-31 October, 2022, Goa University, Goa.<br>• Ms. Neelam Rani (2018BS16D) - 1st position in Best Poster Presentation during VIIth International Conference on "Global research initiatives for sustainable agriculture and allied science (GRISAAS-2022) " from November 21-23 2022 at Birsa Agricultural0 University, Ranchi, Jharkhand, India.<br>• Ms. Pooja Ahlawat (2019BS46D) - Received Best Article Award in Agriculture and Food: e-newsletter 04 (6), 2022 |
| | • Ms. Rashmita (2021BS06PGDC) 2nd prize in State Level Inter College Hindi Poetic Recitation (LHC)<br>• Mr. Manjeet (2022BS26PGDC) and Ankita (2022BS02PGDC) have been declared the best athletes of CCSHAU, Hisar |

**Students' participation in Co-Curricular Activities**






The University organizes Sports Day and Cultural Events where the faculty and staff participate. At college level, different events: Teacher's day, Fresher's day, Women's day *etc.* are organized.








College of Basic Sciences and Humanities won Runners Up Trophy during 50th Annual Athlete of CCSHAU, Hisar on December 08-09, 2022.

**6.5.4.9. Personality Development:** *Personality development programme is aimed at increasing employability of the students. Whether the College has provision for inclusion of functional grammar in Standard English, speaking skills, reasoning, group discussions interview skills. Personal interviews, quantitative ability, verbal ability, mock tests and some special sessions to promote the personality development in the students?*

Yes, the College provides overall personality development and encourages innovation, communication and other skill for better performance in today's competitive world. The following programmes and efforts are undertaken for personality development-

| **Skills development resources** | | |
|---|---|---|
| Resume making | Email writing | Language fluency |
| Vocabulary Skills | Public Speaking | Group Discussion (Hindi English) |
| Leadership Skills | Communication Skills | Personality Development (Hindi English) |
| Dress for Interview | Interview and its types | Mock Interview |
| SSB Interview | Check your Trainability | Check Your Employability |
| Evaluate Your Personality | Interview Behaviour and Body language (Hindi English) | |
| Phone Etiquettes | Self Confidence | Indian Agriculture |
| Interview's Questions and Answers (Hindi English) | | Download YouTube Video |
| Internship-A Pathway for Job Offer | | |

- **Workshops on "Personality Development and Communication Skills**" are also conducted from time to time for personal enrichment like power of positive thinking, interpersonal relationships and stress management.
- **Personality Development Trainings** are also conducted by the Directorate Students' Welfare in collaboration with the Department of Languages and Haryanvi Culture.
- **Visit for** PG students to national laboratories.
- P.G. students are exposed to Computers and software.
- Students are encouraged to publish their findings. This helps in their writing and expression skills.
- The students are included in Organizing committees for Seminar, conferences etc. This gives them enough exposure to improve organizational and career related skills.
- The students skill is also developed through educational trips.
- Classroom presentations, participation in national and international seminars, workshops give them confidence in Group discussion, Personal interview and socialization. It also encourages leadership, multiple intelligence and critical thinking.

### 6.5.5. PHYSICAL FACILITIES

**6.5.5.1. Hostels:** *Clearly mention the number of hostels available for the College students for boys and girls, separately with its total capacity, students per room accommodated in each hostel, mess facility, drinking water, indoor games specially for girls, cleaning of hostel premises, transport facility, emergency medical facility etc.*

#### Hostel Facilities

- The accommodation is provided in seventeen (17) hostels of the University out of which thirteen (13) are at Hisar Campus (five for male, seven for female and one for PG married students). Depending upon availability, the hostel accommodation is provided.
- For girl students' accommodation is provided in Gangotri, Yamnotri, Godavari, Narmada and Women Scholar hostels. M.Sc. students share rooms (double occupancy) while Ph.D. students are provided single accommodation.
- Similarly, for Boys students' accommodation is provided in different hostels of the university.
- The hostel residents are provided R.O. water, TV, Magazines, newspapers and indoor games for recreation. The selected hostels have tennis courts also.
- All the hostels are cleaned and maintained regularly.
- The Hostels are equipped with the facilities such as Wi-Fi, LED with dish antennae, solar water-heating system, gas connection, furnitureand water coolers with purifier system are provided.
- All Mess of hostels are running on cooperative basis.

#### Transport Facility

It is provided on case to case basis as and when required. The vehicles can be requested from the transport office of the university for visits under different courses and educational tours.

#### Students' Counselling and Placement Cell

- The Counselling and Placement Cell of the Directorate in association with the Department of Employment, Haryana, has set up as University Employment Information and Guidance

Bureau, which provides information to the students on job opportunities, competitive examinations, scholarships /fellowship etc.

- It also conducts trainings/coaching classes for the entrance examinations and explores job opportunities in the public and private sectors and arranges the campus interviews.
- The Cell also brings out a fortnightly newsletter 'Career Bulletin' for students of the University to keep them abreast of information on job opportunities, admissions, scholarships, fellowships etc. in India & abroad.

**Medical Services**

**MedicalassistancetoStudents: Health Centre, Health Insurance etc.**

- There is a well-equipped 20 bed Hospital in University campus at Hisar. Round the clock medical aid is provided to the students, University Employee and their dependants and other trainees/visitor.
- The Hospital has Senior Medical Officer, 4 Medical Officer, Dentist, Nursing Sister (one each) and 4 staff nurses. Round the clock medical aid is provided to the students, University Employee and their dependants and other trainees/visitors.
- Causality services are run round the clock. Special Immunization Clinic, T.B.Clinic, Diabetic and Antenatal Clinic is run once every week. For chronic disease patient's medicines for two weeks are being provided and supervised. The outdoor/emergency patients are attended by the Senior Medical Officer and Medical Officers and Indoor facility is also available in the hospital round the clock.
- The Dental Surgeon also provides the service of RCT+ Dental surgical procedure of the patient and dental unit has been made Air-conditioned for better care facility of the patients. X-rays of the employees and their dependents of CCSHAU/LUVAS are being done in the department of Vet. Clinics. Facility i.e. ICU, X-Rays of Dental and lab tests are performed in the Campus Hospital.
- There is Amartya Shiksha Yojana and Personal Accident Policy for which Rs 100/- is charged at the time of admission to cover accidental insurance of Rs. 1,00,000/-.

**6.5.5.2 Examination Hall:** *Mention the availability of number of examination halls, its capacity etc. for the college.*

Yes, there is one examination hall with Dean's office. Seminar rooms of different departments are also used for examination purpose.

**6.5.5.3. Sports and Recreation Facilities:** *Clearly mention the number of indoor and outdoor sports facilities available for the College students. A brief note on day to day management and use of these facilities shall be provided in the report.*

Yes, the College has central facility of Giri Centre for student welfare, sports and recreation activities.

- It has two indoor Badminton Courts with a seating capacity for 600 spectators, two indoor Squash Courts, Hobby Rooms, two multi-purpose indoor Gymnasiums, two outdoor Tennis Courts with a reasonable seating capacity. Grounds / courts / tracks /links are available in the University Sports Complex.

- A Synthetic Track of international standard has also been provided in the Giri Centre for Athletic.
- Volleyball grounds have light arrangements for playing at night. Hockey, Football and Cricket grounds are well maintained.
- The Directorate of Students' Welfare is also responsible for promotion of all co-curricular activities such as Sports, NCC, NSS, Mountaineering and adventure, Graphic Arts, Literary, Music, Dance, Dramatics etc.
- For promotion of these activities, regular classes and various trainings/ workshops are arranged from time to time.
- The college organizes Talent Search programmes, sport activities and cultural programmes regularly
- The Directorate of Students' Welfare is also responsible for promotion of all co-curricular activities such as Sports, NCC, NSS, Mountaineering and adventure, Graphic Arts, Literary, Music, Dance, Dramatics, NIS etc.
- Regular classes and various trainings/ workshops are arranged from time to time.

**6.5.5.4. Auditorium:** *Does the College has auditorium? Mention its year of construction, sitting capacity and how frequently being used for the College functions.*

Yes, the auditorium of the college was constructed in1976 which is used for college functions such as holding large scale meetings, conferences, seminars, workshops, Fresher's Day etc. It has seating capacity of 315 persons. The auditorium is air conditioned and has state of art sound system, podium etc. The auditorium is used regularly for college level as well as university level functions.

**6.5.5.5. Exhibition Hall / Museum:** *Does the College have the Exhibition: Does the College have the Exhibition Hall/Museum? Mention about its use and special events being conducted in these units.*

Yes, the college hasExhibition Hall and is used time to time for following activities :-

- Display of Teaching, Research, Extension and Extra co-curricular activities of college
- Technologies developed, publications and showcase of various achievements.

### 6.5.6. RESEARCH FACILITIES

**6.5.6.1. Postgraduate Laboratories and Equipment's:** *Clearly mention the department wise PG laboratories and equipment housed in individual laboratory in the College along with any other research unit.*

Yes, the College has the following Postgraduate Laboratories:

**Post Graduate Labs with College**

| Departments | | Number | Lab no. | Location | Facility in the lab |
|---|---|---|---|---|---|
| **Biochemistry** | **:** | 01 | 421 | Department | Facilities to conduct different Courses Practical |
| **Botany and Plant Physiology** | **:** | 01 | 324 | Department | Facilities to conduct different Botany and Plant Physiology Courses Practical |
| **Chemistry** | **:** | 01 | 409 | Department | Burette, Pipettes, other Glassware, Reagents, Chemicals, Furnace etc. |

| | | | | | |
|---|---|---|---|---|---|
| **Mathematics and Statistics** | **:** | 01 | 15 | Department | Total computers = 16, 10 Computers are connected with Internet Facility along with one common/ attached printer. The Statistical Softwares SAS, R, SPSS etc. are available to conduct the PG Practicals |
| **Microbiology** | **:** | 01 | 215 | Department | Facilities to conduct different Classes/Practicals |
| **Molecular Biology, Biotechnology and Bioinformatics** | **:** | 01 | 104 | COBT | Experiments under different Courses are conducted in this lab |
| **Physics** | **:** | 01 | 403 | Department | Physics Practicals |
| **Sociology** | **:** | 01 | 211 | Department | Facility to conduct different courses practical |
| **Zoology (UG and PG)** | **:** | 01 | Zoo 315 | Department (common with UG Lab) | Facilities to conduct practicals of different courses |
| **Computer Section** | **:** | 01 | Lab-II | Computer Section | Desktop Computers with Internet and various Programmes |
| **Total** | **:** | **10** | | | |

**6.5.6.2. Research Contingency:** *A note on amount of research contingency for each department shall be provided. Whether it meets the students' demand?*

Yes, the detail of amount of research contingency of each department are as under:

| **Name of theDepartment** | **Research Contingency in Rs.** | | | | | |
|---|---|---|---|---|---|---|
| | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **G. Total** |
| Biochemistry | 1404330 | 1418000 | 36973700 | 28004000 | 2738100 | 70538130 |
| Chemistry | 571000 | 1383000 | 32173500 | 25935340 | 821140 | 60883980 |
| Zoology | 1114190 | 993790 | 707090 | 711500 | 2622600 | 6149170 |
| MBB | 2007000 | 2180870 | 2894000 | 3890000 | 3162000 | 14133870 |
| Mathematics and Statistics | 19800 | 14760 | 19760 | 36500 | 66030 | 156850 |
| Physics | 101557 | 795608 | 878238 | 26156016 | 1012378 | 28943797 |
| Botany and Plant Physiology | 485841 | 242535 | 248696 | 13892647 | 5560534 | 20430253 |
| Microbiology | 3718600 | 3874000 | 41367630 | 22306010 | 4747000 | 76013240 |
| Food Science &Technology | 13792 | 164408 | 369807 | 388280 | 799327 | 1735614 |
| Sociology | 212800 | 50200 | 45200 | 70000 | 79050 | 457250 |

**Whether it meets the students' demand: Yes**

### 6.5.7 Outcome/ Output

- The College develops learning outcomes through students' feed back
- The institution monitors and communicates the progress and performance of students during the course/programme through Dean, PGS and Registrar.
- All P.G. courses have practical as well as research component.
- All the M.Sc. and Ph.D. programmes offered by the college have compulsory research component and there is a students' placement cell.
- The students' performance and learning outcomes are used for planning and over coming barriers of learning as feedback of the students is taken into consideration and courses are revised as per Dean Committee report.
- The institution monitors and ensures the achievements through placement of students in different organization.
- The institution and individual teachers use assessment/ evaluationas an indicator for student performance.

**6.5.7.1 Student Performance in JRF/SRF/NET/ARS and other National Examinations:** *Provide detailed information in tabular form about student performance in JRF/SRF/NET/ARS and other national examinations for the last five years. Only those students receiving fellowships should be mentioned here.*

A. **Students performance in NET/ARS/GATE or any other examination:**

A total of two hundred seven (207) students cleared NET/ARS/GATE etc. Details are in **Department Annexure VII.**

**B. Students recipient of fellowships other than university merit fellowship (Student Academic Award)**

A total of one hundred twenty eight (128) students received fellowships/scholarships during the period under report as listed below:-

| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | **Total** |
|---|---|---|---|---|---|
| 21 | 39 | 33 | 17 | 18 | 128 |

***Department AnnexureVIII***

**6.5.7.2 Student Placement Profile:** *Provide detailed information in tabular form about student performance in ARS/and other national examinations/State level examinations or equivalent. Year wise placement profile shall be provided.*

**Students Placement:**

One hundred thirty six (136) were placed as ARS scientists, Scientists, Lecturer, Asstt. Professor, Research Associate, SRF and private jobs. The details are listed in individual SSRs for programmes of the departments. A summary of Students placements is given in **Department Annexure V**.

**6.5.7.3 Awards/Recognitions/Certificates:** *Provide information on awards/recognitions/certificates in tabular form for last five years separately for students and faculty.*

### Awards/Recognitions/Certificates received by students

**Dr. S.R. Vyas Gold Medal** (Best student in M.Sc. Microbiology based on OGPA)

| Sr. No. | Year | Students' Name |
|---|---|---|
| 1 | 2018-19 | Ms. Sonam Antil |
| 2 | 2019-20 | Ms. Diksha |
| 3 | 2020-21 | Ms. Barkha Rana |

- Three students from Department of Microbiology were conferred with Silver Jubilee Gold Medal for Women for best Ph.D. Thesis

### Awards/Recognitions/Certificates received by faculty

- Five faculty members have received ICAR sponsored "Best Teacher Award" of the University.

### International Achievements:

**A. Awards/Recognitions/Certificates received by faculty:**

- Conferred with certificate of excellence in reviewing by Asian Research Journal of Agriculture in recognition of outstanding contribution to the quality of journal, Regent Street, London, UK (Certificate No: SDI/HQ/PR/Cert/90870/DRB).
- Seven faculty members (Dr. Ajay Pal, Dr. Jayanti Tokas, Dr. Sarita, Dr. Anju Kumari, Dr. Kamla Malik, Dr. Seema Sangwan and Dr. Rahul Dhaka) participated in International training under NAHEP – Institutional Development Plan Project (IDP) sponsored by Indian Council of Agricultural Research and World Bank.

**i) Patents applied**

**1. Six faculty members from College of Basic Sciences and Humanities have applied for patents**

- Patents applied: 11

  Department of Biochemistry: 202211056375, 201811004928

  Department of Food Science and Technology: TEMP/E-1/17799/2018-DEL, 202011032917TEMP/E-5/1008/2021/DEL

  202111054589TEMP/E-1/61853/2021-DEL

  Department of Chemistry: Temp/E-1/568507/2019-DEL, Temp/E-1/24987/2019-DEL, 21pp. 2008DE01624 A 20110429, 202211021310 A, 202211021311 A

  Department of Microbiology: TEMP/E-1/45495/2021 DEL
- Patent published: 01

  Department of MBB&B: 201811012100
- Patents granted: 02

  Department of Biochemistry: Patent No. 247904

  Department of Microbiology: Patent No. 303453

**B. Research Projects of faculty from outside Agency:** The faculty received 14 research projects from agencies like ICAR,DBT,DST,UGC etc. This is in addition to state funded research projects in each department. Details are provided in **Annexure COBSH-I (Page No. 405)**

**C. Publications of the Faculty:** The faculty has published Research papers, books, book chapters and manuals. These are listed in **Annexure COBSH-II (Page No. 408).**

**D. Participation of Faculty in Conferences/ Seminars/ Workshops etc.:**
The faculty members attended a number of conferences, workshops, trainings and seminar as given in **Annexure COBSH-III (Page No. 428)**

**6.5.7.4. Employability:** *What are the set of achievements such as skills, understandings and personal attributes that make College students more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy?*

- The Counselling and Placement Cell of the Directorate in association with the Department of Employment, Haryana, has set up a University Employment Information and Guidance Bureau, which provides information to the students on job opportunities, higher education, competitive examinations, scholarships /fellowship etc.
- It conducts trainings/coaching classes for the entrance examinations and explores job opportunities in the public and private sectors and arranges the campus interviews. This has helped the students to go for higher studies. About 61% students of our college opt for Ph.D.
- A fortnightly newsletter 'Career Bulletin' brought about by the cell of the University helps the students to be abreast of information on job opportunities, admissions, scholarships, fellowships etc. in India and abroad.
- University website also informs trainings, interview schedules and skill development courses.
- The Directorate of Student's Welfare organizes various coaching classes for competitive exams regularly covering in Banking, Defence sector, ICAR- JRF/SRF, CSIR-NET/JRF etc.
- Seminars workshops are organized for international fellowships such as Monsanto Beachell-Borlaug International Scholarship programme.
- The Counselling and Placement Cell also guides and provides relevant information for financial assistance to students for setting up their own ventures and encourage entrepreneurship.
- Science Forum of the University provides chance to students for interaction with CEO/ other officers/ Alumni. Students also interact with eminent personalities during their visit and plan the areas of possible future research.
- A number of students are being benefitted and get opportunity to work in the international laboratories.
- Exchange/collaborative program for teaching and research with other Agricultural universities/ institutes provides a platform for student mingle with experts of other organizations. At present university has MoU with PAU, Ludhiana; Tech. Institute of Textile and Sciences, Bhiwani; Centre for Plant Biotechnology, Hisar; Haryana Space Applications Centre, Hisar, Govt. of Haryana; CIMMYT, New Delhi; Central Soil Salinity Research Institute, Karnal; Sugarcane Breeding Institute, Coimbatore; ICAR-Directorate of Mushroom Research, Chambaghat, Solan (HP); Director of Wheat Research, Karnal; ICAR-Central Institute of Post harvest Engineering & Technology, Ludhiana.

**6.5.8.** SSR of the College must have the SSR of all its Degree Programmes (following section 6.4), then the report of the Colleges shall be considered:

Yes, SSR of this College has included SSR of all its degree programmes.

**6.5.9.** Certificate (Applicable when SSR is submitted for Programmes & College).
I, the Dean, **Dr. Neeraj Kumar** hereby certify that the information contained in Sections 6.4 and Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the College and Degree awarding University.



**Signature of the Dean of the College with Date & Seal**

**6.5.10.** Each College shall submit SSR as mentioned in 6.5.8. It shall be prerequisite for the SSR of the Agricultural University.

# PROGRAMMES



1. M.Sc. Biochemistry and Ph.D. Biochemistry
2. M.Sc. Botany & Plant Physiology and Ph.D. Botany & Plant Physiology
3. M.Sc. Chemistry and Ph.D. Chemistry
4. M.Sc. Food Science & Technology and Ph.D. Food Science & Technology
5. M.Sc. Math & Statistics and Ph.D. Math & Statistics
6. M.Sc. Microbiology and Ph.D. Microbiology
7. M.Sc. Molecular Biology and Biotechnology and Ph.D. Molecular Biology and Biotechnology and M.Sc. Bioinformatics
8. M.Sc. Physics and Ph.D. Physics
9. M.Sc. Sociology and Ph.D. Sociology
10. M.Sc. Zoology and Ph.D. Zoology
11. Languages and Haryanvi Culture
12. Computer Section

CCSHAU
COLLEGE OF BASIC SCIENCES & HUMANITIES
1970

# PROGRAMME – 1

# M.Sc. Biochemistry
# and
# Ph.D. Biochemistry





## 6.4 About the Department

The department of Biochemistry runs excellent teaching programs at M.Sc. and Ph.D. degree levels. Annually, the department offers 3 UG courses and 18 PG courses in Biochemistry discipline. The current areas of research in Biochemistry are: plant biochemistry, enzymology, biochemistry of fruits during ripening and post-ripening, molecular biology, biochemical and molecular mechanism(s) of abiotic stresses and nanotechnology for plant growth and protection. The Department has successfully completed a number of research projects funded by other agencies (ICAR, DBT, CSIR etc.). The research findings from various research programs in Biochemistry have been presented in the national and international conferences/symposia and also published in the form of a large number of research papers in reputed journals. Apart from various research programs being carried out in the department, its faculty is extending support to other departments of the university in interdisciplinary co-ordinated research programs particularly in the areas of Biotechnology and Molecular Biology, Microbiology, Agronomy and Genetics and Plant Breeding. In recognition of the excellent research activities in the department, many of its faculty members and students have been conferred with national scientific awards and visiting fellowships.

The department has a team of highly qualified and experienced faculty who has shown excellence both at the national and international levels.

### Objectives of the Department

- To impart quality education to the UG and PG students of different colleges of the University and to develop human resource specialized in various aspects of basic and applied Biochemistry
- To carry out biochemical studies in relation to improvement of field, vegetable and fruit crops
- To synthesize and characterize nanomaterials for plant growth and protection

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

M.Sc. and Ph.D. degree programme in Biochemistry were initiated in 1970

### Objectives of Initiating M.Sc. Programme

- To produce quality human resource in the discipline of Biochemistry
- To develop technologies that can contribute towards employment generation and increased avenues for self-employment
- To provide training and specialization to students in following research areas:
  - Biochemical and molecular evaluation of varieties for quality improvement and anti-nutritional factors
  - Biochemistry and molecular biology of biotic and abiotic stresses in plants
  - Biochemistry of fruits and vegetables during ripening and post-ripening
  - Manipulation of metabolic pathways at molecular level to increase shelf life of fruits
  - Manipulation of metabolic pathways for reserve biosynthesis and utilization
  - Enzyme engineering and functional genomics/proteomics
  - Bioactive principles of agro-industrial products and by-products

### Accomplishments of M.Sc. Programme

- Till date the department of Biochemistry has conferred degrees to 218 M.Sc. students. During the period under report 17 students have completed their Master's degree **(Annexure BIOCHEM- I).** Eleven M.Sc. students are on roll **(Annexure BIOCHEM- II).**

- The department has well developed infrastructure for the M.Sc. programme with seminar rooms and well-equipped laboratories.
- Three students participated in conferences and symposia **(Annexure BIOCHEM- III),** and published 11 research papers **(Annexure BIOCHEM-IX)**
- Four students have been placed in public and private sector jobs **(Annexure BIOCHEM-V).**
- Two students have been availing national level scholarships from ICAR (NTS) **(Annexure BIOCHEM-VI)** and three M.Sc. pass-out students cleared NET Exam **(Annexure BIOCHEM- VII)**. Most of the other students are getting merit fellowship/ stipend from the University.

### Objectives of Initiating Ph.D. Programme

- To produce quality human resource in the discipline of Biochemistry
- To provide training and specialization to students in following research areas
- Biochemistry and molecular biology of biotic and abiotic stresses in plants
- Biochemistry of fruits and vegetables during ripening and post-ripening
- Manipulation of metabolic pathways at molecular level to increase shelf life of fruits
- Immobilization of industrially important enzymes
- Manipulation of metabolic pathways for reserve biosynthesis and utilization
- Enzyme engineering and functional genomics/proteomics
- Bioactive principles of agro-industrial wastes
- Biochemical and molecular evaluation of varieties for quality improvement

### Accomplishments of Ph.D. Programme

- Till date the department of Biochemistry has conferred degrees to 98 Ph.D. students.
- Since 2018 to October 2022, 6 students have completed their Ph.D. degree and 17 students are on roll. **(Annexure BIOCHEM-I and II).**
- Forty three Ph.D. students participated in conferences and symposia **(Annexure BIOCHEM-III).** Most of the students attended and participated in more than one symposium/ conference.
- Nine students have been placed in public and private sector jobs **(Annexure BIOCHEM-V)**
- Seven students have qualified NET, GATE and other national level exams **(Annexure BIOCHEM- VII)**
- Eight students have been availing national level scholarships like PM Fellowship, CSIR JRF, NFOBC etc. and most of the other students got fellowships/ stipend from university. **(Annexure BIOCHEM-VIII)**
- Ph. D students published 29 research papers **(Annexure BIOCHEM-IX)**
- Ms. Kajal Kumari has filed a patent application on “Method for xylan extraction from corncob and wheat bran”, Application No.: 202211056375, filed on 30.09.2022, Inventors: Sushil Nagar, Kajal Kumari, Vinod Kumar

### Student Data for the Last Five Years

| Name of the Department | Biochemistry | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Degree programme offered by the department | Specialization | Year of start | No. of Seats | | | | | | No. of students passed out | | | | | |
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc. | Biochemistry | 1970 | 4 | 6 | 4 | 6 | 4 | 24 | 3 | 1 | 5 | 5 | 3 | 17 |
| Ph.D. | Biochemistry | 1970 | 3 | 5 | 3 | 4 | 2 | 17 | 0 | 1 | 1 | 2 | 2 | 06 |
| | | Detail in Annexure BIOCHEM- I | | | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Sanctioned | in place* | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | 02 | 0 | 02 |
| 2. | Associate Professor and equivalent | 02 | 01 | 01 |
| 3. | Assistant Professor and equivalent | 06 | 03 | 03 |
| | Total | 10 | 04 | 06 |

** The faculty under Professor and also includes personal promotes.*

***Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.*

### Faculty Profile

At present there is one Associate Professor (promoted under CAS) and six Assistant Professors/ equivalents out of which three Assistant Professor/equivalents are posted outside the department. The faculty attended various seminars, conferences, workshops at national and international levels regularly. Faculty of the department published more than 90 research papers in journals of national and international repute, 12 book chapters in last five years. The faculty has handled a number of projects funded by other agencies.

One vacancy of Associate Professor/equivalents and one vacancy of Assistant Professor have already been advertised.

| S. No. | Name | Designation | Email and Mobile No. | Specialization |
|---|---|---|---|---|
| 1 | Dr. Jayanti Tokas | Associate Professor | jiyaccshau@gmail.com 9729989988 | Plant Biochemistry, Post-Harvest Biochemistry of Fruits, Nutritional Biochemistry |
| 2 | Dr. Ajay Pal | Assistant Professor | ajaydrdo@rediffmail.com 9466534456 | Nanotechnology, Plant Biochemistry, Enzymology |
| 3 | Dr. Nisha Kumari* | Assistant Scientist | nishaahlawat211@gmail.com 9468117723 | Plant Biochemistry, Oil Seed Quality |
| 4 | Dr. Shiwani Mandhania* | Assistant Scientist | smbiochem@gmail.com 9466812467 | Plant Biochemistry, Cotton Biochemistry |
| 5 | Dr. Sushil Nagar | Assistant Scientist | sushil661@gmail.com 9813448824 | Enzymology, Plant Biochemistry |

| | | | | |
|---|---|---|---|---|
| 6 | Dr. Neeraj Kharor* | Assistant Scientist | Nkharor@gmail.com 8587871988 | Animal Biochemistry, Forage quality attributes |
| 7 | Dr. Vinod Kumar | Assistant Scientist | sangwan.vinod@hau.ac.in 9548057828 | Plant Biochemistry, Nutritional Biochemistry |
| Faculty Retired during 2018-22 | | | | |
| 1 | Dr. L.K. Chugh | Senior Scientist | chuglk@yahoo.co.in 9416485109 | Pearl Millet Biochemistry |
| 2 | Dr. H R Singhal | Professor | singalhr59@gmail.com 9416489005 | Plant Biochemistry |
| 3 | Dr. Veena Jain | Principal Scientist | Veena.nicejain@gmail.com 9416993463 | Plant Biochemistry |

***Faculty posted in COA, Hisar***

## Other Achievements of the Faculty

- Dr. Ajay Pal conferred with '**Best Researcher Award'** in the International Scientist Awards, 2019 on Engineering, Science and Medicine by VDGOOD-Technology Factory, 16 November, 2019.
- Dr. Jayanti Tokas got **Outstanding Scientist Award** in the International Best Scientist Awards, 18$^{th}$ – 19$^{th}$ January, 2020, New Delhi, India, organized by VDGOOD Professional Association.
- Dr Jayanti Tokas got **Best Poster Award** in Golden Jubilee International Conference on New Millenia Agriculture- Novel Trends and Future Scenario, 6$^{th}$ – 8$^{th}$ November, 2019 at CCS Haryana Agricultural University, Hisar, Haryana.
- Dr Nisha Kumari received **"Young Scientist Award"** in International Conference on "Recent Advances in Agricultural, Environmental and Applied Sciences for Global Development", 27$^{th}$ - 29$^{th}$ September, 2019, Dr.Yashwant Singh Parmar University of Horticulture and Forestry, Nauni, Solan, Himachal Pradesh.
- Dr. Shiwani Mandhania filed a **patent (Application No.: 201811004928**) on **"**A method for removal of gossypol from cotton seed" during 2018.
- Dr. L.K. Chugh and team of Bajra section was awarded appreciation certificate by the Project Director (Pearl Millet) for the **Best AICRP centre** for the period 2013-18 on 24$^{th}$ March, 2018 during Annual Group Meeting of Pearl Millet.
- Dr. Neeraj Kharor and team of Bajra section, awarded **Best ICAR-AICRP Centre Award** (2021-22) for significant contribution in the field of Pearl Millet Improvement in the 57$^{th}$ Annual Group Meeting of All India Coordinated Research Project on Pearl Millet held online from 2$^{nd}$ – 3$^{rd}$, March 2022.
- Dr. Neeraj Kharor and team of Forage section, CCS HAU Hisar AICRP on Sorghum, Hisar Centre received **Best Center Award** for the overall performance during the period 2021-2022 on 29$^{th}$ April, 2022.
- Dr. Vinod Kumar won **Best Oral Presentation Award** in National Conference "Himalayan Cereals for Food and Nutritional Security: Currents Status and Opportunities" held at Department of Biochemistry, GB Pant University of Agriculture and Technology, Pantnagar on 6$^{th}$ September, 2022.
- Dr. Vinod Kumar has filed a **patent application** on "Bottle Gourd (*Lagenaria siceraria*) Tablet Preparation Incorporated with Biocellulose from *Gluconacetobacter liquefaciens* and a Method Thereof" **Application No.: 202211056545**, filed on 1$^{st}$ October, 2022, Inventors: Anju Kumari, Anil Panghal, Ritu, Rakesh Kumar, Bharti Dixit, Rakesh Gehlot, D S Duhan, Vinod Kumar.
- Dr. Sushil Nagar received "**Research Excellence Award 2021**" from Institute of Scholars Society.

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | **Office staff** | | |
| | Assistant | 1 | 1 |
| | Clerk | 1 | 0 |
| | PA/Steno | 1 | - |
| | Messenger | 1 | - |
| 2. | **Lab staff** | | |
| | Lab Assistant | 2 | - |
| | Any other (SLA) | 2 | 2 |
| 3. | **Field staff** | | |
| | Beldar | 1 | - |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| Laboratories | Activities |
|---|---|
| No of lecture room with seating capacity | One with seating capacity of 50 |
| No of lecture room with LCD | One |
| Net houses | Five |
| No of laboratories with specialized purpose | Five research Lab, One UG and one PG |
| | **Biochemistry Lab No. 415:** Differential expression of proteins and their studies |
| | **Biochemistry Lab No. 417:** Synthesis and application of nanoparticles in agriculture |
| | **Biochemistry Lab No. 420:** Isolation and evaluation of bioactive principles |
| | **Biochemistry Lab No. 424:** Evaluation of food and fodder crops for quality traits and anti-nutritional factors |
| | **Biochemistry Lab No. 432:** Purification, characterization and immobilization of microbial enzymes |

The facilities in the department are sufficient to meet the requirements of the course curricula.

**List of Equipment's in the Department:**

| Sr. No. | Location/Lab | Name of Equipment |
|---|---|---|
| 1. | Lab No. 415 | Deep Fridge (-20°C), pH Meter, 2D Gel Electrophoresis System, Visible Spectrophotometer, Weighing Balance, Double Beam UV Visible Spectrophotometer, Water Bath, Refrigerator |
| 2. | Lab No. 417 | Mili-Q Water Purification System, pH Meter, Weighing Balance, Double Beam |

| | | |
|---|---|---|
| | | UV Visible Spectrophotometer, Refrigerated Centrifuge With Accessories, Horizontal Electrophoresis, Vertical Electrophoresis, Water Bath, Refrigerator, Vortex Shaker, Magnetic Stirrer |
| 3. | Lab No. 420 | Rotary Evaporator, Probe Sonicator, Weighing Balance, Refrigerated Centrifuge With Accessories, Refrigerator, Vortex Shaker, Magnetic Stirrer |
| 4. | Lab No. 424 | pH Meter, Atomic Absorption Spectrophotometer, Gel Documentation System, Microwave Digestion System, Ice Flaker, High Pressure Liquid Chromatography (HPLC) System, Weighing Balance, Visible Spectrophotometer, Double Beam UV Visible Spectrophotometer, Thermocycler, Refrigerated Centrifuge With Accessories, Horizontal Electrophoresis, Vertical Electrophoresis, Water Bath, Refrigerator, Vortex Shaker, Magnetic StirrerBiosafety cabinet |
| 5. | Lab No. 432 | Freeze Dryer , Orbital Shaker Incubator, Fourier Transform Infrared Spectroscopy (FTIR), Deep Fridge (-80°C), Deep Fridge (-20°C), pH Meter, Cold Storage Cabinet, Particle Size Analyzer (Psa), Mili-Q Water Purification System, Visible Spectrophotometer, Bath Sonicator, Weighing Balance, Double Beam UV Visible Spectrophotometer, Refrigerated Centrifuge With Accessories, Horizontal Electrophoresis, Vertical Electrophoresis, Water Bath, Refrigerator, Trans-Illuminator, Vortex Shaker, Magnetic Stirrer, Biosafety cabinet |

### Theory and Practical Batches

At UG level, the Department of Biochemistry offers one UG Course to undergraduates of College of Agriculture, one UG course to undergraduates of College of Fisheries Sciences and one UG Course to undergraduates of I.C. College of Home Science. All the courses have practical components.

- For course Biochem 101 offered to CoA in sem 1$^{st}$ (4yr prg) has two sections at CoA Hisar, and one section at CoA Kaul in with an average of about 30-40 students with two practical groups in each section. One section is at CoA Bawal (6 yrprg) with an average of about 30-40 students with two practical groups in each section.
- For course Biochem 102 offered to COHS in sem 1st has one theory batch with an average of about 60-70 students with two groups for practical classes.
- The course AQC 102 offered to CoFS in sem1st (4yr prg) one section with an average of about 20 students with one practical group in section.
- At M.Sc. level, the department of Biochemistry offers M.Sc. degree in Biochemistry. In M.Sc. Biochemistry, there are 10 courses out of which 3 courses have practical component.
- At Ph.D. level, the department of Biochemistry offers Ph.D. degree in Biochemistry. In Ph.D. Biochemistry, there are 8 courses out of which 1 course have practical component.

**6.4.5. Conduct of Practical and Hands-on-training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Course details | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| B.Sc. (Hons) Community Science | 1 | 1 | 1 | |
| | BIOCHEM 102 | BIOCHEM 102 | Qualitative and quantitative tests for carbohydrates, lipids, proteins, amino acids and vitamin-C; determination of pH, analysis of proximate constituents in food | Basic knowledge about the course 'BIOCHEM 102' |
| B.Sc. (Hons) Agriculture | 1 | 1 | 1 | |
| | BIOCHEM 101/MBB 101* | BIOCHEM 101/MBB 101* | Preparation of solutions and buffers, use of pH meter, colour reactions of carbohydrates, proteins, amino acids and lipids, quantitative determination of sugars and proteins; qualitative separation of sugars and amino acids by paper chromatography; separation of lipids and photosynthesis pigments by TLC, protein denaturation by heat and pH; simple enzyme assays. | Basic knowledge about the course 'BIOCHEM 101/MBB 101' |
| B.F.Sc. (Bachelor of Fisheries Science) | 1 | 1 | 1 | |
| | AQC-102 | AQC-102 | Preparation of normal solution of acid and base, buffers and reagents. Qualitative determination of carbohydrates, proteins and lipids. Estimation of total nitrogen and crude protein of fish tissue. Estimation of carbohydrates in foods. Determination of specific gravity of oil. Extraction and estimation of total lipids in fish tissue. Determination of saponification value, iodine value and free fatty acid value. | Basic knowledge about the course 'Fundamentals of Biochemistry (AQC 102)' |
| M.Sc. | 9 | 3 | 3 | |
| 1 | BIOCHEM 505 | BIOCHEM 505 | Determination of absorption maxima; extraction and estimation of carbohydrates, amino acids, proteins and nucleic acids. Separation of carbohydrates and amino acids by paper chromatography; separation of lipids by thin layer and column chromatography; separation of proteins by ion exchange and gel filtration chromatography. Extraction, purification and characterization of enzymes; electrophoretic techniques to separate proteins and nucleic acids. Centrifugation: Cell fractionation; application of GLC, HPLC, FPLC in separation of biomolecules; use of radioisotopes in metabolic studies. | Extraction and estimation of carbohydrates, amino acids, proteins and nucleic acids<br>PC of carbohydrate<br>TLC of lipids<br>Gel filtration of protein<br>Purification of enzymes<br>Radioisotopy<br>Biomolecules' separation using GLC and HPLC |
| 2 | BIOCHEM 506 | BIOCHEM 506 | Preparation of buffers and reagents. Serological tests such as bacterial slide agglutination, latex agglutination and agar gel immunodiffusion. Immunoassays including ELISA, western blotting, and fluorescent antibody test. · Hybridoma technique for production of monoclonal antibodies. · Recombinant protein antigen- | Preparation of buffers<br>Agglutination test<br>ELISA<br>Western blotting<br>Fluorescent antibody test |

| | | | | |
|---|---|---|---|---|
| | | | production and immunization of laboratory animals. · Extraction of DNA/RNA from pathogenic microorganisms, PCR, genotyping, diagnosis, etc. | Extraction of DNA/ RNA Polymerase chain reaction |
| 3 | BIOCHEM 509 | BIOCHEM 509 | Estimation of starch, lipid/oil, phenols in plant tissue/sample, Estimation of carotenoids, Estimation of trypsin and chymotrypsin inhibitor activities in seeds, Estimation of vitamin C in fruits; Reducing and non-reducing sugar in fruits; estimation of protein contents; estimation of dietary fibre, determination of limiting amino acids; estimation of phytate/oxalate. | Estimation of starch, oil and phenols Trypsin and chymotrypsin inhibitors in legumes Vitamin C in orange Sugar in fruits Dietary fibres in cereals |
| Ph.D. | 6 | 1 | 1 | |
| 1 | BIOCHEM 604 | BIOCHEM 604 | Isolation and purification of protein from microbial/plant/animal source; electrophoretic separation of protein; determination of molecular weight of protein using PAGE/ gel filtration method. Experiments on DNA: isolation, agarose gel electrophoresis and restriction analysis of DNA. Isolation of chloroplast and mitochondria by differential centrifugation and their purification by density gradient centrifugation. Isolation and purification of enzymes, isozymic analysis and enzyme immobilization | Purification and characterization of protein and enzymes Elctrophoretic techniques Gel filtration Agarose gel electrophoresis Restriction analysis of DNA Isolation of plant organelles |

**6.4.6. Supervision of Students in PG/Ph.D. Programme:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

**M.Sc.Programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher ratio |
|---|---|---|---|
| 2018-19 | 4 | 6 | 1:1.5 |
| 2019-20 | 6 | 6 | 1:1 |
| 2020-21 | 4 | 4 | 1:1 |
| 2021-22 | 6 | 4 | 1.5:1 |
| 2022-23 | 4 | 4 | 1:1 |

**Ph.D. Programme**

| Year | Numberof students on roll | Numberof PG faculty | Student-teacher ratio |
|---|---|---|---|
| 2018-19 | 3 | 6 | 1:2 |
| 2019-20 | 5 | 6 | 1:1.17 |
| 2020-21 | 3 | 4 | 1:1.33 |
| 2021-22 | 4 | 4 | 1:1 |
| 2022-23 | 2 | 4 | 1:2 |

**6.4.7. Feedback of Stakeholders:** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

There is a system of annual self-appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. Any suggestions provided by them are incorporated in the curriculum. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8. Student Intake and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 4 | 6 | 4 | 6 | 5 | 0 | 20 | 0 | 0 | 20 |
| Ph.D. | 3 | 5 | 3 | 4 | 2 | 0 | 17 | 0 | 0 | 0 |

**6.4.9. Information and Communication Technology (ICT) Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of the Department of Biochemistry use ICT in teaching and practical. There is one Seminar Room with computer, LCD projector, Smart Board, Podium with computer facility and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, Google meet, Microsoft teams, YouTube and CD ROM etc. in teaching courses at UG, PG and Ph.D. level.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented college-wise.

**6.4.11.** Since the accreditation of programmes is related to the All-India admission from ICAR and also having weight age for college accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Dr. Neeraj Kumar** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

CCSHAU
COLLEGE OF BASIC SCIENCES & HUMANITIES
1970

## PROGRAMME – 2

# M.Sc. Botany and Plant Physiology
# and
# Ph.D. Botany and Plant Physiology








URBAN FARMING EXPO AND FLOWER FEST-2022

### 6.4 About the Department

The department was carved out from the department of Botany and Plant Pathology in 1970 with academic excellence and vision to do basic and applied work in teaching and research of concerned field. The department offers M.Sc. and Ph. D. degrees in Botany, Plant Physiology and Environmental Science. The department also caters to the requirements of UG and PG programs of College of Agriculture and College of Home Science. The department has so far produced more than 185 M.Sc. and 100 Ph.D. scholars some of them occupying high positions at the national level. Most of our students got fellowship from CSIR (UGC), INSPIRE (DST), VIED (Vietnam) and UGC.

The department is having a highly trained and talented faculty that consists of three Principal Scientists/Professor (one holding position of Dean, COBS&H and one Dean of Post Graduate Studies), one Professor, and five Assistant Scientists. Most of the faculty members have visited foreign countries to attain advanced expertise in various fields of botanical and plant physiological research. Since now our teachers/scientists bagged 35 research projects from various agencies like ICAR, CSIR, DBT, New Delhi, PURSE (DST), New Delhi, DST (Haryana), INSID, Ministry of water Resources, New Delhi, Potash Research Institute of India (PRII, Gurgaon), CIMMYT, Mexico, Scheme for Promotion of Academic and Research Collaboration (SPARC), Ministry of Human Resource Development, Government of India and funding worth of several lakhs have been sanctioned to this department. Department generated recommendation on “Bio Drainage System Strip Plantation of *Eucalyptus tereticornis* for Water Logge Soils” that is also included in the Package and Practices of this University. The faculty members of this department got recognition as collaborators in development of varieties of major crops like wheat, chickpea, mustard, sorghum, oat etc. The department has done pioneering work in conserving the indigenous local species of plants and also introduction of exotic species from other places. Various native and exotic trees, shrubs, herbs, climbers, aquatic plants, cacti and succulents have been grown and arranged in taxonomical order for imparting knowledge to our students as well as general public in the Botanical Garden of approximately 10-acre land. Flower Shows and Bonsai Making trainings are organized from time to time.

**Objectives of the Department**

1. Developing physiological markers for nutrient efficiency and abiotic stress tolerance in different crop plants
2. Identification of molecular markers related to physiological traits for abiotic stress tolerance
3. Development of phytoremediation technologies for abiotic stresses
4. Morphogenesis, reproductive biology, micro propagation and anatomical studies of crop plants under biotic and abiotic stress

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

PG programmes in Botany and Plant Physiology was initiated in the year 1970. Entry qualification for master’s programme is B.Sc. (Medical) and B.Sc. (Hons). Minimum duration of the M.Sc. programme is 2 years and maximum duration is 4 years. Minimum duration of the Ph. D. programme is 3 years and maximum duration is 5 years. Medium of instruction is English. M.Sc. and Ph.D. degree of Botany restarted in 2019-20. This department has started M.Sc. programme in Environmental Science in 2018 and Ph. D. in 2020.

### Objectives of Initiating M.Sc. Programme

- To produce quality human resource in the discipline of Botany, Plant Physiology and Environmental Science with awareness of recent development/innovation.
- To create the masters in Botany, Plant Physiology and Environmental Science with specialization in different areas of it.

### Accomplishments of M.Sc. Programme

- The department has well developed infrastructure for the M.Sc. programme with seminar rooms and well equipped modern state of art laboratories
- The department has conferred to 185 M.Sc. students. 37 students admitted during last five years **(Annexure-I)** and 15 students are presently enrolled in this department **(Annexure-II)**
- Students presented oral and poster research papers in national and international seminars/conferences **(Annexure-III)**
- Students participated in training and workshops **(Annexure-IV)**
- Students have been placed in public and private sector jobs**(Annexure-V)**
- Students have been availing national level scholarships like Junior Research fellowship (JRF) from Indian Council of Agricultural Research (ICAR), Council of Scientific and Industrial research (CSIR) etc. or university fellowship **(Annexure-VI, VIII)**
- Students of this department qualified national level test conducted by various agencies **(Annexure-VII)**
- Around 75% of the students have progressed to Ph.D. programmes
- M.Sc. students published 10 research papers in last five years (NAAS rating 0-4: -; 4-6: 7 papers; >6: 3 papers) **(Annexure-IX)**
- Students pass out in last five years **(Annexure-X)**

### Objectives of Initiating Ph.D. Programme

Ph. D. programme was initiated with the following objectives:

- To produce quality human resource in the discipline of Botany, Plant Physiology and Environmental Science with awareness of recent development/innovation.
- To create the Doctorates in Botany, Plant Physiology and Environmental Science with specialization in different areas as such
    - Abiotic stress physiology (salt, drought, heat, freezing, water logging, cold and heavy metals stress)
    - Nodulation and nitrogen fixation in leguminous plants
    - Physiology of senescence and abscission in crop plants
    - Phytoremediation, especially with reference to salt and heavy metal stress
    - Ecophysiology of tree species to evaluate bio-drainage potential of plants under waterlogged saline areas
    - Growth and development of crop plants
    - Mineral nutrition in crop plants

- Plant growth regulators to improve crop productivity
- Photosynthesis, respiration and related processes for crop improvement

### Accomplishments of Ph.D. Programmes

- The department has well developed infra-structure for the Ph.D. programme including seminar room and well equipped laboratories.
- The department has produced 100 Ph.D. students. 47 students admitted during last five years **(Annexure-I)** and 45 students are presently enrolled in this department **(Annexure-II)**
- Students presented oral and poster research papers in national and international seminars/conferences **(Annexure-III)**
- Students participated in training and workshops **(Annexure-IV)**
- Students of this department got placement in various institutions **(Annexure-V)**
- Students have been availing national level scholarships like Junior Research fellowship (JRF) from Indian Council of Agricultural Research (ICAR), Council of Scientific and Industrial research (CSIR) etc. or university fellowship **(Annexure-VI, VIII)**
- Students of this department qualified national level test conducted by various agencies **(Annexure-VII)**
- Ph.D. students published 17 research papers in last five years (NAAS rating 0-4: -; 4-6: 10 papers; >7: 3 papers) **(Annexure-IX)**
- Students pass out in last five years **(Annexure-X)**
- Alumni of the department are well placed at higher position in India and abroad.

### Student Data for the Last Five Years

| Degree programme offered by the department | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| a. M.Sc. | Botany | Restarted (2019-20) | 00 | 03 | 03 | 02 | 02 | **10** | 00 | 00 | 00 | 03 | 02 | **05** |
| b. Ph. D. | Botany | Restarted (2019-20) | 00 | 04 | 05 | 05 | 01 | **15** | 00 | 00 | 00 | 00 | 00 | **00** |
| a. M.Sc. | Plant Physiology | 1970 | 03 | 04 | 01 | 03 | 04 | **15** | 02 | 03 | 03 | 03 | 02 | **13** |
| b. Ph. D. | Plant Physiology | 1970 | 02 | 05 | 06 | 03 | 02 | **18** | 02 | 00 | 02 | 01 | 04 | **09** |
| a. M.Sc. | Environmental Science | 2018 | 03 | 03 | 01 | 02 | 03 | **12** | 00 | 00 | 03 | 02 | 01 | **06** |
| b. Ph. D. | Environmental Science | 2020 | 00 | 00 | 04 | 02 | 05 | **11** | 00 | 00 | 00 | 00 | 00 | **00** |
| | | | **See Details in Annexure II** | | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Faculty sanctioned | Faculty in place* | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | 1 | Lien | Nil |
| 2. | Associate Professor and equivalent | 1 | 1 | Nil |
| 3. | Assistant Professor and equivalent | 11 | 3 | 8 |
| 4. | Assistant Botanist-cum Supdt Botanical Garden | 1 | - | 1 |
| | Total | 14 | 4 | 9 |

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

*The number of faculty also includes personal promotes.

### Faculty Profile

At present one principal scientist posted in ICAR scheme at GPB, CCSHAU Hisar, One Professor (Botany) is posted at KVK as Coordinator, Panchkula, one Assistant Professor/Equivalent posted in ICAR scheme at GPB, CCSHAU, Hisar and one at RRS Kaul, three Assistant Professor/Equivalent posted in Department of Botany, CCSHAU, Hisar. Faculty of the department published more than 70 research papers in journals of national and international repute in last five years.

| S. No. | Name | Designation | Email and mobile no. | Specialization |
|---|---|---|---|---|
| 1. | Dr. K.D. Sharma | Dean PGS cum Professor | kdutt1966@gmail.com<br>kamald@hau.ac.in<br>9416397543 | Abiotic Stresses and Crop Physiology |
| 2. | Dr. Neeraj Kumar | Dean COBS&H cum Principal Scientist | neerajhau@yahoo.co.in<br>9255198544 | Abiotic Stress Physiology |
| 3. | Dr. Renu Munjal | Principal Scientist | munjalrenu66@gmail.com<br>munjalrenu@hau.ac.in<br>9466018199 | Abiotic Stress Physiology |
| 4. | Dr. Sridevi T* | Professor | stallapragada21@gmail.com<br>9779183010 | Environmental Sciences |
| 5. | Dr. Anita Kumari | Assistant Scientist | anitahsr@gmail.com<br>anitahsr@hau.ac.in<br>9466331523 | Abiotic Stress Physiology |
| 6. | Dr. Sarita Devi | Assistant Scientist | sarita@hau.ac.in<br>9416996353 | Abiotic Stress Physiology and Phytoremediation |
| 7. | Dr. Vinod Goyal | Assistant Scientist | goyal2973@gmail.com<br>7011371330 | Abiotic Stress Physiology |
| 8. | Dr. Sukham** Madaan | Assistant Scientist | sukham20@gmail.com<br>9466744080 | Abiotic Stress Physiology |
| 9. | Dr. P. Bhasker | Assistant Scientist | bhaskarhau@gmail.com<br>9468142023 | Abiotic Stress Physiology |
| **Faculty retired during 2018-22** | | | | |
| 1 | Dr.Sunita Sheokand (28/02/2018) | Professor | sunitasheokand@hotmail.com<br>9416674592 | $N_2$-fixation, Stress Physiology and Phytoremediation |

| | | | | |
|---|---|---|---|---|
| 2 | Dr. Jitender Kumar (31/10/2018) | Professor | sandoojajk@gmail.com 9416371970 | Post-Harvest Physiology |

**Faculty posted at KVK, Panchkula, ** posted at COA, Kaul*

### Other Achievements of the Faculty

1. An International Workshop on "Molecular Mapping of Economic Traits using High-Throughput Technologies" was organized by the department under the SPARC project, MHRD, GOI from 8th to 17th July, 2019.
2. Dr. Sarita Devi visited for International training in Pedagogy (3 Months) at Victoria Research Station, Australia under NAHEP – Institutional Development Plan Project (IDP) for the year 2019 sponsored by Indian Council of Agricultural Research and World Bank from 19th April to 18th July, 2019.
3. Dr. Sarita Devi conferred with best poster presentation award in Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario organized by CCS Haryana Agricultural University, Hisar, India from 6th – 8th, November 2019.
4. Dr. Renu Munjal visited Copenhegan University, Denmark for ASEM-DUO-Indian Professor fellowship sponsored by Government of South Korea from 7th November to 6th December, 2021.
5. Dr. Vinod Goyal visited Julius-Maximilians-Universitat, Wurzburg, Germany for ASEM-DUO-Indian Professor fellowship sponsored by Government of South Korea from 19th August to 8th September, 2022.
6. Dr. Vinod Goyal awarded a SPARC project entitled "Genotyping by Sequencing Genome wide Association study and Genomic selection approaches for the complex Trait like Stress Tolerance and Yield in Soyabean" in 2019-20.
7. Dr. Renu Munjal awarded a SPARC project entitled "Combining Rust Resistance with Non-Structural carbohydrates (NSC) in Wheat to achieve Food Security" in 2019-20.
8. Dr. Vinod Goyal (PI), Dr. Neeraj Kumar (Co-PI) and Dr. Sarita Devi (Co-PI) awarded a RKVY Project entitled "Climate change impact studies under rainout shelter in Agro-ecosystems" in 2019.
9. An International Workshop on "Plant Genomics" was organized by the department under the SPARC project, MHRD, GOI from 25th February – 5th March, 2020.
10. Dr. Anita Kumari, Dr. Renu Munjal and Dr. Ram Avtar awarded project entitled "Leveraging Genetic Resources for accelerated Genetic Improvement of Linseed using Comprehensive Genomics and Phenotyping Approaches" as a part of network project funded by DBT, New Delhi in 2020.
11. Faculty members of this department have collaborated in development of various varieties of Wheat (WH 1270), Mustard (RH 725, RH 761, RH 1424 and RH 1706), Sorghum (CSV 44F), Chickpea (HC-5 and HC-7) etc.

**6.4.3.Technical and Supporting Staff:***The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | Clerk | 1 | 1 |
| | Steno Typist | 1 | Nil (Miss Pooja JSS from Dept. of MBB works for second half day) |
| | Store Keeper | 1 | vacant |
| | Messenger | 1 | Nil |
| 2. | Lab staff | | |
| | ➢ Lab Assistant | 2 | 1 (Sh. Pyara Singh (Working at DSW) |
| | ➢ Lab Attendant | 2 | 1 Sh. Shankar Pandey (Working at Entomology and at his place Mr. Ramesh works in Botany Dept.) |
| 3. | Field staff | | |
| | ➢ Beldar | 1 | 1 |
| 4. | Garden staff | | |
| | Head Mali | 1 | 1 |
| | Mali | 6 | Nil (Sh. Suraj Parkash posted at Horticulture department is deputed at Botanical Garden to work as Mali<br>Sh. Dwarka Parsad posted at Land Scape Unit is deputed at Botanical Garden to work as Mali |
| | Security Guard | 1 | Nil |
| | Total | 17 | 6 |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

**List of Classroom and Functional Laboratories**

| | |
|---|---|
| No. of lecture rooms with seating capacity | One seminar room for PG classes (seating capacity 40),<br>One seminar room for UG classes (seating capacity 30) |
| No. of lecture rooms with LCD | One |
| No. of labs with specialized purpose | **Eight Research Laboratories** |
| | **1. Botany Lab no. 318:** For practical classes and research work of student |
| | **2. UG Lab no. 319:** For conduct of practicalof different Botany and Plant Physiology courses for UG students |
| | **3. Phytoremediation Lab no. 320:** Identification of salt and heavy metal hyper accumulator plants |
| | **4. PG Lab no. 324:** For conduct of practical of different Plant Physiology courses for PG students |
| | **5. Stress Physiology Lab no. 329:** Identification of physiological markers (MSI, RSI, Photosynthetic efficiency, Photochemical Quantum Yield, CTD, Pollen viability) under different abiotic stresses |
| | **6. Environmental Science Lab no. 331:** Physiological changes in response to agricultural pollutants and strategic research for environment and climate resilient sustainable agriculture |
| | **7. Nodulation and $N_2$ – Fixation Lab no. 334:** $N_2$-fixation mechanism (leghaemoglobin, nitrogenase activity and oxidative metabolism) under |

| | |
|---|---|
| | abiotic stress condition |
| | **8. UG Lab at IATTE Building, Forage section:** For conduct of practicalof different Botany and Plant Physiology courses for UG students |
| Farm facilities/ Screen House | **Seven :**For conducting of experiments |
| Any other instructional units being utilized for the award of the degree programme | - |

### Other Instructional Units being utilized for the Award of Degree Programme

| Instructional Units | Functioning |
|---|---|
| Botanical Garden | Used for instructions of some practical and maintaining biodiversity of different plant species |
| Seminar room with LCD | Seminar room is used for presentation of assignments and delivering seminars by PG students and also used for conducting PG and UG classes. |
| Departmental library | Reference material, journals, thesis etc are referred by PG students for preparation of assignments, synopsis and thesis work. |

### List of Major Equipments available in the Department:

| S. No. | Location | Name of Equipment |
|---|---|---|
| 1 | Lab No. 318 | Microscopes |
| 2 | Lab No. 319 | Water Bath Incubator Shaker, PCR, Digital pH Meter, Electronic Balance, Oven Universal |
| 3 | Lab No. 320 | Vapour Pressure Osmometer, Refrigerated Centrifuge, Distillation Unit, Water Bath Incubator Shaker, Orbital Shaker, NIRS, Advanced AAS, SPAD |
| 4 | Lab No. 324 | Chlorophyll Meter, Seed Germinator, Growth Chamber, Water Bath Incubator Shaker, PCR, Digital pH Meter, Electronic Balance, Oven Universal |
| 5 | Lab No. 329 | Centrifuge, Refrigerated Centrifuge, IRGA, KEL + Digestion System Acid Neutralizer scrubber, Pressure Chamber, Infra-Red Thermometer, Deep Freezer (-86ºC), Leaf Area Meter |
| 6 | Lab No. 331 | KEL + Microblack Digestion System, Lyophilizer (freeze dryer) |
| 7 | Lab No. 334 | Refrigerated Centrifuge, IRGA, Distillation Unit, Eppendorf Bio-Spectrophotometer, Infra-Red Thermometer, Plant Growth Chamber, Vertical Gel Electrophoresis Unit |

### Theory and Practical Batches

At UG level, the department of Botany and Plant Physiology offers two UG Courses to undergraduates of College of Agriculture and one UG Courses to undergraduates of I.C. College of Home Science. All the courses have practical components.

- For course Bot.101/Zoo 101 offered to CoA in sem 1$^{st}$ (4yr prg) and 5$^{th}$ (6 yr prg) have two sections at CoA Hisar, and one sections at CoA Kaul, with an average of about 30-40 students with two practical group in each section. One section is at CoA Bawal (6 yr prg) with an average of about 30-40 students with two practical group in each section.
- The course Pl Phy 102 offered to CoA in sem 2$^{nd}$(4yr prg) & 6$^{th}$ (6 yr prg) have two sections at CoA Hisar, with an average of about 55-60 students with two practical group in each section. Two sections (CoA Bawal and CoA Kaul) with an average of about 55-60 students with two practical group in each section.
- For course Bot.100 offered to COHS in sem 2$^{nd}$ have one theory batch with an average of about 60-70 students with two groups for practical classes.

At M. Sc. level, the department of Botany and Plant Physiology offers M.Sc. degree in Botany, Plant Physiology and Environmental Science. In M.Sc. Botany there are 8 courses out of which 7 courses have practical component. For M.Sc. Plant Physiology there are 12 courses out of which 8 courses have practical component. This department offers M.Sc. in Environmental Sciences with 13 courses out of which 7 courses have practical component. The courses related to Environmental Sciences are taught by different related disciplines from College of Basic Sciences and College of Agriculture.

- There are limited seats in M.Sc. programme with an average of 3-4 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 4-35 students.

At Ph.D. level the department of Botany and Plant Physiology offers Ph.D. in discipline of Botany, Plant Physiology and Environmental Sciences. In Ph.D. Botany there are 7 courses out of which 4 have practical component, 10 courses in discipline of Plant Physiology out of which 5 have practical component and 11 courses in discipline of Environmental Sciences out of which 2 courses have practical component.

- There are limited seats in Ph.D. programme with an average of 3-4 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 4-35 students.

The department is also offering minor and supporting courses for students of various colleges of University.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Course details | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| B.Sc.Agri/CS | 03 | 03 | | |
| | BOT 101/ZOO 101 (COA) | BOT 101/ZOO 101 (COA) | Study of structure, types and modifications of root, stem and leaves though specimens<br>Study of structure of flower and its reproductive parts through specimens and slides<br>Description of different families of plants | The structure, types and modifications of root, stem, leaves and flower<br>To learn taxonomy of the plants |
| | Pl Phy 102 COA | Pl Phy 102 COA | Demonstration of imbibitions, osmosis, plasmolysis, root pressure, transpiration<br>Separation of photosynthetic pigments through paper chromatography, respiration, | To conduct experiment on physiological processes like imbibitions, osmosis, transpiration, respiration, photosynthesis |

| | | | | |
|---|---|---|---|---|
| | | | relative water content, infra red gas analyser (IRGA). | |
| | BOT 100 (COHS) NC | BOT 100 (COHS) NC | Morphology of various vegetative and reproductive parts of plants<br>Study of structure of flower and its reproductive parts through specimens and slides<br>Demonstration of experiments of diffusion, imbibition, osmosis, guttation, transpiration, respiration, photosynthesis, photoperiodism | The structure, types and modifications of root, stem, leaves and flower<br>To conduct experiment on physiological processes like imbibitions, osmosis, transpiration, respiration, photosynthesis |
| M.Sc. (Botany) | 7 | 7 | | |
| | BOT 501 | BOT 501 | Examination of representative genera of algae to study their morphology and reproductive structures, field collection and observation | Biodiversity among the members of algae. The focus is on comparative morphology and reproduction study at the class level and their phylogeny and evolutionary relationship. |
| | BOT 502 | BOT 502 | Study of structure and morphology of vegetative and reproductive organs of their preservative species of archegoniate classes | Biodiversity among the members of archegoniate. The focus is on comparative study of life cycles, phylogeny and evolutionary trends and inters linkages. |
| | BOT 503 | BOT 503 | Study of characters of representative genera in the laboratory and field, herbarium collection. | The concepts of plant organs development, rules, regulations and tools of angiosperms taxonomy. |
| | BOT 504 | BOT 504 | Study of micro- and mega-sporo genesis, embryo, endosperm and seed coat through dissection and microtomy, embryo and anther culture. | Basic knowledge of structural, developmental and functional aspects of micro sporo genesis, mega sporogenesis and embryogenesis. Focus is also on barriers to fertilization, apomixis and in vitro culture of sexual explants. |
| | BOT 505 | BOT 505 | Study of anatomy of root, stem, leaf and flower through microtomy, maceration and clearing technique. Study of normal and abnormal secondary growth. | The internal structure and development of plant organs. |
| | BOT 506 | BOT 506 | Measurement of climatic and edaphic factors; quantitative and qualitative analysis of vegetation. | To develop an understanding of the level of biological organization, fundamentals of ecosystem and plant communities. |
| | BOT 507 | BOT 507 | Study of plant specimens of economic importance and their acquaintance with theirproducts. Exploration, collection and | The different plant resources for welfare of human beings. |

| | | | | |
|---|---|---|---|---|
| | | | preservation of economically important plants and their products. | |
| | BOT 591 | BOT 591 | Master's Seminar | To strengthen teaching skills of students |
| | BOT 599 | BOT 599 | Master's Research | To strengthen research skill of students |
| M.Sc. (Plant Physiology) | 11 | 8 | | |
| | PP 503 | PP 503 | Measurement of water status of plants, determination of osmotic potential by vapour pressure and freezing point depression, determination of soil water potential and content by psychrometry and other systems. Stress imposition and quantification, stomatal conductance. Canopy temperature as a reflection of transpiration and root activity, water use-efficiency determination at whole plant and single leaf level | The effects of abiotic stresses to plant and its molecular basis. |
| | PP 504 | PP 504 | Quantification of hormones-principles of bioassays, physico-chemical techniques and immunoassay, Extraction of hormones from plant tissue. Auxins- bioassays- auxins effect on rooting of cuttings, abscission, apical dominance, Gibberellins-bioassays-GA effect on germination of dormant seeds, cytokinin-bioassays- estimation using immunoassay technique cytokinin effect on apical dominance and senescence, ABA bioassays-estimation using immunoassay technique. ABA effect on stomatal movement, Ethylene bioassays, estimation using physico-chemical techniques- effect on breaking dormancy in sunflower and groundnut. | Structure and function of plant growth regulators on growth and development of plants. |
| | PP 505 | PP 505 | Plant sampling for leaf area and biomass estimation; analysis of growth and yield parameters – LAD, NAR. CGR, LAI, LAR, SLA portioning efficiency HI, measurement of light interception, light extinction coefficient, energy utilization efficiency based energy intercepted, and realized, computer applications in plant physiology, crop productivity and modelling. | Knowledge regarding crop growth analysis and different yield prediction models. |
| | PP 506 | PP 506 | Culturing and transformation of bacteria; genomic DNA and plasmid DNA isolation from bacteria, restriction enzyme digestion and analysis by agarose | The basic concept on genome organization in prokaryotic and eukaryotic system. |

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|---|---|---|---|---|
| | | | gel electrophoresis, isolation of genomic DNA and RNA from plants and quantification; Culture of bacteriophage; studies on lytic and lysogenic pages. | |
| | PP 507 | PP 507 | In vitro culture of different explants such as leaf, stem, shoot apex, cotyledonary nodes, Effect of growth regulators auxin, cytokinin, ethylene on callus induction, organo genesis, somatic embryogenesis, effect of growth condition such as temperature and photoperiodon organogenesis. | The knowledge about cellular basis of growth and morphogenesis in plants. |
| | PP 509 | PP 509 | Extraction and separation of plant pigments, Isolation of chloroplasts ETC reactions- O2 evolution, Determination of rubisco content (western and ELISA), activity and activation state, enzymatic determination of starch and sucrose, determination of photosynthetic rates –gas exchange. A, gs, Ci, A/gs, C/gs- intrinsic WUE by gas exchange rates. Light, CO2, VPD response curves, Determination of photorespiration by gas exchange- (TPSAPS).<br>Genotypic/species differences in photosynthetic rates. Measurement of radiation, Eu% light interception, Determination of NH4+, reduction of inorganic nitrogen species. | Knowledge about physiological and molecular aspects of carbon reduction cycle and nitrogen assimilation. |
| | PP 510 | PP 510 | Physiological and biochemical changes in plants under nutrient sufficiency and deficiencylevels.<br>Quantification of pigment levels, enzyme activities. | Physiological and molecular aspects of carbon reduction cycle and nitrogen assimilation. |
| | PP 511 | PP 511 | Proximate analysis of chemical composition of seed; methods of testing viability; kinetics of seed imbibition and solute leakage; seed germination and dormancy breaking methods; seed invigoration and priming treatments; accelerated ageing and controlled deterioration tests; enzymatic activities and respiration during germination and effect of accelerated ageing; vigor testing methods etc. | To provide an insight into physiological processes governing seed quality and its survival. |
| | PP 591 | PP 591 | Master's Seminar | To strengthen teaching skills of students |
| | PP 599 | PP 599 | Master's Research | To strengthen research skill of students |
| | 12 | 7 | | |

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|---|---|---|---|---|
| M.Sc. (Environmental Science) | ENS 504 | ENS 504 | Analysis of polluted water for various micro-organisms, quality control tests, BOD and COD estimation, water treatment and anaerobic digestion, demonstration of waste water treatment and anaerobic digestion, demonstration of waste water treatment processes such as activated sludge processes, bio filter and fluidized bed process. | Knowledge of microbial diversity of the environment. |
| | ENS 505 | ENS 505 | Study of chemicals in the environment and green chemistry. | The chemicals in the environment, house hold products and green chemistry. |
| | ENS 506 | ENS 506 | Sampling of sewage waters, sewage sludge, solid/liquid industrial wasters, polluted soils and plants, estimation of dissolved and suspended solids, chemical oxygen demand (COD), biological demand (BOD), nitrate and ammonical nitrogen and phosphorus, heavy metal content in effluents. | The problems of soil, water and air pollution associated with agriculture. |
| | ENS 507 | ENS 507 | Isolation and characterization of plamid and genomic DNA, qualification of DNA and RNA, PCR amplification, Gel electrophoresis. | The basic concepts in biotechnology and its applications in environment management for sustainable eco-system. |
| | ENS 510 | ENS 510 | Determination of soil microbial population; soil microbial biomass; decomposition studies in soil, soil enzymes; measurement of important solid microbial processes such as ammonification, nitrification. $N_2$ fixation, S oxidation, P solubilisation and mineralization of other micro-nutrients; Study of rhizosphere effect. | Basics of microbiology related to soil including biogeochemical cycles, plant growth promoting rhizobacteria, microbial interactions in soil other soil activities. |
| | ENS 511 | ENS 511 | Acquisition of maps, Field data collection, map and imagery scales, software and hardware requirements and specifications for remote sensing, data products, their specifications, media types, data inputs, transformation, display types, image enhancement | Knowledge of remote sensing principles and their use to estimate of agro-meteorological variables. |
| | ENS 512 | ENS 512 | Training on techniques related to environment. | Analytical techniques related to environment. |
| | ENS 591 | ENS 591 | Master's Seminar | To strengthen teaching skills of students |
| | ENS 599 | ENS 599 | Master's Research | To strengthen research skill of students |
| | 5 | 4 | | |
| Ph.D. (Botany) | BOT 601 | BOT 601 | Developmental studies of pollen, embryo, fruit and seed of selected crop plants through dissection, microtomy, clearing technique and | Knowledge of ultra structural and functional aspects of development of male, female |

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|---|---|---|---|---|
| | | | histo chemical tests. | gametophytes, endosperm and embryo in addition to pollination, fertilization, apomixis and self-incompatibility. |
| | BOT 602 | BOT 602 | Studies of different methods of pollen collection and preservation, culturing of anthers, pollen and young embryos using various culturing media and study of differentiation and development. | Applied aspects of plant embryology and in-vitro culture of reproductive explants in relation to crop improvement. |
| | BOT 603 | BOT 603 | Study of structure of cell wall and anatomy of various plant organs through histo chemical methods and clearing, maceration and microtome preparation. | Contemporary advancements in plant anatomy. |
| | BOT 604 | BOT 604 | Detailed study of vegetation in different environmental conditions, study of stabilization of sand dunes in relation to survival, productivity, competition and succession. | Advanced knowledge of the plant environment interactions, biodiversity and its conservation. |
| | BOT 691 | BOT 691 | Doctoral Seminar | To strengthen teaching skills of students |
| | BOT 692 | BOT 692 | Doctoral Seminar | To strengthen teaching skills of students |
| | BOT 699 | BOT 699 | Doctoral Research | To strengthen research skill of students |
| | 8 | 5 | | |
| Ph.D. (Pl Phy) | PP 603 | PP 603 | Phenotyping approaches for the different physiological traits. Genotyping options using gene-scan systems. Development of SSR, SNP and SCAR markers, resolution of polymorphism on agarose gels and PAGE, genotyping using a DNA sequencing machine, scoring of gels and assessment of polymorphism, molecular biology – genomic/plasmid DNA isolation, RNA isolation, transformation in model system, crop transformation agrobacterium mediated transformation (in planta & in vitro), evaluation of transgenics – semiquantitative & quantitative RT-PCR, southern blot, northern blot western blot and ELISA, biochemical/physiological assay based on the function of gene & testing LOD. | Knowledge to improve the physiological traits using molecular approaches. |
| | PP 604 | PP 604 | Photosynthetic gas exchange measurements, light and CO2 response curves-determination of relative limitations to | Recent practical training to study various physiological processes in plants. |

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| | | | photosynthesis; chlorophyll fluorescence measurements, assessment of nutrient deficiency by use of leaf color chart.<br>Estimation of water use efficiency at whole plant and single leaf level. Use of stable and radioactive isotopes tounderstand physiological processes – canopy temperature depression (CTD) – evaluation of various plant water indices like RWC (relative water content), Leaf water retention (LWR %), and water retention capability (WRC%), relative Stress injury (RSI), evaluation of stress indices (Heat susceptibility index, heat response index). DNA & RNA isolation, cDNA synthesis & library construction, semiquantitative & quantitative RT-PCR, Northern blot, immunoassays; techniques for defined physiological processes, quantification of mineral nutrients using advanced instruments like AAS.<br>Extraction isolation and estimation of plant growth regulators. | |
| | PP 606 | PP 606 | Physiological and biochemical changes during senescence and ripening, Estimation of ethylene during senescence and ripening, determination of Reactive Oxygen Species and scavenging enzymes, Measurement of dark and alternate respiration rates during senescence and ripening. Estimation of ripening related enzyme activity, cellulases, pectin methyl esterases, polygalacturonase etc. | Knowledge of physiological changes during senescence and ripening. |
| | PP 607 | PP 607 | Adjuvants and their effect on spray droplets, chemical entry and transport. Determination of physiological and biochemical processes like photosynthesis, respiration, cell division, protein & fatty acid synthesis, membrane permeability as affected by herbicides. | Knowledge regarding weed and crop competition, and physiological and molecular aspects of herbicides. |
| | PP 608 | PP 608 | Determination of seed storage proteins. Sink drawing ability of ovules, empty ovule technique. Alpha-amylase activity in germinating seeds.<br>Role of GA in inducing amylase activity. Role of embryo in GA induced a-amylase activity. Protease and lipase activity in germinating seeds. | Knowledge about seed germination, dormancy and physiological processes involved in regulation of seed development. |

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|---|---|---|---|---|
| | | | Seed viability test and accelerated ageing test. Seed hardening/osmotic priming of seeds. Seed respiration rates. Seed viability losses through membrane leakage studies. | |
| | PP 691 | PP 691 | Doctoral Seminar | To strengthen teaching skills of students |
| | PP 692 | PP 692 | Doctoral Seminar | To strengthen teaching skills of students |
| | PP 699 | PP 699 | Doctoral Research | To strengthen research skill of students |
| | 10 | 3 | | |
| Ph. D (ENS) | ENS 602 | ENS 602 | Study structure and functions of forestry interventions. Analysis of the micro-environmental attributes viz. temperature, humidity, solar radiations, soil erosion, in-situ measurement of sediment load in native water bodies, native fauna and flora, measurement of particulate air pollutants and other gases. | Knowledge to develop understanding environmental sustainability and forestry interventions for environment amelioration |
| | ENS 606 | ENS 606 | Measurement of different air pollutants, measurement of visibility, measurement of ozone and aerosol optical thickness (AOT).<br>To determine height of partial flume through chimney, air pollution sampling and measurement: types of pollutant sampling and measurement, ambient air sampling, collection of gaseous air pollutants, collection of particulate pollutants, analysis of air pollutants - sulphur dioxide, nitrogen dioxide, carbon monoxide, oxidants and ozone, hydrocarbons, particulate matter, | Knowledge of theoretical and practical aspects of air and chemical pollution |
| | ENS 610 | ENS 610 | To impart the theoretical and practical knowledge of air pollution | Knowledge of different air pollutants. To measure ozone and Aerosol Optical Thickness (AOT). Study of temperature profile at different heights for determination of stability of the atmosphere. |
| | ENS 691 | ENS 691 | Doctoral Seminar | To strengthen teaching skills of students |
| | ENS 692 | ENS 692 | Doctoral Seminar | To strengthen teaching skills of students |
| | ENS 699 | ENS 699 | Doctoral Research | To strengthen research skill of students |

**6.4.6. Supervision of Students in PG/Ph. D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

**M.Sc. Programmes:**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 6 | 7 | 1:1 |
| 2019-20 | 10 | 9 | 1.11:1 |
| 2020-21 | 5 | 8 | 0.63:1 |
| 2021-22 | 7 | 7 | 1:1 |
| 2022-23 | 9 | 7 | 1.28:1 |

**Ph.D. programmes:**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 2 | 7 | 0.29:1 |
| 2019-20 | 9 | 9 | 1:1 |
| 2020-21 | 15 | 8 | 1.88:1 |
| 2021-22 | 10 | 7 | 1.43:1 |
| 2022-23 | 08 | 7 | 1.14:1 |

**6.4.7. Feedback of Stakeholders (Student, parents, industries, employees, farmers etc:** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are considered by the HODs and controlling officers.

**6.4.8. Student Intake and Attrition in the Programme for last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 06 | 10 | 05 | 07 | 9 | 0 | 10 | 0 | 0 | 22 |
| Ph.D. | 02 | 09 | 15 | 10 | 8 | 0 | 0 | 0 | 0 | 0 |

**6.4.9. Information and Communication (ICT) Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of department of Botany and Plant Physiology use ICT in teaching and practical. There are two seminar rooms: one with computer, LCD projector and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails, CD ROM, Google Meet, Microsoft Team, Web System etc. to teach all courses at UG, PG and Ph.D. level.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented college-wise.

**6.4.11.** Since the accreditation of programmes is related to the All India admission from ICAR and also having weight age for college accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for programme)

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

CCSHAU
COLLEGE OF BASIC SCIENCES & HUMANITIES
1970

# PROGRAMME – 3

## M.Sc. Chemistry
## and
## Ph.D. Chemistry







## 6.4 About the Department

Department of chemistry was established in 1970 and degree programs were initiated in 1988.The department of chemistry runs excellent teaching programs at M.Sc. and Ph.D. degree levels. The current areas of research in chemistry are: synthesis of agrochemicals having biological activities, isolation and characterization of plant based bioactive compounds, green chemistry, environmental remediation, agricultural waste valorisation, slow-release of agrochemicals and pesticide chemistry. The department has successfully completed a number of research projects funded by the ICAR, CSIR and other agencies. The research findings from the various research programs in chemistry have been presented in the National and International conferences and also published in the form of a large number of research papers in reputed journals. Apart from the various research programs being carried out in the department, its faculty members are lending support to other departments of the university in interdisciplinary co-ordinate research programs, particularly, in the areas of Entomology, Soil Science, Agronomy and Genetics and Plant Breeding. In recognition of the excellent research activities in the department, many of its faculty members and students have been offered national scientific awards and visiting fellowships.

The department has a vibrant and rich tradition to intense academic and basic research programmes. Right from its inception, the department has a team of highly qualified and experienced faculty who have shown excellence both at the national and international levels. During last five years on an average six students were admitted in M.Sc. and six students in Ph.D. **(Annexure CHEM-I).** Presently, there are thirteen M.Sc. students and thirty three Ph.D. students on roll **(Annexure CHEM-II).**

There is no UG programme going on in the department, however, the department is offering one UG course to Undergraduates of College of Engineering and one UG course to Undergraduates of I.C. College of Home Science.

### Objectives of the Department

- To provide quality education to students and to develop human resource specialized in various aspects of basic and applied chemistry
- To develop professionals in chemistry
- To conduct research in thrust areas related to agricultural, industrial and environmental chemistry

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

M.Sc. programme in Chemistry was initiated in the year 1988.Entry qualification for Masters programme is B.Sc./ B.Sc. (Hons) in Medical/Non-Medical/ Chemistry/ Agriculture. Minimum duration of the programme is 2 years and maximum duration is 4 years. Medium of instruction is English.

### Objectives of Initiating M.Sc. Programme

M.Sc. Chemistry programme was initiated with the following objectives:

- To produce quality human resource in the discipline of Chemistry
- To provide knowledge to students in following research areas
  - Natural Product chemistry

- Bio-efficacy and Development of Agrochemicals
- Synthetic Chemistry
- Green Synthesis
- Environmental Remediation
- Agricultural Waste Valorization
- Slow-release of Agrochemicals

**Accomplishments of M.Sc. Programme**

Since from 2018 department has produced 22 M.Sc. Students.

- Two students were participated in conferences and symposia **(Annexure CHEM-III).**
- Four students have participated in different trainings **(Annexure CHEM-IV).**
- One student has been placed in government sector job **(Annexure CHEM-V).**
- Most of the students got fellowships/ stipend from university and other sources **(Annexure CHEM-VI).**
- In last five years our students have published thirteen research papers in reputed journals having NAAS Rating from 5.21 to 12.29 **(Annexure CHEM-IX).**

**Objectives of Initiating Ph.D. Programme**

Ph.D. Chemistry programme was initiated with the following objectives:

- To provide advanced knowledge in the discipline of Chemistry
- To provide training and specialization to students in agricultural research, especially in thrust area like:
  - Natural Product Chemistry
  - Bio-efficacy and Development of Agrochemicals
  - Synthetic Chemistry
  - Environmental Remediation
  - Nanochemistry
  - Agricultural Waste Valorization
  - Slow-release of Agrochemicals

**Accomplishments of Ph.D. Programme**

Since from 2018 department has produced 15 Ph.D. Students.

- The department has well developed infra-structure for the Ph.D. Programme with seminar room, class room and well equipped laboratories.
- Twenty three students were participated in conferences and symposiam of national and international level **(Annexure CHEM-III).**
- Students in doctoral programme attended the trainings from time to time. In last five years, eighteen students have participated in different trainings (**Annexure CHEM-IV).**
- Thirteen of our students have joined the institutes of excellent repute **(Annexure CHEM-V).**

- Twenty students have been availing national level scholarships like INSPIRE DST, CSIR JRF, UGC etc. **(Annexure CHEM-VI).**
- Twenty four studentshave qualified NET, GATE and other national level exams **(Annexure CHEM-VII).**
- Our Ph. D. students have published their research outcomes in form of 24 research paper in last five year (NAAS rating 5.21-14.07) **(Annexure CHEM-IX).**
- Alumni of the department are well placed at higher position in India and abroad.

### Student data for the last five years

| **Name of the Department** | | | **Chemistry** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Degree Programme offered by the Department | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | | |
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc. | Chemistry | 1988 | 4 | 8 | 8 | 7 | 5 | 32 | 1 | 5 | 4 | 7 | 7 | 24 |
| PhD | Chemistry | 1988 | 2 | 11 | 8 | 6 | 7 | 34 | 3 | 2 | 5 | 3 | 3 | 16 |
| Details in Annexure CHEM-I | | | | | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| **S. No.** | **Designation** | **Faculty sanctioned** | **Faculty in place** | **Vacant** |
|---|---|---|---|---|
| 1. | Professor and equivalent | 1 | - | 1 |
| 2. | Associate Professor and equivalent | 2 | 1 | 1 |
| 3. | Assistant Professor and equivalent | 8 | 6 | 2 |
| | Total | 11 | 7 | 4 |

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

### Faculty Profile

At present there are six assistant professors/ equivalents. Faculty of the department published more than 46 research papers in journals of national and international repute, 5 book chapters in last five years.

| **S. No.** | **Name** | **Designation** | **E-mail and Mobile No.** | **Specialization** |
|---|---|---|---|---|
| 1. | Dr. Rajni Kant Sharma | Associate Professor | rajnikantsharma@ hau.ac.in 7988582711 | Organic synthesis and Natural product |
| 2. | Dr. Sushila Singh | Assistant Professor | singhsushila@hau.ac.in 8199939339 | Nano-materials, Phyto and Green Chemistry |

| | | | | |
|---|---|---|---|---|
| 3. | Dr. Anushree | Assistant Scientist | anushree@hau.ac.in 7290807066 | Catalysis, Nano-materials , Green Chemistry and Environmental Chemistry |
| 4. | Dr. Sonu Chauhan | Assistant Scientist | sonuchauhan@hau.ac.in 9812373800 | Organometallics and Organic Chemistry |
| 5. | Dr.Jayant Sindhu | Assistant Professor | jayantchem@gmail.com 9711605443 | Organic Synthesis and Sensor Development |
| 6. | Dr. Sachin Kumari | Assistant Professor | sachindalal@hau.ac.in 9812008680 | Inorganic Chemistry/Synthetic Inorganic Chemistry/Analytical Chemistry/Nanochemistry |
| 7. | Dr. Rahul Kumar Dhaka | Assistant Professor | rahulkdhaka@hau.ac.in 9411776212 | (Sustainable Chemistry) Physical and Analytical Chemistry |
| 8. | Dr. Anil Duhan* | Assistant Scientist | a.duhan@rediffmail.com 9466051639 | Analytical Chemistry |
| 9. | Dr. Sushil* | Assistant Scientist | sushilahlawat08@gmail.com 9416342952 | Agrochemical and Pesticide Residual Chemistry |
| 10. | Dr. Ravi Kumar* | Junior Phytochemist | ravibeniwal@hau.ac.in 9996501981 | Organic Synthesis, Natural Products Based Drug Discovery, Phytochemistry of Medicinal and Potential Crops |
| 11. | Dr.Vipan Nagpal* | Assistant Scientist (Phytochemist) | vanynagpal@hau.ac.in 9416630867 | Phytochemistry of Medicinal and Potential Crops |
| Faculty posted at COA* | | | | |
| **Faculty retired during 2018-22** | | | | |
| 1 | Dr. Rajvir Singh (30/11/2022) | Professor | singhrajvir1962@gmail.com 9416397283 | Synthetic and Natural Product Chemistry |
| 2 | Dr. V.K. Madan (31/5/2020) | Principal Scientist | vikku60@gmail.com 9416346333 | Phytochemistry |

### Other Achievements of the Faculty

### 6.4.3. Technical and Supporting Staff:

*The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | Assistant | - | - |
| | Clerk | 01 | 01 |
| | SSS | 01 | 01 |
| | Messenger | 01 | - |
| 2. | Lab staff | | |
| | ➢ Lab Assistant | 02 | 02 |
| | ➢ Lab Attendant | - | - |
| | ➢ Sr. Lab Asstt. | 01 | 01 |
| 3. | Field staff | - | - |
| | ➢ Beldar | - | - |
| 7. | Technician | - | - |
| 8. | Any other (specify) Mechanic | - | - |
| | Total | 06 | 05 |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

### List of Classroom and Functional Laboratories

| | |
|---|---|
| Name of College/Department | College of Basic Sciences and Humanities/ Chemistry |
| No. of lecture rooms with sitting capacity | One lecture room with 40 sitting |
| No. of lecture rooms with LCD | One |
| No. of laboratories with specialized purpose | Seven Research, one UG and one PG |
| | **1.** Research Lab no. 123: Natural product and heterocyclic Synthesis Lab |
| | 2. Research Lab no. 407: Green Chemistry Nano Innovation Lab |
| | **3.** Research Lab no. 137: Functionalized Materials Lab |
| | 4. Research Lab no. 127: Advanced Organometallics Synthesis Lab |
| | **5.** Research Lab no. 124: Diversity Oriented Organic Synthesis Lab |
| | **6.** Research Lab no. 138: Porous Materials Lab |
| | **7.** Research Lab no. 117: Sustainable Chemistry Lab |
| Farm facilities | - |
| Workshops | - |
| Any other instructional units being utilized for the award of the degree programme | - |

### Other Instructional Units being utilized for the Award of Degree Programme

| **Instructional Units** | **Functioning** |
|---|---|
| 1. Seminar room with LCD | Seminar room is used for presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |
| 2. Departmental library | Reference material, thesis etc are referred by PG students for preparation of assignments, synopsis and thesis work. |

### List of Major Equipments Available in the Department

| **S. No.** | **Location/ lab No** | **Name of equipment** |
|---|---|---|
| 1. | Lab. No.117 | Orbital Shaking Incubator, Rotosign Rotary Mixer, Autoclave, pH meter, Conductivity Meter |
| 2. | Lab. No.123 | Freezer, Water bath, Electronic balance |
| 3. | Lab. No. 124 | Flash Chromatography System, Multimode Spectrophotometer, UV-Visible Spectrophotometer, Electra Sin 2.0 Pro, Ultrasonic Cleaner, Graphic Processing Unit installed in workstation |

| | | |
|---|---|---|
| 4. | Lab. No. 127 | Conductivity Meter, Oven, Water bath, Electronic balance |
| 5. | Lab. No. 137 | Ultrasonic Probe Sonicator, UV-Visible Spectrophotometer, Photo Chemical Reactor, Microwave Synthesizer, Muffle Furnace, Hydrothermal Autoclave, Double Distillation Unit, Recirculating Chiller, Centrifuge, Orbital Shaking Incubator, pH meter |
| 6. | Lab. No. 138 | Homogeniser, Soxlet Extraction Apparatus, Ultrasonic Probe Sonicator, Rotary Evaporator, Water Quality Analyzer, Non refrigerator Centrifuge, Double Distillation Unit, Furnace, Rotary Shaker |
| 7. | Lab. No. 407 | Water Analyzer Kit, UV-Visible Spectrophotometer, Muffle Furnace, Ultrasonic Cleaner, Rotary Evaporator, Microwave Extraction System, Lyophilizer, Melting Point Apparatus |

**Theory and Practical Batches**

- At UG level, department is offering two courses having both theory and practical components**.**
- At M.Sc. level, the department of chemistry offers 23 courses and 8 courses has practical components. There are limited seats in M.Sc. programme with an average of 4-8 students. Some courses are offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 5-12 students.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only batch for theory classes in all the courses. For Ph.D., the department of chemistry offers 8 courses.
- The department is also offering three pre-requisite courses (Chem 519, 520 & 521) for students of College of Agriculture and two service courses for Home Science students.
- The department is also offering minor and supporting courses (Chem 522 & 523) for students of various colleges of University.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Course details | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| UG | 2 | 2 | | |
| | CHEM101 | CHEM101 | Determination of temporary and permanent hardness of water by EDTA method, estimation of chloride, dissolved oxygen, BOD and COD in water sample, available chlorine in | Students learn about the basic concepts of chemistry, which can be utilized for determination of different water parameters, chromate |

| | | | | |
|---|---|---|---|---|
| | | | bleaching powder, viscosity of oil, activity of water sample, carbonate and non-carbonate hardness by soda reagent, coagulation of water and chloride ion content, specific rotation of an optically active compound, $\lambda_{max}$and verification of Lambert's Beer Law, calorific value of fuel, identification of functional groups (alcohol, aldehyde, ketone, carboxylic acid and amide) by infrared spectroscopy, chromatographic analysis, molar refraction of organic compounds | graphic analysis and organic functional groups. |
| | CHEM100 | CHEM100 | Acid-base titration; identification of acid radicals; detections of elements (N,S,X) and functional groups, any two preparations: iodoform, asprin, orange dye; removal of colour stains from clothes. | Identification of radicals, removal of colour stains from cloths, detection of elements and organic functional groups |
| M.Sc. | 23 | 8 | | |
| | CHEM504 | CHEM504 | Applications of spectroscopy for structural studies. | Students get familiar to the different techniques used for characterization techniques used in chemistry |
| | CHEM505 | CHEM505 | Conductivity; potentiometry; pH metry, polarography; amperometric titration, spectrophotometry: flame-photometry; refractometry; cryoscopic and ebulliosopic measurements; chromatography, distribution law; mseasurement of viscosity | Students able to learn about-<br>• pH metry<br>• conductivity<br>• refractometry<br>• chromatography<br>• Viscosity |
| | CHEM509 | CHEM509 | Potentimetric determination of formation constants of 3d-series transition metal ions | Students learn about the formation constants of 3d series transition metals ions using potentiometric titrations. |
| | CHEM510 | CHEM510 | Preparation of inorganic complexes like $Co\{Hg(SCN)_4]$, $Hg[Co(SCN)_4]$, $Co(NH_3)_5Cl]Cl_2$, $[Cu(Gly)_2]$, Preparation of $[Co(NH_3)_5NO_2]Cl_2$,$[Co(acae)_3]$, $K_4[Co_2(C_2O_4)_4(OH)_2]$, $K_2[Cu(C_2O_4)_2]$, $[Co(NH_3)_4]SO_4$ and $Na_3[Co(NO_2)_6]$. Determination of magnetic characteristic of above complexes, Analysis of alloys using conventional physical and chemical techniques, complexometric titrations | Students able to prepare different inorganic complexes. This course will enrich students with the techniques related with inorganic complex characterizations. |
| | CHEM517 | CHEM517 | Separation and identification of the components of a binary organic mixture. Synthetic preparations involving two step. Quantitative analysis of phenol, aniline. Quantitative analysis of sulphur, nitrogen. | The course is based on the identification of extra element and functional group. Students will be able to detect different compounds in an organic mixture. Moreover, |

| | | | | |
|---|---|---|---|---|
| | | | Isolation experiments. | quantitative determination of different organic compounds can also be done in an practically efficient manner with simple laboratory techniques. |
| | CHEM518 | CHEM518 | Testing of pesticidal formulations from point of view of their quality; estimation of active principles of pesticides employing different analytical techniques in different matrices, Determination of pesticide residues in different commodities by GLC. | Students are able to Gas layer chromatography for pesticides estimation, analytical techniques for active pesticides and pesticide formulation |
| | CHEM521 | | Identification and preparation of organic compounds | Students will be able to understand organic compounds preparation |
| | CHEM523 | CHEM523 | Identification of intermediates and derivatives used in dyes. Preparation and isolation of dyes. Determination of copper number, methylene number and carboxylic group in degraded cellulose. | Students will be able to understand the following:<br>• Dyes preparation<br>• Intermediates identification |
| **Ph.D.** | **8** | 0 | | |

**6.4.6. Supervision of Students in PG/ Ph.D. Programmes:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

**M.Sc. Programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher ratio |
|---|---|---|---|
| 2018-19 | 4 | 2 | 2 : 0.5 |
| 2019-20 | 8 | 7 | 1: 0.8 |
| 2020-21 | 8 | 7 | 1: 0.8 |
| 2021-22 | 7 | 7 | 1:1 |
| 2022-23 | 6 | 7 | 0.8:1.2 |

**Ph.D. Programmes**

| Year | Number of students on roll | Number of PG faculty | Student-teacher ratio |
|---|---|---|---|
| 2018-19 | 2 | 2 | 1:1 |
| 2019-20 | 11 | 7 | 1.6:0.6 |
| 2020-21 | 8 | 7 | 1:0.8 |
| 2021-22 | 6 | 7 | 0.8:1 |
| 2022-23 | 6 | 7 | 0.8:1.2 |

**6.4.7. Feedback of Stakeholders:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8. Student Intake and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 1 | 5 | 4 | 7 | 6 | - | - | 25 | 25 | - |
| **Ph.D.** | 3 | 2 | 5 | 3 | 6 | - | - | - | - | - |

**6.4.9. Information and Communication Technology (ICT) Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The department has established one smart class rooms under ICAR smart class room initiative. The faculty members of department of Chemistry use ICT in teaching and practical. There is one seminar Room and one class room equipped with interactive projector, LCD interactive panel and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG and PG level.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of programmes is related to the all India admission from ICAR and also having weight age for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for programme)

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in theSection 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

CCSHAU
COLLEGE OF BASIC SCIENCES & HUMANITIES
1970

## PROGRAMME – 4

# M.Sc. Food Science & Technology
# and
# Ph.D. Food Science & Technology









### 6.4 About the Centre

The Centre was established in 2002 and is working on different aspects of food processing, preservation and quality control. The faculty, staff and students in this Centre are members of a large interdisciplinary team of scientists at CCSHAU, who are working consistently to improve the availability and quality of food. Students at the Centre enjoy the combined advantages offered by the University programme as well as the compulsory industrial training. The main objective of the Centre is to develop trained manpower and appropriate technology for food processing industry.

The Centre offers M.Sc. and Ph.D. programmes in Food Science and Technology. There is no UG programme going on in the Centre, however, it is offering one UG Course and one Module to Undergraduates of College of Agriculture at Hisar, Kaul and Bawal under Experiential Learning Programme.

| Programme level | Name of the programme/ course | Duration | Number of seats (Gen+ICAR) | Entry qualification | Medium of instruction |
|---|---|---|---|---|---|
| **Food Science & Technology** | M.Sc. | 2 Years | 2+1 | Bachelor's degree in Science/ Agriculture/HomeScience/Agricultural Engineering/FST/Food Technology | English |
| | Ph.D. | 3 Years | 2+1 | M.Sc. (Food Science/Food Science and Technology/Food Technology) | English |

The department has so far conferred degree to 235 M.Sc. and 18 Ph.D. scholars; some of them are occupying high positions at the National level. The students from this Centre have either developed their own entrepreneurship or are well placed at various executive positions in the food industries/government organizations like FSSAI, NRDC, Mother Dairy, Nestle, Parle, Pan Foods, Haldiram, Reliance Fresh, Hindustan Lever, Tops India, Sunfeast, Bakeman, Yalkult, Pepsico, Midas Foods, Del Monte, MARICO, Dabur, Crixus Health, Perfetti Van Melle and Jubilant Food Works, Assistant Professor/Lecturer/JRF/SRF in Government and Private Institutes/Universities in India and Abroad.

From 2018 onwards, 19 Indian students passed ASRB-NET or UGC-NET with or without JRF/SRF, one Ph.D. student placed as ARS scientist in 2023. Students are availing various fellowships like ICAR-India-Afghanistan Fellowship, ICCR-Africa Fellowship, ICAR-India Africa Fellowship Prog.-III, ICAR-JRF, ICAR-PGS Fellowship, UGC-JRF/SRF, ICAR-JRF/SRF and Rajiv Gandhi National Fellowship (RJNF). Since 2018 till date, 4 M.Sc.students from foreign countries (Afghanistan, Botswana and Tanzania) were admitted and have successfully completed their M.Sc. (FST) degree programme. At present, there are 5 M.Sc. students and 10 Ph.D. students enrolled in CFST.

**Objectives of the Department**

- To provide quality education to students and to develop professionals in the field of food science and technology
- To develop and evaluate value added food products
- To develop and refine the technologies for enhancing the shelf life
- To develop value added ready-to-eat and convenient foods

**6.4.1. Brief History of the Degree Programmes:** *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

Centre of Food Science and Technology (CFST) was established in 2002 with the staff working on different aspects of food processing, preservation and quality control. It has faculty members with specialization in Fruits and Vegetables Processing, Food Microbiology, Postharvest Physiology, Food Nutrition, Food Technology and Dairy Technology. The Centre admits 4-5 students every year in M.Sc. programme through an entrance test, conducted by the University in June-July. The M.Sc. programme involves teaching, laboratory exercises and 4 weeks compulsory In-plant training in various food industries. The students also carry out research work and submit a thesis to become eligible for the award of Degree.

### Objectives of Initiating M.Sc. Programme

In 1996, M.Sc. programme in Food Science and Technology was started under College of Basic Sciences and Humanities. In 2002, a separate Centre of Food Science and Technology was established and M.Sc. programme in Food Science and Technology was continued with the following objectives:

- To develop trained manpower for food processing industry
- To provide the students in depth and multidisciplinary knowledge in the field of food science and technology
- To develop enterprising and innovative skills in the students

### Accomplishment of M.Sc. Programme

- The Centre has well developed infrastructure including seminar room, well equipped laboratories and library facility for M.Sc. programme with 235 M.Sc. pass out students till date.

### During last five years

- Thirteen M.Sc. students were admitted in the Centre **(Annexure FST-I)**
- Three students qualified NET examination and one along with JRF/SRF fellowship **(Annexure FST-VII)**
- Nine students availed various fellowships. Five foreign students got ICAR/ICCR fellowship and 4 Indian students got ICAR-JRF/PGS fellowship **(Annexure FST-VI)**
- Presently, there are five M.Sc. students on roll **(Annexure FST-II)**
- Five M.Sc. students participated in conferences and symposia **(Annexure FST-III)**
- All M.Sc. students completed minimum 4 weeks In-plant training **(Annexure FST-IV)**
- Nine students joined higher education and remaining students are well placed in institutes of national and international repute **(Annexure FST-V)**
- Three students went abroad for higher studies at Botswana, Spain and Italy; and one student got admission at CSIR-CFTRI, Mysore **(Annexure FST-V)**
- M.Sc. students published 31 research papers in the last five years (NAAS rating 0-4: 11 papers; 4-6: 13 papers; >6: 07 papers) (**Annexure FST-IX)**

### Objectives of Initiating Ph.D. Programme

From academic year 2010-11, Ph.D. programme has also been started with the following objectives:

- To produce advanced quality human resource in the discipline of Food Science and Technology
- To conduct applied research with emphasis on agriculture and process engineering

- To contribute in research, especially in thrust areas like:
  - Development of nutritionally rich, value added, high shelf life processed foods
  - Production, standardization, nutritional evaluation and value addition of products based on horticultural crops, underutilized pulses and medicinal plants
  - Development of instant and convenience foods
  - Laboratory to industry scaling up of food processing technologies
  - Food safety and quality management
  - Refinement and transfer of postharvest and value addition technologies

### Accomplishments of Ph.D. Programme

- The department has well developed infrastructure for the Ph.D. programme; including seminar room and well equipped laboratories with two pilot plants

### During last five years

- Twelve Ph.D. students were admitted in the Centre **(Annexure FST-I)**
- Fourteen students qualified NET examination and three along with JRF/SRF fellowship **(Annexure FST-VII and VIII)**
- Fourteen students availed various fellowships. Among these, one student got ICAR/SRF, two students got UGC-JRF/SRF fellowship and eleven students were awarded University merit fellowship **(Annexure FST-VI)**
- Presently, there are ten Ph.D. students on roll and are receiving fellowship like UGC-JRF/SRF, ICAR-SRF and University merit fellowship **(Annexure FST-II)**
- The department has so far conferred degree to 18 Ph.D. scholars and some of them are occupying good positions at the National level **(Annexure FST-V)**
- One student (Ms. Shreya Panwar, 2020FST03D) was selected as ARS scientist in 2023 **(Annexure FST-V)**
- One student (Mr. Naseer) was conferred with best Ph.D. thesis award in 2019 by Society of Integrated Development of Agriculture, Veterinary and Ecological Sciences, Jammu
- Students participated in sixty two conferences and symposia at National and International level **(Annexure FST -III)**
- Ph.D. students attended various training programmes in the last five years **(Annexure FST-IV)**
- Alumni of the department are well placed at higher position in India and abroad. Thirty one students are placed well in institutes of National and International repute **(Annexure FST-V)**
- Fourteen students qualified NET and other national level examinations**(Annexure FST-VII**)
- Ph.D. students published 47 research papers in the last five years (NAAS rating 0-4: 06 papers; 4-6: 23 papers; >6: 18 papers) **(Annexure FST-IX)**

## Student Data for the Last Five Years

| Centre of Food Science and Technology | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Degree programme offered by the department** | **Specialization** | **Year of start** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc. | Food Science and Technology | 1996 | 4 | 4 | 4 | 4 | 4 | **20** | 5 | 2 | 6 | 2 | 2 | **17** |
| Ph.D. | Food Science and Technology | 2010 | 3 | 3 | 3 | 3 | 3 | **15** | 1 | 0 | 2 | 3 | 1 | **7** |
| **Detail in Annexure I** | | | | | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| Sr. no. | Designation | Sanctioned | In place | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | 01 | 0 | 01 |
| 2. | Associate Professor and equivalent | 01 | 0 | 01 |
| 3. | Assistant Professor and equivalent | 07 | 4*+1** | 02 |
| | Total | 09 | 05 | 04 |

**Note**

1. All the faculty members are assigned the responsibilities for multiple programmes

2. One post of Assistant Professor of FST discipline has also been advertised for COA, Bawal

*Faculty member on deputation in FSSAI since 02.12.2022

**One Professor is personal promotee

## Faculty Profile

There are one Professor (promoted under CAS), three Assistant Professor/equivalent and one Assistant Professor on deputation as Deputy Director (Technical) in FSSAI, New Delhi since December 02, 2022 (AN). Two professors promoted under CAS were superannuated in 2019. Faculty members of this department have published more than 108 research papers in journals of National and International repute during last five years.

## Faculty Profile

| Sr. no. | Name | Designation | Email and Mobile No. | Field of Specialization |
|---|---|---|---|---|
| 1. | Dr. Rakesh Gehlot | Professor and Head | rakagehlot@gmail.com 9416252185 | Fruits and Vegetables Processing |
| 2. | Dr. Rekha | Assistant Professor | rekhaphogat@gmail.com | Food Science and Technology |

| | | | | |
|---|---|---|---|---|
| | | | 9467238876 | |
| 3. | Dr. Anju Kumari | Assistant Professor | anjugaina@hau.ac.in 9034887002 | Food Microbiology |
| 4. | Dr. Ritu | Assistant Professor | ritu3400@gmail.com 9812736768 | Food Science and Technology |
| 5. | Dr. Kanika Pawar* | Assistant Professor | kanikapawar@gmail.com 7015247120 | Food Science and Technology |
| 6. | Dr. Anil Panghal** | AssistantScientist | anilpanghal@hau.ac.in 9988049760 | Food Science and Technology |
| 7. | Dr. D.K. Sharma*** | Associate Director (Training) | dksharma.hau@gmail.com 9416846103 | Processing and Food Engineering |
| **Faculty Retired During 2018-22** | | | | |
| 8. | Dr. Raj Bala Grewal DOR-30.4.2019 | Director | grewalrb@gmail.com 9416252214 | Food Science and Nutrition |
| 9. | Dr. Saleem Siddiqui DOR-30.5.2019 | Professor and Head | saleemcfst@gmail.com 9416397847 | Post Harvest Technology |

*Faculty in PFE, COAE&T, Hisar

***Associated faculty member on deputation in FSSAI since 02.12.2022 (AN)

**Faculty member posted member posted at SNIATTE, Hisar

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| Sr. no. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | Assistant | 01 | 01 |
| | Clerk | 01 | 01 |
| | SSS | 01 | 01 |
| | Messenger | 01 | 01 |
| 2. | Lab staff | | |
| | ➢ Lab Assistant | 02 | 01 |
| | ➢ Sr. Lab Assistant | 01 | 01 |
| 3. | Field staff | | |
| | ➢ Beldar | 02 | 02 |
| 4. | Lab Technician | 01 | 01 |
| 5. | JRF | 01 | - |
| 6. | Any other (specify) Sweeper | 01 | 01 |
| | Total | 12 | 10 |

Note: All the staff members are assigned the responsibilities for multiple programmes

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. List major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of Classrooms and Functional Laboratories**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | One Lecture Room for PG Classes (seating capacity 30)<br>One Seminar Room for PG Classes (seating capacity 30) |
| No. of lecture rooms with LCD | Two |

| | |
|---|---|
| No. of labs with specialized purpose | 7 (5 Labs and 2 Pilot Plants) |
| | Fruits and Vegetables Processing Lab (Lab No. 1) |
| | Food Chemistry Lab (Lab No. 3) |
| | Instrumental Analysis Lab (Lab No. 4) |
| | Food Microbiology Lab (Lab No. 5) |
| | Cereal Technology Lab (Lab No. 7) |
| Any other instructional units being utilized for the award of the Degree Programmes | Pilot Plants -Two<br>1. Spray Dryer Pilot Plant (Lab No. 2)<br>2. Fruits and Vegetables Processing Pilot Plant (Lab No. 6) |
| Farm facilities | - |
| Workshops | - |
| Any other instructional unit being utilized for the award of the degree programmes | - |

## Other Instructional Units being Utilized for the Award of Degree Programme

| Instructional Units | Functioning |
|---|---|
| 1. Seminar room with LCD | Seminar room is used for presentation of assignments and delivering seminars by PG students and is also used for conducting PG classes |
| 2. Departmental Library | Reference material, journals, thesis, etc. are referred for PG students to prepare assignments, synopsis, thesis work and writing of review articles/research papers |

## List of Major Equipments Available in CFST

| Sr. no. | Location | Name of equipment |
|---|---|---|
| 1. | Lab No. 1 | Analytical balance, BOD incubator, Deep freezer,Hot air oven, Refractometer |
| 2. | Lab No. 2 | Spray dryer, Papad making machine |
| 3. | Lab No. 3 | Analytical balance, Gas chromatograph, Protein, fat and crude fibreanalyzer, Centrifuge, Hot air oven, pH meter |
| 4. | Lab No. 4 | Analytical balance, Centrifuge, Digital viscometer, Freeze dryer, Research centrifuge, Spectrophotometer, Texture measurement system |
| 5. | Lab No. 5 | Analytical balance, Autoclave, Biosafety cabinet, BOD incubator, Microscopes |
| 6. | Lab No. 6 | Air blast freezer, Aonla pricking machine, Automatic form fill and seal machine, Baby boiler, Colloid mill, Crown corking machine, Deep freezer, Fluidized bed dryer, Fruit pulper, Hot air oven, Skid mounted homogenizer, Slat conveyer, Tray dryer, Vacuum packaging machine |
| 7. | Lab No. 7 | Analytical balance, Coating pan, Electric oven, Dough sheeter, Food extruder laboratory model, Flaking machine, Farinograph, Grit making machine, Modular compact rheometer, Noodle making machine, Orbital shaker incubator, Pasta making machine, Planetary mixer, Quadrant junior mill, Rapid visco-analyser, Rheofermentometer, Sewain making machine, Spectrophotometer, Texture measurement system, Tissue terror homogenizer, Twin screw extruder, Water activity meter |

## Theory and Practical Batches

At UG level, CFST teaches one core course (FST 302) and one professional elective course (Module 9); both the courses have practical components.

- For theory in core course, there are two sections (A and B) in College of Agriculture, CCSHAU, Hisar, one section at College of Agriculture, Kaul and one section at College of Agriculture, Bawal with an average of about 55-65 students in each section.
- For practical classes in FST 302 course, there are two batches, each for two sections at College of Agriculture, Hisar and two section at College of Agriculture, Kaul and two section at College of Agriculture, Bawal, *i.e.*, total eight batches with an average of about 25-30 students in each

batch. For Module 9, there is one batch with an average of about 10-20 students atCollege of Agriculture, Hisar and one batch each of 5-10 students at College of Agriculture, Kaul and at College of Agriculture, Bawal.

- At M.Sc. level, CFST offers 15 courses and all courses have practical components. Some courses are also offered as minor courses for students of other departments. During last five years, on an average, 2 to 4 students were admitted in M.Sc. programme. There is only one batch for theory and practical classes in all the courses with an average of 4-15 students.
- Similarly in Ph.D. programme, on an average, 2-3 students were admitted. CFST offers 8 courses for Ph.D. programme and four courses have practical components. Hence, there is only one batch for theory and practical classes in all the courses.

**6.4.5. Conducting Practicals and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on-practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Course details | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| **B.Sc.** | **Two** | **Two** | | |
| | FST 302 | FST 302 | • Introduction to the concepts of food science, safety and nutrition<br>• Food composition and chemistry of various food components<br>• Principles and methods of food processing and preservation<br>• Malnutrition, nutritional disorders, energy metabolism, balanced diet<br>• Various aspects of food safety, hazards and risks<br>• Food safety management tools and their basic concepts<br>• Indian food regulatory regime, FSSAI | • Basic knowledge about preparation of solutions and buffers<br>• Determination of physicochemical and phytochemical composition of food<br>• Processing and preservation of foods using different methods of preservation |
| | Module 9 | Module 9 | • Machinery for commercial food processing<br>• Development and quality evaluation of fruits, vegetables, grains and its value added products<br>• FSSAI standards for food products<br>• Establishment of processing unit and visit to commercial processing units | • To develop value added food products through practical demonstrations and hands on practice<br>• Efforts are made for building entrepreneurship spirit and business management competence among the students<br>• Project planning, presentation, business networking and report writing skills |
| **M.Sc.** | **Fifteen** | **Fifteen** | | |
| | FST 452 | FST 452 | • To acquaint the students with history, classification and role of microbiology in agriculture, food and environment<br>• Historical developments in | • Stains and staining techniques<br>• Preparation of media and methods of sterilization, |

| | | | | |
|---|---|---|---|---|
| | | | microbiology and allied disciplines<br>• Classification of prokaryotes, important groups of bacteria, eukaryotic cell: structure and function<br>• Major groups of fungi, algae and protozoa and viruses: general characteristics<br>• Morphology and classification of plant, animal and bacterial viruses<br>• Role of microorganisms in agriculture, food and biotechnology<br>• Food fermentations and principles of food preservation. | isolation, purification and maintenance of microorganisms<br>• Microbiological examination of water and milk |
| | FST 501 | FST 501 | • To acquaint with properties, role of various constituents in foods, interaction and changes during processing<br>• Importance of various foods and nutrients in human nutrition<br>• Food groups and their typical composition, functions<br>• Deficiency diseases, requirements and recommended dietary allowances<br>• Absorption, transport and metabolism of nutrients in human system<br>• Allergens, toxins and anti-nutritional factors in foods | • Students become familiar to proximate analysis of foods<br>• Calorific value of foods<br>• Determination of vitamin C and sugars<br>• Estimation of minerals and anti-nutritional factor |
| | FST 502 | FST 502 | • To study the growth and survival of microorganisms in foods<br>• Physical and chemical methods to control microorganisms.<br>• Biochemical changes caused by microorganisms<br>• Microbes in food fermentation, putrefaction, lipolysis<br>• Antagonism and synergism in microorganism<br>• Food poisoning and food borne infections<br>• Indicator organisms, rapid methods for detection of microorganisms<br>• Food fermentations, probiotics and prebiotics, fermented beverages | • Students are acquainted to microscopic examination of microorganisms<br>• Detection of faecal coliform<br>• Enumeration of physiological groups: psychrophile, thermodurics, osmophiles and halophiles. |
| | FST 503 | FST 503 | • Introduction to food engineering and processes<br>• Fundamentals of heat and heat transfer and analogy to mass transfer<br>• Kinetics of reactions occurring in processed foods<br>• Method for thermal processing, pasteurization and sterilization<br>• General introduction to canning process<br>• Food chilling and freezing, properties of frozen foods<br>• Heat exchanger, process heat transfer, modes of heat transfer and overall heat transfer | • Determination of viscosity of Newtonian fluid, Non Newtonian fluids<br>• Particle size analysis<br>• Determination of thermal properties of foods such as thermal conductivity, thermal diffusivity, calorific value and specific heat<br>• Study of different types of freezers |

| | | | | |
|---|---|---|---|---|
| | | | • Thermal properties of foods such as specific heat and thermal conductivity<br>• Fourier's law, steady state and unsteady state conduction<br>• Heat exchange equipment | |
| | FST 504 | FST 504 | • To acquaint with principles of different techniques used in processing and preservation of foods<br>• Processing and preservation by low-temperature, CA, MA and dehydro-freezing<br>• Processing and preservation by drying, concentration and evaporation<br>• Processing and preservation by non-thermal methods<br>• Use and application of enzymes and microorganisms in processing and smoking<br>• Food additives: definition, types and functions, permissible limits and safety | • To acquaint the students with various operations concerning seaming and testing of cans<br>• Determination of thermal inactivation time of enzymes<br>• Dehydration of foods, refrigeration and freezing of foods<br>• Concentration of foods, use of chemicals in preservation of foods |
| | FST 505/ PFE 510 | FST 505/ PFE 510 | • Introduction of packaging: Package, functions and design<br>• Food containers, corrosion of containers<br>• Flexible packaging materials and their properties<br>• Aluminium as packaging material<br>• Packaging equipments<br>• Retortable pouches<br>• Methods to extend shelf life<br>• Special problems in packaging of food stuff<br>• Different packaging system for various food products<br>• Package standards and regulations<br>• Recent trends in packaging of food stuffs | • Identification and testing of packaging materials<br>• Determination of wax from wax paper<br>• To perform various test concerning reliability of packaging material, grading of glass bottles for alkalinity<br>• Determination of water vapour transmission rate of packaging material<br>• Testing the compression strength of the boxes |
| | FST 506 | FST 506 | • Concept of quality and attributes<br>• Food adulteration and food safety<br>• Quality management<br>• Quality management systems in India<br>• Food Safety and Standards Act, 2006<br>• Indian and International quality systems and standards like ISO and Food Codex<br>• Organizations dealing with inspection, traceability and authentication, certification and quality assurance<br>• International scenario, International food standards<br>• Total quality management; GMP/GHP; GLP, GAP, HACCP<br>• Food export and import | • To acquaint with food quality parameters and control systems, food standards, regulations, and specifications<br>• Quality management systems<br>• Indian and International scenario via documentation, procedure and rules regarding export and import, testing facilities, laboratory accreditation process and method, traceability procedure |
| | FST 507 | FST 507 | • Significance of food analysis, water activity, its measurements<br>• Spectroscopic techniques using UV/Vis, fluorescence, IR, NMR, atomic absorption and emission, flame | • To understand the conventional analysis of raw and processed food products of all commodity technologies used for |

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| | | | photometry, polarimetry, refractometry, nephelometry<br>• Chromatographic techniques: adsorption, partition, affinity, ion exchange, size exclusion, TLC and paper chromatography, GLC, HPLC, GCMS<br>• Separation techniques: Gel filtration, electrophoresis, isoelectric focusing; manometric techniques and gas analysis<br>• Rheology and texture analysis | routine quality control in food industry and their role on nutritional labelling |
| | FST 511 | FST 511 | • Importance and scope of post harvest management of fruits and vegetables<br>• Classes, morphology, structure and composition of fruits and vegetables<br>• Maturity indices and standards for selected fruits and vegetables<br>• Harvesting and handling of important fruits and vegetables<br>• Harvesting tools and their design aspects<br>• Field heat of fruits and vegetables and primary processing for sorting and grading at farm and cluster level<br>• Post-harvest physiological and biochemical changes in fruits and vegetables<br>• Ripening of climacteric and non-climacteric fruits<br>• Storage practices: CA and MA, hypobaric storage, pre-cooling and cold storage, Zero energy cool chamber<br>• Pretreatments: Chemicals, wax coating, prepackaging, VHT and irradiation<br>• Physiological postharvest disorders: chilling injury and disease, prevention of postharvest diseases and infestation<br>• Postharvest handling system for fruits and vegetables<br>• Packaging house operations, principles of transport and commercial transport operations | • Proper handling and management using appropriate technologies for various fruits and vegetables to reduce postharvest losses and value addition |
| | FST 512 | FST 512 | • Indian and global scenario on production and processing of fruits and vegetable<br>• Quality requirements of raw materials for processing<br>• Primary processing: grading, sorting, cleaning, washing, peeling, slicing and blanching; minimal processing<br>• Processing for pulp and juices, puree and concentrates<br>• RTS fruit beverages, IQF and frozen fruits and vegetables<br>• Technology for processed products like pickles, chutneys, sauces, etc. | • Principles and methods of preservation and processing of fruits and vegetables into various products |

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|---|---|---|---|---|
| | | | • Processing of fruits for candies, bars, toffees, jams and jellies, squashes and syrups<br>• Dehydration of fruits and vegetables using various drying technologies | |
| | FST 513 | FST 513 | • Structure and composition of common cereals, pulses and oilseeds<br>• Wheat: Types, physicochemical characteristics and quality parameters, wheat milling: products and by-products and processed products<br>• Rice: Classification, physicochemical characteristics; cooking quality; rice milling technology<br>• Corn: Dry and wet milling, manufacture of value-added products<br>• Processing of barley, oats, sorghum and millets, ready-to-cook, instant products, breakfast cereals<br>• Legumes: Composition, anti-nutritional factors, processing and storage<br>• Oilseeds: Composition, storage, processing for production of edible oil, oilseed cake and meal, fat and oil processing, fat and oil products. | • To understand the processing technologies for product development and value addition of various cereals, pulses and oilseeds |
| | FST 520 | FST 520 | • Food additives- Definitions, classification and functions<br>• Preservatives, antioxidants, colours and flavours, emulsifiers, sequestrants, humectants, hydrocolloids, sweeteners, acidulants, buffering salts, anticaking agents, etc.<br>• Flavour technology: Types of flavours, flavours generated during processing: reaction flavours, flavour composites, stability of flavours during food processing, analysis of flavours, extraction techniques of flavours<br>• Proteins, starches and lipids as functional ingredient; isolation, modification, specifications, functional properties<br>• Manufacturing and applications of dietary fibres, fructo-oligosaccharides | • To get an insight into the additives that are relevant to processed food industry for shelflife extension, processing aids and sensory appeal.<br>• To develop an understanding of isolation of various biopolymers from food resources and their relevant applications |
| | FST 521 | FST 521 | • Isolation, screening and genetic improvement of industrially important organisms<br>• Fermenter design and various types of fermentation systems, fermentation substrates<br>• Principles and production of amino acids, enzymes, nucleotides, organic acids, food colours, Baker's yeast, alcoholic beverages, vinegar<br>• Principles and production of microbial proteins, lipids, polysaccharides and vitamins<br>• Utilization and disposal of industrial | • To acquaint with application of micro-organisms for the production of Industrial products with particular reference to foods and food ingredients |

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| | | | wastes through microorganisms<br>• Use of genetically modified microorganisms in food processing | |
| | FST 591 | FST 591 | • Master's Seminar | • To strengthen teaching skills of students |
| | FST 599 | FST 599 | • Master's Research | • To strengthen research skill of students |
| **Ph.D.** | **Eight** | **Four** | | |
| | FST 602 | FST 602 | • Foods as ecological niches, relevant microbial groups, harmful microbes in raw materials and foods<br>• Newer and rapid methods for qualitative and quantitative assay demonstrating the presence of microbes<br>• Microbial growth in food: Intrinsic, extrinsic and implicit factors<br>• Adaption and resistance development, microbes as test organisms, as sensors and as tools for future applications in energy production<br>• Modern methods of cell culture | • To expose the students to recent advances and applications in the area of food microbiology |
| | FST 691 | FST 691 | Doctoral Seminar-I | To strengthen teaching skills of students |
| | FST 692 | FST 692 | Doctoral Seminar-II | To strengthen teaching skills of students |
| | FST 699 | FST 699 | Doctoral Research | To strengthen research skill of students |

**6.4.6. Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as per the guidelines in the matter.*

### M.Sc.Programme

| Year | Number of students on roll | Number of PG faculty* | Student-teacherRatio |
|---|---|---|---|
| 2018-19 | 10 | 6+2*=8 | 1.25:1 |
| 2019-20 | 11 | 4+2*=6 | 1.83:1 |
| 2020-21 | 10 | 3+3*=6 | 1.67:1 |
| 2021-22 | 06 | 3+4*=7 | 0.86:1 |
| 2022-23 | 07 | 5**+2*=7 | 1:1 |

*Faculty posted at RRS, Uchani; PFE; DHRM and SNIATTE, CCSHAU, Hisar

**One Facultymember in position from 31.7.2022 to 02.12.2022 and on deputation in FSSAI since 02.12.2022

### Ph.D. Programmes

| Year | Number of students on roll | Number of PG faculty | Student-teacherRatio |
|---|---|---|---|
| 2018-19 | 08 | 6+2*=8 | 1:1 |
| 2019-20 | 08 | 4+2*=6 | 1.33:1 |
| 2020-21 | 11 | 3+3*=6 | 1.83:1 |
| 2021-22 | 11 | 3+4*=7 | 1.57:1 |
| 2022-23 | 11 | 5**+2*=7 | 1.57:1 |

*Faculty posted at RRS, Uchani, PFE, DHRM and SNIATTE, CCSHAU, Hisar

**One facultymember in position from 31.7.2022 to 02.12.2022 and on deputation in FSSAI since 02.12.2022

**6.4.7. Feedback of Stakeholders (Students, parents, industries, employers, farmers, etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

There is a system of annual self appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. Any suggestions provided by them are incorporated in the curriculum. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with the alumni. The teachers get informal feedback from the students based on their parents' observations and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.8 Student Intake and Attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 04 | 02 | 02 | 02 | 03 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 02 | 02 | 03 | 02 | 03 | 0 | 0 | 0 | 0 | 0 |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now an integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of CFST use ICT in teaching and practical. There is one seminar room and one lecture room with computer, LCD projector and internet connection. All faculty members have computers with printers and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG, PG and Ph.D. level. During COVID-19 pandemic, the department adopted online teaching platforms such as Google Meet and Microsoft Teams for effective teaching. All the teaching materials were successfully uploaded on the ERP module and Microsoft teams to ensure the accessibility of teaching materials to all the students.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately; and to be presented college-wise.

**6.4.11.** Since the accreditation of programmes is related to the All India Admission from ICAR and also having weightage for college accreditation, therefore, the data presented in the section 6.4 are liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for programme)

I, the Dean, **Dr. Neeraj Kumar,** hereby, certify that the information contained in thesection 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding University.

**Signature of Dean of the College with Date and Seal**

# PROGRAMME – 5

# M.Sc. Mathematics & Statistics
# and
# Ph.D. Mathematics & Statistics


VICE-CHANCELLOR'S SECRETARIAT


Prof. B. R. Kamboj
Dr. Atul Dhingra

## 6.4 About the Department

The department of Mathematics and Statistics has been imparting quality education in Statistics and Mathematics since its inception in 1971. It has three major components viz., teaching, research and consultancy. The department offers courses of Mathematics and Statistics for UG and PG students of various colleges of the university i.e., Agriculture, Basic Sciences & Humanities, Agricultural Engineering & Home Sciences, College of Agriculture, Kaul and Bawal. This department has a strong research program on theoretical and applied aspects with emphasis on applications of Statistics in agriculture and allied fields. Besides supporting other disciplines in their research, the department is running its own M.Sc. and Ph.D. programme in Statistics and Mathematics. Advisory and consultancy services are also provided by the faculty members to research scholars and scientists of the entire university.

Well trained students of statistics have great scope and job opportunities in teaching and research in colleges and universities as well as in the private sectors. Competent statisticians are in great demand for business analytics and conducting marketing research in multinational companies. Industrial quality control and consultancy are other areas open to the professional statisticians. The students are trained to face any kind of challenge in their employment career. The courses taught by the department have been revised as per the recommendations of the ICAR at national level. Most of the ex-students of this department are very well placed at national and international levels. Some of them are in faculty and others on responsible positions in universities and institutes of national and international repute. During last five years on an average two students were admitted in M.Sc. and six students in Ph.D. Presently there are thirteen M.Sc. students and twenty-six Ph.D. students on roll.

There is no UG programme in the department, however, the department is offering two UG courses to undergraduates of College of Agricultural Engineering & Technology and one UG course to undergraduates of Indira Chakravarty College of Home Science.

### Objectives of the Department

- To provide statistical consultancy to the researchers/ students of the university and conduct need based training for researcher
- To develop framework for applications of modern statistical techniques used in agricultural/ allied sciences

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

M.Sc. and Ph.D. programme in Statistics was initiated in the year 1971. Entry qualification for Masters programme is B.Sc./B.Sc. (Hons.) in Medical/Non-Medical/ Statistics/ Agriculture. Minimum duration of the programme is 2 years and maximum duration is 4 years. Medium of instruction is English. However, entry qualification for Ph.D. Statistics is Master degree in any Statistics/ Agricultural Statistics/ Applied Statistics.

However, entry qualification for M.Sc. Mathematics is graduate degree as one of the subject with Mathematics whereas qualification for Ph.D. is master degree in Mathematics/ Applied Mathematics.

### Objectives of Initiating M.Sc. and Ph.D. Programme

A. M.Sc. and Ph.D. programme in Statistics was initiated with the following objectives:

- To produce quality human resource in the discipline of Statistics
- To provide knowledge to students in following research areas

- Experimental Designs for agricultural and agro-forestry trials
- Statistical models for Multi-environment and Multi-Locational trials
- Time series models for crop forecasting
- Structural equation modelling and mating designs
- Bayesian and reliability models in agricultural research
- Statistical techniques for estimation of harvest and post-harvest losses
- Regression and econometrics models

**B. M.Sc. and Ph.D. programme in Mathematics was started in year 2019 with the following objectives:**

- To produce quality human resource in the discipline of Mathematics
- To provide knowledge to students in following research areas
  - Image processing
  - Fluid dynamics
  - Cryptography
  - Optimization techniques
  - Complex analysis
  - Mathematical computing
  - Knot theory

### Accomplishments of M.Sc. Programme

- The Department has well developed infra-structure for the M.Sc. Programme with seminar room, classroom and well equipped laboratories.
- Seven students were encouraged to participate in conferences and symposia. (**Annexure MATHSTAT-III**)
- Five students have participated in different trainings. (**Annexure MATHSTAT-IV**)
- Ten studentshave been placed in Government sector job. (**Annexure MATHSTAT-V**)
- Most of the students got fellowships/ stipend from university and other sources (**Annexure MATHSTAT-VI**)
- Eighteen students cleared NET, ARS, and GATE. (**Annexure MATHSTAT-VII**)
- In last five years, students of the department have published thirty three research papers in reputed journals having NAAS Rating from 5.21 to 12.29. (**Annexure MATHSTAT-IX**)

### Accomplishments of Ph.D. programme

- The Department has well developed infra-structure for the Ph.D.programme with seminar room, class room and well equipped Computer Lab
- Nine students participated in conferences and symposia of national and international level **(Annexure MATHSTAT-III)**
- Students in doctoral programme attended the trainings from time to time. In last five years, nine students have participated in different trainings **(Annexure MATHSTAT-IV).**
- Eleven students have been availing national level scholarships like, CSIR JRF, UGC etc. **(Annexure MATHSTAT-VI)**
- Fifteen students have qualified NET, GATE and other national level exams. **(Annexure MATHSTAT-VII)**

- Ph.D. students of this department have published their research outcomes in form of 22 research paper in last five years (NAAS rating 4.75-14.07). **(Annexure MATHSTAT-IX)**
- Alumni of the department are well placed at higher position in India and abroad.

### Student Data for the Last Four Years

| Name of the Department | | | Mathematics and Statistics | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Degree programme | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | | |
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc. | Statistics | 1970 | 03 | 03 | 03 | 02 | 01 | **12** | 02 | 02 | 03 | 01 | 02 | **10** |
| Ph.D. | Statistics | 1970 | 03 | 05 | 02 | 02 | - | **12** | 01 | 05 | 01 | - | 02 | **09** |
| M.Sc. | Mathematics | 2019 | - | 01 | 01 | 01 | 02 | **05** | - | - | - | 01 | - | **01** |
| Ph.D. | Mathematics | 2019 | - | 05 | 03 | 03 | 02 | **13** | - | - | - | - | - | - |
| **Details in Annexure MATHSTAT I** | | | | | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Faculty sanctioned | Faculty in place | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | 1 | 0 | 01 |
| 2. | Associate Professor and equivalent | 3 | 0 | 03 |
| 3. | Assistant Professor and equivalent | 8 | 5+2* | 01 |
| 4 | Assistant Scientist | 02 | 0 | 02 |
| | Total | 14 | 07 | 07 |

**Note:** All the faculty of this programme is assigned theresponsibilities for the multiple programmes.

### Faculty Profile

At present there are seven Assistant Professors/ equivalents. Seven copyrights have been granted to the faculty members for the development of online software tools.

Faculty of the department published three course manuals, three books more than 45 research papers in journals of national and international repute, seven book chapters during period under report. One vacancy of associate professor and one vacancy of assistant professor have already been advertised.

| S. No. | Name | Designation | Email and Mobile No. | Specialization |
|---|---|---|---|---|
| 1. | Dr. O.P. Sheoran | Professor & Head | opsheoran1968@gmail.com 9416241326 | Statistical Programming, Multivariate & Genetical Statistics |
| 2. | Dr. ManjuTonk | Professor | manjutonk@gmail.com 9996210277 | Real and Complex Analysis |
| 3. | Dr. Manoj Kumar | Assistant Professor | m25424553@gmail.com 9416078701 | Sampling and Regression Analysis |
| 4. | Dr. Hemant Poonia | Assistant Professor | pooniahemant80@gmail.com9468192071 | Fluid Dynamics, Optimization Techniques |
| 5. | Dr. Sarita Rani | Assistant Professor | saritamalik@hau.ac.in 9467772688 | Design of Experiment |
| 6. | Dr.Vinay Kumar | Assistant Professor | vinay.stat@gmail.com 9896221071 | Computational Statistics, Bayesian Inference |
| 7. | Dr. Vikash | Assistant Professor | vikash@hau.ac.in 9569254780 | Knot Theory, Topology |
| 8. | Dr. Nitin Bhardwaj* | Assistant Scientist | nitinbhardwaj.mdu@hau.ac.in 7289857340 | Reliability Theory |
| 9. | Dr. Joginder* | Assistant Scientist | joginder.stats@hau.ac.in 9541341233 | Reliability and Statistical Modelling |
| 10. | Dr. Monika* | Assistant Scientist | monika1804@hau.ac.in 8130447714 | Sample Surveys, Statistical Modelling |
| 11. | Mr. Sunny** | Assistant Professor | sunnymaths21@gmail.com 7027223984 | - |
| **Faculty Retired during 2018-22** | | | | |
| 1. | Dr. D.R. Aneja (30/11/2022) | Professor | 19draneja57@gmail.com 9813776060 | Genetics Statistics |
| 2. | Dr.UrmilVerma (31/07/2020) | Professor | verma21@hotmail.com 9416926933 | Time Series Modelling |
| 3. | Dr. B.K. Hooda (30/04/2022) | Professor | bkhooda@gmail.com 9315385447 | Statistical Inference and Multivariate |

* Faculty posted at COA, Hisar, ** posted at **COA, Kaul**

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | Technical and supporting staff in place |
|---|---|---|---|
| 1. | Assistant | - | - |
| | Clerk | 01 | 01 |
| | PA/Steno | 01 | - |
| | Messenger | - | - |
| | Computer Lab Attendant | - | - |
| | Total | 02 | 01 |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

### List of Classroom and Functional Laboratories

| | |
|---|---|
| Name of College/Department | College of Basic Sciences and Humanities/ Mathematics & Statistics |
| No. of lecture rooms with seating capacity | One lecture room with seating capacity of 40 |
| No. of lecture rooms with LCD | Two |
| No. of laboratories for specialized purpose | One Advanced Computational Lab and One Statistical lab |
| Farm facilities | - |
| Workshops | - |
| Any other instructional units being utilized for the award of the Degree Programme | - |

### Other Instructional Units being utilized for the Award of Degree Programme

| Instructional Units | Functioning |
|---|---|
| 1. Seminar room with LCD | Seminar room is used for presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |
| 2. Departmental library | Reference material, thesis etc. are referred by PG students for preparation of assignments, synopsis and thesis work. |

### List of Major Equipments available in the Department: Nil

### Theory and practical batches

- At UG level, department is offering four theory and eight practical courses of B.Sc. Agri. (Hons), two courses of B.Sc. Home Science and six theory and six practical courses of Agricultural Engineering & Technology.
- At M.Sc. level, the department offers total 27 and 19 courses in discipline of statistics and mathematics respectively in which 15 and 8 courses in discipline of statistics and mathematics respectively have practical components. There are limited seats in M.Sc. programme with an average of 2-3 students. Some courses are offered as minor courses for students of other departments. There is only batch for theory classes and one batch for practical classes in all the courses with an average of 30 students.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only batch for theory classes in all the courses. For Ph.D., the department offers 14 courses.
- The department is also offering five services courses for students of college of Agriculture, Home science and fisheries sciences. The department is also offering minor and supporting courses for students of various colleges of University.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Course details | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| UG (Statistics) | 02 | 02 | 02 | As per course curriculum the practical and hands-on-training are given |
| 1 | STAT-100 | Elementary Statistics | 2+1 | • Graphical representation of data. Measures of central tendency |

| | | | | |
|---|---|---|---|---|
| | | | | • Measure of central tendency<br>• Measure of dispersion<br>• Moments, measure of skewness, kurtosis<br>• Correlation, regression analysis. Application of one sample t-test. Application of two sample Fisher's t-test. Chi-square test.<br>• Selection of random sample using Simple random sampling. |
| 2 | STAT-102 | Statistical Methods | 1+1 | • Graphical representation of data. Measures of central tendency with calculation of quartiles, deciles, percentiles<br>• Measure of dispersion, moments, measure of Skewness, kurtosis<br>• Correlation and regression analysis application of one sample t-test. Application of two sample Fisher's t-test.<br>• Chi-square test of goodness of fit, Chi-square test of independence of attributes for 2x2 contingency table<br>• Analysis of variance one-way classification<br>• Selection of random sample using simple random sampling |
| UG (Mathematics) | 05 | 04 | | |
| 1 | MATH-101 | Elementary Mathematics | 1+1 | • Finding distance between two points, section formula and area of a triangle<br>• Different forms of straight lines, angle between two lines and simple problems on finding equation of a circle<br>• Applications of trigonometry. Simple problems on finding limit, continuity and derivatives of different type of functions<br>• Application of derivatives to find maxima and minima of functions<br>• Integration of functions by different methods and application of integration to find area under simple curves<br>• Addition, multiplication, transpose and inverse of the matrix; problems based on solution of system of equations |
| 2 | MATH-104 | Engineering Mathematics-I | 2+1 | • Tutorials on rank of a matrix, reduction to normal form<br>• Consistency and solution of linear equations,eigen values and eigen vectors<br>• Cayley-Hamilton theorem, diagonalization of matrices, quadratic forms<br>• Tutorials on Taylor's and Maclaurin's expansion, indeterminate forms, curvature, tracing of curves,<br>• Partial differentiation, maxima and minima, volume and surface of revolution, multiple integrals<br>• Beta and Gamma functions, differentiation of vectors, gradient, divergence and curl of a vector point function, line, surface and volume integrals, Stoke's, divergence and Green's |

| | | | | |
|---|---|---|---|---|
| | | | | theorems |
| 3 | MATH-105 | Engineering Mathematics-II | 2+1 | • Tutorials on solution of ordinary differential equations of first and higher orders<br>• Series solutions of differential equations, Bessel's and Legendre's differential equations<br>• Convergence of infinite series. Fourier series, harmonic analysis<br>• Analytical functions, Cauchy-Riemann equations, harmonic functions<br>• Solution of partial differential equations, Application of partial differential equations |
| 4 | MATH-201 | Engineering Mathematics-III | 2+1 | • Interpolation, Numerical differentiation and integration solutions of difference equations<br>• Numerical solution of ordinary differential equations of first order and first degree<br>• Laplace and inverse Laplace transformations and their application to solution of ordinary and simultaneous differential equations<br>• Problems on one sample, two sample Z-tests when population S.D. is known and unknown<br>• Problems on one sample, two sample and paired t-test Chi-Square test – 2x2 and m x n<br>• Calculation of correlation coefficient and its testing, contingency table and F-test |
| PG (Statistics) | 27 | 15 | | |
| 1 | STAT 561 | Statistical Methods | 2+1 | • Fitting of discrete distributions and test for goodness of fit;<br>• Fitting of continuous distributions and test for goodness of fit;<br>• Fitting of truncated distribution;<br>• Computation of simple, multiple and partial correlation coefficient, correlation ratio and intra-class correlation;<br>• Regression coefficients and regression equations;<br>• Fitting of Pearsonian curves;<br>• Analysis of association between attributes, categorical data and log-linear models |
| 2 | STAT 562 | Statistical Inference | 2+1 | • Methods of estimation - maximum likelihood, Minimum c2 and Moments;<br>• Confidence interval estimation; MP and UMP tests; Large sample tests; Non-parametric tests,<br>• Sequential probability ratio test;<br>• Decision functions |
| 3 | STAT 563 | Multivariate Analysis | 2+1 | • Maximum likelihood estimates of mean-vector and dispersion matrix;<br>• Testing of hypothesis on mean vectors of multivariate normal populations;<br>• Cluster analysis,<br>• Discriminant function,<br>• Canonical correlation,<br>• Principal component analysis,<br>• Factor analysis;<br>• Multivariate analysis of variance and covariance, |

| | | | | |
|---|---|---|---|---|
| | | | | • Multidimensional scaling. |
| 4 | STAT 564 | Design Of Experiments | 2+1 | • Determination of size and shape of plots and blocks from uniformity trials data; Analysis of data generated from completely randomized design,<br>• Randomized complete block design;<br>• Latin square design,<br>• Youden square design;<br>• Analysis of data generated from a BIB design, lattice design, PBIB designs;<br>• 2n, 3n factorial experiments without and with confounding; split and strip plot designs, repeated measurement design; missing plot techniques, analysis of covariance; analysis of groups of experiments, analysis of clinical trial experiments |
| 5 | STAT 565 | Theory of Sampling Techniques | 2+1 | • Determination of sample size and selection of sample;<br>• Simple random sampling,<br>• Inverse sampling,<br>• Stratified random sampling,<br>• Cluster sampling,<br>• Systematic sampling;<br>• Ratio and regression methods of estimation; double sampling,<br>• Multi-stage sampling,<br>• Imputation methods;<br>• Randomized response techniques;<br>• Sampling with varying probabilities |
| 6 | STAT 566 | Statistical Genetics | 2+1 | • Test for the single factor segregation ratios, homogeneity of the families with regard to single factor segregation;<br>• Detection and estimation of linkage parameter by different procedures; estimation of genotypic and gene frequency from a given data. Hardy-Weinberg law;<br>• Estimation of changes in gene frequency due to systematic forces, inbreeding coefficient, genetic components of variation, heritability and repeatability coefficient, genetic correlation coefficient;<br>• Examination of effect of linkage, epistasis and inbreeding on mean and variance of metric traits;<br>• Mating designs;<br>• Construction of selection index including phenotypic index, restricted selection index. correlated response to selection |
| **7** | STAT 567 | Regression Analysis | 2+1 | • Multiple regression fitting with three and four independent variables;<br>• Estimation of residuals, their applications in outlier detection, distribution of residuals Test of homoscedasticity, and normality, Box-Cox transformation;<br>• Restricted estimation of parameters in the model, hypothesis testing, step wise regression |

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| | | | | analysis;<br>• Least median of squares norm,<br>• Orthogonal polynomial fitting. |
| 8 | STAT 568 | Statistical Computing | 1+1 | • Data management, graphical representation of data, descriptive statistics<br>• General linear models ~ fitting and analysis of residuals, outlier detection<br>• Fitting and testing the goodness of fit of probability distributions<br>• Testing the hypothesis for one sample t-test, two sample t-test, paired t-test, test for large samples - Chi-squares test, F test, One-way analysis of variance, contrast and its testing, pairwise comparisons<br>• Mixed effect models, estimation of variance components<br>• Categorical data analysis, dissimilarity measures, similarity measures<br>• Analysis of discrete data, analysis of binary data; numerical algorithms<br>• Spatial modeling, cohort studies<br>• Clinical trials, analysis of survival data handling missing data. analysis of time series data - fitting of ARIMA models |
| 9 | STAT 569 | Time Series Analysis | 2+1 | • Time series analysis, autocorrelations, correlogram and periodogram;<br>• Linear stationary model<br>• Linear non-stationary model<br>• Model identification and model estimation; Intervention analysis and outlier detection |
| 10 | STAT 511 | Statistical Methods For Applied Sciences | 3+1 | • Exploratory data analysis<br>• Fitting of distributions ~ Binomial, Poisson, Negative Binomial, Normal<br>• Large sample tests, testing of hypothesis based on exact sampling distributions ~ chi square, t and F<br>• Confidence interval estimation and Correlation and regression analysis<br>• Fitting of linear and quadratic model. Non-parametric tests<br>• ANOVA: one way, two way, SRS |
| 11 | STAT 512 | Experimental Designs | 2+1 | • Uniformity trial data analysis, formation of plots and blocks<br>• Fairfield Smith Law, analysis of data obtained from CRD, RBD, LSD,<br>• Analysis of factorial experiments,<br>• Analysis with missing data<br>• Split plot and strip plot designs |
| 12 | STAT 513 | Sampling Techniques | 2+1 | • Random sampling ~ use of random number tables, concepts of unbiasedness, variance, etc.<br>• Simple random sampling, determination of sample size, inverse sampling<br>• Stratified sampling<br>• Cluster sampling and systematic sampling; estimation using ratio and regression |

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| | | | | estimators<br>• Estimation using multistage design, double sampling |
| 13 | STAT 521 | Applied Regression Analysis | 2+1 | • Correlation coefficient, various types of correlation coefficients<br>• Partial and multiple, testing of hypotheses; multiple linear regression analysis, partial regression coefficients, testing of hypotheses, residuals and their applications in outlier detection<br>• Handling of correlated errors, multi Co linearity<br>• Fitting of quadratic, exponential and power curves, fitting of orthogonal polynomials |
| 14 | STAT 532/ BIF 505 | Statistics for Biological Sciences | 2+1 | • Construction and representation of frequency distribution<br>• Descriptive measures<br>• Probability distribution |
| 15 | STAT 534/ MBB 553/ FST 531/ SOC 512 | Biostatistics And Computers | 2+1 | • Data analysis using probability, test of significance<br>• Correlation and regression analysis<br>• Usage of MS-Windows<br>• SPSS |
| **Ph.D. (Statistics)** | **14** | **07** | | |
| 1 | STAT 601 | Advanced Statistical Computing | 2+1 | • Analysis of qualitative data; generalized linear for correlated data; generalized linear models for discrete data<br>• Robust methods of estimation and testing of non-normal data; robust multivariate analysis<br>• Cluster analysis<br>• Analysis of incomplete data; classification and prediction using artificial neural networks<br>• Markov chain<br>• Analysis of data having random effects using linear mixed effects models; analysis of data with missing observations<br>• Applications of multiple comparison procedures<br>• Building simultaneous confidence intervals<br>• Fitting of growth curve models to growth data<br>• Fitting of dose response curves and estimation of parameters |
| 2 | STAT 602 | Simulation Techniques | 2+1 | • Simulation from various probability models<br>• Resampling methods, jackknife and the bootstrap<br>• Randomization tests; simulating multivariate distributions<br>• MCMC methods and Gibbs sampler; ARMA and transfer-function models, spectral-domain regression<br>• Simulated data sets to be analysed using popular computer software packages<br>• Markov chain, Monte Carlo, Gibbs' sampling |

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| 3 | STAT 603 | Optimization Technique | 1+1 | • Problems based on classical optimization techniques<br>• Problems based on optimization techniques with constraints; minimization problems using numerical methods<br>• Linear programming (LP) problems through graphical method<br>• LP problem by simplex method;<br>• LP problem using simplex method (two-phase method)<br>• LP problem using primal and dual method<br>• Sensitivity analysis for LP problem<br>• LP problem using Karmarkar's method; Problems based on quadratic programming<br>• Problems based on integer programming<br>• Problems based on dynamic programming<br>• Problems based on Pontryagin's maximum principle |
| 4 | STAT 611 | Advanced Statistical Methods | 1+1 | • Fitting of logistic regression<br>• Poisson regression<br>• Ridge regression<br>• Robust regression, nonparametric regression |
| 5 | STAT 616 | Statistical Modeling | 1+1 | • Fitting of mechanistic non-linear models<br>• Application of Schaefer and Fox non-linear models<br>• Fitting of compartmental models |
| 6 | STAT 617 | Advanced Time Series Analysis | 1+1 | • Fitting of stationary and non-stationary multivariate time series models<br>• Analysis and forecasting<br>• IGARCH, ARCH-t, ARCD<br>• Multivariate GARCH, time varying risk and ARCH-in-mean. Fitting of nonlinear time series model. |
| 7 | STAT 621 | Advanced Multivariate Analysis | 2+1 | • Multivariate association<br>• Testing equality of two and several mean vectors<br>• Multivariate regression<br>• MANOVA and PCA, principal component regression; selection of variables |
| **PG (Mathematics)** | 19 | 8 | | |
| 1 | MATH 513 | Ordinary Differential Equations | 2+1 | • Initial-value problems by Picards method<br>• Dependence of solutions on initial conditions<br>• Matrix method for homogeneous first order system of linear differential equations<br>• Nonlinear differential systems<br>• Nonlinear conservative dynamical system<br>• Strum-Liouville problems |
| 2 | MATH 514 | Fluid Dynamics | 2+1 | • Eulerian and Lagrangian methods<br>• Equation of continuity<br>• Acceleration at a point of a fluid |

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| | | | | • Euler equation of motion, energy equation for incompressible flow<br>• Kinetic energy of irrotational flow<br>• Motion of a sphere through a liquid at rest at infinity<br>• Motion of two concentric spheres<br>• Use of cylindrical polar co-ordinates<br>• Irrotational motion in two-dimensions |
| 3 | MATH 516 | Integral Equations and Calculus of Variations | 2+1 | • Initial value problems reduced to Volterra integral equations<br>• Laplace transform method for a difference kernel<br>• Fredholmre solvent kernel as a ratio of two series<br>• Fredholm equations with separable kernels<br>• Green function, basic four properties of the green function<br>• Motivating problems of calculus of variations<br>• Conditional extremum under geometric constraints and under integral constraints |
| 4 | MATH 517 | Partial Differential Equations | 2+1 | • Three dimensional Laplace equations, heat equations<br>• Solution of wave equation for semi-infinite and infinite strings<br>• Partial differential equations: examples of PDE classification<br>• Non-homogeneous equations, heat equation – fundamental solution<br>• Non-linear first order PDE – complete integrals |
| 5 | MATH 520 | Bio-Fluid Dynamics | 2+1 | • Navier-Stokes equations of motion, simplification of basic equations<br>• Reynolds number of flows, flow in pipes and ducts<br>• Special characteristics of blood flow<br>• Blood flow through artery with mild stenosis<br>• Shear stress on stenosis surface<br>• Laminar flow of non-newtonian fluids, power-law model |
| 6 | MATH 525 | Viscous Fluid Dynamics | 2+1 | • Circular and rectilinear vortices, speed of sound in a gas<br>• equation of motion of a gas<br>• transformation of rates of strains, Newtonian and non-Newtonian fluids<br>• Navier-Stoke equations of motion, steady flow between co-axial circular cylinders and concentric rotating cylinders<br>• unsteady flow over a flat plate, non-dimensional numbers<br>• physical importance of non-dimensional parameters |
| 7 | MATH 528 | MATLAB | 2+1 | • Mathematical operations, functions for input and output<br>• Good programming style, basic operations on |

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| | | | | vectors<br>• Matrix functions, matrix operations<br>• Vector functions loops: for loops, while loops<br>• Finding eigen values and eigenvectors, data analysis and statistics<br>• Numerical integration, ordinary differential equations<br>• Using built-in algorithms: optimization and numerical integration (areas), root finding |
| 8 | MATH 529 | Operations Research Techniques | 2+1 | • Solution of linear programming problems by graphical and simplex methods<br>• Transportation problems, assignment problems<br>• Queuing models, inventory control models, game Theory |
| **Ph.D. (Mathematics)** | 12 | 4 | | • |
| 1 | MATH 611 | Computational Fluid Dynamics | 2+1 | • Analytic aspects of partial differential equations classification<br>• Finite difference and finite volume discretizations<br>• Non-stationary convection diffusion equation<br>• Incompressible Navier-Stokes equations<br>• Iterative methods, Euler equation in one space dimension, numerical stability |
| 2 | MATH 619 | System of Differential Equations | 2+1 | • Linear differential systems, non-homogeneous linear systems<br>• System of differential equations, maximal and minimal solutions<br>• Differential inequalities, autonomous systems, critical points and paths of linear systems<br>• Stability analysis, limit cycles and periodic solutions |
| 3 | MATH 620 | Mathematical Foundation of Image Processing | 2+1 | • Coding of pixels translation, scaling, rotation and perspective projection of image<br>• Reading, displaying, writing images using software, smoothening and sharpening<br>• Histogram processing and function plotting using software, filtering of images<br>• Degrading and restoration of images, boundary and object detection in image |
| 4 | MATH 621 | Computational Neuroscience | 2+1 | • Eigen values and eigenvector, system of linear equations<br>• Stability of critical points of non-linear systems, neuronal coding<br>• Coding of Hodgkin-Huxley model, single neuron dynamics modelling |

**6.4.6. Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

### M.Sc. (Statistics) Programme

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 03 | 04 | 0.75:1 |
| 2019-20 | 03 | 05 | 0.6:1 |
| 2020-21 | 03 | 07 | 0.43:1 |
| 2021-22 | 02 | 07 | 0.3:1 |
| 2022-23 | 01 | 07 | 0.14:1 |

### Ph.D. (Statistics) Programme

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 03 | 04 | 0.75:1 |
| 2019-20 | 05 | 05 | 1:1 |
| 2020-21 | 02 | 07 | 0.3:1 |
| 2021-22 | 02 | 07 | 0.3:1 |
| 2022-23 | 00 | 07 | 0:1 |

### M.Sc. (Mathematics) Programme

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 00 | 2 | 0:1 |
| 2019-20 | 1 | 3 | 0.33:1 |
| 2020-21 | 1 | 3 | 0.33:1 |
| 2021-22 | 1 | 3 | 0.33:1 |
| 2022-23 | 2 | 3 | 0.66:1 |

### Ph.D. (Mathematics) Programme

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 00 | 2 | 0:1 |
| 2019-20 | 05 | 3 | 1.66:1 |
| 2020-21 | 03 | 3 | 1:1 |
| 2021-22 | 03 | 3 | 1:1 |
| 2022-23 | 02 | 3 | 0.66:1 |

**6.4.7. Feedback of stake holders (Student, parents, industries, employees, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

There is a system of annual self-appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor. Any suggestions provided by them are incorporated in the curriculum. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through

general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are considered by the HODs and controlling officers.

**6.4.8. Student Intake and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc. (Statistics)** | 03 | 03 | 03 | 02 | 02 | 0 | 33 | 66 | 0 | 0 |
| **Ph.D.(Statistics)** | 03 | 05 | 02 | 02 | - | 0 | 0 | 0 | 0 | 0 |
| **M.Sc. (Mathematics)** | - | 01 | 01 | 01 | 02 | 0 | 0 | 0 | 0 | 0 |
| **Ph.D. (Mathematics)** | - | 05 | 03 | 03 | 02 | 0 | 0 | 0 | 0 | 0 |

**6.4.9. Information Communication Technology (ICT) Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

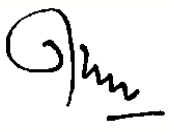
The department has established two smart class rooms under ICAR smart class room initiative. The faculty members of department of Statistics use ICT in teaching and practical classes. There is one Seminar Room and one class room equipped with interactive projector, LCD interactive panel and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members also use power point presentations, YouTube, emails, Google meet, Microsoft team, Webex and CD ROM in teaching all courses at UG and PG level.

**6.4.10.** The information pertaining to 6.4.10 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of programmes is related to the All India admission from ICAR and also having weight age for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in theSection- 6.4 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

CCSHAU
COLLEGE OF BASIC SCIENCES & HUMANITIES
1970

# PROGRAMME – 6

# M.Sc. Microbiology

# and

# Ph.D. Microbiology









## 6.4 About the Department

The department of Microbiology was established in 1964 in the erstwhile Punjab Agricultural University under the supervision of Dr. S.R. Vyas as the founder Professor & Head, who laid solid foundation for the subsequent growth and development of the department. With the establishment of CCS HAU in 1970, the department of Microbiology became a part of the College of Basic Sciences & Humanities. Over the years, the department has made significant contribution in research, teaching and extension. The department developed a solid state fermentation process for the production of citric acid from cane molasses using improved strains of *Aspergillus niger*. Technology for the production of wine from locally grown grapes was developed by Professor S.R. Vyas and the technical know-how for the large scale production of wine was later transferred to Panipat Cooperative Distillery, Panipat. Subsequently, a process for the direct fermentation of sugarcane molasses for alcohol production was also developed. Yeast strain, HAU-I has been developed for the production of ethanol and is being supplied to various Indian distilleries on demand. Usefulness of organic manures in maintaining soil organic matter status and their role in pollution abatement has been worked out. Technology for enrichment of compost with (i) *Azotobacter* for increased nitrogen content, (ii) rock phosphate for increased phosphate availability and (iii) urea for increased organic nitrogen content has been developed. Use of neem cake in controlling nitrification and slow release of nitrogen from nitrogenous fertilizers has been worked out. Since the late sixties, the department has been in the forefront in carrying basic and applied research towards producing efficient rhizobial strains for chickpea, mungbean, urdbean, cowpea, berseem, soybean and other legumes and *Azotobacter* for non-leguminous crops. The department was awarded National Productivity Council Award for 1985-86. Biofertilizers of phosphate solubilizing bacteria (PSB) and biocontrol inoculants of *Gluconacetobacter* are also being produced by the department. Since July 2018, various biofertilizers are being produced through PPP mode with Habitat Genome Primary Producers Company, village Ramayan, Hisar. Microbial parameters for anaerobic digestion of organic wastes for biogas production have been studied and conditions for increasing biogas production in winter through recycling of spent slurry and effective use of brackish water for biogas production have been worked out. Family size Janta biogas plant has been modified for solid state fermentation of cattle dung that has been tested all over India and has been found satisfactory. During last five years on an average eight students were admitted in M.Sc. and in Ph.D. Presently there are 23 M.Sc. students and 38 Ph.D. students on roll.

There is no UG programme going on in the department, however, department is offering two core UG Courses and one professional course to Undergraduates of College of Agriculture and one UG Course to Undergraduate students of I.C. College of Home Science.

### Objectives of the Department

- To provide quality education to students and develop skilled manpower in the field of Microbiology
- To develop professionals in Microbiology
- To conduct research in thrust areas related to Agriculture, Industry, Environment and Molecular Microbiology

**6.4.1 Brief History of the Degree Programme:** *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

M.Sc. programme in Microbiology was initiated in the year 1964. Entry qualification for masters programme is: B.Sc. (Botany + Zoology + Chemistry)/B.Sc. (Hons.) Agri./ B.Sc. Ag. 4 year/

B.Sc. (Hons.) Biochemistry (Chemistry +Botany + Biochemistry)/B.Sc. (Hons.) Biochemistry (Chemistry +Zoology + Biochemistry)/

B.Sc. (Hons.) Biotechnology (Chemistry + Botany + Biotechnology)/ B.Sc. (Hons.) Biotechnology (Chemistry +Zoology + Biotechnology)/B.Sc. (Hons.) Microbiology (Chemistry + Botany +Microbiology)/B.Sc. (Hons.) Microbiology (Chemistry + Zoology +Microbiology)/B.Sc. Agri. Biotechnology (Botany + Biotechnology)/B.Sc. Agri.Biotechnology (Zoology + Biotechnology)/B.Sc. Biochemistry (Chemistry + Botany + Biochemistry)/B.Sc. Biochemistry (Chemistry + Zoology +Biochemistry)/B.Sc. Biotechnology (Chemistry + Botany + Biotechnology)/ B.Sc. Biotechnology (Chemistry + Zoology + Biotechnology)/ B.Sc. Microbiology (Chemistry +Botany+ Microbiology)/ B.Sc. Microbiology (Chemistry +Zoology + Microbiology) / B.Sc. Biotechnology/ B.Sc. (Hons.) Biotechnology (Zoology +Botany + Biotechnology) / B.Sc. Microbiology / B.Sc. (Hons.) Microbiology (Zoology+Botany+Microbiology). Minimum duration of the programme is 2 years and maximum duration is 4 years. Medium of instruction is English.

### Objectives of Initiating M.Sc. Programme

- To teach Microbiology for meeting up the technical support to Industry and Education system
- To create the Masters in Microbiology with specialization in different areas

### Accomplishments of M.Sc. Programme

- The department has well developed infrastructure for the M.Sc. Programme with seminar room and well equipped laboratories
- The department has conferred degree to 280 M.Sc. students
- During last five years on an average eight students were admitted in M.Sc**. (Annexure MICRO**-I) and presently there are 23 M.Sc. students on roll **(Annexure MICRO**-II)
- Students were encouraged to participate in conferences and symposia. twelve students from M.Sc. participated in conferences and symposia(**Annexure MICRO**-III**)**
- One student (Divya Kapoor) selected for higher studies at University of Illinois at Chicago.
- M.Sc. students published 12 research papers in last five years (NAAS rating 0-4: 05; 4-6: 05 papers; >6: 02 papers)(**Annexure MICRO-IX)**

### Objectives of Initiating Ph.D. Programme

- To produce quality human resource in the discipline of Microbiology
- To train and equip researchers and professionals to face the issues posed by Agriculture, Industry and Environment
- **Contribution in agricultural research, especially in thrust area like:**
  - Research and development of quality biofertilizers for important agricultural crops
  - Microbiological decomposition of farm and city waste
  - Fermentative production of industrially useful products
  - Development of microbiological approaches for pollution abatement
  - Bioconversion technology for production of biofuels
  - Biocontrol of plant diseases, insects and weeds
  - Genetic diversity of arid rhizobia
  - Microbiological studies under natural farming conditions

### Accomplishments of Ph.D. Programme

- The department has well developed infra-structure for the Ph.D. Programme including Seminar room and well equipped laboratories with one centre of Biofertilizer Production and Technology
- The department has so far conferred degree to 131 Ph.D. scholars and some of them are occupying high positions at the national and international level.
- One student (Pankaj Sharma) was awarded post-doctoral fellowship at University of Illinois at Chicago.
- One student (Dhinu Yadav) conferred with Silver Jubilee Gold Medal for Women for best Ph.D. thesis in 2019.
- During last five years on an average eight students were admitted in Ph.D. (**Annexure MICRO-I**). Presently, there are 37 Ph.D. students on roll **(Annexure MICRO-II).**
- Sixty students participated in conferences and symposia of national and international level **(Annexure MICRO-III**)
- Students in doctoral programme attended various trainings from time to time. In last five years Nine students attended various trainings **(Annexure MICRO-IV)**
- Ten students joined higher education and placed very well in institutes of national and international repute **(Annexure MICRO**-V).
- Thirty eight students got fellowships/ stipend from university and other sources **(Annexure MICRO-VI)**
- Thirty Nine students qualified NET, GATE and other national level exams in last five years(**Annexure MICRO-VII).**
- Eight of our students are getting fellowship like CSIR, DST (INSPIRE), DBT, NFSE, HSCST and many students are getting HAU Merit fellowships **(Annexure MICRO-VIII)**
- Ph.D. students published 49 research papers in last five years (NAAS rating 0-4: 20 papers; 4-6: 10 papers; >6: 19 papers)(**Annexure MICRO-IX)**
- Alumni of the department are well placed at higher position in India and abroad.

### Student Data for the Last Five Years

| **Name of the Department** | **Microbiology** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Degree programme offered by the department** | **Specialization** | **Year of start** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc. | Microbiology | 1964 | 7 | 7 | 10 | 12 | 12 | 48 | 1 | 4 | 5 | 6 | 6 | **22** |
| Ph.D. | Microbiology | 1964 | 4 | 4 | 8 | 10 | 10 | 36 | 7 | 3 | 2 | 3 | 6 | **21** |
| | | **Detail in Annexure I** | | | | | | | | | | | | |

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Sanctioned | In place* | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | 01 | 0 | 01 |
| 2. | Associate Professor and equivalent | 07 | 02 | 05 |
| 3. | Assistant Professor and equivalent | 13 | 9+2* | 02 |
| | Total | 21 | 13 | 08 |

**Note:** All the faculty of this programme is assigned the responsibilities for multiple programmes.

*The number of faculty includes personal promotees.

One vacancy for Assistant Professor has already been advertized.

### Faculty Profile

There are Two Professors (promoted under CAS), One Associate Professor and Ten Assistant Professors/ equivalents. One professor promoted under CAS superannuated in 2018. Two faculty from other establishment retired in November 2018 and October 2022. Faculty of the department has published more than 151 research papers in journals of national and international repute during last five years.

Faculty members were conferred with various awards from different scientific societies/agencies.

Dr. Seema Sangwan has been granted one patent on "A renewable resource drives starchy raw material to ferment fast in to ethanol" in 2018 (Patent No. 303453) and filed one patent on "Processing of low cost novel feedstock for production of microbial metabolite in 2020 (Reference No. 202111040446).

| S.No. | Name | Designation | Tel./Mob. | Email Address | Field of Specialization |
|---|---|---|---|---|---|
| 1. | Dr. Leela Wati | Principal Scientist | 94163-97853 | lwkraj@gmail.com lwkraj@hau.ac.in | Fermentation, Biofuels, Plant Microbe Interaction |
| 2. | Dr.Rajesh Gera | Principal Scientist | 94169-61450 | rajeshgera1967@gmail.com | Microbial Diversity |
| 3. | Dr. Baljeet Singh Saharan | Senior Scientist | 94165-45332 | baljeetsaharan@hau.ac.in | Biofertilizers, Natural farming, PGPR |
| 4. | Dr. Rakesh Kumar | Asstt.Professor | 98130-46403 | sehrawatrk@gmail.com | Molecular Microbiology Biological Control, PGPR |
| 5. | Dr. Kamla Malik | Asstt.Scientist | 94662-63614 | kamlamalik06@gmail.com | Biofuel, Fermentation, Waste Management |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | and Nanotechnology |
| 6. | Dr. Seema Sangwan | Asstt. Professor | 94682-10204 | seema_sangwan80@hau.ernet.in/seema_sangwan80@yahoo.co.in | Microbial Biotechnology, Biosurfactant Production and Bioremediation |
| 7. | Mr. Jagdish Parshad | Asstt. Scientist | 94664-80040 | Lect.jagdish@gmail.com | Soil Microbiology, Bioremediation |
| 8. | Dr. Monika Kayasth | Asstt. Scientist | 94162-78032 | monakayasth@gmail.com | Soil Microbiology |
| 9. | Dr. Poonam Ranga | Asstt. Microbiologist | 89507-33958 | rangamicro@yahoo.co.in | Bioremediation |
| 10. | Dr. AnujRana | Asstt. Scientist | 99715-76603 | anuj23rana@gmail.com | Molecular Microbiology |
| 11. | Dr. Shikha Mehta | Asstt. Scientist | 94678-71981 | shikhamicrobio@gmail.com shikhamehta@hau.ac.in | Bioenergy and Biocomposting |
| 12. | Dr. Meena Sindhu | Asstt. Scientist | 98122-29970 | meenasindhu20@gmail.com | Fermentation and Industrial Microbiology |
| 13. | Dr. Ajay Kumar | Asstt. Scientist | 87008-33535 | akjiari@gmail.com | Molecular Microbiology, Biofertilizer |
| 14. | Dr. Sneh Goyal (Retired on 30.09.2018) | Principal Scientist | 94162-40932 | snehgoyal1@yahoo.com | Soil Microbiology |
| 15. | Dr. S. S. Sindhu (Retired as ADR on 30.11.2018) | Principal Scientist | 9416650057 | Sindhuss58@gmail.com | Soil Microbiology |
| 16. | Dr. D. V. Pathak (Retired as Coordinator KVK Mandkola on 31.10.2022) | Principal Scientist | 9416632846 | Pathak_dv@rediffmail.com | Biofetilizer Technology |

**6.4.3 Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | Assistant | 01 | 01 |
| | Clerk | 01 | 01 |
| | PA/Steno | 01 | 0 (JSS from COAE&T is working) |
| | Messenger | 01 | 0 |
| 2. | Lab staff | | |

| | | | |
|---|---|---|---|
| | ➢ Lab Assistant | 04 | 02 |
| | ➢ Lab Attendant | 01 | 0 |
| | ➢ Sr. Lab Assistant | 01 | 01 |
| 3. | Field staff | | |
| | ➢ Beldar | 01 | 01 |
| 4. | Technician | 01 | 01 |
| 5. | Any other (specify) Mechanic | 01 | 0 |
| | Total | 13 | 08 |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4 Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

**List of Classroom and Functional Laboratories**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | One seminar room with 40 seating capacity |
| **No. of lecture rooms with LCD and Interactive Board** | **One** |
| **No. of laboratories with specialized purpose** | **Eight Research Laboratories, One UG Teaching Laboratory and One PG Teaching Laboratory** |
| | • **Molecular Microbiology Lab no. 202:** Molecular characterization of microorganisms |
| | • **Biocontrol Lab no. 207:** Development of biocontrol agents for various pests and diseases of crops |
| | • **Plant-Microbial Interaction Lab no 217:** For study of microbial interactions with plants |
| | • **Bioremediation Lab no. 222:** Development of strategies for bioremediation of polluted sites |
| | • **Soil Microbiology Lab no. 225:** For study of microbes and their activities in soil |
| | • **Fermentation Lab no. 229:** Study of microbial fermentations |
| | • **Bioconversion Technology Lab no. 237&234:**Production of different biofuels |
| | • **Microbial Genomics Lab No. 115 A & B:** Study of microbial genomics, molecular biology |
| | • **Teaching Laboratory Lab No. 215 and 413 (A):** To conduct practical classes. |
| **Farm facilities** | **Six Screen houses, Biogas plants, Composting pits** |
| **Workshops** | - |

**Other Instructional Units Being Utilized for the Award of Degree Programme:**

| **Instructional Units** | **Functioning** |
|---|---|
| 1. Seminar room with LCD **and Interactive Board** | Seminar room is used for presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |
| 2. Departmental Library | Reference material, journals, thesis etc are referred by PG students for preparation of assignments, synopsis and thesis work. |

| | |
|---|---|
| 3. Conference Hall | Conference hall having 40 seating capacity for training to students, entrepreneurs and farmers regarding biofertilizer production and application. |
| 4. Centre of Biofertilizer Production and Technology | A well-equipped unit for biofertilizer production. Since July, 2018 the biofertilizers are produced and sold through Public Private Partnership mode with M/S HABITAT Genome Improvement Primary Producers Company Pvt. Ltd. Village Ramayan, Hisar. |

**List of Major Equipments Available in the Department:**

| Sr. No. | Location/Lab | Name of equipment |
|---|---|---|
| 1. | Lab.No.115 | Refrigerated Micro Centrifuge, Orbital Shaking Incubator, Biosafety Cabinet, Refrigerated Centrifuge Ultrasonic Prob Sonicator, PCR Machine, UV Spectrophotometer |
| 2. | Lab.No. 202 | Refrigerated Micro Centrifuge, Spectrophotometer, Biosafety Cabinet, Orbital Shaking Incubator |
| 3. | Lab.No.207 | Horizontal Laminar Air Flow, Refrigerated Micro Centrifuge, Spectrophotometer, Orbital Shaking Incubator |
| 4. | Lab.No.215 | Horizontal Laminar Air Flow |
| 5. | Lab.No.217 | Horizontal Laminar Air Flow, Refrigerated Micro Centrifuge, Orbital Shaking Incubator |
| 6. | Lab.No.222 | Refrigerated Centrifuge, Refrigerated Micro Centrifuge, Spectrophotometer, Thermal Cycler, Orbital Shaking Incubator, High Temperature Furnance, Biosafety Cabinet, Ultrasonic Prob Sonicator, PCR Machine, Rotary Evaporator, Lyophilizer, DGGE System, Electrophoresis System |
| 7. | Lab.No.225 | Biosafety Cabinet, **Orbital Shaking Incubator,** Flame Photometer, |
| 8. | Lab.No.229 | Spectrophotometer, **Orbital Shaking Incubator,** Refrigerated Micro Centrifuge, Biosafety Cabinet, Refrigerated Centrifuge, |
| 9. | Lab.No.237 | Bioreactor with Accessories, Biogas Analyzer, Anaerobic Chamber, Spectrophotometer, **Orbital Shaking Incubator,** Flame Photometer, Kjeldahl Apparatus, Biosafety Cabinet, **UV Spectrophotometer, Fully Automatic Vertical Autoclave,** Rotary Shaker, |
| 10. | Biofertilizer lab | Fermentor, Refrigerated Micro Centrifuge, Spectrophotometer, Refrigerated Centrifuge, Rotary Shaker |

Various equipments such as Autoclave, BOD Incubator, Laminar air flow, Spectrophotometer, Microscope, Hot air oven, weighing balance and pH meter are available in all the laboratories.

### Theory and Practical Batches

At UG level, the department of Microbiology offers 3 core and 1 professional elective course, all of them have practical components.

- For theory in core courses, there are two sections at COA, Hisar and one section each at COA, Kaul; COA, Bawal and COHS with an average of about 55-65 students in each section.
- For practical in core courses, there are two batches for each course with an average of about 25-30 students in each batch.
- At M.Sc. level, the Department of Microbiology offers 10 courses and 09 courses have practical components. The courses are also offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 10-25 students.

- For Ph.D., the department of Microbiology offers 5 courses and 1 course has practical components. There is only one batch for theory classes and one batch for practical classes in all the courses.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on-practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Hands-on-Training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| **B.Sc.** | **Three** | **Three** | | |
| | **Micro 101** | **Micro 101** | • Microscopic examination of bacteria, yeast and molds<br>• Preparation of media, methods of sterilization<br>• Isolation, purification and maintenance of microoganisms<br>• Microbiological examination of milk, grains, fruits and vegetables | • Students get basic knowledge about the microbiology lab, media preparationand isolation techniques. |
| | **Micro 102** | **Micro 102** | • Introduction to Microbiology laboratory and its equipments<br>• Bright field Microscope: Parts and Principles; resolving power and numerical aperture<br>• Staining: Simple staining, Gram staining and Negative staining<br>• Media preparation and sterilization<br>• Methods of isolation, purification of microbial cultures using pour, spread and streak plate methods<br>• Demonstration of ubiquitous nature of microorganisms<br>• Enumeration of bacteria and fungi in soil | • Students get basic knowledge about the microbiology lab, staining techniques and media preparation.<br>• Students are able to culture and isolate bacteria, algae & fungi of agriculture importance. |
| | **Micro 204** | **Micro 204** | • Collection and preparation of agricultural waste sample<br>• Determination of pH, BOD, COD, TSS, TDS in waste sample<br>• Preparation of compost, Vermicomposting, biogas and analysis of compost | • Students get basic knowledge about various strategies of waste management through microorganisms |
| | **Module 8** | **Module 8** | • Handling of BOD incubator, shaker, UV-VIS spectrophotometer, autoclave, microscope and hot air oven<br>• Measuring techniques including pipetting, use of measuring cylinders and weighing of media components<br>• Preparation and sterilization of different culture media and pouring media in plates<br>• Isolation of Azotobacter, Rhizobium, | • Able to prepare biofertilizers in lab. |

| | | | | |
|---|---|---|---|---|
| | | | phosphate solubilizing bacteria, Azospirillum, Gluconoacetobacter from soil samples, purification of colonies and maintenance<br>• Characterization of isolated bacteria on the basis of IAA production, ammonium excretion, phosphate solubilization, zinc solubilization and potash solubilisation<br>• Isolation and Characterization of antifungal PGPRs, purification of isolates and storage<br>• Inoculum development and mass scale production of *Azotobacter*, *Azospirillum*, *Rhizobium* and *Glucanoacetobacter*, filling and packing of liquid biofertilizers | |
| **M.Sc.** | **11** | **9** | | |
| | MICRO 501 | MICRO 501 | • Development of microbiology in the 18th and 19th century. Morphology, structure and function of prokaryotic and eukaryotic cell. Archea. Classification of prokaryotes. Basic principles and techniques used in bacterial classification.<br>• Evolutionary relationship among prokaryotes. Phylogenetic and numerical taxonomy. Use of DNA and r-RNA sequencing in classifications.<br>• Study of major groups of bacteria belonging to Gracilicutes, Firmicutes, Tenericutes and Mendosicutes.<br>• Viruses – morphology, classification and replication of plant, animal andbacterial viruses. Cultivation methods of viruses. Immune response – specific and nonspecific resistance. Normal microflora of human body; some common bacterial and viral diseases of humans and animals. | • To isolate, characterize and maintain different microorganisms |
| | MICRO 502 | MICRO 502 | • Use of simple techniques (Colorimetry, Centrifugation, Electrophoresis and GLC) in laboratory.<br>• Determination of viable and total number of cells.<br>• Growth factors affecting growth, Sporulatio and spore germination in bacteria.<br>• Protoplast fusion, Induction and repression of enzymes | • To become familiar to different techniques used for characterization of metabolites, cell size and growth behaviour of microbes. |
| | MICRO 503 | MICRO 503 | • Inactivation of microorganisms by different mutagens.<br>• Production, isolation and characterization of mutants.<br>• Isolation, characterization and curing of plasmids.<br>• Transfer of plasmids by conjugation, | • To apply modern techniques like gene transfer, electroporation, plasmid isolation and their application to construct microbe |

| | | | | |
|---|---|---|---|---|
| | | | electroporation. Tetrad and random spore analysis. | with desired traits. |
| | MICRO 504/ SOILS 506 | MICRO 504/ SOILS 506 | • Determination of soil microbial population, soil microbial biomass<br>• Decomposition studies in soil, soil enzymes.<br>• Measurement of important soil microbial processes such as ammonification, nitrification, $N_2$ fixation, S oxidation, P solubilization and mineralization of other nutrients<br>• Study of rhizosphere effect. | • Knowledge to enumerate microbes and estimate microbial activity in different kinds of soils. |
| | MICRO 505/ MBB506 | MICRO 505/ MBB506 | • Isolation of industrially important microorganisms, their maintenance and improvement<br>• Production of industrial compounds such as alcohol, beer, citric acid, lactic acid and their recovery.<br>• Study of bioreactors and their operation.<br>• Production of biofertilizers<br>• Immobilization of cells and enzymes, study of their kinetic behaviour | • To isolate & develop new microbial products of commercial use. |
| | MICRO 506 | MICRO 506 | • Statutory, recommended and supplementary tests for microbiological analysis of various foods: Baby foods, canned foods, milk and dairy products, eggs, meat, vegetables, fruits, cereals, surfaces, containers and water. | • To understand the role of microbes in food and its derivatives. |
| | MICRO 508 | MICRO 508 | • Analysis of natural waters, waste waters and organic waste in relation to water pollution assessment, pollution strength and resource qualification<br>• Quality control tests, waste treatment and anaerobic digestion<br>• Demonstration of waste water treatment processes such as activated sludge processes, biofilter and fluidized bed process | To understand the role of microbes in environment, its pollution abatements and standards of environment pollution. |
| | MICRO 591 | MICRO 591 | Master's Seminar | To strengthen teaching skills of students |
| | MICRO 599 | MICRO 599 | Master's Research | To strengthen research skill of students |
| **Ph.D.** | **4** | **1** | | |
| | MICRO 601 | MICRO 601 | • Industrially important microbes and their genetic manipulations.<br>• Fermentation by improved strains of yeast for production of alcohol and beer<br>• Microbial production of important antibiotics, enzymes and organic acids.<br>• Bioremediation of industrial effluents. | Latest techniques used in industrial uses of microbes, introduction to industrial scale instruments. |
| | MICRO 691 | MICRO 691 | • Doctoral Seminar | To strengthen teaching skills of |

| | | | | |
|---|---|---|---|---|
| | | | | students |
| | MICRO 692 | MICRO 692 | • Doctoral Seminar | To strengthen teaching skills of students |
| | MICRO 699 | MICRO 699 | • Doctoral Research | To strengthen research skill of students |

**6.4.6 Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

**M.Sc. Programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 10 | 15 | 0.66:1 |
| 2019-20 | 11 | 14 | 0.78:1 |
| 2020-21 | 10 | 14 | 0.71:1 |
| 2021-22 | 20 | 14 | 1.42:1 |
| 2022-23 | 22 | 12 | 1.83:1 |

**Ph.D. Programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 11 | 15 | 0.73:1 |
| 2019-20 | 10 | 14 | 0.71:1 |
| 2020-21 | 23 | 14 | 1.64:1 |
| 2021-22 | 32 | 14 | 2.28:1 |
| 2022-23 | 36 | 12 | 3:0 |

**6.4.7 Feedback of Stakeholders:** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observations and suggestions. These suggestions are considered by the HODs and controlling officers.

Farmers' feedbacks were regularly taken for the betterment of our services including production of biofertilizers and biocontrol agents. Till date there is very positive response in terms of biofertilizers produced by the department. Department has also initiated working on development of different biocontrol agents as per the demand of farmers.

**6.4.8 Student Intake and Attrition in the Programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided*

| Name of the degree programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 05 | 06 | 09 | 12 | 12 | 0 | 16.66 | 0 | 16.66 | 0 |
| **Ph.D.** | 03 | 06 | 11 | 10 | 11 | 0 | 0 | 0 | 0 | 0 |

**6.4.9 ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of department of Microbiology use ICT in teaching and practical. There is one seminar room and one conference room with computer, LCD projector and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching courses at UG, PG and Ph.D. level. During COVID-19 pandemic, department adopted online teaching platforms such as google meet and teams for effective teaching. All the teaching material was successfully uploaded on the ERP module and Microsoft teams to ensure the accessibility of teaching material to all the students.

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented college-wise.

**6.4.11** Since the accreditation of programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for programme)

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in the section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

## PROGRAMME – 7

# M.Sc. Molecular Biology & Biotechnology,

# Ph.D. Molecular Biology & Biotechnology

# and

# M.Sc. Bioinformatics






KIMTECH

### 6.4 About the Department

The Department was created in 1997 with the basic facilities for conducting research in plant biotechnology and molecular biology. However, in the past 2-3 years the strength of students opting for biotechnology as a major as well as a minor subject has increased tremendously. The Department has successfully completed a number of research projects funded by the ICAR, CSIR, DBT, DST-GOI, ICAR, CSIR, DRDE, SPARC, RKVY, UGC, DST-Haryana and other agencies. The research findings from the various research programs in the field of Biotechnology and Bioinformatics have been presented at the National and International conferences and also published in the form of a large number of research papers in reputed journals. Apart from the various research programs being carried out in the Department, its faculty members are lending support to other Departments of the university in interdisciplinary co-ordinate research programs, particularly, in the areas of Entomology, Plant Pathology and Genetics & Plant Breeding. In recognition of the excellent research activities in the Department, many of its faculty members and students have been offered national scientific awards and visiting fellowships. The students are pursuing higher degrees in reputed National and International Institutes and have been selected as faculty in reputed Institutions such as DRDO, ICAR, ICGEB, SAUs, Govt. Colleges, public/ private institutions/industries. Two students were decorated with the "**Best thesis award".** Most of students have cleared NET/ JRF examinations conducted by UGC/CSIR/ ICAR/ DBT. The Department is actively involved in research in areas such as plant transformation and genetic engineering, molecular markers and marker-assisted selection for biotic & abiotic stresses & quality traits, enzyme technology and microbial biotechnology. Research in some new areas such as genomics, proteomics, nanobiotechnology, immunodiagnostics, biosensors, bioinformatics and commercial plant tissue culture is planned to be carried out during next five years.

There is no UG programme going on in the Department, however, Department is offering six UG Courses to Undergraduates of College of Agriculture.

During last five years on an average seven students were admitted in M.Sc. and six students in Ph.D. (Annexure I). Presently there are 15 M.Sc. students and 28 Ph.D. students on roll (Annexure II).

#### Objectives of the Department

- To impart teaching at undergraduate and postgraduate levels to produce highly skilled and qualified graduates and postgraduates in the niche area of Biotechnology
- To undertake research in the emerging areas of biotechnology for improving socio-economic status of farmers, rural women and SC & ST population of the state
- To disseminate scientific knowledge to farmers community and end users
- To organize training/skill development programmes for students/faculty, progressive farmers, unemployed youth, entrepreneurs and other stakeholders
- To build and nurture a vibrant start-up and industrial base in Haryana, connecting the academia and industry

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

#### Objectives of initiating M.Sc. Programme

- M.Sc. programme in MBB was started in the year 1997 while that Bioinformatics started 2004**.**
- The department has well-developed infrastructure for the M.Sc. programme with Seminar rooms and well-equipped laboratories
- Quality human resource generation in Molecular Biology and Biotechnology as well as in Bioinformatics

### Accomplishments of M.Sc. Programme

- The Department has well-developed infra-structure for the M.Sc. Programme with a seminar room, classroom and well-equipped laboratories.
- The department has conferred degree to 26 M.Sc. students in the last five years **(Annexure - MBB IX)**
- Two students participated in conferences and symposia and presented two papers. **(Annexure - MBB III)**
- Four students have participated in different trainings. **(Annexure – MBB IV)**
- Two students has been placed in a Government sector job**. (Annexure – MBB V)**
- Two M.Sc. students got fellowships/stipends from university and other sources (**Annexure – MBB VI**)
- In the last five years, M.Sc. students have published seven research papers in reputed journals having NAAS Rating from 5.31 to 6.37 **(Annexure –MBB IX)**

### Objectives of initiating Ph.D. Programme

- Ph.D. Molecular Biology and Biotechnology programme was initiated with the following objectives
- To produce advanced quality human resources in the discipline of molecular Biology and Biotechnology
- To familiarize the students with the specialized topics and recent advances in the field of plant molecular biology
- To familiarize the students with the specialized topics and advances in the field of genetic engineering and their application in plant improvement
- To familiarize the students with specialized topics about industrially important microorganisms
- To familiarize the students with specialized topics on the application of molecular tools in the breeding of specific crops
- To familiarize the students with recent advances and applications of functional genomics and proteomics in agriculture, medicine and industry
- To familiarize the students with the commercial applications of plant tissue culture in agriculture, medicine and industry
- To provide specialized training to students in following research areas:
    - Plant tissue culture and micropropagation of important plant species
    - Development of transgenic crops with resistance/tolerance against biotic and abioticstresses and with improved nutritional quality
    - DNA fingerprinting, genotype identification and diversity analysis
    - Linkage mapping and tagging of genes/QTLs for stress tolerance, disease resistance and quality traits and marker-assisted selection
    - Value addition in plants and microbes
    - Developing genomic and nano biotechnological tools for their application in improving eco-friendly crop production
    - Drug discovery
    - QSAR (Quantitative Structure-Activity Relationship)
    - Genomics and proteomics

- Protein engineering - modeling and interactions

**Accomplishments of Ph.D. programme**

- The Department has well developed infra-structure for the Ph.D. programme with seminar room, class room and well equipped laboratories
- The department has conferred degree to 28 Ph.D students in the last five years **(Annexure - MBB XI)**
- Fifteen students participated in conferences and symposia of national and international level **(Annexure –MBB III)**
- Students in doctoral programme attended the trainings from time to time. In last five years, four students have participated in different trainings**. (Annexure –MBB IV)**
- Two of our students have joined the institutes of excellent repute**. (Annexure – MBB V)**
- Forteen students have been availing national level scholarships like INSPIRE DST, CSIR JRF, UGC etc. **(Annexure – MBB VI)**
- Eighteen students have qualified NET, GATE and other national level exams. (**Annexure – MBB VII)**
- Ph. D. students of the department have published their research outcomes in form of 42 research papers in last five year (NAAS rating 4.73-16.44) **(Annexure – MBB IX).**
- Alumni of the department are well placed at higher position in India and abroad.

**Student Data for the last four years:**

| **Name of the Department** | | **Molecular Biology, Biotechnology & Bioinformatics** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Degree programme offered by the department** | **Specialization & Year of start** | **No. of seats** | | | | | | **No. of students passed out** | | | | | |
| | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc. | MBB 1997 | 5 | 4 | 6 | 5 | 3 | 23 | 1 | 7 | 2 | 4 | 4 | 18 |
| | Bioinformatics 2004 | 3 | 0 | 2 | 5 | 5 | 15 | 3 | 2 | 2 | 0 | 1 | 8 |
| Ph.D. | MBB 1997 | 6 | 9 | 7 | 7 | 3 | 32 | 10 | 2 | 1 | 9 | 6 | 28 |
| **Details in Annexure I** | | | | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Faculty sanctioned | Faculty in place | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | - | - | - |
| 2. | Associate Professor and equivalent | 01 | - | 1 |
| 3. | Assistant Professor and equivalent | 15 | 6+1* | 8 |
| | Total | 16 | 7 | 9 |

**Note:** All the faculty of this programme is assigned responsibilities for the multiple programmes.

**Faculty Profile:**

At present, there are seven assistant professors/ equivalents. Faculty of the department published more than 90 research papers in journals of national and international repute, and 15 book chapters in the last five years.

| S. No. | Name | Designation | Mobile No. | Email address | Specialization |
|---|---|---|---|---|---|
| 1. | Dr.Sudhir Kumar | Professor | 9466242051 | sudhir@hau.ac.in | Organic Chemistry and Computational Biology |
| 2. | Dr. Anil Panwar | Assistant Professor | 9416928750 | anilpanwar@hau.ac.in | Bioinformatics and Computational Biology |
| 3. | Dr. ShikhaYashveer | Assistant Professor | 9896104989 | shikhayashveer@gmail.com | Molecular Biology and Biotechnology |
| 4. | Dr. Neeru Singh Redhu | Assistant Professor | 9466833480 | neru.redhu95@gmail.com | Bioinformatics and Computational Biology |
| 5. | Dr. Upendra Kumar | Assistant Professor | 9411259621 | upendra@hau.ac.in | Functional Genomics and Molecular Breeding |
| 6. | Dr. Nita Lakra | Assistant Scientist | 8130283959 | nitahaubotany2019@gmail.com | Plant Proteomics and Metabolomics |
| 7. | Dr.NavjeetAhalawat | Assistant Professor | 7032198208 | ahlawat.0211@gmail.com | Bioinformatics &Computational Biology |
| **Faculty Retired during 2018-22** | | | | | |
| 1 | Dr. Neelam Yadav (30/11/2018) | Principal Scientist | 8053013070 | nryadav58@gmail.com | Molecular Breeding |
| 2 | Dr. Pushpa Kharb (30/04/2021) | Principal Scientist | 9416346306 | pkharbhau@gmail.com | Bio-Nanotechnology |

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | in place |
|---|---|---|---|
| 1. | Assistant | 01 | 01 |
| | Clerk | 01 | 01 |
| | PA/Steno | 01 | - |
| | Messenger | - | - |
| 2. | Lab staff | | |

| | | | |
|---|---|---|---|
| | ➢ Lab Assistant | 02 | 01 |
| | ➢ Lab Attendant | - | - |
| | ➢ Sr. Lab Asstt. | 06 | 06 |
| 3. | Field staff | | |
| | ➢ Beldar | 02 | 01 |
| 7. | Technician | - | - |
| 8. | Any other (specify) Mechanic | - | - |
| | Total | 13 | 10 |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

**List of Classroom and Functional Laboratories (College of Biotechnology)**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | One lecture room with seating capacity of 40 |
| No. of lecture rooms with LCDand Interactive Board | One |
| No. of labs with specialized purpose | Four Research, one UG and one PG |
| | Research Lab no. 05: Functional Genomics and Molecular Breeding |
| | Research Lab no. 104: Molecular Biology Lab |
| | Research Lab no. 102: Computational and Biophysics Lab |
| | Research Lab no. 108: Plant Proteomics and Metabolomics Lab |
| Other facilities | High-tech Containment Facility (One)<br>Green House (Two)<br>Polyhouse (Three) |
| Workshops | - |
| Any other instructional units being utilized for the award of the Degree Programme | Centre for Micro-propagation and Doubled Haploid Production |

***** Bioinformatics Research Lab no. 01 and 02 (College of Basic Sciences and Humanities)

**Other Instructional Units being Utilized for the Award of Degree Programme**

| Instructional Units | Functioning |
|---|---|
| 1. Seminar room with LCD | Seminar room is used for presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |
| 2. Departmental library | Reference material, thesis etc are referred by PG students for preparation of assignments, synopsis and thesis work. |

**List of Major Equipments available in the Department:**

| Sr. No. | Location/Lab | Name of Equipment |
|---|---|---|
| **1.** | Lab No. 05 | **Autoclave,Incubator Shaker with Refrigeration facility,** Refrigerated Centrifuge, -86° Deep Freezer, BioSafety Cabinet, Water Purification |

| | | |
|---|---|---|
| | | System,Microplate Reader, Plant Growth Chamber, Automatic Nucleic Acid Extraction, Microwave Digestion System, Electrophoresis Unit, Horizontal Electrophoresis Unit, Rotavator (Rotary Tiller), Nano Drop Spectrophotometer, 384 Well Thermal Cycler (PCR), Centrifuge Mini Spin, Multi Channel Pipette (2), Cooling Centrifuge, Digital Water Bath, Laminar Air Flow/ Biological Safety Cabinet, Refrigerator (Three), Bunsan Burner (2), Deep freeze -86$^{o}$C, UVis Spectrophotometer, Ultra Sonicator, Thermal Cycler, Gel Doc with Chemi-Doc Facility, High Throughput Thermal Cycler (PCR), Ice flake Making Machine, pH Conductivity Meter, Real Time PCR, |
| **2.** | Lab No.22-25 | Workstation No. 2 |
| **3.** | Lab No.23-24 | Computers No. 25 |
| **4.** | Lab No.104 | **Autoclave,Incubator Shaker with Refrigeration facility,** Refrigerated Centrifuge, Analytical Balance (Two), Centrifuge Mini Spin, Centrifuge Mini Spin, Real Time PCR, Multi Channel Pipette (2), Refrigerator (Three), UVis Spectrophotometer, Gel Electrophoresis System, Ice flake Making Machine, pH Conductivity Meter, Hybridization Incubator, Laminar Air Flow/ Biological Safety Cabinet, |
| **5.** | **Lab No.108** | Autoclave, BioSafety Cabinet, IEF Instrument, Plant Growth Chamber, Vacuum Concentrator, Deep Freezer -40 $^{0}$C, Deep Freezer – 20$^{0}$C, Gel Documentation System, Nano Drop Spectrophotometer, Thermal Cycler, Elisa Reader |
| **6.** | **Lab No.113** | GPU Workstations (Total No. 4) |

**Theory and Practical batches**

- At UG level department is offering two practical courses.
- At M.Sc level, the department offers 23 courses and 8 courses has practical components. There are limited seats in M.Sc. programme with an average of 4-8 students. Some courses are offered as minor courses for students of other departments. There is only batch for theory classes and one batch for practical classes in all the courses with an average of 5-12 students.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only batch for theory classes in all the courses. For Ph.D., the department of chemistry offers 8 courses.
- The department is also offering three pre-requisite courses for students of College of Agriculture and two service courses for IC College of Home Science students.
- The department is also offering minor and supporting courses for students of various colleges of university.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| **Degree programme** | **Total courses** | **Practical courses** | **Course details** | **How far students are getting desired practical and hands-on-training as per the curriculum** |
|---|---|---|---|---|
| **M.Sc.** (Molecular Biology & | 19 | **11** | | |

| | | | | |
|---|---|---|---|---|
| Biotechnology) | | | | |
| | | MBB 504 | • Culture media; Various types of culture; callus, suspension, nurse, root, meristem, etc.; In vitro differentiation: organogenesis and somatic embryogenesis<br>• Micropropagation; Anther and microspore culture; Somaclonal variation; In vitro mutagenesis; *In vitro* fertilization; *In vitro* germplasm conservation; Production of secondary metabolites; Synthetic seeds.<br>• Embryo rescue and wide hybridization; Protoplast culture and regeneration; Somatic hybridization: protoplast fusion, cybrids, asymmetric hybrids, etc.<br>• Methods of plant transformation; Vectors for plant transformation; Genetic and molecular analyses of transgenics; | To familiarize various techniques of plant tissue culture, genetic engineering and transformation. |
| | | MBB505 | • Good lab practices; Biochemical techniques: Preparation of buffers and reagents, Principle of centrifugation, Chromatographic techniques (TLC, Gel Filtration Chromatography, Ion exchange Chromatography, Affinity Chromatography)<br>• Gel electrophoresis-agarose and PAGE (nucleic acids and proteins); Growth of bacterial culture and preparation of growth curve; Isolation of plasmid DNA from bacteria; Growth of lambda phage and isolation of phage DNA; Restriction digestion of plasmid and phage DNA; Isolation of | Basic molecular biology techniques |

| | | | | |
|---|---|---|---|---|
| | | | high molecular weight DNA and analysis.<br>• Gene cloning – Recombinant DNA construction, transformation and selection of transformants; PCR and optimization of factors affecting PCR.<br>• Dot blot analysis; Southern hybridization; Northern hybridization; Western blotting and ELISA; Radiation safety and non-radio isotopic procedure | |
| | | MBB 506 | • Isolation, screening and genetic improvement and maintenance of industrially important organisms.<br>• Types fermentation systems; Bioreactor designs and operations; Production of primary and secondary metabolites e.g alcohol, organic acids, organic solvents, amino acids, enzymes, antibiotics.<br>• Production of fermented beverages, single cell protein; Recombinant DNA technology based products, Biotransformation.<br>• Overproduction of metabolites; Metabolic engineering of microbes for production of novel products for industry; Downstream processing; Immobilization of cells/enzymes.<br>• Industrial biotechnology for pollution control, treatment of industrial and other wastes, Production of eco-friendly chemicals e.g biopesticides, bio-insecticides, biofertilizers, bio-fuels, etc. | To familiarize about microbial processes/systems/activities for the development of industrially important products/ processes. |

| | | | | |
|---|---|---|---|---|
| | | MBB508 | • Genomics: Whole genome analysis and comparative genomics, classical ways of genome analysis, large fragment genomic libraries; Physical mapping of genomes; Genome sequencing, sequence assembly and annotation.<br>• Functional genomics: Candidate gene identification, DNA chips, Mutants and RNAi, Metabolomics for elucidating metabolic pathways, etc.<br>• Proteomics - Introduction to basic proteomics technology, Bio-informatics in Proteomics, Gene to Protein Function: a Roundtrip, Proteome analysis.<br>• Linkage analysis, genotyping analysis, pharmacogenomics, human/plant genome and science after genomic era; Applications of genomics and proteomics in agriculture, human health and industry. | To familiarize about the genomic and proteomic concepts and usage of various algorithms and programmes in analysis of genomic and proteomic data. |
| | | MBB509 | • Construction of gene libraries; Synthesis and cloning of cDNA and RTPCR analysis; Real time PCR and interpretation of data.<br>• Molecular markers (RAPD, SSR, AFLP etc) and their analysis; Case study of SSR markers (linkage map, QTL analysis etc); SNP identification and analysis; Microarray studies and use of relevant software.<br>• Proteomics (2D gels, mass spectrometry, etc.); RNAi (right from designing of construct to the phenotyping of the plant); | Molecular techniques used in molecular breeding and genomics. |

| | | | | |
|---|---|---|---|---|
| | | | Yeast 1 and 2-hybrid interaction.<br>• Generation and screening of mutants; Transposon mediated mutagenesis | |
| | MBB511 | | • Structure of animal cell; History of animal cell culture; Cell culture media and reagents, culture of mammalian cells, tissues and organs, primary culture, secondary culture, continuous cell lines, suspension cultures, somatic cell cloning and hybridization, transfection and transformation of cells, commercial scale production of animal cells, application of animal cell culture for in vitro testing of drugs, testing of toxicity of environmental pollutants in cell culture, application of cell culture technology in production of human and animal viral vaccines and pharmaceutical proteins.<br>• Introduction to immune system, cellular and hormonal immune response, history of development of vaccines, introduction to the concept of vaccines, conventional methods of animal vaccine production, recombinant approaches to vaccine production, hybridoma technology, phage display technology for production of antibodies, antigen-antibody based diagnostic assays including radioimmunoassays and enzyme immunoassays, immunoblotting, nucleic acid based diagnostic methods, commercial scale production of diagnostic antigens and antisera, animal disease diagnostic kits, probiotics. | To familiarize about the techniques used in animal tissue culture. |

| | | | | |
|---|---|---|---|---|
| | | | • Structure of sperms and ovum, cryopreservation of sperms and ova of livestock, artificial insemination, super ovulation, in vitro fertilization, culture of embryos, cryopreservation of embryos, embryo transfer, embryo-spliting, embryo sexing, transgenic manipulation of animal embryos, different applications of transgenic animal technology, animal viral vectors, animal cloning basic concept, cloning from- embryonic cells and adult cells, cloning of different animals, cloning for conservation for conservation endangered species, ethical, social and moral issues related to cloning, in situ and ex situ preservation of germplasm, in utero testing of foetus for genetic defects, pregnancy diagnostic kits, anti-fertility animal vaccines, gene knock out technology and animal models for human genetic disorders.<br>• Introduction to different breeds of cattle, buffalo, sheep, goats, pigs, camels, horses, canines and poultry, genetic characterization of livestock breeds, marker assisted breeding of livestock, introduction to animal genomics, different methods for characterization of animal genomes, SNP, STR, QTL, RFLP, RAPD, genetic basis for disease resistance, Transgenic animal production and application in expression of therapeutic proteins. | |

| | | | | |
|---|---|---|---|---|
| | | | Immunological and nucleic acid based methods for identification of animal species, detection of meat adulteration using DNA based methods, detection food/feed adulteration with animal protein, identification of wild animal species using DNA based methods using different parts including bones, hair, blood, skin and other parts confiscated by anti-poaching agencies. | |
| | | MBB 512 | • History and scope of immunology; Components of immune system: organs, tissues and cells, Immunoglobulin structure and functions; Molecular organization of immunoglobulins and classes of antibodies.<br>• Antibody diversity; antigens, haptens, antigens- antibody interactions; immunoregulation and tolerance; Allergies and other hypersensitive responses; Immunodeficiency; Vaccines.<br>• Application of immunology, immunological techniques, Principles of ELISA and its applications; Monoclonal antibodies and their uses, molecular diagnostics; Introduction to the basic principles of molecular technology and techniques used for pathogen detection.<br>• Basics and procedures of PCR, PCR based and hybridization based methods of detection, microarrays based detection, multiplexing | Application of various immunological and molecular diagnostic tools |

| | | | | |
|---|---|---|---|---|
| | | | etc, detection of soil borne and seed born infections, transgene detection in seed, planting material and processed food, molecular detection of varietal impurities and seed admixtures in commercial consignments | |
| | MBB513 | | • Introduction to Biomacromolecules: The modern concepts to describe the conformation and dynamics of biological macromolecules: scattering techniques, micromanipulation techniques, drug delivery applications etc.<br>• Cellular engineering: signal transduction in biological systems, feedback control signaling pathways, cell-cell interactions etc. Effects of physical, chemical and electrical stimuli on cell function and gene regulation.<br>• Chemical, physical and biological properties of biomaterials and bioresponse: biomineralization, biosynthesis, and properties of natural materials (proteins, DNA, and polysaccharides), structure-property relationships in polymeric materials (synthetic polymers and structural proteins); Aerosol properties, application and dynamics; Statistical Mechanics in Biological Systems.<br>• Preparation and characterization of nanoparticles; Nanoparticular carrier systems; Micro- and Nano-fluidics; Drug and | Understanding the molecular techniques involved in structure and functions of nanobiomolecules in cells such as DNA, RNA and proteins. |

| | | | | |
|---|---|---|---|---|
| | | | gene delivery system; Microfabrication, Biosensors, Chip technologies, Nano-imaging, Metabolic engineering and Gene therapy. | |
| | | MBB515 | • Harnessing bio-technology in horticultural crops, influence of plant materials, physical, chemical factors and growth regulators on growth and development of plant cell, tissue and organ culture.<br>• Callus culture – types, cell division, differentiation, morphogenesis, organogenesis, embryogenesis, artificial seeds.<br>• Use of bioreactors and *in vitro* methods for production of secondary metabolites, suspension culture, nutrition of tissues and cells, regeneration of tissues, ex vitro, establishment of tissue cultured plants, rapid clonal propagation.<br>• Physiology of hardening - hardening and field transfer, organ culture – meristem, embryo, anther, ovule culture, embryo rescue, somaclonal variation, haploids, *in vitro* mutation, cryopreservation.<br>• Wide hybridization, in vitro pollination and fertilization, protoplast culture and fusion, identification of somatic hybrids and cybrids, genetic engineering and transformation, use of molecular markers, achievements of biotechnology in horticultural crops. | Understanding the principles, theoretical aspects and developing skills in biotechnology of horticultural crops. |

| | | | | |
|---|---|---|---|---|
| | | MBB 553 | • Aims, scope and idea of elementary statistics; Measures of central tendency and dispersion, skewness and kurtosis.<br>• Concept of probability and probability laws, mathematical expectation, moments, moments generating function; Standard probability distributions- Binomial, Poisson and Normal distributions.<br>• Tests of significance based on Z, $\chi$ 2, t and F statistics; Correlation and regression, curve fitting by least squares methods.<br>• Basic principles, organization and operational aspects of computers, operating systems. Introduction to MS-Office, MS-Word, MS-Excel. Statistical Data analysis based on above topics through MS-Excel | Exposure to various statistical methods to analyze their experimental data |
| | | MBB 555 | • Introduction, biological databases – primary, secondary and structural, Protein and Gene Information Resources – PIR, SWISSPROT, PDB, genebank, DDBJ. Specialized genomic resources.<br>• DNA sequence analysis, cDNA libraries and EST, EST analysis, pairwise alignment techniques, database searching, multiple sequence alignment.<br>• Secondary database searching, building search protocol, computer aided drug design – basic principles, docking, QSAR.<br>• Analysis packages – commercial databases and packages, GPL software | To impart an introductory knowledge about the subject of bioinformatics to the students studying any discipline of science. |

| | | | | |
|---|---|---|---|---|
| | | | for Bioinformatics, web-based analysis tools | |
| **Ph.D (Molecular Biology & Biotechnology)** | 07 | 0 | | |
| | | | | |
| **M.Sc (Bioinformatics)** | 18 | | | |
| | | BIF 501 | • Usage of NCBI resources<br>• Retrieval of sequence/structure from databases<br>• Visualization of structures<br>• Docking of ligand receptors<br>• BLAST exercises | Introductory knowledge about the subject of Bioinformatics to the students studying any discipline of science |
| | | BIF 502 | • Development of small database<br>• Phylogenetic analysis<br>• Microarray data analysis (sample data from open sources)<br>• Other practical exercise related to advance bioinformatics | To understand the usage of advanced techniques in Bioinformatics. |
| | | BIF 503 | • Gene Information Resources: GenBank, EMBL, Protein Information Resources: Swiss-Prot, BLOCKS, Gene Prediction Tools: GENSCAN, GRAIL.<br>• Structural Databases: PDB, CSD, RELIBASE, REBASE, File Format Converter Tools: BABEL, ReadSeq, NCBI Resources.<br>• Visualization tools – RasMol, QMol, SwissPDB, Pymol, Modeling Tools: MODELLER, SwissPDB, Geno3D, Docking Tools: Chimera, Dock, AutoDock, GRAMM, Hex, Argus Lab. UNIT-IV: Proteomics Tools: EXPASY, CDART, 3D-Structure Optimization | To explore the usage of various Opensource software for Bioinformatics applications |

| | | | | |
|---|---|---|---|---|
| | | | Tools, Sequence Analysis Tools: BLAST, FASTA, EMBOSS, TCOFFEE, Phylogenetic Analysis Tools: Phylip, NTSYS, CLUSTALW/CLUSTAL X, BIOEDIT | |
| | | BIF 505 | • Computational exercise on Random Sampling<br>• Construction and representatiton of frequency distributions<br>• Descriptive measures<br>• Probability distribution | |
| | | BIF 506 | • Ms-Windows<br>• Linux, UNIX.<br>• Network design<br>• Internet search<br>• Graphics and animation | Basic concepts of computing with introduction to OS, graphics, networking and client-server technologies. |
| | | BIF 507 | • Programming in C and Visual basic with special reference to database linking<br>• Small Java applets | To understand the logics of programming and command-line and graphical GDIs. |
| | | BIF 510 | • Preparation of buffers and reagents<br>• Serological tests such as bacterial slide agglutination, latex agglutination and agar gel immunodiffusion<br>• Immuniassays including ELISA, western blotting and fluorescent antibody test<br>• Hydridoma technique for production of monoclonal antibodies<br>• Recombinant protein antigen-production and immunization of laboratory animals<br>• Extraction of DNA/RNA from pathogenic microorganisms, PCR, genotyping, diagnosis etc. | Application of various immunological and molecular diagnostic tools. |
| | | BIF 511 | • Practical exercise using MySQL<br>• Design of database in MS-Access and MySQL<br>• Database linking. | To familiarize the concept of RDBMS and to apply the database techniques to biological databanks |

| | | | | |
|---|---|---|---|---|
| | | BIF 512 | • Usage of software related to computational biology<br>• Molecular Visualization tools; RasMol, Qmol, Swiss PDB, Pymol<br>• Biomolecular Interaction Databases: BIND, DIP<br>• Structure Similarity Search Tools: CN3D, Vast Search | To understand the computational aspects of structural biology; to familiarize the usage of software for 3D structures of nucleic acids and proteins and to translate the sequence to protein structure. |
| | | BIF 513 | • EMBOSS<br>• File Format Converter Tools: BABEL, ReadSeq<br>• Phylogenetic Analysis Tools: Phylip, NTSYS, PAUP<br>• CLUSTALW/CLUSTAL X. | To understand the local and multiple alignment concepts and to carry out multiple sequence alignment. |
| | | BIF 514 | • Creation of Web-based application, interactive and dynamic webpages<br>• Connecting databases using CGI scripting<br>• Creation and maintenance of web-sites using HTML, XML, ASP, PHP, PERL and CGI<br>• Retrieval of specific information from web-sites using CGI scripts | Basic principles and application of various technologies used in creation of dynamic web content. |
| | | BIF 515 | • Gene Information Resources<br>• Protein Information Resources<br>• Structural Databases<br>• Sequence Analysis and Database Similarity Search Tools: BLAST, PHI-BLAST, PSI-BLAST, FASTA, EMBOSS, CLUSTAL, TCOFFEE<br>• Use of similarity, homology and alignment tools. | To understand the biological databases – types and formats and to learn the retrieval, deposition and analysis of sequences and structures from biological databanks. |
| | | BIF 516 | • Modelling Tools: MODELLER, Geno3D<br>• Docking Tools: Chimera, Dock, AutoDock Tools, GRAMM, Hex, ArgusLab<br>• 3D-Structure Optimization | To understand the Modelling of small molecules; to understand the computational chemistry principles and to familiarize the role of computers in drug- |

| | | | | |
|---|---|---|---|---|
| | | | Tools: CHEMSKETCH, CHEM 3D, ISIS Draw, CHEMDRAW | discovery process. |
| | | BIF 517 | • Gene Prediction Tools: GENSCAN, GRAIL, FGENESH<br>• NCBI Genomic Resources<br>• Proteomics Tools: EXPASY, CDART | To familiarize about the genomic and proteomic concepts and usage of various algorithms and programmes in analysis of genomic and proteomic data |
| | | BIF 518 | • Microarray Analysis Tools: MIGICTool<br>• Stanford Micrroarray Database<br>• Gene Expression Ommibus<br>• Creation of an on-line company. | To understand the translation of Bioinformatics into commercial gains; to familiarize the concepts of microarray – data acquisition and analysis and learn the IPR issues in Biological sciences with special emphasis on bioinformatics. |

**6.4.6. Supervision of students in PG/PhD programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

**Supervision of M.Sc. Students in PG Programme offered by the Department:**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 16 | 09 | 1.77:1 |
| 2019-20 | 9 | 08 | 1.12:1 |
| 2020-21 | 12 | 08 | 1.50:1 |
| 2021-22 | 7 | 07 | 1.00:1 |
| 2022-23 | 7 | 07 | 1.00:1 |

**Details of Ph.D. Programmes offered by the Department:**

| Year | Number of Students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 24 | 09 | 2.66:1 |
| 2019-20 | 23 | 08 | 2.87:1 |
| 2020-21 | 30 | 08 | 3.75:1 |
| 2021-22 | 27 | 07 | 3.37:1 |
| 2022-23 | 23 | 07 | 3.28:1 |

**6.4.7. Feedback of stakeholders:** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get

informal feedback from the students based on their parents' observations and suggestions. These suggestions are conveyed to the HODs and controlling officers.

Department has also initiated work on the slow release of fertilizers and pesticides, and qualitative determination of pollutants for the betterment of farmers.

**6.4.8. Student intake and Attrition in the Programme for last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the Degree Programme | Actual Student Admitted in last Five Years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc (Molecular Biology & Biotechnology)** | 4 | 3 | 4 | 4 | 3 | 20 | 33 | 20 | 25 | 0 |
| **M.Sc (Bioinformatics)** | 2 | 0 | 2 | 4 | 5 | 33 | 0 | 0 | 20 | 0 |
| **PhD (Molecular Biology & Biotechnology)** | 4 | 8 | 5 | 7 | 3 | 33 | 11 | 28 | 0 | 0 |

**6.4.9. Information and Communication Technology (ICT) Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty member of the Department of Molecular Biology, Biotechnology &Bioinformtics use ICR in teaching and practical. There is one Seminar Room with computer, LCD projector, Smart Board, Podium with computer facility and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations. You Tube and CD ROM in teaching all courses at UG, PG and Ph.D. level. In addition to this Google team, Microsoft team etc. are also used for UG students.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG andPh.D. degree programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of programmes is related to the all India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme):

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in thesection 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# PROGRAMME – 8

# M.Sc. Physics

# and

# Ph.D. Physics





## 6.4 About the Department

The department of Physics was established in consequent upon the decision taken by the Academic Council vide item No. B-5 in its 474th (emergent) meeting held on 12.12.2017 and the provision laid down under Clause-1 of Chapter-XIX of the Statutes of Chaudhary Charan Singh Haryana Agricultural University, Hisar, Dr. Paul Singh as the founder Professor & Head. The department has efficient and dedicated faculty comprising of Dr. Rita Dahiya (Prof. & Head), Dr. Paul Singh (Professor), Dr. Vinay Kumar (Assistant Professor) and they had laid a sound and solid foundation for multidimensional growth and development of the department. The department was bifurcated in February, 2018 from the erstwhile department of Math, Statistics & Physics. In the year of inception *i.e.* 2017, the department offered M.Sc. programme and admitted four students. During the short span of just five years since its inception, the department has contributed immensely in areas of teaching and research. The department has also started Ph.D. program in 2019 with admission of three students. Presently, the department is involved in teaching of physics courses of M.Sc. and Ph.D. Physics programmes and UG of the other constituent colleges of the university.

The department has developed the state of art laboratories for conducting the research in various advanced areas of the discipline. The faculty has published good number of research papers in journals of national and international repute; and over two dozen of popular science articles in many newspapers and magazines. The faculty member has been the recipient of Best Teacher award, DAAD and INSA fellowships. The faculty has presented papers in conferences, symposia and workshops held at various institutes. The faculty has been on the board of selection committees, research paper editors and reviewers, paper setters, paper evaluators, PG practical examiners for many institutes, etc. The faculty members have also published books and book chapters for undergraduate classes of state universities. For the ease of UG students of I.C. College of Home Science and College of Agricultural Engineering & Technology of the university, manuals have been prepared by the faculty members.

During five years of existence of the department, every year, on an average three students were admitted in M.Sc. and two students in Ph.D. Currently, there are 5 M.Sc. students and 10 Ph.D. students are on roll in the department. Out of these, 7 Ph.D. students have been recipient of JRF and further 3 of these have been awarded SRF.

### Objectives of the Department

- To achieve excellence in teaching to serve the student for their holistic growth and development
- To hone the skills of the students in the field of Physics and inculcate the habit of independent thinking
- To conduct research in thrust areas of interdisciplinary and Physics

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

The M.Sc. programme in Physics was commenced in year 2017 by admitting four students. The students are admitted through the entrance exam conducted by the university every year. The minimum qualification for admission to M.Sc. programme is B.Sc. (Hons.) Physics/B.Sc. (Physics+ Chemistry+Math)/B.Sc. (Physics+Math+Comp. Sc.) / B.Sc. (Physics+Math+Computer Application). The minimum duration for the programme is 2 years and maximum duration is 4 years. The medium of instruction followed is English.

### Objectives of Initiating M.Sc. Programme

- To expose students to both the theoretical and practical aspects of physics for inculcating competency to achieve best job opportunity
- To enhance students' potential by exposing them to scientific experimentation
- To teach physics for meeting up the technical support to industry and education system and to train and equip researchers and professionals to face the issues posed by agriculture, industry and environment

### Accomplishments of M.Sc. Programme

- The department has developed laboratories for conducting practical classes and research for M.Sc. programme. The labs are equipped with the required infrastructure.
- Thirteen students were admitted in M.Sc. programme during the period under report (**Annexure PHY- I),** five students are on roll (**Annexure PHY-II)** andeleven students of the department have awarded M.Sc. degree (**Annexure PHY-X**). The students received scholarships during degree programme (**Annexure PHY-VI).**
- Two of M.Sc. students have got job in government of Haryana (**Annexure PHY-V)**.
- Students are continuously guided to write research papers and encouraged to participate in conferences and symposia (**Annexure PHY-III**) and published research papers (**Annexure PHY-IX).**

### Objectives of Initiating Ph.D. Programme

Ph. D. programme in Physics was commenced in 2019 with the following objectives:

- To provide platform to students to implement their ideas leading to desired results and qualified human resource in the niche areas
- To hone the skills of researchers to find solutions of the issues faced by society
- To contribute in research arena of Physical Sciences in general and especially in thrust areas such as:
  - Synthesis of nano-materials using agricultural waste
  - Development of micronutrient nano-fertilizers
  - Synthesis of smart materials and their applications in agriculture and energy storage device
  - Use of gas sensor for detecting hazardous gases
  - Quality assessment of agricultural products
  - Waste management

### Accomplishments of Ph.D. Programme

- Establishment of well equipped research laboratories having state of the art instruments for conducting research
- To produce advanced quality human resource in the discipline of Physics
- Human resource generation in Physics and allied fields
- Till date, 10 Ph.D. students are admitted in the department (**Annexure PHY- I**) and working on projects to meet the need of the hour (**Annexure PHY-II)**.
- Ph.D. students published four research papers and contributed one book chapter in last five years (**Annexure PHY- IX**)

- The students participated in conferences and symposia of national and international level (**Annexure PHY-III**)
- Students in doctoral programme attended the trainings from time to time. In last five years three students attended training (**Annexure PHY-IV**)
- Seven students cleared NET/JRF/GATE in last five years (**Annexure PHY-VII**) and seven students are recipient of JRF/SRF (**Annexure PHY-VIII**)

### Student Data for the Last Five Years

**Name of the Department**:**Physics**

| Degree programme offered by the | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc. | Physics | 2017 | 03 | 02 | 03 | 03 | 02 | 13 | 4 | 3 | 01 | 03 | 11 |
| Ph.D. | Physics | 2019 | -- | 3 | 2 | 2 | 3 | 10 | - | - | - | - | - |
| | | | **Detail in Annexure I** | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Sanctioned | In place | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | 0 | 0 | 0 |
| 2. | Associate Professor and equivalent | 0 | 0 | 0 |
| 3. | Assistant Professor and equivalent | 06 | 01+02** | 03 |
| | Total | 06 | 03 | 03 |

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes. *The number of faculty also includes personal promotees.

** It includes two Assistant Professors promoted to Professors under CAS.

### Faculty Profile

At present there are two Professors (promoted under CAS) and one Assistant Professors/ equivalents. Faculty of the department published more than 25 research papers in journals of national and international repute, three book chapters and one course manual in last five years. Three posts of Assistant Professors have already been cleared from post clearance committee and the case for filling the above posts have also been sent to the competent authority.

| S. No. | Name | Designation | E-mail | Field of specialization |
|---|---|---|---|---|
| 1. | Dr. Rita Dahiya | Prof. & Head | ritajbd@yahoo.com | Material Science and Soil Physics |
| 2. | Dr. Paul Singh | Professor | psmehla@gmail.com | Nuclear Track Filter |
| 3. | Dr. Vinay Kumar | Assistant Professor | vinay23@hau.ac.in | Seismology, Material Science |

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | Technical and supporting staff in place |
|---|---|---|---|
| 1. | Clerk | 1 | 1 |
| 2. | Lab staff | | |
| | ➢ Lab Assistant | 1 | 1 |
| | ➢ Sr. Lab Asstt. | 1 | 1 |
| 3. | Field staff | - | - |
| Total | | 03 | 03 |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

**List of Classroom and Functional Laboratories**

| | |
|---|---|
| No. of seminar rooms with sitting capacity | One seminar room with sitting capacity of 30 |
| No. of laboratories with specialized purpose | **Three Research, One PG and Two UG laboratories** |
| | **Lab no. 112:** Advanced Equipment Lab |
| | **Lab no. 115:** Material Synthesis Lab |
| | **Lab no 403:** PG lab for M.Sc. Students |
| | **Lab no. 404:** Thin Film Lab |
| | **UG Lab: I** |
| Farm facilities | One Screen house |
| Workshops | -- |

**Other Instructional Units being utilized for the Award of Degree Programme**

| Instructional Units | Functioning |
|---|---|
| 1. Seminar room | Seminar room is used for presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |

**List of Major Equipments Available in the Department**

| Sr. No. | Place | Name of equipment |
|---|---|---|
| **1.** | Lab. No. 112 | Impedance Analyzer (1MHz to 1 GHz), Thermal Properties Analyzer, Photo Luminescence Setup, FTIR Bench Top System, Hydrothermal Autoclave 100 ml |
| **2.** | Lab. No. 115 | Magnetic Stirrer with Hotplate, pH Meter, Conductivity –TDS Meter, Votex Mixer, Hydrothermal Autoclave, Voltage Regulation Apparatus, Hot air Oven, Water Bath, Desiccators, Seiver Shaker, Ultrasonic Probe Sonicator Power, Dielectric Measurement System (4 MHz to 3GHz), Microwave Synthesizer, Refrigerated Centrifuge, Fume Hood |
| **3.** | Lab. No. 403 | Geiger Muller Counter, Quink's Apparatus, Four Probe Apparatus, Hall Effect Apparatus, Curie Temperature Apparatus, Thomson Apparatus, Dielectric Constant Determination Apparatus, Gouy's Apparatus, CRO & |

| | | |
|---|---|---|
| | | Function Generator, Scintillation Detector NaI (Tl), Dielectric Constant Kit, Digital Weighing Balance, Digital Storage Oscilloscope, Op Amp Application Apparatus, Microprocessor, Digital Function Generator 1 MHz, Ultrasonic Cleaners, Thermal Evaporation System, Microwave digestion system, Gas Sensor Setup, Automatic Spin Coating System, Mass Flow Controller |
| **4.** | Lab. No. 404 | Gamma Ray Spectrometer and Gamma Ray, Double Distillation Water Unit, Hot Air Oven, Muffle Furnace, Multichannel Electrochemical Workstation, Tube Furance |
| **5.** | UG Lab | Electrical vibrator and Sonometer Unit, Carey Foster Bridge, Di-electric Constant Equipment, Induced e.m.f Measurement Instrument, PN Junction Diode |

### Theory and Practical batches

**At UG level**, the department of Physics offers 2 courses, one for students of College of Home Sciences and other for College of Agricultural Engineering & Technology.

- For theory in courses, there is one batch for each course
- For practical in courses, one batch for course taught in College of Home Sciences and two batches for course taught in College of Agricultural Engineering & Technology with 20-30 students in each batch

**At M.Sc. level**, the department of Physics offers 15 courses and 08 courses has practical components. There are limited seats in M.Sc. i.e., 2-3 students. Some courses are offered as minor courses for students of other departments. There is one batch for theory and practical classes in all the courses with 2-10 students.

**Similarly at Ph.D. level**, there are limited seats in Ph.D. programmes. Hence, there is only batch for theory classes. For Ph.D. the department of Physics offers 9 courses.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree program me | Total courses | Practical courses | Hand-on- Training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|---|
| B.Sc. | 02 (PHY 100 & PHY101) | 02 | | |
| | | PHY100 | • Use of vernier caliper; 'g' by simple pendulum; refraction through slab, refraction through prism; focal length of concave mirror and convex lens; Ohm's law. | Students got introductory knowledge about the Physics lab:<br>• To learn and use basic instruments to be helpful in day to day life. |
| | | PHY 101 | • To find the frequency of A.C. supply using an electrical vibrator;<br>• To find the low resistance using Carey Foster Bridge without calibrating the bridge wire;<br>• To determine dielectric constant | Students got basic knowledge of engineering Physics:<br>• To the instruments to be used for studying magnetic and dielectric properties of the |

| | | | | |
|---|---|---|---|---|
| | | | of material using De Sauty's Bridge;<br>• To determine the value of specific charge (e/m) for electrons by helical method;<br>• To study the induced e.m.f. as a function of velocity of the magnet;<br>• To obtain hysteresis curve (B-H curve) on a C.R.O. and to determine related magnetic quantities;<br>• To study the variation of magnetic field with distance along the axis of a current carrying circular coil and to detuning the radius of the coil;<br>• To determine the energy band gap in a semiconductor using a p-n junction diode;<br>• To determine the slit width from Fraunhofer diffraction pattern using laser beam;<br>• To find the numerical aperture of optical fiber: to set up the fiber optic analog and digital link;<br>• To study the phase relationships in L.R. circuit;<br>• To study LCR circuit;<br>• To study the variations of thermo emf of a copper constantan thermo-couple with temperature;<br>• To find the wave length of light by prism | materials, optical fibers, etc for their application in agricultural engineering. |
| M.Sc. | 15 | 08 | | |
| | PHY 502 | PHY 502 | • To use IC 723 as regulator<br>• To design multivibrators, digital circuits<br>• Use of operational amplifier- as summing amplifier, as adder and subtracter, as multiplier<br>• Analogue computation, comparators and switching circuits<br>• Assembly language programming with 8085 microprocessors | • To understand the basics of circuits like amplifiers (inverting and non inverting), comparators, adders, integrator and differentiator using op-amps. |
| | PHY 505 | PHY 505 | • To determine susceptibility of liquids and solids<br>• To study hysteresis loss of magnetic materials<br>• To determine "g" factor using electron spin resonance<br>• To determine band gap of semiconductors by four probe method at different temperatures | To introduce the students to electric and magnetic properties of the materials. |

| | | | | |
|---|---|---|---|---|
| | | | • To study Hall effect<br>• To study the dispersion relations of monoatomic and diatomic lattice using lattice dynamic kit<br>• To study dielectric constant of materials<br>• To measure curie temperature of ferrimagnetics | |
| | PHY 506 | PHY 506 | • To draw the plateau region for the **Geiger** Muller Counter<br>• To find the dead time of GM counter<br>• To determine antiproton-proton interaction to determine the cross section of the reaction using Bubble Chamber.<br>• To calculate the efficiency of GM counter<br>• To determine energy resolution of gamma ray spectrometer<br>• To determine absorption coefficient of aluminum plates using gamma ray spectrometer.<br>• To calculate the maximum energy For Beta particle<br>• To calculate the half life of Ba-137<br>• To calculate the statistics of counting<br>• To study inverse square law using gamma ray scintillation detector Nal (TI) | • To get aquaint with working of rdiation detectors. |
| | PHY507 | PHY507 | • To calculate the statistics of counting<br>• To study the attenuation of beta particle in plant leaves<br>• To study isotope uptake by plants<br>• To calculate the half life of Ba-137<br>• Neutron activation analysis measurement of the thermal neutron flux<br>• To study the solid state nuclear track detector | • To enhance the understanding of students regarding radiation, their detection and measurement techniques and further to have a deep look into uses of radiation. |
| | PHY 508 | PHY 508 | • To study cooling curve of binary alloy<br>• To study mechanical behaviour of elastomers<br>• To study electrical conductivity of ionic solids<br>• To determine the dielectric constant and dielectric loss of materials<br>• To study susceptibility<br>• To study hysteresis loop of | • To acquaint the students with the properties of various types of materials and their behaviour. |

| | | | | |
|---|---|---|---|---|
| | | | magnetic materials | |
| | PHY 509 | PHY 509 | • To study characteristics of GM counter<br>• To determine half life of a radioactive source<br>• To study statistical fluctuation of data on GM counter<br>• To study inverse square law using Gamma ray scintillation detector NaI (TI)<br>• To study energy resolution of a scintillation spectrometer<br>• Estimation of neutron flux | • To provide a deep understanding of radiation physics and make students familiar with radiation, their detection and analytical techniques. |
| | PHY 510 | PHY 510 | • To study the characteristics of a CRO<br>• Using a multimeter as a measuring device<br>• To study the regulated power supply<br>• To study the astable multivibrator<br>• To study various logic gates | • To acquaint the students with solid state devices and their use for measuringvarious physical parameters. |
| | PHY 513 | PHY 513 | • To study discharge of electricity through gases<br>• Ionization current measurements<br>• To study photoelectric effect and measurements<br>• Geiger Muller counter-quenching time<br>• Thickness measurement of thin films/foils/paper sheets<br>• Half-life determination<br>• Tracer applications of artificial radio nuclides | • To acquaint the students with physical techniques used in agriculture. |
| | PHY 591 | | Master's Seminar | To strengthen teaching skills of students |
| | PHY 599 | | Master's Research | To strengthen research activities of students |
| Ph.D. | 9 | None | | |
| | PHY 691 | | Doctoral Seminar | To strengthen teaching skills of students |
| | PHY 692 | | Doctoral Seminar | To strengthen teaching skills of students |
| | PHY 699 | | Doctoral Research | To strengthen research activities of students |

**6.4.6. Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

**M.Sc. programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher ratio |
|---|---|---|---|
| 2017-18 | 4 | 2 | 2:1 |
| 2018-19 | 3 | 2 | 1.5:1 |

| | | | |
|---|---|---|---|
| 2019-20 | 2 | 3 | 0.6:1 |
| 2020-21 | 3 | 3 | 1:1 |
| 2021-22 | 3 | 3 | 1:1 |
| 2022-23 | 2 | 3 | 0.6:1 |

**Ph.D. programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher ratio |
|---|---|---|---|
| 2019-20 | 3 | 3 | 1:1 |
| 2020-21 | 2 | 3 | 0.6:1 |
| 2021-22 | 2 | 3 | 0.6:1 |
| 2022-23 | 3 | 3 | 1:1 |

**6.4.7. Feedback of Stakeholders:** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are considered by the HODs and controlling officers.

**6.4.8. Student Intake and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. (to be supplied by Department) | 3 | 2 | 3 | 3 | 2 | - | - | 50 | - | - | - |

| | Actual student admitted in last five years | | | | Attrition (%) | | | |
|---|---|---|---|---|---|---|---|---|
| Ph.D. (to be supplied by Department) | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| | 3 | 2 | 2 | 3 | - | - | - | - |

***6.4.8.*** **Information and Communication Technology (ICT) Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of department of Physics use ICT in theory and practical classes. There is one seminar room. All faculty members have computer, printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching and research. Faculty members use power point

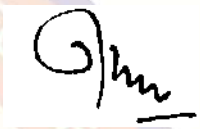
presentations, emails and other electronic platforms in teaching all courses at UG, PG and Ph.D. level. During the Covid Pandemic period, the teaching and other academic activities were conducted via on-line modes i.e, Google Meet, Microsoft Team, etc.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D.degree programmes, separately, and to be presented college-wise.

**6.4.11.** Since the accreditation of programmes is related to the all India admission from ICAR and also having weightage for college accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in theSection 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# PROGRAMME – 9

# M.A./M.Sc. Sociology

# and

# Ph.D. Sociology






हर घर तिरंगा व पौधा रोपण अभियान
आयोजन स्थल
नगंथला, अग्रोहा खण्ड (हिसार)
आयोजक
महाविद्यालय
विद्यालय, हिसार

## 6.4. About the Department

The Department of sociology came into existence in 1970 as a constituent department of College of Basic Sciences and Humanities. In erstwhile Punjab Agricultural University, the department was with the department of Economics. There after the discipline of sociology was with the department of Extension Education, College of Agriculture, CCSHAU, Hisar. Since 1971 the department has been fast developing to achieve excellence in teaching and research. The department also caters to the requirements of UG and PG programms of College of Agriculture and I.C. College of Home Science. The faculty of sociology department were awarded fellowships like UGC, ICSSR and Commonwealth etc. Dr. Raj Singh, Dr. R.K. Punia ICSSR, Dr. P.S. Malik, Dr. Subhan Khan, Malkit Kaur and Dr. Vinod Kumari have been the recipient of these fellowships. Dr. Subhash Chander was awarded R.G. UGC fellowship from 2010-13. The department conferred degree to 148 M.Sc. and 47 Ph.D. scholars, some of them occupying high positions at the national level. At present, there are 13 M.Sc. students and 21 Ph.D. students. The department is having a highly trained and talented faculty that consists of one Professor, three Assistant Professors, one Assistant Scientist and one Assistant Scientist (Rural Sociology) in the department of Agril. Economics. Presently the department is working on a research project entitled "Agricultural Technology and Emerging Socio-Economic Changes in Rural Society" and one research project completed namely "Promotion and Impact Analysis of Direct Seeded Rice Technique of Rice Cultivation on the Socio-Economic Status of Farmers in Haryana". The faculty is actively involved in extension work to extend technical knowledge among rural people of adopted village Shamsukh and Nangthala under the Chairmanship of Dean, COBS&H, through various awareness campaign cleanliness drives, demonstration and other activities (***Annexure SOC-XI***). Department has completed three months certificate course on Panchayti Raj and Rural Development as per terms and conditions of department of Development and Panachayat (Government of Haryana). The faculty brought out 67 research publications during last five years. A total of 08 Ph.D. students and 16 M.Sc. students have passed out during the last five years

**Objectives of the department:**

- Development of specialized human resource and expertise through teaching and research based learning in Sociology.
- Research in areas of agricultural technology and emerging socio-economic changes in rural society.

### 6.4.1. Brief History of the Degree/Programme: *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

The department offered M.Sc./M.A. and Ph.D. degree in rural sociology till 1999 and thereafter M.Sc. and Ph.D. degrees are offered in Sociology. The department has conferred degree to 148 M.Sc./M.A. and 47 Ph.D. scholars, some of them occupying high positions at the national level. At present, there are 13 M.Sc. students and 21 Ph.D. students.

**Objectives of Initiating M.Sc. Programme**

- Development of specialized human resource through teaching and research based learning in Sociology.
- Research in areas of agricultural technology and emerging socio-economic changes in rural society in the following thrust areas:
  - Adoption and impact assessment of new agricultural technologies on rural society of Haryana.
  - Gender studies and women empowerment

- Studies on diversification in agriculture
- Panchayati Raj Institutions (PRIs') and social transformation
- Agrarian social structure and change
- Demographic dynamics
- Social mobility and migration
- Technology and rural social change
- Media and agrarian society
- Consumer rights and agrarian society
- Socio-economic challenges of rural society.

**Accomplishments of M.Sc. Programme**

- The department has conferred degree to 18 M.Sc. students. **(Annexure SOC-X)**
- 42 % (8 out of 19) students went for higher studies during last five years.
- Students were placed in various fields. (**Annexure SOC-V**)
- Students' research brought out 18 publications during last five years on small family norms, gender discrimination towards girl child and problems of women scientist in Haryana.

**Objectives of Initiating Ph.D. Programme**

- Development of specialized human resource and expertise through teaching and research based learning in sociology.
- Research in areas of agricultural technology and emerging socio-economic changes in rural society in the following thrust areas:
  - Adoption and impact assessment of new agricultural technologies on rural society of Haryana.
  - Gender studies and women empowerment
  - Studies on diversification in agriculture
  - PRIs' and social transformation
  - Agrarian social structure and change
  - Demographic dynamics
  - Social mobility and migration
  - Technology and rural social change
  - Media and agrarian society
  - Consumer rights and agrarian society
  - Socio-economic challenges of rural society.

**Accomplishments of Ph.D.Programmes**

- The department has conferred degree to 07 Ph.D. students (**Annexure SOC-XI**).
- Fourteen students cleared UGC-NET during this period (**Annexure SOC-VII**).
- At present, six students availed fellowship from UGC-NET (JRF), New Delhi (**Annexure SOC-VIII**).
- Six students joined as Assistant Professor, Project Manager etc. (**Annexure SOC-V**).
- Forty one students got financial support from UGC/University (**Annexure SOC-VI**).

- Six students participated in seminars/conferences/trainings/workshops etc. **(Annexure SOC-III and SOC-IV)**
- Students' research brought out 09 publications during last five years on problems of debt among farmers in Haryana and Panchayati Raj Act. **(Annexure SOC-IX)**

### Students Data for the Last Five Years

| **Name of Department** | **Sociology** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Degree programme offered by the department | Specialization | Year of start | No. of seats | | | | | | Number of passed out | | | | | |
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc./M.A. | Sociology | 1970 | 08 | 04 | 06 | 04 | 04 | 26 | 02 | 05 | 07 | 02 | - | 16 |
| Ph.D. | Sociology | 1970 | 02 | 05 | 06 | 08 | 03 | 24 | - | - | 04 | 03 | 01 | 08 |
| | **Detail in Annexure SOC-I** | | | | | | | | | | | | | |

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| **S. No.** | **Designation** | **Sanctioned** | **In place** | **Vacant** |
|---|---|---|---|---|
| 1. | Professor and equivalent | 0 | 0 | 0 |
| 2. | Associate Professor and equivalent | 0 | 0 | 0 |
| 3. | Assistant Professor and equivalent | 08 | 04+1* | 03 |
| TOTAL | | 08 | 05 | 03 |

* Faculty also include personal promotees

Note: 1. All the faculty is assigned responsibility for multiple programmes.
2. One post of Assistant Professor has been advertised.

### Faculty profile

| **Sr. No.** | **Name** | **Designation** | **E-mail and mobile No.** | **Specialization** |
|---|---|---|---|---|
| 1. | Dr. Vinod Kumari | Professor and Head | vinodkumari2000@yahoo.com 9416305511 | Rural Sociology Energy, Health, Women Empowerment, Science and Technology |
| 2. | Dr.Jatesh Kathpalia | Assistant Scientist | kathpaliajatesh@gmail.com 9416244846 | Rural Sociology, Education Crime against Women, Agricultural Technology |
| 3. | Dr. Rashmi | Assistant | rt64064@gmail.com | Women in Agriculture and |

| | | | | |
|---|---|---|---|---|
| | Tyagi | Professor | 8000650006 | Rural Sociology and Crime Studies |
| 4. | Dr. Subhash Chander | Assistant Professor | panwarsubhash786@gmail.com 9467975625 | Rural Sociology, Debtedness, Social Transformation and Agricultural Technology |
| 5. | Dr. Bas Kaur | Assistant Professor | baskaurbishnoi01@gmail.com 8708955591 | Sociology and Nutritional Status of Children |
| Faculty retired during the period of 2018-23:NIL | | | | |

## Other Achievements of the Faculty

| Sr. No. | Name of faculty | Designation | Name of conference/seminar attended | Year | Award |
|---|---|---|---|---|---|
| 1. | Dr. Vinod Kumari | Professor and Head | International Women's Day 07.03.2020 | 2020 | Awarded by Om Sterling Global University in appreciation of education, training, research and development services provided for the benefits of society |
| 2. | Dr.Jatesh Kathpalia | Assistant Scientist | 11th International Conference on Agriculture, Horticulture and Plant Science (New Delhi) | 2020 | Dr. A.P.J. Abdul Kalam Scientist Award, 2020 |
| 3. | Dr. Rashmi Tyagi | Assistant Professor | 11th International Conference on Agriculture, Horticulture and Plant Science (New Delhi) | 2020 | Dr. A.P.J. Abdul Kalam Scientist Award, 2020 |
| 4. | Dr. Subhash Chander | Assistant Professor | 9th International Conference on Agriculture, Horticulture and Plant Science (Dharamshala, HP) | 2019 | Dr. A.P.J. Abdul Kalam Scientist Award, 2019 |
| 5. | Dr.Jatesh Kathpalia | Assistant Scientist | Role of Higher Education Institutions in Advancing Sustainable Development Goals (Sonepat, Haryana) | 2022 | Best Paper Presenter Award |
| 6. | Dr. Rashmi Tyagi | Assistant Professor | Role of Higher Education Institutions in Advancing Sustainable Development Goals (Sonepat, Haryana) | 2022 | Best Paper Presenter Award |
| 7. | Dr.Jatesh Kathpalia | Assistant Scientist | For outstanding contribution in the field of rural sociology and women empowerment | CAST ESP – 2022 | Scientist of the year |
| 8. | Dr Rashmi Tyagi | Assistant Professor | Best Paper presentation and research work | CAST ESP – 2022) | Distinguished Scientist |
| 9. | Dr. Subhash Chander | Assistant Professor | International Conference on Vision 2047: Sustainable Development towards Atma Nirbhar Bharat (Chandigarh) | 2022 | Award of Excellence in Research - 2022 |

| | | | |
|---|---|---|---|
| **Department** | **Name of Scientist** | **Title of Conference/Seminar/Work shop** | **Venue & dates** |
| Sociology | Dr. Vinod Kumari, Dr. Rashmi Tyagi and Dr. Subhash Chander | Three days Training of Traineers (ToT) programme on "Biodiversity Governance" | Himachal Pradesh Institute of Public Administration, Shimla (HP) during 11th to 13 March, 2019. |
| | Dr. Vinod Kumari, Dr. Jatesh Kathpalia and Dr. Subhash Chander | Seminar on IPR – A mechanism for socio-economic growth. | IPR Cell, DHRM, CCSHAU, Hisar on November 12, 2018. |
| | Dr. Vinod Kumari | National Workshop on Empowering Women through Legal Awareness | Women's Studies Research Centre, Kurukshetra University, Kurukshetra on March 28-29, 2019 |
| | Dr. Jatesh Kathpalia | International Conference on 'A Culture of Learning and Experimentations for Fostering Well-Being: Some Lessons" | New Delhi on December 17, 2018 |
| | | National Seminar on "Innovative Strategies for Gender Equality" | I.C. College of Home Science, CCSHAU, Hisar on March 8, 2019. |
| | Dr. Rashmi and Dr. Subhash Chander | International Symposium on "Innopreneurship: A need of Sustainable Agriculture &Rao-Bahadur Dr. Ram Dhan Singh Fifth Memorial Lecture" | CCSHAU, Hisar from 2-3 February, 2019 |
| Sociology | Dr. Jatesh Kathpalia, Assistant Scientist, Dr. Rashmi Tyagi, Dr. Bas Kaur, Assistant Professor | One day workshop on "Awareness and use of Scopus Citation Database" | Nehru Library, CCS HAU, Hisar on 29th November, 2019 |
| | Dr. Jatesh Kathpalia, Assistant Scientist, Dr. Rashmi Tyagi, Dr. Subhash Chander, Dr. Bas Kaur, Asstt. Prof. | Webinar on "Awareness and Use of e-Resources through Remote Login for Faculty and Students of CCS HAU" | Nehru Library CCS HAU Hisar on 23rd June, 2020 |
| | Dr. Jatesh Kathpalia, Assistant Scientist, Dr. Rashmi Tyagi, Dr. Bas Kaur, Assistant Professor | National Webinar on "Awareness and Use of CeRA Resources through J-Gate Discovery Platform" | Nehru Library CCS HAU, Hisar on June 25, 2020. |
| | Dr. Subhash Chander, Dr. Rashmi Tyagi, Dr. Bas Kaur, Assistant Professor | Refresher course on "Language Skills" organized by Academy of Agricultural Research and Educational Management | DHRM, CCSHAU, Hisar from 27thMay 2020 to June 16th 2020 |
| | Dr. Bas Kaur, Assistant Professor | Induction Training Course | DHRM, CCSHAU, Hisar from 18 Nov, 2019 to 17 December, 2019 |
| | Dr. Rashmi Tyagi, Assistant Professor | Refresher course on Educational Technology | DHRM, CCSHAU, Hisar from Dec 16th 2019 to January 7th 2020 |

| | | | |
|---|---|---|---|
| | Dr. Vinod Kumari, Dr. Jatesh Kathpalia, Dr. Rashmi Tyagi, Dr. Subhash Chander and Dr. Baskaur | webinar-cum-seminar on Teacher's role in NEP Implementation Awareness, Orientation, Challenges & Responses | CCS HAU, Hisar on 24.02.2021. |
| | Dr. Vinod Kumari, Dr. Jatesh Kathpalia, Dr. Rashmi Tyagi, Dr. Subhash Chander and Dr. Baskaur | EBSCO training session on "Effective Utilization & Training workshop | Nehru Library CCS HAU Hisar and EBSCO on 07.05.2021. |
| | Dr. Vinod Kumari, Dr. Jatesh Kathpalia, Dr. Rashmi Tyagi, Dr.Subhash Chander and Dr. Baskaur | Seminar on Improving Quality of Agricultural Research in India | CCS HAU / Elsevier on Wed 30th June 2021 |

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | Assistant | 01 | - |
| 2. | Sr. Scale Stenographer | 01 | 01 |
| 3. | Messenger | 01 | - |

**Note:** All the staff is assigned responsibility for multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

There is one seminar cum-lecture-room equipped with LCD and internet facility. (Room No 203) The seminar room is used for teaching classes and conducting seminars. The setting capacity is 40. There is also one departmental library (Room No, 214) with books and thesis for referring to PG students for preparation of assignments, synopsis and others research works. Each faculty member has computer with its peripheral for performing day-to-day assignments.

The facilities in the department are sufficient to meet the requirements of the course curricula.

**Theory and Practical batches for PG Programmes**

- At M.Sc. level, the department offers 15 courses including deficiency courses and 4 courses have practical component. There are limited seats in M.Sc. programme with an average of 4-7 students. Some courses are offered as minor courses for the students of other departments namely Agricultural Economics, Extension Education (COA), Extension Education and Communication Management, Family Resource Management, Human Development and Family Studies (COHS) and Biostatistics and Computers (COBS&H).
- Similarly, at Ph.D. level there are limited seats (3-4) in the department. Hence, there is only batch for theory classes and one batch for practical classes in all the courses. For Ph.D. the department offers 5 theory courses and 2 courses have practical components.

**6.4.9 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any*

*given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree/Programme | Total courses | Course details | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|---|
| B.Sc. (For COA Hisar, COA Kaul and COA Bawalupto 2019-20) and M.A./M.Sc. (Deficiency Course) | 05 | SOC 401 | • Characteristics of rural society.<br>• Social institution: Family, village Panchayat, school<br>• Pattern of social organizations<br>• Selection of lay leaders based on socio-metry<br>• Taboos and social values of rural society.<br>• Rural development programmes<br>• Problems of agriculture: Small size of land holding, Risk in Agriculture and Agrarian unrest, Natural Calamities<br>• Problems of rural society: Food insecurity, poverty and unemployment, rural credit and indebtedness, alcoholism and caste system<br>• Impact of agricultural mechanization on social life of farmers<br>• Field study-cum-institutional visits, preparation of field projects for analyzing the problems of agriculture and rural society, theme based group<br>• Assignments on functioning of gram panchayat, caste system, jajmani system, Mahatma Gandhi National Rural Employment Guarantee Scheme, education system etc. |
| B.Sc. (For COA Hisar, COA Kaul and COA Bawalupto 2019-20) and M.A./M.Sc. (Deficiency Course) | 05 | SOC 402 | • Promoting self-understanding and building positive attitude;<br>• Interpersonal communication skills; conflict management; nature and scope;<br>• Motivation: meaning, definition and types;<br>• Organizational development;<br>• Stress management: meaning, factors and methods of stress management, yoga, meditation and other exercises for healthy life style;<br>• Time management and behavioural skills; management of change and behavioural skills;<br>• Leadership skills: concept of leadership, leadership styles, characteristics of leaders, pattern of leadership;<br>• Group relations; group behaviour: concept of group, features of group, elements of group, forms of interaction in group;<br>• Decision making: definition, process and elements of decision making, type of decision makers, and art of making decision, decision making and problem solving technique.<br>• Course is based on participatory process with the teacher playing the role of facilitator, the learners centered approach adopted by the teacher includes activities designed as interactive and experimental with the resulting emphasis on learning by doing the exercises such as: group discussion, case study, exercise/game, self –analysis by students about their styles and behaviour, role play and participants presentations. |
| **Degree programme** | **Total courses** | **Course details** | **How far students are getting desired practical and hands-on-training as per the curriculum** |
| **M.A./M.Sc.** | **01** | **SOC 403 (deficiency)** | • Features of rural society.<br>• Social institution: Family, village panchayat, school |

| | | | |
|---|---|---|---|
| | | | • Pattern of social organizations<br>• Selection of lay leaders based on sociometry<br>• Taboos and social values of rural society.<br>• Field study-cum-institutional visits, preparation of field projects for analyzing the problems of agriculture and rural society, theme based group<br>• Assignments on functioning of caste system, jajmani system, |
| **M.Sc.** | **04** | **SOC 503** | The students get practical exposure on the following aspects:<br>• Quantitative methods and survey research: Assumptions of quantification and neaverenat. Survey techniques, operationalism and research design, sampling design, questionnaire construction, interview schedule, measurement and scaling, reliability and validity, limitations of survey.<br>• Qualitative research techniques: Technique and methods of qualitative research, participant observation/ethnography interview guide, case study method, content analysis, oral history, narratives, life history, genealogy.<br>• Triangulation-mixing qualitative and quantitative methodologies, social research, action research, participatory research.<br>• Application of computers in social research. e.g SPSS, ethical issues in social research. |
| | | **SOC 512** | • Use of computers for statistical analysis data, field based survey for collection and analysis of social science data etc.<br>• Application of computers in social research. e.g. SPSS, ethical issues in social research. |
| | | **SOC 513** | Field and institutional visits, preparation of field project for analyzing the emerging problems of rural society, theme based group assignments namely<br>• Characteristics of rural society, family, village panchayat, school, rural development programmes, problems of agriculture: small size of land holding, risk in agriculture and agrarian unrest, natural calamities, problems of rural society: food insecurity, poverty and unemployment, rural credit and indebtedness, alcoholism and caste system, impact of agricultural mechanization on social life of farmers |
| | | **SOC 599** | • Students use practical knowledge to conduct researches in areas of Sociology:<br>• Conduct interaction programmes with rural families and communities, as well as develop literature and strategies.<br>• Field visit in rural area regarding socio-economic problems etc. |
| **Ph.D.** | **02** | **SOC 605** | • Field based survey for collection of data for various research problems<br>• Use of M.S. Excel<br>• SPSS for statistical analysis of India |
| | | **SOC 699** | • Students use practical knowledge to conduct researches in areas of Sociology:<br>• Conduct interaction programmes with rural families and communities, as well as develop literature and strategies.<br>• Field visit in rural area regarding gender studies and related health. |

**6.4.10 Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

**M.Sc.Programmes**

| Year | Number of students on roll | Number of PG faculty | Student-teacherratio |
|---|---|---|---|
| 2018-19 | 06 | 06 | 1:1 |
| 2019-20 | 04 | 05 | 0.8:1 |
| 2020--21 | 06 | 05 | 1.2:1 |
| 2021-22 | 04 | 05 | 0.8:1 |
| 2022-23 | 05 | 06 | 1:1.2 |

**Ph.D. Programmes**

| Year | Number of Students on roll | Numberof PG faculty | Student-teacher ratio |
|---|---|---|---|
| 2018-19 | 02 | 06 | 1:3 |
| 2019-20 | 05 | 05 | 1:1 |
| 2020--21 | 06 | 05 | 1.2:1 |
| 2021-22 | 08 | 05 | 1.6:1 |
| 2022-23 | 03 | 06 | 0.5:1 |

**6.4.11 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

Feedback of PG students is taken regarding teaching and improvement is made according to suggestions/observations. The performance of the faculty is also reviewed on the basis their results and feedback from the students. Valuable suggestions provided by institution are incorporated in the curriculum.The stakeholders' feedback is obtained through general meetings with parents and interaction with alumni to improve overall performance and quality of the university. The teachers get informal feedback from the students based on their parents' observations and suggestions. These suggestions are conveyed to the HODs and controlling officers.

**6.4.12 Student In-take and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree/ programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc./M.A. (Sociology) | 08 | 04 | 06 | 04 | 05 | 0 | 25 | 0 | 0 | 0 |
| Ph.D. (Sociology) | 02 | 05 | 06 | 08 | 03 | 0 | 40 | 0 | 12.5 | 0 |

**Note:** Figures in parenthesis indicate number of attrition.

**6.4.13 Information and Communication Technology (ICT) application in curricula delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of department of Sociology use ICT in teaching including practical of all the courses. There is one seminar room with computer, LCD projector and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG level. Students also use online books.

The faculty members of department of sociology use ICT in teaching including of all practicals. There is one seminar room with computer, LCD projector and internet connection. All faculty members have computer, printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails, google meet, zoom meeting and CD ROM in teaching all courses at UG level.

**6.4.14** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented college-wise.

**6.4.15** Since the accreditation of programmes is related to the All India admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.16** Certificate (Applicable when SSR is submitted for programme)

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in theSection 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# PROGRAMME – 10

# M.Sc. Zoology

# and

# Ph.D. Zoology


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### 6.4 About the Department

The combined Department of Zoology-Entomology of the erstwhile Punjab Agricultural University and subsequently of the Haryana Agricultural University functioned for almost seven years but a major thrust was on plant protection especially toxicology. In order to strengthen the role of Zoology in education and to exploit its areas, a need was felt to develop this discipline for evolving technology and serving as base for increasing agricultural production. Thus, an independent department of zoology came into existence on October 26, 1971 with eminent scientists and academician in chair like late dynamic Prof. R. P. Kapil and Prof. R.B. Mathur who nurtured it with their academic excellence and vision. The department offers M.Sc. and Ph.D. degrees in Zoology. The department also caters to the requirements of UG programs of College of Agriculture, Hisar, Kaul, Bawal and College of Home Science. The department has so far conferred degree to 128 M.Sc. and 75 Ph.D. scholars some of them occupying high positions at the national level. Most of our students have been getting fellowship like POSE, CSIR, ICAR, DST (INSPIRE), RGNP and merit fellowships. The department is having a highly trained and talented faculty that consists of two Professors and four Assistant Professors. Presently the faculty of this department is working on the molecular characterization of plant and stored mites, quantitative and qualitative losses due to mites, avian biology, rodent pest management and vermiculture. Along with this, work is also going on the effect of pesticides and heavy metals on earthworm's growth, reproduction and development.

During last five years on an average four students were admitted in M.Sc. and five students in Ph.D. Presently 10 M.Sc. students and 27 Ph.D. students are on roll.

There is no UG programme going on in the department, however, department is offering five UG Courses to undergraduates of College of Agriculture Bawal, Kaul and Hisar and two UG courses to undergraduate students of I.C. College of Home Science.

#### Objectives of the Department

- To provide quality education to students and develop skilled manpower in the field of zoology
- To develop professionals in zoology
- To conduct research in thrust areas related to vertebrate and invertebrate pest management

**6.4.1 Brief History of the Degree Programme:** *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

M.Sc. programme in Zoology was initiated in the year 1971. Entry qualification for master's programme is B.Sc/B.Sc. (Hons.) in Biology/ Life Sciences. Minimum duration of the programme is 2 years and maximum duration is 4 years. Medium of instruction is English.

#### Objectives of Initiating M.Sc. Programme

- To teach zoology for meeting up the technical support to industry and education system
- To create the masters in zoology with specialization in different areas of it

#### Accomplishments of M.Sc. Programme

- The department has well developed infrastructure for the M.Sc. programme with seminar rooms and well-equipped modern state of art laboratories
- The department has conferred degree to 128 M.Sc. students.
- In the last five years 56 students were admitted (**Annexure ZOO-I**).
- Presently 27 Ph.D. and 10 M.Sc. Zoology students are enrolled (**Annexure ZOO-II**).

- Quality human resource generation in zoology and allied field
- Students were encouraged to participate in conferences and symposia. Ten students from M.Sc. participated in conferences and symposia (**Annexure ZOO-III**)
- M.Sc. students published 40 research papers in last five years (NAAS rating 0-4: 11 papers; 4-6: 01papers; >6: 1 papers) (**Annexure ZOO-IX**)

### Objectives of initiating Ph.D. Programme

- To produce advanced quality human resource in the discipline of zoology
- The program objectivesare to train and equip researchers and professionals to face the issues posed by agriculture, industry and environment
- Contribution in agricultural research, especially in thrust area like:
  - Quantitative and qualitative losses in post-harvest, agricultural crops and other organisms due to invertebrate and vertebrate pests
  - Application of ecofriendly measures for invertebrate and vertebrate pest fauna
  - Exploration and conservation of beneficial fauna for farmers' welfare
  - Role of microorganisms in pest and disease management of agricultural fauna
  - Effect of agrochemicals on agriculturally important invertebrate and vertebrate fauna
  - Intensive fish culture for the employment of rural youths and to enhances the farmers' income

### Accomplishments of Ph.D. Programme

- The department has well developed infra structure for the Ph.D. programme including seminar room and well-equipped modern state of art laboratories with four screen houses
- Quality human resource generation in zoology and allied field
- The department has so far conferred degree to 75 Ph.D. scholars some of them occupying high positions at the national level
- Fifteen students participated in conferences and symposia of national and international level (**Annexure ZOO - III**)
- Students in doctoral programme attended the trainings from time to time. In last five years ten students attended various trainings (**Annexure ZOO - IV**)
- Eighteen students joined higher education and placed very well in institutes of national and international repute (**Annexure ZOO - V**)
- Twenty nine students got fellowships/ stipend from university and other sources (**Annexure ZOO - VI**)
- Thirty six students have qualified NET, GATE and other national level exams in last five years (**Annexure ZOO - VII**)
- Twentyone of our students have been getting fellowship like POSE, CSIR, ICAR, DST (INSPIRE), RGNP and merit fellowships (**Annexure ZOO - VIII**)
- Ph. D. students published 49 research paper in last five year (NAAS rating 0-4: 15 papers; 4-6: 27 papers; >6: **7** papers) (**Annexure ZOO - IX**)
- List of Pass Out students of M.Sc and Ph. D. (**Annexure ZOO – X**)
- Alumni of the department are well placed at higher position in India and abroad

### Student Data for the Last Four years

| Name of the Department | Zoology | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Degree programme offered by the department | Specialization | Year of start | No. of seats | | | | | | No. of students passed out | | | | | |
| | | | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
| M.Sc./M.Tech | Zoology | 1971 | 06 | 07 | 04 | 04 | 06 | **27** | 03 | 06 | 06 | 07 | 04 | **26** |
| Ph.D. | Zoology | 1971 | 07 | 07 | 04 | 03 | 08 | **29** | 02 | 02 | 02 | 02 | 03 | **11** |
| | | | **Detail in Annexure I** | | | | | | | | | | | |

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Sanctioned | In place | Vacant |
|---|---|---|---|---|
| 1. | Professor and equivalent | 01 | 01 | - |
| 2. | Associate Professor and equivalent | 01 | 00 | 01 |
| 3. | Assistant Professor and equivalent | 06 | 03+1* | 02 |
| | Total | 08 | 05 | 03 |

**Note:** All the faculty of this programme is assigned theresponsibilities for the multiple programmes.

### Faculty Profile

At present there are six Assistant Professors/ equivalents. Faculty of the department published more than 72 research papers in journals of national and international repute.

One vacancy of Associate Professor and one vacancy of Assistant Professor have already been advertised.

| S. No. | Name | Designation | email and Mobile No. | Specialization |
|---|---|---|---|---|
| 1. | Dr. R.K. Gupta | Professor & Head | gupta_raj123@yahoo.co.in 9812096774 | Vermiculture |
| 2. | *Dr.Rachna Gulati | Professor | jdccshau@gmail.com 9416266015 | Acarology |
| 3. | Dr. Dharambir Singh | Assistant Professor | dharambir.titu@gmail.com 9468073854 | Vermiculture |
| 4. | Dr. Ravikant | Assistant Professor | rkantazad@hau.ac.in 9466264314 | Rodenology |

| | | | | |
|---|---|---|---|---|
| 5. | Dr. Tejpal Dahiya | Assistant Professor | dahiyahau@gmail.com 9467482165 | Avian biology |
| 6. | Dr. Shikha Ahalawat | Assistant Professor | shikhaahlawat81@gmail.com 8630602825 | Nematology |
| 7. | Dr. Gajender Singh** | Assistant Scientist/DES | drgajendersingh1@gmail.com 9416380349 | Fishery sciences |

[*] *Faculty posted in COFS* *** Faculty posted in KVK PKL*

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In place |
|---|---|---|---|
| 1. | Assistant | 01 | 0 |
| | Clerk | 01 | 01 |
| | PA/Steno | 01 | 01 |
| | Messenger | 01 | 00 |
| 2. | Lab staff | | |
| | Lab Assistant | 03* | 03* |
| | Total | 07 | 05 |

*Note: All the staff is assigned the responsibilities for the multiple programmes.*

**Posted in COFS*

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

**List of classroom and functional laboratories**

| | |
|---|---|
| No. of lecture rooms with sitting capacity | Three (One seminar room with 25 sitting & one UG/PG lab, one UG lab at IATTE building) |
| No. of lecture rooms with LCD | One |
| No. of labs under Dean's office with specialized purpose | **Seven Research, one UG and One PG** |
| | **Vermifish technology lab. 302:** Vermiculture lab experiments |
| | **Animal physiology lab 305:** Animal physiological studies |
| | **Taxonomy lab 306 :** **S**tudying taxonomical aids |
| | **Rodentology lab:** Rodent pest management |
| | **Acarology lab:** Mites management lab |
| | **Avian biology lab**: Avi-faunal study lab |
| | **Animal behaviour lab:** Animal behavior study |
| Farm facilities | **Four Screen houses -** |
| Workshops | - |

| | |
|---|---|
| Any other instructional units being utilized for the award of the Degree Programme | - |

### Other Instructional Units being Utilized for the Award of Degree Programme

| Instructional Units | Functioning |
|---|---|
| 1. Seminar room with LCD | Seminar room is used for presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |
| 2. Departmental library | Reference material, journals, thesis etc. are referred by PG students for preparation of assignments, synopsis and thesis work. |
| 3. UG/PG Lab | UG/PG lab having 30 seating capacity to teach the students |
| 4. Museum | A well-equipped Zoology museum |

### List of Major Equipments Available in the Department

| S. No. | Location (Lab no.) | Name of equipment |
|---|---|---|
| 1. | Lab No. 302 | Autoclave, Electric Balance, Autoclave, Conductivity Meter, Oven, LAF, High speed Centrifuge, Solvent Extractor , Elisa Reader, Gel Documentation System , UV Vis Spectrophotometer, PCR, Water Bath,Binocular Microscope, Refrigerators and Acs & BOD. |
| 2. | Lab No. 305 | Deep Freezer & BOD |
| 3. | Lab No. 306 | Water Purification System & Students Microscopes |
| 4. | Lab No. 307 | Electric Balance, Spectrophotometer, Autoclave, Oven, Refrigerators and Acs, DSLR, Handycam, LAF (Verticle), Inverted Microscope, Trinocular Microscope, pH Meter, BOD &Electronic Balance |
| 5. | Lab No. 310 | UPS /Battery |
| 6. | UG/PG Lab | Students Microscopes |

### Theory and Practical Batches

- At UG level, the department of Zoology offers 07 core courses, having practical components.
- For theory in core courses, there are three batches in IC College of Home Science and one batch for each College of Agriculture (Hisar, Kaul and Bawal), respectively with an average of about 40-45 students in each batch.
- For practical in core courses, there are two batches in College of Agriculture (Hisar, Kaul and Bawal) respectively with an average of about 25-30 students in each batch and three batches for College of Home Science with 20-30 students in each batch.
- At M.Sc, level, the department of Zoology offers 12 courses with practical components. There are limited seats in M.Sc. programme with an average of 4-5 students. Some courses are offered as minor courses for students of other departments. There is only batch for theory classes and one batch for practical classes in all the courses with an average of 4-8 students.
- Similarly, at Ph.D. level there are limited seats in Ph.D. programmes. Hence, there is only batch for theory classes and one batch for practical classes in all the courses. For Ph.D., the department of Zoology usually offers 10 courses and 03 courses have practical components.

**6.4.5 Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree programme | Total courses | Practical courses | Course details | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| B.Sc. (Community Science) | 02 | 02 | 02 | |
| | ZOO 100 | ZOO 100 | • Nature and scope of zoology<br>• Taxonomic classification of animal kingdom<br>• Animal life: structure and functions<br>• Tissues – Epithelial, Muscular, Connective and Nervous Tissue<br>• Body systems<br>• Digestive System<br>• Circulatory System<br>• Excretory System<br>• Reproductive System<br>• Applications of biology<br>• Communicable diseases<br>• Immune responses<br>• Inherited and sex linked diseases<br>• Cancer<br>• Human population growth | Basic knowledge about the zoology laboratory |
| | ZOO 102 | ZOO 102 | • Microscopic structure of mammalian tissues; study of some physiological functions, study of some physiological experiments<br>• Test for the presence of carbohydrates, starch, fat and proteins<br>• The effects of temperature on the activity of salivary amylase on starch<br>• To test the given sample of urine for the presence of urea/ albumin.<br>• To test the given sample for the presence of sugar in urine/blood sample). | Basic knowledge about the human physiology. |
| B.Sc. (Hons) Ag. | 05 | 05 | | |
| | BIO I * | BIO I * | • To study the parts of a dissecting and compound microscope.<br>• To study of specimens and identification with reasons: bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pines, one monocotyledon and one | Basic knowledge about the course 'BIOLOGY-I' |

| | | | | |
|---|---|---|---|---|
| | | | dicotyledon and one lichen;<br>• Diversity in shape and size of cells in different plant and animal tissues *(e.g.*parenchyma, palisade, collenchyma, sclerenchyma, xylem, phloem, squamous epithelium, muscle fibres and mammalian blood smear through temporary/permanent slides)<br>• Study of specimens and identification: Amoeba, Hydra, Liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit; observation of the following spots: human skeleton and different types of joints.<br>• Morphology of earthworm, cockroach and frog through models/preserved specimens. | |
| | BIO II* | BIO II* | Study and description of locally available common flowering plants one each from (Solanaceae, Fabaceae and Liliaceae); types of root (tap or adventitious), stem (herbaceous/woody), leaf arrangement/shapes/ venation, simple or compound; preparation and study of T.S. of dicot and monocot root and stem (primary); study of osmosis by potato osmometer; plasmolysis in epidermal peels *(e.g., rhoeo*leaves); study of distribution of stomata in the upper and lower surface of leaves, stomatal index; comparative study of the rates of transpiration in the upper and lower surface of leave; test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials *(e.g.,* wheat, potato, groundnut, milk or other such suitable material); separation of chlorophyll pigments through paper chromatography; study of rate of respiration in flower buds and germinating seed; effect of salivary amylase on starch; testing the presence of urea, sugar, albumin and bile salts in urine sample (simulated sampled | Basic knowledge about the course 'BIOLOGY-II' |

| | | | | |
|---|---|---|---|---|
| | | | may be used); observation of the following spots - study of mitosis in onion root tip cells, different modifications in root, stem and leaves; identification and comments on different types of inflorescences; imbibition in seeds/raisins; observations and comments on the experimental set up on: anaerobic respiration, phototropism, apical bud removal, suction due to transpiration. | |
| | BIO III* | BIO III* | Dissection of flower and display of different whorls; dissection of anther and ovary to show number of chambers; study of pollen germination on a slide; collect and study of soil from at least two different sites for texture, moisture content, pH and water holding capacity; correlation with the kinds of plants found in them; collect water from two different water bodies in your locality and study the samples for ph, clarity and presence of any living organisms; study the presence of suspended particulate matter in air at the two widely different sites; plant population density by quadrat method; observations on the following spots - study of flowers adapted to pollination by different agencies (wind, insect); pollen germination on stigma through a permanent slide; study and identify stages of gamete development *i.e.*, T.S. testis and T.S. ovary through permanent slides (from any mammal); meiosis in onion bud cell or grasshopper testis and T.S. of blastula through permanent slides; study two plants and two animals found in xeric conditions and comment upon their adaptations/ morphological features; plants and animals found in aquatic conditions and comment upon their adaptations/morphological features. | Basic knowledge about the course 'BIOLOGY-III' |
| | BIO IV** | BIO IV** | Preparation of a temporary mount of onion root tip to study mitosis; study of effect of the different temperatures and three different pH on the activity of salivary amylase on starch; | Basic knowledge about the course 'BIOLOGY-IV' |

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| | | | observations on the following spots: study Mendelian inheritance using seeds of different colour/size of any plant; preparation of pedigree charts of genetic traits such as rolling of tongue, blood groups, widow's peak, colour blindness; exercise on controlled pollination - emasculation, tagging and bagging; identification of the common disease causing organisms like *ascaris*, *entamoeba*, *plasmodium*, ringworm through permanent slides or specimens and symptoms of diseases caused by them. | |
| | ZOO 101/ Biology 101* | ZOO 101/ Biology 101* | • Morphology of flowering plants-root, stem and leaf and their modifications; inflorescence, flower and fruits; cell & cell division, tissues; internal structure of root, stem, leaf; study of specimens and slides; description of plants- Brassicaceae, Fabaceae and Poaceae;<br>• To study of type animals of major phyla. | Basic knowledge about the Zoology |
| (*= Shared with Botany & Pl**ant** Ph**ysiology**); (**= Shared with Genetics and Plant Breeding ) | | | | |
| M.Sc. | 12 | 12 | | |
| | ZOO 501 | ZOO 501 | Integumentary, skeletal and the muscular systems.<br>Nervous system including the sense organs and endocrine glands.<br>Transport and exchange systems (digestive, circulatory systems).<br>Transport and exchange systems (respiratory and excretory systems).<br>Reproductive system, aerodynamics in relation to flight in insects/birds and mammals. | To give details of the functional and evolutionary modification in various systems of invertebrates and vertebrates.<br><br>To study of the representative types from invertebrates and vertebrates; preparations of whole mounts with reference to the systems in theory; study of histological slides. |
| | ZOO 502 | ZOO 502 | General introduction, taxonomy and nomenclature, taxonomic categories and hierarchy.<br>Principles and methods of nomenclature; keys, their kinds and uses.<br>Introduction to numerical, biochemical and cytological taxonomy.<br>Classification of non-chordates | To introduce fundamental concepts and patterns in systematics in terms of exposure to animal diversity, classification, identification and nomenclature, and their application in biology. |

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| | | | and chordates upto orders and important families, with distinguishing characters and examples. | Collection and preservation of certain animals; study of local fauna and their identification; identification of animals using keys; taxonomy of animals based on biochemical and cytological techniques. |
| | ZOO 503 | ZOO 503 | Definition and scope of environment, ecology, environmental biology; community; ecosystems, their types, properties and characteristics.<br>Population, its characteristics: density, natality, mortality, age distribution, biotic potential, dispersion, population growth forms, population regulation, population interactions.<br>Production, decomposition, bioenergetics, food chains, food webs, biogeoochemical and nutrient cycles, ecological succession.<br>Environment, limiting factors, environmental pollution.<br>Wild life; concepts and principles of wild life management, conservation and control, legislation, wildlife parks and sanctuaries. | Our environment is being fastly degraded due to man engineered activities, and many wild species are becoming extinct. Basic aspects and implications of these changes are needed to be disseminated among the students.<br><br>Introduction to the ecological equipments, measurement of ecological parameters, productivity, population density and species diversity in different ecosystems; determination of LD50 and LC50 values; visit to zoo/sanctuary or other habitats. |
| | ZOO 504 | ZOO 504 | Physiology of nutrition, thermoregulation, cellular immunity.<br>Neural, humoral and pharmacological regulation of cardio-vascular activities.<br>Neural integration, interneural communication; importance of specialized nerve cells.<br>Physiology of endocrine glands, hormonal receptors; physiology of reproduction and hormonal control of reproductive behaviour.<br>Origin and evolution of behaviour, instinct and learning; modes of communication, significance of biorhythms. | To develop insight into various functional aspects of animals with reference to their habits and adaptations, as well as to introduce important aspects of instinctive and learned behaviours.<br>Some biochemical estimations, buffer systems; demonstration of some hormonal functions; recording of action potentials; kymographic study of muscle contractions and heart beat; study of some behavioural aspects such as instinctive movements, orientation responses; maze learning in rats and activity rhythms in animals. |
| | ZOO 505 | ZOO 505 | Introduction to microtomic and ultramicrotomic techniques.<br>Patterns of reproduction, and differentiation and morphogenesis. | A brief introduction to microtomic and ultramicrotomic techniques along with the details of development biology. |

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| | | | Fertilization, differentiation, growth and early development in mammals<br>Nucleo-cytoplasts relationship and neurotransmitters.<br>Structural and functional development of endocrine glands and the development of immune system | Study of normal development with reference to normal tables of developmental stages of fish/frog/ toad; histology of developing embryo using serial sectioning technique; study of organogenesis-histogenesis of some organs in fish, frog/toad; morpho-histology of gonads of some seasonal breeders; observations on live gametes; study of regeneration in planaria/hydra/earthworm; tail and limb regeneration in frog, tadpoles; tail regeneration in lizards; observation on normal metamorphosis in frog, tadpoles; effect of thiourea, thyroxin and prolactins, taxidermy. |
| | ZOO 506 | ZOO 506 | Classification of Apoidea, their distribution and biology, morphology and anatomy of bees.<br>Natural history, social organization, colony life, thermoregulation and nesting behaviour of bees.<br>Behaviour, nutrition, reproduction and physiological adaptations in bees.<br>Diseases, pests, predators and enemies of bees.<br>Foraging dynamics of bees, energetics of pollination, managed pollination, safety of bees against pesticides. | Bees are beneficial insects and make an integral part of the ecosystem, including agroecosystem.<br>Knowledge about these insects is important.<br><br>Identification of different kinds of bees and their castes, management and domestication of solitary and social bees, nesting behaviour of different bees, comparative differences in thermoregulation in social bees, artificial feeding, measurement of total population and other parameters of the colony; chromatographic studies of different honeys and nectars, foraging behaviour of bees. |
| | ZOO 507 | ZOO 507 | Introduction to earthworms, their taxonomy and nomenclature.<br>Distribution, ecology and the food habits of earthworms.<br>Vermiculture-the use of earthworms and their influence on soil structure, composition and infiltration.<br>Role of earthworms in agro-ecosystems, land reclamation and sustainable soil fertility.<br>Methods of vermicomposting, changes during | Earthworms play an important role in the quick bio-degeration and mineralization of organic wastes, especially the crop residues.<br><br>Earthworms-their type study; their identification and classification, methods of sampling/collection and population estimation, study of different life stages of |

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| | | | vermicomposting, chemical composition of vermicast and the economics of vermiculture. | earthworms and their culturing, food preferences of earthworms, methods of vermicomposting, chemical changes in organic matter due to earthworms activity. |
| | ZOO 508 | ZOO 508 | Activity and behaviour of mammals.<br>Adaptations in mammals.<br>Metabolism of population.<br>Ecology, communication and migration in mammals.<br>Effect of some hormones on reproductive functioning of mammals, current topics in mammalogy. | Exposure to the interaction of mammals with their environment, including activity and behaviour; adaptations, metabolism of population, communication and migration in mammals.<br><br>Identification of different types of mammals especially rodents; factors governing population density; study of rat burrows and their architecture; feeding and exploratory behaviour. |
| | ZOO 509 | ZOO 509 | General features and classification of arachnids; categories of arachnids.<br>Comparative morphology and anatomy; habitat and feeding habits of arachnids.<br>General features, feeding habits of phytophagous, stored product, house dust and soil mites.<br>Molecular, cellular and physiological basis of host-parasite interactions in mites and ticks.<br>Role of predatory mites and spiders in integrated pest management programmes; ecology and ethology of acarines and their control methods. | To sensitize the students on arachnids including acarines; how they differ from insects in their morphology and feeding habits.<br><br>Collection, extraction, preservation, mounting and study of various arachnids, dissection of spiders and mounting of organs and systems, use of rearing techniques. |
| | ZOO 510 | ZOO 510 | Minor Phyla- Concept and significance; Organization and general characters in minor phyla (with special emphasis on Ctenophora, Rotifera, Endoprocta, Ectoprocta, Phoronida, Sipunculida and Echiuroidea)<br>Body plan and symmetry- types and their significance; Organization, concept and structure of coelom; Protostomia and Deuterostomia; Segmentation; Locomotion and movement in invertebrate phyla<br>Patterns of feeding and digestion in lower metazoan, Filter-feeding in Polychaeta, Mollusca and Echinodermata; mechanism of respiration, excretion, trends in | To develop insight into fundamental concepts, host parasite interaction and their application in biology<br><br>Examination of different life stages of important invertebrates including parasites; Mounting: Trachea, Crustacean Larva, *Cyclops, Nauplius, Daphnia, Zoea, Mysis, Cercari;* Study of metamorphosis and mouthparts of insects; Study of various systems of invertebrates |

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| | | | neural evolution<br>Strategies and Evolutionary significance of invertebrate larval forms.<br>Pathogen induced diseases in animals, recognition and entry processes of pathogens into animal cells | |
| | ZOO 511 | ZOO 511 | Classification and geographical distribution of birds<br>Morphological adaptations in relation to life in air, feeding habits and aquatic mode of life; nest and nest building; breeding and parental care;<br>Habitat and niche; territorial behavior; voice and sound production; economically useful and harmful birds; bird hazards to aviation and industry.<br>Effect of urbanization on birds; measures of conservation of species-global and Indian scenario, organization involved in protection<br>Conservation and Government laws; study of bird sanctuaries of India. | To develop insight into fundamental concepts of bird life and habits Classification, identification of locally available Avian species; field study of birds; types of nests; methods of capturing and ringing of birds; visit to bird sanctuaries and poultry farms |
| | ZOO 512 | ZOO 512 | Definition of Fish, Fisheries and aquaculture. Classification of fishes with distinguishing characters and examples of each group. Indian fisheries production, utilization and demand.<br>Design, construction and maintenance of fish culture ponds. Ecology of fish pond ecosystem, Physico chemical conditions of ponds water and soil, Biological conditions of waters, Weeds and their control, Productivity of fish pond, Classification of water bodies on the basis of productivity.<br>Aquaculture Ranching and Rational fishery. Introduction to fish biotechnology Selection and hybridization, Androgenesis and Gynogenesis – natural and induced, Polyploidy induced, Sex reversal and sterility, Transgenesis, transgenes and application, Cryopreservation of gametes and embryo<br>Fins: origin, types and functions, Food and feeding habits of fishes, Digestion in fishes, | To acquaint the students about biology of fish and methods of aquaculture, which are important contributors to food security.<br>Study of Anatomy and Morphology of important group of fishes through models, taxonomic study of common families, genera and species offishes, survey of fish fauna of a specific fishing spot by each student,examination of skeleton of cartilaginous andbonyfishes, study of histological and microscopic structure in fishes, analysis of physical and chemical properties of water, qualitative and quantitative examination of macro zoobenthos and planktons in a water body. Study of Aquatic weeds |

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| | | | Respiratory system Gill structure and functions, Accessory respiratory organs swim, bladder and webberian ossicles, Osmoregulation in fishes<br>Various receptors in fishes and role of pineal organ, Hormones and reproduction: Induced breeding in carps and catfishes, Identification of different maturity stages of fishes, Migration in fishes, Fish diseases and their control, Age and growth studies | |
| | ZOO 591 | ZOO 591 | Credit Seminar | To strengthen the teaching skills of students |
| | ZOO 599 | ZOO 599 | Masters Research | To strengthen the research activity of PG students |
| Ph.D. | 10 | 03 | | |
| | ZOO 601 | ZOO 601 | Animal signals, classical ethological approach and ritualization.<br>Types of communication signals, their properties and the behavioural functions including mimicry.<br>Optimal tactics of foraging, predation and reproduction; habitat selection, territorialty.<br>Economics of insect sociality, altruism.<br>Cyclic behaviour, translocation, biological clock, entrainment and resetting; role of exogenous and endogenous factors on rhythmicity. | To acquire knowledge about recent aspects of animal behaviour and animal sociality. |
| | ZOO 602 | ZOO 602 | Ecosystem, components, primary and secondary production, rates and factors influencing these processes.<br>Animal response to different envirornments. Changing envirorunent and responses and strategies of animals.<br>Stress ecology, concept and status; stress effects on ecosystem resources, biodiversity and plant reproduction.<br>Habitat and bioresource exploitation, optimal exploitation, concepts and uses.<br>Pollution causes and effects, bioindicators, pollution management. | Ecosystem is unified entity. Any disturbance in a component means disturbance to the ecosystem as a whole. This course concentrates on the recent trends of disturbances and their effects on ecosystem. |
| | ZOO 603 | ZOO 603 | Specialized morphological adaptations of ticks and mites; macro and micro environmental factors affecting the distribution | To educate the students about mites occuring in various habitats, harmful and beneficial mites, their |

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| | | | of mites in different media.<br><br>Mites and postharvest technology, interrelationship between mites and microorganisms.<br>Predator-prey interactions with special reference to biological control of pests; mites as plant pests and vectors.<br>Role of soil mites in edaphic ecosystem; acarines and human health; mites associated with invertebrates and vertebrates.<br>Ticks in relation to livestock; recent trends in acarology. | role in different ecosystems, their management practices.<br>Collection, preservation and identification of mites upto family; study of life history of some mites |
| | ZOO 604 | ZOO 604 | Evolution of bees and sociality, bee colony.<br>Physiology of cast determination, role of hormones, controversies about bee dances.<br>Sex determination, honeybee genetics and breeding, semen preservation and insemination.<br>Bee pathogens and their interactions, bee poisoning, pesticides and their mode of action, bee repellents and their function, bee flower interaction-chemical and physiological basis.<br>Bee products and their chemical nature and uses. | Honeybees and other bees are having high economic importance to man and have been utilized for bee products and pollination of crops. Recent development of knowledge on their biology is important for their harnessing and use. |
| | ZOO 605 | ZOO 605 | Earthworm ecology; interactions with biotic and abiotic components.<br>Earthworm population dynamics; feeding preferences and assimilation; efficiency of different earthworm species.<br>Earthworms in food chains; diseases, pests, predators and enemies of earthworms.<br>Earthworms as potential sources of biodegradation, earthworms and soil productivity, waste management and resources recovery.<br>Proteins from earthworm biomass, nutritional status of earthworm protein, biohazards of earthworm meal, soil pollutants and earthworms.<br>Vermitech- the science of earthworm biotechnology; international scenario-the Indian perspectives and future trends. | Earthworms are becoming very important in biodegradation of organic matter, their studies in relation to various biotic and abiotic components and their role in different ecosystems should be clearly understood. |
| | ZOO 606 | ZOO 606 | Classification and biology of rodents. | To increase advance knowledge for research in |

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| | | | Geographical distribution and their adaptive patterns.<br>External features; activity pattern for defence and changing environmental.<br>Feeding habits; breeding cycles; family life and communication.<br>Population equilibria; rodents as vectors; rodents controls, pre and post harvest techniques. | rodentology.<br><br>Collection, identification of different types of rodents up to up to family level; study of life history of some rodents; studyof reproductive and feeding behaviour of some rodent species in your locality. |
| | ZOO 607 | ZOO 607 | Population dynamics of birds, patterns of terrestrial bird communities<br>Feeding preferences, nesting and reproductive behavior<br>Nest competitor, predators and enemies, evolution of gregarious nests, desert birds<br>Aquatic avian ecology; fresh and marine environment<br>Bird damage to field crops and their control measures. | To develop advance knowledge for research on birds |
| | ZOO 608 | ZOO 608 | Pond soil and its characteristics: pH, nitrogen, phosphorus, calcium, sulphur, iron, organic matter, and humus, physico chemical characteristics of pond water, importance of alkalinity, hardness, pH, $CO_2$.<br>Liming and its importance, nutrients in water, rules for the use of fertilizers, nitrogen and nitrogen compounds, nitrogen and phosphorus cycling in water, inorganic fertilizers and their application, organic fertilizers, their role and use, other nutrients involved in pond productivity,<br>Fish production and production factors: primary and secondary productivity, phytoplankton biomass and its role in primary productivity<br>Importance of elimination of algae, microphytes, plankton behavior and life strategies, influence of zooplankton on plankton community, bacterial food loop and its contribution to production<br>Pond stocking, management practices and production factors, critical factors limiting production, fish population and fish yield dynamics. | To generate knowledge about the recent and advanced methods of fish stock improvement and intensive culture of important fin-fish and shell-fish species.<br><br>Pond preparation and maintenance of water quality for good hygienic conditions, Study on physico- chemical characteristics of pond water, graphic and numerical methods of estimation of pond productivity, zooplankton communities and pond stocking. Study of principal types of fishing gears, fish operations, visit or tour to a fish farm/ lakes/ fish processing industry. |
| | ZOO 691 | ZOO 691 | Credit Seminar I | To strengthen the teaching skills of students |

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| | ZOO 692 | ZOO 692 | Credit Seminar II | To strengthen the teaching skills of students |
| | ZOO 699 | ZOO 699 | Doctoral Research | To strengthen the research activity of PG students |

**6.4.6 Supervision of Students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure numbers of qualified faculty in relation to the intake of the students, as pre the guidelines in the matter.*

**M.Sc.Programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 06 | 04 | 1.5:1 |
| 2019-20 | 07 | 07 | 1:1 |
| 2020-21 | 04 | 07 | 0.57:1 |
| 2021-22 | 04 | 07 | 0.57:1 |
| 2022-23 | 06 | 07 | 0.86:1 |

**Ph.D. Programme**

| Year | Number of students on roll | Number of PG faculty | Student-teacher Ratio |
|---|---|---|---|
| 2018-19 | 07 | 04 | 1.75:1 |
| 2019-20 | 07 | 07 | 1:1 |
| 2020-21 | 04 | 07 | 0.57:1 |
| 2021-22 | 03 | 07 | 0.43:1 |
| 2022-23 | 08 | 07 | 1.14:1 |

**6.4.7 Feedback of Stakeholders:** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the Degree Programme. What action the University has taken in last five years to address the issues raised in the feedback?*

The feedback from students is received from persuing and passed M.Sc. and Ph.D. degrees from this department on a standard format. From the parents of all M.Sc. and Ph.D. students also gave their feedback to the department. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observation and suggestions. These suggestions are considered by the HODs and controlling officers. Any suggestions provided by them are incorporated in the curriculum.

There is a system of annual self appraisal report (SAR) with respect of all teaching faculty. SARs are reviewed by the Deans and Directors for performance appraisal and finally approved by the Vice-Chancellor.

Based on feedback, department has also initiated working on slow release of fertilizers and pesticides, qualitative determination of pollutants for betterment of farmers.

**6.4.8 Student Intake and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Name of the degree programme | Actual student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 06 | 07 | 04 | 04 | 06 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 07 | 07 | 04 | 03 | 08 | 0 | 0 | 0 | 0 | 0 |

**6.4.9. Information Communication Technology (ICT) Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The department has established one smart class rooms under ICAR smart class room initiative. The faculty members of department of Zoology use ICT in teaching and practical. There is one seminar room equipped with interactive projector, LCD interactive panel and internet connection. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG and PG level and for sharing notes university portal, google meet and microsoft team is used.

**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented college-wise.

**6.4.10.** Since the accreditation of programmes is related to the allIndia admission from ICAR and also having weightage for college accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.11.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean **Dr. Neeraj Kumar**, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# PROGRAMME – 11

# Languages

# and

# Haryanvi Culture




भाषा एवं हरियाणवी संस्कृति विभाग
हिंदी दिवस
डॉ० अपर्णा
विभागाध्यक्ष
प्रो० वी० आर० काम्बोज
डॉ० नीरज कुमार
अधिष्ठाता


भाषा एवं हरियाणवी संस्कृति विभाग
मौलिक विज्ञान एवं मानविकी महाविद्यालय
चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय
अन्तर्विश्वविद्यालय हिन्दी दिवस समारोह

## 6.4 About the Department

Chaudhary Charan Singh Haryana Agricultural University being an agricultural university gives impetus to teaching, research and extension activities in agriculture and allied sciences. To strengthen these activities, the first & foremost tool is language. So, the Department of Languages and Haryanvi Culture (LHC) was established. The Department of LHC is a purely teaching department. It caters to the needs of all the constituent colleges of the University by teaching Under Graduate and Post Graduate courses. There is no UG programme going on in the Department, however, Department is offering one UG Course to Undergraduates of College of Agriculture at Hisar and one UG Course to Undergraduates of College of Agricultural Engineering and Technology, one UG Course to Undergraduates of College of Fisheries and two UG Courses to Undergraduate students of I.C. College of Home Science. The Department offers one course of Hindi to the students from foreign countries. The department offers two PG diploma courses i.e. Communication Skills in English and English-Hindi Translation.

The department is having a very talented and dedicated faculty that consists of one Professor, two Associate Professors and two Assistant Professors.

### Objectives of the Department

- To familiarise the students with the aspects of language and literature.
- To equip the students with communication skills.
- To inculcate confidence in students through mock interview, group discussion etc.

### 6.4.1 Brief History of the Degree Programme: *Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

The department does not provide Masters or Doctoral programme in the department but it provides two diploma programmes of one year duration as under:

### Objectives of initiating Diploma in Communication Skills in English

- To equip the students with the aspects of language and literature.
- To train the students with reading, writing, listening and speaking Skills.
- To prepare the students for their better career through mock interview, group discussion, etc.

### Accomplishments of Diploma in Communication Skills in English

- The department has well developed infra structure for the Diplomaprogramme with well equipped seminar rooms.
- The students are prepared for mock interview, group discussion etc**.** as the tailor-made English does not suit the needs of the students nowadays.
- The students areprepared with all the four skills of communication so that they express themselves very clearly.
- Correct pronunciation of words of English is focused in teaching.

### Objectives of initiating Diploma in English-Hindi Translation

- To familiarize the students with the concepts of editing, drafting and noting techniques
- To enrich the students with administrative vocabulary and Grammar
- To equip the students with the basics of translation

### Accomplishments of Diploma in English-Hindi Translation

- Students are made to learn the basic concepts of translation, editing, drafting and noting.
- Administrative vocabulary is also taught to them.

### Trainings conducted

- Dr. Aparna and Dr. Poonam Mor conducted and coordinated Three-Week Online Refresher Course On "Language Skills" in DHRM in collaboration Dept. of Languages and Haryanvi Culture from May 27 to June 16, 2020 of 44 participants from all over India.
- Dr. Devender Singh coordinated two-week Online Folk Music Workshop in DSW from July 15-28, 2021.
- Dr. Devender Singh coordinated a training on "Role of Communication Skills in Competitive Era" in DSW from March 17-30, 2022.

### Lectures delivered

- The faculty of Languages and Haryanvi Culture works as a regular resource person and delivers lectures in the trainings and refresher courses organized for students, teachers and non-teaching staff by DSW & DHRM, CCSHAU, Hisar.

### Judging the contests

- The faculty of Languages and Haryanvi Culture works as a Judge in various contests like Debate, declamation, slogan-writing etc. organized by CCSHAU & other Institutes.

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Designation | Faculty sanctioned | Faculty in place | Vacant |
|---|---|---|---|---|
| 1. | Professor | 0 | 0 | 0 |
| 2. | Associate Professor | 0 | 0 | 0 |
| 3. | Assistant Professor | 07 | 04 | 02 |

Six posts of Assistant Professors are sanctioned. There is one Professor (all promoted under CAS). There are two Associate Professors (all promoted under CAS). There are two Assistant Professors in the department.

| S. No. | Name | Designation | Experience | Qualification |
|---|---|---|---|---|
| **1.** | Dr. Aparna | Associate Professor & Head | 36 | Ph. D. |
| **2.** | Dr. Krishna Hooda | Professor | 36 | Ph. D. |
| **3.** | Mrs. Manju Mehta | Associate Professor | 36 | M. Phil. |
| **4.** | Dr. Poonam Mor | Assistant Professor | 09 | Ph.D.+N.E.T |
| **5.** | Dr. Devender Singh | Assistant Professor | 03 | Ph.D.+N.E.T |

**Faculty posted at DHRM CCSHAU, Hisar*

### Retired Faculty

| S.No. | Name | Designation | Year of Retirement |
|---|---|---|---|
| 1. | Dr. Sushma Anand | Professor and Head | 2021 |

**6.4.3 Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Sanctioned Technical and Supporting Staff | Sanctioned | In Position | Vacant Position |
|---|---|---|---|---|
| 1. | Assistant/ Steno | 01 | - | 01 (Steno) |
| 2 | Clerk | 01 | 01 | - |
| 3. | Lab Asst. / Technician/ Attendants | - | | - |
| 4. | Messenger | 01 | 01 | - |
| Total | | 03 | 02 | 01 |

Note: All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

### List of Classroom and Functional Laboratories

| Name of College/Department | |
|---|---|
| No. of lecture rooms with sitting capacity | 2 Seminar Room for UG and PG Classes (sitting capacity 30) |
| No. of lecture rooms with LCD | One Language Lab |

### Mention Theory and Practical Batches for UG Programme

At UG level, the department of Languages and Haryanvi Culture offers 5 core courses and 1 course for PG students of all the constituent colleges of the University. All of them have practical components.

- For theory in core courses, there are two sections at COA, Hisar: one section at COA, Kaul: two sections at COHS, Hisar: one section at College of Fisheries and one section at COAE&T, Hisar with an average of 60 to 65 students in each section
- For practical in core courses, there are two batches for each course with an average of 25-30 students in each batch.
- The department offers 1 course of Hindi for the students from foreign countries.
- The department offers 2 PG diploma courses i.e. Communication Skills in English and English-Hindi Translation.
- The department offers 1 course for M.Sc. and Ph.D. students of all the constituent colleges. There is only batch for practical classes.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired*

*practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| Degree Programme | Total Courses | Credit Hours | Practical and Hands-on-Training Courses | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|---|---|
| **For B.Sc.** | **5** | | | |
| | ENG-101 COA<br><br>Comprehension and Communication Skills (160 students) | 1 +1 | ENG-101 COA (6 batches)<br>• Group discussion<br>• Dialogue writing and delivery<br>• Guidelines of interview | • Benefitted by appearing in mock interviews.<br>• To practice conversation in some imaginary situations. In this way they would overcome their hesitation. |
| | ENG-102 COHS General English (73 students) | 1 +1 | ENG-102 COHS (3 batches)<br>• Phonetic symbols<br>• Conversation practice<br>• Paper reading | • To recognize the different phonetic symbols and the sounds they represented.<br>• To read and comprehend the different columns of the newspaper with ease.<br>• Benefitted by having the magical mixture of grammar vocabulary and phonetics. |
| | ENG-103 COHS Technical Writing (73 students) | 1 +1 | ENG-103 (3 batches)<br>• Phonetic transcription<br>• Tips for facing interview<br>• Public speech<br>• Group discussion | • Guided for facing interviews and mock interviews were also conducted so that they could get confidence for appearing in interviews.<br>• Learn pronunciation of English words because now they knew the proper use of dictionary.<br>• Learn to speak in front of audience and it definitely brought positive change in them. |
| | ENG-201 COAE Communication Skills And Personality Development (42 students) | 1 +1 | ENG-201 (2 batches)<br>• Conversation practice<br>• Group discussion<br>• Oral presentation; speech acts; welcome address; presidential address and vote of thanks | • Prepared for oral presentation as first impression about a person is framed in the manner he/she speaks.<br>• Prepared for group discussion which is very important process for the selection process in jobs. |
| | FEES-203 COFS Communication Skills and Personality Development (20 students) | 0+1 | • Conversation Practice<br>• Group discussion<br>• Oral presentation; speech acts; welcome address; presidential address and vote of thanks | • Prepared forstructural and functional grammar and vocabulary.<br>• Prepared forprocess of communication, verbal and non verbal communication, listening and note taking, writing skills, oral presentation skills; field diary and lab record; indexing, footnote and bibliographic procedures.<br>• Prepared for group discussion which is very important process for the selection process in |

| | | | | |
|---|---|---|---|---|
| | | | | jobs.Comprehension of general and technical articles, precis writing, summarizing, abstracting; individual and group presentations, impromptu presentation, public speaking; group discussion, organizing seminars and conferences. |

**6.4.6. Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter*

The Department does not have PG/Ph.D.programmes.

**6.4.7. Feedback of stakeholders:***Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the university has taken in last five years to address the issues raised in the feedback?*

The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get informal feedback from the students based on their parents' observations and suggestions. These suggestions are considered by the HODs and controlling officers. Till date there is positive response in the department.

**6.4.8. Student intake and Attrition in the Programme for last Five Years:**

The Department does not have degree programmes. The details of the two diploma programmesare as under-

| Name of the degree program. | Actual students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| PGDC-I | 11 | 15 | 16 | 16 | 19 | 45 | 25 | 20 | 20 | 5 |
| PGDC-II | 5 | 4 | 11 | 10 | 16 | 75 | 80 | 45 | 50 | 20 |

**6.4.9. ICT Application in Curricula Delivery:**

Use of ICT application in teaching and practical for curricula delivery

| Courses | Total courses | Theory | Type of ICT Application |
|---|---|---|---|
| B.Sc. | 07 | Lecture method | Power point, blackboard, white board, submission of assignments |
| M.Sc. (PGS-502) | 01 | ,, | Power point, blackboard, white board, submission of assignments |
| PhD (PGS-502) | 01 | ,, | Power point, blackboard, white board, online submission of assignments |

The faculty members of the department use ICT in teaching and practical. There is two seminar rooms with computer, LCD projector and internet connection. All faculty members have computer with printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students.

This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG, PG and Ph.D. level. During COVID-19 pandemic, the department adopted online teaching platforms such as Google Meet and Teams for effective teaching. All the teaching materials were successfully uploaded on the ERP module and Microsoft teams to ensure the accessibility of teaching material to all the students. A Language Lab has also been established in the Department.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. degree programmes, separately, and to be presented college-wise.

**6.4.11.** Since the accreditation of programmes is related to the All India admission from ICAR and also having weightage for college accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

### 6.4.12. Certificate (Applicable when SSR is submitted for Programme)

I, the Dean **Dr. Neeraj Kumar**hereby certify that the information contained in the Sections 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the college with Date & Seal**

# PROGRAMME – 12

# Computer Section





### 6.4.About the Section:

The computer centre was established in 1979 by CCS HAU in College of Basic Sciences & Humanities with the aim to provide central facility of computer and internet to the faculty and students. The administrative control is with the Dean, College of Basic Sciences & Humanities. The centre is located in the College of Basic Sciences & Humanities building with a total covered area of approximately. 10,000 sq. ft. It has 8 rooms (seminar room, staff room, in-charge's room, software development lab, server and switch room, network lab, teaching lab etc.). The computer section has at present more than 60 desktop PCs and 6 printers for the use of students, faculty and staff. The installation of campus-wide GIGABIT network is implemented by this section with funds from AHRD project. The campus wide network spread over more than 18 K.M. through fiber optic cables and is providing Internet facility to the stakeholder though 1 GBPS (Shared) leased line provided by national knowledge network (NKN). A firewall (Sophos) has been installed to ensure the internet security. The centre is working as the gateway of internet connectivity for the university. This centre is playing a great role in providing the Wi-Fi facility to the students at their hostels as well as at colleges and to the University employees in the offices.

Integrated University Management System (IUMS) that acts as the foundation and collaborative platform to foster administrative, research and education delivery included e-Learning methodologies is successfully implemented by this centre. IUMS provide a complete e-governance framework and web based ERP (enterprise resource planning) product for effectively managing complete university functions including real time information processing and knowledge management. ERP includes 19 modules including student life cycle modules, financial management modules and operation/administration modules. Aadhar enabled bio-metric attendance system (AEBAS), Human Resource Management System (HRMS: Haryana Government Portal), Public Financial Management System (PFMS), Anti-Plagiarism cloud based software, G-Suite and Microsoft team for education are also implemented by this centre in the university.

Various computer courses at UG and PG level have been offered by the computer centre and in order to cater the need of scientific community for their statistical data analysis. This centre organized refresher courses on computer application. This centre is also engaged in conducting short training on statistical data analysis for PG students/research scholar. The computer section is always dedicated to analysis data of the students and researchers though SPSS/SAS/ INDOSTAT/OPSTAT etc.

### Thrust Area of the Section:

- Teaching of computer courses in UG and PG Classes (**Annexure COMP-III**)
- Maintenance of campus wide area network
- Providing internet/Wi-Fi connectivity to university campus
- Statistical data analysis using SPSS, SAS Indostat and in-house developed online statistical analysis software OPSTAT.
- Statistical guidance for students
- Need based computer trainings for faculty/students (**Annexure COMP-I**)
- Need based software development
- Implementation of state government initiatives regarding digitalization such as Aadhar Enabled Biometric Attendance System (AEBAS).
- Implementation and maintenance of Anti-Plagiarism software (Turnitin)

- Implementation of IUMS/ERP modules for the Digitization of University Work
- Creation and Maintenance of University Website

**6.4.1.Brief History of the Degree Programme**:*Clearly mention in which year the Degree Program was initiated along with its objective and accomplishments.*

This section does not provide masters or doctoral programme but offer various computer courses to the students of different colleges during their under graduate, masters or doctoral programme.

**6.4.2. Faculty Strength:***The faculty strength of the Degree Programme needs to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty adjunct faculty or any other arrangements is being made to complete the curriculum, it should be clearly mentioned in the report.*

| S. No. | Faculty sanctioned | Faculty sanctioned | Faculty in place | Vacant position |
|---|---|---|---|---|
| 1 | Professor and equivalent | - | - | - |
| 2 | Assistant Professor and equivalent | 3 | 2 | 1 |
| | Total | 3 | 2 | 1 |

Note: All the faculty of this programme is assigned the responsibilities for the multiple programmes. Faculty appointed in teaching also carries extension activities. The faculty publications are listed in Annexure COMP-II

**Faculty Profile:**

| S. No | Name | Designation | Experience | Qualification |
|---|---|---|---|---|
| 1. | Dr. Ram Niwas | Assistant Professor (Stage III) | 26 | M. Sc. (Stat.), M. Sc. (Computer Sci.), Ph. D. (Statistics), NET |
| 2. | Ms. Sheetal Choudhary | Assistant Professor | 5 | MCA, UGC NET, Pursuing Ph. D. |

**6.4.3. Technical and Supporting Staff:***The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No | Sanctioned Technical and supporting staff | Sanctioned | In position | Vacant position |
|---|---|---|---|---|
| 1. | Computer Programmer | - | *2 | - |
| 2. | Junior Programmer | 2 | 1 | 1 |
| 3. | Console Operator-cum-Data Entry Operator | 2 | **2 | - |

*Note: All the staff is assigned the responsibilities for the multiple programmes.*

**Sanctioned post is in KVKs*

***One post is in KVK Panchkula*

**6.4.4. Classrooms and Laboratories:***Mention the number of class rooms and functional laboratories available for the Degree Programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities,*

*workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention Theory and practical batches for the Degree Programme.*

### List of Classroom and Functional Laboratories and Facilities

| **Name of College/Department** | |
|---|---|
| No. of lecture rooms with sitting capacity | 1 With seating capacity of 30 |
| No. of labs | 2 Computer labs UG and PG having 30 and 15 computers respectively |
| Servers (2) | 1. HP Prolaint DL580G4 (1) (Application Server)<br>2. DELL Server PowerEdge T440 |
| Firewall | Sophos XG330 |
| Controllers | WLC2800 Juniper Make (2) |
| Router | Juniper Router M10i (1) |
| Core Switches | QFX5100 Juniper Make (3) |
| Network Switches (PoE) for wi-fi | EX3300 Juniper Make (18) |
| Network Switches for LAN | 75 (Entrasys, DLink and HP) |
| Access Points (Wi-fi) | Juniper Make (190) |
| Network access points (I/O box) | 1400 Approximately |
| Desktop Computers for Labs and Staff | 60 |
| UPS | 30 KVA PulseTech Make (1) |
| Interactive panel | 86" interactive panel of newline with OPS |

*Mention theory and practical batches for UG Programme:*

**6.4.5. Conduct of Practical and hands-on-Training:***It is important to have a sound grasp of the theory that underlines any professional degree. But there are some skills that can only be learned through hands-on –practice. It is important that much of the learning material in any given course should be provided in way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hand-on-training as per curriculum and meeting above mentioned requirements.*

| **Degree programme** | **Total courses** | **Practical courses** | **Hands-on training courses** | **How far students are getting desired practical and hands-on-training as per the curriculum (bullet form)** |
|---|---|---|---|---|
| UG | 04 | 04 | 04 | As per course curriculum the practical and hands-on-training are given |
| 1. | FEES 102 /ICT 102 | Information and Communication | 1+1 | • Introduction to computers<br>• Number system<br>• Introduction to audio visual aids<br>• Introduction to internet and networking<br>• Learn about MS Word, MS Excel, MS Power Point, MS Access |
| 2. | COMP 102 | Introductory Agricultural Informatics | 1 + 1 | • Introduction to computers<br>• Learn about MS Word<br>• Learn MS Excel<br>• Learn MS Power Point<br>• Learn MS Access<br>• Introduction to WWW and E-mail<br>• Programming with HTML<br>• Introduction to XML |
| 3. | COMP 301 | Agricultural Informatics | 1 + 1 | • Introduction to Computers<br>• Introduction to Operating System |

| | | | | |
|---|---|---|---|---|
| | | | | • Learn about MS offices packages MS Word, MS Excel, MS Power point, MS Access<br>• Introduction to Internet and Networking.<br>• Introduction to programming languages. |
| 4. | ABM 541 | Computer Applications for Agribusiness | 1+1 | • Basics of Computers<br>• Business value of internet<br>• Management Information System<br>• Artificial intelligence and neural network |
| PG | 04 | 04 | 04 | As per course curriculum the practical and hands-on-training are given |
| 1. | COMP 501 | Computer Programming in Statistical Research | 2 + 1 | • Introduction to computer System<br>• Memory concept<br>• Number System<br>• Concept of Algorithm and Flowchart,<br>• Basics of programming<br>• Coding in Fortran language<br>• Assignment Statement, Subroutines and variable etc |
| 2. | COMP 502 | Computer Fundamental | 1 + 2 | • Introduction to computer, Organization<br>• Memory concept<br>• Input & Output devices<br>• Learn about MS office tools like MS Word, MS Excel,<br>• Statistical analysis through MS Excel,<br>• Creation and updation of database using MS Access etc.<br>• Creation of presentation using MS Powerpoint |
| 3. | COMP 503 | Programming through 'C' | 2 + 1 | • Introduction to Data structure<br>• Introduction to Sorting and searching algorithm<br>• File organization<br>• Concept of C Language<br>• Conditional statement in C<br>• Looping in C<br>• Array and structures<br>• Functions and pointers in C |
| 4. | COMP 504 | Scientific Data Processing | 1 + 2 | • Introduction to Statistical Package<br>• Data Transformation and statistical package<br>• Handling the statistical procedure |

In addition to this, computer trainings are organized which are listed in **Annexure COMP-I**.

**6.4.5. Supervision of Students in PG/PhD Programmes**: *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter*

NA

**6.4.6. Feedback of Stakeholders (Students, parents, industries, employers, farmers etc.):***Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the university has taken in last five years to address the issues raised in the feed back?*

NA

**6.4.6 Student Intake and Attrition in the Programme for last five years:***Year wise information on sanctioned strength, actual intake and attrition in the last five years of the degree programme, in the tabular form, shall be provided.*

NA

**6.4.7 ICT Application in Curricula Delivery**: *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the degree programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned*

- The faculty of this section has been teaching the practical courses to the students of UG classes in the computer labs having ICT tools like computers, printers, and internet. These students learn about the ICT tools in their course like MS Word, MS Powerpoint, MS Excel, Graphical Representation of data, Internet, html, programming languages, statistical software like SAS, SPSS and R etc.
- The faculty of this section has taught the theory courses to the PG students in the seminar room equipped with ICT tools like projector with LCD and computer, white board.

**6.4.8** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and PhD degree programmes, separately, and to be presented college-wise.

**6.4.9** Since the accreditation of programmes is related to the all-India admission from ICAR and also having weightage for college accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.10** Certificate (Applicable when SSR is submitted for programme)

I, the Dean **Dr. Neeraj Kumar** hereby certify that the information contained in the section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

CCSHAU
COLLEGE OF BASIC SCIENCES & HUMANITIES
1970

# ANNEXURES

1. M.Sc. Biochemistry and Ph.D. Biochemistry
2. M.Sc. Botany & Plant Physiology and Ph.D. Botany & Plant Physiology
3. M.Sc. Chemistry and Ph.D. Chemistry
4. M.Sc. Food Science & Technology and Ph.D. Food Science & Technology
5. M.Sc. Mathematics & Statistics and Ph.D. Mathematics & Statistics
6. M.Sc. Microbiology and Ph.D. Microbiology
7. M.Sc. Molecular Biology and Biotechnology
   Ph.D. Molecular Biology and Biotechnology
   M.Sc. Bioinformatics
8. M.Sc. Physics and Ph.D. Physics
9. M.Sc. Sociology and Ph.D. Sociology
10. M.Sc. Zoology and Ph.D. Zoology
11. Computer Section

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1970

*Annexure BIOCHEM-I*

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| 2018-19 | | | | | |
|---|---|---|---|---|---|
| M. Sc.- 4 | | | Ph. D.- 3 | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | Ankush | 2018BS1M | 1 | Anju Rani | 2018BS1D |
| 2 | Nisha | 2018BS2M | 2 | Taranjeet Kaur | 2018BS2D |
| 3 | Sonam Sihag | 2018BS3M | 3 | Vikram Singh | 2018BS3D |
| 4 | Sonia | 2018BS4M | | | |
| **2019-20** | | | | | |
| M. Sc.- 6 | | | Ph. D.- 5 | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | Deepak | 2019BS1M | 1 | Kajal Kumari | 2019BS1D |
| 2 | Ekta Tanwar | 2019BS2M | 2 | Manne hemmanth | 2019BS2D |
| 3 | GampaMalesh | 2019BS3M | 3 | Rashi | 2019BS3D |
| 4 | Kiran | 2019BS4M | 4 | SmruitirekhaSahu | 2019BS4D |
| 5 | Sonika Jakhar | 2019BS5M | 5 | Sonia | 2019BS5D |
| 6 | Jyoti | 2019BS6M | | | |
| **2020-21** | | | | | |
| M. Sc.- 4 | | | Ph. D.- 3 | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | Kajal | 2020BS1M | 1 | Ande Aravind Reddy | 2020BS1D |
| 2 | Ritu | 2020BS2M | 2 | Sakshi Goyal | 2020BS2D |
| 3 | ShivangiBishnoi | 2020BS3M | 3 | Sonam Sihag | 2020BS3D |
| 4 | Sudeep Sindhu | 2020BS4M | | | |
| **2021-22** | | | | | |
| M. Sc.- 6 | | | Ph. D.- 4 | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | ChandanLayek | 2021BS1M | 1 | Manju | 2021BS1D |
| 2 | Hitesh | 2021BS2M | 2 | Sunil | 2021BS2D |
| 3 | Jyoti | 2021BS3M | 3 | Sonu | 2021BS3D |
| 4 | Mekaphthula Shankar Reddy | 2021BS4M | 4 | Surbhi Sahewala | 2021BS04D |
| 5 | Nisha | 2021BS5M | | | |
| 6 | Parveen | 2021BS6M | | | |
| **2022-23** | | | | | |
| M. Sc.- 4 | | | Ph. D.- 2 | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. No.** | **Name** | **Admission no.** |
| 1 | AnkitaSaroha | 2022BS01M | 1 | Jyoti | 2022BS02D |
| 2 | Diksha | 2022BS02M | 2 | Shivangi Bishnoi | 2022BS03D |
| 3 | Rekha | 2022BS04M | | | |
| 4 | Arman | 2022BS45M | | | |

*Annexure BIOCHEM-II*

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. no. | Name &Admn. No. | Guide | Title of research problem |
|---|---|---|---|
| **Ph. D.** | | | |
| 1 | Narender Mohan, 2017BS01D | Dr. Ajay Pal | Development, characterization and application of bionanoconjugate on terminal heat stress in wheat (*Triticum aestivum* L.) |
| 2 | Pernika Gupta, 2017BS02D | Dr. Jayanti Tokas | Development of herbal nano-formulations for enhancing shelf life of guava (*Psidium guajava* L.) fruit |
| 3 | Taranjeet Kaur, 2018BS02D | Dr. Ajay Pal | Development, characterization and application of chitosan-based naocomposite to mitigate drought stress in wheat (*Triticum aestivum* L.) |
| 4 | Vikram Singh, 2018BS03D | Dr. Shiwani Mandhania | Development, characterization and efficacy of bionanocluster of indole acetic acid and cobalt chloride on seed germination and yield in cotton (*Gessypiumhirsutum* L.) |
| 5 | Kajal Kumari, 2019BS01D | Dr. Sushil Nagar | Purification, characterization and application of microbial xylanase(s) for production of xylo-oligosaccharides |
| 6 | Manne Hemanth, 2019BS02D | Dr. Nisha Kumari | Effects of exogenous sulphur in alleviating lead toxicity in Indian mustard (*Brassica juncea* (L.)) |
| 7 | Rashi, 2019BS03D | Dr. Shiwani Mandhania | Biochemical and metabolites profiling for decoding resistance mechanism in upland cotton against *Meloidogynae incognita* |
| 8 | Sonia, 2019BS05D | Dr. Nisha Kumari | Ameliorative effect of calcium and salicylic acid in Indian mustard (*Brassica juncea* L.) under cadmium toxicity |
| 9 | Ande Aravind Reddy, 2020BS01D | Dr. Shiwani Mandhaina | Impact of chemicals and bioagent on drought stress in upland cotton (*Gossypium hirsutum* L.) |
| 10 | Sakshi Goyal, 2020BS02D | Dr. Sushil Nagar | Development and characterization of nanoparticles basedaptasensor for neonicotinoid detection |
| 11 | Sonam Sihag, 2020BS03D | Dr. Ajay Pal | Development and evaluation of Zn-bionanocrystalfor wheat and pearl millet grown under Zn-deficient and Zn-sufficient conditions |
| 12 | Manju Rani, 2021BS01D | Dr. Jayanti Tokas | Impact of iron and zinc application on physio-biochemical and antimicrobial properties of wheatgrass |
| 13 | Sonu, 2021BS02D | Dr. Sushil Nagar | Effect of iron nanoparticles on physio-biochemical and molecular changes in forage sorghum grown under iron deficiency |

| | | | |
|---|---|---|---|
| 14 | Sunil, 2021BS03D | Dr. Vinod Kumar | Effect of iron and sulphur applications on physiological, biochemical and molecular attributes of contrasting pearl millet genotypes grown under iron deficient conditions |
| 15 | Surbhi Sahewala, 2021BS04D | Dr. Ajay Pal | Formulation and impact analysis of chito-oligosaccharide-urea on source activity-sink strength in wheat (*Triticum aestivum* L.) |
| 16 | Jyoti, 2022BS02D | Dr. Nisha Kumari | Nutitional and physio-biochemical attributes of mustard microgreens in response to selenium and iodine application |
| 17 | Shivangi Bishnoi, 2022BS03D | Dr. Jayanti Tokas | Impact assessment of iron and zinc application on nutritional attributes of mungbean microgreens |
| **M.Sc**. | | | |
| 1. | Kajal Yadav, 2020BS01M | Dr. Ajay Pal | Optimization of sprouting conditions and estimation of antioxidant potential of chickpea (*Cicer arietinum* L.) seeds |
| 2. | Chandan Layek, 2021BS01M | Dr. Jayanti Tokas | Impact of humic acid seed priming on biochemical constituents of radish microgreens |
| 3. | Hitesh Kumar, 2021BS02M | Dr. Sushil Nagar | Biochemical analysis of cowpea varieties at different spacing and fertilizer levels |
| 4. | Jyoti, 2021BS03M | Dr. Shiwani Mandhania | Effect of different chemicals on germination and antioxidant system of cotton seeds under salinity |
| 5. | M. Shankar Reddy, 2021BS04M | Dr. Neeraj Kharor | Biochemical analysis of forage sorghum [*Sorghum biocolor*(L.) Moench] under different fertilizer Levels |
| 6. | Nisha, 2021BS05M | Dr. Vinod Kumar | Physiological and biochemical characterization of sorghum [*Sorghum biocolour* (L.) Moench] genotypes for forage quality traits |
| 7. | Parveen, 2021BS06M | Dr. Nisha Kumari | Biochemical manifestation for induced resistance in Indian mustard against Sclerotinia rot |
| 8. | Ankita Saroha, 2022BS01M | Dr. Nisha Kumari | Effect of calcium chloride on quality of mustard microgreens |
| 9. | Diksha, 2022BS02M | Dr. Vinod Kumar | Effect of sulphur applications under iron deficiency in wheat seedling |
| 10. | Rekha, 2022BS04M | Dr. Jayanti Tokas | Effect of selenium biofortification on nutritional quality of *Brassica juncea* (L.) microgreens |
| 11. | Arman, 2022BS45M | Dr. Shiwani Mandhania | Yet to finalize |

*Annexure BIOCHEM-III*

## STUDENTS' PARTICIPATION IN SEMINAR/CONFERENCES/ WORKSHOP ETC.

| Sr. no. | Name of student andadmn. no. | Oral/Poster | Seminar/ Conference/Workshop details |
|---|---|---|---|
| **M.Sc./ Ph.D. Students** | | | |
| 1. | Taranjeet Kaur 2018BS02D | Poster | International Congress on "Cotton and other fibre crops", from 20-23 February, 2018 at ICAR Research Complex for NEH Region, Umiam (Barapani), Meghalaya, India. |
| 2. | Sonam Sihag 2020BS03D | Oral | Workshop on "Career opportunities for Students: fellowships/awards/scholarships", from October 16-17, 2018 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 3. | Vikram Singh 2018BS03D | Poster | International Conference on "Advances in agricultural, biological and applied sciences for sustainable future (ABAS-2018)", from October 20-22, 2018 at Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, India. |
| 4. | Sonam Sihag 2020BS03D | Poster | International Conference on "New millennia agriculture- novel trends and future scenario", from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 5. | Vikram Singh 2018BS03D | Poster | |
| 6. | Sonam Sihag 2020BS03D | Oral | International Webinar on "Trends in technology for agriculture, food, nutrition, environment and health", on October 2, 2020 at Jagannath University, Bahadurgarh, Haryana, India. |
| 7. | Sonam Sihag 2020BS03D | Oral | Webinar on "Computational techniques for applied sciences", from July 06-07, 2020 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 8. | Kajal Kumari, 2019BS01D | Poster | International Conference on "Global initiative in agricultural, forestry and applied sciences for food security, environmental safety and sustainable development (GIAFAS-2021)", from October 17-18, 2021 at Shri Guru Ram Rai University, Dehradun, Uttarakhand, India. |
| 9. | Sakshi Goyal 2020BS02D | Poster | |
| 10 | Sonam Sihag 2020BS03D | Oral | International Webinar on "Not-too-conventional thoughts about embryo culture", from June 15, 2021 at National Dairy Research Institute, Karnal, Haryana, India. |
| 11 | Surbhi Sahewalla 2020BS03D | Poster | International Conference on "Biotechnological initiative for climate resilient agriculture", from January 07-09, 2022 at Dr. Rajendra Prasad Central Agricultural University, Pusa, New Delhi, India. |
| 12 | Sonia Rani 2019BS05D | Poster | International Symposium on "Cereals for food security and climate resilience", from January 18-20, 2022 at ICAR-IIWBR, Karnal, Haryana, India. |
| 13 | Sonia Rani 2019BS05D | Oral | International Conference on "Environmental, agricultural, chemical and biological sciences", from January 22-23, 2022 at Kamaraj College, Thoothukudi, Tamilnadu, India. |
| 14 | Sonam Sihag 2020BS03D | Poster | National Conference on "Mathematical sciences for applied and agricultural research", on February 22, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 15 | Sonam Sihag 2020BS03D | Oral | National Webinar on "Innovations in crop improvement for national food security", on June 4, 2022 at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. |
| 16 | Sonam Sihag | Poster | International Conference on "Innovative and current advances in |

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|---|---|---|---|
| | 2020BS03D | | agriculture and allied sciences", from June 12-14, 2022 at Himachal Pradesh University, Summer Hill, Shimla, Himachal Pradesh, India. |
| 17 | Jyoti Duhan 2019BS52M | Poster | |
| 18 | Sonia Rani 2019BS05D | Poster | |
| 19 | Sakshi Goyal 2020BS02D | Poster | |
| 20 | Kajal Kumari 2019BS01D | Poster | |
| 21 | Sonia Rani 2019BS05D | Poster | North Zonal Seminar on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25th, 2022 at ICAR-Sugarcane Breeding Institute Regional Center, Karnal, Haryana, India. |
| 22 | Manne Hemanth Kumar 2019BS02D | Poster | |
| 23 | Vikram Singh 2018BS03D | Oral | Workshop on "Aromatic plants", on July 26, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 24 | Sonam Sihag 2020BS03D | Oral | National Webinar on "Quit India movement to food secured India", on August 8, 2022 at Maharana Pratap University of Agriculture and Technology, Udaipur. |
| 25 | Rashi 2019BS03D | Poster | National Symposium on "Paradigm shift in cotton cultivation", from August 8-10, 2022 at Maharana Pratap University of Agriculture and Technology, Udaipur. |
| 26 | Jyoti (2021BS03M) | Poster | |
| 27 | Vikram Singh 2018BS03D | Poster | |
| 28 | Kajal Kumari 2019BS01D | - | Workshop on "Basics to advanced bioinformatics, genomics and NGS data analytics", from August 13-31, 2022 at Nextgenhelper, New Delhi, India. |
| 29 | Vikram Singh 2018BS03D | - | Seminar on "Elsevier empowering agriculture research in India in association with cera", onAugust 24, 2022at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 30 | Vikram Singh 2018BS03D | Oral | Workshop on "Career opportunities for students: fellowships/ awards/ scholarships", from October 16-17, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 31 | Kajal Kumari 2019BS01D | Oral | International Conference on "Advances in biopolymers and composites: Health, environment and energy (ABCHEE, 2022)", from October 20-22, 2022 at Motilal Nehru National Institute of Technology Allahabad, Prayagraj, Uttar Pradesh. India. |
| 32 | Manju Rani 2021BS01D | - | Workshop on "MBBT in association with elan and vision" from December 20-23, 2022 at IIT Hyderabad. India. |
| 33 | Sonam Sihag 2022BS03D | Poster | International conference on "climate resilient agriculture for food security and sustainability "from Feb 17-19, 2023 |
| 34 | Taranjeet Kaur 2018BS02D | Poster | |
| 35 | Taranjeet Kaur 2018BS02D | Oral | |
| 36 | Sonu 2021BS02D | Poster | |
| 37 | Rashi | Poster | |

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|---|---|---|---|
| | 2019BS03D | | |
| 38 | Vikram 2018BS03D | Poster | |
| 39 | Nisha 2021BS05M | Poster | |
| 40 | Surbhi Sahewalla 2021BS04D | Poster | |
| 41 | Mekapothula Shanker Reddy 2021BS04M | Poster | |
| 42 | Sunil | Poster | |
| 43 | Tranjeet Kaur 2018BS02D | Oral | International conference on "Biotechnology and human welfare: vision 2023 held on March 3-4, 2023 at CDLU, Sirsa |
| 44 | Sakshi Goyal 2020BS02D | Oral | International conference on "climate resilient agriculture for food security and sustainability "from Feb 17-19, 2023 |
| 45 | Kajal Kumari 2019BS01D | Poster | 63rd Annual International Conference of AMI "Microbial Technologies for sustainable Biosphere" from 2-4 Feb, 2023 at MDU, Rohtak |

***Annexure BIOCHEM-IV***

## STUDENT PARTICIPATION IN TRAININGS/ WORKSHOPS

| Sr.no. | Name of student and admn no. | Duration | Title |
|---|---|---|---|
| **1.** | Surbhi Sahewalla 2020BS03D | 8-02-2022 to 19-02-2022 | Training Programme on "Skill in handling and management of agrochemicals and their impact on health and environment after 75 years of independence", at Assam Agricultural University, Jorhat, Assam, India. |
| **2.** | Surbhi Sahewalla 2020BS03D | 1-03-2022 to 5-03-2022 | Training Programme on "Sensitization on entrepreneurship development for agro-based industries", at Assam Agricultural University, Jorhat, Assam, India. |
| **3.** | Sakshi Goyal 2020BS02D Kajal Kumari, 2019BS01D | 17-05-2022 to 24-05-2022 | Training Programme on "Utilizing the scientific and technologies infrastructure (STUTI)", at Punjab Agricultural University, Ludhiana, Punjab, India. |
| **4.** | Sonam Sihag 2020BS03D | 11-07-2022 to 16-07-2022 | Training programme on "Advanced microscopy for sustainable agriculture", at Amity University, Noida, Uttar Pradesh, India. |
| **5.** | Sakshi Goyal 2020BS02D | 10-10-2022 to 20-10-2022 | Training programme on "Valorisation of crop residues and its management", at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| **6.** | Kajal Kumari 2019BS01D | 10-10-2022 to 20-10-2022 | |
| **7.** | Sonu 2020BS02D | 10-10-2022 to 20-10-2022 | |

*Annexure BIOCHEM-V*

## PLACEMENTS RECORD

| Sr. No. | Name of student(s) | Placements (duration 2018-2023) |
|---|---|---|
| 1. | Mr. Deepak | Agriculture Supervisor, State Government Haryana |
| 2. | Ms. Aarti | Probationary Officer in nationalized bank |
| 3. | Dr.Preeti Goyal | Assistant Professor, Department of Biochemistry, PAU, Ludhiana |
| 4. | Dr. Ekta Verma | PGT Biology, School Education, Haryana Government |
| 5. | Dr.Babita Kumari | Research Fellow, CCSHAU, Hisar |
| 6. | Dr.Punesh | Assistant Professor, Eternal University, H.P. |
| 7. | Dr. Sweety | Assistant Professor (Contract), CRM Jat College, Hisar |
| 8. | Dr. Reena Rana | PGT Biology, School Education, Haryana Government |
| 9. | Dr. Bunty Sharma | Assistant Professor, Baddi University, H.P. |
| 10. | Dr.Ritu Saini | Assistant Professor, University College, Kurukshetra |
| 11. | Dr. Naresh | Assistant Professor, Eternal University, H.P. |
| 12. | Ms. Kiran | Research Fellow, Agriculture University, Jodhpur |
| 13. | Ms. Sonam Sihag | Selected for the post of Scientist B, DRDO |

*Annexure BIOCHEM-VI*

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. No. | Name | Name of scholarship support | Sr. No. | Name | Name of scholarship support |
|---|---|---|---|---|---|
| 1. | Gampa Malesh 2019BS3M | ICAR-NTS(PG) | 8. | Anju Rani 2018BS1D | CSIR-UGC JRF |
| 2. | Kiran 2019BS04M | CCS HAU, Merit Fellowship | 9. | Vikram Singh 2018BS3D | |
| 3. | Ritu 2020BS02M | | 10. | Kajal Kumari 2019BS01D | |
| 4. | Sudeep Sindhu 2020BS04M | | 11. | Rashi 2019BS03D | |
| 5. | Chandan Layak, 2021BS01M | ICAR-NTS(PG) | 12. | Sonia 2019BS05D | |
| 6. | Nisha 2021BS05M | CCS HAU, Merit Fellowship | 13. | Manju Rani 2021BS01D | |
| 7. | Himani 2015BS4D | PM Fellowship of SERB, DST, New Delhi and CII | | | |

***Annexure BIOCHEM-VII***

## NAME OF STUDENTS CLEARED NET, ARS, GATE OR ANY OTHER EXAMINATION

| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|
| 1 | 4 | 2 | 1 | 4 | 12 |
| Name of the student | Name of the student | Name of the student | Name of the student | Name of the student | |
| Anju Rani 2018BS1D | Surina Bhadu 2015BS6D | Kajal Kumari 2019BS01D | Sonam Sihag 2020BS03D | Manju Rani 2021BS01D | |
| | Vikram 2018BS3D | Sonia Rani 2019BS05D | | Sunil 2021BS02D | |
| | AnkushYadav 2018BS1M | | | Jyoti 2022BS02D | |
| | Rashi 2019BS03D | | | Surbhi Sahewalla 2021BS04D | |

***Annexure BIOCHEM-VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| Year | Name of students | Name of fellowship |
|---|---|---|
| 2018-19 | Anju | CSIR-UGC JRF |
| 2019-20 | Vikram Singh | |
| 2019-20 | Rashi | |
| 2020-21 | Sonia | |
| 2020-21 | Kajal Kumari | |
| 2021-22 | Sunil | National Fellowship of OBC |
| 2022-23 | Manju Rani | CSIR-NET JRF |
| 2022-23 | Sonam Sihag | |

***Annexure BIOCHEM-IX***

| Sr. no. | Title of the paper/book | NAAS rating |
|---|---|---|
| **M.Sc.** | | |
| **2018-19** | | |
| 1 | Balan, D., Tokas, J. and Singal, H.R. (2018). UDP-glucose pyrophosphorylase: Isolation, purification and characterization from developing thermotolerant wheat (*Triticum aestivum*) grains. *Protein Expression and Purification*, **148**: 68-77. | 7.65 |
| **2019-20** | | |
| 2 | Rani, A., Tokas, J., Himani and Singal, H. R. (2019). Evaluation of antioxidative responses in cotton (*Gossypium hirsutum* L.) genotypes imparting resistance to sucking pest attack. *International Journal of Current Microbiology and Applied Sciences*, **8(8):** 2694-2707. | - |
| 3 | Rani, A., Tokas, J., Anamika and Singal, H. R. (2019). Indices of oxidative stress in cotton (*Gossypium hirsutum* L.) genotypes after infestation of sucking pest. *International Journal of Chemical Studies*, **7(5):** 1577-1582. | - |
| **2020-21** | | |
| 4 | Kumari, A., Chugh, L., Kumar, V., Nagar, S. and Kharor, N. (2020). Phytase from pearl millet: its partial purification and characterization. *Forage Research*, **46(1):**78-83. | 4.84 |

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|---|---|---|
| 5 | Chakraborthy, I., Kumari, P., Pahuja, S. K., Tokas, J. and Kumar, V. (2020). Elucidation of combining ability and fodder potential of sorghum hybrids. *Forage Research*, **46(2):** 132–140. | 4.84 |
| 6 | Mohan, N., Kumari, N., Jattan, M., Avtar, R. and Rathore, V. (2020). Aftermath of terminal heat stress on Indian mustard (*Brassica juncea* L.): A brief review. *Journal of Oilseed Brassica*, **11(1):** 1-8. | 4.77 |
| 7 | Mohan, N., Kumari, N., Jattan, M., Avtar, R., Rani, B. and Sushil (2020). Response of antioxidative system of *Brassica juncea* (L.) Czern&Coss. To terminal heat stress. *Bangladesh Journal of Botany*, **49(4):** 1185-1188. | 6.23 |
| **2021-22** | | |
| 8 | Naveen, N., Kumari, N., Avtar, R., Jattan, M., Ahlawat, S., Rani, B., Malik, K., Sharma, A. and Singh, M. (2021). Evaluation of effect of brassinolide in *brassicajuncea* leaves under drought stress in field conditions. *Horticulturae*, **7:**514. https://doi.org/10.3390 /horticulturae7110514. | 8.33 |
| **2022-23** | | |
| 9 | Tanwar, E., Nagar, S., Kumari, K., Mallesh, G. and Goyal, S. (2022). Enrichment of papaya juice using covalently immobilized xylanase from *Bacillus pumilus* SV-85S. *Biomass Conversion and Biorefinery*, 1-17.https://doi.org/10.1007/s13399-022-03521-x | 10.050 |
| **Ph.D.** | | |
| **2018-19** | | |
| 1. | Kumar, N., Tokas, J., Kumar, P. and Singal, H.R. (2018). Effect of salicylic acid on post-harvest quality of tomato (*Solanum lycopersicum* L.) fruit. *International Journal of Chemical Studies*, **6**(**1**): 1744-1747. | 5.31 |
| 2. | Verma, E., Tokas, J. and Singal, H.R. (2018). Effect of drought on physiological parameters in chickpea cultivars and their crosses. *International Journal of Chemical Studies*, **6(2):** 830-833. | 5.31 |
| 3. | Verma, E., Sharma, B., Singal, H.R. and Munjal, R. (2018). Purification of sucrose synthase from thermotolerant wheat grains and its characterization. *Journal of Environmental Biology*, **39**: 459-466. | 6.70 |
| 4. | Siwach, R., Tokas, J. and Seth, R. (2018). Lycopene: A natural antioxidant for anhydrous buffalo milk fat. *International Journal of Dairy Technology*, **71(1):** 164-173. | 6.81 |
| 5. | Siwach, R. and Tokas, J. (2018). Analysis of purified lycopene extract obtained from fresh tomatoes. *International Journal of Chemical Studies*, **6(1):** 597-601. | 5.31 |
| 6. | Kumar, P., Tokas, J., Kumar, N., Lal, M. and Singal, H.R. (2018). Climate change consequences and its impact on agriculture and food security. *International Journal of Chemical Studies*, **6(6):** 124-133. | 5.31 |
| **2019-20** | | |
| 7. | Himani., Bhadu, S., Tokas, J. and Satpal. (2019). Variation in structural carbohydrates of forage sorghum [*Sorghum bicolor* (L.) Moench] under saline conditions. *Forage Research*, **45(2):** 123-127. | 4.84 |
| 8. | Kumar, P, Tokas, J. and Singal, H.R. (2019). Amelioration of chromium VI) toxicity in Sorghum (*Sorghum bicolor* L.) using glycine betaine. *Scientific Reports*, **9**:16020. | 10.38 |
| 9. | Himani., Bhadu, S., Tokas, J. and Satpal (2019). Variation in structural carbohydrates of forage sorghum [*Sorghum bicolor* (L.) Moench] under saline conditions. *Forage Research*, **45(2):** 123-127. | 4.48 |
| **2020-21** | | |
| 10. | Bhadu, S., Singal, H.R., Himani and Tokas, J. (2020). Modification in structural carbohydrates pattern in wheat (*Triticum aestivum* L. Em Thell) under salt stress in presence of sodium transporter genes. *Annals of Biology*, **36(1):** 9-11. | 3.95 |

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| 11. | Rani, A. and Tokas, J. (2020). Transcriptional regulation of proline biosynthesis. *International Journal of Advanced Research*, **8(2):** 67-73. | - |
| 12. | Bhadu, S., Tokas, J., Himani., Yashveer, S., Singh, V. and Singal, H.R. (2020). Improvement in wheat quality by expression of Nax 1 and Nax 2 genes under salt stress. *International Journal of Chemical Studies*, **8(1):** 264-269. | 5.31 |
| 13. | Punia, H., Tokas, J., Bhadu, S., Mohanty, A.K., Rawat, P., Malik, A. and Satpal (2020). Proteome dynamics and transcriptome profiling in sorghum [*Sorghum bicolor* (L.) Moench] under salt stress. *Biotech*, **10(9):** 412. | 8.41 |
| 14. | Punia, H., Tokas, J., Malik, A., Singh, S., Bhuker, A., Mor, V.S., Rani, A. and Sheokand, R.N. (2020). Discerning morpho-physiological and quality traits contributing to salinity tolerance acquisition in sorghum [*Sorghum bicolor* (L.) Moench]. *South African Journal of Botany*, **140(2):** 1-10. | 8.32 |
| 15. | Punia, H., Tokas, J., Malik, A., Sangwan, S., Baloda, S., Singh, N., Singh, S., Bhuker, A., Singh, P., Yashveer, S., Agarwal, S. and Mor, V.S. (2020). Identification and detection of bioactive peptides in milk and dairy products: Remark about Agro-Foods. *Molecules*, **25**: 3328. | 10.41 |
| 16. | Sihag, S. and Pal, A. (2020). Pomegranate peel as a potential weapon against oxidative stress: A mini review. *Journal of Medicine and Research*, **1(1):** 1005. | NA |
| 17. | Punia, H., Tokas, J., Malik, A., Sangwan, S., Baloda, S., Singh, N., Singh, S., Bhuker, A., Singh, P., Yashveer, S., Agarwal, S. and Mor, V.S. (2020). Identification and detection of bioactive peptides in milk and dairy products: Remark about Agro-Foods. *Molecules*, **25**: 3328. | 9.06 |
| 18. | Kumar, N., Tokas, J., Raghavendra, M. and Singal, H.R. (2020). Impact of exogenous salicylic acid treatment on cell wall metabolism and ripening process in postharvest tomato fruit stored at ambient temperature. *International Journal of Food Science and Technology*, **56(6):** 2961-2972 | 8.28 |
| 19. | Punia, H., Tokas, J., Malik, A., Singh, S., Bhuker, A., Mor, V.S., Rani, A. and Sheokand, R.N. (2020). Discerning morpho-physiological and quality traits contributing to salinity tolerance acquisition in sorghum [*Sorghum bicolor* (L.) Moench]. *South African Journal of Botany*, **140**: 409-418. | 7.50 |
| 20. | Punia, H., Tokas, J., Bhadu, S., Mohanty, A.K., Rawat, P., Malik, A. and Satpal (2020). Proteome dynamics and transcriptome profiling in sorghum [*Sorghum bicolor* (L.) Moench] under salt stress. *Biotech*, **10(9):** 412. | 7.79 |
| **2021-22** | | |
| 21. | Punia, H., Tokas, J., Malik, A., Satpal and Sangwan, S. (2021). Characterization of phenolic compounds and antioxidant activity in sorghum [*Sorghum bicolor* (L.) Moench] grains. *Cereal Research Communications*, **49(3):** 343-353. | 6.85 |
| 22. | Punia, H., Tokas, J. and Malik, A. (2021). Bioactive phytochemicals from cereals: a source of superfoods. *Austin Journal of Nutrition and Metabolism*, **8(4):** 1114. | - |
| 23. | Punia, H., Tokas, J., Bhadu, S., Gupta, P. and Satpal (2021). Elucidation of adaptive behaviour of sorghum [*Sorghum bicolor* (L) Moench.] for fodder yield and its attributing traits under salt stress. *Forage Research*, **47(1):** 73-78. | 4.84 |
| 24. | Punia, H., Tokas, J., Malik, A., Sangwan, S., Rani, A., Yashveer, S. Alansi, S., Hashim, M.J. and El-Sheikh, M.A. (2021). Genome-wide transcriptome profiling, characterization and functional identification of NAC transcription factors in sorghum under salt stress. *Antioxidants*, **10:** 1605. | 12.31 |
| 25. | Punia, H., Tokas, J., Mor, V.S., Bhuker, A., Malik, A., Singh, N., Satpal., Alsahli, A.A. and Hefft, D.I. (2021). Deciphering reserve mobilization antioxidant potential and expression analysis of starch synthesis in sorghum seedlings under salt stress. *Plants*, **10:** 2463. | 9.94 |
| 26. | Punia, H., Tokas, J., Malik, A., Bajguz, A., El-Sheikh, M.A. and Ahmad, P. (2021). Ascorbate-glutathione oxidant scavengers, metabolome analysis and adaptation mechanisms of ion exclusion in sorghum under salt stress. *International Journal of* | 11.92 |

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| | *Molecular Sciences*, **22:** 13249. | |
| 27. | Jhandai, S., Pal, A., Mohan, N., Saharan, V. and Jain, V. (2021). Differential stem reserve food mobilization and sink strength in rice cultivars grown under sub-merged and aerobic conditions. *Journal of Plant Biochemistry and Biotechnology*, **31(2):** 293-309. | 7.17 |
| **2022-23** | | |
| 28. | Rani, A., Tokas, J., Gupta, P., Punia, H. and Baloda, S. (2022). Efficacy of herbal extracts-based nano-formulations in extending guava fruit shelf-life. *Applied Sciences*, **12:** 8630. | 8.68 |
| 29. | Poonia, A., Phogat, D. S., Nagar, S., Sharma, P. and Kumar, V. (2022). Biochemical assessment of oat genotypes revealed variability in grain quality with nutrition and crop improvement implications. *Food Chemistry*, **377:** 131982. | 13.51 |

***Annexure BIOCHEM-X***

## LIST OF PASS OUT STUDENTS (M.SC.)

| **2018-19 (03)** | | | |
|---|---|---|---|
| **Sr. no.** | **Name of students** | **Admn. No.** | **Duration** |
| 1. | Seema | 2015BS10M | February, 2019 |
| 2. | Sheenu | 2016BS04M | July, 2018 |
| 3. | Taranjeet Kaur | 2016BS05M | June, 2018 |
| **2019-20 (01)** | | | |
| 1. | Naveen | 2017BS09M | February, 2020 |
| **2020-21 (05)** | | | |
| 1. | Revana Siddappa | 2017BS07M | December, 2020 |
| 2. | Sunil | 2017BS11M | September, 2020 |
| 3. | Nisha | 2018BS02M | September, 2020 |
| 4. | Ankush Yadav | 2018BS01M | October, 2020 |
| 5. | Sonam | 2018BS03M | September, 2020 |
| **2021-22 (05)** | | | |
| 1. | Gampa Mallesh | 2019BS03M | September, 2021 |
| 2. | Ekta Tanwar | 2019BS02M | September, 2021 |
| 3. | Sonika Jakhar | 2019BS05M | September, 2021 |
| 4. | Jyoti Duhan | 2019BS52M | September, 2021 |
| 5. | Kiran | 2019BS04M | September, 2021 |
| **2022-23 (02)** | | | |
| 1. | Ritu | 2020BS02M | August, 2022 |
| 2. | Sivangi Bishnoi | 2020BS03M | August, 2022 |
| 3. | Sudeep Sindhu | 2020BS04M | March, 2023 |

*Annexure BIOCHEM-XI*

## LIST OF PASS OUT STUDENTS (PH.D.)

| Sr. No. | Name of students | Admn. No. | Duration |
|---|---|---|---|
| 2018-19 (0) | | | |
| NIL | | | |
| 2019-20 (01) | | | |
| 1. | Parveen | 2014BS08D | November, 2019 |
| 2020-21 (01) | | | |
| 1. | Sonia Jhandai | 2014BS07D | August, 2020 |
| 2021-22 (02) | | | |
| 1. | Surina Bhadu | 2015BS06D | August, 2021 |
| 2. | Himani | 2015BS04D | May, 2021 |
| 2022-23 (02) | | | |
| 1. | Pernika Gupta | 2017BS02D | November, 2022 |
| 2. | Anju | 2018BS01D | September, 2022 |

*Annexure BPP-I*

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| 2018-19 | | | | | | | |
|---|---|---|---|---|---|---|---|
| M. Sc.-6 | | | | Ph. D.-2 | | | |
| Sr. No. | Name | Admission no. | Specialization | Sr. No. | Name | Admission no. | Specialization |
| 1 | Parul | 2018BS12M | ENS | 1. | Manish Jangra | 2018BS15D | PP |
| 2 | Tamana | 2018BS13M | ENS | 2. | Neelam | 2018BS16D | PP |
| 3 | Vineeta Rana | 2018BS14M | ENS | | | | |
| 4 | Kiran | 2018BS28M | PP | | | | |
| 5 | Preety Rani | 2018BS29M | PP | | | | |
| 6 | Sujata | 2018BS30M | PP | | | | |
| 2019-20 | | | | | | | |
| M. Sc.-10 | | | | Ph. D.-11 | | | |
| Sr. no. | Name | Admission no. | Specialization | Sr. no. | Name | Admission no. | Specialization |
| 1 | Bharti | 2019BS34M | PP | 1 | Isha | 2019BS06D | Bot |
| 2 | Bhupnesh | 2019BS35M | PP | 2 | Vijay Kumar | 2019BS09D | Bot |
| 3 | Gayatri | 2019BS36M | PP | 3 | Surjeet | 2019BS08D | Bot |
| 4 | P.S. Kiran | 2019BS37M | PP | 4 | Monika | 2019BS07D | Bot |
| 5 | Ankisha | 2019BS07M | Bot | 5 | Pooja Ahlawat | 2019BS46D | PP |
| 6 | Sweta | 2019BS08M | Bot | 6 | Pradeep S.D | 2019BS47D | PP |
| 7 | Sumit | 2019BS09M | Bot | 7 | Preeti | 2019BS48D | PP |
| 8 | Charu | 2019BS18M | ENS | 8 | Priyanka | 2019BS49D | PP |
| 9 | Gaurav | 2019BS19M | ENS | 9 | Sarita | 2019BS50D | PP |
| 10 | Mukesh | 2019BS20M | ENS | 10 | Kapil Deshwal | 2019BS45D | PP |
| | | | | 11 | Alisha Goyal | 2019BS44D | PP |

| 2020-21 | | | | | | | |
|---|---|---|---|---|---|---|---|
| M. Sc.-5 | | | | Ph. D.-14 | | | |
| Sr. no. | Name | Admission no. | Specialization | Sr. no. | Name | Admission no. | Specialization |
| 1 | Anjali | 2020BS08M | Bot | 1 | Minakshi | 2020BS04D | Bot |
| 2 | Prakriti | 2020BS09M | Bot | 2 | Mukul Dev | 2020BS05D | Bot |
| 3 | Renu | 2020BS19M | ENS | 3 | Parul Sharma | 2020BS06D | Bot |
| 4 | Pankaj | 2020BS37M | PP | 4 | Shakshi Bansal | 2020BS07D | Bot |
| 5 | Sajid Khan | 2020BS10M | Bot | 5 | Sonu | 2020BS08D | Bot |
| | | | | 6 | Galisuresh | 2020BS46D | PP |
| | | | | 7 | Kiran | 2020BS47D | PP |
| | | | | 8 | Preety Rani | 2020BS48D | PP |
| | | | | 9 | Sonia Rani | 2020BS49D | PP |
| | | | | 10 | Sujata | 2020BS50D | PP |
| | | | | 11 | Deepika Dhanda | 2020BS17D | ENS |
| | | | | 12 | Swati | 2020BS18D | ENS |
| | | | | 13 | Tamanna | 2020BS19D | ENS |
| | | | | 14 | Vineeta Rana | 2020BS20D | ENS |
| 2021-22 | | | | | | | |
| M. Sc.-7 | | | | Ph. D.-9 | | | |
| Sr. no. | Name | Admission no. | Specialization | Sr. no. | Name | Admission no. | Specialization |
| 1 | InduMehra | 2021BS12M | Bot | 1 | Ankisha | 2021BS05D | Bot |
| 2 | Rura Singh | 2021BS13M | Bot | 2 | Pooja | 2021BS06D | Bot |
| 3 | Manisha | 2021BS44M | PP | 3 | Shweta | 2021BS07D | Bot |
| 4 | Monika | 2021BS45M | PP | 4 | Snehlata | 2021BS08D | Bot |
| 5 | Paidi Raja Sekhar | 2021BS46M | PP | 5 | Sumit | 2021BS09D | Bot |
| 6 | Alka Rani | 2021BS21M | ENS | 6 | Bhupnesh | 2021BS40D | PP |
| 7 | Sukanya | 2021BS22M | ENS | 7 | Gayatri Kumari | 2021BS41D | PP |
| | | | | 8 | Ravi Kumar | 2021BS16D | ENS |
| | | | | 9 | Sugandh | 2021BS17D | ENS |
| 2022-23 | | | | | | | |
| M. Sc.-9 | | | | Ph. D.-11 | | | |
| 1 | Banita | 2022BS29M | PP | 1 | Parul | 2022BS12D | ENS |
| 2 | Kirti Sharma | 2022BS31M | PP | 2 | Swati | 2022BS16D | ENS |
| 3 | Vihaan Bhadu | 2022BS15M | ENS | 3 | Sandeep | 2022BS15D | ENS |
| 4 | Aniket | 2022BS06M | Bot | 4 | Pushpa | 2022BS13D | ENS |
| 5 | Amandeep | 2022BS05M | Bot | 5 | Renu | 2022BS14D | ENS |
| 6 | Nidhi | 2022BS13M | ENS | 6 | Bharti Rawal | 2022BS31D | PP |
| 7 | Ritu | 2022BS14M | ENS | 7 | Sajid Khan | 2022BS05D | Bot |
| 8 | Nisha | 2022BS32M | PP | 8 | Pankaj | 2022BS32D | PP |
| 9 | Ashika Ansari | 2022BS50M | PP | 9 | Dinesh Kumar G | 2022BS44D | PP |
| | | | | 10 | Rishita | 2022BS48D | PP |
| | | | | 11 | Prakriti | 2022BS47D | PP |

*Annexure BPP-II*

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. No. | Name | Guide | Title of Research Problem |
|---|---|---|---|
| | | | **M.Sc.** |
| 1. | Anjali 2020BS08M | Dr. Nita Lakra | Wide hybridization and embryo rescue for pre - breeding in Indian mustard |
| 2. | Indu Mehra 2021BS12M | Dr. Sridevi T. | Efficacy of gibberellic acid and triacontanol on morpho-physiological, biochemical and anatomy of *Sorghum bicolour* L. under salt stress |
| 3. | Rura Singh 2021BS13M | Dr. Nita Lakra | Impact of biocontrol agent on morpho-biochemical traits in *Brassica juncea* against stem rot diseases |
| 4. | Alka Rani 2021BS21M | Dr. Sarita Devi | Response of mepiquat chloride and gibberellic acid on *Sorghum bicolor* L. for tolerance of salt stress under semi-arid conditions |
| 5. | Sukanaya 2021BS22M | Dr. Anushree | Preparation and characterization of cellulose-based bioplastic film with incorporation of plant extract |
| 6. | Manisha 2021BS44M | Dr. Anita Kumari | Physiological characterization of linseed (*Linum usitatissimum* L.) genotypes under salinity |
| 7. | Monika 2021BS45M | Dr. Sarita Devi | Ameliorating effect of mepiquat chloride and gibberellic acid on *Sorghum bicolor* L. under salt stress |
| 8. | Paidi Raja Sekar 2021BS46M | Dr.Vinod Goyal | Morpho-physiological response of *Brasicajuncea* genotypes under terminal heat stress |
| 9. | Amandeep 2022BS05M | Dr. Nita Lakra | Evaluation of Physio-biochemical and anatomical changes in Linseed genotypes under salinity stress |
| 10. | Aniket 2022BS06M | Dr. Upendra Baliyan | Molecular systematics of genus Sida based on analysis of nuclear ribosomal ITS DNA sequnces |
| 11. | Nidhi 2022BS13M | Dr. Rakesh Kumar | Utilization of treated wastewater for irrigation in wheat and its impact on rhizospheric microbial community |
| 12. | Ritu 2022BS14M | Dr.Rohtas Kumar | Synthesis of fruit peel residue derived biochar and its effect on soil health |
| 13. | Vihaan Bhadu 2022BS15M | Dr. Vinod Goyal | Characterization of kitchen waste biochar for reclamation of saline soils |
| 14. | Banita 2022BS29M | Dr. K.D. Sharma | Amelioration of terminal heat stress in Indian Mustard (*Brassica juncea* L.) by exogenous application of biostimulants |
| 15. | Ashika Ansari 2022BS50M | Dr. Vinod Goyal | To be decided |
| | | | **Ph.D.** |
| 1. | Neelam 2018BS16D | Dr. Neeraj Kumar | Enhancing physiological efficiency and yield potential of Indian mustard using hydrogel and salicylic acid under rain fed condition |
| 2. | Isha 2019BS06D | Dr. Sridevi T. | Standardization and evaluation of microbial consortium for decomposition of paddy straw and its compost efficiency on tomato (*Solanum lycopersicum* L.) |
| 3. | Monika 2019BS07D | Dr. Sridevi T. | Anatomical and physiological response to heat priming and salicylic acid for thermotolerance in mungbean (*Vigna* |

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| | | | *radiata* L. Wilczek) |
| 4. | Surjeet 2019BS08D | Dr. Sridevi T. | Anatomical and physiological evaluation of heat priming and glycine betain under high temperature stress in mungbean (*Vigna radiata* L. Wilczek) |
| 5. | Vijay Kumar 2019BS09D | Dr. Sridevi T. | Impact of stubble burning on soil health, microbial community and on the physiology of succeeding grown wheat crop |
| 6. | Alisha Goyal 2019BS44D | Dr. PC Sharma and Dr. Renu Munjal | Physiological and biochemical evaluation of rice genotypes under aerobic and anaerobic direct seeded conditions |
| 7. | Kapil Deswal 2019BS45D | Dr. Renu Munjal | Genetic modification of wheat through CRISPF/Cas9 mediated genome editing and its phenotypic characterization |
| 8. | Pooja Ahlawat 2019BS46D | Dr. Anita Kumari | Physiological and biochemical studies on exogenous application of 24-epibrassinolide for salinity stress tolerance in bread wheat (*Triticum aestivum* L.) |
| 9. | Pardeep S.D. 2019BS47D | Dr. K.D. Sharma | Contribution of ear head associated physiological and biochemical traits to wheat (*Triticum aestivum* L.) grain yield under terminal high temperature and moisture stress |
| 10. | Preeti 2019BS48D | Dr. Neeraj Kumar | Morphological and physio-biochemical changes in response to exogenous application of glycine-betaine and salicylic acid under drought condition in chickpea (*Cicer arietinum* L.) |
| 11. | Priyanka Sharma 2019BS49D | Dr. Sarita Devi | Evaluation of glycine betaine and salicylic acid application as an effective inducer of thermotolerance in chickpea (*Cicerarietinum* L.) |
| 12. | Sarita 2019BS50D | Dr. Vinod Goyal | Physiological and molecular dissection of salt tolerance in chickpea (*Cicer arietinum* L.) |
| 13. | Minakshi 2020BS04D | Dr. Nita Lakra | Physio-biochemical and molecular characterization of mungbean genotypes for yellow mosaic virus resistance |
| 14. | Mukul Dev 2020BS05D | Dr. Sridevi T. | Study on efficiency of *in vitro* propagation of endangered *Commiphorawightii* and its phytochemical and antimicrobial properties |
| 15. | Parul Sharma 2020BS06D | Dr. Nita Lakra | Study of Putrescine application on growth, biochemical and anatomical characters in *Brassica* species under heat stress |
| 16. | Shakshi Bansal 2020BS07D | Dr. Nita Lakra | Study of cadaverine application on growth, biochemical and anatomical characters in *Brassica* species under heat stress |
| 17. | Sonu 2020BS08D | Dr. Upendra Kumar | Physiological and biochemical studies on foliar application of 24-epibrassinolide for salinity stress tolerance in chickpea (*Cicer arietinum* L.) genotype |
| 18. | Deepika Dhanda 2020BS17D | Dr. Baljeet Singh | Formulation of microbial consortium for paddy straw decomposition and its evaluation in rice-wheat rotation system |
| 19. | Swati 2020BS18D | Dr. Seema Sangwan | Studies on strawberry production under hydroponic and soilless media systems using different hoagland solution amendments |
| 20. | Tamanna 2020BS19D | Dr. K.D. Sharma | Physiological traits to assess the response of Indian mustard (*Brassica junce*a L) crop under different sowing environments and validation of Info Crop simulation model. |

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| 21. | Vineeta Rana 2020BS20D | Dr. Rahul Kumar | Development of nitrogen enriched engineered biochar as slow release fertilizer |
| 22. | Gali Suresh 2020BS46D | Dr. K.D Sharma | Physiological response of 24- epibrassinolide (24-EBL) and salicylic acid (SA) in wheat (*Triticum aestivum* L.) under salinity stress |
| 23. | Kiran 2020BS47D | Dr. Neeraj Kumar | Role of orthosilicic acid and spermidine in mitigating terminal heat stress in Indian mustard [*Brassica juncea* (L.) Czern&Coss.] |
| 24. | Preety Rani 2020BS48D | Dr.Mamrutha H. M. and Dr. Renu Munjal | Deciphering photosynthesis associated traits in diverse wheat genotypes |
| 25. | Sonia Rani 2020BS49D | Dr. Renu Munjal | Exploring the physiological basis of variation in linseed genotypes for salinity tolerance |
| 26. | Sujata 2020BS50D | Dr. Anita Mann and Dr. Renu Munjal | Stage specific characterization and alleviation of irrigation induced salinity stress in wheat (*Triticum aestivum*L.) |
| 27. | Ankisha 2021BS05D | Dr. Sridevi T. | Evaluation of cadmium induced phytotoxicity and its alleviation by mycorrhiza in chickpea (*Cicer arietinum* L.) |
| 28. | Pooja 2021BS06D | Dr. Sridevi T. | Rate of mycorrhizal inoculum in improving growth, nutrient status and yield of C*icer arietinum* L. (Chickpea) genotypes under salinity stress |
| 29. | Shweta 2021BS07D | Dr. Sridevi T. | Morpho-physiological and anatomical changes in mustard (*Brassica juncea* L.) with foliar application of melatonin under salt stress |
| 30. | Snehlata 2021BS08D | Dr. Nita Lakra | Development identification and evaluation of an intergeneric hybrid between *Brassica juncea* and *Sinapis alba* for *Sclerotinia* stem rot resistance |
| 31. | Sumit 2021BS09D | Dr. Nita Lakra | Effect of exogenous application of melatonin on morpho-physiological, anatomical and biochemical traits of Indian mustard under heat stress |
| 33. | Ravi Kumar 2021BS16D | Dr. Anuj Rana | Development of biochar based microbial consortia for decomposition of paddy and sugarcane residues |
| 34. | Sugandh 2021BS17D | Dr. Rahul Kumar | Carbonization of ligno-cellulosic biomass to develop pyro ligneous acid and its impact on growth of wheat crop |
| 35. | Bhupnesh 2021BS40D | Dr. Anita Kumari | Evaluation of morpho-physiological and quality traits of wheat grown under long term FYM and nitrogen amended soil |
| 36. | Gayatri Kumari 2021BS41D | Dr. Sarita Devi | Morpho-physiological changes in sorghum (*Sorghum bicolor* L.) with foliar application of melatonin under salinity stress |
| 37. | Sajid Khan 2022BS05D | Dr. Sridevi T | Plant based synthesis of zinc and iron oxide nanoparticles to ameliorate cadmium toxicity in "Brassica Juncea L." |
| 38. | Parul 2022BS12D | Dr. Anuj Rana | Mitigation of salinity stress using biostimulants to promote growth of tomato (Solanum Lycopersicum) crop |
| 39. | Pushpa 2022BS13D | Dr. Kamla Malik | Fabrication of cellulose-silica based nanocomposites for desalination of water |
| 40. | Renu 2022BS14D | Dr. Seema Sangwan | Development of biosensors and biosurfactant-assisted-remediation of petroleum hydrocarbon contamination in environment |
| 41. | Swati 2022BS16D | Dr. Vinod Goyal | Bioremediation of heavy metals from steel slag |

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|---|---|---|---|
| 42. | Pankaj 2022BS32D | Dr. Sarita Devi | Synthesis of Azadirachta indica based silver nanoparticles (AgNPs) and analysing its impact on Sorghum bicolor L. under salt stress |
| 43. | Dinesh Kumar G 2022BS44D | Dr. Anita Kumari | To be decided |
| 44. | Prakriti 2022BS47D | Dr. Sarita Devi | To be decided |
| 45. | Rishita 2022BS48D | Dr. Nita Lakra | To be decided |

***Annexure BPP-III***

## STUDENTS PARTICIPATION IN SEMINAR/ CONFERENCE/WORKSHOP ETC.

| Sr. No. | Name of student and admn no. | Oral/ Poster | Seminar/ Conference/Workshop details |
|---|---|---|---|
| **M.Sc./ Ph.D. students** | | | |
| 1. | Sapna 2017BS31D | Poster | International Conference on "Bio and nano technologies for sustainable agriculture, food, health, energy and industry", from February 21-23, 2018 at Guru Jambheshwar University of Science and technology, Hisar, Haryana, India. |
| 2. | Aarti 2017BS32D | Poster | |
| 3. | Manish Jangra 2018BS15D | Poster | International Conference on "Sustainable agriculture, energy, environment and technology", from February 24-25, 2018 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 4. | Manish Jangra 2018BS15D | Poster | International Symposium on "Innopreneurship: A need of sustainable agriculture", from February 2-3, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 5. | Sapna 2017BS31D | Oral | |
| 6. | Neelam Rani 2018BS16D | Poster | National Conference on "Biodiversity and environmental sustainability in modern era", on February 16, 2019 at Department of Zoology, The Chhaju Ram Memorial Jat College, Hisar, Haryana, India. |
| 7. | Manish Jangra 2018BS15D | Oral | International Conference on "Climate change toward health and agricultural sustainability", from February 18-20, 2019 at Guru Jambheshwar University of Science and technology, Hisar, Haryana, India. |
| 8. | Sapna 2017BS31D | Poster | |
| 9. | Sapna 2017BS31D | Oral | |
| 10. | Neelam Rani 2018BS16D | Poster | Seminar on "Eco friendly techniques for sustainable development", on February 20, 2019 at St. Wilfred's PG College, Jaipur, Rajasthan, India. |
| 11. | Manish Jangra 2018BS15D | Poster | International Seminar on "Sustainable environment and agriculture under global climate change" on February 21, 2019 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 12. | Neelam Rani 2018BS16D | Poster | Symposium on "Avenues and challenges in life science", on February 22, 2019 at St. Wilfred's PG College, Jaipur, Rajasthan, India. |
| 13. | Manish Jangra 2018BS15D | Oral | International Conference on "Stewardship towards sustainability", from September, 6-7, 2019 at SGT University, Gurugram, Haryana, India. |
| 14. | Parul 2018BS12M | Oral | National Conference on "Recent trends in the field of environmental science and engineering", from September 20-21, 2019 at Guru Jambheshwar University of Science and technology, Hisar, Haryana, India. |
| 15. | Aarti 2017BS32D | Poster | National Conference of Plant Physiology (NCPP-2019) on "Plant productivity and stress management", from December 19-21, 2019 at |

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| | | | Kerala Agricultural University, Thrissur, Kerala, India. |
| 16. | Manish Jangra 2018BS15D | Oral | International Conference on "Perspective on agricultural and applied sciences in COVID-19 scenario", from October, 4-6, 2020 at U.S. Nagar, Uttrakhand, India. |
| 17. | Sapna 2017BS31D | Poster | International Conference on "Innovative and current advances in agriculture and allied sciences", from July 19-21, 2021. |
| 18. | Priyanka Sharma 2019BS49D | Poster | National Conference of Plant Physiology on "Frontiers of plant physiology for climate smart agriculture (NCP-2021)", from December 9-11, 2021 at ICAR-National Institute of Abiotic stress Management, Pune, Maharashtra, India. |
| 19. | Sonu 2020BS08D | Poster | |
| 20. | Isha 2019BS06D | Poster | |
| 21. | Aarti 2017BS32D | Poster | |
| 22. | Sinky 2017BS33D | Poster | |
| 23. | Aarti 2017BS32D | Poster | |
| 24. | Sapna 2017BS31D | Poster | International Conference on "Global research initiatives for sustainable agriculture and allied sciences", from December 13-15, 2021 at Swami Keshwanand Rajasthan Agricultural University, Bikaner, Rajasthan, India. |
| 25. | Sapna 2017BS31D | Poster | I$^{st}$ International Symposium on "Cereals for food security and climate resilience", from January 18-20, 2022 at Indian Institute of Wheat and Barley Research, Karnal, Haryana, India. |
| 26. | Renu 2020BS19M | Poster | National Symposium on "Crop protection through biorational approaches-current trends in and future perspective", on March 10, 2022 at Department of Plant Pathology College of Agriculture, CCSHAU Hisar, Haryana, India. |
| 27. | Minakshi 2020BS04D | Poster | National Symposium on "crop protection through bio-rational approaches – current trends and future prospective & national meeting of Indian Plant Pathological Society (NZ)", on 10 March, 2022 at Department of Plant Pathology, College of Agriculture, CCS HAU Hisar, Haryana, India. |
| 28. | Neelam Rani 2018BS16D | Poster | 3$^{rd}$ National Research Scholar's Meet on "Innovation challenges in interdisciplinary research and practices", from March 24-25, 2022 at Sri Guru Granth Sahib World University, Fatehgarh, Punjab, India. |
| 29. | Neelam Rani 2018BS16D | Poster | International Conference on "Recent trends in science, technology, management and humanities", on March 29$^{th}$, 2022 at Jagannath University, Bahadurgarh, Haryana, India. |
| 30. | Sinky 2017BS33D | Poster | International Conference on "Innovative and current advances in agricultural and allied sciences", from June 12-14, 2022 organized by Society for Scientific Development in Agriculture and Technology at Meerut, Uttar Pradesh, India. |
| 31. | Manish Jangra 2018BS15D | Oral | International Conference on "Recent advances and innovations in biological and applied sciences (RAIBAS 2022)", from June 14-16, 2022 at SGT University, Gurugram, Haryana, India. |
| 32. | Aarti 2017BS32D | Oral | |
| 33. | Manish Jangra 2018BS15D | Oral | |
| 34. | Pankaj 2020BS37M | Poster | ISPP North Zonal Seminar-2022 on "Inter-disciplinary research strategies for climate resilient agriculture", on June 25, 2022 at Sugarcane Breeding Institute Regional Centre, Karnal, Haryana, India. |
| 35. | Parkriti 2020BS09M | Poster | |
| 36. | Manisha 2021BS44M | Poster | |

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| 37. | Monika 2021BS45M | Poster | |
| 38. | Babita Rani (SRF) | Poster | |
| 39. | Aarti (2017BD32D) | Poster | |
| 40. | Pooja (2017BS30D) | Poster | |
| 41. | Sapna (2017BS31D) | Poster | |
| 42. | Kapil Deswal (2019BS45D) | Poster | |
| 43. | Sarita (2019BS50D) | Poster | |
| 44. | Bhupnesh (2021BS40D) | Poster | |
| 45. | Priyanka Sharma (2019BS49D) | Poster | |
| 46. | Ankisha (2021BS05D) | Poster | |
| 47. | Aarti (2017BS32D), | Oral | |
| 48. | Isha (2019BS06D) | Poster | International Conference on "Biotechnology trends and future prospects", from September 13-15, 2022 at Department of Plant Biotechnology, University of Agricultural Sciences Bangalore, Karnataka, India. |
| 49. | Renu (2020BS19M) | Poster | Annual International Conference on "Microbiology and society: Current trends and future prospects microbes and society: Current trends and future prospects", from September 21-23, 2022 at Vijnana Bhavana, Manasagangotri University of Mysore, Karnataka, India. |

***Annexure BPP-IV***

## STUDENT PARTICIPATION IN TRAININGS/WORKSHOPS

| Sr. no. | Name of student and admn no. | Duration | Title |
|---|---|---|---|
| 1. | Sapna 2017BS31D | 14-03-2018 | Workshop on "State level biosafety capacity building", at CCS Haryana Agricultural University, Hisar. |
| 2. | Pooja Ahlawat 2019BS46D | | |
| 3. | Aarti 2017BS32D | | |
| 4. | Sinky 2017BS33D | | |
| 5. | Sinky 2017BS33D | 17-07-2018 to 21-07-2018 | Workshop cum hands on training on "Recent trends in bioinformatics and its application in crop improvement", at department of Molecular Biology, Biotechnology and Bioinformatics, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 6. | Pooja Ahlawat 2019BS46D | | |
| 7. | Parul 2018BS12M | 16-10-2018 to 17-10-2018 | Workshop on "Carrier opportunities for students", at CCS Haryana Agricultural University, Hisar, Haryana, India. |

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| 8. | Pooja Ahlawat 2019BS46D | 15-11-2018 | National workshop cum awareness programme on "Bioethics in research: a need or compulsion", at Department of Genetics, Maharshi Dayanand University, Rohtak. |
| 9. | Parul 2018BS12M | 10-01-2019 to 11-01-2019 | Hands on training programme on "Basic and advanced analytical instrumentation in plant physiology", at Department of Botany and Plant Physiology, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 10. | Sapna 2017BS31D | | |
| 11. | Sinky 2017BS33D | | |
| 12. | Neelam Rani 2018BS16D | | |
| 13. | Aarti 2017BS32D | 08-07-2019 to 17-07-2019 | International Workshop on "Molecular mapping of economic traits using high throughput technologies", at Department of Botany and Plant Physiology CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 14. | Manish Jangra 2018BS15D | | |
| 15. | Sapna 2017BS31D | | |
| 16. | Aarti 2017BS32D | 04-11-2019 to 17-11-2019 | Training Course on "Big data analytics in bioinformatics", at Department of Computer Science and Engineering, Mnmjec, Chennai. |
| 17. | Aarti 2017BS32D | 28-11-2019 | International Workshop on "Targeted proteomics", at ICAR-National Dairy Research Institute, Karnal, Haryana, India. |
| 18. | Aarti 2017BS32D | 29-11-2019 | International workshops on "Quantitative proteomics", at ICAR-National Dairy Research Institute, Karnal, Haryana, India. |
| 19. | Aarti 2017BS32D | 30-11-2019 to 01-12-2019 | International Workshop on "Proteogenomics", at ICAR-National Dairy Research Institute, Karnal, Haryana, India. |
| 20. | Sapna 2017BS31D | 22-01-2020 | Workshop on "Recent computational techniques of mathematical sciences for researchers", at Department of Mathematics and Statistics CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 21. | Aarti 2017BS32D | 25-02-2020 to 05-03-2020 | International Workshop on "Plant Genomics", at Department Botany and Plant Physiology, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 22. | Pooja Ahlawat 2019BS46D | | |
| 23. | Manish Jangra 2018BS15D | | |
| 24. | Sapna 2017BS31D | 07-07-2020 | Training Course on "Mendeley"by Aggrawal college, Ballabhgarh, India. |
| 25. | Sapna 2017BS31D | 20-07-2020 to 25-07-2020 | Training Course on "Data analysis in R", by REST Society for Research International (RSRI), Krishnagiri, Tamil Nadu, India. |
| 26. | Manish Jangra 2018BS15D | 20-08-2020 to 09-09-2020 | National Training Programme on "Advances in fodder production, utilization and conservation for improving livestock health, productivity and environmental sustainability", by ICAR-Indian Grassland and Fodder |

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|---|---|---|---|
| | | | Research Institute Regional Research Station, Srinagar, Jammu and Kashmir, India. |
| 27. | Pooja Ahlawat 2019BS46D | 01-03-2021 to 07-03-2021 | Workshop on "LaTeX for scientific writing (LaTeX-2021)", online by Guru Jambheshwar University of Science and Technology, Hisar. |
| 28. | Aarti 2017BS32D | 16-03-2021 | International Webinar on "Translating physiological tools to augment crop breeding", organized by ICAR- Indian Institute of Wheat and Barley Research, Karnal, India. |
| 29. | Manish Jangra 2018BS16D | | |
| 30. | Aarti 2017BS32D | 21-09-2021 to 27-09-2021 | International Workshop on "Advance statistical data analysis uses SPSS", by Science Technology Institute, Lucknow, India. |
| 31. | Manish Jangra 2018BS16D | 01-11-2021 to 10-11-2021 | Training on "Molecular data analysis through bioinformatics tools", at Department of MBB, S.V. Agriculture College, Angrau, Tirupati, India. |
| 32. | Manish Jangra 2018BS16D | 16-01-2022 to 15-04-2022 | Training Programme on "Nursery production and management of horticulture crops", at G. B. Pant University of Agriculture and Technology, Pant Nagar, Uttarakhand, India. |

***Annexure BPP-V***

## PLACEMENTS RECORD

| Sr. no. | Name of Students | Placement (2018-2023) |
|---|---|---|
| 1. | Dr. Sunita | Assistant Professor Botany, Higher Education Haryana |
| 2. | Dr. Prabha | Scientist, Agricultural Research Service |
| 3. | Deepika | Assistant Professor Botany, Higher Education Haryana |
| 4. | Dr. Asha | Assistant Professor Botany, Higher Education Haryana |
| 5. | Dr. Rajkumar | Lecture, PGT, Haryana |
| 6. | Dr. Kripa Ram | Assistant Professor, Baba Mast Nath University, Rohtak |
| 7. | Dr. Suman Bala | Lecturer, DN College, Hisar |
| 8. | Dr. Poonam Kumari | Lecture, GDC, Memorial College Bhel |
| 9. | Dr.Ajeev Kumar | Lecturer, Jagan Nath University, Bahadurgarh |
| 10. | Dr. Vishnu Prakash Agrawal | Assistant Professor Plant Physiology, Rajasthan Agricultural University, Bikaner |
| 11. | Dr. Aarti | Assistant Professor, M. K. M group of colleges for Girls, Hodel Haryana |
| 12. | Dr. Sukham Madan | Assistant Scientist at CCS Haryana Agricultural University, Hisar |
| 13. | Dr. Pooja Swami | Senior Research Fellow, Division of Environmental Science, IARI, New Delhi. |
| 14. | Dr. Sapna | Young Professional-II, ICAR-Sugarcane Breeding Institute Regional Center, Karnal, Haryana |
| 15. | Dr. P. Bhasker | Assistant Scientist at CCS Haryana Agricultural University, Hisar |

*Annexure BPP-VI*

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. No. | Name | Name of scholarship support | Sr. No. | Name | Name of scholarship support |
|---|---|---|---|---|---|
| 1. | Parul 2018BS12M | CCS HAU, Merit Fellowship | 33. | Vijay Kumar 2019BS09D | CSIR |
| 2. | Tamanna 2018BS13M | | 34. | Alisha Goyal 2019BS44D | CCS HAU, Merit Fellowship |
| 3. | Vineeta Rana 2018BS14M | | 35. | Kapil Deswal 2019BS45D | CSIR |
| 4. | Kiran 2018BS28M | | 36. | Pooja Ahlawat 2019BS46D | UGC |
| 5. | Preety Rani 2018BS29M | Stipend | 37. | Pradeep S.D 2019BS47D | CSIR |
| 6. | Sujata 2018BS30M | | 38. | Preeti 2019BS48D | CCS HAU, Merit Fellowship |
| 7. | Ankisha 2019BS07M | CCS HAU, Merit Fellowship | 39. | Priyanka 2019BS49D | UGC |
| 8. | Sweta 2019BS08M | | 40. | Sarita 2019BS50D | CCS HAU, Merit Fellowship |
| 9. | Sumit 2019BS09M | | 41. | Minakshi 2020BS04D | CSIR |
| 10. | Charu 2019BS18M | | 42. | Mukul Dev 2020BS05D | UGC |
| 11. | Gaurav 2019BS19M | | 43. | Parul sharma 2020BS06D | |
| 12. | Bharti 2019BS34M | Stipend | 44. | Shakshi Bansal 2020BS07D | |
| 13. | Bhupnesh 2019BS35M | CCS HAU, Merit Fellowship | 45. | Sonu 2020BS08D | CSIR |
| 14. | Gayatri 2019BS36M | | 46. | Deepika Dhanda 2020BS17D | CCS HAU, Merit Fellowship |
| 15. | P.S. Kiran 2019BS37M | ICAR-NTS for PG Programme | 47. | Swati 2020BS18D | |
| 16. | Anjali 2020BS08M | CCS HAU, Merit Fellowship | 48. | Tamanna 2020BS19D | |
| 17. | Prakriti 2020BS09M | | 49. | Vineeta Rana 2020BS20D | |
| 18. | Sajid Khan 2020BS10M | | 50. | Gali Suresh 2020BS46D | ICAR |
| 19. | Renu 2020BS19M | | 51. | Kiran 2020BS47D | CCS HAU, Merit Fellowship |
| 20. | Pankaj 2020BS37M | | 52. | Preety Rani 2020BS48D | |

| | | | | | |
|---|---|---|---|---|---|
| 21. | Indu Mehra 2021BS12M | | 53. | Sonia rani 2020BS49D | |
| 22. | Rura Singh 2021BS13M | Stipend | 54. | Sujata 2020BS50D | |
| 23. | Alka Rani 2021BS21M | CCS HAU, Merit Fellowship | 55. | Ankisha 2021BS05D | |
| 24. | Sukanya 2021BS22M | | 56. | Pooja 2021BS06D | JRF-HSCSIT Fellowship |
| 25. | Manisha 2021BS44M | | 57. | Shweta 2021BS07D | CCS HAU, Merit Fellowship |
| 26. | Monika 2021BS45M | | 58. | Snehlata 2021BS08D | CSIR |
| 27. | Paidi Raja Sekhar 2021BS46M | ICAR-JRF | 59. | Sumit 2021BS09D | CCS HAU, Merit Fellowship |
| 28. | Manish Jangra 2018BS15D | National OBC Fellowship | 60. | Ravi Kumar 2021BS16D | CCS HAU, Merit Fellowship converted to JRF from June 2022 |
| 29. | Neelam 2018BS16D | UGC | 61. | Sugandh 2021BS17D | CCS HAU, Merit Fellowship |
| 30. | Isha 2019BS06D | | 62. | Bhupnesh 2021BS40D | |
| 31. | Monika 2019BS07D | | 63. | Gayatri Kumari 2021BS41D | |
| 32. | Surjeet 2019BS08D | | | | |

***Annexure BPP-VII***

## NAME OF STUDENTS CLEARED NET, ARS, GATE OR ANY OTHER EXAMINATION:

| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|
| 07 | 06 | 05 | 01 | 03 | 22 |
| Name of student | Name of student | Name of student | Name of student | Name of student | |
| Ajeev Kumar 2016BS19D | Isha 2019BS06D | Minakshi 2020BS04D | Sajid Khan 2020BS10M | Ravi Kumar 2021BS16D | |
| Neelam 2017BS16D | Monika 2019BS07D | Mukul Dev 2020BS05D | | Sugandh 2021BS17D | |
| Sapna 2017BS31D | Surjeet 2019BS08D | Parul Sharma 2020BS06D | | Sajid Khan 2022BS05D | |
| Aarti Soni 2017BS32D | Vijay Kumar 2019BS09D | Shakshi Bansal 2020BS07D | | | |
| Sinky 2017BS33D | Kapil Deswal 2019BS45D | Sonu 2020BS08D | | | |
| Manish Jangra 2018BS15D | Pardeep S.D. 2019BS47D | | | | |
| Mukul Dev 2020BS05D | | | | | |

*Annexure BPP-VIII*

## NAME OF STUDENTS GOT FELLOWSHIPS:

| Year | Name of student | Name of fellowship |
|---|---|---|
| 2018-19 | Manish | JRF |
| | Neelam | |
| | Aarti Soni | |
| | Sinky | |
| 2019-20 | Kapil Deswal | JRF |
| | Isha | |
| | Pardeep S.D. | |
| | Monika | |
| | Surjeet | |
| | Vijay Kumar | |
| 2020-21 | Minakshi | JRF |
| | Mukul Dev | |
| | Parul Sharma | |
| | Shakshi Bansal | |
| | Sonu | |
| | Pooja Ahlawat | |
| | Pardeep S.D | |
| | Priyanka Sharma | |
| 2021-22 | Pooja | HSCSIT JRF |
| 2022-23 | Ravi | JRF |

*Annexure BPP-IX*

## STUDENTS PUBLICATIONS

| Sr. no. | Title of the paper/book | NAAS rating |
|---|---|---|
| | **M.Sc.** | |
| | **2018-2019** | |
| 1. | Bala, S., Varsheny, U.K. and Kumari, A. (2018). Effect of chloride and sulphate dominated salinity on minerals constituents of senna (*Cassia angustifolia* Vahl.). *Journal of Plant Development Sciences*, **10**: 127-131. | 4.57 |
| 2. | Jangra, M., Devi, S., Kumar, N., Satpal and Goyal, V. (2019). Effect of salicylic acid on growth and plant water status of sorghum genotype under salt stress. *International Journal of Chemical Studies*, **7(2)**: 1180-84. | 5.31 |
| 3. | Pooja and Munjal, R. (2019). Heat tolerant wheat genotypes for late sown conditions identified on the basis of physiological traits. *Journal of Agrometerology*, **21(1)**: 97-100. | 6.56 |
| | **2019-2020** | |
| 4. | Sonia., Munjal, R., Pooja and Suresh (2020). Genetic variation of stem characters in wheat and their relation to physiological characters and yield under drought. *Indian Journal of Genetics*, **80(4)**: 365-374. | 6.47 |
| | **2020-2021** | |
| 5. | Sapna and Sharma, K.D. (2021). Response of *rhizobial* strains on biochemical traits and nutrient uptake in mungbean (*Vigna radiata* L. Wilczek) under moisture stress. *Journal of Plant Development Sciences*,**13(6)**: 399-402. | 4.13 |
| 6. | Sapna, Sharma, K.D. and Kumar, R. (2021). Mitigating drought in mung bean using rhizobium induced alteration in physiological traits. *International Journal ofCurrent* | 5.38 |

| | | |
|---|---|---|
| | *Microbiology and Applied Sciences*, **10(3)**: 559-565. | |
| 7. | Sapna and Sharma, K.D. (2021). Impact of different rhizobial strains on physiological responses and seed yield of mungbean [*Vigna radiata* (L.) Wilczek] under field conditions. *Legume Research*,**44(6):** 679-683. | 6.34 |
| | **2021-2022** | |
| 8. | Swami, P., Munjal, R. and Deswal, K. (2021). Targeting photosynthesis under abiotic stress. *Journal of Cereal Research*, **14:** 53-66. | 4.57 |
| 9. | Bala, R., Munjal, R., Kumari, A., Swami, P. and Sharma, B. (2022). Morphological characterization of wheat genotypes to different doses of phosphorus fertilizer at seedling stage. *Frontieres in Crop Improvement*, **9**: 3863-3866. | 4.67 |
| | **2022-23** | |
| 10. | Prakriti, Sridevi, T., Devi, S. and Satpal (2022). Salinity stress alleviation in fodder crops through foliar application of jasmonic acid. *Forage Research*, **48(1)**: 11-21. | 4.84 |
| **Ph.D.** | | |
| | **2018-2019** | |
| 1. | Chand, G., Nandwal, A.S., Kumar, N., Devi, S. and Khajuria, S. (2018). Yield and physiological responses of mungbean (*Vigna radiate* L. Wilczek) genotypes to high temperature at reproductive stage. *Legume Research*, **41(4):** 557-562. | 6.12 |
| 2. | Bhasker, P., Nandwal, A.S., Kumar, N., Devi, S., Arya, S.S., Chand, G., Kumar, K. and Kumar, S. (2018). High temperature effects on physiological traits and seed yield of chickpea (*Cicer arietinum* L.) cultivars with different heat susceptibility. *International Journal of Natural Sciences Research*,**1(1)**: 18-27. | 5.31 |
| 3. | Lal, M., Kumar, A., Jangra, M., kumar, R., Kumar, M. and Sheokand, S. (2018). Effects of different heavy metals and mycorrhizal treatments on various physiological processes in cotton genotypes. *International Journal of Pure and Applied Bioscience*,**6(3)**: 146-153. | 4.74 |
| 4. | Lal, M., Kumar, A., Jangra, M., Kumar, R. and Sheokand, S. (2018). Screening of pigeonpea [*Cajanus cajan* (L.) Millsp.] genotypes for waterlogging, salinity and combined waterlogging and salinity tolerance. *International Journal of Pure and Applied Bioscience*, **6(3):** 128-136. | 4.74 |
| 5. | Kumar, A., Kumar, D., Jangra, M. and Kumar, N. (2018). Growth and development of rapeseed mustard and other field crops under different sowing dates. *International Journal of Pure and Applied Bioscience*, **6(6)**: 144-156. | 4.74 |
| 6. | Madaan, S., Devi, S., Toky, O. P., Kaur, V., Angrish, R., Arya, S. S. and Kumari, A. (2018). Lysimetric quantification of bio drainage potential of some tree species. *The Bioscan*,**13(3)**: 735-742. | 5.26 |
| 7. | Neelam., Kumar, N., Kumar, K., Sharma, M.K. and Rani, S. (2019). Effects of saline irrigation on physiological responses and yield attributes in chickpea genotypes. *Journal of Agro meteorology*, **20**: 359-363. | 6.40 |
| | **2019-2020** | |
| 8. | Pooja, Nandwal, A.S., Chand, M., Singh, K., Mishra, A.K., Kumar, A., Kumari, A. and Rani, B. (2019). Varietal variation in physiological and biochemical attributes of sugarcane varieties under different soil moisture regimes. *Indian Journal of Experimental Biology*,**57(10)**: 721-732. | 7.48 |
| 9. | Ram, K., Munjal, R., Harikesh., Suresh and Kumari, A. (2020). AMMI and GGE Biplot analysis for yield stability of wheat genotypes under drought and high temperature stress. *International Journal of Current Microbiology and Applied Sciences*, **9(5)**: 377-389. | 5.38 |
| 10. | Devi, S., Satpal., Kumari, P., Goyal, V. and Jangra, M. (2020). Variation in physiological responses to salt stress in sorghum (*Sorghum bicolor* L. Monech). *International Journal of Current Microbiology and Applied Sciences*, **9(4)**: 2236-2242. | 5.38 |
| | **2020-2021** | |
| 11. | Pooja., Munjal, R., Bhaumik, J. and Kaur, R. (2020). Role of zinc oxide nanoparticles in mitigation of drought and salinity-a review. *International Journal of Current* | 5.38 |

| | | |
|---|---|---|
| | *Microbiology and Applied Sciences*, **9(11)**: 467-481. | |
| 12. | Deswal, K., Wadhwa, Z., Mamrutha, H.M., Rinki., Munjal, R., Tiwari, R., Singh, G. and Singh, G.P. (2021). An overview of genome editing technology. *Krishi Science – eMagazine for Agricultural Sciences*, **2(9)**: 13-16. | --- |
| 13. | Varma, S., Beniwal, R. S., Daneva, V. and Jangra, M. (2020). Effect on morphological characters in Eucalyptus tereticornis Sm. at juvenile stage under the influence of moisture stress and mitigation by brassionosteroids and sucrose. International Journal of Chemical Studies, **8**(3): 2825-2829. | --- |
| 14. | Devi, S., Phogat, D.S., Satpal, Jangra, M. and Goyal, V. (2021). Physiological performance of oat under salt stress. *Multilogic in Science*,**10(36)**: 1442-1444. | 4.51 |
| | **2021-2022** | |
| 15. | Jangra, M., Devi, S., Satpal., Kumar, N., Goyal V. and Mehrotra S. (2022). Amelioration effect of salicylic acid under salt stress in *Sorghum bicolor* L. *Applied Biochemistry and Biotechnology*,**194(10)**: 4400-4423. | 8.93 |
| 16. | Jangra, M., Devi, S., Kumar, N., Satpal and Ramparkash. (2022). Physiological tools to identify the amelioration effect of salicylic acid under salinity in sorghum at bloom stage. *Journal of Agricultural Research and Technology*, **1**: 57-66. | 4.50 |
| | **2022-2023** | |
| 17. | Sarita., Kumari, A., Avtar, R., Rani, B., Goyal, V. and Ahlawat, P. (2022). Germination and early growth of Indian mustard (*Brassica juncea* L.) genotypes under saline conditions. *Journal of Oilseed Brassica*, **13(2)**: 143-152. | 4.67 |

***Annexure BPP-X***

## LIST OF PASS OUT STUDENTS (M.SC.)

| Sr. No. | Name of students | Admn. no. | Duration |
|---|---|---|---|
| **2018-19 (02)** | | | |
| 1. | Yashika | 2016BS06M | June, 2018 |
| 2. | Manish Jangra | 2016BS24M | June, 2018 |
| **2019-20 (03)** | | | |
| 1. | Sonia Rani | 2017BS09M | July, 2019 |
| 2. | Preeti | 2017BS49M | July, 2019 |
| 3. | Alisha Goyal | 2017BS51M | July, 2019 |
| **2020-21 (06)** | | | |
| 1. | Parul | 2018BS12M | October, 2020 |
| 2. | Tamanna | 2018BS13M | September, 2020 |
| 3. | Vineeta Rana | 2018BS14M | September, 2020 |
| 4. | Kiran | 2018BS28M | September, 2020 |
| 5. | Preeti Rani | 2018BS29M | October, 2020 |
| 6. | Sujata | 2018BS30M | September, 2020 |
| **2021-22 (08)** | | | |
| 1. | Ankisha | 2019BS07M | September, 2021 |
| 2. | Sumit | 2019BS09M | September, 2021 |
| 3. | Sweta | 2019BS08M | October, 2021 |
| 4. | Charu | 2019BS18M | August, 2021 |
| 5. | Gaurav | 2019BS19M | October, 2021 |
| 6. | Bhupnesh | 2019BS35M | August, 2021 |
| 7. | Gayatri | 2019BS36M | August, 2021 |
| 8. | P.S. Kiran | 2019BS37M | September, 2021 |
| **2022-23 (06)** | | | |
| 1. | Anjali | 2020BS08M | December, 2022 |

| | | | |
|---|---|---|---|
| 2. | Prakriti | 2020BS09M | August, 2022 |
| 3. | Sajid Khan | 2020BS10M | August, 2022 |
| 4. | Renu | 2020BS19M | August, 2022 |
| 5. | Bharti Rawal | 2019BS34M | September, 2022 |
| 6. | Pankaj | 2020BS37M | August, 2022 |

***Annexure BPP-XI***

## LIST OF PASS OUT STUDENTS (Ph.D.)

| Sr. no. | Name of students | Admn. no. | Duration |
|---|---|---|---|
| **2018-19 (1)** | | | |
| 1. | Kirpa Ram | 2013BS10D | January, 2018 |
| **2019-20 (02)** | | | |
| 1. | Neelam | 2014BS12D | April, 2018 |
| 2. | Ajeev | 2016BS19D | December, 2019 |
| **2020-21 (01)** | | | |
| 1. | Priyanka | 2016BS17D | December, 2020 |
| **2021-22 (01)** | | | |
| 1. | Vishnu Prakash | 2017BS29D | June, 2021 |
| **2022-23 (05)** | | | |
| 1. | Manish Jangra | 2018BS15D | December, 2022 |
| 2. | Pooja | 2017BS30D | July, 2022 |
| 3. | Sapna | 2017BS31D | May, 2022 |
| 4. | Aarti Soni | 2017BS32D | November, 2022 |
| 5. | Sinky | 2017BS33D | November, 2022 |

***Annexure CHEM-I***

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| **2018-19** | | | | | |
|---|---|---|---|---|---|
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| M. Sc.- 04 | | | Ph. D. -02 | | |
| 1. | Poonam | 2018BS08M | 1. | Monika Moond | 201BS04D |
| 2. | Poonam Rani | 2018BS09M | 2. | Pooja | 201BS05D |
| 3. | SavikritiSaini | 2018BS10M | | | |
| 4. | Shweta | 2018BS11M | | | |
| **2019-20** | | | | | |
| M. Sc.-8 | | | Ph. D.-11 | | |
| Sr. no. | Name | Admission no. | Sr. no. | Name | Admission no. |
| 1. | Ajay | 2019BS10M | 1. | Monika | 2019BS10D |
| 2. | Bharti | 2019BS11M | 2. | Nancy Rani | 2019BS11D |
| 3. | Jatin | 2019BS12M | 3. | Neelam | 2019BS12D |
| 4. | Komal | 2019BS13M | 4. | Payal Rani | 2019BS13D |
| 5. | Monika Panghal | 2019BS14M | 5. | Pinki | 2019BS14D |
| 6. | Neelam (Left) | 2019BS15M | 6. | Pooja | 2019BS15D |
| 7. | Neha | 2019BS16M | 7. | Pooja | 2019BS16D |
| 8. | NehaGoel | 2019BS17M | 8. | Pooja Rani | 2019BS17D |

| | | | 9. | Sandhya Chahal | 2019BS18D |
|---|---|---|---|---|---|
| | | | 10. | Sarita | 2019BS19D |
| | | | 11. | Sheetal | 2019BS20D |
| **2020-21** | | | | | |
| M. Sc.-8 | | | Ph. D.-8 | | |
| Sr. no. | Name | Admission no. | Sr. no. | Name | Admission no. |
| 1. | Deepak Phogat | 2020BS11M | 1. | Deepika | 2020BS09D |
| 2. | Divya Devi | 2020BS12M | 2. | Indu Rani | 2020BS10D |
| 3. | Jyoti Sharma | 2020BS13M | 3. | Jyoti Rani | 2020BS11D |
| 4. | Moksha | 2020BS14M | 4. | Karuna | 2020BS12D |
| 5. | Pooja | 2020BS15M | 5. | Kiran | 2020BS13D |
| 6. | Prachi | 2020BS16M | 6. | Priyanka | 2020BS14D |
| 7. | Samriti | 2020BS17M | 7. | Sanchit | 2020BS15D |
| 8. | Vishal Kathuria | 2020BS18M | 8. | Vidhi | 2020BS16D |
| **2021-22** | | | | | |
| M. Sc.-7 | | | Ph. D.-6 | | |
| Sr. no. | Name | Admission no. | Sr. no. | Name | Admission no. |
| 1. | AakashSaini (left) | 2021BS14M | 1. | Anju | 2021BS10D |
| 2. | BhartiJakhar | 2021BS15M | 2. | Anuradha | 2021BS11D |
| 3. | Kamaljeet | 2021BS16M | 3. | Mansi | 2021BS12D |
| 4. | Parul | 2021BS17M | 4. | Rupali Gupta | 2021BS13D |
| 5. | Sumit Kaur | 2021BS18M | 5. | Reena | 2021BS14D |
| 6. | VeenaYadav | 2021BS19M | 6. | Sheetu Devi | 2021BS15D |
| 7. | Yashashvi Sharma | 2021BS20M | | | |
| **2022-23** | | | | | |
| M. Sc.-6 | | | Ph. D.-6 | | |
| Sr. no. | Name | Admission no. | Sr. no. | Name | Admission no. |
| 1. | Amisha | 2022BS07M | 1. | Bhagya Shree | 2022BS06D |
| 2. | JyotiJangir | 2022BS08M | 2. | Chetna Khokhra | 2022BS07D |
| 3. | Muskan | 2022BS09M | 3. | Neeru | 2022BS08D |
| 4. | Shanshank Gupta | 2022BS10M | 4. | Pooja Rani | 2022BS09D |
| 5. | Taru Lata | 2022BS11M | 5. | Simran | 2022BS10D |
| 6. | Yogita Rani | 2022BS12M | 6. | Suman | 2022BS11D |

*Annexure CHEM-II*

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. no. | Name<br>Admission no. | Guide | Title of research problem |
|---|---|---|---|
| | | **Ph.D.** | |
| 1. | Monika Moond<br>2018BS04D | Dr.Sushila Singh | Green synthesis of silver nanoparticles using leaf and seed extracts of fenugreek for catalytic, antioxidant and antimicrobial activities |
| 2. | Pooja<br>2018BS05D | Dr.Sushil | Dissipation, decontamination and leaching behaviour of thiamethoxam + λ cyhalothrin (Ready mix) in soil and chilli |
| 3. | Monika<br>2019BS10D | Dr. Anil Duhan | Persistence, sorption and biocomposite based strategic mitigation of ethalfluralin from different soil orders. |
| 4. | Naincy Rani<br>2019BS11D | Dr. Anil Duhan | Synthesis, efficacy and ultimate fate of novel nano-fungicides |
| 5. | Neelam<br>2019BS12D | Dr. Ravi Kumar | Natural product inspired synthesis of substituted pyridones of biological importance |
| 6. | Payal Rani<br>2019BS13D | Dr. Jayant Sindhu | Exploration of C-H functionalization for the sulfenylation of aryl/heteroaryl conjugates |
| 7. | Pinki<br>2019BS14D | Dr.Sushila Singh | Comparison of green and conventional methods for phytochemical extraction and antioxidant activity of *Cordiamyxa*(lasura) |
| 8. | Pooja<br>2019BS15D | Dr.Sushil | Persistence and decontamination studies of a combination formulation (pyriproxyfem 5% ec + fenpropathrin 15% ec) in okra and soil |
| 9. | Pooja<br>2019BS16D | Dr.Sushil | Dissipation and decontamination of ready-mix formulation (fipronil 7% + hexythiazox 2%) in chilli and soil |
| 10. | Pooja Rani<br>2019BS17D | Dr. Rahul Kumar | Development of rice straw derived cellulose based adsorbents and their application in water remediation |
| 11. | Sandhya Chahal<br>2019BS18D | Dr.Rajvir Singh | Design and synthesis of biologically relevant novel fused heterocycles |
| 12. | Sarita<br>2019BS19D | Dr.Sonu Chauhan | Synthesis of 2/4-pyridone derivatives of biological importance |
| 13. | Sheetal<br>2019BS20D | Dr.Anushree | Blended biopolymer based nano-formulation for controlled release of chloropyrifos |
| 14. | Deepika<br>2020BS09D | Dr. Anil Duhan | Adsorption-desorption and toxicological consequences of some commonly used paddy herbicies in soil |
| 15. | Indu Rani<br>2020BS10D | Dr.Sachin Kumari | Synthesis and characterization of biosorbents for removal of heavy metals from aqueous system |
| 16. | Jyoti Rani<br>2020BS11D | Dr.Sushila Singh | Green synthesis of silver nanoparticles using juice and peel extract of pomegranate (*Punicagranatum* L.*)* for antioxidant, antimicrobial and catalytic activities |
| 17. | Karuna<br>2020BS12D | Dr. Rahul Kumar | Development of phosphorous enriched engineered biochar as slow release fertilizer |

| | | | |
|---|---|---|---|
| 18. | Kiran 2020BS13D | Dr. Jayant Sindhu | Unraveling the excited state behaviour of novel fluorophores |
| 19. | Priyanka 2020BS14D | Dr. Jayant Sindhu | Exploraion of non-conventional methodologies for C-H functionalization |
| 20. | Sanchit 2020BS15D | Dr.Anushree | Development of lignin based nanoformulation for controlled release of pesticide |
| 21. | Vidhi 2020BS16D | Dr.Ravi Kumar | Ultimate fate and toxicological studies of pretilachlor and its metabolites in different soil order |
| 22. | Anju 2021BS10D | Dr. Jayant Sindhu | Exploration of chemically tailored conjugated frameworks in real time sensing applications |
| 23. | Anuradha 2021BS11D | Dr.Sushila Singh | Synthesis of silver nanoparticles using leaves and peel extract of sapota (*Manilkarazapota*L.*)* for antioxidant, catalytic activity and colorimetric sensing |
| 24. | Mansi 2021BS12D | Dr. Rahul Kumar | Development of multi-nutrient fertilizer using nanobiochar as a carrier for soil health and plant growth improvement |
| 25. | Reena Rani 2021BS13D | Dr. Ravi Kumar | Natural product inspired synthesis of 3-acyl 2-pyridones and their bioevalution |
| 26. | Rupali Gupta 2021BS14D | Dr. Anil Duhan | Ultimate fate and toxicological consequences of butachlor and its metabolites in different soils of Haryana |
| 27. | Sheetu Devi 2021BS15D | Dr. Ravi Kumar | Synthesis and bioevaluation of C-3 alkylated 2-pyridones |
| 28. | Bhagya Shree 2022BS06D | Dr.Sachin Kumari | Development of bio-adsorbent from agricultural waste for removal of heavy metals from simulated water |
| 29. | ChetnaKhokhra 2022BS07D | Dr.Sushil | Dissipation and decontamination studies of a ready-mix formulation (Chlorantraniliprole + Lambda-cyhalothrin) in okra and soil |
| 30. | Pooja Rani 2022BS09D | Dr. Anushree | Development of Functionalized Hierarchical Zeolite for slow release of herbicide |
| 31. | Simran 2022BS10D | Dr.Sushila Singh | Synthesis of magnetite nanoparticles using leaves and bark extracts of Mauslsari (*Mimusops elengi* L.) for antioxidant and environmental applications |
| 32. | Suman 2022BS11D | Dr. Sonu Chauhan | Synthesis, characterization of Schiff base metal complexes of Isatin derivatives and evaluation of their urease inhibitory activity |
| **M.Sc.** | | | |
| 1. | Deepak Phogat 2020BS11M | Dr. Rahul Kumar | Development of slow releasing phosphate fertilizer using sweet lemon (*Citrus limetta* L.) peel derivedbiochar |
| 2. | Bharti 2021BS15M | Dr. Rahul Kumar | Synthesis of nanobiochar and its application in phosphorus recovery from aqueous media. |
| 3. | Kamaljeet 2021BS16M | Dr.Sushila Singh | Investigations on phytochemicals and antioxidant activity of leaves and flowers of kasood (*Cassia sianea* L.) |
| 4. | Parul 2021BS17M | Dr.Anushree | Hydrogenation of p-nitrophenol to p-aminophenol in presence of g-$C_3N_4$ based |

| | | | |
|---|---|---|---|
| | | | photocatalyst |
| 5. | Sumit Kaur 2021BS18M | Dr.Sushil | Dissipation study of chlorantraniliprole and its impact on enzymatic activity in soil |
| 6. | Veena 2021BS19M | Dr. Ravi Kumar | Studies on effects of probiotic bactertial fermentation on antinutritional glycosides of faba bean |
| 7. | Yashshvi Sharma 2021BS20M | Dr. Anil Duhan | Identification and estimation of polycyclic aromatic hydrocarbons contamination in surface soils from vicinity of dhandoor landfill |
| 8. | Amisha 2022BS07M | Dr. Sonu Chauhan | Evaluation of antimicrobial activities of Iron (II/III) complexes containing N, O donor Schiff base derived from 4-Aminoantipyrine |
| 9. | Jyoti Jangir 2022BS08M | Dr. Jayant Sindhu | Rational designing of fluorescent probes for anion sensing |
| 10. | Muskan 2022BS09M | Dr. Sachin Kumari | Development of adsorbent from walnut shell and its application in dyes removal from simulated water |
| 11. | TaruLata 2022BS11M | Dr. Vipan Kumar | Quantitativie phytochemical analysis of *Tinospora cordifolia genotypes* |
| 12. | Yogita Rani 2022BS12M | Dr.Sushila Singh | Phytochemicals analysis and antioxidant capacity of leaves and bark of *Gmelina arborea* (Ghambari) |

***Annexure CHEM-III***

## STUDENTS PARTICIPATION IN SEMINAR/CONFERENCE/WORKSHOP ETC

| Sr. no. | Name of Student and Admn. no. | Oral/ Poster | Seminar/ Conference/Workshop details |
|---|---|---|---|
| **M.Sc./ Ph.D.** | | | |
| 1. | Priyanka 2017BS06D | Poster | International Symposium on "Innopreneurship: A need of sustainable agriculture", from February 2-3, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 2. | Monika 2019BS10D | Poster | International Conference on "Climate change towards health and agricultural sustainability", from February 18-20, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 3. | Priyanka 2017BS06D | Poster | International Conference on "Innovations in chemical, biological and environmental science", from February 27-28, 2019 at Arya College, Panipat, Haryana, India. |
| 4. | Monika Moond 2018BS04D | Poster | International Conference on "New millennia agriculture novel trends and future scenario", from November 6-8, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 5. | Savikriti Saini 2018BS10M | | |
| 6. | Naincy Rani 2019BS11D | | |
| 7. | Monika Moond 2018BS04D | Poster | 25th International Conference on "Physical and biological sciences at cross-roads: interdisciplinary exploration and exciting challenges", from December 29-31, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 8. | Naincy Rani 2019BS11D | | |

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| 9. | Pinki 2019BS14D | Poster | International conference on "Recent advancement in chemical sciences", from July 14-16, 2021 at Department of Chemistry, YMCA Faridabad, Haryana, India. |
| 10. | Sheetal 2019BS20D | Oral | International Conference on "Energy and environmental materials (INCEEM-2021)", from July 29-30, 2021 at Sharda University, Noida, India. |
| 11. | Monika Moond 2018BS04D | Oral | 6th Asia Pacific International Modern Sciences Congress from December 15-16, 2021 at Mata Sundri College for Women, University of Delhi, India. |
| 12. | Payal Rani 2019BS13D | Poster | 1st International Conference on "Advanced developments in chemistry and allied sciences-2021", from December 16-17, 2021, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Haryana, India. |
| 13. | Monika Moond 2018BS04D | Oral | International Conference on "New horizons and trends in chemical sciences", from March 25-26, 2022 at Department of Chemistry, Dada Ram Chand Bakhru Sindhu Mahavidyalay, Nagpur, Maharashtra, India. |
| 14. | Jyoti Rani 2020BS11D | | |
| 15. | Pinki 2019BS14D | | |
| 16. | Monika Moond 2018BS04D | Oral | International Conference on "New horizons of nanoscience and energy resources", on March, 26, 2022 at S.M. Joshi College, Hadapsar, Pune, Maharashtra, India. |
| 17. | Jyoti Rani (2020BS11D) | Poster | International Conference on "Emerging trends in biotechnology and sustainable chemistry", from April 27-29, 2022 at Baba Farid College, Bathinda, Punjab, India. |
| 18. | Pooja 2019BS16D | | |
| 19. | Pooja Rani 2019BS17D | | |
| 20. | Moksha 2020BS14M | Poster | 1st International Student Symposium on "Basic science", from May 19-21, 2022 at Akal University, Bathinda, Punjab, India. |
| 21. | Deepika 2020BS09D | Poster | International Conference on "Advances in agricultural, veterinary and allied sciences for improving livelihood and environmental security", from September 28-30, 2022 at ICAR-National Agriculture Development Co-operative Limited, NewDelhi, India. |
| 22. | Indu Rani 2020BS10D | Poster | International Conference on "Emerging materials for sustainable development", from October 10-11, 2022 by CSIR-CSIO at Chandigarh, India. |
| 23. | Sheetal 2019BS20D | | |
| 24. | Sanchit 2020BS15D | | |
| 25. | Ajay Singh 2019BS10M | Poster | National Conference on Emerging Trends in Engineering, Science and Management (ETESM-2022), from Nov, 26-27th, 2022 at MDU, Rohtak. |
| 26. | Ajay Singh 2019BS10M | Paper | International Conference on Innovation and Advances in Interdisciplinary Research (ICIAIR-2022), from Nov, 28-29th, 2022 at Mewar University. |
| 27. | Payal Rani 2019BS13D | Poster | 2nd International Conference on Integrative Chemistry, Biology & Translational Medicine from Dec, 6th to 8th, 2022 at University of Delhi, Delhi |
| 28. | Priyanka 2020BS14D | | |

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|---|---|---|---|
| 29. | Sandhya Chahal 2019BS18D | | |
| 30. | Payal Rani 2019BS13D | Oral | 2nd International Conference on Advanced Developments in Chemistry and Allied Sciences-2023 from Jan, 17th to 18th, 2023 at DCRUST, Murthal, Sonipat |
| 31. | Sandhya Chahal 2019BS18D | | |
| 32. | Kiran 2020BS13D | Poster | 2nd International Conference on Advanced Developments in Chemistry and Allied Sciences from Jan, 17th to 18th, 2023 at DCRUST, Murthal, Sonipat |
| 33. | Sarita 2019BS19D | Poster | International conference on recent advances in chemical sciences from Jan, 16-18th, 2023 at Department of chemistry, Mohanlal Sukhadia University, Udaipur. |
| 34. | Vidhi 2020BS16D | | |
| 35. | Veena 2021BS19M | | |
| 36. | Neelam 2019BS12D | | |
| 37. | Sheetu Devi 2021BS15D | | |
| 38. | Reena Rani 2021BS13D | | |
| 39. | Priyanka 2020BS14D | Poster | 2nd International Conference on Advanced Developments in Chemistry and Allied Sciences from Jan, 17th to 18th, 2023 at DCRUST, Murthal, Sonipat |
| 40. | Sheetal 2019BS20D | Poster | International conference on "Green Energy & Sustainable Environmental Practices" from Jan, 30-31, 2023 at Department of Chemistry, University of Rajasthan, Jaipur. |
| 41. | Sanchit 2020BS15D | | |
| 42. | Indu Rani 2020BS10D | | |
| 43. | Parul 2021BS17M | | |
| 44. | Deepika 2020BS09D | Poster | International conference on Climate resilient agriculture for food security and sustainability from Feb 17-19th, 2023 at CCSHAU, HISAR |
| 45. | Chetna Khokhar 2022BS07D | | |
| 46. | Rupali Gupta 2021BS14D | | |
| 47. | Karuna 2020BS12D | Oral | International conference on Climate resilient agriculture for food security and sustainability Feb 17-19th, 2023 at CCSHAU, HISAR |
| 48. | Pooja Rani 2019BS17D | | |
| 49. | Sarita 2019BS19D | Oral | International conference on recent advancement in pharmaceutical, health and applied sciences from Feb, 24 to 25th at Om Sterling Global University, Hisar, in collaboration with Bingham University, Nigeria. |
| 50. | Neelam 2019BS12D | | |
| 51. | Rupali Gupta 2021BS14D | Oral | International conference on Biotechnology and human welfare: Vision 2030 and beyond from March 3-4th , 2023 at CDLU, Sirsa |
| 52. | Anuradha 2021BS11D | Poster | International conference on Biotechnology and human welfare: Vision 2030 and beyond from March 3-4th , 2023 at CDLU, Sirsa |

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| 53. | Naincy Rani 2019BS11D | | |
| 54. | Jyoti Rani 2020BS11D | | |
| 55. | Sanchit 2020BS15D | Poster | International Conference on "Emergent Materials for Energy and Environment (EMEE-2023)" from March, 4th to 5th, 2023 at Department of Chemistry, IIT Roorkee. |

***Annexure CHEM-IV***

## STUDENT PARTICIPATION IN TRAININGS

| Sr. no. | Name of student and admn no. | Duration | Title |
|---|---|---|---|
| 1. | Sheetu Devi 2021BS15D | 11-06-2018 to 06-07-2018 | Training on "Herbal medicine", at Svior Pharmaceuticals Privat Limited, Hisar, Haryana, India. |
| 2. | Naincy Rani 2019BS11D | 16-07-2018 to 20-07-2018 | Workshop on "Nanotechnology: nanoparticle synthesis and conjugation chemistry for bioapplications", at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 3. | Rupali Gupta 2021BS14D | 13-06-2019 to 13-08-2019 | Training on "Nanoparticles synthesis", at Punjab University, Chandigarh, India. |
| 4. | Sheetal 2019BS20D | 14-10-2019 to 23-10-2019 | Training on "Statistical data analysis for research scholar", at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 5. | Neha 2019BS16M | 01-06-2020 to 29-08-2022 | Summer Training Program at CSIR-NEIST Jorhat, Assam, India. |
| 6. | Neha 2019BS16M | 07-06-2020 | Training Course on "Mendeley" at Aggarwal College, Ballabgarh, Haryana, India. |
| 7. | Payal Rani (2019BS13D) | | |
| 8. | Payal Rani 2019BS13D | 15-06-2020 to 27-07-2020 | Training on "Data science" at InternshalaScholiverseEducare Private Limited Gurgaon, Haryana, India. |
| 9. | Monika Moond 2018BS04D | 15-09-2020 to 28-11-2020 | Webinar Internship Course on 'Emerging trends in nanomaterials for different device architectures", at Indian Chemical Society, Kolkata, West Bengal, India |
| 10. | Neha 2019BS16M | 02-11-2020 to 06-11-2020 | Training programme on "Electronic structure theory and application to chemical systems", at NIT, Tiruchirappalli, India. |
| 11. | Monika Moond 2018BS04D | 20-01-2021 to 21-01-2021 | Workshop on "Powder X-Ray diffraction techniques and its applications", at North East Centre for Biological Sciences and Healthcare Engineering, Indian Institute of Technology, Guwahati, Assam, India. |
| 12. | Mansi 2021BS12D | 26-04-2022 to 03-05-2022 | Training program on "Insights into analytical instrumentation for applied sciences", at Guru Nanak Dev University, Amritsar, Punjab, India. |

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|---|---|---|---|
| 13. | Karuna 2020BS12D | | |
| 14. | Pooja 2019BS15D | 27-06-2022 to 03-07-2022 | Training program on "X-ray and chromatographic based techniques for academic and industrial innovations", at Punjab University, Chandigarh, India. |
| 15. | Sheetal 2019BS20D | 09-10-2022 | Training on "Material synthesis and characterization", at CSIR-CSIO, Chandigarh, India. |
| 16. | Indu Rani 2020BS10D | | |
| 17. | Sanchit 2020BS15D | | |
| 18. | Mansi 2021BS12D | 10-10-2022 to 20-10-2022 | Training program on "Valorisation of agricultural residues and its management", by Students counselling and placement cell, at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 19. | Pooja Rani 2019BS17D | 14-10-2022 to 24-10-2022 | Training on "Statistical data analysis for research scholar", at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 20. | Neha 2019BS16M | | |
| 21. | Naincy Rani 2019BS11D | | |
| 22. | Payal Rani 2019BS13D | | |
| 23. | Mansi 2021BS12D | 10-10-2022 to 20-10-2022 | Training on "Volarization of crop residue and it's management" from Oct 10, 2022 to Oct 20, 2022 organised by CCSHAU. |
| 24. | Neelam 2019BS12D | 17-01-2023 to 31-01-2023 | Completed 15 day certificate course and internship on "Fermentation Technology" organized by Institute of Innovations, Tiruvannamalai held during 17-31 Jan 2023. |
| 25. | Mansi 2021BS12D | 13-02-2023 to 19-02-2023 | Training on "Biotechnologies in environmental engineering- scientific and business perspective" from Feb 13, 2023 to Feb 19, 2023 organised by CCSHAU |
| 26. | Pooja 2019BS16D | 18-02-2023 to 24-02-2023 | Training on Novel agricultural system (NAS-3.0) organised by doon PGCollege of Agriculture Science and Technology &Harws from 18th Feb to 24thfeb 2023 |

***Annexure CHEM-V***

## PLACEMENTS RECORD

| Sr. No. | Name of Student(s) | Placements (duration 2018-2023) |
|---|---|---|
| 1 | Promila | Data Scientist: The Open University, Walton Hall, Milton Hall, Keynes, United Kingdom. |
| 2 | Susheel Gulati | Research Associate: Hindustan Petroleum Coorporation Limited, Green R&D Center Bangaluru. |
| 3 | Suman Sangwan | Research Associate: ICAR-Central Institute for Research on Buffaloes. |
| 4 | Jyoti Punia | Project Scientist II: NIPER Guwahati. |
| 5 | Shweta | Lab Assistant: CCSHAU. |

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| 6 | Preeti | Assistant Professor: ShriVishwakarma Skill University Gurgaon. |
| 7 | Suman | Assistant Professor: Om Sterling Global University, Hisar. |
| 8 | Parveen Kumari | Assistant Professor: BLJS, College, Tosham, Haryana. |
| 9 | Anita | Assistant Professor: GDC, Memorial College, Bahal, Haryana. |
| 10 | Sumona | Assistant Professor: Guest Faculty, Guru Jambheshwar University Science & Technology, Hisar. |
| 11 | Neha | Assistant Professor: Guest Faculty, Guru Jambheshwar University Science & Technology, Hisar. |
| 12 | Parvesh Devi | Assistant Professor: Guest Faculty, ChaudharyRanbir SinghUniversity, Jind. |
| 13 | Sheetal | Assistant Professor: Guest Faculty, ChaudharyRanbir Singh University, Jind. |
| 14 | Ritu Rani | Assistant Professor: Guest Faculty, DN, College, Hisar. |

**Annexure CHEM-VI**

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. no. | Name | Name of scholarship support | Sr. no. | Name | Name of scholarship support |
|---|---|---|---|---|---|
| 1. | Savikriti Saini 2018BS10M | CCS HAU, Merit Fellowship | 29. | Pinki 2019BS14D | CSIR |
| 2. | Shweta 2018BS11M | Department of Science and Technology | 30. | Pooja 2019BS15D | |
| 3. | Ajay Singh 2019BS10M | CCS HAU, Merit Fellowship | 31. | Pooja 2019BS16D | CCS HAU, Merit Fellowship |
| 4. | Bharti 2019BS11M | | 32. | Pooja Rani 2019BS17D | UGC |
| 5. | Jatin 2019BS12M | Stipend | 33. | Sandhya 2019BS18D | CCS HAU, Merit Fellowship |
| 6. | Neha 2019BS16M | | 34. | Sarita 2019BS19D | UGC |
| 7. | NehaGoel 2019BS17M | CCS HAU, Merit Fellowship | 35. | Sheetal 2019BS20D | CSIR |
| 8. | Divya Devi 2020BS12M | Stipened | 36. | Deepika 2020BS09D | UGC |
| 9. | Jyoti Sharma 2020BS13M | | 37. | Indu Rani 2020BS10D | CCS HAU, Merit Fellowship |
| 10. | Moksha 2020BS14M | | 38. | Jyoti Rani 2020BS11D | UGC |
| 11. | Pooja 2020BS15M | CCS HAU, Merit Fellowship | 39. | Karuna 2020BS12D | CSIR |
| 12. | Smriti 2020BS17M | | 40. | Kiran 2020BS13D | UGC |
| 13. | Vishal Kathuria 2020BS18M | | 41. | Priyanka 2020BS14D | CSIR |
| 14. | Bharti 2021BS15M | | 42. | Sanchit 2020BS15D | |
| 15. | Kamaljeet 2021BS16M) | Stipend | 43. | Vidhi 2020BS16D | CCS HAU, Merit Fellowship |

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|---|---|---|---|---|---|
| 16. | Parul 2021BS17M | CCS HAU, Merit Fellowship | 44. | Anju 2021BS10D | Stipend |
| 17. | Veena 2021BS19M | | 45. | Anuradha 2021BS11D | CCS HAU, Merit Fellowship |
| 18. | Yashashvi Sharma 2021BS20M | | 46. | Mansi 2021BS12D | DST |
| 19. | Amisha 2022BS07M | | 47. | Reena Rani 2021BS13D | UGC |
| 20. | JyotiJangir 2022BS08M | | 48. | Rupali Gupta 2021BS14D | CCS HAU, Merit Fellowship |
| 21. | Shashank Gupta 2022BS10M | | 49. | Sheetu Devi 2021BS15D | |
| 22. | TaruLata 2022BS11M | | 50. | Bhagya Shree 2022BS06D | |
| 23. | Yogita Rani 2022BS12M | | 51. | ChetnaKhokhar 2022BS07D | |
| 24. | Monika Moond 2018BS4D | UGC | 52. | Neeru 2022BS08D | CSIR-JRF |
| 25. | Monika 2019BS10D | Stipend | 53. | Pooja Rani 2022BS09D | CCS HAU, Merit Fellowship |
| 26. | Naincy Rani 2019BS11D | CSIR | 54. | Simran 2022BS10D | CSIR-JRF |
| 27. | Neelam 2019BS12D | | 55. | Suman 2022BS11D | |
| 28. | Payal Rani 2019BS13D | UGC | | | |

***Annexure CHEM-VII***

## NAME OF STUDENTS CLEARED NET, ARS, GATE OR ANY OTHER EXAMINATION

| **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** |
|---|---|---|---|---|---|
| **1** | **2** | **9** | **7** | **5** | **24** |
| **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | |
| Priyanka 2017BS06D | Ritu Devi 2017BS04D | Naincy Rani 2019BS11D | Deepika 2020BS09D | Anju 2021BS10D | |
| | Monika Moond 2018BS04D | Neelam 2019BS12D | Indu Rani 2020BS10D | Anuradha 2021BS11D | |
| | | Payal Rani 2019BS13D | Jyoti Rani 2020BS11D | Reena Rani 2021BS13D | |
| | | Pinki 2019BS14D | Karuna 2020BS12D | Rupali Gupta 2021BS14D | |
| | | Pooja 2019BS16D | Kiran 2020BS13D | Sheetu Devi 2021BS15D | |
| | | Pooja Rani 2019BS17D | Priyanka 2020BS14D | | |
| | | Sandhya | Sanchit | | |

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| | | 2019BS18D | 2020BS15D | | |
| | | Sarita 2019BS19D | | | |
| | | Sheetal 2019BS20D | | | |

***Annexure CHEM-VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| Year | Name of student | Name of fellowship |
|---|---|---|
| 2018-19 | Shweta | INSPIRE, DST |
| | Monika Moond | UGC |
| 2019-20 | Naincy Rani | CSIR |
| | Neelam | |
| | Pinki | |
| | Pooja | |
| | Sheetal | |
| | Payal Rani | UGC |
| | Pooja Rani | |
| | Sarita | |
| 2020-21 | Deepika | UGC |
| | Jyoti Rani | |
| | Kiran | |
| | Priyanka | |
| | Karuna | CSIR |
| | Sanchit | |
| 2021-22 | Reena Rani | UGC |
| | Sheetu Devi | |
| 2022-23 | Mansi | INSPIRE, DST |

***Annexure CHEM-IX***

## STUDENTS PUBLICATIONS

| Sr. No. | Title of the paper/book | NAAS rating |
|---|---|---|
| **M.Sc. Students** | | |
| | **2018-2019** | |
| 1. | Kumar, P., Ahlawat, S., Chauhan, R., Kumar, A., Singh, R. and Kumar, A. (2018). Bio-efficacy and post harvest residual toxicity of new fungicides against sheath blight (*Rhizoctonia solani*) of rice (*Oryza sativa*). *Indian Journal of Agricultural Sciences*, **88(10)**:1587-1592. | 6.37 |
| 2. | Devi, R., Duhan, A. and Punia, S.S. (2018). Leaching behaviour of halosulfuron-methyl in sandy loam soil. *International Journal of Chemical Studies*, **6(5):** 31-34. | 5.31 |
| 3. | Kumar, P., Ahlawat, S., Chauhan, R., Kumar, A., Singh, R. and Kumar, A. (2018). *In vitro* and field efficacy of fungicides against sheath blight of rice and post-harvest fungicideresidue in soil, husk, and brown rice using gas chromatography-tandem massspectrometry. *Environmental Monitoring and Assessment*, **190(503):** 1-9. | 8.51 |
| 4. | A. Madan, V. Ahlawat, S., and Chauhan, R. (2018). Leaching behaviour of combination product (Novaluron 5.25% + Indoxacarb 4.5% SC) at different depths ofsandy loam soil. *International Journal of Current Microbiology and Applied* | - |

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| | *Sciences*, **7(12):** 260-266. | |
| 5. | Ahlawat, S., Gulia, S., Malik, K., Rani, S. and Chauhan, R. (2019). Persistence and decontamination studies of chlorantraniliprole in *Capsicum annum* using GC-MS/MS. *Journal of Food Science and Technology*, **56(6):** 2925–2931. | 8.70 |
| 6. | Singh, N. V., Chauhan, R., Sushil, Yadav, G.S. and Kumari, B. (2019). Dissipation patternand effect of washing on reduction of dimethoate residues on sweet orange, *Citrus sinensis*L. *Pesticide Research Journal*, **31(1):** 96-101. | 5.49 |
| **2019-2020** | | |
| 7. | Devi, R., Duhan, A., Punia, S.S. and Yadav, D.B. (2019). Degradation dynamics ofhalosulfuron-methyl in two textured soils. *Bulletin of Environmental Contamination and Toxicology*, **102**: 246–251. | 8.15 |
| 8. | Rani, D., Duhan, A., Punia, S.S., Yadav, D.B. and Duhan, S. (2019). Behavior of pre-mixformulation of imazethapyrandimazamox herbicides in two different soils. *Environmental Monitoring and Assessment*, **191**: 1-8. | 8.5 |
| 9. | Rani, K., Sangwan, S., Singh, S., Sharma, P., Kaur, H. and Sindhu, M. (2020).Biosurfactant production by bacteria retrieved from hydrocarbon polluted environment. *International Journal of Chemical Studies*, **8(4):** 1059-1065. | 5.21 |
| 10. | Devi, P., Singh, S., Sangwan, S., Dalal, P. and Moond, M. (2020). Effect of pH onantioxidant and phytochemical activities of mulhattiroots (*Glycyrrhizaglabra* L.).*Journal of Agricultural Science and Technology*, **11**: 276-282. | 6.897 |
| 11. | Rani, N., Duhan, A. and Tomar, D. (2020). Ultimate fate of herbicides tembotrione and itsmetabolite TCMBA in soil. *Ecotoxicology and Environmental Safety*, **203**:111023. | 12.29 |
| **2020-2021** | | |
| 12. | Dhanker, P., Ahlawat, S., Godara, R., Pooja, Digamaber and Dhanker, R. (2021). Dissipation patterns and effect of household processing on lowering of tebuconazole residues in chili and soil using GC-MS/MS. *Agricultural Mechanization in Asia, Africaand Latin America*, **51(1):**1105-1115. | 8.33 |
| **2021-2022** | | |
| 13. | Beniwal, R., Singh, S. and Devi, P. (2022). Effect of extraction solvents on phytochemicals and antioxidant potential of turnip roots (*Brassica rapa* L.).*Agricultural Science Digest*, **1:** (1-5). | 4.75 |
| 14. | Aggarwal, P., Singh, S., Sangwan, S., Moond M. and Devi P. (2022). Effect of extractionsolvents on antioxidant potential of *Prosopis cineraria* (L.) leaves. *Annals of Phytomedicinne*, **11(1):** 426-431. | 5.25 |
| **Ph.D. Students** | | |
| **2018-2019** | | |
| 1. | Nehra, S., Singh, S. and Kumari, P. (2018). Antioxidant potential of pod coats extracts ofcluster bean and their efficacy in stabilizing soybean oil. *Journal of Pharmacognosy and Phytochemistry* **7(2):** 1806-1810. | 5.21 |
| 2. | Nehra, S., Singh, S. and Rani, S. (2018). Assessment of pod coats for the study of antioxidant prospective in Cowpea, Mungbean and Moth Bean. *International Journal of Current Microbiology and Applied Sciences*. **7(3):** 3476-3483. | - |
| 3. | Promila and Singh. S. (2018). Application of green solvents in extraction of phytochemicals from medicinal plants: A review. *The Pharma Innovation Journal*, **7(3):** 238-245. | 5.03 |
| 4. | Gulati, S., Singh, R. and Suman (2019). Fruit juice boon for organic synthesis.*International Journal of Chemical Studies*, **7(5):** 4542-4545. | 5.31 |
| 5. | Nehra, S. and Singh, S. (2019). Oxidative Stability of Soybean Oil Supplemented withPod Coat Extracts of Cluster Bean. *International Research Journal of Pure and Applied Chemistry*, **20(3):** 1-11. | 5.54 |

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| | **2019-2020** | |
| 6. | Gulat, S., Singh, R., Sindhu, J., and Suman (2020). Eco-friendly preparations of heterocycles using fruit juices as catalysts: A review. *Organic Preparations and Procedures International*. **52(4):** 1-16. | 7.52 |
| 7. | Gulat, S., Singh, R., Sindhu, J. and Suman (2020). Eco-friendly preparations of Heterocycles using fruit juices as catalysts: A review. *Organic Preparations and Procedures International*, **52(4):** 1-16. | 7.52 |
| 8. | Malik, K., Ahlawat, S., Kumari, N., Mehta, S. and Aathira, S.K. (2020). Bioconversion of paddy straw for bio-ethanol production. *Journal of Pharmacognosy and Phytochemistry*, **9(3):** 1091-1093. | 5.21 |
| | **2020-2021** | |
| 9. | Kumari, P., Duhan, A., Rani, N. and Tomar, D. (2021). Ultimate fate and toxicological consequences of insecticide pyriproxyfen and its metabolites in soil ecosystem. *Environmental Advances*, **4**:100040. | 14.07 |
| 10. | Bhaber, K., Rani, P., Chahal, S., Sindhu, J., Kumar, S., Varma, R. S. and Singh, R. (2021). Transition metal-free C-3 functionalization of quinoxalin-2 (1H)-ones: recent advances and sanguine future. *New Journal of Chemistry*, **45**: 18722-18763. | 9.92 |
| 11. | Yadav, N., Sangwan, S., Kumar, R., Chauhan, S., Duhan, A., Singh, A. and Arya, R.K. (2021). Comprehensive overview of progress in functionalization of 2-pyridone and 2, 4 -dihydroxy pyridine: key constituents of vital natural products. *Chemistry Select*, **6**: 11792-11821. | 8.12 |
| 12. | Gulati, S.; Singh, R., and Suman (2021). Synthesis of novelbezimidazoles at room temperature, under solvent free condition and their biological studies. *Journal of Iranian Chemical Society*, **18**: 167–179. | 8.271 |
| | **2021-2022** | |
| 13. | Sangwan, S., Yadav, N., Kumar, R., Chauhan, S., Dhanda, V., Walia, P. and Duhan, A. (2022). A score years' update in the synthesis and biological evaluation of medicinallyimportant 2-pyridones. *European Journal of Medicinal Chemistry*, **232**: 114199. | 12.650 |
| 14. | Kaur, H., Sangwan, S., Sharma, P. and Singh, S. (2022). Biosurfactant production prospects of a gram-negative bacterium-*Klebsiella pneumonia* ssp. Ozaenae BK34. *Environmental Monitring and Assessment*, **194**: 374. | 8.513 |
| 15. | Nehra, S., Singh, S. and Rani, S. (2022). Stabilisation of soybean oil with pod coat extracts of cowpea (*Vigna unguiculata*). *Legume Research*, **6:** 1-7. | 6.59 |
| 16. | Devi, P., Singh, S., Sangwan, S., Sheetal and Moond, M. (2022). Effect of various solventfractions on antioxidant potential of *glycyrrhizaglabra* L. (Mulhatti) Roots. *Journal of Agriculture Science and Technology*, **21(2):** 44-54. | 7.098 |
| 17. | Ritu, D., Singh, S., Sangwan, S, Moond, M. and Beniwal, R. (2022). Biochemical and molecular mechanism of plant-mediated synthesis of silver nanoparticles: A Review. *Mini-Reviews in Organic Chemistry*, **19(8): 23-26.** | 8.495 |
| 18. | Pooja., Sushil., Dhanker, P. and Chauhan, R. (2022). Assessing the degradation pattern ofready pre mix formulation of thiamethoxam +L-cyhalothrin in canal water underlaboratorycondtions. *The Pharma Innovation Journal*, **11(3):** 2203-2208. | 5.23 |
| 19. | Pooja., Ahlawat, S., Chauhan, R. and Dhanker, P.(2022). Leaching behavior of ready mixformulation (Thiamethoxam + Lambda-cyhalothrin) at different depths of soil. *The Pharma Innovation Journal*, **11(4):** 1275-1278. | 5.23 |
| 20. | Dhanker, P., Ahlawat, S., Chauhan, R., Pooja and Dhanker, R. (2022). Assessing the degradation pattern of ready pre mix formulation of thiamethoxam + L-cyhalothrinincanal water under laboratory conditions. *The Pharma Innovation Journal*, **11(3):** 1893-1897. | 5.23 |

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|---|---|---|
| 21. | Rani, P., Kiran., Chahal, S., Priyanka., Kataria, R., Kumar, P., Kumar, S. and Sindhu, J. (2022). Unravelling the thermodynamics and binding interactions of bovine serum albumin (BSA) with thiazole based carbohydrazide: Multi-spectroscopic, DFT and molecular dynamics approach, *Journal of Molecular Structure*, 1270 133939. | 9.841 |
| | **2022-2023** | |
| 22. | Rani, P., Kiran., Priyanka, Sindhu, J. and Kumar, S. (2023). 5-Hydroxydibenzo [a,i]phenazine-8,13-dione: A selective and sensitive colorimetric and fluorescent 'turn-off' sensor for iodide ion, *Journal of Molecular Structure*, 1275 134621. | 9.841 |
| 23. | Chahal, S., Punia, J., Rani, P., Singh, R.M., Kumar, P., Kataria, R., Joshi, G. and Sindhu, J. (2023). Development of thiazole appended novel hydrazones as a new class of α-amylase inhibitors with anticancer assets: An in silico and in vitro approach, *RSC Medicinal Chemistry*, DOI link: https://doi.org/10.1039/D2MD00431C | - |
| 24. | Priyanka., Rani, P., Kiran and Sindhu, J. (2023). Indolizine: A Promising Framework for Developing a Diverse Array of C−H Functionalized Hybrids. ChemistrySelect, **8(1):** e202203531. | 8.30 |
| 25. | Moond, M., Singh, S., Sangwan, S., Devi, R. and Beniwal, R., (2022). Green Synthesis and Applications of Silver Nanoparticles: A Systematic Review. *AATCC Journal of Research*, **9(6)**, pp.272-285. | 6.72 |
| 26. | Moond, M., Singh, S., Sangwan, S., Devi, P., Beniwal, A., Rani, J., Kumari, A. and Rani, S., (2023). Biosynthesis of Silver Nanoparticles Utilizing Leaf Extract of Trigonella foenum-graecum L. for Catalytic Dyes Degradation and Colorimetric Sensing of $Fe^{3+}$/$Hg^{2+}$. *Molecules*, **28(3)**, p.951 | 10.92 |
| 27. | Moond, M., Singh, S., Sangwan, S., Rani, S., Beniwal, A., Rani, J., Kumari, A., Rani, I. and Devi, P., (2023). Phytofabrication of Silver Nanoparticles Using Trigonella foenum-graceum L. Leaf and Evaluation of Its Antimicrobial and Antioxidant Activities. *International Journal of Molecular Sciences*, **24(4)**, p.3480 | 12.20 |
| 28. | Moond, M., Singh, S., Devi, R., Pinki and Rajita (2023). Estimation of Phytochemicals and Antioxidant potency of Trigonella foenum-graecum Leaves (Variety HM444). *Agricultural Science Digest*. doi: 10.18805/ag. D-5677 | 4.75 |
| 29. | Moond, M., Singh, S., Devi, R., Beniwal, R., Matoria, P., Kumari, S., and Sharma, R.K., (2023). Proximate and Mineral Analysis of Trigonella foenum-graecum L. (Fenugreek) Seeds and Leaves of Variety HM444. *Annals of Phytomedicine*, **12(1)**, pp.1-7. | **5.81** |

***Annexure CHEM-X***

## LIST OF PASS OUT STUDENTS (M.SC.)

| **2018-2019 (2)** | | | |
|---|---|---|---|
| Sr. No. | **Name** | **Admission no.** | **Duration** |
| **1.** | Monika | 2016BS01M | July, 2018 |
| **2.** | Anu Kumari | 2016BS02M | June, 2019 |
| **2019-2020 (6)** | | | |
| **1.** | Pooja | 2017BS01M | July, 2019 |
| **2.** | Rajni | 2017BS02M | July, 2019 |
| **3.** | Naincy Rani | 2017BS03M | July, 2019 |
| **4.** | Pragya | 2017BS04M | July, 2019 |
| **5.** | Tanya | 2017BS05M | June, 2020 |
| **6.** | Pooja | 2017BS06M | July, 2019 |
| **2020-2021 (5)** | | | |
| **1.** | Tanya | 2017BS05M | June, 2020 |

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|---|---|---|---|
| **2.** | Tamana | 2017BS08M | November, 2020 |
| **3.** | Poonam | 2018BS08M | October, 2020 |
| **4.** | Poonam Rani | 2018BS09M | September, 2020 |
| **5.** | Savikriti Saini | 2018BS10M | November, 2020 |
| **2021-2022 (7)** | | | |
| **1.** | Ajay Singh | 2019BS10M | September, 2021 |
| **2.** | Bharti | 2019BS11M | September, 2021 |
| **3.** | Jatin | 2019BS12M | September, 2021 |
| **4.** | Komal | 2019BS13M | September, 2021 |
| **5.** | Monika | 2019BS14M | August, 2021 |
| **6.** | Neha | 2019BS16M | September, 2021 |
| **7.** | Neha Goel | 2019BS17M | September, 2021 |
| **2022-2023 (7)** | | | |
| **1.** | Shweta | 2018BS11M | August, 2022 |
| **2.** | Divya Devi | 2020BS12M | August, 2022 |
| **3.** | Jyoti Sharma | 2020BS13M | September, 2022 |
| **4.** | Pooja | 2020BS15M | September, 2022 |
| **5.** | Prachi | 2020BS16M | September, 2022 |
| **6.** | Smriti | 2020BS17M | August, 2022 |
| **7.** | Vishal | 2020BS18M | August, 2022 |

***Annexure CHEM-XI***

## LIST OF PASS OUT STUDENTS (PH.D.)

| **2018-19 (7)** | | | |
|---|---|---|---|
| Sr. no. | **Name** | **Admission no.** | **Duration** |
| 1. | Neha Gupta | 2013BS01D | June, 2019 |
| 2. | Suprita | 2013BS03D | September, 2018 |
| 3. | Suman | 2013BS04D | October, 2018 |
| 4. | Anjani | 2013BS05D | July, 2018 |
| 5. | SatyashreeJangra | 2014BS02D | October, 2018 |
| 6. | Sheetal | 2014BS05D | June, 2019 |
| 7. | Suman | 2014BS06D | May, 2019 |
| **2019-2020 (1)** | | | |
| 1. | Gagan Rani | 2014BS04D | June, 2020 |
| **2020-2021 (3)** | | | |
| 1. | Susheel Gulati | 2015BS01D | January, 2021 |
| 2. | Promila | 2015BS05D | December, 2020 |
| 3. | Parvesh Devi | 2016BS02D | December, 2020 |
| **2021-2022 (2)** | | | |
| 1. | Ritu | 2017BS04D | March, 2022 |
| 2. | Preeti | 2017BS07D | October, 2021 |
| **2022-2023 (1)** | | | |
| 1. | Rajita | 2017BS03D | April, 2022 |

*Annexure FST-I*

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| 2018-19 | | | | | |
|---|---|---|---|---|---|
| **M.Sc.- 04** | | | **Ph.D. -02** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Ankita | 2018FST48M | 1. | Ekta | 2018FST30D |
| 2. | Lalita | 2018FST49M | 2. | Tanu Malik | 2018FST31D |
| 3. | Vishal Lohan | 2018FST50M | | | |
| 4. | Rehema Joshua Napegwa | 2018FST51M | | | |
| **2019-20** | | | | | |
| **M.Sc.- 02** | | | **Ph.D.-02** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Himanshi | 2019FST53M | 1. | Monika | 2019FST68D |
| 2. | Roopa H | 2019FST54M | 2. | Priyanka | 2019FST69D |
| **2020-21** | | | | | |
| **M.Sc.-02** | | | **Ph.D.-03** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Abinaya S. | 2020FST01M | 1. | Ranjan Kaushik | 2020FST01D |
| 2. | Raj Kumar | 2020FST02M | 2. | Sandeep Kumar | 2020FST02D |
| | | | 3. | Shreya Panwar | 2020FST03D |
| **2021-22** | | | | | |
| **M.Sc.-02** | | | **Ph.D.-02** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Mutyala Greeshma Sree | 2021FST01M | 1. | Ankit Kumar | 2021FST 01D |
| 2. | Sadhana | 2021FST02M | 2. | Neha Rani | 2021FST02D |
| **2022-23** | | | | | |
| **M.Sc.-03** | | | **Ph.D.-03** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Nikita | 2022FST01M | 1. | Manisha Rani | 2022FST01D |
| 2. | Preeti | 2022FST02M | 2. | Meenu Roperia | 2022FST02D |
| 3. | Ravina | 2022FST03M | 3. | Ronak Tanwar | 2022FST03D |

*Annexure FST-II*

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. no. | Name and admn. no. | Guide | Title of research problem |
|---|---|---|---|
| **M.Sc.** | | | |
| 1. | Mutyala Greeshma Sree 2021FST01M | Dr. Ritu | Development and evaluation of oyster mushroom (*Pleurotusostreatus*) mayonnaise |
| 2. | Sadhana 2021FST02M | Dr. Anju Kumari | Standardization of processing technology for button mushroom (*Agariesbisporus*) mayonnaise |
| 3. | Nikita 2022FST01M | Dr. Ritu | Preparation and evaluation of value added oyster mushroom mayonnaise having zinc oxide nanoparticles |
| 4. | Preeti 2022FST02M | Dr. Rekha | Standardization of processing technology for bael shake premix |

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|---|---|---|---|
| 5. | Ravina 2022FST03M | Dr. Anju Kumari | Preparation and evaluation of value added button mushroom mayonnaise having zinc oxide nanoparticles |
| **Ph.D.** | | | |
| 6. | Monika 2019FST68D | Dr. Rakesh Gehlot | Development of value added nectar from bottle gourd-mint-lime blends |
| 7. | Priyanka 2019FST69D | Dr. Rekha | Standardization of processing technology of *ghurumba* (*Citrullus colocynthis* (L.) Schrad.) |
| 8. | Ranjan Kaushik 2020FST01D | Dr. Rekha | Development and evaluation of value added sattu from bengal gram and finger millet |
| 9. | Sandeep Kumar 2020FST02D | Dr. Rakesh Gehlot | Development of value added squash from bottle gourd-mint-lime blends |
| 10. | Shreya Panwar 2020FST03D | Dr. Ritu | Isolation, modification and characterization of finger millet starch |
| 11. | Ankit Kumar 2021FST01D | Dr. Rakesh Gehlot | Study on valorization in karonda (*Carissa carandas* Linn.) |
| 12. | Neha Rani 2021FST02D | Dr. Rekha | Development and evaluation of functional food products using harsingar (*Nyctanthesarbor tristis* Linn.) |
| 13. | Manisha Rani 2022FST01D | Dr. Ritu | Isolation, modification and characterization of sorghum starch |
| 14. | Ronak Tanwar 2022FST03D | Dr. Anil Panghal | Development and evaluation of millet noodles |

***Annexure FST-III***

## STUDENTS PARTICIPATION IN SEMINAR/CONFERENCE/WORKSHOPETC.

| Sr. no. | Name and admn. no. | Oral/ Poster | Seminar/Conference/Workshop details |
|---|---|---|---|
| 1. | Naseer Ahmed 2014FST31D | Oral | National Conference on "Innovative technological interventions for doubling farmers income" from February 8-10, 2018 organized by Society of Integrated Development of Agriculture, Veterinary, and Ecological Sciences at Jammu, India. |
| 2. | Rattan Singh 2014FST30D | Poster | *National Conference* on "Emerging sustainable technologies in food processing" from March 15-16, 2018 at Department of Food Engineering and Technology, Sant Longowal Institute of Engineering and Technology, Sangrur, Punjab, India. |
| 3. | Rattan Singh 2014FST30D | Poster | 3rd National Conference on "Contemporary food processing and preservation technologies" from April 12-13, 2018 at School of Bioengineering and Food Technology, Shoolini University, Solan, Himachal Pradesh, India. |
| 4. | Rattan Singh 2014FST30D | Poster | National Seminar on "National start up summit" from June 01-02, 2018 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 5. | Rattan Singh 2014FST30D | Poster | International Conference on "Food processing" from October 25-26, 2018 at Indian Agricultural Research Institute, New Delhi, India. |
| 6. | K. M. Manju 2017FST35D | Poster | |
| 7. | Tanu Malik 2018FST31D | Poster | |
| 8. | Ekta Sehgal 2017FST30D | Poster | International Conference on "Rural livelihood improvement for enhancing farmer's income through sustainable innovative agri and |

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| 9. | Rattan Singh 2014FST30D | Poster | allied enterprises" from October 30 - November 01, 2018 at Bihar Agricultural University, Sabour, Patna, Bihar, India. |
| 10. | Tanu Malik 2018FST31D | Poster | 8th International Food Convention on "Holistic approaches for start-ups, human resource training for agriculture and food industry gemmation (IFCON 2018)" from December 12-15, 2018 at CSIR-CFTRI, Mysore, Karnataka, India. |
| 11. | K. M. Manju 2017FST35D | Poster | International Symposium on "Innopreneurship: a need of sustainable agriculture (ISINSA-2019)" from February 02-03, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 12. | Tanu Malik 2018FST31D | Poster | |
| 13. | Ekta Sehgal 2017FST30D | Poster | |
| 14. | Tanu Malik 2018FST31D | Oral | International Conference on "Climate change towards health and agricultural sustainability" from February 18-20, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 15. | K. M. Manju 2017FST35D | Poster | |
| 16. | Ekta Sehgal 2017FST30D | Poster | International Seminar on "Sustainable environment and agriculture under global climate change" on February 21, 2019 at Maharshi Dayanand University, Rohtak, Haryana., India. |
| 17. | Tanu Malik 2018FST31D | Poster | |
| 18. | Naseer Ahmed 2014FST31D | Oral | International Conference on "Advances in agriculture and allied science research" from February 23-24, 2019 at Rama University, Kanpur, Uttar Pradesh, India. |
| 19. | Tanu Malik 2018FST31D | Poster | National Seminar on "Innovative strategies for gender equality" on March 08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 20. | Ekta Sehgal 2017FST30D | Poster | |
| 21. | Naseer Ahmed 2014FST31D | Poster | 3rd International Conference on "Global initiatives in agricultural and applied sciences for eco friendly environment" from June 16-18, 2019 at Tribhuvan University, Kathmandu, Nepal. |
| 22. | Ekta Sehgal 2017FST30D | Oral | |
| 23. | Tanu Malik 2018FST31D | Oral | |
| 24. | Monika Mathur 2014FST29D | Poster | National Workshop on "Production, processing and value addition of nutri-cereals (millets) in India" on September 16, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 25. | Rattan Singh 2014FST30D | Poster | |
| 26. | Ekta Sehgal 2017FST30D | Poster | |
| 27. | Monika mathur 2014FST29D | Poster | International Conference on "New millennia agriculture-novel trends and future scenario (GINMA-2019)" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 28. | Tanu Malik 2018FST31D | Poster | |
| 29. | Rattan Singh 2014FST30D | Poster | |
| 30. | Pratibha 2017FST34D | Poster | |
| 31. | K. M. Manju 2018FST35D | Poster | |

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| 32. | Sandeep kumar 2020FST02D | Poster | |
| 33. | Naseer Ahmed 2014FST31D | Poster | International Conference on "Global perspective in agricultural and applied sciences for food and environmental sciences" from December 01-02, 2019 at Kamaun University, Nanital, Uttarakhand, India. |
| 34. | Priyanka 2019FST69D) | Oral | National Seminar on "Mathematical sciences: repositories of logical thoughts and analytical tools" on February 22, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 35. | Shreya 2020FST03D | Oral | 9th International Conference on "Food processing, nutrition and fortification with emphasis on vitamin D" from March 05-06, 2020 at Jamia Hamdard University, New Delhi, India. |
| 36. | Monika 2019FST68D | Poster | National Seminar on "Support breast feeding for a better planet" from August 01-07, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 37. | Tanu Malik 2018FST31D | Poster | International Conference on "The European federation of food science and technology" from November 10-12, 2020, online event at Philipssite, Leuven, Belgium. |
| 38. | Pratibha 2017FST34D | Oral | International Conference on "New paradigms for agriculture, food and sustainability concerns" from February 26-28, 2021 at Raichur, Karnataka, India. |
| 39. | Tanu Malik 2018FST31D | Poster | 4th International Conference on "Global approaches in natural resource management for climate smart agriculture GNRSA-2020" from February 26-28, 2021 at Shobhit Deemed University, Modipuram, Meerut, Uttar Pradesh, India. |
| 40. | Ekta Sehgal 2017FST30D | Oral | International Conference on "Technological transformation and preparedness in the post covid world" from March 22-23, 2021 at Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, Haryana, India. |
| 41. | Roopa 2019FST54M | Oral | |
| 42. | Ekta Sehgal 2017FST30D | Poster | International Conference on "Role of micronutrients-immunity and health" from June 18-19, 2021 at Manav Rachna University, Manesar, Haryana, India. |
| 43. | Ekta Sehgal 2017FST30D | Oral | 4th International Conference on "Food and nutrition" from September 23-24, 2021 sponsored by Universal Society of Food and Nutrition at Bioleagues, Singapore. |
| 44. | Monika 2019FST68D | Oral | 3rd International Conference on "Global initiative in agricultural, forestry and applied sciences for food security, environmental safety and sustainable development" from October 17-18, 2021 at Shri Guru Ram University, Dehradun, Uttrakhand, India. |
| 45. | Ekta Sehgal 2017FST30D | Oral | International Conference on "Global research initiatives for sustainable agriculture and allied sciences" from December 13-15, 2021 organised by Society for Scientific Development in Agriculture and Technology, Meerut, Uttar Pradesh, India. |
| 46. | Priyanka 2019FST69D | Oral | |
| 47. | Himanshi Rao 2019FST53M | Oral | |
| 48. | Monika 2019FST68D | Oral | National Conference on "Mathematical sciences for applied and agricultural research" on February 22, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 49. | Priyanka 2019FST69D | Oral | |

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| 50. | Ranjan Kaushik 2020FST01D | Oral | |
| 51. | Sandeep Kumar 2020FST02D | Oral | |
| 52. | Ekta Sehgal 2017FST30D | Oral | International Conference on "Water, agriculture, dairy and food processing for sustainable economy", from March 25-26, 2022 at Eternal University, Baru Sahib, Himachal Pradesh, India. |
| 53. | Ankit 2021FST01D | Oral | International Conference on "Recent advances and innovations in biological and applied sciences" from June 14-16, 2022 at SGT University, Gurugram, India. |
| 54. | Ankit 2021FST01D | Poster | 2nd International Conference on "Advanced developments in chemistry and allied sciences" from January 17-18, 2023 at Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, Haryana, India. |
| 55. | Neha Mehta 2021FST02D | Poster | |
| 56. | Ankit 2021FST01D | Poster | International Conference on "Climate resilient agriculture for food security and sustainability" from February 17-19, 2023 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 57. | Mutyala Greeshma Sree 2021FST02M | Oral | International Conference on "Biotechnology and human welfare: vision 2023 and beyond" from March 03-04, 2023 at Chaudhary Devi Lal University, Sirsa, Haryana, India. |
| 58. | Sadhana 2021FST02M | Poster | |
| 59. | Priyanka 2019FST69D | Poster | |
| 60. | Neha Mehta 2021FST02D | Poster | |

**Annexure FST-IV**

## STUDENT PARTICIPATION IN TRAININGS

| Sr. no. | Name and admission no. | Duration | Title/Location |
|---|---|---|---|
| 1. | Shweta 2017FST57M | 01.06.2018 to 30.06.2018 | Industrial training at FICCI Research and Analysis Centre, National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited laboratory, Dwarka, New Delhi, India. |
| 2. | Manisha 2017FST56M | 15.06.2018 to 31.07.2018 | Industrial training on "Food technology" organized by Dairy Technology Division, ICAR-National Dairy Research Institute, Karnal, Haryana, India. |
| 3. | Comfort Wion Carthy 2017FST54M | 25.06.2018 to 24.07.2018 | Industrial training at Smart Food Lab, PFS Research, Private Limited, Hyderabad, Telangana, India. |
| 4. | Sandeep Kumar 2017FST55M | 25.06.2018 to 24.07.2018 | Industrial training at Satya Beverage and Distillers Private Limited, Industrial Estate, Hisar, Haryana, India. |
| 5. | Pratibha 2017FST34D | 16.10.2018 to | On "Career opportunities for students: fellowships/awards/scholarships" organized by College of |

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| 6. | K.M. Manju 2017FST35D | 17.10.2018 | Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 7. | Ekta 2018FST30D | | |
| 8. | Tanu Malik 2018FST31D | | |
| 9. | Shreya 2020FST03D | 15.03.2019 to 17.03.2019 | "ICAR-NDRI global scientific meet" organized by NDRI, Karnal, Haryana, India. |
| 10. | Tanu Malik 2018FST31D | 18.04.2019 to 30.04.2019 | Training program on "UGC NET-2019" organized by Students Counselling and Placement Cell, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 11. | Rehema Joshua Napegwa 2018FST51M | 01.06.2019 to 30.06.2019 | Industrial training at FICCI Research and Analysis Centre, National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited laboratory, Dwarka, New Delhi, India. |
| 12. | Modiri DiriscaSetlhoka 2017FST60M | 01.06.2019 to 30.06.2019 | Industrial training at Bokomo, Botswana Private Limited, Gaborone, Botswana, Africa. |
| 13. | TshiamoSeiphitlhile 2017FST59M | 10.06.2019 to 09.07.2019 | Industrial training in Quality department at Enrich AgroFood Products Private Limited, Rohtak, Haryana, India. |
| 14. | Ankita 2018FST48M | 17.06.2019 to 17.07.2019 | Industrial training in Quality and production department at Molson Coors India Private Limited, Mohali, Punjab, India. |
| 15. | Lalita 2018FST49M | | |
| 16. | Vishal Lohan 2018FST50M | | |
| 17. | Shreya 2020FST03D | 14.01.2020 | Workshop on "Textural analysis of dairy and food products" at ICAR-NDRI, Karnal, Haryana, India. |
| 18. | Tanu Malik 2018FST31D | 17.04.2020 | Nutrition education programme on "Food fortification" through e-learning platform organized by Poshan Abhiyaan, ICMR-NIN modules under the Ministry of Women and Child Development, GoI and ICMR-National Institute of Nutrition. |
| 19. | Tanu Malik 2018FST31D | 20.04.2020 to 02.05.2020 | "Novel microbes and newer threats, faculty development program (FDP)/student development program (SDP)" organized by Sathyabama Institute of Science and Technology in association with the Indian Association of Applied Microbiologists (IAAM) and California Institute of Science and Medicine, USA. |
| 20. | Tanu Malik 2018FST31D | 20.04.2020 to 24.04.2020 | Online workshop on "Entrepreneurship 101: learning business basics online" organized by ABIC, CCS Haryana Agriculture University, Hisar, Haryana, India. |
| 21. | Tanu Malik 2018FST31D | 23.04.2020 | Online course on "QMS auditor/lead auditor" through Udemy. |
| 22. | Tanu Malik 2018FST31D | 29.04 2020 | "Ready to eat foods and covid-19 safety, nutrition and taste" organized by Food Safety Training and Certification (FOSTAC). |
| 23. | Tanu Malik 2018FST31D | 30.04.2020 | Online training on "COVID-19 guidelines for food handlers" organized by Food Safety and Standards Authority of India (FSSAI) under Food Safety Training and Certification (FOSTAC). |

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| 24. | Pratibha 2017FST34D | 06.05.2020 to 08.05.2020 | "Standardization of processing techniques for development of different variants of ready to serve drink from green mango-mint blends" organized by the CSA University of Agriculture and Technology, Kanpur, India. |
| 25. | Tanu Malik 2018FST31D | 16.05.2020 | 'Role of dietary spices in human health and wellness' organized by AFST(I), CSIR, Mysuru, Karnataka, India. |
| 26. | Pratibha 2017FST34D | 22.05.2020 | Online "FoSTaC" training organized by FSSAI. |
| 27. | Pratibha 2017FST34D | 31.05.2020 | "Food protection-science and strategies" organized by AFST(I), CSIR, Mysuru, Karnataka, India. |
| 28. | Pratibha 2017FST34D | 05.06.2020 | "Biodiversity and environmental protection during pandemic outbreak of Covid-19" organized by International Society of Waste Management, Air and Water (ISWMAW). |
| 29. | Pratibha 2017FST34D | 05.06.2020 | "Biodiversity in relation to eco-health" organized by Acharya Narendra Deva University of Agriculture and Technology, Ayodhya, UP. |
| 30. | Pratibha 2017FST34D | 06.06.2020 to07.06.2020 | "Digestion in stomach and detoxification" course (e-learning) from Oxford Home Study Centre. |
| 31. | Himanshi Rao 2019FST53M | 30.07.2020 | "Packaging of foods- trends and prospects" organized by Department of Food Technology, Lady Irwin College, Delhi, India. |
| 32. | Himanshi Rao 2019FST53M | 05.08.2020 | "Recent development in food processing" conducted by the Department of Food Engineering and Technology, Sant Longowal Institute of Engineering and Technology, Longowal, Punjab, India. |
| 33. | Pratibha 2017FST34D | 08.08.2020 | "National education program on basic nutrition, food fortification, wash, mother health and nutrition, anemia and physical activity" organized by Poshan Abhiyaan, Ministry of Woman and Child Welfare, ICMR- NIN, Department of Health Research, Hyderabad, Telangana, India. |
| 34. | Pratibha 2017FST34D | 13.08.2020 | "Entrepreneurial opportunities in food processing sector" organized by the School of Agricultural Sciences and Technology (SAST), NarseeMonjee Institute of Management Studies (NMIMS). |
| 35. | Himanshi Rao 2019FST53M | 24.08.2020 to 28.08.2020 | "Recent advances in dairy process engineering" organized by Department of Food Process Engineering, College of Food and Dairy Technology, Koduvalli in association with AFST (India). |
| 36. | Himanshi Rao 2019FST53M | 29.08. 2020 | "Reading and decoding food labels" organized by the Department of Food Technology, Bhaskaracharya College of Applied Sciences, University of Delhi, Delhi, India. |
| 37. | Tanu Malik 2018FST31D | 01.09.2020 to 11.09.2020 | "Research methodology for social science" at Centre of Agricultural Market Intelligence, Anand Agricultural University, Anand, Gujrat, India. |
| 38. | Himanshi Rao 2019FST53M | 05.09.2020 | "Dietary management of coeliac disease" organized by the Department of Food Technology, Bhaskaracharya College of Applied Sciences, University of Delhi, Delhi, India. |
| 39. | Himanshi Rao 2019FST53M | 17.09.2020 to 18.09.2020 | "Market dynamics in poultry sector: perspective and challenges" at Centre of Agricultural Market Intelligence, Anand Agricultural University, Anand, Gujarat, India. |
| 40. | Pratibha 2017FST34D | 05.10.2020 to | "Post harvest management and value addition in horticultural crops for budding start-ups" organized by Central Agricultural |

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| | | 07.10.2020 | University, Imphal, India. |
| 41. | Pratibha 2017FST34D | 05.10.2020 to 16.10.2020 | "Food safety and quality management system" organized by Food Safety and Standards Authority of India (FSSAI). |
| 42. | Tanu Malik 2018FST31D | 13.10.2020 to 16.10.2020 | World Food Day celebrations "Food conclave 2020 - webinar series" organized by the Department of Food Processing Technology PSG College of Arts and Science, Coimbatore, Tamil Nadu, India. |
| 43. | Himanshi 2019FST53M | 15.10.2020 to 12.11.2020 | Virtual internship from Yari Quali Tech, Indore, Madya Pradesh, India. |
| 44. | Roopa H 2019FST54M | | |
| 45. | Monika 2019FST68D | 19.10.2020 to 21.10.2020 | "Postharvest management of agriculture produce during natural calamities/disaster" organized by National Institute of Disaster Management, Ministry of Home Affairs, GoI and ICAR-Central Institute of Postharvest Engineering and Technology. |
| 46. | Tanu Malik 2018FST31D | 20.10.2020 | "Food structure and functionality" online mini-symposium organized by researcher academy on campus. |
| 47. | Monika 2019FST68D | 05.11.2020 | "Entrepreneurial skill development for dairy graduates" organized by IDP-Cell, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab, India. |
| 48. | Tanu Malik 2018FST31D | 01.01.2021 | International webinar on "Managing soil for producing nutritional food and mitigating climate change", organized by Department of Agriculture and Environmental Sciences, NIFTEM. |
| 49. | Abhinaya 2020FST01M | 17.02.2021 to 19.02.2021 | "Digital library framework for strengthening agricultural knowledge" organized by IDP-NAHEP at ICAR, New Delhi, India. |
| 50. | Shreya 2020FST03D | 01.03.2021 to 03.03.2021 | International webinar on "Metabolomics and proteomics in food science" organized under IDP-NAHEP at ICAR-NDRI, Karnal, Haryana, India. |
| 51. | Abhinaya 2020FST01M | 04.04.2021 | "Overview on FSSC 22000 and how to become a food safety auditor" organized by Food Safety and Standards Authority of India. |
| 52. | Tanu Malik 2018FST31D | 10.04.2021 | "Hazards of chemicals in food processing industries" organized by Assure Food Solutions, Kerala, India. |
| 53. | Abhinaya 2020FST01M | 20.07.2021 | "Labelling requirements-the flip side" organized by IIFPT, Thanjavur, Tamil Nadu, India. |
| 54. | Shreya 2020FST03D | 28.09.2021 | International webinar on "Nutritional considerations for women using life-cycle approach" organized by the department. of Foods and Nutrition, College of Home Science GBPUA&T, Pantnagar, Uttarakhand in association with the National Commission for Women (NCW), GOI, New Delhi, India. |
| 55. | S. Abinaya 2020FST01M | 01.10.2021 to 30.10.2021 | Industrial training at SBD Agro Food, Mahi, Tehri Baba Sawan Singh, Sirsa, Haryana, India. |
| 56. | Raj Kumar 2020FST02M | 01.10.2021 to 30.10.2021 | DNV approved virtual internship training on "Food safety and quality management system", organized by DNV Business Assurance India, Private Limited, Kolkata, West Bengal, India. |

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| 57. | Abhinaya 2020FST01M | 31.10.2021 | "Eco-labels for sustainable food production and consumption" NIEPA, New Delhi, India. |
| 58. | Himanshi Rao 2019FST53M | 30.01.2022 | Online training programme on "Fruits and vegetables-processing operations in industry". |
| 59. | Mutyala Greeshma Sree 2021FST01M | 01.02.2022 to 03.02.2022 | Online training on "Functional fermented dairy foods for management of health and disease" organized for women under the aegis of DST, GoI funded project by Dairy Technology Division, NDRI, Karnal (virtual), Haryana, India. |
| 60. | Shreya 2020FST03D | | |
| 61. | Himanshi 2019FST53M | 28.02.2022 to 04.03.2022 | "Smart Farming: AI, robotics, IoT and cloud computing" organized by Centre of Agricultural Market Intelligence, Anand Agricultural University, Anand, Gujrat, India. |
| 62. | Himanshi Rao 2019FST53M | 06.03.2022 | "NAAC revised assessment methodologies and quality enhancement strategies" organized by Star International Foundation for Research and Education, Namakkal, Tamil Nadu, India. |
| 63. | Shreya 2020FST03D | 10.03.2022 | "Good laboratory practices in biological and chemical sciences," organized by the Biological and Chemical Waste Management Committee, BCAS, Delhi, India |
| 64. | Abhinaya 2020FST01M | 11.04.2022 | "Citrus postharvest handling and processing technology" organized by Department of Agriculture and Environment Sciences, National Institute of Food Technology, Entrepreneurship and Management, Punjab, India. |
| 65. | Himanshi Rao 2019FST53M | 22.04.2022 | "Invest in our planet: fight climate change with diet change", organized by Department of Community Medicine and School of Public Health, PGIMER, Chandigarh, India |
| 66. | Mutyala Greeshma Sree 2021FST01M | 25.04.2022 to 27.04.2022 | Training on "Mushroom production technology" organized by Saina Nehwal Institute of Agricultural Technology Training & Education (SNIATTE), CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 67. | Sadhana 2021FST02M | | |
| 68. | Himanshi Rao 2019FST53M | 31.05.2022 | "Food licensing and registration of food businesses (FoSCoS)" organized by FICSI. |
| 69. | Mutyala Greeshma Sree 2021FST01M | 23.07.2022 to 22.08.2022 | Industrial training on "Food research on new product development of carbonated beverages", organized by Smart Food Lab, PFS Research, Private Limited, Hyderabad, India. |
| 70. | Sadhana 2021FST02M | 01.08.2022 to 31.08.2022 | Industrial training on "Mushroom cultivation and processing" at Bajwa Vegicraft, Private Limited, Kurukshetra, Haryana, India. |

***Annexure FST-V***

## PLACEMENTS RECORD

| Sr. no. | Name of student | Placements (2018-2023) |
|---|---|---|
| 1. | Dr. Kanika | Deputy Director (Technical) in Food Safety and Standards Authority of India (FSSAI), New Delhi on deputation since December 03, 2022 |
| 2. | Dr. Ritu | Assistant Professor, CFST, CCSHAU, Hisar since February 22, 2019 |

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| 3. | Dr. Aneeta Khatak | Assistant Professor (Guest Faculty) Food Technology, Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India |
| 4. | Dr. Jyoti Prabha Bishnoi | Assistant Professor at Sri Vinayak College of Agriculture, Jaipur since December 06, 2022, Rajasthan, India |
| 5. | Dr. Isha Kaushik | Food Safety Officer, Food Safety and Standards Authority of India (FSSAI), New Delhi, India |
| 6. | Dr. Neeraj | Assistant Professor (Adhoc), Department of Agriculture, Jharkhand Rai University, Ranchi, Jharkhand, India |
| 7. | Dr. Akanksha Jain | Manager Learning Resource Management in Food Processing Sector Skill Council from January 2020-October 2022<br>Food Technologist (Consultant) for APEDA project in National Research Development Corporation (NRDC), New Delhi since November 2022 |
| 8. | Dr. Sucheta | Assistant Professor, D.Y. Patil University, Navi Mumbai, Maharashtra, India |
| 9. | Dr. Monika Mathur | Lecturer/Post Graduate Teacher in Science, Department of School Education, Bihar, India |
| 10. | Dr. Rattan Singh | Assistant Professor, Baba Farid Institute of Technology (BFIT), Dehradun, Uttrakhand, India |
| 11. | Dr. Naseer Ahmed | Assistant Professor, Department of Food Technology, DKSG Akal College of Agriculture, Eternal University, Baru Sahib since August, 2019<br>RIMT University, Mandi Gobindgarh, Punjab from February- August, 2018 |
| 12. | Dr. Partibha | Food Analyst at Food and Drug Administration, Karnal, Haryana, India |
| 13. | Dr. K.M. Manju | Junior Research Fellow, Department of Microbiology, Central University, Mahendragarh, Haryana, India |
| 14. | Dr. Tanu Malik | Quality and R&D Head in Shri Niwas Food Industries, Rai, Sonipat, Haryana since June 2022<br>Assistant professor in Department of Food Technology and Nutrition in Lovely Professional University, Punjab from October, 2021 to May, 2022<br>Scientist-B for Food Encyclopaedia Project in Patanjali Research Institute, Haridwar from July-September 2021<br>Food Processing Lecturer (Online), Geeta Group of Institutions, Panipat from May-July 2021 |
| 15. | Sunita | Lecturer/Post Graduate Teacher in Science, Department of School Education, Haryana, India |
| 16. | Shreya Panwar | Selected as ASRB- ARS Scientist in January, 2023 |
| 17. | Yudhbir Singh | Quality Assurance Executive, Del Monte, Delhi since January, 202 Quality Associate, Field Fresh Foods Private Limited, Gurugram, Haryana, India |
| 18. | Sushil Kumar | Instructor at The Legends of Allen, Coaching Centre, Hisar since August, 2021, Haryana, India |
| 19. | Priyanka Sharma | Technical and Regulatory Affairs, MARICO Limited, Delhi, India |
| 20. | Harsha Rohila | Senior Research Scientist, Dabur, New Delhi, India |
| 21. | Mansi Duggal | Medical Writer, Crixus Health, Bengaluru, India |
| 22. | Jyoti Rani | Trained Graduate Teacher (Science), Happy Home School, New Delhi, India |
| 23. | Mohit Kumar | Senior Executive (R&D), Del Monte, Gurugram, Haryana, India |
| 24. | Dimas Bayu Pinandoyo | Lecturer, Politenik Negeri Media Kreatif, Jakarta, Indonesia |

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| 25. | Monika | Sub Divisional Magistrate, Rajasthan Public Service Commission |
| 26. | Mohammad Sadiq | Food Security and Strategic Grain Reserve Division, Ministry of Agriculture, Livestock and Irrigation, Government of Afghanistan |
| 27. | Kritika Rawat | Assistant Professor (Food Technology), Mata Gujri College, Sirhind, Punjab, India |
| 28. | Priyanka | Assistant Professor (Food Technology), Mata Guiri College Fatehgarh Sahib since September, 2019, Punjab, India |
| 29. | Shweta | QHSE Executive, Elior, New Delhi, India |
| 30. | TshiamoSeiphitlhile | English Teacher (Part time), Botswana |
| 31. | Ankita | R&D Associate in Perfetti Van Melle India Private Limited<br>Guest Assistant Professor, Food Technology, Aditi Mahavidyalaya, University of Delhi since 2022 |
| 32 | Lalita | Executive (R&D) at Jubilant Food Works Private Limited, Delhi, India |
| **PURSUING HIGHER STUDIES** | | |
| 1. | Monika Mathur | Ph.D. (Food Science and Technology), Centre of Food Science and Technology, CCS Haryana Agricultural University, Hisar, Haryana, India |
| 2. | Simran Arora | Ph.D. (Food Science and Technology), Centre of Food Science and Technology, CCS Haryana Agricultural University, Hisar, Haryana, India |
| 3. | Madhushikha Keshani Ranasinghe | Ph.D., UniversitatRovirai Virgili Tarragona, Catalonia, Spain |
| 4. | Harshitha T. | Ph.D. (Food Science and Nutrition), Centre of Food Science and Technology, CCS Haryana Agricultural University, Hisar, Haryana, India |
| 5. | Nidhi Dalal | Ph.D., University of Naples Federico II, Naples, Italy |
| 6. | Sandeep Kumar | Ph.D. (Food Science and Technology), Centre of Food Science and Technology, CCS Haryana Agricultural University, Hisar, Haryana, India |
| 7. | TshiamoSeiphitlhile | Ph.D. in University of Botswana |
| 8. | Meenu Roperia | Ph.D. (Food Science and Technology), Centre of Food Science and Technology, CCS Haryana Agricultural University, Hisar, Haryana, India |
| 9. | Manisha Rani | Ph.D. (Food Science and Technology), Centre of Food Science and Technology, CCS Haryana Agricultural University, Hisar, Haryana, India |

***Annexure FST-VI***

## SCHOLARSHIP AND FINANCIAL SUPPORT

| **Sr. no.** | **Name** | **Name of scholarship support** | **Sr. no.** | **Name** | **Name of scholarship support** |
|---|---|---|---|---|---|
| **M.Sc.** | | | | | |
| 1. | Mohammad Sadiq 2015FST43M | ICAR-India-Afghanistan Fellowship | 6. | Kritika Rawat 2016FST32M | ICAR-JRF Fellowship |
| 2. | Comfort Wion Carthy 2017FST54M | ICCR-Africa Fellowship | 7. | Roopa H. 2019FST54M | ICAR-JRF Fellowship |
| 3. | TshiamoSeiphitlhile 2017FST59M | ICAR-India Africa Fellowship Prog.-III | 8. | S. Abinaya 2020FST01M | |
| 4. | Modiri | | 9. | Mutyala Greeshma | ICAR-PGS |

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| | DiriscaSetlhoka 2017FST60M | | | Sree 2021FST01M | Fellowship |
| 5. | Rehema Joshua Napegwa 2018FST51M | | | | |
| **Ph.D.** | | | | | |
| 1. | Sunita, 2016FST20D | Merit Fellowship | 9. | Shreya Panwar, 2020FST03D | UGC-JRF Fellowship |
| 2. | K.M. Manju, 2017FST35D | | 10. | Ankit Kumar, 2021FST 01D | ICAR-SRF Fellowship |
| 3. | Ekta, 2018FST30D | | 11. | Neha Rani, 2021FST02 D | Merit Fellowship |
| 4. | Tanu Malik, 2018FST31D | | 12. | Manisha Rani, 2022FST01D | |
| 5. | Monika, 2019FST68D | | 13. | Meenu Roperia, 2022FST02D | |
| 6. | Priyanka, 2019FST69D | | 14. | Ronak Tanwar, 2022FST03D | UGC-JRF Fellowship |
| 7. | Ranjan Kaushik, 2020FST01D | | | | |
| 8. | Sandeep Kumar, 2020FST02D | | | | |

***Annexure FST-VII***

## NAME OF STUDENTS CLEARED NET, ARS, GATE OR ANY OTHER EXAMINATION

| **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** |
|---|---|---|---|---|---|
| **2** | **3** | **3** | **7** | **2** | **17** |
| **Name of the student** | | | | | |
| K. M. Manju (2017FST35D) | Ankita (2018FST48M) | K. M. Manju (2017FST35D) | Tanu Malik (2018FST31D) | Shreya Panwar (2020FST03D) | |
| Priyanka (2019FST69D) | Priyanka (2019FST69D) | Sandeep Kumar (2017FST55M) | Roopa H (2019FST54M) | Ronak Tanwar (2022FST03D) | |
| | Shreya Panwar (2020FST03D) | Ankit Kumar (2021FST01D) | Monika (2019FST68D) | | |
| | | | Priyanka (2019FST69D) | | |
| | | | Sandeep Kumar (2020FST02D) | | |
| | | | Shreya Panwar (2020FST03D) | | |
| | | | Ankit (2021FST01D) | | |

***Annexure FST-VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| Year | Name of student | Name of fellowship |
|---|---|---|
| 2018-19 | Monika Mathur, 2014FST29D | Rajiv Gandhi National Fellowship (RGNF) |
| | Rattan Singh, 2014FST30D | |
| | Mohammad Sadiq, 2015FST43M | ICAR-India-Afghanistan Fellowship |

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| | Kritika Rawat, 2016FST32M | ICAR-JRF |
| | Comfort Wion Carthy, 2017FST54M | ICCR-Africa Fellowship |
| | TshiamoSeiphitlhile, 2017FST59M | ICAR-India Africa Fellowship Prog.-III |
| | Modiri DiriscaSetlhoka, 2017FST60M | |
| | Rehema Joshua Napegwa, 2018FST51M | |
| 2019-20 | Roopa H, 2019FST54M | ICAR-JRF |
| 2020-21 | S. Abinaya, 2020FST01M | |
| 2021-22 | Shreya Panwar, 2020FST03D | UGC-JRF/SRF |
| | Ankit Kumar, 2021FST 01D | ICAR-JRF/SRF |
| | Mutyala Greeshma Sree, 2021FST01M | ICAR-PGS |
| 2022-23 | Ronak Tanwar, 2022FST03D | UGC-JRF/SRF |

## FOREIGN STUDENTS

| Year | Name of student | Country |
|---|---|---|
| **2018-19** | Mohammad Sadiq, 2015FST43M | Afghanistan |
| | Comfort Wion Carthy, 2017FST54M | Liberia, Africa |
| | TshiamoSeiphitlhile, 2017FST59M | Botswana |
| | Modiri DiriscaSetlhoka, 2017FST60M | |
| | Rehema Joshua Napegwa, 2018FST51M | Tanzania |

***Annexure FST-IX***

## PUBLICATIONS FROM M.SC./PH.D. STUDENTS

| Sr. no. | Title of the paper/book | NAAS rating |
|---|---|---|
| **M.Sc.** | | |
| **2018-2019** | | |
| 1. | Seema, R. and Siddiqui, S. (2018). Comparative effect of different individual wrappings on shelf life of guava (*Psidium guajava*). *Journal of Food Science and Technology*,**55(8)**: 2935-2944. | 7.24 |
| 2. | Rawat, K., Kumari, A., Kumar, S., Kumar, R. and Gehlot, R. (2018). Traditional fermented products of India- review article. *International Journal of CurrentMicrobiology and Applied Sciences*, **7(4)**: 1873-1883. | - |
| 3. | Ranasinghe, M.K. and Siddiqui,S. (2018). Assessment of total colony count in mungbean (*Vigna radiata*) sprouts preserved using crude extract of bio-preservatives during storage. *Journal of Agriculture and Crops*, **4(9)**: 99-104. | - |
| 4. | Rahul, Gehlot, R., Siddiqui, S. and Rekha (2018). Studies on physico-chemical composition of fresh guava and jamun fruits. *Beverage and Food World*, **45(9)**: 32-33. | - |
| **2019-2020** | | |
| 5. | Kargwal, R., Yadvika, V. K., Garg, M. K., Vinod, M. K. and Mathur, M. (2019). Energy consumption pattern of value added products of pearl millet. *Energy*, **35(1)**: 1-5. | 10.97 |
| 6. | Kumar, M., Rekha, Gehlot, R., Sindhu, R., Singh, R. and Kumar, S. (2019). Physico-chemical characteristics of fresh banana fruits.*International Journal of Chemical Studies*,**7(5)**: 440-441. | 5.31 |
| 7. | Sharma, S., Gehlot, R., Singh, R., Rekha and Sindhu, R. (2019). Effect of storage on chemical constituents and sensory parameters of bael-mango chutney. *Journal of Pharmacognosy and Phytochemistry*, **8(4)**: 405-407. | 5.21 |
| 8. | Sharma, S., Gehlot, R., Singh, R., Rekha and Sindhu, R. (2019). Changes in chemical constituents and overall acceptability of bael-mango jam during storage. *Journal of Pharmacognosy and Phytochemistry*, **8(4)**: 408-410. | 5.21 |

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| 9. | Kumar, M., Rekha, Gehlot, R., Singh, R., Sindhu, R. and Kumar, S. (2019). Physico-chemical composition of ripe and overripe banana powder. *Journal of Pharmacognosy and Phytochemistry*, **8(5)**: 632-633. | 5.21 |
| 10. | Sharma, S., Gehlot, R., Singh, R., Rekha and Sindhu, R. (2019). Preparation and evaluation of bael-mango jam. *International Journal of Current Microbiology and Applied Sciences*, **8(7)**: 663-667. | - |
| 11. | Victor, S.L., Garg, M. K. and Pawar, K. (2019). Effect of different drying techniques on the quality attributes of pineapple powder. *International Journal of Current Microbiology and Applied Sciences*, **8(2)**: 324-341. | - |
| 12. | Pinandoyo, D.B., Siddiqui, S. and Garg, M.K. (2019). Physico-chemical analysis of protein fortified papaya jam. *Jurnal Al-Azhar Indonesia Seri Sains Dan Teknologi*,**5(1)**: 50-55. | - |
| **2020-2021** | | |
| 13. | Dalal, N., Siddiqui, S. and Neeraj (2020). Post-harvest quality of sunflower microgreens as influenced by organic acids and ethanol treatment. *Journal of Food Processing and Preservation*, **44(9)**: 14678. | 7.29 |
| 14. | Rawat, K., Kumari, A., Kumar, R. and Partibha (2020). Spray dried fermented milk products. *International Journal Current Microbiology and Applied Sciences*,**9(7)**: 1293-1299. | 5.38 |
| 15. | Kumar,S., Gehlot, R., Rekha, Sindhu, R. and Singh, R. (2020). Development and evaluation of guava-papaya jam. *International Journal of Chemical Studies*, **8(3)**: 1083-1085. | 5.31 |
| 16. | Kumar,S., Gehlot, R., Rekha, Sindhu, R. and Singh, R. (2020). Physico-chemical characteristics of fresh guava and papaya fruits. *International Journal of Chemical Studies*, **8(3)**:1098-1100. | 5.31 |
| 17. | Kumar,S., Gehlot, R., Rekha, Sindhu, R. and Malik, T. (2020). Changes in chemical constituents and overall acceptability of guava-papaya chutney during storage. *International Journal of Chemical Studies*, **8(3)**: 1125-1127. | 5.31 |
| 18. | Dalal, N., Siddiqui, S. and Neeraj (2020). Evaluation of effects of chemical treatments on sensory attributes of sunflower microgreens with storage. *Journal of Pharmacognosy and Phytochemistry*, **9(1)**: 439-443. | 5.21 |
| 19. | Kumar,S., Gehlot, R., Rekha, Sindhu, R. and Malik, T. (2020). Changes in chemical constituents and overall acceptability of guava-papaya jam during storage. *Journal of Pharmacognosy and Phytochemistry*, **9(3)**: 1278-1281. | 5.21 |
| 20. | Kumar,S., Gehlot, R., Rekha, Sindhu, R. and Singh, R. (2020). Studies on development and evaluation of guava-papaya chutney. *Journal of Pharmacognosy and Phytochemistry*, **9(3)**: 1282-1284. | 5.21 |
| 21. | Ranasinghe, M.K. and Siddiqui, S. (2020). A study on effect of cold-water extracts of bio-preservatives on germination, plumule and radicle length of mung bean sprouts. Journal of Technology and Value Addition, 1(2):48-59. | - |
| 22. | Pinandoyo, D.B. and Siddiqui, S. (2020). Physicochemical and sensory characteristics of soya protein isolate fortified papaya jam during storage time. *Scientific Study and Research-Chemistry and Chemical Engineering, Biotechnology, Food Industry*,**21(4)**: 463-472. | - |
| **2021-2022** | | |
| 23. | Kumar, M., Rekha, Gehlot, R., Sindhu, R., Mahato, D.K. and Arora, S. (2021).Effect of hybrid drying on the quality attributes of formulated instant banana-milk powders and shakes during storage. *Journal of Food Science and Technology*,**59(6)**: 2318-2327. | 8.70 |
| 24. | Sadiq, M., Kumari, A., Joshua, R., Kumar, R. and Rawat, K. (2021). Utilization of banana peel for pectinase enzyme production. *Indian Journal of Horticulture*, **78(4)**: 451-455. | 6.16 |
| 25. | Pal, H., Kaur, R., Kumar, P., Nehra, M., Rawat, K., Grover, N. and Swami, R. (2021). Process parameter optimization for development of beer: star fruit fortified approach. *Journal of Food Processing and Preservation*, **46(10)**: 15838. | - |

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| 26. | Sadiq, M., Kumari, A., Rawat, K., Sindhu, S.C. and Kumar, R. (2021). Effect of pectinolytic treatment on quality attributes of banana ready-to-serve drink during storage. *Journal of Current Research in Food Science*, **2(2)**: 05-09. | - |
| 27. | Sharma, A., Rawat, K., Jattan, P., Kumar, P., Tokusoglu, O., Kumar, P. and Singh, A. (2021). Formula refining through composite blend of soya, alfalfa and wheat flour: a vegan meat approach. *Journal of Food Processing and Preservation*, **46(5)**: 15235. | - |
| **2022-2023** | | |
| 28. | Rawat, K., Kumari, A., Kumar, R., Ahlawat, P. and Sindhu, S.C. (2022). Spray-dried lassi powder: process optimisation using RSM and physico chemical properties during storage at room and refrigerated temperature. *International Dairy Journal*, **131**: 105374. | 9.03 |
| 29. | Rao, H., Sindhu, R. and Panwar, S. (2022). Morphology and functionality of dry heat-treated and oxidized quinoa starches. *Journal of Food Processing and Preservation*, **46(7)**:16672. | 8.19 |
| 30. | Lohan, V., Pawar, K., Kumari, A. and Gehlot, R. (2022). Optimization of fermentation factors for vinegar preparation from sugarcane jaggery using response surface methodology. *Asian Journal of Dairy and Food Research*10.18805/ajdfr.DR-1730. | 5.75 |
| 31. | Shweta., Pawar, K., Gehlot, R., Kumar, R. and Sharma, S. (2022). Screening and physico-chemical study of quality jaggery prepared from different early and mid season sugarcane varieties. *Asian Journal of Dairy and Food Research*, **41(1)**: 56-63. | 5.75 |

| **Ph.D.** | | |
|---|---|---|
| **2018-2019** | | |
| 1. | Malik, T. and Kajla, P. (2018). Development of ready to cook curry from dried vegetables. *International Journal of Chemical Studies*, **4**:136-140. | 5.38 |
| 2. | Ahmed, N., Siddiqui, S., Gehlot, R. and Arora, S. (2018). Effect of phyto-protein enrichment on organoleptic evaluation of mango RTS beverages. *Journal of Pharmacognosy and Phytochemistry*, **7(6)**: 36-39. | 5.21 |
| 3. | Arora, S., Siddiqui, S., Gehlot, R. and Ahmed, N. (2018). Effect of anti-browning pre-treatments on browning of banana pulp. *International Journal of Current Microbiology and Applied Sciences*, **7(4)**:1-9. | - |
| 4. | Pratibha and Malik, T. (2018). Functional properties of food ingredients and their applications. *Research Trends in Food Technology and Nutrition*,**6**:39-71. | - |
| **2019-2020** | | |
| 5. | Srivastava A., Siddiqui, S. and Attri, B.L. (2019).Shelf-life and quality of guava (*Psidium guajava*) affected by chitosan based coating. *Indian Journal of Agricultural Sciences*,**89(12)**: 2003-2008. | 6.23 |
| 6. | Neeraj, Siddiqui, S. and Dalal, N. (2019). Influence of sprout inhibiting treatments and packaging methods on storage performance of Kufri Chipsona potato. *Indian Journal of Horticulture* **76(4)**:728-734. | 6.10 |
| 7. | Arora, S., Siddiqui, S. and Gehlot, R. (2019). Physicochemical and bioactive compounds in carrot and beetroot juice. *Asian Journal of Dairy and Food Research*,**38(3)**: 252-256. | 4.20 |
| 8. | Neeraj, Siddiqui, S. and Dalal, N. (2019). Effect of different packaging methods on shelf life of potato stored at room temperature. *International Journal of Current Microbiology and Applied Sciences*,**8(9)**: 2115-2121. | - |
| 9. | Singh, E., Singh, K., Sharma, P.K. and Malik, T. (2019). A study on elderly abuse, violence, and neglect in Haryana. Indian Journal of Health and Wellbeing, 10(4-6): 75-78. | - |
| **2020-2021** | | |
| 10. | Singla, D., Singh, A., Dhull, S. B., Kumar, P., Malik, T. and Kumar, P. (2020). Taro starch: isolation, morphology, modification and novel applications concern-a review. International Journal of Biological Macromolecules, 163: 1283-1290. | 10.78 |

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| 11. | Khubber, S., Chaturvedi, K., Gharibzahedi, T.S.M., Cruz, R.M.S., Lorenzo, J.M., Gehlot, R. and Barba, F.J. (2020). Non-conventional osmotic solutes (honey and glycerol) improve mass transfer and extend shelf life of hot-air dried red carrots: kinetics, quality, bioactivity, microstructure and storage stability. *Elsevier-LWT-Food Science and Technology*, **131**: 109764. | 9.71 |
| 12. | Dhull, S.B., Malik, T., Kaur, R., Kumar, P., Kaushal, N. and Singh, A. (2020). Banana starch: properties illustration and food applications: a review. Starch-Starke, 73(1-2):2000085. | 7.80 |
| 13. | Neeraj and Siddiqui, S., Dalal, N. and Srivastava, A. (2020). Effects of varieties, curing of tubers and extraction methods on functional characteristics of potato starch. *Journal of Food Measurement and Characterization*,**14(6)**: 3434-3444. | 7.42 |
| 14. | Malik, T. and Kajla, P. (2020). Comparative nutritional and microbiological quality of ready to cook mixed vegetable curry. Journal of Food Science and Technology, 57: 2099-2106. | 7.26 |
| 15. | Singh, R., Gehlot, R., Rekha, Sindhu, R. and Kumar., S. (2020). Changes in chemical constituents of banana-guava cheese during storage. *International Journal of Chemical Studies*, **8(4)**: 1066-1069. | 5.31 |
| 16. | Singh, R., Gehlot, R., Rekha, Sindhu, R. and Kumar S. (2020). Changes in chemical constituents of herbal banana-guava cheese during storage. *International Journal of Chemical Studies*, **8(4)**: 1070-1073. | 5.31 |
| 17. | Partibha, Gehlot, R., Rekha, Kumari, A., Sindhu, R., Singh, R. and Manju, K.M. (2020). Physico-chemical characteristics of mature green mango fruit and mint leaves. *International Journal of Chemical Studies*, **8(6)**: 2607-2609. | 5.31 |
| 18. | Singh, R., Gehlot, R., Rekha and Sindhu, R. (2020). Physico-chemical characteristics of fresh banana and guava fruits.*International Journal of Chemical Studies*, **8(2)**: 1112-1114. | 5.31 |
| 19. | Mathur, M., Kumari, A., Grewal, R.B., Panghal, A., Rani, M. and Kagarwal, R. (2020). Development and optimization of ingredients for multigrain fibre and protein enriched composite bars using sensory evaluation. *The Pharma InnovationJournal*, **9(11)**: 143-149. | 5.23 |
| 20. | Singh, R., Gehlot, R., Rekha, Sindhu, R. and Kumar S. (2020). Effect of storage on chemical parameters of protein rich banana-guava cheese. *Journal of Pharmacognosy and Phytochemistry*, **9(4)**: 838-841. | 5.21 |
| 21. | Malik, T., Kajla, P., Ekta and Gehlot, R. (2020). Microbiological analysis of ready to cook curry. *International Archive of Applied Sciences and Technology*, **11(4)**: 73-77. | 4.45 |
| 22. | Malik, T., Gehlot, R., Rekha and Sindhu, R. (2020). Physico-chemical characteristics of mature green mango fruit pulp variety Ramkela and mint leaves. *International Journal of Current Microbiology and Applied* Sciences, **11**: 684-687. | - |
| 23. | Birania, S., Rohilla, P., Kumar, R. and Kumar, N. (2020). Post harvest processing of millets: a review on value added products. *International Journal of Chemical Studies*, **8(1)**:1824-1829. | - |
| **2021-2022** | | |
| 24. | Malik, T.,Sharma, R.,Panesar, P.S.,Gehlot, R., Tokusoglu, O.,Dhull, S.B.,Vural, H. andSingh, A. (2021). Nutmeg nutraceutical constituents: in *vitro* and in *vivo* pharmacological potential.*Journal of Food Processing and Preservation*, **46(6)**: 56-63. | 8.19 |
| 25. | Arora, S., Goraya, R.K., Siddiqui, S. and Gehlot, R. (2021). Influence of anti-browning treatments on enzymatic browning, distinctive properties, and microbiological characteristics of banana pulp during short-term frozen storage. *Journal of Food Processing and Preservation*, **45(3)**: 15259. | 7.41 |
| 26. | Manju, K.M., Rekha, Priyanka and Kumar, N. (2021). Effect of fluidized-bed and freeze-drying techniques on physicochemical, nutritional, thermal, and structural properties of *Moringa oleifera* flowers, leaves, and seeds. *Journal of Food Processing and Preservation*, **45(9)**: 15719. | 7.41 |
| 27. | Neeraj, Siddiqui, S., Dalal, N., Srivastva, A. and Pathera, A.K. (2021). Physicochemical, morphological, functional, and pasting properties of potato starch as a function of extraction methods. *Journal of Food Measurement and Characterization*,**15(3)**: 2805-2820. | 6.60 |
| 28. | Monika, Malik, T., Gehlot, R., Rekha, Kumari, A., Sindhu, R. and Priyanka (2021). Antimicrobial properties of probiotics. *EnvironmentConservation Journal*, **22 (SE)**: 2278-5124. | 5.66 |

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| 29. | Ahmed, N., Siddiqui, S., Gehlot, R., Arora, S. and Kumar, K. (2021). Effect of phyto-protein enrichment on organoleptic evaluation of mango squash. *The Pharma Innovation Journal*, **10(8)**: 1259-1262. | 5.23 |
| 30. | Chaudhary, C., Khatak, A., Grewal, R.B. and Gehlot, R. (2021). Development of value added ready-to-cook (RTC) convenient mix by using barley, oat and flaxseeds. *The Pharma Innovation Journal*, **10(1)**: 228-231. | 5.23 |
| 31. | Sehgal, E., Kumari, A. and Kumar, S. (2021). Biofilm formers in farm fresh produce: food safety threat. *Frontiers in Crop Improvement*, **9(5)**: 2104-2106. | 4.67 |
| 32. | Kargwal, R., Garg, M.K., Sehgal, E., Grover, R. and Singh, V.K. (2021). Effect of film thickness on quality characteristics of tomato under modified atmosphere packaging (MAP) system In: *Frontiers in Crop Improvement*, **9(6)**, 2104-2106, ISSN:2454-6011. | 4.67 |
| 33. | Monika, K., Malik, T., Gehlot, R., Rekha, K., Kumari, A., Sindhu, R., and Rohilla, P. (2021). Antimicrobial property of probiotics. *Environment Conservation Journal*, **22**: 33-48. | 4.52 |
| 34. | Mathur, M., Kumari, A. and Grewal, R.B. (2021). Physical and functional properties of different cereals, pulses, millet and oil seeds. *Journal of Agri Search*,**7(2)**: 97-103. | 4.41 |
| 35. | Monika, Rani, R., Gehlot, R., Rekha and Sindhu, R. (2021). Acrylamide in food products. *International Journal of Chemical Studies*, **9(2)**: 76-84. | - |
| **2022-2023** | | |
| 36. | Kumar, A., Kaur, R., Kumar, V., Kumar, S., Gehlot, R. and Aggarwal, P. (2022). New insights into water-in-oil-in-water (W/O/W) double emulsions: Properties, fabrication, instability mechanism, and food applications. Trends in Food Science and Technology, 128: 22-37 https://doi.org/10.1016/j.tifs.2022.07.016. | 20.00 |
| 37. | Kaur, R., Kumar, A., Kumar, V., Kumar, S., Saini, R.K., Nayi, P. and Gehlot, R. (2022). Recent advancements and applications of explosion puffing. *Food Chemistry*, **403**: 134452 https://doi.org/10.1016/j.foodchem.2022.134452. | 15.23 |
| 38. | Kumar, A., Kumar, A., Vats, C., Sangwan, P., Kumar, V., Singh, A. and Chaudhary, K. (2022). Recent insights into metallic nanoparticles in shelf-life extension of agri foods: their properties, green synthesis, and major applications. Frontiers in Sustainable Food Systems, 579: 1-16 https://doi.org/10.3389/fsufs.2022.1025342. | 11.00 |
| 39. | Kumar, A., Aggarwal, P., Kumar, V., Babbar, N. and Kaur, S. (2022). Melon based smoothies: process optimization and effect of processing and preservation on the quality attributes. *Journal of Food Measurement and Characterization*, **16(5)**: 4121-4136. | 9.04 |
| 40. | Neeraj, Siddiqui, S., Dalal N., Bindu and Srivastva, A. (2022). Physico-chemical and functional properties of starch from stored potato: effect of anti-sprouting treatments. Journal of Food Measurement and Characterization, 1-9 DOI: 10.1007/s11694-022-01749-9. | 8.43 |
| 41. | Birania, S., Kumar, S., Kumar, N., Attkan, A.K., Panghal, A., Rohilla, P. and Kumar, R. (2022). Advances in development of biodegradable food packaging material from agricultural and agro-industry waste. *Journal of Food Process Engineering*, **45(1)**: 1-23. | 8.36 |
| 42. | Chandel, R., Kumar, V., Kaur, R., Kumar, S., Kumar, A., Kumar, D. and Kapoor, S. (2023). Bioactive compounds, health benefits and valorization of Pyrus pyrifolia (sand pear): a review. Nutrition and Food Science, DOI:10.1108/NFS-09-2022-0306. | 6.30 |
| 43. | Nirmal, P. and Malik, T. (2022). Process optimisation for the development of giloy (*Tinosporacordifolia* L.) juice incorporated amla pulp candy. *The Pharma Innovation Journal*, **11(6)**: 72-84. | 5.23 |
| 44. | Gehlot, R., Rekha, Kumar, S., Malik, T., Partibha and Singh, R. (2022). Physico-chemical composition of mature green mango fruit, mint leaves and chia seeds. *The Pharma Innovation Journal*, **11(7)**: 1808-1810. | 5.23 |
| 45. | Neeraj, Siddiqui, S., Dalal N., Bindu and Srivastava, A. (2022). Starch morphological, physiochemical and colour characteristics of fresh and cured potato varieties: potato varieties starch characterization. *Journal of Horticultural Sciences*, **17(1)**: 227-236. | 5.08 |
| 46. | Anusha, R., Bishnoi, J.P. and Siddiqui, S. (2022). An in vitro assessment of the phytochemicals and antioxidant activities of Achyranthes aspera leaf and Mesua ferrea flower extracts. Journal | - |

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| | of Tianjin University Science and Technology,55(7): 163-171. | |
| 47. | Birania, S., Rohilla, P., Kumar, R. and Saini, P. (2022). Whey and its valorization using biorefinary: a review. *Journal of Pharmacognosy and Phytochemistry*, **10(1)**: 542-548. | - |

***Annexure FST-X***

## LIST OF PASS OUT STUDENTS (M.SC.)

| Sr. no. | Name of student | Admn. no. | Year of passing |
|---|---|---|---|
| **2018-19 (5)** | | | |
| 1. | Mohammad Sadiq | 2015FST43M | July, 2018 |
| 2. | Priyanka | 2016FST29M | September, 2018 |
| 3. | Meenu Roperia | 2016FST30M | January, 2019 |
| 4. | Amit Bansal | 2016FST31M | September, 2018 |
| 5. | Kritika Rawat | 2016FST32M | July, 2018 |
| **2019-20 (2)** | | | |
| 1. | Sandeep Kumar | 2017FST55M | February, 2020 |
| 2. | Modiri DiriscaSetlhoka | 2017FST60M | January, 2020 |
| **2020-21 (6)** | | | |
| 1. | TshiamoSeiphitlhile | 2017FST59M | August, 2020 |
| 2. | Vishal Lohan | 2018FST50M | August, 2020 |
| 3. | Rehema Joshua Napegwa | 2018FST51M | August, 2020 |
| 4. | Manisha | 2017FST56M | September, 2020 |
| 5. | Ankita | 2018FST48M | September, 2020 |
| 6. | Lalita | 2018FST49M | September, 2020 |
| **2021-22 (2)** | | | |
| 1. | Himanshi | 2019FST53M | September, 2021 |
| 2. | Roopa H | 2019FST54M | September, 2021 |
| **2022-23 (2)** | | | |
| **1.** | S. Abinaya | 2020FST01M | September, 2022 |
| **2.** | Raj Kumar | 2020FST02M | January, 2023 |

***Annexure FST-XI***

## LIST OF PASS OUT STUDENTS (PH.D.)

| Sr. no. | Name of student | Admn. no. | Year of passing |
|---|---|---|---|
| **2018-19 1)** | | | |
| | Simran Arora | 2013FST32D | November, 2018 |
| **2020-21 (2)** | | | |
| | Monika Mathur | 2014FST29D | February, 2021 |
| | Rattan Singh | 2014FST30D | September, 2020 |
| **2021-22 (3)** | | | |
| | Partibha | 2017FST34D | October, 2021 |
| | K.M. Manju | 2017FST35D | October, 2021 |
| | Tanu Malik | 2018FST31D | November, 2021 |
| **2022-23 (1)** | | | |
| | Ekta | 2018FST30D | January, 2023 |

*Annexure MATHSTAT I*

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| **2018-19** | | | | | |
|---|---|---|---|---|---|
| M. Sc. (Statistics) - 03 | | | **Ph. D. (Statistics) -03** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Ajay Sharma | 2018BS39M | 1. | Alisha | 2018BS20D |
| **2.** | GarimaVerma | 2018BS40M | 2. | Baishali Mishra | 2018BS21D |
| **3.** | Srishti | 2018BS41M | 3 | RohitKundu | 2018BS22D |
| M. Sc. (Mathematics) - Nil | | | **Ph. D. (Mathematics) –Nil** | | |
| **2019-20** | | | | | |
| M. Sc. (Statistics) - 02 | | | **Ph. D. (Statistics) -05** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Twinkle | 2019BS43M | 1 | Aditi | 2019BS56D |
| **2.** | Vikas Kumar Sumit | 2019BS44M | 2 | Chetna | 2019BS57D |
| **3.** | | | 3 | PavitraKumari | 2019BS58D |
| **4.** | | | 4 | Pushpa | 2019BS59D |
| **5.** | | | 5 | Sanjeev | 2019BS60D |
| | **M. Sc. (Mathematics) - 01** | | | **Ph. D. (Mathematics) – 05** | |
| **1.** | Chetna | 2019BS21M | 1 | Pardeep Kumar | 2019BS21D |
| | | | 2 | Phagun Mehta | 2019BS22D |
| | | | 3 | Preeti | 2019BS23D |
| | | | 4 | SahilKalra | 2019BS24D |
| | | | 5 | Sombir | 2019BS25D |
| **2020-21** | | | | | |
| M. Sc. (Statistics) - 01 | | | **Ph. D. (Statistics) – 02** | | |
| Sr. No. | **Name** | **Admission no.** | **Sr. No.** | **Name** | **Admission no.** |
| **1.** | Ravada Sowmy | 2020BS44M | 1. | Pooja | 2020BS57D |
| | | | 2. | Sanju | 2020BS58D |
| | | | | | |
| | **M. Sc. (Mathematics) - 01** | | | **Ph. D.(Mathematics) – 03** | |
| **1** | Monika | 2020BS20M | 1 | Krishan | 2020BS21D |
| | | | 2 | Priya | 2020BS22D |
| | | | 3 | Priyanka | 2020BS23D |
| **2021-22** | | | | | |
| **M. Sc. (Statistics) - 02** | | | **Ph. D.(Statistics) – 03** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Anurag | 2021BS52M | 1. | Ajay Sharma | 2021BS51D |
| **2.** | Prashant | 2021BS53M | 2. | Naveen G.P. | 2021BS52D |
| | | | 3. | Surbhi Kaushik | 2021BS53D |
| | **M. Sc. (Mathematics) - 01** | | | **Ph. D.(Mathematics) – 03** | |
| **1** | Sooraj | 2021BS23M | 1 | Anu | 2021BS18D |
| | | | 2 | Praveen Kumari | 2021BS19D |
| | | | 3 | Pushpa | 2021BS20D |
| **2022-23** | | | | | |
| **M. Sc. (Statistics) - 01** | | | **Ph. D.(Statistics – Nil** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Nidhi | 2022BS38M | 1. | Nil | |
| **2.** | Pratibha | 2022BS51M | 2. | Nil | |
| M. Sc. (Mathematics) - 02 | | | | **Ph. D.(Mathematics) – 02** | |
| **1** | Jyoti | 2022BS16M | 1 | Kiran Devi | 2022BS17D |
| **2** | Sonika | 2022BS17M | 2 | Sarita Devi | 2022BS18D |

*Annexure MATHSTAT II*

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. no. | Name of student | Guide | Title of research problem |
|---|---|---|---|
| 1. | Deepankar 2017BS14D | Dr. B.K.Hooda | Resampling techniques for evaluating GXE interaction in oilseed crops |
| 2. | Alisha 2018BS20D | Dr. Manoj Kumar | Use of auxiliary information for estimation of population variance in the non-response situation |
| 3. | Vaishali Sharma 2018BS21D | Dr. B. K. Hooda | Development of AMMI models for heteroscedastic and outlier conditions |
| 4. | Rohit Kundu 2018BS22D | Dr. O P Sheoran | Modeling of tuberculosis through structural equation and bayesian approach |
| 5. | Pardeep Kumar 2019BS21D | Dr. Hemant Poonia | Heat transfer in nano fluids over different conformations with various effects |
| 6. | Phagun Mehta 2019BS22D | Dr. Manju S. Tonk | A study of mathematical models for proficient crop planning |
| 7. | Preeti 2019BS23D | Dr. Hemant Poonia | Optimization of agricultural production planning- Fuzzy multi objective techniques |
| 8. | Sahil Kalra 2019BS24D | Dr. Vikash Siwach | A new image encryption scheme with high security |
| 9. | Sombir 2019BS25D | Dr. Vikash Siwach | Some contribution to region based knot theory |
| 10. | Aditi 2019BS56D | Dr. Sarita Rani | Bayesian estimation of stability indices for pearl millet |
| 11. | Chetna 2019BS57D | Dr. Monika | A study on impact of climate change and statistical models for pre-harvest forecast of wheat-yield in Haryana |
| 12. | Pavitra Kumari 2019BS58D | Dr. Vinay Kumar | Bayesian estimation for some lifetime models under different loss functions |
| 13. | Pushpa 2019BS59D | Dr. Joginder | Volatility forecast models of prices and arrivals of tomato in APMC markets of Haryana |
| 14. | Sanjeev 2019BS60D | Dr. Nitin Bhardwaj | A comparative study of forecast models for sugarcane yield prediction of northern agro climatic zone of Haryana |
| 15. | Krishan 2020BS21D | Dr. Manju S. Tonk | Mathematical modeling of double orbit retrial queues with two phase service for fuzzy environment |
| 16. | Priya 2020BS22D | Dr. Hemant Poonia | Heat and mass transfer characteristics of Non-Newtonian nano fluid flow through different geometries |
| 17. | Priyanka 2020BS23D | Dr. Vikash Siwach | Secret sharing using quantum cryptography |
| 18. | Pooja 2020BS57D | Dr. Manoj Kumar | Small area estimation of rice yield in eastern zone of Haryana |
| 19. | Sanju 2020BS58D | Dr. Vinay Kumar | A comparative study of imputation techniques for different missingness mechanisms in crop genotypes |
| 20. | Anu 2021BS18D | Dr. Manju S. Tonk | Mathematical modelling and application of global optimization approaches for the study of aphid population |
| 21. | Praveen Kumari 2021BS19D | Dr. Hemant Poonia | Numerical investigation on heat transfer flow in hybrid nanofluid over different geometries |

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|---|---|---|---|
| 22. | Pushpa 2021BS20D | Dr. Vikash Siwach | Modeling of queues under controlled and time dependent parameters |
| 23. | Ajay Sharma 2021BS51D | Dr. Joginder | Time series models for market co-integration and price forecasting of major vegetable crops in India |
| 24. | Naveen GP 2021BS52D | Dr. Manoj Kumar | Modified estimator of population mean under compromise method of computation |
| 25. | Surbhi 2021BS53D | Dr. Nitin Bhardwaj | Mustard yield forecasting: Comparison of Bayesian and frequentist (classical) approach |
| 26. | Kiran Devi 2022BS17D | Dr. Manju S. Tonk | Mathematical approaches for the study of pest population |
| 27. | Sarita Devi 2022BS18D | Dr. Hemant Poonia | Flow characteristics of non-newtonian fluid in the presence of hybrid nanoparticles. |
| 28. | Twinkle 2019BS43M | Dr. B.K.Hooda | Logistic regression and artificial neural network models for classification of Indian mustard genotypes |
| 29. | Monika 2020BS20M | Dr. Hemant Poonia | A study on simulation techniques for queuing problems |
| 30. | Ravada Sowmya 2020BS44M | Dr. Joginder | Trend analysis of area, production and trade of major agricultural crops in BRICS countries |
| 31. | Sooraj 2021BS23M | Dr. Vikash Siwach | Non steady behaviour of queues in sugar mill using Monte Carlo technique |
| 32. | Anurag 2021BS52M | Dr. O. P. Sheoran | Comparative study for estimation of missing observations in split-plot design |
| 33. | Parshant 2021BS53M | Dr. Vinay Kumar | Comparative study of stability measure for Rice (*OryzaSativa*) genotypes |
| 34. | Jyoti 2022BS16M | Dr. Vikash Siwach | Statistical Modelling and analysis of factors affecting happiness of CCSHAU students |
| 35. | Sonika 2022BS17M | Dr. Manju S. Tonk | An Algorithm for leaf area estimation using Mathematical Techniques |
| 36. | Nidhi 2022BS38M | Dr. Manoj Kumar | Modified general class of product type estimates of population mean using accurately information |

***Annexure MATHSTAT III***

## STUDENTS PARTICIPATION IN SEMINAR/ CONFERENCE/WORKSHOP ETC.

| Sr.no. | Name | Oral/Poster | Conference/ Seminar/Workshop details |
|---|---|---|---|
| 1. | Mohit Nain 2016BS07D | Poster | International Conference on "Emerging innovations in statistics and operations research (EISOR-2018)", from December 27-30, 2018 at Department of Statistics, Maharshi Dayanand University, Rohtak, Haryana, India. |
| 2. | Mohit Nain 2016BS07D | Poster | International Conference on "Climate change towards health and agricultural sustainability", from February 18-20, 2019 at Department of Environmental Science and Engineering, Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |

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|---|---|---|---|
| 3. | Mohit Nain 2016BS07D | Poster | International Seminar on "Sustainable Environment & Agriculture under global climate change", on February 21, 2019 at Department of environmental science, Maharshi Dayanand University, Rohtak, Haryana, India. |
| 4. | Mohit Nain 2016BS07D | Poster | International Conference on "Recent trends in mathematics and Its Applications to Graphs, Networks and Petri Nets (ICRTMA-GPN-2020)", from July 20 − 24, 2020 at School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi, India |
| 5. | Mohit Nain 2016BS07D | Poster | International Conference on "Advances in differential equations and mathematical modelling (IC-ADE-MM-2020)", from December 18 − 20, 2020 at School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi, India. |
| 6. | Sahil 2019BS24D | Paper | Online International Conference on History and Development of Mathematics held at Department of Mathematics, MDU Rohtak, Haryana on December 22, 2020. |
| 7. | Sahil 2019BS24D | Paper | 4th International Conference on Frontiers in industrial and Applied Mathematics (FIAM-2021) Organized by Department of Mathematics SLIET Longowal – 148106, Punjab (INDIA) on 21- 22 December,2021. |
| 8. | Sanjeev 2019BS60D | Poster | National Conference on "Mathematical sciences for applied and agricultural research", on February 22, 2022 at Department of Mathematics and Statistics, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 9. | Alisha 2018BS20D | Poster | |
| 10. | Surbhi Kaushik 2021BS53D | Poster | |
| 11. | Vikash Kumar Sumit 2019BS44M | Poster | |
| 12. | Aditi 2019BS56D | Poster | International Conference on "Innovations in management", from August 5-6, 2022 at University of Science and Technology, Meghalaya, India. |
| 13. | Sanjeev 2019BS60D | Poster | |
| 14. | Aditi 2019BS56D | Poster | International Conference on "Recent advances and innovations in biological and applied sciences (RAIBAS)", from June 14-16, 2022 at SGT University, Gurugram, Haryana, India. |
| 15. | Sanju 2020BS58D | Poster | |
| 16. | Priyanka 2020BS23D | Paper | National Conference on "Mathematical Science for Applied and Agricultural Research " Organized by Department of Mathematics & Statistics , CCSHAU, Hisar on February 22,2022 |
| 17. | Sahil 2019BS24D | | |
| 18. | Sombir 2019BS25D | | |
| 19. | Naveen GP 2021BS52D Statistics | Oral | International conference of the society of statistics, computer and applications (SSCA) on significance of statistics in the emerging scenario at department of statistics, university of Jammu |

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|---|---|---|---|
| 20. | Priyanka 2020BS23D | Paper | International conference on "Recent Advancement in Mathematical and Allied Science " held at B K Birla Institute of engineering and technology, Pilani during 25-26 March 2023 |

***Annexure MATHSTAT IV***

## STUDENT PARTICIPATION IN WORKSHOP/ TRAININGS

| Sr.no. | Name | Duration | Workshop/ Training |
|---|---|---|---|
| 1. | Mohit Nain 2016BS07D | 24.08.2018 | Seminar on "Elsevier empowering agriculture research in India", at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 2. | Sarita Devi 2022BS18D | 14.11.2018 | Workshop on "Application and scope of vedic mathematics", at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 3. | Mohit Nain 2016BS07D | 22.11.2018 | Seminar on "Intellectual property rights- A mechanism for social economic growth", at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 4. | Mohit Nain 2016BS07D | 30.04.2019 to 05.05.2019 | National Faculty Development Programme on "Research methodology and teaching pedagogy", at South Campus, University of Delhi, New Delhi, India. |
| 5. | Mohit Nain 2016BS07D | 04.06.2019 to 11.06.2019 | National Faculty Development Programme on "Research methods and business analytics using SPSS and R-Studio", at the Internal Quality Assurance Cell, Delhi Institute of Advanced Studies, New Delhi, India. |
| 6. | Mohit Nain 2016BS07D | 10.10.2019 to 24.10.2019 | Training on "Statistical data analysis for research scholar", at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 7. | Mohit Nain 2016BS07D | 22.01.2020 | Workshop on "Recent computational techniques of mathematical sciences for researchers", at Department of Mathematics and Statistics, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 8. | Vikash Kumar Sumit 2019BS44M | 06.07.2020 to 07.07.2020 | Webinar on "Computational techniques for applied sciences", at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 9. | Vikash Kumar Sumit 2019BS44M | 13.07.2020 to 17.07.2020 | Workshop on "Modern methodologies in statistical data analysis for effective agricultural research", at University of Agricultural Science, Raichur, Karnataka, India. |
| 10. | Vikash Kumar Sumit 2019BS44M | 31.07.2020 to 02.08.2020 | International Workshop on "Data analysis using Python", at Department of Statistics, University of Lucknow, Uttar Pradesh, India. |
| 11. | Priya 2020BS22D | 17.08.2020 to 19.08.2020 | National Faculty Program on "MATLAB and its application", at Department of Mathematics, Bishop Cotton women's Christian College, Bengaluru Karnataka, India. |
| 12. | Mohit Nain 2016BS07D | 26.08.2020 to 16.09.2020 | Massive Open Online Course on "Information handling skills for teaching, learning and research", at Professor Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad, India. |
| 13. | Mohit Nain 2016BS07D | 2.11.2020 to | Student Development Program on "quantitative data analysis using R", at RV Institute of Management, Bangalore, |

| | | | |
|---|---|---|---|
| | | 11.11.2020 | Karnataka, India. |
| 14. | Mohit Nain 2016BS07D | 16.12.2020 | Workshop on "Response surface and mixture experiment methodologies for agricultural and fisheries experimentation", at ICAR- Central Marine Fisheries Research Institute, Kochi, India. |
| 15. | Mohit Nain 2016BS07D | 09.08.2021 to 14.08.2021 | Training program on "Statistical tools in Research and data analysis", at the Department of Animal Genetics and Breeding, College of Veterinary and Animal Sciences, Parbhani, Maharashtra, India. |
| 16. | Priya 2020BS22D | 13.09.2021 to 18.09.2021 | Workshop on "New advances in mathematical and computational Science", at Department of Mathematics, Yogi Vomana University, Andhra Pradesh, India. |
| 17. | Priya 2020BS22D | 08.10.2021 to 12.10.2021 | International Workshop on "Advanced topics in mathematics", at Centre for applied Mathematics, International Institute of Information Technology, Naya Raipur,Chhattisgarh, India. |
| 18. | Priya 2020BS22D | 06.06.2022 to 10.06.2022 | International Workshop on "Advanced numerical techniques for differential equations", at Department of Mathematics, Malviya National Institute of Technology, Jaipur, Rajasthan, India. |
| 19. | Priya 2020BS22D | 21.06.2022 to 25.06.2022 | International Workshop and Hands on Training on "Solving differential equations", at Department of Mathematics, National Institute of Technology, Uttarakhand, India. |
| 20. | Naveen G P 2021BS52D | 18.07.2022 to 30.07.2022 | Workshop on "Statistical and machine learning techniques for agricultural systems modeling and forecasting using R", at Indian institute of Rice Research, Hyderabad, India. |

***Annexure MATHSTAT V***

## PLACEMENTS RECORD

| Sr. no. | Name of students | Placements |
|---|---|---|
| 1. | Megha | Assistant Professor (Statistics) in CCS HAU, Hisar |
| 2. | Mujahid | Assistant Professor (Agri. Stat.), SKNAU, Jobner (Rajasthan) |
| 3. | Ajay | Assistant Professor (Statistics), MHU, Karnal |
| 4. | Poonam Godara | Assistant Professor (Statistics), GJUS&T, Hisar |
| 5. | Mohit Nain | Assistant Professor (Statistics), Lovely Professional University, Phagwara, Punjab. |
| 6. | Nisha | Assistant Professor, Department of Statistics, University of Delhi |
| 7. | Ravita | Senior Demonstrator, Department of Bio-Statistics, PGIMER, Chandigarh |
| 8. | Alisha | Research Associate, PGIMER, Chandigarh |
| 9. | Sombir | PGT teacher, DSSSB, New Delhi |
| 10. | Sahil Kalra | TGT teacher, DSSSB, New Delhi |
| 11. | Krishan | TGT teacher, DSSSB, New Delhi |
| 12. | Ekta Hooda | Assistant Professor (Statistics), Om Sterling University, Hisar |
| 13. | Nitin Tanwar | Assistant Professor (Statistics), Lady Sriram College for Women, University of Delhi |

| | | |
|---|---|---|
| 14. | Tanu Jain | Assistant Manager, SBI, General Insurance, Mumbai |
| 15. | Abhishek Sindhu | Agriculture Field Officer, Punjab and Sind Bank, Sri Nagar, Uttrakhand |
| 16. | Suman | Assistant Professor (Agricultural Statistics), SGT University, Gurugram |
| 17 | Deepankar | Data Scientist, Syngenta, India Pvt. Lt. |
| 18 | Alisha | Research Associate, PGIMER, Chandigarh |

***Annexure MATHSTAT VI***

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. no. | Name | Name of scholarship support | Sr. no. | Name | Name of scholarship support |
|---|---|---|---|---|---|
| 1. | Mohit Nain 2016BS07D | CCS HAU Merit scholarship | 9. | Priya 2020BS22D | CCS HAU Merit scholarship |
| 2. | Deepankar 2017BS14D | ICMR Fellowship | 10. | Priyanka 2020BS23D | CCS HAU Merit scholarship |
| 3. | Alisha 2018BS20D | CCS HAU Merit scholarship | 11. | Pooja Rawat 2020BS57D | CCS HAU Merit scholarship |
| 4. | Rohit Kundu 2018BS22D | ICMR Fellowship | 12. | Pushpa 2021BS20D | UGC-JRF |
| 5. | Pardeep Kumar 2019BS21D | CSIR-JRF | 13. | Ajay Sharma 2021BS51D | CCS HAU Merit scholarship |
| 6. | Preeti 2019BS23D | CSIR-JRF | 14. | Surbhi Kaushik 2021BS53D | CCS HAU Merit scholarship |
| 7. | Sahil Kalra 2019BS24D | UGC-JRF | 15. | Kiran devi 2022BS17D | UGC-JRF |
| 8. | Krishan 2020BS21D | UGC-JRF | | | |

***Annexure MATHSTAT VII***

## NAME OF STUDENTS CLEARED NET, ARS, GATE OR ANY OTHER EXAMINATION

| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|
| **2** | **8** | **3** | **4** | **1** | **18** |
| **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | |
| Deepankar (2017BS14D) | Alisha (2018BS20D) | Krishan (2020BS21D) | Anu (2021BS18D) | Kiran (2022BS17D) | |
| PKM Jasalam (2017BS15D) | Baishali Mishra (2018BS21D) | Priya (2020BS22D) | Parveen (2021BS19D) | | |
| | Rohit Kundu (2018BS22D) | Pooja Rawat (2020BS57D) | Pushpa (2021BS20D) | | |
| | Pardeep Kumar (2019BS21D) | | Naveen GP (2021BS52D) | | |
| | Phagun (2019BS22D) | | | | |
| | Preeti (2019BS23D) | | | | |
| | Sahil Kalra | | | | |

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|---|---|---|---|---|---|
| | (2019BS24D) | | | | |
| | Sombir (2019BS25D) | | | | |

***Annexure MATHSTAT VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| Year | Name of student | Name of fellowship |
|---|---|---|
| 2018-19 | Deepankar | ICMR fellowship |
| 2019-20 | Rohit Kundu | |
| | Sombir | UGC-JRF |
| | Sahil Kalra | |
| | Preeti | CSIR-JRF |
| 2020-21 | Krishan | UGC-JRF |
| | Pardeep Kumar | CSIR-JRF |
| 2021-22 | Parveen | |
| | Pushpa | UGC-JRF |
| 2022-23 | Kiran | |

***Annexure MATHSTAT IX***

## PUBLICATIONS FROM M.SC./PH.D. STUDENTS

| Sr. no. | Title of The paper/book | NAAS Rating |
|---|---|---|
| **M.Sc** | | |
| **2018-19** | | |
| 1. | Suman and Verma, U. (2018). Linear mixed effect models for sugarcane yield estimation in Haryana. *International Journal of Agricultural and Statistical Sciences*, **14(1):** *43-47.* | 5.13 |
| 2. | Alisha, Sanjeev and Verma, U. (2018). Arimax models for cotton yield forecasting in Haryana. *International Journal of Current Microbiology and Applied Research*, **7(12):** 2968-2972. | 5.38 |
| 3. | Goyal, M**.**, Salinder., Suman and Verma, U. (2018). Principal Component technique for pre-harvest crop yield estimation based on weather input. *Advances in Research*, **17(4):**1-8. | 4.80 |
| 4. | Goyal, M.and Verma, U. (2018). Wheat yield prediction using weather based statistical models in Northern zone of Haryana. *International Journal of Humanities and Social Sciences*, **7(4):** *47-50.* | 3.17 |
| 5. | Sanjeev and Verma, U. (2018). Development of weather based wheat yield forecast models in Haryana. *International Journal of Current Microbiology and Applied Research*, **7(12):** 2973-2978. | 5.38 |
| **2019-20** | | |
| 6. | Tanu, K. and Jaslam, P.K.M. (2019). Efficiency evaluation of ratio estimators in simple random sampling. *Journal of Reliability and Statistical Studies*, **12**: 103-113. | |
| 7. | Panghal, P., Kumar, M**.** and Rani, S. (2019). Estimation of annual compound growth rates of guava (*Psidium guajava* L.) fruit in Haryana using nonlinear model. *Journal of Applied and Natural Science*, **11(4):** 778 – 784. | 5.08 |
| **2022-23** | | |
| 8. | Sumit, V.K., Kumar, M., Rani, S., Poonia, H. and Kumar, S. (2022). Non linear growth model approach for estimation of compound growth rate of the area and production of potato and onion crops in Haryana. *Agro Economist - An International Journal*, **9 (02):** 145-149. | 4.58 |

| Ph.D. | | |
|---|---|---|
| **2018-19** | | |
| **1.** | Goyal, M. and Verma, U. (2018). Weather based wheat yield forecasting in eastern zone of Haryana. *International Journal of Applied and Natural Sciences*, **7(4)**: 19-22. | 3.73 |
| **2.** | Bishnoi, S. and Hooda, B.K. (2018). Yield stability and association among parametric and non-parametric stability measures for wheat (*Triticum aestivum* L.) genotypes in northern region of India. *International Journal of Agriculture, Environment and Biotechnology*, **11(1):** 103-109. | 4.69 |
| **3.** | Bishnoi, S. and Hooda, B.K. (2018). Yield stability and sssociation among parametric and non-parametric stability measures for wheat (*Triticum aestivum* L.) genotypes in Haryana. *International Journal of Agricultural and Statistical Sciences*, **11(1):** 103-109. | 4.92 |
| **4.** | Tanwar, N. and Hooda, B.K. (2018). Aspect based multidimensional poverty status of households in rural and urban Haryana. *International Journal of Agricultural and Statistical Sciences*, **14 (1)**: 323-330. | 5.13 |
| **5.** | Bhushana, B. V**.** and Hooda, B. K. (2018). Fuzzy majority approach for modeling spatial and temporal distributions of daily rainfall in western zone of Haryana. *International journal of Agricultural and Statistical Sciences*,**14(1):** 57-67. | 4.92 |
| **6.** | Kumar, B., Hooda, E. and Hooda, B. K. (2018). GGE Biplot analysis of multi-environment yield trials for wheat in northern India. *Advances in Research*, **16(2):** 1-9. | 4.80 |
| **7.** | Kumar, B., Hooda, E. and Hooda, B. K. (2018). Interpretation of G × E Interaction for wheat yield in Haryana using GGE biplots. *Bulletin of Enviroment, Phamacology and life Scinces*,**7(9)**: 28-35. | 4.95 |
| **8.** | Kumar, A., Deepankar and Jaslam, P.K.M. (2018). Wheat yield forecasting in Haryana: A time series approach. *Bulletin of Environment, Pharmacology and Life Sciences*. **8(3)**, 63-69. | |
| **9.** | Jaslam, P.K.M., Deepankar and Kumar, A. (2018). Multivariate analysis of genetic diversity in chrysanthemum germplasm. *International Journal of Pure and Applied Bioscience*, **6(3)**: 572- 577. | |
| **10.** | Jaslam, P.K.M., Deepankar. and Luhach, V.P. (2018). Growth rate analysis of legumes in Haryana state. *International Journal of Agriculture Sciences*, **10(10)**: 6113-6115. | 4.73 |
| **2019-20** | | |
| **11.** | Nisha., Nain, M. and Aneja, D.R. (2019). Growth analysis of area, production, and productivity of wheat crop in Haryana and India. *Journal of Experimental Biology and Agricultural Sciences*, **7(3)**: 266-272. | |
| **12.** | Nain, M., and Hooda, B.K. (2019). Probability and trend analysis of monthly rainfall in Haryana. *International Journal of Agricultural and Statistical Sciences*, **15(1)**: 221-229. | 4.92 |
| **13.** | Singh D., Singh M., Nain M. and Gupta J.P. (2019). Variability analysis of groundwater depth: A case study of Sonipat district in Haryana, India. *International Journal of Agriculture Sciences*, **11(13):** 8738-8743. | 4.73 |
| **14.** | Manjeet., Verma, P.K., Sangwan, V.P.S., Nain, M. and Nisha (2019). Assessment of genetic variability for seed germination percent and seedling vigor traits in sesame (*Sesamum indicum L.*). *Journal of Pharmacognosy and Phytochemistry*, **8(6)**: 328-331. | |
| **15.** | Nain, M., Nisha., Sanjeev and Aneja, D.R. (2019). Instability and trend in area production and productivity of rice crop in Haryana and India. *Current Journal of Applied Science and Technology*, **37(5)**: 1-9. | 4.71 |
| **16.** | Nain, M. and Hooda, B.K. (2019). Identification of homogeneous rainfall stations in Haryana. *Journal of Experimental Biology and Agricultural Sciences*, **7(5)**: 452-461. | |
| **2020-21** | | |
| **17.** | Manjeet., Verma, P.K., Sheoran, R.K., Nain, M. and Avtar, R. (2020). Evaluation of sesame (*Sesamum indicum* L.) genotypes for genetic variability based on different traits under rainfed conditions. *Electronic Journal of Plant Breeding*, **11(1)**: 54-59. | 5.14 |

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| **18.** | Jaslam, P.K.M., Kumar, M., Anurag and Manjeet (2020). EBLUP estimate of crop yield at sub district level in Hisar district, Haryana (India) using MODIS/Terra data. *Current Science*, **119(12)**: 1982-1989. | 7.1 |
| **19.** | Kumar, A., Ravita., Jaslam, P.K.M., Deepankar and Sain, V. (2020). Time-series modeling and forecasting of mustard yield in Haryana. *Journal of Pharmacognosy and Phytochemistry*, **9(5S)**: 445-451. | |
| **20.** | Jaslam, P. K.M. and Kumar, M. (2020). Post stratified crop yield estimators at block level in Hisar district of Haryana (India). *Plant Archives*, **20**: 538-541. | 4.73 |
| **21.** | Hooda, E. and Hooda, B. K. (2020). Mustard yield prediction using state space models. *Current Journal of Applied Science and Technology*, **39(48):** 483-494. | 4.71 |
| **2021-22** | | |
| **22.** | Nain, M. and Hooda, B.K. (2021). Regional frequency analysis of maximum monthly rainfall in Haryana state of India using L-moments. *Journal of Reliability and Statistical Studies*, **14(1)**: 33–56. | |
| **23.** | Nain, M. and Hooda, B.K. (2021). Regional frequency analysis of daily maximum rainfall in Haryana. *Mausam*, **72(4)**: 835-846. | 6.54 |
| **24.** | Kumar, J., Devi, M., Verma, D., Malik, D.P. and Sharma, A. (2021). Pre-harvest forecast of rice yield based on meteorological parameters using discriminant function analysis, *Journal of Agriculture and Food Research*, **5**:1-5 | |
| **25.** | Nain, G., Bhardwaj, N., Jaslam, P.K.M., Dagar, C.S. and Anurag (2021). Rice yield forecasting using agrometeorological variables: A multivariate approach. *Journal of Agrometeorology*, **23(1)**: 100-105. | 6.55 |
| **26.** | Amrutha, V., Shanija, S., Jaslam, P.K.M., Beena, R., Nithya, N., Soni, K.B. and Viji, M.M. (2021). Population structure analysis and marker trait association in selected set of Indian tomato *(Solanum lycopersicum L.)* varieties under high temperature condition. *Genetic Resources and Crop Evolution*, **69(1)**: 183-207. | 7.52 |
| **27.** | Kumar, M., Jaslam, P. K. M., Kumar, S. and Dhillon, A. (2021). Forecast and error analysis of vegetable production in Haryana by various modeling techniques. *Journal of Applied and Natural Science*, **13(3)**: 907–912. | 4.28 |
| **28.** | Beena, R., Veena, V. and Jaslam, P.K.M. (2021). Germplasm innovation for high-temperature tolerance from traditional rice accessions of Kerala using genetic variability, genetic advance, path coefficient analysis and principal component analysis. *Journal of Crop Science and Biotechnology*, **24**: 555–566. | |
| **29.** | Bhardwaj, N., Jaslam P.K.M., Bhatia J. K., Parashar, B. and Salinder (2021). Neural network auto regression and classical time series approaches for rice yield forecasting. *The Journal of Animal and Plant Sciences*, **31(4)**: 1126-1131. | 6.49 |
| **30.** | Mittal, A. and Kumar, M. (2021). Generalised exponential ratio-type estimator for finite population variance under random non-response. *International Journal of Advanced Research*, **9(1):** 589-596. | - |
| **2022-23** | | |
| **31.** | Kumari, P., Kumar, V. and Aditi (2022). Bayesian analysis for two parameter lomax distribution under different loss functions. *Journal of Communications in Mathematics and Applications*,**3(1):** 163-170. | Impact score-0.58 |
| **32.** | Pushpa., Aditi., Chetna and Verma, U. (2022). Autoregressive integrated moving average models for Sugarcane yield estimation in Haryana. *Journal of Indian Society of Agricultural Statistics*, **76(2)**: 67-77. | 5.50 |
| **33.** | Bhardwaj, N., Parashar, B., Kumar, A., Deepankar and Jaslam, P.K.M. (2022). Principal component analysis for the assessment of genetic diversity. *AIP Conference Proceedings***2357**: 080004. | |
| **34.** | Nimbrayan, P. K., Jaslam, P. K. M. and Chandanshive, A. (2022). Modelling and forecasting of area, production and Productivity of Tomatoes in Haryana and India. *Indian Journal of Extension Education*, **58(2)**, 205–208. | 5.95 |

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|---|---|---|
| **35.** | Sanjeev and Bhardwaj, N. (2022). Sugarcane yield estimation of Yamuna Nagar and Panipat district of Haryana using NARX model. *International journal of environment and climate change*, **12(11):** 2849-2856. | 5.13 |
| **36.** | Mittal, A. and Kumar, M. (2022). Multivariate statistical techniques in agriculture sciences: a review. *The Pharma Innovation Journal*,**11(8):** 07-10. | 5.23 |
| 37. | Panchta, R., Arya, S., Singh, D. P., Singh, S. and Panchta, P. (2020). Variability, correlation and path analysis studies in Grain Cowpea (*Vigna unguiculata* (L.) Walp]. *Indian Journal of Pure and Applied Bioscience*, **8(2):** 169-172. | - |
| 38. | Panchta, R., Arya, S., Singh, D. P., Singh, S. and Panchta, P. (2020). Genetic variability and association studies in cowpea (*Vigna unguiculata* (L.) walp) for seed yield and related traits. *Forage Research*, **46(3):** 232-235. | 4.84 |
| 39. | Kumar, P., Poonia, H., Ali, L. and Areekara, S. (2022). The numerical simulation of nanoparticle size and thermal radiation with the magnetic field effect based on tangent hyperbolic nanofluid flow. *Case studies in thermal engineering*, **37:** 1-11. | 12.66 |
| 40. | Kumar, P., Poonia, H. (2022). Slip effect on Magnetohydrodynamic Boundary Layer flow of Nanofluid over an Stretching Sheet with Thermal Radiation and Thermal Convective Boundary condition, *Current Journal of applied Science and Technology*, 41(46):33-45 | - |
| 41. | Kumar, P., Poonia, H., Ali, L., Ali, N., Jae, C (2023). Significance of Weissenberg Numbers, Soret Effect and Multiple slips on the Dynamic of Biconvective Magnetohydrodynamic Carreau Nanofluid Flow. *Mathematics*,11:1685 | - |
| 42. | Kumar, P., Poonia H., Gandhi, R., Sombir and Ali, L. (2023). Significance of thermal conductivity and heat transfer machanism through copper nanofluid with convective condition via heated Riga plate. *International Journal of Modern Physics B*, 2350246 | - |
| 43. | Kalra, S., Siwach, V., Redhu, P., & Vandna. "A Chaotic Clifford Attacker Map-based Image Encryption in Double Random Phase Encoding". *Current Journal of Applied Science and Technology*, 41(38)2022, 41- 53. ISSN 2457-1024. | - |
| 44. | Sombir &Siwach, V. Region Polynomial of Knot Diagram. *Current Journal of Applied Science and Technology*, 41(40)2022, 17-25. ISSN 2457-1024. | |
| 45. | Sumit, V., Kumar, M., Rani, S., Poonia, H. and Kumar, S. (2022). Non-linear growth model approach for estimaton of compound growth rates of the area and production of potato and onion crops in Haryana.*Agro Economist- An International Journal*. 9(02):145-149 | - |
| 46. | Panghal, P., Kumar, M., and Kumar, S. (2022). Estimation of annual compound Growth Rates of Citrus Fruits in Haryana Using Non-Linear Model. *Indian Journal of Agricultural Economics*. 77(4):622-631 | - |
| **2023** | | |
| 47. | Mittal, A., and Kumar, M. (2023). Two new estimators of finite population variance under random non-response. *An application Model Assisted Statistics and Application*, 18; 73-84 | - |
| 48. | Rawat, P., Kumar, M. and Sharma (2023). Estimation of population mean using auxiliary information: A simulation approach. *International Journal of Statistics and Applied Mathematics* ; 8(2): 90-93 | - |
| 49. | Mittal, A., Verma, U. and Kumar, M. (2023). Forecasting of Cotton Yield Using Weather Variable in Haryana. *Annals of Agri-Bio Research*.28(1):136-139 | - |

***Annexure MATHSTAT X***

## LIST OF PASS OUT STUDENT (M.SC.) STATISTICS

| **2018-2019(3)** | | | |
|---|---|---|---|
| **Sr. no.** | **Name of student** | **Admn.no.** | **Duration** |
| 1. | Mamata | 2016BS14M | June,2018 |
| 2. | Alisha | 2016BS15M | July, 2018 |

| | | | |
|---|---|---|---|
| 3. | Tanu | 2016BS16M | July, 2018 |
| **2019-2020(10)** | | | |
| 1. | Naveen | 2015BS23M | July, 2019 |
| 2. | Deepa Bharti | 2017BS23M | July, 2019 |
| 3. | Aditi | 2017BS24M | July, 2019 |
| 4. | Gurmeet | 2017BS25M | July, 2019 |
| 5. | Abhishek Sindhu | 2017BS26M | July, 2019 |
| 6. | Pooja | 2017BS27M | July, 2019 |
| 7. | Pardeep Panghal | 2017BS28M | July, 2019 |
| 8. | Chetna | 2017BS29M | July, 2019 |
| 9. | Pushpa | 2017BS30M | July, 2019 |
| 10. | Sanju | 2017BS31M | July, 2019 |
| **2020-2021(3)** | | | |
| 1. | Ajay Sharma | 2018BS39M | September, 2020 |
| 2. | Garima Verma | 2018BS40M | September, 2020 |
| 3. | Srishti | 2018BS41M | September, 2020 |
| **2021-2022(1)** | | | |
| 1. | Vikas Kumar Sumit | 2019BS44M | September, 2021 |
| **2022-2023(2)** | | | |
| 1. | Twinkle | 2019BS43M | August,2022 |
| 2. | Ravada Sowmya | 2020BS44M | August.2022 |

## LIST OF PASS OUT STUDENT (M.SC.) MATHEMATICS

| **2021-2022(1)** | | | |
|---|---|---|---|
| **Sr. no.** | **Name of student** | **Admn. no.** | **Duration** |
| 1. | Chetna | 2019BS21M | September,2021 |
| **2022-2023(1)** | | | |
| 1. | Monika | 2020BS20M | 30.January.2023 |

***Annexure MATH&STAT XI***

## LIST OF PASS OUT STUDENT (PH.D.) STATISTICS

| **Sr. no.** | **Name of student** | **Admn. no.** | **Duration** |
|---|---|---|---|
| **2018-19 (1)** | | | |
| 1. | Nitin Tanwar | 2013BS20D | August, 2018 |
| **2019-2020(2)** | | | |
| 1. | Poonam Godara | 2014BS19D | November, 2019 |
| 2. | Ekta Hooda | 2016BS06D | May, 2020 |
| **2020-2021(4)** | | | |
| 1. | Sudha Bishnoi | 2015BS12D | December, 2020 |
| 2. | Ajay Kumar | 2015BS13D | October, 2020 |
| 3. | Ravita | 2016BS09D | August, 2020 |
| 4. | Ram Niwas | 2017BS13D | January,2021 |
| **2021-2022(4)** | | | |
| 1. | Mujahid Khan | 2015BS11D | October, 2021 |
| 2. | Mohit Nain | 2016BS07D | June, 2021 |
| 3. | Nisha | 2016BS08D | September, 2021 |
| 4. | Muhammed Jaslam P.K. | 2017BS15D | September, 2021 |
| **2022-2023(4)** | | | |
| 1. | Deepankar | 2017BS14D | 30September,2022 |

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|---|---|---|---|
| 2. | Alisha | 2018BS20D | 30September,2022 |
| 3. | Pavitra Kumari | 2019BS58D | 16 January.2023 |
| 4. | Sanjeev | 2019BS60D | January,2023 |

## LIST OF PASS OUT STUDENT (PH.D.) MATHEMATICS

| Sr. no. | Name of student | Admn. no. | Duration |
|---|---|---|---|
| 2022-2023(1) | | | |
| 1. | Pardeep Kumar | 2019BS21D | January,2023 |

***Annexure MICRO-I***

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| 2018-19 | | | | | |
|---|---|---|---|---|---|
| **M. Sc.- 05** | | | **Ph. D. -03** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Barkha | 2018BS15M | 1. | Bharti | 2018BS06D |
| 2. | Divya Kapoor | 2018BS16M | 2. | Gourav Chopra | 2018BS07D |
| 3. | Nidhi Sharma | 2018BS17M | 3. | Sonam Antil | 2018BS08D |
| 4. | Sunita Rani | 2018BS18M | | | |
| 5. | Umang | 2018BS19M | | | |
| 2019-20 | | | | | |
| **M. Sc.- 06** | | | **Ph. D.-06** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Bharat Chopra | 2019BS22M | 1. | Annu Rani | 2019BS26D |
| 2. | Mukesh Kumar | 2019BS23M | 2. | Diksha | 2019BS27D |
| 3. | Neel Kamal | 2019BS24M | 3. | Dolly Rani | 2019BS28D |
| 4. | Rahul Choudhary | 2019BS25M | 4. | Kashish Sharma | 2019BS29D |
| 5. | Vandana | 2019BS26M | 5. | Nandni | 2019BS30D |
| 6. | Yogita | 2019BS27M | 6. | Shivi | 2019BS31D |
| 2020-21 | | | | | |
| **M. Sc.-09** | | | **Ph. D.-11** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Amisha | 2020BS21M | 1. | Babita | 2020BS24D |
| 2. | Amit Kumar | 2020BS22M | 2. | DanduHari Karthik | 2020BS26D |
| 3. | Pallagant Sowmya | 2020BS23M | 3. | Indu Rani | 2020BS27D |
| 4. | Pawan | 2020BS24M | 4. | Neeru | 2020BS28D |
| 5. | Priti | 2020BS25M | 5. | Nidhi Sharma | 2020BS29D |
| 6. | Sameer Khan | 2020BS26M | 6. | Nikita | 2020BS30D |
| 7. | Sonia | 2020BS27M | 7. | Ritika | 2020BS31D |
| 8. | Sunaina Kumari | 2020BS28M | 8. | Shaik Tabasum | 2020BS33D |
| 9. | Vijay Kumar | 2020BS29M | 9. | Shubham Kumar | 2020BS34D |
| | | | 10. | Swati | 2020BS35D |
| | | | 11. | Umang | 2020BS36D |

| 2021-22 | | | | | |
|---|---|---|---|---|---|
| M. Sc.-12 | | | Ph. D.-10 | | |
| Sr. no. | Name | Admission no. | Sr. no. | Name | Admission no. |
| 1. | Diksha Saini | 2021BS24M | 1. | Indu Dhiman | 2021BS21D |
| 2. | Hardik Gautam | 2021BS25M | 2. | Karthika P. | 2021BS22D |
| 3. | Jyoti | 2021BS26M | 3. | Mukesh Kumar | 2021BS23D |
| 4. | Kamaldeep Kaur | 2021BS27M | 4. | Neel Kamal | 2021BS24D |
| 5. | Kamna | 2021BS28M | 5. | Pratiksha | 2021BS25D |
| 6. | Kanishka | 2021BS29M | 6. | Priya Tanwar | 2021BS26D |
| 7. | Nishu | 2021BS30M | 7. | Priyanka | 2021BS27D |
| 8. | Priya | 2021BS31M | 8. | Ravina | 2021BS28D |
| 9. | Rekha | 2021BS32M | 9. | Sujeeta | 2021BS29D |
| 10. | Shibashankar Panda | 2021BS33M | 10. | Yogita | 2021BS30D |
| 11. | Shruti Vandre | 2021BS34M | | | |
| 12. | Somu Nagajyothi | 2021BS35M | | | |

| 2022-23 | | | | | |
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| M. Sc.-12 | | | Ph. D.-11 | | |
| Sr. no. | Name | Admission no. | Sr. no. | Name | Admission no. |
| 1. | Bharti | 2022BS18M | 1. | Bhupender | 2022BS19D |
| 2. | Dhruv | 2022BS19M | 2. | Deepak | 2022BS20D |
| 3. | Jatin Dutt | 2022BS20M | 3. | Karishma Singh | 2022BS21D |
| 4. | Mamta Kumari | 2022BS21M | 4. | Komal | 2022BS22D |
| 5. | Mansi | 2022BS22M | 5. | Mansi | 2022BS23D |
| 6. | Minakshi | 2022BS23M | 6. | Pawan | 2022BS24D |
| 7. | Neha | 2022BS24M | 7. | Rahul Choudhary | 2022BS25D |
| 8. | Preeti | 2022BS25M | 8. | Sunaina Kumari | 2022BS26D |
| 9. | Raj Bala | 2022BS26M | 9. | Vijay Kumar | 2022BS27D |
| 10. | Alapati Prema Shiva Naga Teja | 2022BS46M | 10. | Musini Tejashree | 2022BS45D |
| 11. | Prathyusha Suryapaghlu | 2022BS47M | 11. | Suman Jaya Kumar Kankanwadi | 2022BS46D |
| 12. | Tanisha Gangrade | 2022BS49M | | | |

***Annexure MICRO-II***

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. no. | Name and Admission no. | Guide | Title of research problem |
|---|---|---|---|
| Ph. D. | | | |
| **1.** | Annu Rani 2019BS26D | Dr. Anuj Rana | Identification and characterization of bacterial derived volatile organic compounds and their effects on plant development and resistance against phytopathogens |
| **2.** | Diksha 2019BS27D | Dr. Rakesh Kumar | Development of seed coating method for increased viability of bioinoculants on legume and cereal seeds |
| **3.** | Dolly Rani 2019BS28D | Dr. Anuj Rana | Mycosynthesis of iron nanoparticles and their effect on growth and nutritional quality of wheat (*Triticum aestivum* L.) |
| **4.** | Kashish Sharma 2019BS29D | Dr. Kamla Malik | Microbial production of biodegradable polymer (polyhydroxybutyrate) using agricultural waste |

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| **5.** | Nandni 2019BS30D | Dr. Leela Wati | Evaluation of individual and combined application of fly ash and sulphuroxidising bacteria on mustard ( *Brassica juncea* L. crop) |
| **6.** | Shivi 2019BS31D | Dr. Baljeet Singh Saharan | Isolation and characterization of potential zinc solubilizing rhizospheric bacteria for their impact on growth promotion of onion (*Allium cepa* L.). |
| **7.** | Babita 2020BS24D | Dr. Seema Sangwan | Biosurfactant mediated synthesis/stabilization of metal nanoparticles and their antagonistic behavior towards microbial pathogens |
| **8.** | Dandu Harikarthik 2020BS26D | Dr. Kamla Malik | Valorization of cellulose nanofibers from lignocellulosic residues and its antimicrobial application in food packaging |
| **9.** | Indu Rani 2020BS27D | Dr. Rakesh Kumar | Targeted genome editing using CRISPR-Cas 9 approach to decipher the functional role of predicted genes in survival of *Mycobacterium cansasii* |
| **10.** | Neeru 2020BS28D | Dr. Kamla Malik | Impact of metal nanoparticles on microbial dynamics and biogas production during anaerobic digestion of cattle dung |
| **11.** | Nidhi Sharma 2020BS29D | Dr. Baljeet Singh Saharan | Biodegradable plastic production by bacteria using low cost substrates |
| **12.** | Nikita 2020BS30D | Dr. Baljeet Singh Saharan | Bacteriocin production by bacteria for its application in citrus fruits |
| **13.** | Ritika 2020BS31D | Dr. Rajesh Gera | Genetic diversity of abiotic stress tolerant rhizobia nodulating *Prosopis* species |
| **14.** | ShaikTabasum 2020BS33D | Dr. Leela Wati | Impact of microencapsulated plant growth promoting bacteria on wheat (*Triticum aestivum* L.) crop |
| **15.** | Shubham Kumar 2020BS34D | Dr. Baljeet Singh Saharan | Deciphering responses of brinjal (*Solanum melongena*) crop to endophytic colonization by potassium solubilizing bacteria |
| **16.** | Swati 2020BS35D | Dr. Baljeet Singh Saharan | Phenazine producing bacteria and their application as biocontrol agent in Wheat (*Triticum aestivum* L.) |
| **17.** | Umang 2020BS36D | Dr. Leela Wati | Evaluation of zinc solubilizing bacteria and fly ash application on chick pea (*Cicer arietinum* L.) crop |
| **18.** | Indu Dhiman 2021BS21D | Dr. Leela Wati | Evaluation of exopolysaccharide producing bacteria to combat drought stress in chickpea (*Cicer arietinum* L.) crop |
| **19.** | Karthika P. 2021BS22D | Dr. Rajesh Gera | Characterization of entophytic bacterial microbiome of sugarcane (*Saccharum* spp.) possessing varying degree of resistance to red rot disease |
| **20.** | Mukesh Kumar 2021BS23D | Dr. Seema Sangwan | Impact of biosurfactant on rhizospheric bacterial community profile and seed metabolome of Mungbean (*Vigna radiata* L.) crop |
| **21.** | Neel Kamal 2021BS24D | Dr. Baljeet Singh Saharan | Synergistic effect of *Azotobacter* and *Trichoderma* on mustard crop (*Brassica juncea* L.) |
| **22.** | Pratiksha 2021BS25D | Dr. Rakesh Kumar | Exploring indigenous bacteria as bio-control agent against Karnal bunt in wheat (*Triticum aestivum* L.) crop |
| **23.** | Priya Tanwar 2021BS26D | Dr. Leela Wati | Evaluation of potential of actinomycetes as bioherbicides in wheat (*Triticum aestivum* L.) crop |
| **24.** | Priyanka 2021BS27D | Dr. Baljeet Singh Saharan | Isolation and characterization of Streptomyces and its effect on cotton (*Gossypium hirsutum*) under natural farming |
| **25.** | Ravina 2021BS28D | Dr. Rakesh Kumar | Efficacy of indigenous bacteria to control rice blast disease incited by *Magnaportheoryzae* |

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| **26.** | Sujeeta 2021BS29D | Dr. Kamla Malik | Characterisation of bioactive compounds from agricultural wastes and their antimicrobial application as postharvest additives |
| **27.** | Yogita 2021BS30D | Dr. Seema Sangwan | Biosurfactant interceded atrazine mobilization and its bioremediation by bacteria |
| **28.** | Bhupender 2022BS19D | Dr. Rajesh Gera | Studies on bacterial communities in grafted cucumber and its impact on plant growth parameters under polyhouse conditions |
| **29.** | Deepak 2022BS20D | Dr. Madhu Chaudhary | Studies on genetic diversity of symbiotic and non-symbiotic bacteria associated with lentil (*Lens culinaris*) crop under salt affected soils |
| **30.** | Karishma Singh 2022BS21D | Dr. Leela Wati | Impact of mineral solubilizing diazotrophic bacteria on wheat (*Triticum aestivum* L.) crop |
| **31.** | Mansi 2022BS23D | Dr. Seema Sangwan | Antimicrobial, antioxidative and pesticide nanoencapsulation properties of lignin nanoparticles |
| **32.** | Pawan 2022BS24D | Dr. Kamla Malik | Impact of graphene and zinc oxide nanocomposites on soil microbial diversity and growth of wheat (*Triticum aestivum* L.) crop |
| **33.** | Rahul Choudhary 2022BS25D | Dr. Rakesh Kumar | Exploration of entomopathogenic nematode symbiotic bacteria to manage *Meloidogyne javanica* in tomato (*Solanum lycopersicum* L.). crop |
| **34.** | Sunaina Kumari 2022BS26D | Dr. Monika Kayasth | Bacterial diversity analysis during composting and its effect on chickpea (*Cicer arietinum* L.) crop |
| **35.** | Vijay Kumar 2022BS27D | Dr. Leela Wati | Impact assessment of sulphur oxidizing-phosphate solubilizing bacteria on mustard (*Brassica juncea* L.) crop |
| **36.** | Musini Tejashree 2022BS45D | Dr. Baljeet Singh Saharan | Yet to finalize |
| **37.** | Suman Jaya Kumar Kankanwadi 2022BS46D | Dr. Leela Wati | Yet to finalize |
| | | **M. Sc.** | |
| **1.** | Priti 2020BS25M | Dr. Rajesh Gera | Synergistic interaction between *Rhizobia* and arbuscular mycorrhizal fungi in alleviating drought stress in mung bean (*Vigna radiata* L.) |
| **2.** | Hardik Gautam 2021BS25M | Dr. Baljeet Singh Saharan | Biological nitrogen fixers and phosphate solubilizing bacteria from natural farming fields and their synergistic effect on growth promotion of chickpea (*Cicer arietinum*L.) |
| **3.** | Jyoti 2021BS26M | Dr. Shikha Mehta | Impact of rice straw compost on the growth and yield of chickpea (*Cicer arietinum* L.) |
| **4.** | Kamaldeep Kaur 2021BS27M | Dr. Meena | Covalent immobilization of bacterial alkaline protease and its application in poultry feed |
| **5.** | Kamna 2021BS28M | Dr.Ajay Kumar | Synthesis of zinc oxide nanoparticles using indigenous *Trichoderma* sp. and its interaction with bioinoculants |
| **6.** | Kanishka 2021BS29M | Dr. Rakesh Kumar | Plant growth promoting rhizobacteria based biological control of root-knot nematode (*Meloidogyne incognita*) in cotton |
| **7.** | Nishu 2021BS30M | Dr. Seema Sangwan | Impact of biosynthesized Zinc nanoparticles on physio-biochemical parameters and yield of wheat (*Triticum aestivum* L.) crop |
| **8.** | Priya | Dr. Anuj Rana | Absorption of bacteria volatile organic compounds on |

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|---|---|---|---|
| | 2021BS31M | | nanobiochar for their control release and plant pathogens suppression |
| **9.** | Rekha 2021BS32M | Dr. Kamla Malik | Effect of paddy straw compost on microbial communities and plant growth of Mungbean (*Vigna radiata* L.) |
| **10.** | Shibashankar Panda 2021BS33M | Dr. Seema Sangwan | Foliar application of green synthesized zinc nanoparticles and their impact on physiological parameters and yield of wheat (*Triticum aestivum* L.) crop |
| **11.** | Somu Nagajyothi 2021BS35M | Dr.MonikaKayasth | Isolation and characterization of plant growth promoting salt-tolerant bacteria from *Suaedafruticosa* L. rhizosphere |
| **12.** | Bharti 2022BS18M | Dr. Shikha Mehta | Anaerobic digestion of *Hydrilla Verticillata* and paddy straw for biogas production |
| **13.** | Dhruv 2022BS19M | Dr. Meena Sindhu | Microbial production of mannanase |
| **14.** | Jatin Dutt 2022BS20M | Dr. Meena Sindhu | Preparation, characterization an antimicrobial activity of pullulan based films |
| **15.** | Mamta Kumari 2022BS21M | Dr. Anuj Rana | Deciphering the role of antagonistic bacteria and its derived volatile organic compounds to control *Sclerotinia* rot in mustard |
| **16.** | Mansi 2022BS22M | Dr. Shikha Mehta | Co-digestion of cattle dung with tea waste for biogas production |
| **17.** | Minakshi 2022BS23M | Dr. Rakesh Kumar | Biological management of *Leucinodes orbonalis* in brinjal using indigenous insecticidal soil bacillus |
| **18.** | Neha 2022BS24M | Dr. Leela Wati | Evaluation of exopolysaccharide producing silicate solubilizing bacteria on wheat crop |
| **19.** | Preeti 2022BS25M | Dr. Seema Sangwan | Antagonistic activity of silver nanoparticles against microbial phytopathogens |
| **20.** | Raj Bala 2022BS26M | Dr. Ajay Kumar | Diversity analysis of phosphate solubilizing microorganisms in rhizospheric soil from arid and semi-arid zone of Haryana |
| **21.** | Alapati Prema Shiva Naga Teja 2022BS46M | Dr. Baljeet Singh Saharan | Yet to finalize |
| **22.** | Prathyusha Suryapaghlu 2022BS47M | Dr. Kamla Malik | Yet to finalize |
| **23.** | Tanisha Gangrade 2022BS49M | Dr. Monika Kayasth | Yet to finalize |

***Annexure MICRO-III***

## STUDENTS PARTICIPATION IN SEMINAR/CONFERENCES/WORKSHOPS *ETC.*

| Sr. no. | Name of student and admn no. | Oral/Poster | Conference Seminar/ Conference/Workshop details |
|---|---|---|---|
| 1. | Sheetal Yadav (2017BS13M) | - | Seminar on "National start-up summit" from June 1-2, 2018 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 2. | Savita Rani (2017BS12D) | - | Seminar on "Elsevier empowering agriculture research in India" in association with CERA on August 24, 2018 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 3. | Ruchi Sharma (2015BS10D) | | |

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| 4. | Ruchi Sharma (2015BS10D) | Poster | Young Scientist Conference on "India International Science Festival", from October 5-8, 2018 at Indira Gandhi Prathisthan, Lucknow, Uttar Pradesh, India. |
| 5. | Kavita Rani (2015BS07D) | Poster | International Conference on "GRISAAS-2018", from 18-30 October, 2018 at Rajasthan Agricultural Research Institute, Durgapur, Jaipur, Rajasthan, India. |
| 6. | Dhinu Yadav (2015BS09D) | Poster | International Conference on "Advances in agriculture, biological science and applied sciences for sustainable future" from October 20-22, 2018 at Swami Vivekanand University, Meerut, Uttar Pradesh, India. |
| 7. | Aastha (2016BS05D) | | |
| 8. | Dhinu Yadav (2015BS09D) | Poster | International Conference on "GRISAAS-2018", from 18-30 October, 2018 at Rajasthan Agricultural Research Institute, Durgapur, Jaipur, Rajasthan, India. |
| 9. | Jeniffer (2015BS08D) | Poster | International Conference on "Microbes for biotechnology innovations" from December 7, 2018 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 10. | Ruchi Sharma (2015BS10D) | Poster | National Conference on "Biodiversity and environmental sustainability in modern era" on February 16, 2019 at Directorate of Higher Education, Haryana, India. |
| 11. | Kavita Rani (2015BS07D) | Poster | International Conference on "Sustainable agriculture, energy, environment and technology" on Feburary 21, 2019 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 12. | Aathira S. Kumar (2016BS03D) | Poster | International Conference on "Climate change towards health and agricultural sustainability", from February 18-20, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 13. | Dilbag (2017BS14M) | | |
| 14. | Dhinu Yadav (2015BS09D) | | |
| 15. | Satish Kumar (2017BS10D) | | |
| 16. | Sonam Antil (2018BS08D) | Poster | International Conference on "New millennia agriculture- novel trends and future scenario" from November 6-8, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 17. | Gourav Chopra (2018BS07D) | | |
| 18. | Umang (2018BS19M) | | |
| 19. | Pankaj Sharma (2017BS09D) | Poster | International Symposium on "Microbial technologies in sustainable development of energy, environment, agriculture and health" from November 15-18, 2019 at Central University of Haryana, Mahendergarh, Haryana, India. |
| 20. | Bharti (2018BS06D) | Poster | International Conference on "New paradigms for agriculture, food and sustainability concerns" from February 26-28, 2020 at Raichur, Karnataka, India. |
| 21. | Gourav Chopra (2018BS07D) | Poster | 61st International Conference on "Microbial World- Recent development in health, agriculture and environmental sciences" from February 3-5, 2021 at University of Delhi and Indian Agricultural Research Institute, New Delhi, India. |
| 22. | Sonam Antil (2018BS08D) | | |
| 23. | Gourav Chopra (2018BS07D) | Poster | International Conference on "Fundamental and applied sciences (ICFAS-2021)" from March 24-26, 2021 at Hazarimal Somani College of Arts and Science, Mumbai, Maharashtra, India. |

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| 24. | Savita Rani (2017BS12D) | Poster | 8th International Virtual Congress on "Global research: progress, problems, promises" from August 5-10, 2021 at International Science Community Association at Indore, Madhya Pradesh, India. |
| 25. | Savita Rani (2017BS12D) | Oral | 3rd International Conference on "Global initiative in agricultural, forestry and applied sciences for food security, environmental safety and sustainable development" from October 17-18, 2021 at Shri Guru Ram Rai University, Patel Nagar, Dehradun, Uttarakhand, India. |
| 26. | Sonam Antil (2018BS08D) | Oral | International Conference on "Microbes in sustainable development" from November 15-18, 2021 organized by Indian Network of Soil Contamination Research, Online mode, India. |
| 27. | Gourav Chopra (2018BS07D) | Poster | National Symposium on "Strategic plant disease management for food security" from December 6-7, 2021 at ICAR- Central Potato Research Institute, Shimla, Himachal Pradesh, India. |
| 28. | Sonam Antil (2018BS08D) | Poster | International Conference on "Global perspectives in crop protection for food security" from December 8-10, 2021 at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India. |
| 29. | Sonam Antil (2018BS08D) | Poster | International Web Conference on "Global research initiative for sustainable agriculture and allied sciences", from December 13-15, 2021 at Swami Keshwanand Rajasthan Agricultural University, Bikaner, Rajasthan, India. |
| 30. | Satish Kumar (2017BS10D) | | |
| 31. | Umang (2020BS36D) | Poster | 3rd International Conference on "Global initiative in agricultural, forestry and applied sciences for food security, environmental safety and sustainable development", from October 17-18, 2021 at Shri Guru Ram Rai University, Patel Nagar, Dehradun, Uttarakhand, India. |
| 32. | Nikita (2020BS30D) | Poster | |
| 33. | Dolly Rani (2019BS28D) | Poster | |
| 34. | Ritika (2020BS31D) | Poster | |
| 35. | Shubham Kumar (2020BS34D) | Oral | |
| 36. | Shivi Choudhary (2019BS31D) | Oral | |
| 37. | Kashish Sharma (2019BS29D) | Oral | 3rd International Conference on "Global initiative in agricultural, forestry and applied sciences for food security, environmental safety and sustainable development (GIAFAS-2021)" from Oct. 17-18, 2021 at SGRR Institute of Medical and Health Sciences, Shri Guru Ram Rai University, Patel Nagar, Dehradun, Uttarakhand, India |
| 38. | Nandni (2019BS30D) | Oral | |
| 39. | Amit Kumar Sharma (2020BS22M) | Poster | National Symposium on "Strategic plant disease management for food security", from December 6-7, 2021 at Central Potato Research Institute, Shimla, Himachal Pradesh, India. |
| 40. | Amit Kumar Sharma (2020BS22M) | Poster | Ist International Conference on "Recent advances for managing sustainable soil health and crop production" from February 18-20, 2022 at Gramin Kisan Vikas (GKV) Society, Agra, Uttar Pradesh, India. |
| 41. | Sonam Antil (2018BS08D) | Poster | 4th International Conference on "Innovative and current advances in agriculture and allied sciences (ICAAAS- 2022)" from June 12-14, 2022 at Himachal Pradesh University, Summer Hill, Shimla, Himachal Pradesh, India. |
| 42. | Satish Kumar (2017BS10D) | | |
| 43. | Nandni (2019BS30D) | Poster | National Symposium on "Crop protection through bio-rational approaches- current trends and future prospective", on March 10, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |

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| 44. | Nikita (2020BS30D) | - | Seminar on "Biosafety guidelines and regulations in laboratory" on Janurary 28, 2022 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 45. | Umang (2020BS36D) | Poster | National Symposium on "Crop protection through bio-rational approaches- current trends and future prospective", on March 10, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 46. | Shaik Tabasum (2020BS33D) | Poster | |
| 47. | Swati (2020BS35D) | - | North Zonal Seminar of Plant Physiology on "Inter- disciplinary research strategies for climate resilient agriculture", on June 25, 2022 at ICAR-Sugarcane breeding institute, Karnal, Haryana, India. |
| 48. | Pawan (2020BS24M) | Poster | 4th International Conference on "Innovative and current advances in agriculture and allied sciences (ICAAAS- 2022)" from June 12-14, 2022 at Himachal Pradesh University, Summer Hill, Shimla, Himachal Pradesh, India. |
| 49. | Gourav Chopra (2018BS07D) | Poster | National Symposium on "Crop protection through bio-rational approaches- current trends and future prospective", on March 10, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 50. | Bharti (2018BS06D) | Poster | 4th International Conference on "Innovative and current advances in agriculture and allied sciences (ICAAAS- 2022)" from June 12-14, 2022 at Himachal Pradesh University, Summer Hill, Shimla, Himachal Pradesh, India. |
| 51. | Sonia (2020BS27M) | | |
| 52. | Jyoti (2021BS26M) | | |
| 53. | Somu Nagajyothi (2021BS35M) | | |
| 54. | Babita (2020BS24D) | Poster | 63rd Annual conference on "Microbial Technologies for Sustainable Biosphere" from February 02-04, 2023 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 55. | Nishu (2021BS30M) | Poster | |
| 56. | Nikita Goyat (2020BS30D) | Poster | |
| 57. | Neel Kamal (2021BS24D) | Poster | |
| 58. | Nidhi Sharma (2020BS29D) | Poster | |
| 59. | Shubham Kumar (2020BS34D) | Poster | |
| 60. | Shivi Choudhary (2019BS31D) | Poster | |
| 61. | Karthika P. (2021BS22D) | Poster | |
| 62. | Nandni (2019BS30D) | Poster | |
| 63. | Priyanka (2021BS27D) | Poster | |
| 64. | Kamna Redhu (2021BS28M) | Poster | |
| 65. | Priya (2021BS31M) | Poster | |
| 66. | Indu Rani (2020BS27D) | Poster | |
| 67. | Annu Rani (2019BS26D) | Poster | |

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| 68. | Mansi (2022BS23D) | Poster | International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" from February 17-19, 2023 at Chaudhary Charan Singh Haryana Agricultural University, Hisar, Haryana, India. |
| 69. | Nidhi Sharma (2020BS29D) | Oral | |
| 70. | Dandu Hari Karthik (2020BS26D) | Poster | |
| 71. | Nandni (2019BS30D) | Oral | |
| 72. | Suman Jaya Kumar Kankanwadi (2022BS45D) | Poster | |

*Annexure MICRO-IV*

## STUDENT PARTICIPATION IN TRAININGS

| Sr. No. | Name of student and admn no. | Duration | Title |
|---|---|---|---|
| **1.** | Ruchi Sharma (2015BS10D) | 01-06-2018 to 02-06-2018 | "National start-up summit" held at CCS Haryana Agricultural University, Hisar, Haryana, India |
| **2.** | Ruchi Sharma (2015BS10D) | 17-07-2018 to 21-07-2018 | One Week Training on "Recent trends in bioinformatics and its applications in crop improvement" conducted by department of molecular biology, biotechnology and bioinformatics at College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India |
| **3.** | Savita Rani (2017BS12D) | 16-10-2018 to 17-10-2018 | Workshop on "Career opportunities for students: fellowships/ awards/ scholarships" at CCS Haryana Agricultural University, Hisar, Haryana, India |
| **4.** | Sheetal Yadav (2017BS13M) | 16-10-2018 to 17-10-2018 | |
| **5.** | Ruchi Sharma (2015BS10D) | 12-11-2018 to 21- 11-2018 | Global initiative of academic network (GIAN) Workshop on "Application of thermodynamic prediction for development of microbial biotechnological approaches" sponsored by MHRD, Government of India at Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India |
| **6.** | Umang (2018BS19M) | 13 -11-2019 | Workshop on "Eminent alumni-student interaction on employability and career enhancement" at CCS Haryana Agricultural University, Hisar, Haryana, India |
| **7.** | Aastha (2016BS05D) | 18-11-2019 to 21-11-2019 | Workshop on "Advanced structural bioinformatics" at ICGEB, New Delhi, India |
| **8.** | Savita Rani (2017BS12D) | 22-01-2020 | Workshop on "Recent computational techniques of mathematical sciences for researchers" at CCS Haryana Agricultural University, Hisar, Haryana, India |
| **9.** | Savita Rani (2017BS12D) | 24-02-2020 to 04-03-2020 | Training on "Statistical data analysis for research scholar" at CCS Haryana Agricultural University, Hisar, Haryana, India |
| **10.** | Gourav Chopra (2018BS07D) | 22-03-2022 to 28 -03-2022 | One Week Training on "Mushroom Production Technology" at CCS Haryana Agricultural University, Hisar, Haryana, India |
| **11.** | Nandni (2019BS30D) | 23-05-2022 to 26-05-2022 | Online Training Program on "Microbial bioinoculants in organic agriculture: practices and prospects" organized by National Institute of Agricultural Extension Management and ICAR- National Bureau |
| **12.** | Shaik Tabasum (2020BS33D) | 23-05-2022 to 26-05-2022 | |

| | | | |
|---|---|---|---|
| **13.** | Nikita (2020BS30D) | 23-05-2022 to 26-05-2022 | of Agriculturally Important Microorganisms, Kushmaur, Mau, Uttar Pradesh, India |
| **14.** | Kashish Sharma (2019BS29D) | 23-05-2022 to 26-05-2022 | |
| **15.** | Shivi Choudhary (2019BS31D) | 23-05-2022 to 26-05-2022 | |

***Annexure MICRO-V***

## PLACEMENTS RECORD

| Sr. no. | Name of student(s) | Placements (duration 2018-2023) |
|---|---|---|
| **1.** | Dr. Monika Kayasth | Assistant Microbiologist, CCS Haryana Agricultural University, Hisar, Haryana, India |
| **2.** | Dr. Shikha Mehta | Assistant Scientist, CCS Haryana Agricultural University, Hisar, Haryana, India |
| **3.** | Dr. Priyanka Parmar | Assistant Professor, Microbiology in PDM University, Bahadurgarh |
| **4.** | Dr. Umang | BFIT Group of Institutions, Sudhowala Dehradun |
| **5.** | Dr. Rekha | Assistant Professor, Microbiology, Chaudhary Bansi Lal University Bhiwani |
| **6.** | Dr. Amrita Narula | Associate Professor in Department of Microbiology, Om Sterling Global University, Hisar |
| **7.** | Dr. Aastha | Assistant Professor in Department of Microbiology, Faculty of Life Sciences, PDM University, Bahadurgarh |
| **8.** | Dr. Harpreet Kaur | Assistant Professor in Department of Microbiology, Om Sterling Global University, Hisar |
| **9.** | Dr. Dhinu Yadav | Assistant Professor in Department of Microbiology in the School of Sciences at Geeta University, Panipat |
| **10.** | Dr. Aathira S Kumar | Agricultural Officer in Kerala Government |

**Annexure MICRO-VI**

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. no. | Name and Admission no. | Name of scholarship support | Sr. no. | Name and Admission no. | Name of scholarship support |
|---|---|---|---|---|---|
| **1.** | Sonam Antil 2016BS06M | | 20. | Rekha 2013BS19D | CCS HAU, Merit Fellowship |
| **2.** | Dilbag 2017BS14M | | 21. | Swati 2014BS13D | |
| **3.** | Diksha 2017BS16M | | 22. | Kuldeep 2014BS14D | |
| **4.** | Barkha 2018BS15M | | 23. | Anupma Dahiya 2014BS16D | Rajiv Gandhi National Fellowship |

| | | | | | |
|---|---|---|---|---|---|
| **5.** | Divya Kapoor 2018BS16M | CCS HAU, Merit Fellowship | 24. | Suman Chaudhary 2014BS17D | INSPIRE Fellowship |
| **6.** | Nidhi Sharma 2018BS17M | | 25. | Rinku Dhankar 2014BS18D | CCS HAU, Merit Fellowship |
| **7.** | Sunita Rani 2018BS18M | | 26. | Kavita Rani 2015BS07D | |
| **8.** | Umang 2018BS19M | | 27. | Jeniffer Christina Masih 2015BS08D | |
| **9.** | Bharat Chopra 2019BS22M | | 28. | Dhinu Yadav 2015BS09D | |
| **10.** | Mukesh Kumar 2019BS23M | | 29. | Ruchi Sharma 2015BS10D | |
| **11.** | Neel Kamal 2019BS24M | | 30. | Aathira S. Kumar 2016BS03D | ICAR |
| **12.** | Rahul Choudhary 2019BS25M | | 31. | Harpreet Kaur 2016BS04D | CCS HAU, Merit Fellowship |
| **13.** | Yogita 2019BS27M | | 32. | Aastha 2016BS05D | |
| **14.** | Amit Kumar 2020BS22M | | 33. | Pankaj Sharma 2017BS09D | |
| **15.** | Pallaganti Sowmya 2020BS23M | ICAR | 34. | Satish Kumar 2017BS10D | CCS HAU, Merit Fellowship |
| **16.** | Pawan 2020BS24M | CCS HAU, Merit Fellowship | 35. | Savita Rani 2017BS12D | |
| **17.** | Sunaina Kumari 2020BS28M | | 36. | Bharti 2018BS06D | |
| **18.** | Vijay Kumar 2020BS29M | | 37. | Gourav Chopra 2018BS07D | CSIR Fellowship |
| **19.** | Subha 2013BS13D | DST INSPIRE | 38. | Sonam Antil 2018BS08D | CCS HAU, Merit Fellowship |

***Annexure MICRO-VII***

## NAME OF STUDENTS CLEARED NET, ARS, GATE OR ANY OTHER EXAMINATION

| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|
| **7** | **13** | **7** | **7** | **5** | **39** |
| **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | |
| Kavita Rani (2015BS07D) | Dilbag (2017BS14M) | Sonam Antil (2018BS08D) | Annu Rani (2019BS26D) | Nidhi Sharma (2020BS29D) | |
| Athira S. Kumar (2016BS03D) | Satish Kumar (2017BS10D) | Dolly Rani (2019BS28D) | Shivi Choudhary (2019BS31D) | Pawan (2020BS24M) | |
| Pankaj Sharma | Rakhi | Nidhi Sharma | Dandu | Sameer Khan | |

| | | | | | |
|---|---|---|---|---|---|
| (2017BS09D) | (2017BS11D) | (2020BS29D) | Harikarthik (2020BS26D) | (2020BS26M) | |
| Savita (2017BS12D) | Gourav Chopra (2018BS07D) | Shubham (2020BS34D) | Nidhi Sharma (2020BS29D) | Sonia (2020BS 27M) | |
| Shivi Choudhary (2019BS31D) | Sonam Antil (2018BS08D) | Indu Dhiman (2021BS21D) | Sunaina (2020BS28M) | Indu Dhiman (2021BS21D) | |
| Shubham (2020BS34D) | Diksha (2019BS27D) | Karthika (2021BS22D) | Pratiksha (2021BS25D) | | |
| Priyanka (2021BS27D) | Nandni (2019BS30D) | Priyanka (2021BS27D) | Priyanka (2021BS27D) | | |
| | Shivi Choudhary (2019BS31D) | | | | |
| | Shaik Tabasum (2020BS33D) | | | | |
| | Shubham (2020BS34D) | | | | |
| | Indu Dhiman (2021BS21D) | | | | |
| | Priyanka (2021BS27D) | | | | |
| | Sujeeta (2021BS29D) | | | | |

***Annexure MICRO-VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS:

| Year | Name of student | Name of fellowship |
|---|---|---|
| **2018-19** | Shivi Choudhary | CSIR-UGC Joint SRF |
| **2019-20** | Nandni | CSIR-UGC Joint SRF |
| | Gourav Chopra | CSIR-UGC Joint SRF |
| **2020-21** | Nidhi Sharma | DBT SRF |
| **2021-22** | Karthika.P | Inspire Fellowship |
| **2022-23** | Dandu Harikarthik | UGC NFSC Fellowship |
| | Annu | DBT JRF |
| | Indu Dhiman | HSCST Fellowship |

***Annexure MICRO-IX***

## PUBLICATIONS FROM M.SC./PH.D. STUDENTS

| Sr. no. | | Title of the paper/book | NAAS rating |
|---|---|---|---|
| **M.Sc.** | | | |
| **2018-2019** | | | |
| **1.** | **2.** | Kumar, S., Chaudhary, D., Jangra, R., Kumari, A. and Kumar, R. (2018). Exploringphyllosphere bacteria for growth promotion and yield of potato (*Solanum tuberosum* L.). *International Journal of Current Microbiology and Applied Sciences,* **7(4):** 1065-1071. | -- |
| **2.** | **3.** | Kumar, S., Chaudhary, D., Jangra, R., Kumari, A. and Kumar, R. (2018). Establishment of antifungal phyllospheric bacteria in potato (*Solanum tuberosum* L.). *International Journal of Current Microbiology and Applied Sciences,* **7(4):** 1048-1056. | -- |
| **3.** | **4.** | Jangra, R., Kumar, S., Chaudhary, D., Rashmi, Kumari, A. and Kumar, R. (2018). Screening of epiphytic isolates from different crops of plant growth promoting traits. *International Journal of Current Microbiology and Applied Sciences,* **7(4):** 1057-1064. | -- |
| **4.** | **6.** | Sujeeta, Malik, K., Mehta, S. and Sihag, K. (2018). Optimization of conditions for bioethanol production from potato peels waste. *International Journal of Chemical Studies*, **6(1):** 2021-2024. | 5.35 |
| **5.** | **7.** | Manish, J.C., Mehta, S., Malik, K., Sindhu, S. and Anand, R.C. (2019). Enhancement of biogas production from cattle dung using additives. *Journal of Entomology and Zoological Studies,* **7**: 1625-1630. | 5.53 |
| **6.** | **9.** | Sharma, P., Sangwan, S. and Kaur, H. (2019). Process parameters for biosurfactant production using yeast *Meyerozyma guilliermondii* YK32. *Environmental Monitoring and Assessment*, **191(9)**: 531. | 8.51 |
| **7.** | | Antil, S. and Kumar, R. (2019). Biocontrol of root-knot nematodes through PGPR. *International Journal of Current Microbiology and Applied Sciences,* **8(11):** 510-514. | -- |
| **8.** | **11** | Antil, S. and Kumar, R. (2019). Plant growth mechanisms using rhizospheric bacteria. *International Journal of Current Microbiology and Applied Sciences*, **8(11):** 515-520. | -- |
| **2020-2021** | | | |
| **9.** | **13.** | Rani, K., Sangwan, S., Singh, S., Sharma, P., Kaur, H. and Sindhu, M. (2020). Biosurfactant production by bacteria retrieved from hydrocarbon polluted environment. *International Journal of Chemical Studies*, **8(4):**1059-1065. | 5.31 |
| **10.** | **14.** | Dnyanu, P., Raj, K. and Wati, L. (2021). Exploitation of pearl millet [*Pennisetum glaucum* (L.) R.Br.] grains for beer production. *Agricultural Research Journal*, **58 (3):** 493-499. | 5.44 |
| **11.** | **15.** | Pawan, Kayasth, M., Saharan, B.S., Parshad, J. and Choudhary, R. (2021). Bacteriocin as a new generation of antimicrobials and its potential applications in food preservation and human health: A review. *Indian Journal of Hill Farming*, **34(2)**: 105-113. | 5.04 |
| **2021-2022** | | | |
| **12.** | | Sonia, Mehta, S., Malik, K., Nagar, S. and Ranga, P. (2022). Isolation, screening and biochemical characterization of cellulase producing microorganisms. *Agricultural Mechanization in Asia, Africa and Latin America*, **53(8)**: 9395-9403. | 6.29 |
| **Ph.D.** | | | |
| **2018-2019** | | | |
| 1. | **1** | Sharma, R., Sindhu, S. and Sindhu, S. S. (2018). Suppression of *Alternaria*blight disease and plant growth promotion of mustard (*Brassica juncea* L.) by antagonistic rhizosphere bacteria. *Applied Soil Ecology,* **129**: 145-150. | 10.05 |

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|---|---|---|
| 2. | Rani, K., Dahiya, A., Masih, J.C. and Wati, L. (2018). Actinobacterial Biofertilizers: An alternative strategy for plant growth promotion. *International Journal of Current Microbiology and Applied Science*, **7(09)**: 607-614. | -- |
| 3. | Dhull, S. and Gera, R. (2018). Siderophore production by Rhizobia isolated from cluster Bean [*Cyamopsis tetragonoloba* (L.) Taub.] growing in semi-arid regions of Haryana. *India International Journal of Current Microbiology and Applied Sciences*, **7(3):** 3187-3191. | -- |
| 4. | Singh, K., Dhull, S. and Gera, R. (2018). Genetic diversity of diazotrophs nodulating pigeon pea in arid and semi- arid zones of Haryana, India. *International Journal of Current Microbiological Applied Science*, **7(3):** 3447-3467. | -- |
| 5. **10** | Singh, K., Gera, R. and Kumar, R. (2018). Isolation and characterization of siderophore producing rhizobia from *Sesbaniasesban* using different types of Indian soils. *International Journal of Chemical Studies*, **6(3):** 797-800. | -- |
| 6. | Singh, K., Gera, R. and Kumar, R. (2018). Isolation and characterization of siderophore producing *Sesbania sesban* rhizobia from different type of Indian soils. *International Journal of Chemical Studies*, **6(3):** 797-800. | 5.31 |
| 7. | Khandelwal, A., Sehrawat, A. and Sindhu, S.S. (2018). Growth suppression of *Chenopodium album* weed and growth promotion effect on wheat (*Triticum aestivum* L.) by inoculation of δ-aminolevulinic acid producing rhizobacteria. *International Journal of Current Microbiology and Applied Sciences*, **7(2):** 1958-1971. | -- |
| 8. | Phour, M., Ghai, A., Rose, G., Dhull, N. and Sindhu, S.S. (2018). Role of aminolevulininc acid in stress adaptation and crop productivity. *International Journal of Current Microbiology and Applied Sciences*, **7(5):** 1516-1524. | -- |
| 9. | Sharma, R., Sindhu, S. and Sindhu, S.S. (2018). Bioinoculation of mustard (*Brassica juncea* L.) with beneficial rhizobacteria: A sustainable alternative to improve crop growth. *International Journal of Current Microbiology and Applied Sciences*, **7(5):** 1375-1386. | -- |
| 10. | Mehta, S., Malik, K., Verma, N. and Anand, R. C. (2018). Effect of microbial inoculum on biogas production from cattle dung under anaerobic batch digestion. *International Journal of Current Microbiology and Applied Sciences*, **7(2):** 897-904. | -- |
| 11. | Kumari, P., Chaudhary, S, Tanvi, Dhanker, R. and Goyal, S. (2018). Evaluation of quality compost prepared from paddy straw and distillery effluent for effect on growth of wheat (*Triticum aestivum*). International Journal of Current Microbiology and Applied Sciences, 7(4): 1154-1163. | -- |
| 12. | Sansanwal, R., Ahlawat, U., Batra, P. and Wati, L. (2018). Isolation and evaluation of multi-trait novel bacterial endophytes from root nodules of mungbean (*Vigna radiata* L.). *International Journal of Current Microbiology and Applied Sciences*, **7(3):** 2424-2430. | -- |
| 13. | Batra, P., Barkodia, M., Ahlawat, U., Sansanwal, R., Sharma, T. and Wati, L. (2018). Endophytes: An environmental friendly bacteria for plant growth promotion. International Journal of Current Microbiology and Applied Sciences, 7(2): 1899-1911. | -- |
| 14. | Verma, N. and Goyal, S. (2018). Effect of organic manuring and integrated nutrient management on microbiological properties in sandy soils under wheat guar cropping system. *International Journal of Current Microbiology and Applied Sciences*, **7(2):** 2319-7706. | -- |
| 15. | Verma, N., Chaudhary, S. and Goyal, S. (2018). Long Term Effects of Inorganic Fertilizers and Organic Amendments on Ammonification and Nitrification Activity of Soils under Cotton-Wheat Cropping System. International Journal of Current Microbiology and Applied Sciences, 7(4): 718-724. | -- |
| 16. | Singh K., Dhull S. and Gera R. (2018). Genetic Diversity of Diazotrophs Nodulating pigeon pea in arid and semi- arid zones of Haryana, India. *International Journal of Current Microbiology and Applied Sciences*, **7(3):** 3447-3467. | -- |

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|---|---|---|
| 17. | Kumari, P., Chaudhary, S., Dhanker, R., Verma, N. and Goyal, S. (2018). Assessment of quality of compost prepared from paddy straw and distillery effluent. *Chemical Science Review and Letters*, **7(25):** 222-227. | 4.75 |
| 18. | Verma, N., Chaudhary, S. and Goyal, S. (2018). Functional diversity of organic and inorganic manured soils under cotton-wheat cropping sequences. *The Pharma Innovation Journal*, **7(3):** 295-299. | 5.23 |
| 19. | Rashmi, Pathak D.V. and Kumar, R. (2019). Effect of *Ricinus communis* L on microorganisms: advantages and disadvantages. *International Journal of Current Microbiology and Applied Sciences*, **8(4):** 878-884. | -- |
| 20. | Phour, M. and Sindhu, S.S. (2019). Bio-herbicidal effect of 5-aminoleveulinic acid producing rhizobacteria in suppression of *Lathyrus aphaca* weed growth. *BioControl*, **64**: 221-232. | 9.57 |
| 21. | Parmar, P. and Sindhu, S. S. (2019). The novel and efficient method for isolating potassium solubilizing bacteria from rhizosphere soil. *Geomicrobiology Journal*, **36**: 130 – 136. | 8.31 |
| 22. | Kumar, D., Parshad, J., Dalal, R. P. and Yadav, K.S. (2019). Effect of bacterial isolates on organic and sustainable farming of medicinal plant ashwagandha (*Withania angustifolia*). *International Journal of Chemical Studies*, **7(3):** 4852-4858. | 5.31 |
| 23. | Nisha, Walia, M., Batra, N., Gera, R. and Goyal, S. (2019). Effect of management practices on soil physiological and microbial properties under wheat clusterbean cropping system. *Legume Research*, 42: 565-571. | 6.59 |
| 24. | Dahiya, A., Sharma, R., Sindhu, S. and Sindhu, S.S. (2019). Resource partitioning in the rhizosphere by inoculated *Bacillus* spp. towards growth stimulation of wheat and suppression of wild oat (*Avena fatua* L.) weed. *Physiology and Molecular Biology of Plants*, **25 (6):** 1483–1495. | 8.39 |
| 25. | Nisha, Walia, M., Batra, N., Gera, R. and Goyal, S. (2019). Impact of management practices on soil microbial properties under wheat clusterbean cropping system. *Legume Research*, 42 (4): 565-571. | 6.59 |
| 26. | Yadav, D. and Wati, L. (2019). Bioconversion of rice straw into ethanol: fungi and yeasts are the backbone microbiota of the process. *International Journal of Current Microbiology and Applied Sciences*, **8(9):** 913-20. | -- |
| 27. | Sehrawat, A. and Sindhu, S.S. (2019). Potential of biocontrol agents in plant disease control for improving food safety. *Defence Life Science Journal*, **4(4):** 220-225. | -- |
| | **2020-2021** | |
| 28. | Phour M. and Sindhu, S.S. (2020). Exploiting plant growth promoting bacteria for salt tolerance and crop productivity in mustard. *Applied Soil Ecology*, **149**: (in May issue) | 10.05 |
| 29. | Dahiya, A., Chahar, K. and Sindhu, S.S. (2020). The rhizosphere microbiome and biological control of weeds: A review. *Spanish Journal of Agricultural Research*,**17(4):** e10R01, 13 pages | 7.24 |
| 30. | Sehrawat, A., Khendelwal, A. and Sindhu, S. S. (2020). Characterization of *Mesorhizobium* strains for salt tolerance and wilt control: Their potential for plant growth promotion of chickpea (*Cicer arietinum* L.). *Legume Research*, **43**:146-150. | 6.59 |
| 31. | Monika, Priyanka, Yadav, R. and Wati, L. (2020). Evaluation of combined effect of micronutrients and rhizobial inoculation on mungbean productivity. *Legume Research*,**43 (2)**:253-57. | 6.59 |
| 32. | Mondal, H.K. and Gera, R. (2020). Molecular diversity of stress-tolerant PGPR rhizobia nodulating clusterbean (*Cyamopsis tetragonoloba* L.) grown in hyper-arid zone of Rajasthan. Legume Research, 43(1): 134-139. | 6.59 |
| 33. | Batra, P., Barkodia, M., Ahlawat, U., Rekha, Vaid, R.K. and Wati L. (2020). Identification and characterization of promising endophytic bacteria for growth promotion in Chickpea. *Indian Journal of Agricultural Sciences*, **90(4):**708-12. | 6.37 |

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|---|---|---|
| 34. | Sindhu, S., Dahiya, A., Gera, R. and Sindhu, S.S. (2020). Mitigation of abiotic stress in legume-nodulating rhizobia for sustainable crop production. Agricultural Research, 9: 444–459 | 5.95 |
| 35. | Kumar, A. S. and Malik, K. (2020). Isolation and screening of microorganisms for chitosan production. *International Journal of Chemical Studies*, **8(1):** 1408-1410. | 5.31 |
| 36. | Sindhu, S., Jangra, M., Brar, B. and Gera, R. (2020). Effect of different salt concentrations on growth and survival of chickpea Rhizobia. Annals of Biology, 36(1) :71-74. | 3.95 |
| 37. | Yadav, D., Rani, K. and Wati, L. (2020). Impact of tillage practices on physio-chemical and microbiological properties of soil in wheat-pearl millet cropping system. *Range Management and Forestry*, **41(2):** 276-283. | 6.37 |
| 38. | Yadav, D., Wati, L., Yadav, D. and Kumar, A. (2020). Long-term influence of conservation tillage on soil organic carbon and microbial diversity.*Indian Journal of Agricultural Sciences*, **90 (7):** 1323–27. | 6.37 |
| 39. | Rashmi, Kumar, R. and Pathak, D.V. (2020). Approaches for enhancing microbial degradation of synthetic plastics: a review. *International Journal of Current Microbiology and Applied Sciences*, **9(1):** 910-918. | -- |
| 40. | Rani, K., Kaur, H. and Wati, L. (2020). Actinobacteria mediated nanoparticles: a pioneering technology for agriculture. Journal of Nanoscience and Nanotechnology, 20: 1–11. | 7.13 |
| 41. | Antil, S., Kumar, R., Pathak, D.V., Kumar, A., Panwar, A., Kumari, A. And Kumar, V. (2021). On the potential of *Bacillus aryabhattai* KMT-4 against *Meloidogyne javanica*. *Egyptian Journal of Biological Pest Control*, **31(1):** 1-9. | 8.00 |
| 42. | Rani, K., Parashar, A. and Wati, L. (2021). Estimation of hydrolyzing potential of chickpea actinomycetes for degradation of complex compounds through enzymes and acid production. *The Pharma Innovation Journal*, **10(1):** 220-223. | 5.23 |
| 43. | Yadav, D., and Wati, L. (2021). Impact of long-term zero-tillage and cropping system on chemical and microbiological properties of soil. *Asian Journal of Microbiology Biotechnology and Environmental Sciences*, **23(2):**161-168. | 5.00 |
| 44. | Chopra, G., Nandni, Rani, S. and Wati, L. (2021). Isolation and evaluation of silicate solubilizing bacteria for plant growth promoting traits. *Asian Journal of Microbiology, Biotechnology and Environmental Sciences*,**23(3):** 440-445. | 5.00 |
| 45. | Yadav, D., Rana, R. and Wati, L. (2021). Changes in physico-chemical and biological properties of soil under conservation agriculture based pearl millet-wheat cropping system. *Frontiers in Crop Improvement*, **9:** 902-906. | 4.67 |
| 46. | Kumar, S., Diksha., Sindhu, S. S. and Kumar, R. (2021). Biofertilizers: An ecofriendly technology for nutrient recycling and environmental sustainability. *Current Research in Microbial Sciences*, 100094. https://doi.org/10.1016/j.crmicr.2021.100094. | -- |
| **2022-23** | | |
| 47. | Dhanker, R., Chaudhary, S., Goyal, S. and Kumar, R. (2022). Soil microbial properties and functional diversity in response to sewage sludge amendments. *Archives of Agronomy and Soil Science*, **68(6):** 809-822. | 9.09 |
| 48. | Chaudhary, S., Dhanker, R., Kumar, R. and Goyal, S. (2022). Importance of legumes and role of sulphur oxidizing bacteria for their production: A review. *Legume Research*, **45:** 275-284. | 6.59 |
| 49. | Kumar, S., Kumar, R., Diksha, Kumari, A. and Panwar, A. (2022). Astaxanthin: A super antioxidant from microalgae and its therapeutic potential. *Journal of Basic Microbiology*, **62(9):** 1064-1082. | 8.28 |

***Annexure MICRO-X***

## LIST OF PASS OUT STUDENTS (M.SC.)

| 2018-19 (1) | | | |
|---|---|---|---|
| Sr. no. | **Name of student** | **Admn. no.** | **Month and year** |
| **6.** | Sonam Antil | 2016BS06M | July, 2018 |
| **2019-20 (4)** | | | |
| **3.** | Sachin | 2016BS07M | July, 2019 |
| **4.** | Dolly Rani | 2016BS08M | July, 2019 |
| **5.** | Dilbag | 2017BS14M | July, 2019 |
| **6.** | Diksha | 2017BS16M | July, 2019 |
| **2020-21 (5)** | | | |
| **7.** | Barkha Rana | 2018BS15M | August, 2020 |
| **8.** | Divya Kapoor | 2018BS16M | August, 2020 |
| **9.** | Nidhi Sharma | 2018BS17M | September, 2020 |
| **10.** | Sunita Rani | 2018BS18M | September, 2020 |
| **11.** | Umang | 2018BS19M | September, 2020 |
| **2021-22 (6)** | | | |
| **3.** | Sheetal Yadav | 2017BS13M | February, 2022 |
| **4.** | Bharat Chopra | 2019BS22M | March, 2022 |
| **5.** | Mukesh Kumar | 2019BS23M | September, 2021 |
| **6.** | Neel Kamal | 2019BS24M | September, 2021 |
| **7.** | Rahul Chaudhary | 2019BS25M | October, 2021 |
| **8.** | Yogita | 2019BS27M | September, 2021 |
| **2022-23 (8)** | | | |
| **1.** | Amisha | 2020BS21M | December, 2022 |
| **2.** | Amit Kumar | 2020BS22M | August, 2022 |
| **3.** | Pallagant Sowmya | 2020BS23M | August, 2022 |
| **4.** | Pawan | 2020BS24M | August, 2022 |
| **5.** | Sameer Khan | 2020BS26M | August, 2022 |
| **6.** | Sonia | 2020BS27M | December, 2022 |
| **7.** | Sunaina Kumari | 2020BS28M | August, 2022 |
| **8.** | Vijay Kumar | 2020BS29M | August, 2022 |

***Annexure MICRO-XI***

## LIST OF PASS OUT STUDENTS (PH.D.)

| 2018-19 (7) | | | |
|---|---|---|---|
| Sr. no. | **Name of student** | **Admn. no.** | **Month and Year** |
| **1.** | Subha | 2013BS13D | May, 2018 |
| **2.** | Swati | 2014BS13D | January, 2019 |
| **3.** | Kuldeep | 2014BS14D | June, 2018 |
| **4.** | Anupma Dahiya | 2014BS16D | December, 2018 |
| **5.** | Suman Chaudhary | 2014BS17D | October, 2018 |
| **6.** | Rinku Dhankar | 2014BS18D | November, 2018 |
| **7.** | Ruchi Sharma | 2015BS10D | March., 2019 |
| | | | |

| | | | |
|---|---|---|---|
| **2019-20 (3)** | | | |
| **1.** | Atul Parshar | 2014BS15D | April, 2019 |
| **2.** | Kavita Rani | 2015BS07D | October, 2019 |
| **3.** | Dhinu Yadav | 2015BS09D | August, 2019 |
| **2020-21 (2)** | | | |
| **1.** | Jeniffer C. Masih | 2015BS08D | December, 2020 |
| **2.** | Aathira S. Kumar | 2016BS03D | June, 2020 |
| **2021-22 (3)** | | | |
| **1.** | Pankaj Sharma | 2017BS09D | October, 2021 |
| **2.** | Harpreet Kaur | 2016BS04D | October, 2021 |
| **3.** | Aastha | 2016BS05D | December, 2021 |
| **2022-23 (6)** | | | |
| **1.** | Satish Kumar | 2017BS10D | August, 2022 |
| **2.** | Rakhi | 2017BS11D | August, 2022 |
| **3.** | Savita Rani | 2017BS12D | August, 2022 |
| **4.** | Bharti | 2018BS06D | August, 2022 |
| **5.** | Gourav Chopra | 2018BS07D | August, 2022 |
| **6.** | Sonam Antil | 2018BS08D | August, 2022 |

***Annexure MBBB-I***

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| **2018-19** | | | | | |
|---|---|---|---|---|---|
| **M. Sc.- 06** | | | **Ph. D. -04** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Avinash | 2018BS5M | 1. | MedhaviVashisth | 2018BS9D |
| **2.** | Bhavya | 2018BS6M | 2. | Neeru Singh Redhu | 2018BS10D |
| **3.** | Swati Rani | 2018BS19M | 3. | Prexha | 2018BS11D |
| **4.** | Anuja | 2018BS20M | 4. | Sheetal Mehla | 2018BS13D |
| **5.** | Aryan Dhamija | 2018BS21M | | | |
| **6.** | Naveen | 2018BS23M | | | |
| **2019-20** | | | | | |
| **M. Sc.-03** | | | **Ph. D.-08** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Bharat Garg | 2019BS28M | 1. | Aarti Kamboj | 2019BS32D |
| **2.** | Bindu Bisla | 2019BS29M | 2. | Annu | 2019BS33D |
| **3.** | Deepak Kumar | 2019BS30M | 3. | DivyaTikaniya | 2019BS34D |
| | | | 4. | Kesineni Manorama | 2019BS35D |
| | | | 5. | Rita | 2019BS37D |
| | | | 6. | Ritu Garg | 2019BS38D |
| | | | 7. | Sanjay | 2019BS39D |
| | | | 8. | Yogita | 2019BS40D |
| **2020-21** | | | | | |
| **M. Sc.-06** | | | **Ph. D.-05** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Dushyant Gahalyan | 2020BS05M | 1. | Asha Rani | 2020BS37D |
| **2.** | Nisha | 2020BS07M | 2. | Neha | 2020BS39D |
| **3** | Parikha Banga | 2020BS30M | 3. | Reena Rani | 2020BS41D |
| **4.** | Raja Kumar | 2020BS31M | 4. | Renu | 2020BS42D |
| **5.** | Reena Sharma | 2020BS32M | 5. | Sourav Panigrahi | 2020BS43D |

| | | | | | |
|---|---|---|---|---|---|
| **6.** | Yama Keerthi Sree | 2020BS33M | | | |
| **2021-22** | | | | | |
| **M. Sc.-08** | | | **Ph. D.-08** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Gajendra K. | 2021BS07M | 1. | Anita | 2021BS31D |
| **2.** | Parmila | 2021BS09M | 2 | Anjali Jha | 2021BS32D |
| **3.** | Pooja | 2021BS10M | 3. | Aryan Dhamija | 2021BS33D |
| **4.** | Sheetal Dagar | 2021BS11M | 4. | Bharat Garg | 2021BS34D |
| **5.** | Aman Kumar | 2021BS36M | 5. | Mohan S. | 2021BS35D |
| **6.** | Kunal | 2021BS37M | 6. | Mohit | 2021BS36D |
| **7.** | Nikita | 2021BS38M | 7. | Shilpi | 2021BS37D |
| **8.** | KONDEPOGU MICHAEL JAMES LINGDOW | 2021BS37M | | | |
| **2022-23** | | | | | |
| **M. Sc.-06** | | | **Ph. D.-04** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| **1.** | Annu | 2022BT05M | 1. | Priyanka | 2022BT02D |
| **2.** | Monika | 2022BT06M | 2. | Raja Kumar | 2022BT03D |
| **3.** | Divya | 2022BT07M | 3. | Reena Sharma | 2022BT04D |
| **4.** | Poonam | 2022BT08M | | | |
| **5.** | Akash | 2022BT03M | | | |
| **6.** | Kiran | 2022BT04M | | | |

***Annexure MBBB-II***

## LIST OF STUDENTS ON ROLL PRESENTLY

| **Sr. no.** | **Name Admission no.** | **Guide** | **Title of research problem** |
|---|---|---|---|
| **M.Sc.** | | | |
| **1.** | Gajendra K 2021BS07M | Dr. Sudhir Kumar | Identification of potent inhibitors of cytokinin oxidase/dehydrogenase 2 (CKX2) Using Computational Approach |
| **2.** | Parmila 2021BS09M | Dr. Neeru Singh Redhu | Screening of natural compounds as potential neuroprotectants againstneurodegenerative disease through computational studies |
| **3.** | Pooja 2021BS10M | Dr. NavjeetAhalawat | Computational analysis of cytochrome p450 in pulses |
| **4.** | Sheetal Dagar 2021BS11M | Dr. Anil Panwar | *In silico* analysis of phytochemical compounds for optimizing the inhibitors of HMG CoA reductase through Molecular Docking and Simulation Studies |
| **5.** | Aman Kumar 2021BS36M | Dr. Nita Lakra | Physio-biochemical characterization of pearl millet [*Pennisetum glaucum* (L.)] genotypes under salinity stress |
| **6.** | K.Michaeljames 2021BS37M | Dr. Nita Lakra | Targeted metabolites and physio-biochemical characterization of rice (*Oryza sativa* L.) genotypes under salt stress and subsequent recovery |
| **7.** | Kunal 2021BS38M | Dr. Shikha Yashveer | Molecular Screening of maize genotypes for lysine, tryptophan and β-carotene using functional markers |

| | | | |
|---|---|---|---|
| **8.** | Nikita<br>2021BS40M | Dr. Upendra Kumar | Identification and characterization of Meta-QTLs, ortho-MQTLs and candidate genes for the traits associated with lodging tolerance in common wheat (*Triticum aestivum*). |
| **9.** | Akash Bansal<br>2022BT03M | Dr. Neeru Singh Redhu | Screening and identification of phytochemicals against tuberculosis disease through computational studies |
| **10.** | Kiran<br>2022BT04M | Dr NavjeetAhalawat | *In-silico* characterization and elastic network model-based normal mode analysis of plant cyclotides |
| **11.** | Annu<br>2022BT05M | Dr. Upendra Kumar | Root shoot interaction mediated stomatal conduction in maize under water deficit |
| **12.** | Monika<br>2022BT06M | Dr. Anil Panwar | Insights into the efficacy of phytochemicals as inhibitors of Angiotensin-Converting enzyme (ACE) for targeting hypertension |
| **13.** | Divya<br>2022BT07M | Dr. Nita Lakra | Metabolites and elemental analysis of KNAT7 transcription factor overexpression and knockdown in poplar stem wood. |
| **14.** | Poonam<br>2022BT08M | Dr. Shikha Yashveer | Molecular characterization of advanced wheatlines for iron, zinc and protein content |
| **15.** | K. Raghu<br>2022BT09M | Dr. Nita Lakra | Yet to finalize |
| | | **Ph.D.** | |
| **33.** | Rinku Chaudhary<br>2017BS21D | Dr. Pushpa Kharb | Dissecting the role of *Osruvb* transgene for salt tolerance in transgenic chickpea (*Cicer arietinum* L.) |
| **34.** | Neeru Singh Redhu<br>2018BS10D | Dr. Pushpa Kharb | *In silico* characterization and transcriptome analysis of transgenic pigeonpea [*Cajanus cajan* (L.) Millsp.] with *OsRuvB*gene for salt tolerance |
| **35.** | Prexha<br>2018BS11D | Dr. Upendra Kumar | Molecularcharacterization of wheat-*Aegilops* addition/substitution lines for grain β-glucancontent. |
| **36.** | Sheetal Mehla<br>2018BS13D | Dr. Upendra Kumar | Characterization and transcriptome analysis of transgenic pigeon pea (*Cajanus cajan* (L.) Millsp.) plants with *LecRLK* gene for salt tolerance. |
| **37.** | Aarti Kamboj<br>2019BS32D | Dr. Shikha Yashveer | Molecular characterization for targeting foliar blast disease in pearl millet [*Pennisetum glaucum* (L.) R.Br.] |
| **38.** | Annu<br>2019BS33D | Dr. Nita Lakra | Comparative proteome and metabolome analysis of Brassica genotypes in response to salt stress |
| **39.** | DivyaTikaniya<br>2019BS34D | Dr. Upendra Kumar | Molecular characterization of ALS inhibiting herbicide resistance in selected weeds of wheat crop |
| **40.** | Kesineni Manorama<br>2019BS35D | Dr. Nita Lakra | Comparative metabolite and protein profiling of rice genotypes under salt stress |
| **41.** | Rita<br>2019BS37D | Dr. Upendra Kumar | High resolution QTL mapping for grain β-glucan content and their introgression in WH1105 wheat variety (*Triticum aestivum* L.) |
| **42.** | Ritu Garg<br>2019BS38D | Dr. Shikha Yashveer | Physiological and molecular characterization of salt tolerant wheat lines having NAX loci |

| | | | |
|---|---|---|---|
| **43.** | Sanjay<br>2019BS39D | Dr. Shikha Yashveer | Molecular and biochemical characterization of wheat genotypes for resistance to karnal bunt (*Neovossia indica*) |
| **44.** | Yogita<br>2019BS40D | Dr. Upendra Kumar | Genome editing of rice (*Oryza sativa cv indica*) for silicon transporters *Lsi1* and *Lsi2*, using CRISPR/Cas9 system for lowering silicon uptake from soil. |
| **45.** | Asha Rani<br>2020BS37D | Dr. Nita Lakra | Isolation and screening of plant growth promoting rhizobacteria (PGPR) to mitigate the effects of drought stress in *Brassica juncea* L. |
| **46.** | Neha<br>2020BS39D | Dr. Nita Lakra | Deciphering genomic regions associated with the adaptation of wheat to the delayed planting and restricted irrigation conditions under the changing climate |
| **47.** | Reena Rani<br>2020BS41D | Dr. Shikha Yashveer | Identification and validation of target molecules of phytochemicals for anti-obesity activity |
| **48.** | Renu<br>2020BS42D | Dr. Upendra Kumar | Mapping QTLs to stripe rust for seedling and adult plant resistance in bread wheat |
| **49.** | Sourav Panigrahi<br>2020BS43D | Dr. Upendra Kumar | QTL mapping for high grain β-glucan content and their introgression in HD 3086 wheat variety (*Triticum aestivum* L.) |
| **50.** | Anita<br>2021BS31D | Dr. Shikha Yashveer | Impact of terminal drought and heat stress on phenylpropanoidbiosynthesis pathway in chickpea (*Cicer arietinum* L.) |
| **51.** | Anjali Jha<br>2021BS32D | Dr. Upendra Kumar | Genome wide linkage mapping of QTL for yield and component traits under moisture and heat stress in wheat |
| **52.** | Aryan Dhamija<br>2021BS33D | Dr. Upendra Kumar | Role of nano-sulfur for combating Fusarium wilt disease in chickpea (*Cicer arietinum* L.) and onion (*Allium cepa* L.) genotypes |
| **53.** | Bharat Garg<br>2021BS34D | Dr. Shikha Yashveer | Identification and validation of target molecules of phytochemicals for antidiabetic activity |
| **54.** | Mohan S.<br>2021BS35D | Dr. Nita Lakra | Characterization of BjWRI1 via overexpression and knock-down in *Brassica juncea* subsp. junceafor its role in increasing oil content |
| **55.** | Mohit<br>2021BS36D | Dr. Sudhir Kumar | Impact of titanium dioxide(TiO2) nanoparticles on Lentils (Lens culinaris) under salinity stress. |
| **56.** | Shilpi<br>2021BS37D | Dr. Sudhir Kumar | Impact of iron oxide nanoparticles on molecular, biochemical and physiological parameters of wheat |
| **57.** | Nisha<br>2022BT01D | Dr. NavjeetAhalawat | Yet to finalize |
| **58.** | Priyanka<br>2022BT02D | Dr. Shikha Yashveer | Identification of microRNA targets for iron and zinc homeostasis in wheat (*Triticum aestivum* L. em. Thell) |
| **59.** | Raja Kumar<br>2022BT03D | Dr. Shikha Yashveer | Studies on the epitranscriptomic regulation of foot-and-mouth disease virus replication |
| **60.** | Reena Sharma<br>2022BT04D | Dr. Shikha Yashveer | Biofortification potential of rhizobacteria for improvement in growth, yield and Iron - Zinc content of *Triticum aestivum* |

***Annexure MBBB-III***

## STUDENTS PARTICIPATION IN SEMINAR/ CONFERENCES/WORKSHOPS *ETC*

| Sr. no. | Name of student and admn no. | Oral/ Poster | Seminar/ Conference/Workshop details |
|---|---|---|---|
| **Ph.D.** | | | |
| 1. | Prexha 2018BS11D | Poster | National Workshop on "Biodiversity issues: challenges and opportunities", from 16-17 July, 2019, at Department of Zoology, Chaudhary Charan Singh Haryana Agricultural University, Hisar, Haryana, India. |
| 2. | Prexha 2018BS11D | Poster | International Workshop on "Use of advanced biotechnological techniques for crop improvement", from 24 June- 03 July, 2019 at Department of MBB&B, Chaudhary Charan Singh Haryana Agricultural University, Hisar, Haryana, India. |
| 3. | Prexha 2018BS11D | Poster | National Workshop on "Clinical and translational research on bacteriophages as promising antimicrobial alternatives for therapeutics, prophylaxis and food safety", from 29-31 July, 2019 at National centre for veterinary type cultures, Hisar, Haryana, India. |
| 4. | Yogita 2019BS40D | - | National Workshop on "Plant Proteomics", from 23-27 December 2019 at the Department of Botany, University of Delhi, New Delhi, India. |
| 5. | Divya Tikaniya 2019BS34D | Poster | Symposium on "Cereals for food security and climate resilience", from 18-20 January, 2022 at SAWBAR, Karnal, Haryana, India. |
| 6. | Prexha 2018BS11D | Poster | |
| 7. | Bharat Garg 2021BS34D | Oral | 2nd International Conference on "Recent advances in biotechnology and nanobiotechnology", from 10-11 February, 2022 at Amity University, Gwalior, Madhya Pradesh, India. |
| 8. | Deepak Kumar 2019BS30M | Poster | International Conference on "Physiological and molecular mechanisms of abiotic stress tolerance in plants"' from 26-28, 2022 at Department of Botany, University of Calicut, Kerala, India. |
| 9. | Reena Sharma 2020BS32M | Poster | National Seminar on "Recent advances and innovations in biological and applied sciences (RAIBAS 2022)", from June 14-16, 2022 at ICAR-Central Soil Salinity Research Institute, Karnal, Haryana, India. |
| 10. | Sheetal Mehla 2018BS13D | Oral | National Conference on "Agriculture, applied and life sciences: current research", from 18-19 November, 2022 at Uttarakhand Open University, Haldwani, Nainital, Uttarakhand, India. |
| 11. | Bharat Garg 2021BS34D | Poster | International Conference on "Global research initiatives for sustainable agriculture and allied sciences", from 20-23 November, 2022 at Birsa agricultural university, Ranchi, Jharkhand, India. |
| 12. | Prexha 2018BS11D | Poster | The Importance of β-Glucan in Wheat: A Crucial Dietary Fiber for Human Health" International web Conference on "Cereals for Food Security and Climate Resilience", January 18-20, 2022, SAWBAR and ICAR-IIWBR, Karnal. |
| 13. | Annu Luhach 2019BS33D | Poster | Morpho-physiological and biochemical traits in *Brassica juncea* (L.) Czern&Coss in response to salt stress. International Conference on "Climate Resilient Agriculture for Food Security and Sustainability". 17-19 Feb 2023, CCS Haryana Agricultural University, Hisar. |
| | | | Response of Indian mustard genotypes under different salt |

| | | | |
|---|---|---|---|
| | | | concentrations at Flowering stage. International conference on Biotechnology and Human Welfare: Vision 2030 and Beyond (ICBHW-2023), March 3-4 2023, CDLU, Sirsa. |
| 14. | Asha Rani 2020BS37D | Poster | Effects of drought stress on morpho-physiological and biochemical traits of different varieties of *Brassica juncea* (L.). International Conference on "Climate Resilient Agriculture for Food Security and Sustainability". 17-19 Feb 2023, CCS Haryana Agricultural University, Hisar. pp 641 |
| 15. | Kesineni Manorama | Poster | Physiological ability of rice genotypes in response to salt stress. International Conference on Biotechnology and Human welfare: vision 2030 and Beyond (ICBHW- 2023), March 3-4, CDLU, sirsa |
| 16. | Prexha 2018BS11D | Poster | Evaluation of grain β-glucan in a panel of Triticum and Aegilops genotypes and expression analysis of cellulose synthase-like genes in wheat' has been awarded BestPoster Presentation at the International Conference on Food and Nutritional Security (IFANS-2023) January 6-9, 2023, NABI, Mohali. |

***Annexure MBBB-IV***

## STUDENT PARTICIPATION IN TRAININGS

| Sr. No. | Name of student and admn no. | Duration | Title |
|---|---|---|---|
| 1. | Prexha 2018BS11D | 24.08.2018 | Training on "Elsevier empowering agriculture research in India in association with CeRA", at CCS Haryana Agricultural University, Hisar,Haryana, India. |
| 2. | Prexha 2018BS11D | 10.01.2019 to 11.01.2019 | Training on "Basic and advanced analytical instrumentation in plant physiology", at CCS Haryana Agricultural University, Hisar,Haryana, India. |
| 3. | Prexha 2018BS11D | 1.11.2019 to 11.11.2019 | Training on "High dimensional genome data analysis by R and open-source tools", at ICAR-IASRI, New Delhi, India. |
| 4. | Sourav Panigrahi 2020BS43D | 23.05.2022 to 06.06.2022 | International Workshop cum Hands on Training on 'Genome editing approaches for crop improvements' at Department of Molecular Biology &Biotechnology, CCSHaryana Agricultural University, Hisar,Haryana, India. |
| 5. | Yogita 2019BS40D | 23.05.2022 to 06.06.2022 | |
| 6. | Mohan. S 2021BS35D | 23.05.2022 to 06.06.2022 | |
| 7. | Prexha 2018BS11D | 23.05.2022 to 06.06.2022 | |

*Annexure MBBB-V*

## PLACEMENTS RECORD

| Sr. no. | Name of Student(s) | Placements (duration 2018-2023) |
|---|---|---|
| 1 | Dr. Sonali Sangwan | Assistant Professor, MMU, Mullana |
| 2 | Dr. Vivekanand | Assistant Professor, College of AgrilBiotechnology,VNMKV, Parbhani |
| 3 | Dr. Medhavi | SRF, NRC, Hisar |
| 4 | Dr. Dinesh | |
| 5 | Dr. Kanika | SRF,Equine Centre, Hisar |
| 6 | Dr. Nisha | |
| 7 | Dr. Vijeta | SRF, ICAR-Indian Institute of Wheat and Barley Research, Karnal |
| 8 | Dr. Sheetal Mehla | |

*Annexure MBBB-VI*

## NAME OF STUDENTS GOT FELLOWSHIPS

| Sr. no. | Name | CSIR-NET JRF | Sr. no. | Name | CSIR-NET JRF |
|---|---|---|---|---|---|
| 1. | Rinku Chaudhary 2017BS21D | HSCST | 9. | Reena Rani 2020BS41D | CSIR-NET JRF |
| 2. | Prexha 2018BS11D | HSCST | **10.** | Sourav Panigrahi 2020BS43D | DBT-JRF |
| 3. | Sheetal Mehla 2018BS13D | CSIR-NET SRF | **11.** | Anita 2021BS31D | DBT-JRF |
| 4. | Rita 2019BS17D | CSIR-NET SRF | **12.** | Asha Rani 2020 BS37D | HSCSIT JRF |
| 5. | DivyaTikania 2019BS34D | CSIR-NET SRF | 13. | Bharat Garg 2021BS34D | DBT JRF |
| 6. | Yogita 2019BS40D | ICAR-SRF | 14. | Mohit 2021BS36D | CSIR-NET JRF |
| 7. | Kesineni Manorama 2019BS35D | HSCST | 15. | Shilpi 2021BS37D | CSIR-NET JRF |
| 8. | Raja Kumar 2020BS31M | CSIR-NET JRF | 16. | K.Michael james- | ICAR NTS |

*Annexure MBBB-VII*

## NAME OF STUDENTS CLEARED NET, ARS, GATE OR ANY OTHER EXAMINATION

| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|
| 4 | **4** | **3** | **3** | **4** | **18** |
| Name of the student | **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | |
| **Sonali Sangwan 2015BS18D** | Hembade Vivekanand Laxman 2017BS19D | Parkash Naryan Tiwari 2017BS58M | Ritu Garg 2019BS38D | Rinku Chaudhary 2017BS21D | |
| **Pooja 2017BS23D** | DivyaTikaniya 2019BS34D | Medhavi 2018BS9D | Bharat Garg 2021BS34D | Mohit 2021BS36D | |

| | | | | | |
|---|---|---|---|---|---|
| **Prexha 2018BS11D** | Rita 2019BS37D | Sourav Panigrahi 2020BS43D | Anita 2021BS35D | Shilpi 2021BS37D | |
| **Sheetal Mehla, 2018BS13D** | Yogita 2019BS40D | | | Reena Rani 2022BT04D | |

***Annexure MBBB-VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| Year | Name of student | Name of Fellowship |
|---|---|---|
| 2018-19 | Pooja | CSIR-NET SRF |
| | Rinku Chaudhary | UGC-NET SRF |
| 2019-20 | Yogita | CSIR-NET SRF |
| | Rita | |
| | DivyaTikaniya | |
| 2020-21 | Sourav Panigrahi | DBT-JRF |
| | Prexha | HSCST |
| | Sheetal Mehla | |
| 2021-22 | Anita | DBT-JRF |
| | Bharat Garg | |
| 2022-23 | Mohit | CSIR-NET JRF |
| | Shilpi | |
| | Reena Rani | |

***Annexure MBBB-IX***

## STUDENTS PUBLICATIONS

| Sr. No. | Title of the paper/book | NAAS rating |
|---|---|---|
| | **M.Sc.** | |
| | 2018-2019 | |
| 1. | Varsha, Verma, P., Saini, P., Singh, V. and Yashveer, S. (2019). Genetic variability of wheat (*Triticum aestivum* L.) genotypes for agro-morphological traits and their correlation and path analysis. *Journal of Pharmacognosy and Phytochemistry*, **8(4):** 2290-2294. | 5.57 |
| 2. | Rani, G., Gupta, N., Redhu, N. S. and Kumar, S. (2018). Ecdysone act as a growth regulators hormone. *International Journal of Conservation Science*, **6(3):** 3170-3172. | 5.31 |
| 3. | Rani, G., Gupta, N., Redhu, N. S. and Kumar, S. (2018). Phylogenetic and comparative analysis of Drosophila melanogaster ecdysone receptor. International Journal of Conservation Science,6(5): 2083-2091. | 5.31 |
| | **2019-2020 (Nil)** | |
| | **2020-2021** | |
| 4. | Mamatha, Y. S., Redhu, S., Neeru and Sudhir, K. (2020). Structural and molecular dynamics studies of UDP glucose pyrophosphorylase dimerization in rice (*Oryza sativa* L). *International Journal of Pure and Applied Bioscience*, **8(5):** 258-267. | - |
| | **2021-2022** | |
| 5. | Sharma, S., Singh, V., Mor, V.S., Punia, R.C., Hemender, H., Yashveer, S., Khan, M. and Sangwan, S. (2021). Genetic variability and diversity analysis in wheat (*Triticum spp*.) genotypes using multivariate techniques. *The Indian Journal of Agricultural Sciences*, **91(11):** 1684-89. | 6.37 |
| 6. | Anu, Singh, V., Yashveer, S., Niwas, R., Yadav, S., Singh, V. and Yadav, S. (2021). Genotypic and phenotypic interrelationships of yield related traits in bread wheat (*Triticum aestivum*). | 6.37 |

| | | |
|---|---|---|
| | *Indian Journal of Agricultural Sciences*, **91(4)**:587-591. | |
| | **2022-2023** | |
| 7. | Garg, B., Yashveer, S., Jayanti Tokas, A., Singla, P. and Duhan, J. (2022). Best stage to study stress conditions biochemically: Vegetative or maturity stage? *The Pharma Innovation Journal*. **11(10S):** 728-732. | - |
| **Ph.D.** | | |
| | **2018-2019** | |
| 8. | Monika, Yadav, R. C., Yadav, N. R., Avtar, R. and Singh, D. (2019). Phenological trait evaluation and correlation studies yield and its components in parents and F2 progeny lines of Indian mustard (*Brassica juncea* L.). *Journal of Oilseed Brassica,***10(1):** 14-20. | 4.77 |
| 9. | Jangra, S., Rani, A., Yadav, R.C., Yadav, N. R. and Yadav D.V. (2019). Introgression of terminal drought stress tolerance in advance lines of popular pearl millet hybrid through molecular breeding. Plant Physiology Reports, 24: 359–369. | 5.50 |
| 10. | Neha and Kharb, P. (2019). Psp68, a dead box helicase confers salinity tolerance in transgenic Pigeon Pea. *International Journal of Current Microbiology and Applied Science*, **8(04):** 309-324. | - |
| 11. | Sangwan, S., Yashveer, S., Kumar, R., Hemender, Sharma, S. and Redhu, N. (2019). Multi trait analysis reveals substantial diversity in pearl millet [*Pennisetum glaucum* (L.) R. Br.] inbred lines. *Journal of Experimental Biology and Agricultural Sciences*, **7(4):** 358-375. | - |
| 12. | Anu, Singh, V., Yashveer, S., Niwas, R., Malik, P., Arpit, Dey, S. and Ahlawat, U. (2019). Assessment of Genetic Variability, Heritability and Genetic Advance for Grain Yield and Its Contributing Traits in Wheat (*Triticum aestivum*). *International Journal of Current Microbiology and Applied Sciences*, **8(8):** 1169-1174. | - |
| 13. | Mehta, K., Baliyan, N., Meena, R.K. and Yashveer, S. (2019). Evaluation of resistance of rice genotypes derived from the cross between HKR-47 and IRBB-60 against bacterial blight caused by *Xanthomonas oryzaepv*. *International Journal of Current Microbiology and Applied Sciences*, **8(9):** 2755-2765. | - |
| 14. | Passricha, N., Saifi, S.K., Kharb, P. and Tuteja, N. (2019). Marker-free transgenic rice plant overexpressing pea LecRLK imparts salinity tolerance by inhibiting sodium accumulation. *Plant Molecular Biology*. https://doi.org/10.1007/s11103-018-0816-8 | 10.08 |
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| 16. | Passricha, N., Saifi, S., Kharb, P., and Tuteja, N. (2019). Rice lectin receptor-like kinase provides salinity tolerance by ion homeostasis. *Biotechnology and Bioengineering*. **117:** 10.1002/bit.27216. | 10.53 |
| 17. | Dube, D., Ahalawat, N., Khandelia, H., Mondal, J. and Sengupta, S. (2019). On identifying collective displacements in apo-proteins that reveal eventual binding pathways. PLoSComputBiol, 15, e1006665. | 10.78 |
| 18. | Rani R., Singh, R. and Yadav, N.R. (2019). Evaluating stripe rust resistance in Indian wheat genotypes and breeding lines using molecular markers. *Comptes Rendus Biologies*, **342**(5-6)**:** 154-174. | 7.58 |
| 19. | Chaudhary, V., Jangra S. and Yadav N.R. (2018). Nanotechnology based approaches for detection and delivery of microRNA in healthcare and crop protection. *Journal of Nanobiotechnology*, **16(40):** 1-18. | 16.44 |
| 20. | Patel R., Yadav R.C., Avtar R., Jangra S., Boken G.D., Singh B. and Yadav N.R. (2018). Genetic diversity analysis for salinity tolerance in Indian mustard [*Brassica juncea* (L.)] using SSR markers. *International Journal of Current Microbiology & Applied Science*, **7(1):** 1776-1785. | - |
| 21 | Taunk J., Sehgal D., Yadav N.R., Howarth C., Yadav, R. C. and Yadav R.S. (2018). Mapping of easy to screen SSR markers for selection of RFLP markers-bracketed downy mildew | 7.91 |

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|---|---|---|
| | resistance QTLs in pearl millet. *European Journal of Plant Pathology* (online first) https://doi.org/10.1007/s10658-017-1381-8 | |
| 22. | Saini P., Kamboj D., Yadav R. C. and Yadav N.R. (2019). SRAPs and EST-SSRs provide useful molecular diversity for targeting drought and salinity tolerance in Indian mustard. *Molecular Biology Reports.* https://doi.org/10.1007/s11033-019-04590-4. | 8.73 |
| 23 | Yadav, S.,Yashveer, S., Solanki, Y.P.S. and Singh, V. (2018). Phenotyping and microsatellite marker analysis of HD 2851 (salt sensitive) × Kharchia 65 (salt tolerant) F2 population for salinity tolerance. *Indian Journal of Plant Physiology*, 23(1): 57–64. | 5.50 |
| 24. | Hemender, Yashveer, S., Sangwan, V.P.S., Sharma, S. and Mor, V.S. (2018). Molecular Diversity Analysis based on 4 Microsatellite Markers in Pearl millet Hybrids [*Pennisetum glaucum* (L.) R. Br.] and their Parental Lines. *Indian Journal of Ecology*, **45(1)**:146-151. | 5.79 |
| 25 | Chaudhary, S., Yashveer, S., Dinesh, Prajapati, D.R., Kharb, P. and Kamboj, M.C. (2018). Utilization of SSR markers for seed purity testing in popular maize hybrids. *International Journal of Current Microbiology and Applied Sciences*,**7(4):** 1117-1126. | - |
| 26. | Taunk J., Rani A., Yadav N. R, Yadav D. V., Yadav R. C., Raj K., Kumar R. and Yadav H. P. (2018). Molecular breeding of ameliorating commercial pearl millet hybrid for downy mildew resistance. *Journal of Genetics*, https://doi.org/10.1007/s12041-018-1016-7. | 7.17 |
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| 27. | Varsha, Yashveer, S., Singh, V., and Verma, P., (2020). Phenotyping and molecular marker analysis of WH1105 and Kharchia 65 backcrosses and F4 progenies of wheat for salinity tolerance. *International Journal of Agriculture Sciences*, **12(12):** 9995 – 10000. | 4.73 |
| 28. | Preeti and Kharb, P. (2020). Engineering chickpea variety HC-1 with OsRuvB gene for salt stress tolerance. *Legume Research*. ID.ARCC/LR-4317 | 6.59 |
| 29. | Devi N., Rani, K., Kharb, P. and Prasad M. (2020). Herbal Medicine for Urinary Tract Infections with the Blazing Nanotechnology. *Journal of Nanoscience and Nanotechnology*, **20:** DOI:10.1166/jnn.2020.19002 | 7.28 |
| 30. | Rani, K., Devi, N., Vinod, S. and Kharb, P. (2020). Glycyrrhiza glabra: An insight to nanomedicine. *Journal of Nanoscience and Nanotechnology*, **20**: doi:10.1166/jnn.2020.19007 | 7.28 |
| 31. | Singh, R., Sharma, S., Kharb, P., Saifi, S. and Tuteja, N. (2020). OsRuvB transgene induces salt tolerance in pigeon pea. *Journal of Plant Interactions*, **15(1):**17-26. | 10.21 |
| 32. | Verma, S., Yashveer, S., Rehman, S., Gyawali, S., Kumar, Y., Chao, S., Sarker, A. and Verma, R.P.S. (2020). Genetic and Agro-morphological diversity in global barley ( *Hordeum vulgare L.*) collection at ICARDA. *PlantGenetic Resources and Crop Evolution*, **68(4):** 1315–1330. | 7.52 |
| | **2020-2021** | |
| 33. | Preeti and Kharb, P. (2021). Engineering chickpea variety hc-1 with *osruvb* gene for salt stress tolerance. *Legume Research*, doi: 10.18805/LR-4317 | 6.59 |
| 34. | Sihag, P., Sagwal, V., Kumar, A., Balyan, P., Mir, R. R., Dhankher, O. P. and Kumar, U. (2021). Discovery of miRNAs and development of heat-responsive miRNA-SSR markers for characterization of wheat germplasm for terminal heat tolerance breeding. *Frontiers in Genetics*, **12:** 699420. doi: 10.3389/fgene.2021.699420 | 10.77 |
| | **2021-2022 (Nil)** | |
| | **2022-2023** | |
| 35. | Bisht, D., Kumar, N., Singh, Y., Malik, R., Dhaka, N.S., Pal, N., Balyan, P., Mir, R.R., Singh, V.K., Dhankher, O.P., Kumar, U. and Kumar, S. (2022). Effect of stem structural characteristics and cell wall components related to stem lodging resistance in a newly identified mutant of hexaploid wheat (*Triticum aestivum* L.). Frontiers in Plant Science. doi: 10.3389/fpls.2022.1067063. | 12.67 |
| 36. | Kumar, V., Sharma, H., Saini, L., Tyagi, A., Jain, P., Singh, Y., Balyan, P., Kumar, S., Mir, R.R., Singh, K.P., Kumar, U. and Malik V. (2022). Phylogenomic analysis of 20S proteasome gene family reveals stress-responsive patterns in rapeseed (*Brassica napus* L.). *Frontiers in Plant Science*. doi: 10.3389/fpls.2022.1037206. | 12.67 |

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| 38. | Vashisth, M., Yashveer, S., Jaglan, A.B., Virmani, N., Bera, B.C., Vaid, R.K. and Anand, T. (2022). Synergy of a virulent phage (φAB182) with antibiotics leading to successful elimination of biofilms formed by MDR *Acinetobacter baumannii*. *Canadian Journal of Microbiology*. DOI: 10.1139/cjm-2022-0080. | 9.22 |
| 39. | Vashisth, M., Yashveer, S., Anand, T., Virmani, N., Bera, B.C. and Vaid, R. K. (2022). Antibiotics targeting bacterial protein synthesis reduce the lytic activity of bacteriophages. *Virus Research*, **321**: 2101-2107. | 12.28 |
| 40. | Mehla, S., Kumar, U., Kapoor,P., Singh, Y., Sihag, P., Sagwal,V., Balyan, P., Kumar, A., Ahalawat,N., Lakra, N., Singh, K.P., Mir, R.R. and Dhankher, O.P. (2022). Structural and functional insights into the candidate genes associated with different developmental stages of flag leaf in bread wheat (*Triticum aestivum* L.). *Frontiers in Genetics*,**13**: 933560. | 10.77 |
| 41. | Kapoor, P., Dhaka, R.K., Sihag, P., Mehla, S., Sagwal, V., Singh, Y., Langaya, S., Balyan, P., Singh, K.P., Xing, B., White, J.C., Dhankher, O. P. and Kumar, U. (2022). Nanotechnology-enabled biofortification strategies for micronutrient enrichment of food crops: Current understanding and future scope. *Nano Impact*, **26:** 100407. | 12.03 |
| 42. | Sagwal, V., Sihag, P., Singh, Y., Mehla, S., Kapoor, P., Balyan, P., Kumar, A., Mir, R.R., Dhankher, O.P. and Kumar, U. (2022). Development and characterization of nitrogen and phosphorus use efficiency responsive genic and miRNA derived SSR markers in wheat. *Heredity*, **128(6):** 391-401. | 10.82 |
| 43. | Vashisth, M., Yashveer, S., Anand, T., Virmani, N., Bera, B.C. and Vaid, R. K. (2022). Antibiotics targeting bacterial protein synthesis reduce the lytic activity of bacteriophages. *Virus Research*, **321:** 198909. | 9.30 |
| 44. | Rani, K., Devi, N., Banakar, P., Kharb, P. and Kaushik, P. (2022). Nematicidal potential of green silver nanoparticles synthesized using aqueous root extract of *Glycyrrhiza glabra*. *Nanomaterials*, **12(17):** 2966. | 11.71 |
| 45. | Devi, N., Rani, K., Kharb, P. and Kaushik, P. (2022). Bio-fabrication of *Euryale ferox* leaf silver nanoparticles and their antibacterial, antioxidant andcytotoxic potential. *Plants*, **11(20):** 2766. | 10.65 |
| 46. | Vijeta Sagwal, Pooja Sihag, Ankush Kumar, Sapna Yadav, Ritu Khasa, Sushma Kumari Pawar, Swati Sharma and Upendra Kumar* (2022) Approaches to Improve Nitrogen and Phosphorous use Efficiency in Wheat *Biological Forum – An International Journal*. **4(4a)**: 572-580 | 5.24 |
| 47. | Pooja Sihag, Vijeta Sagwal and Upendra Kumar (2023) physiological, biochemical and molecular changes under heat stress in bread wheat. *Journal of Plant Development Sciences*. 15(1):9-16. | 5.11 |
| 48. | Vijeta Sagwal, Upendra Kumar, Pooja Sihag, Yogita Singh, Priyanka Balyan, Krishna Pal Singh (2023) Physiological traits and expression profile of genes associated with nitrogen and phosphorous use efficiency in wheat. *Molecular Biology Reports* DOI : 10.1007/s11033-023-08413-5 | 8.75 |
| 49. | Pooja Sihag, Upendra Kumar, Vijeta Sagwal, Prexha Kapoor, Yogita Singh, Sheetal Mehla, Priyanka Balyan, Reazul Rouf Mir, Rajeev K Varshney, Krishna Pal Singh, Om Parkash Dhankher (2022) Effect of terminal heat stress on osmolyte accumulation and gene expression during grain filling in bread wheat (*Triticum aestivum* L.) *The Plant Genome* DOI: 10.1002/tpg2.20307 | 11.82 |
| 50. | Vashisth, M., Jaglan, A.B., Yashveer, S., Sharma, P., Bardajatya, P., Virmani, N., Bera, B.C., Vaid, R.K. and Anand, T., 2023. Development and Evaluation of Bacteriophage Cocktail to Eradicate Biofilms Formed by an Extensively Drug-Resistant (XDR) *Pseudomonas aeruginosa*. *Viruses*, *15*(2), p.427. | 11.82 |

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| 51 | Vashisth, M., Yashveer, S., Jaglan, A.B., Virmani, N., Bera, B.C., Vaid, R.K. and Anand, T., 2022. Synergy of a virulent phage (φAB182) with antibiotics leading to successful elimination of biofilms formed by MDR Acinetobacter baumannii. *Canadian Journal of Microbiology*, *68*(12), pp.731-746. | 9.23 |

***Annexure MBBB-X***

## LIST OF PASS OUT STUDENTS (M.SC)

| **2018-19 (4)** | | | |
|---|---|---|---|
| **S. no.** | **Name of students** | **Admn. No.** | **Duration** |
| 1. | Varsha | 2016BS22M | July, 2018 |
| 2. | Naina Kumai | 2016BS25M | June, 2018 |
| 3. | Manisha | 2016BS27M | August, 2018 |
| 4. | Ritu Jakhar | 2016BS28M | June, 2018 |
| **2019-20 (09)** | | | |
| 1. | Agrim Jhiltha | 2017BS42M | September, 2019 |
| 2. | Bhawna | 2017BS44M | August, 2019 |
| 3. | Alka Rani | 2017BS45M | July, 2019 |
| 4 | Priyanka Verma | 2017BS47M | August, 2019 |
| 5 | Pooja Saini | 2017BS48M | August, 2019 |
| 6 | Aarti Kamboj | 2017BS49M | July, 2019 |
| 7 | Mamtha Y.S. | 2017BS52M | June, 2019 |
| 8 | Stel Bishnoi | 2017BS53M | August, 2019 |
| 9 | Prakash Naryan Tiwari | 2017BS58M | June, 2019 |
| **2020-21(4)** | | | |
| 1 | Avinash | 2018BS05M | October ,2020 |
| 2 | Bhavya | 2018BS06M | October ,2020 |
| 3 | Aryan Dhamija | 2018BS21M | September, 2020 |
| 4 | Swati Rani | 2018BS24M | September, 2020 |
| **2021-22 (4)** | | | |
| 1 | Anuja | 2018BS20M | April, 2021 |
| 2 | Bharat Garg | 2019BS28M | September, 2021 |
| 3 | Bindu Bisla | 2019BS29M | August, 2021 |
| 4 | Deepak Kumar | 2019BS30M | October ,2021 |
| **2022-23 (5)** | | | |
| 1 | Nisha | 2020BS07M | August, 2022 |
| 2 | Parikha Banga | 2020BS30M | August, 2022 |
| 3 | Raja Kumar | 2020BS31M | August, 2022 |
| 4 | Reena Sharma | 2020BS32M | August, 2022 |
| 5 | Yama Keerthi Sree | 2020BS33M | August, 2022 |

***Annexure MBBB-XI***

## LIST OF PASS OUT STUDENTS (PH.D.)

| 2018-19 (10) | | | |
|---|---|---|---|
| S. No. | **Name of students** | **Admn. No.** | **Duration** |
| 1 | Reema Rani | 2011BS17D | October ,2018 |
| 2 | Disha Kamboj | 2013BS24D | August, 2018 |
| 3 | Priti | 2013BS26D | October ,2018 |

| | | | |
|---|---|---|---|
| 4 | Sunita Devi | 2013BS27D | December, 2018 |
| 5 | Smit Jangra | 2013BS28D | December, 2018 |
| 6 | Gangan Deep | 2014BD01D | September, 2018 |
| 7 | Neha | 2014BS23D | July, 2019 |
| 8 | Rakishta Singh | 2014BS24D | November, 2018 |
| 9 | Bhoyar Pratik Istari | 2013BS25D | August, 2018 |
| 10 | Preeti | 2014BS37D | October ,2018 |
| 2019-20(2) | | | |
| 1 | Pratibha | 2013BS29D(R) | November, 2019 |
| 2 | Vrantika Chaudhary | 2014BS25D | September, 2019 |
| 2020-21(1) | | | |
| 1 | Rizwana | 2015BS19D | May, 2020 |
| 2021-22 (9) | | | |
| 1 | Sonali Sangwan | 2015BS18D | February, 22 |
| 2 | Swati Verma | 2016BS4D | July, 2021 |
| 3 | Dinesh | 2016BS13D | January, 2022 |
| 4 | Hemmbade Vivekanand Laxman | 2017BS19D | December, 2021 |
| 5 | Vijeta | 2017BS22D | April, 2022 |
| 6 | Pooja | 2017BS23D | April, 2022 |
| 8 | Shalu | 2016BS12D | February, 2022 |
| 9 | Ritu Khasa | 2017BS20D | April, 2022 |
| 2022-23 (6) | | | |
| 1 | Medhavi Vashisht | 2018BS09D | September, 2022 |
| 2 | Sheetal Mehla | 2018BS13D | February, 2023 |
| 3 | Rinku Chaudhary | 2017BS21D | March, 2023 |
| 4 | Neeru Singh Redhu | 2018BS10D | March, 2023 |
| 5 | Prexha Kapoor | 2018BS14D | March, 2023 |
| 6 | Kritika Sharma | 2017BS24D | March, 2023 |

***Annexure PHY-I***

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| **2018-19** | | | **2018-19** | | |
|---|---|---|---|---|---|
| M.Sc. -03 | | | **Ph.D (NIL)** | | |
| Sr. no. | **Name** | **Admission no.** | | | |
| 1 | Annu Sheokand | 2018BS25M | | | |
| 2 | Ashima Rani | 2018BS26M | | | |
| 3 | Vanshika Gautam | 2018BS27M | | | |
| **2019-20** | | | | | |
| **M.Sc.-02** | | | **Ph.D.-03** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | Mohit | 2019BS32M | 1 | Priyanka | 2019BS41D |
| 2 | Sanju Rani | 2019BS33M | 2 | Raman Devi | 2019BS42D |
| | | | 3 | Suman Rani | 2019BS43D |
| **2020-21** | | | | | |
| **M.Sc.-03** | | | **Ph.D.-02** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | Meena | 2020BS34M | 1 | Smriti Sihag | 2020BS44D |
| 2 | Bhawna | 2020BS35M | 2 | Sunil Kumar | 2020BS45D |

| | | | | | |
|---|---|---|---|---|---|
| 3 | Deepika Rani | 2020BS36M | | | |
| **2021-22** | | | | | |
| **M.Sc.-03** | | | **Ph.D.-02** | | |
| Sr. no. | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | Janvi | 2021BS41M | 1 | Mamta | 2021BS38D |
| 2 | Jinesh | 2021BS42M | 2 | Poonam Rani | 2021BS39D |
| 3 | Pooja | 2021BS43M | | | |
| **2022-23** | | | | | |
| **M.Sc.-02** | | | **Ph.D.-03** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1 | Anchal | 2022BS27M | 1 | Annu Sheokand | 2022BS28D |
| 2 | Sonia | 2022BS28M | 2 | Sarita | 2022BS29D |
| | | | 3 | Vikram | 2022BS30D |

**Annexure PHY-II**

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. No. | Name | Guide | Title of research problem |
|---|---|---|---|
| **Ph. D.** | | | |
| 1 | Priyanka 2019BS41D | Dr. Paul Singh | Synthesis and evaluation of 2D nanomaterials for real field gas sensing applications |
| 2 | Raman Devi 2019BS42D | Dr. Vinay Kumar | Sustainable energy storage in supercapacitors using agro-waste materials |
| 3 | Suman Rani 2019BS43D | Dr. Rita Dahiya | Synthesis and characterization of chitosan based zeolite-NPK and micronutrient nanocomposite as smart fertilizer |
| 4 | Smriti Sihag 2020BS44D | Dr. Rita Dahiya | Synthesis and evaluation of metal oxide based nanocomposites for gas sensing applications |
| 5 | Sunil Kumar 2020BS45D | Dr. Vinay Kumar | Synthesis and characterization of metal sulphides @ graphene derivatives nanocomposites for hybrid supercapacitor applications |
| 6 | Mamta 2021BS38D | Dr. Vinay Kumar | Fabrication of smart electrodes from polyaniline/vandium oxide/CNTs forhigh-performance supercapacitors. |
| 7 | Poonam Rani 2021BS39D | Dr. Rita Dahiya | Synthesis of binary metal organic frameworks (MOF)/rGO composite based material for energy storage application |
| 8 | Annu Sheokand 2022BS28D | Dr. Vinay Kumar | Yet to finalize |
| 9 | Sarita 2022BS29D | Dr. Rita Dhaiya | Yet to finalize |
| 10 | Vikram 2022BS30D | Dr. Vinay Kumar | Yet to finalize |
| **M. Sc.** | | | |
| **1** | Janvi 2021BS41M | Dr. Vinay Kumar | To study morphological and optical properties of doped zinc sulfide |
| **2** | Jinesh 2021BS42M | Dr. Rita Dhaiya | Preparation and characterization of activated carbon from agro biomass |
| **3** | Pooja 2021BS43M | Dr. Paul Singh | Fabrication of thin film of Bismuth Telluride and study of its electrical properties |
| **4** | Anchal | Dr. Rita Dhaiya | Investigation of physico-chemical properties of biochar |

| | | | |
|---|---|---|---|
| | 2022BS27M | | synthesized from agri-wastes |
| **5** | Sonia 2022BS28M | Dr. Vinay Kumar | Study on dielectric properties of non-dairy milk for improving heat uniformity |

***Annexure PHY-III***

## STUDENTS PARTICIPATION IN SEMINAR/CONFERENCE/WORKSHOPS ETC.

| Sr. no. | Name of student and admn no. | Oral/ Poster | Seminar/ Conference/Workshop details |
|---|---|---|---|
| **M.Sc./ Ph.D.** | | | |
| 1 | Annu Sheokand 2015BS15M | Poster | International Conference on "New millennia agriculture novel trends and future scenario", from 6 -8 November, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 2 | Raman Devi 2019BS42D | | |
| 3. | Suman Rani 2019BS43D | | |
| 4 | Sunil Kumar 2020BS45D | Oral | International Conference on "Molybdenum Disulfide: A novel material for supercapacitor application", from 19-21 November, 2021 at Pandit Deendayal Energy University, Gandhinagar, Gujarat, India. |
| 5 | Smriti 2020BS44D | Oral | International Conference on "Investigation of structural and optical characteristics of CuO nanoparticles calcinated at various temperatures", from 20-21 December, 2021 at Indira Gandhi Delhi Technical University For Women, Delhi, India. |
| 6. | Sunil Kumar 2020BS45D | Oral | International Conference on "Development of Molybdenum Disulfide Supercapacitor Electrode in different Electrolytes for Electrochemical Analysis", from 10-11 May, 2021 at Indira Gandhi Delhi Technical University for Women, Delhi, India. |
| 7. | Raman Devi 2019BS42D | Oral | International Conference on "Synthesis of activated carbon by bio-waste materials and its application in super capacitor electrode", from 14-16 March, 2022 at Department of Physics, ARSD College, University of Delhi, India. |
| 8. | Priyanka 2019BS41D | Oral | International Conference on "Structural and morphological properties of $WS_2$ synthesized via hydrothermal method", from 18-19 May, 2022 at Dr B R Ambedkar NIT Jalandhar, Punjab, India. |
| 9. | Suman Rani 2019BS43D | | |
| 10. | Mamta 2021BS38D | Poster | 32nd Annual conference of Rajasthan Ganita Parishad on "Recent Advancement in Mathematical and Allied Science (RAMAS-2023)" from 25-26 March, 2023 at Department of Applied Sciences and Humanities, B K Birla Institute of Engineering & Technology, Pilani. |

***Annexure PHY-IV***

| **Students Participation in Trainings** | | | |
|---|---|---|---|
| **Sr. no.** | **Name of student and admn no.** | **Duration** | **Title** |
| **1.** | Raman Devi | 06.05.2022 | Training program on "Synergistic training program |

| | | | |
|---|---|---|---|
| | 2019BS42D | to 12.05.2022 | utilizing the scientific and technological infrastructure", at the Department of Physics, Aligarh Muslim University, Aligarh, Uttar Pradesh, India. |
| **2.** | Sunil Kumar 2020BS45D | | |
| **3.** | Mamta 2021BS38D | | |

***Annexure PHY-V***

## PLACEMENT RECORD

| Sr. no. | Name of student | Placements |
|---|---|---|
| **1** | Vanshika Gautam | Clerk in Haryana Government since 2020 |
| **2** | Sanju Rani | Clerk in Haryana Government since 2020 |

***Annexure PHY-VI***

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. no. | Name | Name of scholarship support | Sr. no. | | Name of scholarship support |
|---|---|---|---|---|---|
| 1. | Richa 2017BS32M | CCS HAU, Merit Fellowship | **13.** | Meena 2020BS36M | CCS HAU, Merit Fellowship |
| 2. | Mallo Devi 2017BS33M | | **14.** | Smriti Sihag 2020BS44D | UGC JRF |
| 3. | Raman Devi 2017BS34M | | **15.** | Sunil Kumar 2020BS45D | CCS HAU, Merit Fellowship |
| 4. | Mamta 2017BS35M | | **16.** | Mamta 2021BS38D | UGC JRF |
| 5. | Annu Sheokand2018BS25M | | **17.** | Poonam Rani 2021BS39D | CCS HAU, Merit Fellowship |
| 6. | Ashima Rani 2018BS26M | | **18.** | Janvi 2021BS41M | |
| 7. | Vanshika Gautam 2018BS27M | | **19.** | Pooja 2021BS43M | |
| 8. | Mohit 2019BS32M | | **20.** | Annu Sheokand 2022BS28D | UGC JRF |
| 9. | Priyanka 2019BS41M | UGC JRF | **21.** | Sarita 2022BS29D | UGC JRF |
| 10. | Raman Devi 2019BS42D | CCS HAU, Merit Fellowship | **22.** | Vikram 2022BS30D | UGC JRF |
| 11. | Suman Rani 2019BS43D | CSIR JRF | **23.** | Anchal 2022BS27M | CCS HAU, Merit Fellowship |
| 12. | Bhawna 2020BS34M | CCS HAU, Merit Fellowship | **24.** | Sonia 2022BS28M | |

***Annexure PHY-VII***

## NAME OF STUDENTS CLEARED NET/JRF/GATE OR ANY OTHER EXAMINATION

| 2019-20 | 2020-21 | 2021-22 | Total |
|---|---|---|---|
| **3** | **3** | **1** | **7** |
| **Name of the student** | **Name of the student** | **Name of the student** | |

| | | | |
|---|---|---|---|
| Raman Devi (2019BS42D) | Mamta (2021BS38D) | Annu Sheokand (2022BS28D) | |
| Mamta (2017BS35M) | Richa (2017BS32M) | | |
| Suman Rani (2019BS43D) | Ashima (2018BS26M) | | |

***Annexure PHY-VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| Year | Name of Student | Name of Fellowship |
|---|---|---|
| 2018-19 | Priyanka | UGC-NET SRF |
| 2019-20 | Suman Rani | CSIR-NET SRF |
| | Smriti Sihag | UGC-NET SRF |
| | Raman Devi | GATE |
| 2020-21 | Mamta | CSIR-NET JRF |
| 2021-22 | Vikram | |
| | Sarita | |
| | Annu Sheokand | |

***Annexure PHY-IX***

## PUBLICATIONS FROM M.SC./PH.D. STUDENTS

| Sr. no. | Title of the paper/book chapter | NAAS rating |
|---|---|---|
| | **M.Sc.** | |
| | **2019-20** | |
| 1 | Sheokand, A., Rani, R., Ashima., Kumar, V. and Dahiya, R. (2019). Assessment of water status in medicinal plants using nuclear technique. *Journal of Agricultural Physics*,**19(1):** 142-148**.** | 5.10 |
| | **2021-22** | |
| 2 | Devi, R., Singh, P., Mamta., Jeet, K. and Kumar, V. (2022). Temperature dependent dielectric properties of adulterated honey – A quality assessment measure for fraud detection. *Indian Journal of Pure and Applied Physics*,**60:** 209-217. | 6.82 |
| | **Ph.D.** | |
| | **2022-23** | |
| 1 | Devi, R., Kumar, V., Kumar, S., Jatrana, A., Agrawal, A. and Singh, P. (2022). Development of biochar-based functional materials for electrochemical supercapacitor applications. *ECS Transactions*, **107 (1):**7979-7986. | 6.64 |
| 2 | Sihag, S., Dahiya, R., Rani, S., Anushree., Kumar, A. and Kumar, V. (2022). Investigation of structural and optical characteristics of CuO nanoparticles calcinated at various temperatures. *Indian Journal of Chemical Technology*, **29 (5):** 578-582. | 6.57 |
| 3 | Devi, R., Kumar, V., Kumar, S., Sisodiya, A. K., Mishra, A. K., Jatrana, A., Kumar, A. and Singh, P. (2023). Development of activated carbon by bio waste material for application in supercapacitor electrodes. *Materials Letters*, 133830. | 9.5 |
| 4 | Kumar, V., Kumar, A., Priyanka., Sihag, S. and Jatrana, A. (2022). Two-Dimensional (2D) nanostructures for hazardous gas sensing applications. *Handbook of Green and Sustainable Nanotechnology*, **22**: 1-21. | - |

**Annexure PHY-IX**

## LIST OF PASS OUT STUDENTS (M.SC.)

| Sr. no. | Name of student | Admn. no. | Duration |
|---|---|---|---|
| **2018-19 (4)** | | | |
| 1. | Richa | 2017BS32M | July, 2019 |
| 2. | Mallo Devi | 2017BS33M | |
| 3. | Raman Devi | 2017BS34M | August, 2019 |
| 4. | Mamta | 2017BS35M | |
| **2019-20 (3)** | | | |
| 1. | Ashima Rani | 2018BS26M | October, 2020 |
| 2. | Annu Sheokand | 2018BS25M | |
| 3. | Vanshika | 2018BS27M | |
| **2020-21 (1)** | | | |
| 1. | Mohit | 2019BS32M | September, 2021 |
| **2021-22 (3)** | | | |
| 1. | Bhawna | 2020BS34M | September, 2022 |
| 2. | Deepika | 2020BS35M | |
| 3. | Meena | 2020BS36M | |

***Annexure PHY-XI***

## LIST OF PASS OUT STUDENTS (PH.D.): NIL
## (PH.D. PROGRAMME STARTED FROM 2019-2020

***Annexure SOC-I***

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| **2018-19** | | | | | |
|---|---|---|---|---|---|
| **M.Sc. (08)** | | | **Ph.D. (02)** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Deepika | 2018BS31M | 1. | Meenu | 2018BS17D |
| 2. | Dharamvir Punia | 2018BS32M | 2. | Sikha Bidhan | 2018BS19D |
| 3. | Monika Sarsana | 2018BS33M | | | |
| 4. | Nisha Yadav | 2018BS34M | | | |
| 5. | Pooja | 2018BS35M | | | |
| 6. | Pradeep Kumar | 2018BS36M | | | |
| 7. | Sunil Kumar | 2018BS37M | | | |
| 8. | Tanvi Sharma | 2018BS38M | | | |
| **2019-20** | | | | | |
| **M.Sc. (04)** | | | **Ph.D. (05)** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Kiran | 2019BS38M | 1. | Harvinder Kaur | 2019BS51D |
| 2. | Madan | 2019BS39M | 2. | Preeti Rani | 2019BS52D |
| 3. | Manisha | 2019BS40M | 3. | Priyanka Rani | 2019BS53D |
| 4. | Ravi Saharan | 2019BS41M | 4. | Sukriti | 2019BS54D |
| | | | 5. | Sushil Kumar | 2019BS55D |
| **2020-21** | | | | | |
| **M.Sc. (06)** | | | **Ph.D. (06)** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Agam Prasad Langan | 2020BS38M | 1. | Deepika | 2020BS50D |

| | | | | | |
|---|---|---|---|---|---|
| 2. | Ashu | 2020BS39M | 2. | Monika Sarsana | 2020BS51D |
| 3. | Ritu Punia | 2020BS40M | 3. | Priyanka Jakhar | 2020BS52D |
| 4. | Sahil Boora | 2020BS41M | 4. | Shital Das | 2020BS53D |
| 5. | Shiv Shakti | 2020BS42M | 5. | Sunil Kumar | 2020BS54D |
| 6. | Sushma Devi | 2020BS43M | 6. | Tanvi Sharma | 2020BS55D |
| **2021-22** | | | | | |
| **M.Sc. (04)** | | | **Ph.D. (08)** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Alina | 2021BS 47M | 1. | Amit Kumar | 2021BS43D |
| 2. | Kirti | 2021BS 48M | 2. | Era Lamba | 2021BS44D |
| 3. | Preeti | 2021BS 49M | 3. | Kushagra Prasad | 2021BS45D |
| 4. | Sanju | 2021BS 50M | 4. | Mandeep Bidhan | 2021BS46D |
| | | | 5. | Manisha | 2021BS47D |
| | | | 6. | Pradeep Kumar | 2021BS48D |
| | | | 7. | Rakhi Gupta | 2021BS49D |
| | | | 8. | Virender | 2021BS50D |
| **2022-23** | | | | | |
| **M.Sc. 05** | | | **Ph.D. 03** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Himanshi | 2022BS33M | 1. | Jyoti | 2022BS33D |
| 2. | Jyotika | 2022BS34M | 2. | Naseeb | 2022BS34D |
| 3. | Kartika Sangwan | 2022BS35M | 3. | Sahil Boora | 2022BS35D |
| 4. | Mamta Chahal | 2022BS36M | | | |
| 5. | Nirmal Raj | 2022BS37M | | | |

***Annexure SOC-II***

## LIST OF STUDENTS ON ROLL PRESENTLY

| Sr. no. | Name & Admission No. | Guide | Title of research problem |
|---|---|---|---|
| **Ph.D.** | | | |
| 1. | Meenu 2018BS17D | Dr. Vinod Kumari | Drudgery Reducing Technology And Changes in Life of Farm Women – A Sociological Analysis. |
| 2. | Sikha Bidhan 2018BS19D | Dr. Rashmi Tyagi | Socio-economic Factors Affecting Inter-gender Role of Dairy Farmers in Haryana. |
| 3. | Harvinder Kaur 2019BS51D | Dr. Vinod Kumari | Sociological Study on Adoption and Impact of Crop Residue Management on Farmers in Haryana |
| 4. | Preeti Rani 2019BS52D | Dr. Jatesh Kathpalia | Impact of Social Media on Student from Farming Families: A Sociological Studies |
| 5. | Priyanka Rani 2019BS53D | Dr. Rashmi Tyagi | Impact of Social Media on the Lifestyle of Rural Youth |
| 6. | Deepika 2020BS50D | Dr. Jatesh Kathpalia | Socio- economic Impact of Covid-19 on Farming Community in Haryana. |
| 7. | Monika Sarsana 2020BS51D | Dr. Rashmi Tyagi | Knowledge Regarding Child Rearing Practices and Problems of Anganwadi Workers in Rural and Urban |

| | | | |
|---|---|---|---|
| | | | Communities of Haryana. |
| 8. | Priyanka Jakhar 2020BS52D | Dr. Subhash Chander | Socio-Economic Impact of Debt on Tenants of Haryana and Rajasthan : A Comparative Analysis |
| 9. | Shital Das 2020BS53D | Dr. Vinod Kumari | Indebtedness among Marginal Farmers in Haryana- A Sociological Study |
| 10. | Sunil Kumar 2020BS54D | Dr. Jatesh Kathpalia | Socio-Economic Impact Of In-Situ Straw Management Of Paddy Crop Through Agricultural Mechanization In Haryana |
| 11. | Tanvi Sharma 2020BS55D | Dr. Rashmi Tyagi | Problems of Senior Citizens Residing in Old Age Homes- A Sociological Analysis |
| 12. | Amit Kumar 2021BS43D | Dr. Subhash Chander | Impact of Custom Hiring Centres on Farmers in Haryana – A Sociological Analysis |
| 13. | Era Lamba 2021BS44D | Dr. Bas Kaur | Impact of Citrus Cultivation on Farmers in Haryana – A Sociological Analysis |
| 14. | Kushagra Prasad 2021BS45D | Dr. Vinod Kumari | Impact of Floriculture on Farmers of Haryana : A Sociological Appraisal |
| 15. | Manisha 2021BS47D | Dr. Bas Kaur | Socio-economic Impact of Protected Cultivation on Farming Community in Haryana |
| 16. | Pradeep Kumar 2021BS48D | Dr. Rashmi Tyagi | Socio-Economic Impact of Digitalization in Agriculture among Farmers in Haryana |
| 17. | Rakhi Gupta 2021BS49D | Dr. Vinod Kumari | Status of Rural Women in the context of Technological Advancement in Haryana |
| 18. | Virender 2021BS50D | Dr. Subhash Chander | Impact of Crop Diversification on Farmers in Haryana – A Sociological Appraisal |
| 19. | Jyoti 2022BS33D | Dr. Jatesh Kathpalia | Socio-economic Impact of Pradhanmantri Fasal Bima Yojana on Livelihood of Beneficiary farmers in Haryana |
| 20. | Naseeb 2022BS34D | Dr. Rashmi Tyagi | Socio-economic Impact of MNREGS in Haryana : A Comparative Study |
| 21. | Sahil Boora 2022BS35D | Dr. Subhash Chander | Socio-economics transformation through Drip Irrigation Technology in Haryana – A Sociological Appraisal |
| **M.A./M.Sc.** | | | |
| 1. | Madan 2019BS39M | Dr. Subhash Chander | Buying Behaviour of Farmers about Farm Machineries |
| 2. | Agam Parshad Langan 2020BS38M | Dr.Jatesh Kathpalia | Economic Impact of Agricultural Technology with Special Reference to Laser Land Leveller among Farmers of Haryana |
| 3. | Ritu Punia 2020BS40M | Dr.Subhash Chander | Problem of Debt on Contractual Farming Among Scheduled Castes in Haryana |
| 4. | Sahil Boora 2020BS41M | Dr. Bas Kaur | Adoption of Intercropping System in Haryana: A Sociological Analysis |

| | | | |
|---|---|---|---|
| 5. | Sushma Devi 2020BS43M | Dr.Jatesh Kathpalia | Problems of Women Labourers in Agricultural and Allied Sectors of Haryana - A Sociological Analysis |
| 6. | Alina 2021BS47M | Dr.Rashmi Tyagi | A Sociological Analysis of Problem of Dowry in Rural Communities of Haryana |
| 7. | Kirti 2021BS48M | Dr.Subhash Chander | Socio-economic Dimensions of Agricultural Women Labourers in Haryana |
| 8. | Preeti 2021BS49M | Dr.Vinod Kumari | Educational and Occupational Mobility among Rural Families of Haryana |
| 9. | Sanju 2021BS50M | Dr. Bas Kaur | Impact of Old Age Samman Allowance Scheme among Rural Beneficiaries in Haryana: A Sociological Analysis |
| 10. | Himanshi 2022BS33M | Dr. Jatesh Kathpalia | A Comparative Study on Impact of Mass Media among Rural and Urban Women |
| 11. | Jyotika 2022BS34M | Dr. Rashmi Tyagi | Farmers Perception towards the Usage of Social Media for Acquiring Agricultural Information |
| 12. | Kartika Sangwan 2022BS35M | Dr. Subhash Chander | Socio-ecoomic Transformation through Pradhan Mantri Fasal Bima Yojana in Haryana |
| 13. | Mamta Chahal 2022BS36M | Dr. Bas Kaur | Socio-economic Impact of Youth Migration on Well-being of their Parents in Haryana |
| 14. | Nirmal Raj 2022BS37M | Dr. Vinod Kumari | Rural Urban Migration among Families in Haryana: A Sociological Study |

***Annexure SOC-III***

## STUDENTS PARTICIPATION IN SEMINARS/CONFERENCES/TRAININGS/WORKSHOPS ETC.

| Sr.no. | Name of the student and admission no. | Oral/Poster | Seminar/conference/workshop details |
|---|---|---|---|
| 1. | Virender 2021BS50D | - | Workshop on "Research methodology and hands on learning", from August 2-6, 2021 at Kalingana Institute of Social Sciences, Bhubaneswar, Odisha, India. |
| 2. | Tanvi Sharma 2020BS56D | Poster | International Conference on "Advances in smart agriculture and bio-diversity conservation for sustainable agriculture", from March 4-6, 2022 at Jaipur National University, Jaipur, Rajasthan, India. |
| 3. | Preeti Rani 2019BS52D | Oral | National Seminar on "Exploring India: Then and now", from September 10, 2022 at SGT University, Gurugram, Haryana, India. |
| 4. | Era Lamba 2021BS44D | - | Workshop on "Statistical tools on research methodology", from January 31 – February 5, 2022 at ICSSR, Mumbai, Maharashtra, India. |

*Annexure SOC-IV*

## STUDENTS PARTICIPATION IN TRAININGS/WORKSHOPS ETC.

| Sr. no. | ame of student andadmn. no. | Duration | Title |
|---|---|---|---|
| 1. | Meenu 201817D | 01.03.2021 to 10.03.2021 | Workshop on "Research methodology in Social Sciences", from August 2-6, 2021 at CDLU, Jind, Haryana, India. |
| 2. | Shikha Bidhan 2018BS19D | 01.03.2021 to 10.03.2021 | |

*Annexure SOC-V*

## PLACEMENT RECORD

| Sr. no. | Name of student | acement |
|---|---|---|
| 1. | Sunil Kumar | Assistant Professor, Government College, Siwani |
| 2. | Ramphal | Agriculture Field Officer in Bank |
| 3. | Sushil Kumar | Agriculture Field Officer in Bank |
| 4. | Saleem Malik | Agriculture Field Officer in Bank |
| 5. | Deepika | Assistant Professor, Om Sterling Global University, Hisar |
| 6. | Ruchi | Project Manager, Red Cross Society, Hisar |

*Annexure SOC-VI*

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. No. | Name | Name of scholarship/ support | Sr. No. | Name | Name of scholarship/ support |
|---|---|---|---|---|---|
| **M.Sc.** | | | **Ph.D.** | | |
| 1. | Deepika 2018BS31M | CCS HAU Merit Fellowship | 1. | Meenu 2018BS17D | CCS HAU Merit Fellowship |
| 2. | Dharamvir Punia 2018BS32M | CCS HAU Fellowship | 2. | Sikha Bidhan 2018BS19D | |
| 3. | Monika Sarsana 2018BS33M | CCS HAU Merit Fellowship | 3. | Harvinder Kaur 2019BS51D | UGC JRF (Minority) |
| 4. | Nisha Yadav 2018BS34M | CCS HAU Fellowship | 4. | Preeti Rani 2019BS52D | UGC NET (RGNF) |
| 5. | Pooja 2018BS35M | CCS HAU Merit Fellowship | 5. | Priyanka Rani 2019BS53D | CCS HAU Merit Fellowship |
| 6. | Pradeep Kumar 2018BS36M | CCS HAU Fellowship | 6. | Sukriti 2019BS54D | CCS HAU Fellowship |
| 7. | Sunil Kumar 2018BS37M | | 7. | Sushil Kumar 2019BS55D | |
| 8. | Tanvi Sharma 2018BS38M | | 8. | Deepika 2020BS50D | CCS HAU Merit Fellowship |
| 9. | Kiran 2019BS38M | | 9. | Monika Sarsana 2020BS51D | |
| 10. | Madan 2019BS39M | | 10. | Priyanka Jakhar 2020BS52D | - |
| 11. | Manisha 2019BS40M | CCS HAU Merit Fellowship | 11. | Shital Das 2020BS53D | UGC Net (JRF) |
| 12. | Ravi Saharan 2019BS41M | CCS HAU Fellowship | 12. | Sunil Kumar 2020BS54D | CCS HAU Fellowship |
| 13. | Agam Parshad Langan | | 13. | Tanvi Sharma 2020BS55D | CCS HAU Merit Fellowship |

| | | | | | |
|---|---|---|---|---|---|
| | 2020BS38M | | | | |
| 14. | Ritu Punia 2020BS40M | CCS HAU Merit Fellowship | 14. | Amit Kumar 2021BS43D | CCS HAU Fellowship |
| 15. | Sahil Boora 2020BS41M | | 15. | Era Lamba 2021BS44D | UGC NET (JRF) |
| 16. | Sushma Devi 2020BS43M | CCS HAU Fellowship | 16. | Kushagra Prasad 2021BS45D | CCS HAU Merit Fellowship |
| 17. | Alina 2021BS47M | | 17. | Mandeep Bidhan 2021BS46D | - |
| 18. | Kirti 2021BS48M | | 18. | Manisha 2021BS47D | CCS HAU Merit Fellowship |
| 19. | Preeti 2021BS49M | | 19. | Pradeep Kumar 2021BS48D | CCS HAU Fellowship |
| 20. | Sanju 2021BS50M | | 20. | Rakhi Gupta 2021BS49D | - |
| | | | 21. | Virender 2021BS50D | UGC NET (JRF) |

***Annexure SOC-VII***

## NAME OF THE STUDENTS CLEARED NET/ ARS / GATE OR ANY OTHER EXAMINATION

| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Total |
|---|---|---|---|---|---|
| **02** | **05** | **03** | **01** | **03** | **14** |
| Rijul Sihag 2013BS30D | Preeti 2017BS27D | Harvinder Kaur 2019BS51D | Sahil Boora 2020BS41M | Harvinder Kaur 2019BS51D | |
| Preeti 2017BS27D | Priyanka Jakhar 2020BS53D | Preeti Rani 2019BS52D | | Sahil Boora 2020BS35D | |
| | Shital Das 2020BS54D | Pradeep 2021BS48D | | Era Lamba 2021BS44D | |
| | Amit Kumar 2021BS43D | | | | |
| | Virender 2021BS50D | | | | |

***Annexure SOC-VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| Year | Name of students and admission no. | Name of fellowship |
|---|---|---|
| **2019-20** | Shital Das | UGC NET (JRF) |
| | Virender | |
| **2020-21** | Harvinder Kaur | UGC NET (JRF), Minority |
| | Preeti Rani | UGC NET (RGNF) |
| **2022-23** | Era Lamba | UGC NET (JRF) |
| | Naseeb | |

***Annexure SOC-IX***

| Sr. no. | Research paper | Rating |
|---|---|---|
| **M.Sc** | | |
| **2018-19** | | |
| 1. | Kumar, V. and Kumari, V. (2018). The influence of television on primary school boys in rural and urban area – A sociological analysis. *Indian Journal of Health and Well Being*, **9**: 1012-1015. | 4.13 |
| 2. | Kumar, V., Kumari, V. and Kathpalia, J. (2018). Children television viewing – An sociological study. International Journal of Education and Management Studies, 8(4): 443-445. | 4.79 |
| 3. | Kumar, V. and Kumari, V. (2018). Television women behaviour with special reference to urban and rural children in Haryana. Indian Journal of Health and Well Being, 9(10-12): 972-976. | 4.13 |
| 4. | Kumar, V., Kumari, V. and Chander, S. (2018). Socio-economic factors and impact of television on primary school boys. International Journal of Education and Management Studies, 8(4): 452-455. | 4.79 |
| **2019-20** | | |
| 5. | Jeet, K., Kumari, V. and Kathpalia, J. (2019). Socio-economic factors affecting attitude towards girl child. Indian Journal of Health and Well Being, 10(4-5): 90-94. | 4.13 |
| 6. | Kaur, H., Kumari, V. and Chander, S. (2020). Food habits and knowledge of rural women- A sociological analysis. *International of Education and Management Studies*, **10(4):** 489-495. | 4.79 |
| **2020-21** | | |
| 7. | Kaur, H., Kumari, V. and Chander, S. (2020). Social factors affecting health aspects of women. *Indian Journal of Health and Well-being*, **11(10-12):** 608-614. | 4.13 |
| 8. | Kaur, H., Kumari, V. and Chander, S. (2020). Knowledge of women about health aspects: A sociological analysis. *International of Education and Management Studies*,**10(2)**: 140-144. | 4.79 |
| 9. | Rani, P. and Kathpalia, J. (2021). Impact of social media on college students during COVID-19 Lockdown-A Sociological Study. The Indian Journal of Research, 10(7): 1-3. | Impact factor-6.941 |
| 10. | Kaur, H., Kumari, V. and Chander, S. (2020). Economic factors affecting women health. *International journal of Education and Management Studies*, **10(4):** 478-483 | 4.79 |
| 11. | Rani, P. and Tyagi, R. (2020). Nature and extent of problems faced by working women in rural and urban areas- A sociological study. *Current Journal of Applied Science and Technology*, **39(14)**: 80-88. | 5.32 |
| 12. | Singh, M., Tyagi, R. and Kumar, P. (2020). Psychological problems of aged men A-sociological study. *The Pharma Innovation Journal*,**9 (5):**295-298. | 5.23 |
| **2021-22** | | |
| 13. | Sharma, T., Kathpalia, J. and Kumari, V. (2021). Constraints in adoption of growing Bt. Cotton among Bt. growers in Haryana. *The Journal of Rural and Agricultural Research*, **21(1):** 57-60. | 3.89 |
| 14. | Radhika., Kathpalia**,** J. and Rani, M. (2021). A study on nature and extent of women labourers in unorganized sector of Haryana. *The Indian Journal of Indian Art History Congress*, **27(1):**645-654. | - |
| 15. | Radhika., Kathpalia**,** J. and Rani, M. (2021). A study on economic problems and prospects of women labourers in unorganized sector of Haryana. *Sambodhi*, **44(1):** 243-254. | - |
| 16. | Deepika and Tyagi, R. (2021). Socio-economic impact of straw reaper on farmers in rural community of Haryana. *Journal of Community Mobilization and Sustainable* | 5.30 |

| | | |
|---|---|---|
| | *Development*, **16(2):** 319-328. | |
| **PH.D.** | | |
| **2019-20** | | |
| 1. | Kamal, J., Kumari, V. and Kathpalia, J. (2019). Socio-economic factors affecting attitude towards girl child. *Indian Journal of Health and Well Being*, **10(4-5)**: 90-94. | 4.13 |
| **2020-21** | | |
| 2. | Mor, A. and Kathpalia, J. (2020). Sexual harassment and women at the workplace: A sociological review. *International Journal of Current Microbiology and Applied Sciences*, **9(4):**1014-1021. | 5.38 |
| **2021-22** | | |
| 3. | Deswal, D., Chander, S. and Kumari, V. (2021). Role of female headed households in agricultural production in rural Haryana: A sociological analysis. *The Pharma Innovation Journal*,**10(5):** 69-75. | 5.23 |
| 4. | Preeti., Kumari, V. and Kathpalia, J. (2021). Comparison of perceptions regarding mensuration among women of rural, urban and slum areas of Gurugram and Mewat. *The Pharma Innovation Journal*, **10(7):** 139-145. | 5.23 |
| 5. | Ruchi., Kumari, V. and Chander, S. (2021). Role in decision making in household activities among working and non-working women. *The Pharma Innovation Journal*,**10(8)**: 599-602. | 5.23 |
| 6. | Kumar, P., Kumari, V. and Singh,M. (2021). Mental health status of elderly in rural Haryana. A sociological Studies. *The Pharma Innovation Journal*,**10(8)**: 238-240. | 5.23 |
| **2022-23** | | |
| 7. | Mor, A., Kathpalia, J., Kumari, V., Godara, A., Kumar, D. and Sindhu, S. (2022). Health problems of elderly women in urban and rural areas of Haryana – A sociological study. *The Pharma Innovation Journal*, **11(2):** 1099-1104. | 5.23 |
| 8. | Mor Nain, P. and Kumari, V. (2022). Assessment of knowledge regarding menstruation and sanitary obserbents among young women of Haryana. *International Journal of Community Medicine and Public Health*,**9(3):** 1-10. | - |
| 9. | Kaur, H. and Kumari, V. (2022). Farm mechanization in Indian agriculture and its impact on social change. *Journal of Social Sciences Review*, 10(2): 223-227. | 4.38 |

***Annexure SOC-X***

## LIST OF PASS OUT STUDENTS (M.A./M.SC.)

| **2018-19 (2)** | | | |
|---|---|---|---|
| **Sr. no.** | **Name of student** | **Admission no.** | **Duration** |
| 1. | Priyanka Rani | 2016BS12M | July, 2018 |
| 2. | Meenu | 2016BS13M | August, 2018 |
| **2019-20 (4)** | | | |
| 1. | Sushil Kumar | 2017BS17M | July, 2019 |
| 2. | Harvinder Kaur | 2017BS18M | July, 2019 |
| 3. | Radhika | 2017BS19M | July, 2019 |
| 4. | Ramfal | 2017BS21M | July, 2019 |
| **2020-21 (8)** | | | |
| 1. | Deepika | 2018BS31M | September, 2020 |
| 2. | Dharamveer Punia | 2018BS32M | September, 2020 |
| 3. | Monika Sarsana | 2018BS33M | September, 2020 |
| 4. | Nisha Yadav | 2018BS34M | September, 2020 |
| 5. | Pooja | 2018BS35M | September, 2020 |
| 6. | Sunil Kumar | 2018BS37M | September, 2020 |
| 7. | Tanvi Sharma | 2018BS38M | September, 2020 |

| | | | |
|---|---|---|---|
| 8. | Pradeep Kumar | 2018BS36M | February, 2021 |
| **2021-22 (2)** | | | |
| 1. | Saleem Malik | 2017BS22M | May, 2021 |
| 2. | Kiran | 2019BS38M | September, 2021 |
| 3. | Manisha | 2019BS40M | September, 2021 |
| **2022-23 (1)** | | | |
| 1. | Sahil Boora | 2020BS41M | July, 2022 |

***Annexure SOC-XI***

## LIST OF PASS OUT STUDENTS (PH.D.)

| Sr. no. | Name of student | Admission no. | Duration |
|---|---|---|---|
| **2020-21 (3)** | | | |
| 1. | Kamal Jeet Kaur | 2014BS28D(R) | October, 2020 |
| 2. | Deepika | 2016BS15D | October, 2020 |
| 3. | Parveen Kumar | 2016BS16D | January, 2021 |
| **2021-22 (3)** | | | |
| 1. | Ruchi | 2017BS25D | January, 2022 |
| 2. | Preeti | 2017BS27D | February, 2022 |
| 3. | Amita Mor | 2017BS28D | June, 2022 |
| **2022-23 (1)** | | | |
| 1. | Meenu | 2018BS17D | November, 2022 |

***Annexure ZOO - I***

## LIST OF STUDENTS ADMITTED IN LAST FIVE YEARS

| **2018-19** | | | | | |
|---|---|---|---|---|---|
| **M. Sc.- 06** | | | **Ph. D. -07** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission No.** |
| 1. | Anshu | 2018BS42M | 1. | Alka | 2018BS23D |
| 2. | Arjun ram | 2018BS43M | 2. | Deepak Verma | 2018BS24D |
| 3. | GouravDalal | 2018BS44M | 3. | Kiran | 2018BS25D |
| 4. | Mahima | 2018BS45M | 4. | Priya | 2018BS26D |
| 5. | Seema | 2018BS46M | 5. | Rahul Kumar | 2018BS27D |
| 6. | Shweta | 2018BS47M | 6. | Renu | 2018BS28D |
| 7. | | | 7. | Sushma | 2018BS29D |
| **2019-20** | | | | | |
| **M. Sc.-07** | | | **Ph. D.-07** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Abhimanyu | 2019BS45M | 1. | Amit Kour | 2019BS61D |
| 2. | Jyoti Soni | 2019BS46M | 2. | Anu Bala | 2019BS62D |
| 3. | Nikki | 2019BS47M | 3. | Karuna Bamel | 2019BS63D |
| 4. | Pooja Rani | 2019BS48M | 4. | Khushbu | 2019BS64D |
| 5. | Reecha | 2019BS49M | 5. | Poonam | 2019BS65D |
| 6. | Sakshi | 2019BS50M | 6. | Priyanka | 2019BS66D |
| 7. | Sakhshi Sharma | 2019BS51M | 7. | Rekha | 2019BS67D |
| **2020-21** | | | | | |
| **M. Sc.-04** | | | **Ph. D.-04** | | |
| **Sr. No.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | LakshayJangra | 2020BS47M | 1. | Anshu Kumari | 2020BS59D |
| 2. | Pinki Saini | 2020BS48M | 2. | Monika | 2020BS60D |

| | | | | | |
|---|---|---|---|---|---|
| 3. | Rohini Gupta | 2020BS49M | 3. | Pankaj sharma | 2020BS61D |
| 4. | Ruksar | 2020BS50M | 4. | Yugum Dhingra | 2020BS63D |
| **2021-22** | | | | | |
| **M. Sc.-04** | | | **Ph. D.-03** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Jyoti | 2021BS54M | 1. | Brijesh Chahar | 2021BS54D |
| 2. | Ruchi Sharma | 2021BS55M | 2. | Nikita Poonia | 2021BS55D |
| 3. | Sunita | 2021BS56M | 3. | Priyanka | 2021BS56D |
| 4. | Varsha | 2021BS57M | | | |
| **2022-23** | | | | | |
| **M. Sc.-06** | | | **Ph. D.-08** | | |
| **Sr. no.** | **Name** | **Admission no.** | **Sr. no.** | **Name** | **Admission no.** |
| 1. | Anu Malik | 2022BS39M | 1. | Abhimanyu | 2022BS36D |
| 2. | Arvind | 2022BS40M | 2. | Amit | 2022BS37D |
| 3. | Manisha | 2022BS41M | 3. | Amit Kumar | 2022BS38D |
| 4. | Naveen Kumar | 2022BS42M | 4. | LakshayJangra | 2022BS39D |
| 5. | Priyanka Joshi | 2022BS43M | 5. | Nikki | 2022BS40D |
| 6. | Rahul Kajal | 2022BS44M | 6. | Pooja | 2022BS41D |
| | | | 7. | Rishu | 2022BS42D |
| | | | 8. | Sunidhi | 2022BS43D |

***Annexure ZOO-II***

## LIST OF STUDENTS ON ROLL PRESENTLY

| **Sr. no.** | **Name& Admission no.** | **Guide** | **Title of research problem** |
|---|---|---|---|
| **Ph.D.** | | | |
| 1. | Alka 2018BS23D | Dr. Ravikant | Isolation and characterization of bacteriophages against aeromonads from fish culture ponds |
| 2. | Deepak Verma 2018BS24D | Dr. Rachna Gulati | Molecular characterization, population dynamics and ELISA based detection method of stored mite in equine feed |
| 3. | Kiran 2018BS25D | Dr. Dharambir Singh | Avian diversity and damage potential in selected horticultural crops in and around Hisar |
| 4. | Priya 2018BS26D | Dr. Dharambir Singh | Seasonal variations in avifaunal diversity at selected agro ecosystem and wetlands of Haryana |
| 5. | Renu 2018BS28D | Dr. R. K. Gupta | Analysis of vermiwash potential as a biofertilizer and heavy metal genotoxicity in earthworm, *Eisenia fetida* |
| 6. | Sushma 2018BS29D | Dr. Rachna Gulati | Immunological based detection methods of stored mites and their damage potential in equine feed |
| 7. | Amit Kour 2019BS61D | Dr. Dharambir Singh | Avian diversity and agrochemical toxicity in paddy grown agroecosystem of Haryana |
| 8. | Anu Bala 2019BS62D | Dr. Ravikant | Exploring bacteriophage derived endolysins for targeted delivery into biofilm forming *Listeria monocytogenes*, *Salmonella enterica* and *Escherichia coli* |
| 9. | Karuna Bamel 2019BS63D | Dr. Rachna Gulati, | Characterization of bacterial pathogens of *Litopenaeusvannamei*(Boone) and their management through herbal extracts |
| 10. | Khushbu 2019BS64D | Dr. Rachna Gulati | Effect of parasites and mineral on growth performance of *Litopenaeusvannamei* (Boone) |

| | | | |
|---|---|---|---|
| 11. | Poonam 2019BS65D | Dr. Tejpal Dahiya | Effect of probiotics on growth performance of *Cyprinus carpio* L. culture under biofloc technology |
| 12. | Priyanka 2019BS66D | Dr. Ravikant | Effect of metal and metal oxide basednanoparticles on the morphological, cytological and genetical variations in *Drosophila melanogaster* |
| 13. | Rekha 2019BS67D | Dr. R.K. Gupta | Effect of different organic waste, plants on production of common carp, *Cyprinus carpio* (L 1758) and its post harvest impact with bio fuel production |
| 14. | Anshu Kumari 2020BS59D | Dr. Ravikant | Effect of nanoparticles on the morphological, cytological and genetical variations in *Apis mellifera L.* |
| 15. | Monika 2020BS60D | Dr. Tejpal Dahiya | Effect of different stocking densities on growth performance, survivability and stress response in *Anabas testudineus* under biofloc technology |
| 16. | Pankaj Sharma 2020BS61D | Dr. Rachna Gulati | Effect of microplastics on growth and health parameters of predominant fish fauna of Yamuna river |
| 17. | Yugum Dhingra 2020BS63D | Dr. Shikha Ahalavat | Study on cadmium induced toxicity and ameliorative efficacy of *Moringa olifera* on predominant fish fauna of Yamuna river |
| 18. | Brijesh Chahar 2021BS54D | Dr. Tejpal Dahiya | Study on the predatory effects of *Notonecta* spp. and its control in Indian Major Carps |
| 19. | Nikita Poonia 2021BS55D | Dr. Dharambir Singh | Effect of various plant extracts diets on growth performance and immune responses in striped cat fish *Pangas ionodonhypopthlamus* |
| 20. | Abhimanyu 2022BS36D | Dr. Tejpal Dahiya | Effect of probiotics and molasses on growth performance of *Litopenaeusvannamei* (Boone,1931) |
| 21. | Amit 2022BS37D | Dr. R.K. Gupta | Effect of Chia seed powder (*Salviahispanica*) on growth, histology and hematologicalparmeters of common carp (*Cyprinus carpio*) |
| 22. | Amit Kumar 2022BS38D | Dr. Rachna Gulati | Effect of integrated ornamental-carp fish culture on their growth and survival under pond system |
| 23. | LakshayJangra 2022BS39D | Dr. Ravikant | Assessment of avifaunal diversity and effect of air and water quality on their ecological community in Ramsar sites of Haryana |
| 24. | Nikki 2022BS40D | Dr. Shikha Ahalwat | Effect of vermi-moringa supplemented diets on growth performance, hematological and histological parameters of*Pangasius pangasius* (Hamilton, 1822) |
| 25. | Pooja 2022BS41D | Dr. Dharambir Singh | Effect of Platinum nanoparticles based diet on growth performance and immune response of *Cyprinus rohita* Hamilton (1822) |
| 26. | Rishu 2022BS42D | Dr. R.K. Gupta | Characterization of silver nano particles and their effects on growth, heamatology and histology of *Cyprinus carpio* |
| 27. | Sunidhi 2022BS43D | Dr. R.K. Gupta | Bioaccumulation of silver nano particles and their effect on growth performance and histology of *Eiseniafetida* |
| **M. SC.** | | | |
| 1. | Jyoti 2021BS54M | Dr. Tejpal Dahiya | Effect of Vitamin C on growth performance and haematological parameters of *Catlacatla* (Hamilton, 1822) |

| | | | |
|---|---|---|---|
| 2. | Ruchi Sharma 2021BS55M | Dr. Shikha Ahalavat | Study the nematode community structure in different vegetable cropping systems |
| **STUDENTS PARTICIPATION IN SEMINAR/CONFERENCE/WORKSHOP ETC.** | | | |
| 3. | Sunita 2021BS56M | Dr. Dharambir Singh | Effect of turmeric (Curcuma longa) supplemented 'clusterbean cake (Cyamopsis tetragonoloba) on growth performance and haematological parameters of Cyprinus carpio |
| 4. | Varsha 2021BS57M | Dr. Ravikant | Evaluation of the repellent properties of indigenous essential oils against the rodent species |
| 5. | Anu Malik 2022BS39M | Dr. Dharambir Singh | Study on the use of synthetic hormones and herb supplemented feed on growth, immunity and breeding of ornamental fishes |
| 6. | Arvind 2022BS40M | Dr. Tejpal Dahiya | Effect of *Tinospora cordifolia* (Willed) Miers on growth and hematological parameters of *Cyprinus carpio* L. |
| 7. | Manisha 2022BS41M | Dr. Tejpal Dahiya | Effect of *Ocimum sanctum* L. on growth performance and haematological parameters |
| 8. | Naveen Kumar 2022BS42M | Dr. Ravikant | Study if rodent diversity and its management through herbal extracts in district Hisar, Haryana |
| 9. | Priyanka Joshi 2022BS43M | Dr. Gajender Singh | Optimization of culture conditions and effect of bacteria on growth of *Cyprinus carpio* |
| 10. | Rahul Kajal 2022BS44M | Dr. Shikha Ahalavat | Effect of *Cymbopogon citratus* leaf powder on growth performance and haematological parameters of *Catlacatla* |

***Annexure ZOO-III***

| **Sr. no.** | **Name of student and admn no.** | **Oral/ Poster** | **Seminar/Conference/Workshop details** |
|---|---|---|---|
| M.SC./PH.D. STUDENTS | | | |
| 1. | Deepak 2017BS41M | Poster | National Seminar on "Advances in zoology for sustainable development", from Feburary 15-17, 2018 at Kurukshetra University, Kurukshetra, Haryana, India. |
| 2. | Viram Delu 2017BS18D | Poster | |
| 3. | Sukhbir Singh 2017BS36M | Poster | |
| 4. | Anju 2015BS28M | Poster | International Conference on "Sustainable agriculture, energy, environment and technology", from February 24-25, 2018 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 5. | Ajay 2016BS18M | Poster | |
| 6. | Renu 2018BS28D | Poster | |
| 7. | Deepak 2017BS41M | Poster | National Seminar on "Environmental Changes and its Impact on Faunal Diversity in Indian Agro-ecosystems", from November 19-20, 2018 at Punjab Agricultural University, Ludhiana, Punjab, India. |
| 8. | Sukhbir Singh 2017BS36M | Poster | International Conference on"Microbes for biotechnology innovations", on December 07, 2018 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 9. | Renu 2018BS28D | Poster | International Conference on "Microbes for biotechnology innovations", on December 18, 2018 at Department of microbiology and Association of microbiologists of india, Rohtak, Haryana, India. |

| | | | |
|---|---|---|---|
| 10. | Sukhbir Singh 2017BS36M | Poster | National Conference on "Biodiversity and environmental sustainability in modern era", on 16th February, 2019 at Chhaju Ram Memorial Jat College Hisar, Haryana, India. |
| 11. | Deepak 2017BS41M | Poster | International Conference on "Climate change towards health and agricultural sustainability", from February, 18-20, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 12. | Sukhbir Singh 2017BS36M | Poster | |
| 13. | Anju 2017BS16D | Poster | National Seminar on "Frontier in life sciences – an interdisciplinary perspective", on March 15, 2019 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 14. | Alka Nokhwal 2018BS23D | Oral | International Conference on "Changing environment: understanding the emerging challenges and their management strategies", from April 10-12, 2019 at Kalindi College, University of Delhi, Delhi, India. |
| 15. | Arjun Ram 2018BS43M | Poster | National Seminar on "Biodiversity issues, challenges and opportunities", from July 16-17, 2019 at College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 16. | Alka 2018BS23D | Poster | |
| 17. | Deepak Verma 2018BS24D | Poster | |
| 18. | Alka Nokhwal 2018BS23D | Oral | International Conference on "Bacteriophage research and antimicrobial resistance", from December 12-13, 2019 at Vellore Institute of Technology, Vellore, Tamil Nadu, India. |
| 19. | Deepak Verma 2018BS24D | Poster | National Conference on "Post COVID opportunities and challenges in zoological sciences", from June 29-30, 2020 at Kurukshetra university, Kurukshetra, Haryana, India. |
| 20. | Deepak Verma 2018BS24D | Webinar | National Webinar on "Awareness and use of CeRA resources through J-Gate discovery platform", from June 25, 2020 at Nehru Library, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 21. | Anu Bala 2019BS62D | Oral | International Webinar on "Alternative therapies to mitigate microbial resistance", from February 23-24, 2021 at ICAR-Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh, India. |
| 22. | Anju 2017BS16D | Poster | International Conference on "New Paradigms for Agriculture, Food and Sustainability Concerns", from 26-28 February, 2021 Raichur, Karnataka, India. |
| 23. | Deepak Verma 2018BS24D | Poster | National Webinar on 'Combating illegal bird trade' from June 3, 2021, at department of zoology, Dev Samaj college for women, Ferozpur, Punjab, India. |
| 24. | Renu 2018BS28D | Oral | International Conference on "Recent innovations in biological research", from March 17-18, 2022 at Krishnammal College for Women, Coimbatore, Tamilnadu, India. |
| 25. | Alka 2018BS23D | Poster | National Conference on "Current trends in immuno diagnostics and vaccinology for health of livestock and poultry", from May 27-28, 2022 at Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, India. |

*Annexure ZOO- IV*

## STUDENT PARTICIPATION IN TRAININGS

| S.no. | Name of student and admn no. | Duration | Title |
|---|---|---|---|
| 1. | Alka 2018BS23D | 29.07.2019 to 31.07.2019 | National Workshop on "Clinical and translational research on bacteriophages as promising antimicrobial alternatives for therapeutics, prophylaxis and food safety", at ICAR-National Research Centre on Equines, Hisar, Haryana, India. |
| 2. | Alka 2018BS23D | 19.08.2019 to 22.08.2019 | Training on "Basics of remote sensing geographical information system and global navigation satellite system", at Haryana Space Application Centre, Hisar, Haryana, India. |
| 3. | Alka 2018BS23D | 22.01.2020 | Workshop on "Recent computational techniques of mathematical sciences for researchers", at CCS Haryana Agricultural University, Hisar, Haraya, India. |
| 4. | Deepak Verma 2018BS24D | 22.01.2020 | |
| 5. | Alka 2018BS23D | 04.02.2020 to 05.02.2020 | Workshop on "Fundamental techniques for antibody production", at Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India. |
| 6. | Deepak Verma 2018BS24D | 04.02.2020 to 05.02.2020 | |
| 7. | Anju 2017BS16D | 02.03.2020 to 07.03.2020 | Training on "Phage display technology application", at Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India. |
| 8. | Alka 2018BS23D | 02.03.2020 to 07.03.2020 | |
| 9. | Anju 2017BS16D | 01.02.2021 to 31.03.2021 | Training on "Techniques in molecular biology and cell culture", at Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India. |
| 10. | Deepak Vats 2017BS40M | 06.03.2022 to 26.03.2022 | Training on "Advanced techniques in molecular biology and bioinformatics", Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India. |
| 11. | Alka 2018BS23D | 10.11.2022 to 30.11.2022 | Training on "Principles and application of cell culture and molecular biology techniques", at Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India. |

*Annexure ZOO- V*

## PLACEMENTS RECORD

| Sr. no. | Name of student(s) | Placements (duration 2018-2023) |
|---|---|---|
| 1 | Jyoti Yadav | PDF, Abroad |
| 2 | Monika | Assistant Professor, CBLU |
| 3 | Arvind | Assistant Professor, CDLU |
| 4 | Sonika | Assistant Professor, OSU |
| 5 | Shefali Gulia | Assistant Professor, in Pvt College Delhi |
| 6 | Urmila | Assistant Professor, DNPG College Hisar |

| | | |
|---|---|---|
| 7 | Poonam Devi | Assistant Professor, DNPG College Hisar |
| 8 | Vikram Delu | Research Associate I, Haryana State, biodiversity board, Haryana |
| 9 | Anju | Assistant Professor, DNPG College Hisar |
| 10 | Ajay | Coaching Expert, KOTA Classes |
| 11 | Rahul Kumar | Assistant Professor, DNPG College Hisar |
| 12 | Sukhbir Singh | Coaching Expert, AAKASH |
| 13 | Gourav Dalal | Department of Food & Supply, GOI |
| 14 | Priyanka | Assistant Professor in DHE, UP |
| 15 | Alka | SRF, NRCE, Equines |
| 16 | Priya | SRF, NRCE, Equines |
| 17 | Jyoti Soni | Masters in University of Portsmouth, UK |
| 18 | Renu | Assistant Professor, Punjab |

**Annexure ZOO- VI**

## SCHOLARSHIP AND FINANCIAL SUPPORT

| Sr. no. | Name | Name of scholarship support | Sr. no. | Name | Name of scholarship support |
|---|---|---|---|---|---|
| 1. | Anshu 2018BS42M | CCSHAU Merit Fellowship | **30.** | Kiran 2018BS25D | CSIR UGC JRF |
| 2. | Arjun Ram 2018BS43M | CCSHAU Merit Fellowship | **31.** | Priya 2018BS26D | CSIR UGC JRF |
| 3. | Gourav Dalal 2018BS44M | CCSHAU Merit Fellowship | **32.** | Rahul Kumar 2018BS27D | CCSHAU merit Fellowship |
| 4. | Mahima 2018BS45M | CCSHAU Merit Fellowship | **33.** | Renu 2018BS28D | CSIR UGC JRF |
| 5. | Seema 2018BS46M | CCSHAU Merit Fellowship | **34.** | Sushma 2018BS29D | CSIR UGC JRF |
| 6. | Shweta 2018BS47M | CCSHAU Merit Fellowship | **35.** | Amit Kour 2019BS61D | CSIR UGC JRF |
| 7. | Abhimanyu 2019BS45M | CCSHAU Merit Fellowship | **36.** | Anu Bala 2019BS62D | CSIR UGC JRF |
| 8. | Nikki 2019BS47M | CCSHAU Merit Fellowship | **37.** | Karuna Bamel 2019BS63D | CSIR UGC JRF |
| 9. | Pooja Rani 2019BS48M | CCSHAU Merit Fellowship | **38.** | Khushbu 2019BS64D | CSIR UGC JRF |
| 10. | Reecha 2019BS49M | CCSHAU Merit Fellowship | **39.** | Poonam 2019BS65D | ICMR JRF |
| 11. | Sakhshi Sharma 2019BS51M | CCSHAU Merit Fellowship | **40.** | Priyanka 2019BS66D | CSIR UGC JRF |
| 12. | Jyoti Soni 2019BS46M | CCSHAU Merit Fellowship | **41.** | Rekha 2019BS67D | DBT JRF |
| 13. | LakshayJangra 2020BS47M | CCSHAU Merit Fellowship | **42.** | Anshu Kumari 2020BS59D | CSIR UGC JRF |
| 14. | Pinki Saini 2020BS48M | CCSHAU Merit Fellowship | **43.** | Monika 2020BS60D | CSIR UGC JRF |

| | | | | | |
|---|---|---|---|---|---|
| 15. | Rohini Gupta 2020BS49M | CCSHAU Merit Fellowship | **44.** | Pankaj Sharma 2020BS61D | CCSHAU merit fellowship |
| 16. | Ruksar 2020BS50M | CCSHAU Merit Fellowship | **45.** | Yugum Dhingra 2020BS63D | CSIR UGC JRF |
| 17. | Jyoti 2021BS54M | CCSHAU Merit Fellowship | **46.** | Brijesh Chahar 2021BS54D | CCSHAU merit Fellowship |
| 18. | Ruchi Sharma 2021BS55M | CCSHAU Merit Fellowship | **47.** | Nikita Poonia 2021BS55D | CCSHAU merit Fellowship |
| 19. | Sunita 2021BS56M | CCSHAU Merit Fellowship | **48.** | Priyanka 2021BS56D | CSIR UGC JRF |
| 20. | Varsha 2021BS57M | CCSHAU Merit Fellowship | **49.** | Abhimanyu 2022BS36D | HSCST JRF |
| 21. | Anu Malik 2022BS39M | CCSHAU Merit Fellowship | **50.** | Amit 2022BS37D | CCSHAU merit Fellowship |
| 23. | Arvind 2022BS40M | CCSHAU Merit Fellowship | **51.** | Amit Kumar 2022BS38D | CSIR UGC JRF |
| 24. | Manisha 2022BS41M | CCSHAU Merit Fellowship | **52.** | LakshayJangra 2022BS39D | CSIR UGC JRF |
| 25. | Naveen Kumar 2022BS42M | CCSHAU Merit Fellowship | **53.** | Nikki 2022BS40D | CCSHAU merit Fellowship |
| 26. | Priyanka Joshi 2022BS43M | CCSHAU Merit Fellowship | **54.** | Pooja 2022BS41D | CSIR UGC JRF |
| 27. | Rahul Kajal 2022BS44M | CCSHAU Merit Fellowship | **55.** | Rishu 2022BS42D | CCSHAU merit Fellowship |
| 28. | Alka 2018BS23D | CSIR UGC JRF | **56** | Sunidhi 2022BS43D | CCSHAU merit Fellowship |
| 29. | Deepak Verma 2018BS24D | CSIR UGC JRF | | | |

***Annexure ZOO- VII***

## NAME OF STUDENTS CLEARED NET, ARS, GATE, ICMR AND DBT ANY OTHER EXAMINATION

| **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **Total** |
|---|---|---|---|---|---|
| 06 | 09 | 09 | 03 | 09 | 36 |
| **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | **Name of the student** | |
| Alka 2018BS23D | Sukhbir Singh 2017BS36M** | Vikram Delu 2017BS18D* | Brijesh Chahar 2021BS54D | Anshu 2018BS42M | |
| Deepak Verma 2018BS24D | Deepak 2017BS40M | Akshay Kumar 2017BS41M | Nikita poonia 2021BS55D | Pooja** 2019BS48M | |
| Kiran 2018BS25D | Amit Kour 2019BS61D | Mahima 2018BS45M | Priyanka 2021BS56D | Reecha** 2019BS49M | |

| | | | | | |
|---|---|---|---|---|---|
| Priya<br>2018BS26D | Anu Bala<br>2019BS62D | Shweta<br>2018BS47M | | Poonam **<br>2019BS65D | |
| Renu<br>2018BS28D | Karuna Bamel<br>2019BS63D | Anshu Kumari<br>2020BS59D | | Rekha<br>2019BS67D | |
| Sushma<br>2018BS29D | Khushbu<br>2019BS64D | Monika<br>2020BS60D | | Abhimanyu<br>2022BS36D | |
| | Poonam<br>2019BS65D | Pankaj Sharma<br>2020BS61D | | Amit Kumar<br>2022BS38D | |
| | Priyanka<br>2019BS66D | Yugum Dhingra<br>2020BS63D | | LakshayJangra<br>2022BS39D | |
| | Rekha<br>2019BS67D | | | Pooja<br>2022BS41D | |
| | | | | *GATE | **NET only |

***Annexure ZOO- VIII***

## NAME OF STUDENTS GOT FELLOWSHIPS

| **Year** | **Name of student** | **Name of fellowship** |
|---|---|---|
| 2018-19 | Shweta | INSPIRE DST |
| 2019-20 | Karuna Bamel | CSIR NET JRF |
| | Khushbu | |
| | Rekha | ICMR JRF |
| | Amit Kour | CSIR NET JRF |
| | Anu Bala | |
| | Priyanka | |
| | Poonam | ICMR JRF |
| 2020-21 | Anshu Kumari | CSIR NET JRF |
| | Monika | |
| | Yugum Dhingra | |
| | Anshu | |
| | Akshay Kumar | |
| | Mahima | |
| | Shweta | |
| 2021-22 | Nikita Poonia | |
| | Priyanka | |
| 2022-23 | Abhimanyu | |
| | Amit Kumar | |
| | Pooja | |
| | Lakshay Jangra | |

***Annexure ZOO - IX***

## STUDENTS PUBLICATIONS

| Sr. no. | Title of the paper/book | NAAS rating |
|---|---|---|
| | **M.SC.** | |
| | **2021-2022** | |
| 1. | Neetu., Ravikant., Anju and Dahiya, T. (2020). Population dynamics and structure of rodents in arid ecosystem of district Hisar (Haryana) India. *Journal of Entomology and Zoological studies*, **9(1)**:334-337. | 5.53 |
| 2. | Anju., Ravikant., Urmila and Sonika (2021). Spider: Biology of webs and silk formation. *Agriculture Letters*, **02**: 35-39. | -- |
| 3. | Yadav, J., Singh, D. and Shefali (2020). Effect of chlorpyrifos and carbofuran on morphology, behavior and acetylcholinesterase activity of earthworm (*Eisenia fetida*). *Indian Journal of Agricultural Sciences*, **90(10)**: 1871-1876. | 6.21 |
| 4. | Anshu., Singh, D., Gill, P., Mahima., Shweta and Sakshi (2020). Impact of Gyphosate and pendimethalin herbicides on qualitative and quantitative parameters of coelomocytes in earthworm, *Eisenia fetida. Journal of Entomology and Zoology Studies*, **8(5)**: 2043-2048. | 5.53 |
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| **Ph.D.** | | |
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| 31. | Dahiya, T., Ravikant, Singh, G., Singh, R. and Singh, S. (2020). Applications and possible modes of action of probiotics in aquaculture. International Journal of Agriculture Sciences, 12(8): 9753-9755. | 4.20 |
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| **2021-2022** | | |
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| 40. | Gill, P., Singh, D., Sharma, B.L., Gupta, R.K., Dahiya, T., Rao, D.S., Lather, D. and Kumar, N. (2021). Effect of neonicotinoid acetamiprid and imidacloprid insecticides on antioxidant peroxidase activity in earthworm *Eisenia fetida*. *Biological Forum – An International Journal*, **13(2)**: 171-174(2021). | 5.11 |
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| **2022-2023** | | |
| 42. | Priya., Singh, D., Delu, V. and Yodha, K. (2022). Avifaunal diversity at the farmlands of CCSHAU, Hisar, Haryana, India. *Applied Ecology and Environmental Sciences*, **10(7)**: 424-431. | - |
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| 49. | Vashisth, M., Yashveer, S., Jaglan, A.B., Virmani, N., Bera, B.C., Vaid, R.K. and Anand, T. (2022). Synergy of a virulent phage (φAB182) with antibiotics leading to successful elimination of biofilms formed by MDR *Acinetobacter baumannii*. *Canadian Journal of Microbiology*, **68(12)**: 731-746. | 9.22 |

***Annexure ZOO- X***

## LIST OF PASS OUT STUDENTS (M.SC.)

| Name of student | Admission no. | Duration | Month & Year |
|---|---|---|---|
| **2018-19** | | | |
| **Renu** | 2016BS17M | 2016-18 | June, 2018 |
| **Rahul Kumar** | 2016BS19M | 2016-18 | June, 2018 |
| **Ajay** | 2016BS18M | 2016-18 | June, 2018 |
| **2019-20** | | | |
| **Karuna Bamel** | 2017BS37M | 2017-19 | June, 2019 |
| **Poonam** | 2017BS39M | 2017-19 | June, 2019 |
| **Sakshi** | 2017BS38M | 2017-19 | June, 2019 |
| **Deepak** | 2017BS40M | 2017-19 | June, 2019 |
| **Akshay Kumar** | 2017BS41M | 2017-19 | June, 2019 |
| **Sukhbir** | 2017BS36M | 2017-19 | June, 2019 |
| **2020-21** | | | |
| **Sweta** | 2018BS47M | 2018-20 | June, 2020 |
| **Mahima** | 2018BS47M | 2018-20 | July, 2020 |
| **Anshu** | 2018BS47M | 2018-20 | July, 2020 |
| **Seema** | 2018BS47M | 2018-20 | July, 2020 |
| **Arjun Ram** | 2018BS47M | 2018-20 | September, 2020 |
| **Gaurav Dalal** | 2018BS47M | 2018-20 | September, 2020 |
| **2021-22** | | | |
| **Jyoti Soni** | 2019BS46M | 2019-21 | August, 2021 |
| **Nikki** | 2019BS47M | 2019-21 | April, 2021 |
| **Sakshi Sharma** | 2019BS51M | 2019-21 | September, 2021 |
| **Sakshi** | 2019BS50M | 2019-21 | September, 2021 |
| **Pooja Rani** | 2019BS48M | 2019-21 | September, 2021 |
| **Abhimanyu** | 2019BS45M | 2019-21 | April, 2021 |
| **Reecha** | 2019BS49M | 2019-21 | September, 2021 |
| | | | |
| **2022-23** | | | |
| **Lakshay Jangra** | 2020BS47M | 2020-22 | August, 2022 |
| **Pinki Saini** | 2020BS48M | 2020-22 | August, 2022 |
| **Rohini Gupta** | 2020BS49M | 2020-22 | August, 2022 |
| **Ruksar** | 2020BS50M | 2020-22 | August, 2022 |

***Annexure ZOO- XI***

## LIST OF PASS OUT STUDENTS (PH.D.)

| Name of student | Admission no. | Duration | Month & Year |
|---|---|---|---|
| **2018-19** | | | |
| Monika | 2014BS21D | 2014-18 | March, 2018 |
| Arvind | 2014BS22D | 2014-18 | March, 2018 |
| **2019-20** | | | |
| Sonika | 2015BS14D | 2015-19 | February, 2019 |
| Shefali | 2015BS15D | 2015-19 | February, 2019 |

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| **2020-21** | | | |
| Urmila | 2016BS10D | 2016-20 | June, 2019 |
| Sumti Rani | 2016BS11D | 2016-20 | April, 2021 |
| Parveen Gill | 2015BS16D | 2015-20 | April, 2021 |
| **2021-22** | | | |
| Poonam Devi | 2017BS17D | 2017-21 | June, 2021 |
| **2022-23** | | | |
| Vikram Delu | 2017BS18/D | 2017-22 | January, 2022 |
| Rahul Kumar | 2018BS27D | 2018-22 | May, 2022 |
| Anju | 2017BS16D | 2018-22 | November, 2022 |
| Kiran | 2018BS26D | 2018-22 | November, 2022 |
| Priya | 2018BS26D | 2019-22 | October, 2022 |
| Karuna | 2019BS63D | 2018-22 | November, 2022 |
| Alka nokhwal | 2018BS23D | 2018-22 | December, 2022 |
| Renu | 2018BS28D | 2018-23 | January, 2023 |

***Annexure COMP-I***

## TRAINING PROGRAMMES ORGANISED

1. "State Eligibility Test in Computer Appreciation and Application (SETC)" from 05.03.2018 to 09.03.2018 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM.
2. "State Eligibility Test in Computer Appreciation and Application (SETC)" from 04.02.2019 to 08.02.2019 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM.
3. "How to Skill Up during COVID-19" from 05.08.2020 to 14.08.2020 in collaboration with Director of Research
4. "Short Training on Statistical Data Analysis for Research Scholars" from 18.02.2019 to 27.02.2019 at Computer Section in collaboration with Directorate Student Welfare.
5. "Short Training on Statistical Data Analysis for Research Scholars" from 14.10.2019 to 24.10.2019 at Computer Section in collaboration with Directorate Student Welfare.
6. "Short Training on Statistical Data Analysis for Research Scholars" from 24.02.2020 to 04.03.2020 at Computer Section in collaboration with Directorate Student Welfare.
7. "Basic Level Computer Appreciation Course" from 13.09.2021 to 22.09.2021 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM.
8. "State Eligibility Test in Computer Appreciation and Application (SETC)" from 22.12.2021 to 26.12.2021 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM.
9. "State Eligibility Test in Computer Appreciation and Application (SETC)" from 05.09.2022 to 09.09.2022 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM.
10. "Basic Level Computer Appreciation Course (BLCA)" from 16.11.2022 to 29.11.2022 2021 at Computer Section in collaboration with Academy of Agricultural Research and Education Management, DHRM.



Figure 1: Hands on practical session

***Annexure COMP-II***

## RESEARCH PUBLICATIONS

| Sr. no. | Research Paper | NAAS Rating |
|---|---|---|
| 1 | Shekhar, A.S., Singh, R., Sheokand, R. N. and Singh, S. (2018). Correlation and regression analysis of growth indices of basmati rice (*Oryza sativa* L.) cultivars with weather parameters under different dates of transplanting. *Journal of Agrometeorology*, **20**: 311-316. | 6.56 |
| 2 | Rani, K., Singh, V., Mor, V.S., Dalal, M.S. and Niwas, R. (2018). Phenological development, grain growth rate, seedling vigour and yield relationships in wheat cultivars under normal sown irrigated conditions. *International Journal of Current Microbiology and Applied Sciences*, **7(6):** 3230-3238. | 5.34 |
| 3 | Manjeet., Anurag., Niwas, R., Rajeev., Tomar, D., Bansal, S. K., Khichar, M. L., Rahul and Singh, A. (2019). Developing spectral models for regional level wheat yield prediction in Haryana, India. *Journal of Agrometeorology*, **21(1):** 9-13. | 6.64 |
| 4 | Mor, V.S., Devraj, A., Bhuker, A., Malik, A., Singh, N., Singh, V. and Sheokand**,** R. N**.** (2019). Effect of organic manures, fertilisers and their integrated combinations on seed quality parameters in wheat (*Triticum aestivum L.*). *Agronomy*, **49**: 39-50. | 8.26 |
| 5 | Anu., Singh, V., Yashveer, S., Niwas, R., Malik, P., Arpit., Dey, S. and Ahlawat, U. (2019). Assessment of genetic variability, heritability and genetic advance for grain yield and its contributing traits in wheat (*Triticum aestivum*). *International Journal of Current Microbiology and Applied Sciences*, **8(8):** 1169-1174. | 5.38 |
| 6 | Devi, S., Kumar, Y., Kumar, R., Daneva, V., Paras and Niwas, R. (2019). Correlation and path coefficients studies of some morphological and seed vigour traits in barley Cultivars (*Hordeum vulgare L.)* under two sowing conditions.*International Journal of current Microbiology and Applied Sciences*, **8(10):** 2210-2222**.** | 5.38 |
| 7 | Rathi, M., Kumar, M., Singh, V., Kumar, V. S., Sheokand**,** R. N. and Chaudhary, L. (2020). Marker assisted screening of breeding population of wheat segregating for stripe rust resistance using SSR markers. *International Journal of Chemical Studies*, **8(2):** 1288-1292. | 5.31 |
| 8 | Kumar, V. S., Kumar, M., Singh, V., Samita., Chaudhary, L., Sheokand, R. N. and Kumar, P. (2020). Regression analysis and inter generation trait association in F3 and F4 generation of wheat. *Electronic Journal of Plant Breeding***, 11(1):** 45-53. | 4.97 |
| 9 | Devi, S., Kumar, Y., Bhuker, A. and Niwas, R. (2020). Assessment of genetic variability for metric traits in barley under different sowing conditions. *Forage Research*, **45(4):** 277-280. | 4.48 |
| 10 | Kumar, Y., Niwas, R., Nimbal, S. and Dalal, M. S. (2020). Hierarchical cluster analysis in barley genotypes to delineate genetic diversity. *Electronic Journal of Plant Breeding*, **11(3):** 742-748. | 5.14 |
| 11 | Manjeet., Malik, J. S., Niwas, R. and Kumar, R. (2020). Impact analysis of farmer FIRST programme in Haryana. *Indian Journal of Agricultural Sciences*, **90(7):** 1286–90. | 6.21 |
| 12 | Niwas, R., Kumar, V., Sheoran, O. P. and Kumar, Y. (2021). Determining the relationship between grain yield and its attributing traits in barley using structural equation modelling. *Forage Research*, **46(3):** 266-270. | 4.84 |
| 13 | Kumar, D., Dalal, R.P.S., Kumar, R., Parshad, J., Sheokand, R.N. and Jaipal (2021). Impact of seasonal variation on physico-chemical properties of orchard soil and their relationship with different fruit tree species under semiarid irrigated conditions. *Indian Journal of Pure and Applied Biosciences*, **9(3):** 289-304. | * |
| 14 | Anu, Singh, V., Yashveer, S., Niwas Ram, Yadav, S., Vivek, S. and Yadav, S. (2021). Genotypic and phenotypic interrelationships of yield related traits in bread wheat (*Triticum aestivum*). *Indian Journal of Agricultural Sciences*, **91(4):** 587–9. | 6.21 |
| 15 | Punia, H., Tokas, J., Malik, A., Singh, S., Phogat, D. S., Bhuker, A., Mor, V. S., Anju, R., Sheokand, R. N. (2021). Discerning morpho-physiological and quality traits contributing to salinity tolerance acquisition in sorghum [*Sorghum bicolor (L.) Moench*]. *South African* | 8.32 |

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| | *Journal of Botany*, **140**: 409-418. | |
| 16 | Niwas, R., Kumar, V., Sheoran, O. P. and Singh, V. (2021). Relationship between grain yield and its attributing traits for bread wheat - A structural equation modelling approach.*Indian Journal of Extension Education*, **57(3):** 112-117. | 5.95 |
| 17 | Dilip, S., Malik, J. S., Sheokand, R. N. and Mor, P. (2021). Knowledge level and constraints in adopting the recommended mitigation strategies on climate change in Haryana.*Journal of Extension System*, **36(2):** 7-11. | 5.95 |
| 18 | Kumar, V., Sarita, Niwas, Ram, Sheoran, O. P.and Malik, K. (2021). Development of web based analysis tool for augmented randomized complete block design (ARCBD). *Journal of Extension System*, **36(2):** 28-32**.** | 5.95 |
| 19 | Sheoran, S., Beniwal, B. S., Dalal, R.P.S. and Sheokand, R. N. (2022). Seasonal influence of pinching and gibberellic acid on growth and yield parameters of African marigold. *Journal of Plant Development Sciences*, **14(2):** 179-184. | 4.13 |
| 20 | Haqyar, Z., Rohila, A. K., Mukteshawar, R., Malik, J. S.andSheokand, R. N. (2022). accessibility of information and communication technology services by faculty members of a State Agricultural University. *Indian Journal of Extension Education*, **58(3):**182-185. | 5.95 |
| 21 | Gupta, V., Kumar, M., Singh, V., Sheokand, R. N. and Chaudhary, L. (2022). Evaluation of yellow rust resistance in backcross populations of wheat. *Journal of Environmental Biology*, **43**: 147-160. | 6.72 |

* Journals could not be assigned NAAS Score as they do not have impact factors for the last four consecutive years

***Annexure COMP-III***

| **TEACHING PROGRAMME (UG)** | | | |
|---|---|---|---|
| **Course No.** | **Title** | **Cr. Hrs** | **Teacher(s)** |
| FEES 102/ICT 102 | Information and Communication Technology | 1+1 | Dr Ram Niwas |
| AGM 541 Agri Business | Computer Applications for Agribusiness | 1+1 | Ms Sheetal Chaudhary |
| COMP 102 COHS<br>Section: 2<br>Practical Group : 4 | Introductory Agricultural Informatics | 1+1 | Ms Sheetal Chaudhary |
| COMP 301 COA<br>Section: 4<br>Practical Group: 8 | Agricultural Informatics | 1+1 | Dr Ram Niwas |
| **TEACHING PROGRAMME (PG)** | | | |
| COMP 501 | Computer Programming in Statistical Research | 2+1 | Ms Sheetal Choudhary |
| COMP 502 | Computer Fundamental | 1+2 | Dr Ram Niwas |
| COMP 503 | Computer Programming through 'C' | 2+1 | Ms Sheetal Choudhary |
| COMP 504 | Scientific Data Processing | 1+2 | Dr Ram Niwas |

*Annexure COBSHI*

## RESEARCH PROJECTS OF FACULTY FROM OUTSIDE AGENCY

| Sr. No. | Department | Sponsor | Title | Funds sanctioned (Rs.) | Period | Research/Project team |
|---|---|---|---|---|---|---|
| 1 | Botany and Plant Physiology | Rashtriya Krishi Vikas Yojana (RKVY) | Climate change impact studies under rainout-shelter in Agro-ecosystems | 1.94 cr | 2019-2022 | Dr. Vinod Goyal - PI, Dr. Sarita Devi - Co-PI, Dr. Neeraj Kumar - Co-PI |
| 2 | Botany and Plant Physiology | DBT | Leveraging genetic resources for accelerated genetic improvement of Linseed using comprehensive genomics and phenotyping approaches | 90. 3 lakh | 2020-2025 | Dr. Anita Kumari- PI, Dr. Renu Munjal - Co-PI, Dr. Ram Avtar - Co-PI, Dr. Ram Parkash |
| 3 | Botany and Plant Physiology | SPARC-MHRD | Genotyping by Sequencing, Genome-wide Association Study, and Genomic Selection Approaches for the Complex Trait like Stress-tolerance and Yield in Soybean (2019-2021) as PI . | 78.32 lakhs | 2019-2022 | DR Vinod Goyal - PI, Humira Sonah - Co-PI |
| 4 | Botany and Plant Physiology | SPARC-MHRD | Combining rust resistance in non structural carbohydrates (NSC) in wheat to achieve food security | 71.99 Lakh | 2019-2022 | Dr Renu Munjal - PI, Dr Vinod Goyal - Co-PI |
| 5 | Botany and Plant Physiology | Ministry of Steel, GOI | "Development of steel slag based cost effective eco-friendly fertilizers for sustainable agriculture and inclusive growth" | 70.99 Lakh | 2021-22024 | Dr Satish Khokhar - PI, Dr Neeraj Kumar - Co-PI, Vinod Goyal - Co-PI, |
| 6 | Chemistry | Gap-filling project, CCSHAU Hisar | Evaluation of compounds of plants origin along with synthesis of organic compounds | 10 lakhs | 2019-2021 | Dr. Rajvir singh-PI, Dr. Jayant Sindhu- Co-PI |

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| | | | for biological activity | | | |
| 7 | Microbiology | State Govt.(GFARP) | Development of fermentation process for ethanol production from waste potatoes | 12 lakhs | 2016-2019 | Dr. Kamla Malik - PI |
| 8 | Microbiology | RKVY-RAFTAAR | Establishment of Centre of Excellence for Modeling of Different Crop Residue for Bio-Methanation and Organic Manure | 2.85 cr | 2019-2023 | Dr. Kamla Malik- PI |
| 9 | Microbiology | Fortum India Ltd, New Delhi LUT University, Finland | Assessment of Agri-biomass from Agro-Climatic Zone of Haryana" | 32.65 lakhs | 2019-2023 | Dr. Kamla Malik- PI |
| 10 | Microbiology | RKVY-RAFTAAR | Evaluation of Zero Budget Natural Farming (ZBNF) model under different cropping systems in Haryana | 1.54 cr | 2020-2023 | Dr. Baljeet Singh Saharan- PI |
| 11 | MBB | NAHEP-IG-ICAR | Innovative grant project on Research Cum Technology Transfer Centre on Protected Cultivation of horticultural crops | 499.95 Lakh | 2018-2024 | Dr K P Singh - PI, Dr Vinod Goyal – Co-PI |
| 12 | Physics | IUAC, New Delhi | Study the impact of swift heavy ion irradiation on Molybdenum disulfide ($MoS_2$) for application as Gas Sensor. | 10.11 lakh | 2022-25 | Dr. Vinay Kumar – PI |
| 13 | Microbiology | HSCSIT | Development of Iron and Zinc Nano-biofertilizers to Improve Soil Health and Biofortification of Wheat/Pearl millet | 34 lakhs | 2022-25 | Dr. Seema Sagwan - PI |
| 14 | Microbiology | HSCSIT | Development of Liquid Fertilizer from Agro-industrial Waste for | 30 lakhs | 2022-25 | Dr. Anuj Rana – PI |

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| | | | Mitigating Climate Change and Environmental Pollution | | | |
| 15 | Sociology | RKVY-RAFTAAR | /establishment of Lab. To Strenthen the Capacity Building of Scheduled Caste Women Laborers | 19 lakhs | 2022-23 | Dr. Jatesh Kathpalia - PI |

***Annexure COBSH II***

## FACULTY PUBLICATIONS

| Sr. no. | Research Publication (2018-23) | NAAS Rating |
|---|---|---|
| | **BIOCHEMISTRY** | |
| 1. | Tokas, J. and Malik, K. (2018). Utilization of mango (*Mangifera indica* L.) peel for nutritional and functional properties for climate resilient food. *Journal of Agrometerology*, **20**: 178-181. | 6.56 |
| 2. | Tokas, J., Yadav, P, Yashveer, S., Siwach, R. and Singal, H.R. (2018). Application of biodegradable aloe vera gel to maintain the quality and longer shelf life of tomato (Solanum lycopersicum L) during storage. Annals of Biology, 34(1): 88-91. | 4.08 |
| 3. | Tokas, J., Malik, K. and Himani (2018). Analysis of carotenoid composition in petal extracts of marigold (Tagetes erecta). International Journal of Chemical Studies, 6(1): 741-744. | 5.31 |
| 4. | Tokas, J., Punia, H., Malik, A., Satpal., Sangwan, S., Devi, S. and Malik, S. (2021). Growth performance, nutritional status, forage yield and photosynthetic use efficiency of sorghum [Sorghum bicolour (L.) Moench] under salt stress. Range Management and Agroforestry, 42(1): 59-70. | 6.37 |
| 5. | Nagar, S. and Gupta, V.K. (2021). Hyper production and eco-friendly bleaching of kraft pulp by xylanase from Bacillus pumilus SV-205 using agro waste material. Waste and Biomass Valorization, 12: 4019–4031. | 9.70 |
| 6. | Nagar, S., Kharor, N., Kumar, V. and Chugh, L.K. (2019). Isolation of fibrinolytic enzyme nattokinase producing microorganisms from different soya waste locations. Haryana Agricultural University Journal of Research, 49(1): 37-40. | - |
| 7. | Kharor, N., Kumar, V., Nagar, S., Sindh, M. and Chugh, L.K. (2019). Screening of soil bacterial isolate for naringinase production. Haryana Agricultural University Journal of Research, 49(1): 41-43. | - |
| 8. | Pal, A., Bhushan, B., Narwal, R. K. and Saharan, V. (2018). Extraction and evaluation of antioxidant and free radical scavenging potential correlated with biochemical components of red rose petals. Iranian Journal of Science and Technology, 42(3): 1027-1036. | 7.55 |
| 9. | Pal, A., Bhushan, B., Saharan, V. and Sidhu, R. S. (2018). Compositional Analysis and Evaluation of Antioxidant Potential of Fruits of WithaniasomniferaDunal. Journal of Advanced Research in Biochemistry and Pharmacology, 1(1-2): 7-14. | - |
| 10. | Mandhania, S., Pal, A. and Saharan, V. (2019). Simultaneous estimation of twenty eight phenolic compounds by a novel and expeditious method developed on quaternary ultra-performance liquid chromatography system with a photodiode array detector. Biomolecules, 10(1): 6. | 10.92 |

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| **BOTANY AND PLANT PHYSIOLOGY** | | |
| 1. | Kumar, N., Kumar, Y., Ram, K. and Munjal, R. (2018). Screening of barley (*Hordeum vulgare* L.) genotypes for physiological traits under drought stress. *International Journal of Advanced Biological Research*, **8(2):** 212-216. | 4.64 |
| 2. | Kumari, N., Avtar, R., Kumari, A., Rani, B. and Sheoran, R.K. (2018). Antioxidative response of Indian mustard subjected to drought stress. *Journal of Oilseed Brassica*, **9(1):** 40-44. | 4.67 |
| 3. | Singh, P., Jaiswal, S., Sheokand, S. and Duhan, S. (2018). Morpho-physiological and oxidative responses of nitrogen and phosphorus deficiency in wheat (*Triticum aestivum* L.). *Indian Journal of Agricultural Research*, **52**: 42-45. | 4.86 |
| 4. | Bhasker, P., Nandwal, A.S., Kumar, N., Devi, S., Arya, S.S., Chand, G., Kumar, K. and Kumar, S. (2018). High temperature effects on physiological traits and seed yield of chickpea (*Cicer arietinum* L.) cultivars with different heat susceptibility. *International Journal of Natural Sciences Research*, **1(1)**: 18-27. | 5.31 |
| 5. | Kumar, N., Kumar, Y., Kirparam and Munjal, R. (2018). Screening of barley (*Hordeum vulgare* L.) genotypes for physiological traits under drought stress. *International Journal of Advanced Biological Research*, **8 (2)**:212-216. | 4.64 |
| 6. | Sridevi, T. (2018). Degradation of rice straw with microbial consortium. *Climate Change and Environmental Sustainability*, **6**: 167-173. | 4.86 |
| 7. | Madaan, S., Devi, S., Toky, O. P., Kaur, V., Angrish, R., Arya, S. S. and Kumari, A. (2018). Lysimetric quantification of biodrainage potential of some tree species. *The Bioscan*, **13(3)**: 735-742. | 5.26 |
| 8. | Angrish, R. and Devi, S. (2020). Bioinformatics: genomics to phenomics and beyond. *Current Science*, **118 (9)**: 1333. | 6.76 |
| 9. | Goyal, V., Jhangra, D. and Mehrotra, S. (2021). Emerging warriors against salinity in plants: nitric oxide and hydrogen sulphide. *Physiologia Plantarum*, **171**:896–908. | 10.15 |
| 10. | Sarita, Kumari, A., Avtar, R., Rani, B., Goyal, V. and Ahlawat, P. (2022). Germination and early growth of Indian mustard (*Brassica juncea* L.) genotypes under saline conditions. *Journal of Oilseed Brassica*, **13(2)**: 143-152. | 4.67 |
| 11. | Goyal, V., Kumari, A., Avtar, R., Baliyan, V. and Mehrotra, S. (2023). Orthosilicic acid and seaweed extract alleviate the deteriorative efects of high temperature stress in *Brassica juncea* (L.) Czern&Coss. *Silicon*,https://doi.org/10.1007/s12633-023-02376-9 | 8.67 |
| **CHEMISTRY** | | |
| 1. | Kumari, S., Sindhu, M., Singh, S., Goel, N., Rani, I. and Panghal, M. (2022). Determination of total phenolic, free radical scavenging activity and antimirobial activity of root extracts of *Argemone Mexicana* L. in methanol solvent, *Annals of Phytomed*icine, **11(11)**: 1-5. | 5.950 |
| 2. | Kumari, S., Sindhu, M., Goel, N., Panghal, M., Singh, S., and Rani, I. (2022). Effect of Extraction Techniques and Evaluation of Antimicrobial Activity of *Argemonemexicana*L. Leaves and Roots Extracts in Different Solvents, *Journal of Scientific Research and Reports*, **28(6)**: 37-43. | 4.010 |
| 3. | Singh, S., Sangwan, S., Sharma, P., Devi, P. and Moond, M. (2021).Nanotechnology for sustainable agriculture: an emerging perspective. *Journal of Nanoscience and Nanotechnology*, **21(6)**: 3453-3465. | NA |
| 4. | Duhan, A., Oliver, D.P., Rashti, M.R., Du, J. and Kookana, R. (2020). Organic waste from sugar mills as a potential soil ameliorant to minimize herbicide run-off to the Great Barrier Reef. *Science of the Total Environment*, **713**: 136640. | 13.960 |
| 5. | Duhan, A., Punia, S.S., Singh, S. and Hooda, V.S. (2018). Sensitivity and terminal residues of various herbicides screened for thecontrol of broomrape in tomato. *Indian* | 5.17 |

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| | *Journal of Weed Science*, **50(2)**: 146-152. | |
| 6. | Duhan, A., Kadian, M. and Saroj (2018). Behaviour of fipronil in paddy field ecosystem. *Asian Journal of Chemistry*, **30(5)**: 947-952. | NA |
| 7. | Sushil., Chauhan, R., Kumari, B. and Jaglan, R.S. (2018). Studies on persistence and dissipation behavior of selected pesticides in hot pepper (*Capsicum annuum*). *International Journal of Chemical Studies*, **6(1)**: 1791-1794. | 5.31 |
| **FOOD SCIENCE AND TECHNOLOGY** | | |
| 1. | Gehlot, R., Rekha, Kumar, S., Malik, T., Partibha and Singh, R. (2022). Physico-chemical composition of mature green mango fruit, mint leaves and chia seeds. *The Pharma Innovation Journal*, **11(7)**: 1808-1810. | 5.23 |
| **LANGUAGE AND HARYANVI CULTURE** | | |
| 1. | Hooda, K. (2018). Bharti ke katha sahitya meinvyaktitavaanklan. *Indian Journal of Social Concerns*, **7(30)**: 17-19. | 2.82 |
| 2. | 1. Hooda, K. (2019). Mauritius aur Hindi. *Indian Journal of Social Concerns*, **8(32):** 39-40. | 2.82 |
| 3. | Hooda, K. (2020). Bharti keupanyasonmeinpranaybhavna. *Indian Journal of Social Concern*, **39**: 42-44. | 5.114 |
| 4. | Hooda, K. (2021). Manavmulya aur sahitya. *Indian Journal of Social Concern*, **43**: 231-233. | 6.419 |
| 5. | Aparna (2018). Interpreting present through the idiom of past in the plays of girishkarnad. *Quest: International Inter disciplinary Research Journal*, **7(4):** 15-26. | |
| 6. | Aparna (2019). Tale Danda: Expression of the inherent contradictions of the indian social structure. *Middle Flight: SSM Journal of English Literature and Culture*, **8(1)**: 275-285. | |
| 7. | Aparna and Mor, P**.** (2021). Teachers in nation development. *Indian Journal of Social Concerns*, **10(42)**: 137-138. | 5.114 |
| 8. | Aparna andMor, P**.**(2022). Relevance of Gandhi's ideals: A study of Raymond Wells' *Mahatma Gandhi in his own words*. *DogoRangsang Research Journal*, **12(6)**: 83-85. | 5.7 |
| 9. | Aparna andMor, P**.**(2022). Impact of continuing professional development (cpd) of science teachers in spoken english for efficient learning of english language learners (ELLs). *A Journal of Composition Theory*, **15(6)**: 55-60. | 5.7 |
| 10. | Mor, P. (2020). Maya's search of self-fulfilment: A study of Shobha De's *Second Thoughts*. *DogoRangsang Research Journal*, **10(10)**:1-3. | 7.12 |
| 11. | Mor, P. (2020). Gender and social annihilation of women in Shobha De's *Second Thoughts*. *The International Journal of Analytical and Experimental Modal Analysis*, **12**(9): 346-351. | 6.3 |
| 12. | Mor, P. (2020). Individual's struggle against society in the selected works of Vikram Seth. *Chronicle of Humanities and Cultural Studies*, **6** (I): 47-52. | 4.197 |
| 13. | Mor, P. and Aparna (2022). Significance of communication skills and spoken english for learners of english language. Indian Journal of Social Concerns, 47(11): 156-158. | 6.7 |
| 14. | Singh, D. (2019). Literary exploration of women by Bharti Mukherjee in desirable daughters. *Journal of Advances and Scholarly Research in Allied Education*, **16(9)**: 687-6880. | 3.46 |
| 15. | Singh, D. (2020). Alienation and marginality in the works of diaspora writer. *Journal of Interdisciplinary cycle Research*, **12(5)**: 99-103. | 6.2 |

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| 16. | Singh, D. (2019). Women empowerment in indianenglish literature. *DogoRangsang Research Journal*, **4(1)**: 13-17. | 7.12 |
| 17. | Singh, D. (2020). Indian diaspora and self. *Purakala*, **18(31):** 436-443. | 5.60 |
| 18. | Singh, D. (2020). Browning's Love: Spiritual emancipation of man. *Mukt Shabd Journal*, **9(5):** 4852-4856. | 4.6 |
| 19. | Singh, D. (2021). An analysis of relation between psychology and modern novel. *The Criterion: An International Journal in English*, **12(6):** 197-204. | 7.87 |
| 20. | Singh, D. (2021). Tagore's Gora: A reformist's protest against religious and fundamentalism. *International Journal of English Language, Literature in Humanities*, **9(12):** 16-21. | |
| 21. | Singh, D. (2022). Wilfred owen as english soldier and poet. *International Journal of English Researchand Literature*, **12(1):** 17-21. | 8.065 |
| 22. | Singh, D. (2022). Literature is the connecting link between art and lyric. *International Journal of English and Literature,***12(2).**122-124. | 8.065 |
| 23. | Singh, D. (2019). The representation of women in Shakespearean texts. *International Journal of English Research*, **5(2)**: 131-132. | |
| 24. | Singh, D. (2021).The characterstic features of formalist criticism or new criticism. *Journal of Interdisciplinary Cycle Research,***13(3)**: 1308. | |
| 25. | Hooda, K. (2021). Manavmulya aur sahitya. *Indian Journal of Social Concern*, **43**: 231-233. | 6.419 |
| 26. | Mor, P. and Aparna **(**2022). Dr Abdul Kalam's ideologies and perspective: A study of *Wings of Fire: An Autobiography*. *DogoRangsang Research Journal,***13.2(1)**: 155-158. | 5.1 |
| | **MATHEMATICS AND STATISTICS** | |
| 1. | Goyal, M. and Verma, U. (2018). Weather based wheat yield forecasting in eastern zone of Haryana. *International Journal of Applied and Natural Sciences*, **7(4)**: 19-22. | 3.73 |
| 2. | Tonk, M. S., Poonia, H., Bhatia, J.K. and Rekha (2019). A mathematical programming approach to determine the optimum cropping pattern: a case study, *International Journal of Agricultural Science and Research*, **9(3)**: 107-112. | 4.13 |
| 3. | Tonk, M. S., Poonia, H., Rani. R., Nisha and Chaudhary, K. (2019). Teacher education: current trends and challenges in teaching and research, *International Journal of Educational Science and Research*, **9 (4):**15-20. | 4.16 |
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| 89. | Himani and Tokas, J. (2019). Nanopesticides: A novel approach to mitigate pest control in crop plants. In: Emerging technologies towards agriculture, food and environment. Editors: Behl, R.K., Singh, M., Ibenthal, A. and Merbach, W., Agrobios International, Jodhpur: pp.195-207. |

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| 90. | Punia, H., Tokas, J., Malik, A. and Kumar, N. (2021). Enzymes as nano-additives: A promising alternate for biofuel production. In: Nanomaterials: Applications in biofuels and bioenergy production systems. Editors: Kumar, R.P. and Bharathiraja. Academic Press: pp.631-662. ISBN:9780128224014, http://doi.org/10/1016/B978-0-12-822401-4.00019-2. |
| 91. | Rani, A., Tokas, J., Punia, H., Bhadu, S. and Sihag, S. (2020). Plant growth-promoting rhizobacteria: A promising approach towards sustainable agriculture. In: Trends in technology for agriculture, food, environment and health. Editors: Behl, R.K., Singh, M., Ibenthal. A. and Kern, M.J., Agrobios International: Jodhpur, India: pp.383-392. ISBN: 978-81-947480-7-6. P: 383-392. |
| 92. | Rani, A., Rani, K., Tokas, J., Anamika, Singh, A., Kumar, R., Punia, H. and Kumar, S. (2020). Nanomaterials for agriculture input use efficiency. In: Resources use efficiency in agriculture. Editors: Kumar, S., Meena, R.S., Jhariya, M.K., Springer Nature Singapore Pte Ltd.: pp.137-175. ISBN: 978-981-15-6953-1 |
| **MATHEMATICS AND STATISTICS** | |
| 93. | Kumar, V. (2021). E-learning manual on elementary statistics for B.Sc. (Home Science) under NAHEP, Component-2, ICAR, New Delhi |
| 94. | Kumar, V. (2021). E-learning manual on basic statistics for B.Tech. (Biotechnology) under NAHEP, Compnent-2, ICAR(New Delhi) |
| 95. | Kumar, V. and kumara, P. (2022). Applications and demonstrations of bootstrap and other resampling techniques. In: advance research trends in statistics and data science: pp.163-172. ISSBN: 978-81-949305-4 |
| 96. | Kumari, P. and Kumar, V. (2021). Bayesian paradigm in lindley distribution under different loss functions. In: Research trends in mathematics and statistics: pp. 51-61, ISBN: 978-93-91538-03-3 |
| 97. | Kumar, S., Chaudhary, L., Devi, U. and Kumar, M. (2022). Improving the harvest index in F3 population in chickpea (*Cicer arietinm* L.) advances. In: Agricultural, animal and fisheries sciences. Znan Publishers, Society for Technology, Environment, Science and People Kozhikode, India: pp.140-150. ISBN: 978-81-956227-2-6 |
| 98. | Kumar, M., Mittal, A., Sumit and Vikas (2022). Forecasting the dynamic of COVID-19 Epidemic in Haryana Using ARIMA Model. Bright MP Publisher. pp.25-35 |
| 99. | Siwach, V., Tonk, M.S. and Poonia, H. (2023). Simulation of queues in sugar mills using monte carlo technique. In: Frontiers in industrial and applied mathematics. Editors: Sharma, R.K., Pareschi, L., Atangana, A., Sahoo, B., Kukreja, V.K. FIAM. Springer Proceedings in Mathematics and Statistics book series. Springer, Singapore: https://doi.org/10.1007/978-981-19-7272-0_33 |
| 100. | Kiran., Tyagi, R., Kathpalia, J. and Dhingra, A. (2022). Perceived impact of mass media on agricultural production among farmers – A sociological analysis. *Advances in Agricultural, Animal and Fisheries Sciences*, **25**: 82-99. |
| 101. | Pooja., Tyagi, R., Kathpalia, J. and Dhingra, A. (2022). Nature and extent of adoption and knowledge of farmers regarding happy seeder. *Advances in Agricultural, Animal and Fisheries Sciences*, **37**: 116-128. |
| 102. | Kumari, V. and Chander, S. (2022). Drip irrigation technology in citrus crop for sustainable crop production. Book chapter in Sustainability - a way forward Bloomsbury Pub. India Pvt Ltd. pp 176-183. |
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| 105. | Kathpalia,J., Tyagi, R., Kumari,V. and Saroha, A.K.(2022). Adoption of Happy Seeder Farm Technology and Economic Benefits for Sustainable Agriculture Development-A sociological Study. Book Chapter Bloomsbury Publishing,New Delhi, India :184-194 |

## MANNUAL

| Sr. No. | Title |
|---|---|
| | **PHYSICS** |
| 1. | Phogat, V.K., Dahiya, R. and Goyal, V. (2020). Laboratory manual for course on fundamentals of soil science, Department of Soil Science, Chaudhary Charan Singh Haryana Agricultural University, Hisar, CCSHAU/PUB#20-0048: 55 pp. |
| | **MATHEMATICS AND STATISTICS** |
| 2. | Tonk, M. S., Poonia, H. and Vikash (2021). A Manual for PG Course Entitled "Complex Analysis" |
| 3. | Vikash (2021). E-Learning Manual on Basic Mathematics - II for B.Tech. (Biotechnology) under IDP-NAHEP Project, ICAR (New Delhi) |
| 4. | Vikash (2022), E-Learning Manual on Basic Mathematics - I for B.Tech. (Biotechnology) under IDP-NAHEP Project, ICAR (New Delhi) |

## POPULAR ARTICLES/RESEARCH BULLETIN

| Sr. No. | Title |
|---|---|
| | **FOOD SCIENCE AND TECHNOLOGY** |
| 1. | Malik, T., Gehlot, R., Rekha, Kumari, A. and Ekta (2019). Tamatarkevibhinkhadhpadarth. *Kheti Duniya*, **3(5)**: 6. |
| 2. | Ekta, Gehlot, R., Kumari, A., Rekha and Malik, T. (2019). Aonla ek-parirakshitkhadhpadarthanek. *Kheti Duniya*, **3(5)**: 12. |
| 3. | Ekta, Gehlot, R. and Malik, T. (2019). Phalon dwaranirmitmurrabbaavom candy. *Haryana, Kheti***52(5)**: 21-24. |
| 4. | Malik, T., Gehlot, R. and Ekta (2019). Jaykedar achar. *Haryana Kheti***6(6)**: 10-11. |
| 5. | Ekta, Gehlot, R. and Malik, T. (2019). Fhalodwaranirmit: murrabaavem candy. *Haryana Kheti***5(5)**: 24. |
| 6. | Monika, Gehlot, R. and Rekha (2022). Amla keswadistavompaustikvyanjan. *Haryana Kheti*, **55(5)**, 21 and 23. |
| 7. | Monika, Gehlot, R. and Rekha (2022). Tamatarkeswadistavompaustikutpad. *Haryana Kheti*, **55(6)**, 11. |
| | **MICROBIOLOGY** |
| 8. | Malik, K., Mehta, S. and Yadvika (2019). Prali say javeekkhad ka nirman: Pardushan par nirthan. Haryana Kheti, 4: pp-20. |
| 9. | Yadvika., Malik, K. and Garg, M.K. (2019). Briquetting: dhan ka bhusa management ka ek vikalp. Haryana Kheti, 7: pp-11. |
| 10. | Yadvika., Malik, K. and Yadav, Y.K. (2020). Prali say biogas ka uthpadan: ek prabalsambhovittaknik. Haryana Kheti, 2: pp-19. |
| 11. | Malik, K. (2021). Valorization of agricultural waste: new horizons for a sustainable environment. Kshitiz, pp 63-65. |
| 12. | Malik K., Ahalawat S. and Sindhu, M. (2021). Krishi apshisto ka mulyankan: Vaikalpikmulyavardhitupayog, Haryana Kheti, pp- 27 |
| 13. | Kumar, N., Malik, K. and Verma, K. (2021). Phasal avasyo ka uchitparbhan. Haryana Kheti, 54(4): pp-28 |
| 14. | Neeru and Malik, K. (2021). Biogas production and its impacts on environment and mankind. Kshitiz, pp- 43-45 |
| 15. | Malik, K., Kumari, N., Ahlawat, S., Sindhu, M. and Rani, R. (2022). Green technologies in agriculture: the concept for a sustainable future. Nature science e- magazine, 1: pp37-40. |
| 16. | Kayasth, M., Mehta, S., Saharan, B. S.(2020). Akikritkeetprabandhan. Haryana Kheti, 53(8): pp8 |
| 17. | Mehta, S., Malik, K. and Kayasth, M. (2020). Deerghopyogikrishi ki samkalpana. Haryana Kheti, 53(8): pp23 |
| 18. | Mehta, S., Malik, K. and Kayasth, M. (2020). Deerghopyogikrishi ki samkalpana. Haryana Kheti, 53(8): pp23 |

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| 19. | Parshad, J., Saharan, B. S. and Kayasth, M. (2020). Dhaan ki paraali ka ek dilchaspvikalp: Jaivik Khaad. Haryana Kheti, 53(11): pp26 |
| 20. | Saharan, B.S., Kayasth M. and Mehta, S. (2020). Fasal utapadktabadhane wale kavkeeyjaivkurvarak. Krishi sewa |
| 21. | Pawan and Kayasth M. (2021). Gender Equality through life Skill Education. Kshitij,(June issue), pp15. |
| 22. | Parshad, J., Kumar, V. and Kayasth, M. (2022). Krishi me nanoprodyogiki. Haryana Kheti, 55(2): pp2 |
| 23. | Kayasth, M., Ranga, P. and Mehta, S. (2022). Salt tolerant pgpr enhancing productivity of saline soils. Vigyan Varta, 3(7): pp21-23. |
| 24. | Pawan., Kayasth, M., Saharan, B. S. and Ranga, P. (2022). Municipal solid waste: A rising threat to environment. Vigyan Varta, 3(7): pp10-12. |
| 25. | Kumari, S., Ranga, P., Kayasth, M. and Chauhan, S. (2022). Control of pollutants by microbial enzymes. Vigyan Varta, 3(7): pp24-26. |
| 26. | Mehta, S., Malik, K., Kayasth, M. and Ranga, P. (2022). Water hyacinth: A lignocellulosic substrate for ethanol production. Vigyan Varta, 3(8): pp152-154. |
| 27. | Meenakshi., Sangwan, S. and Shikha (2021). Biodegradable municipal solid waste as substrate for ethanol production-A review. Just Agriculture, 2(1): pp1-25. |
| 28. | Sangwan, S., Singh, S. and Meena (2019). Krishi meinrasayanikpadarthon ka badhtaprayog: Sukhamjeevonavmprakritiksthirta par prabhav. Haryana Kheti, 52(06): pp4. |
| 29. | Kaur, H., Sangwan, S., Sharma, P. and Sindhu, M. (2020). CRISPR-Cas: Multiplex genome editing. Agriculture and Food e-Newsletter, ISSN: 2581-8317), 2(8): pp957- 959. |
| 30. | Sangwan V. and Sindhu, M. (2021). Endophytic fungi: Importance in protection of plants from pathogens. Vigyan Varta, 2(7): pp12-14 |
| 31. | Khan. S. and Sindhu M. (2021). Organic farming, Kshitij (June issue), pp20 |
| 32. | Ranga P., Saharan B.S. and Sindhu, M. (2021). Chemical pesticide vs Biopesticide, Kshitij, pp61 |
| 33. | Ranga, P., Sindhu, M., Sangwan, K.S. and Saharan, B.S. (2021). Biopolymer producing microorganisms and its application in agricultural sector. Vigyan Varta, 2(10): 76-77. |
| 34. | Ranga, P., Saharan, B. S. and Sindhu, M. (2021). Parali parbhandan: kisanokesamaksh ek mehtavpoornasamasya. Haryana Kheti, November issue: pp26. |
| 35. | Sindhu, M., Sangwan, S. and Ranga, P. (2021). Krishi meinsukshamjivo ki mehta. Haryana Kheti, pp 9. |
| 36. | Ranga, P., Sindhu, M., Kumari, S. Khan, S. and Saharan, B. S. (2022). Bioremediation of heavy metals. Nature Science e-magazine. February: pp27-29. |
| 37. | Kumari, S., Ranga, P., Sindhu, M. and Nagar, S. (2022). Decolourization of textile dye using microorganisms. Vigyan Varta, 3(5): pp121-123. |
| 38. | Kumari, S., Ranga, P., Malik, K., Sindhu, M. and Nagar, S. (2022). Laccase producing microorganisms and its industrial applications. Nature Science e-Magazine. 2(4): pp11-12. |
| 39. | Wati, L., Rani, K. and Dahiya, A. (2019). Actino bacteria: Jaivik urvarak. Haryana Kheti, pp 21 |
| 40. | Rani, K., Wati, L. and Kavita (2019). Jaivik urvarak: Aadhunik krishipranali ki vyapakaavasyakta. Haryana Kheti, pp 8 |
| 41. | Yadav, D. and Wati, L. (2019). Management of rice straw through microorganisms. Haryana Kheti, pp 32 |
| 42. | Yadav, D., Wati, L. and Singh, S. (2019). Importance of zero tillage in agriculture. Haryana Kheti, pp 31 |
| 43. | Yadav, D., Singh, V. and Wati, L. (2019). Sukshamjeevonkemadhyam se dhan ki pual se bioethanol aur compost ka utpadan. Prasar Doot, pp32-34 |
| 44. | Rani, K., Parashar, A. and Wati, L. (2020). Jaiv In dhan: Navikarneeyurjasrot. Haryana Kheti, pp26 |
| 45. | Rani, K., Sharma, N. and Wati, L. (2021). Sukshmjeevondwaraveeshaktpadarthon ka Jaiv nimnikaran (2021). Haryana Kheti, (4): pp 18-19 |
| 46. | Chopra, G., Rani, S. and Wati, L. (2021). Krishi me flyash ka upyog. Haryana Kheti, (4): pp 30-32 |
| 47. | Chopra, G. and Wati, L. (2022). Bioflocutpadan: Khadyautpadankee ek |

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| | mahatavpurnvekalpiksatatjaliyaparnali. Haryana Kheti, 10: pp 24 - 32 |
| | **LHC** |
| 48. | Punia H., Tokas, J. and Mor, P.2020. Anajadharit (bioactive) yogik aur unkeswasthlaabh. Haryana Kheti, 4:7. |
| 49. | Mor, Poonam and Aparna. 2020. Importance Of Optimism In Life. Khitij, pp6. |
| 50. | Mor, Poonam and Redhu, Neeru. 2020. Reading for learning. Khitij, pp9. |
| 51. | Sangwan Seema and Poonam Mor. 2020. World Environment Day. Khitij, pp62-63. |

## RADIO TALK/TV TALK

| Sr.No. | Radio Talk |
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| | **MICROBIOLOGY** |
| **1.** | Malik, K. Radio talk on 02.04.2022 on 'Various uses of rice straw' at community radio station, CCS HAU HISAR |
| | **LHC** |
| **2.** | Mor, P. Radio-talk with Dr. Sangeeta Chahal, HOD, Food and Nutrition, COHS on 5.05.2020 at radio-station Gandhi Bhawan |
| | **FOOD SCIENCE AND TECHNOLOGY** |
| **3.** | Rekha, TV talk on "Corona Kaal Main MahilaShashaktikaran Hetu Bharat Sarkar keBadte Kadam" recorded on 20.6.2020 at DoordarshanParsar Bharti, Kender, Hisar and later broadcasted on DD Hisar |

***Annexure COBSH III***

## FACULTY PARTICIPATION IN SEMINAR/ CONFERENCE/ WORKSHOP

| Sr. No. | Name | Department | Seminar/ Conference/ Workshop details |
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| | | **2018** | |
| | | **Biochemistry** | |
| 1. | Dr. Jayanti Tokas | | Attended and presented paper in 10th International Seminar on "Harnessing science and technology applications through capacity building and economic policies for sustainable development" from September 13-15, 2018 at Mahatma Gandhi House, Goettingen, Germany. |
| | | **BOTANY AND PLANT PHYSIOLOGY** | |
| 2. | Dr. Sarita Devi | | Attended and presented paper in International Conference on "Bio and nano technologies for sustainable agriculture, food, health, energy and industry" from February 21-23, 2018 organized by Department of Bio and Nano Technology at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | | Attended DAE-BRNS Life Sciences Symposium on "Frontiers in sustainable agriculture" from April 26-28, 2018 organized by Bio-Science Group at Bhabha Atomic Research Centre, Trombay, Mumbai, Maharashtra, India. |
| 3. | Dr. Anita Kumari | | Attended International Workshop on "Application of thermodynamic prediction for development of microbial biotechnological approaches" from November 12-21, 2018 organized by GIAN-MHRD, Govt. of India at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 4. | Dr. Vinod Goyal | | Attended 21 days Training on "Advances in simulation modeling and climate change research towards knowledge based agriculture" from November 13-December 03, 2018 at CESCRA, IARI, New Delhi, India. |
| | | | Attended "KRUSHIK–live demos and agri-expo" on January, 2018 at Krishi Vigyan Kendra, Baramati and KF Bioplants for Tissue Culture facility, Pune, |

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| | | Maharashtra, India. |
| 5. | Dr. Sukham Madaan | Attended and presented paper in International Conference on "Sustainable agriculture, energy, environment and technology" from February 24-25, 2018 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| **CHEMISTRY** | | |
| 6. | Dr. Sushila Singh | Attended GIAN-MHRD Workshop on "Vibrational spectroscopy and molecular vibrations" from January 15-19, 2018 at National Institute of Technology, Kurukshetra, Haryana, India. |
| | | Attended and presented paper in International Conference on "Bio and nano technologies for sustainable agriculture, food, health, energy and industry" from February 21-23, 2018 organized by Department of Bio and Nano Technology, Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended GIAN-MHRD Workshop on "Nanotechnology: nanoparticle synthesis and conjugation chemistry for bio application" from July 16-20, 2018 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| 7. | Dr. Vipan Kumar | Attended and presented paper in National Conference on "Molecules and materials technology" on February 17, 2018 at National Institute of Technology, Kurukshetra, Haryana, India. |
| | | Attended and presented paper in 9th National Conference on "Recent advances in chemical, biological and environmental sciences" from February 09-10, 2018 at M. M. Modi College, Patiala, Punjab, India. |
| **LHC** | | |
| 8. | Dr. Poonam Mor | Attended and presented paper in National Seminar on "Skill India- a great vision for 21st century progressive India" on October. 20, 2018 at Fateh Chand College, Hisar, Haryana, India. |
| | | Attended training on "Accounts for teachers and technical employees for departmental examination", organized by AAREM, DHRM, CCSHAU, Hisar from May 01-05, 2018 |
| **MATH & STAT** | | |
| 9. | Dr. Manoj Kumar | Attended training on "Recent Development in Statistical modeling and Forecasting" held at IASRI, New Delhi from December 28, 2017 to Janauary 17, 2018 |
| **MICROBIOLOGY** | | |
| 10. | Dr. Leela wati | Attended National Seminar on "Management of paddy straw for bio- CNG, manure, employment and swachhbharat' from May 16-17, 2018 organized by Centre for Research in Rural and Industrial Development (CRRID) at Chandigarh, India. |
| 11. | Dr. Baljeet Singh Saharan | Attended and presented paper in International conference on "Sustainable agriculture, energy, environment and technology" from February 24-25, 2018 at Maharshi Dayanand University (MDU), Rohtak, Haryana, India. |
| | | Attended 10th International Seminar on "Harnessing science and technology applications through capacity building and economic policies for sustainable development" from September 13-15, 2018 at Mahatma Gandhi House, Goettingen, Germany. |
| | | Attended Workshop on "Bioinformatics – basic tools and its applications" on December 09, 2018 at DNA Labs – A Centre for Applied Sciences, Dehradun, Uttarakhand, India. |

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| 12. | Dr. Kamla Malik | Attended Workshop on "Intellectual property rights- a mechanism for social economic growth" on November 22, 2018 at CCS Haryana Agricultural University, Hisar, Haryana. |
| 13. | Jagdish Parshad | Attended Training on "Accounts for teachers and technical employees for departmental examination" from May 01-05, 2018, organized by The Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended "Induction Training" from January 04 - February 03, 2018 organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended XXV Annual Review Meeting of All India Coordinated Research Project on "Weed management" from June 07-08, 2018 at G. B. Pant University of Agriculture and Technology, Pant Nagar, U.S. Nagar, Uttarakhand, India. |
| **Physics** | | |
| 14. | Dr. Rita Dahiya | Attended and presented paper in 83rd Annual Convention of Indian Society of Soil Science and National Seminar on "Developments in soil science" from November 27-30, 2018 at Anand Agricultural University, Anand, Gujarat, India. |
| **FST** | | |
| 15. | Dr. Rekha | Attended training on "Accounts for teachers and technical employees for departmental examination", organized by AAREM, DHRM, CCSHAU, Hisar from May 01-05, 2018 |
| 16. | Dr. Anju Kumari | |
| 17. | Dr. R.B. Gewal | Attended "National start up summit" held at CCSHAU, Hisar from June 01-02, 2018 |
| 18. | Dr. S. Siddiqui | |
| 19. | Dr. Rakesh | |
| 20. | Dr. Rekha | |
| 21. | Dr. Anju Kumari | |
| 22. | Dr. Rekha | Attended refresher course on "Educational technology" organized by Academy of Agricultural Research and Education Management, DHRM, CCSHAU, Hisar form July 21 to August 10, 2018 |
| | | Attended, participated and coordinated in the awareness campaign "Prakarmparv" on 2nd anniversary of surgical strike organized by Indian Army at Military Station, Hisar on September 29, 2018 |
| | | Attended training on "IUMS pre examination module related to date sheet, admit card and sitting plan" and at Computer Section on November 29, 2018 |
| | | Attended training on "ERF/IUMS for online attendance and marks feeding of students enrolled in co-curricular activities" at computer lab of DSW on November 30, 2018 |
| **SOCIOLOGY** | | |
| 23. | Dr. Subhash Chander | Attended "National Start Up Summit" held at CCS HAU, Hisar, from June 1-2, 2018 |
| | | Attended Seminar on "IPR – A mechanism for social and economic growth" held at CCSHAU, Hisar on November 12, 2018. |
| | Dr. Vinod Kumari | Attended Seminar on IPR – A mechanism for social and eoconomic growth on November 12, 2018 organized by IPR Cell, DHRM, CCSHAU, Hisar |
| 24. | Dr. Jatesh Kathpalia | Attended Seminar on IPR – A mechanism for social and eoconomic growth on November 12, 2018 organized by IPR Cell, DHRM, CCSHAU, Hisar |

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| | | Attended International Conference on 'A Culture of Learning and Experimentations for Fostering Well-Being: Some Lessons" on December 17, 2018 at New Delhi |
| **ZOOLOGY** | | |
| 25. | Dr. Tejpal Dahiya | Presented a paper entitled "The study of seasonal variation on health, reproduction and growth of different earthworm species viz. Eisenia fetida, Endriluseuginiae and Perionyx excatives" in the D.G.H.E. sponsored two days National Seminar on "Environment issues: impact, control &Challenges" held from 09-10 March 2018 at Manohar Memorial Post Graduate College, Fatehabad. |
| | | Successfully completed the UGC Sponsored Interdisciplinary Refresher course on Research Methodology from 15.11.2018 to 05.12.2018 organized by UGC-Human Resource Development Centre at GJUS&T, Hisar, Haryana |
| **2019** | | |
| **BIOCHEMISTRY** | | |
| 26. | Dr. Jayanti Tokas | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in International Conference on "Climate change towards health and agricultural sustainability" from February 18-20, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended 9th Workshop on "Aberystwyth bioinformatics" on June 28, 2019 at Aberystwyth University, Aberystwyth, United Kingdom. |
| | | Attended SPARC-MHRD sponsored International Workshop cum Training on "New approaches in seed technology for quality assurance" from November 20-29, 2019 organized by CCS Haryana Agricultural University in collaboration with Massey University, New Zealand. |
| | | Attended "Annual learning and Teaching Conference" from July 08-10, 2019 at Aberystwyth University, Aberystwyth, United Kingdom. |
| **BOTANY AND PLANT PHYSIOLOGY** | | |
| 27. | Dr. Sarita Devi | Attended and presented paper in International Conference on "Climate changes towards health and agricultural sustainability" from February 18-20, 2019 organized by Department of Environmental Science and Engineering at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended International Congress on "Environmental research" from December 19-21, 2019 at Kalady, Ernakulam, Kerala, India. |
| 28. | Dr Anita Kumari | Attended SPARC-MHRD Sponsored International Workshop on "Molecular mapping of economic traits using high-throughput technologies" from July 08 - 17, 2019 organized by Department of Botany of Plant Physiology, College of Basic Sciences and Humanities at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in the International Symposium on "Innopreneurship: a need of sustainable agriculture" from February 02-03, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |

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| 29. | Dr. Sukham Madaan | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture - novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| **CHEMISTRY** | | |
| 30. | Dr. Anushree | Attended and presented paper in Silver Jubilee International Conference on "Physical and biological sciences at cross-roads: interdisciplinary explorations and exciting challenges" from December 29-31, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended "Induction training" from June 01- July 01, 2019 organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 31. | Dr. Sushila Singh | Attended International Symposium on "Innopreneurship: a need of sustainable agriculture" from February 02-03, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 32. | Dr. Anil Duhan | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 33. | Dr. Sonu Chauhan | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in Silver Jubilee International Conference on "Physical and biological sciences at cross-roads: interdisciplinary explorations and exciting challenges" from December 29-31, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended "Induction training" from June 01- July 01, 2019 organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 34. | Dr. Jayant Sindhu | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 35. | Dr. Vipan Kumar | Attended and presented paper in 3rd International Conference on "Innovations in science, engineering and technology" from November 09-10, 2019 organized by Department of Chemistry, Arya P.G. College at Panipat, Haryana, India. |
| 36. | Dr. Sachin Kumari | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in Silver Jubilee International Conference on "Physical and biological sciences at cross-roads: interdisciplinary explorations and exciting challenges" from December 29-31, 2019 at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| **LHC** | | |
| 37. | Dr. Krishna | अंतर्राष्ट्रीय संगोष्ठी मॉरीशस वह मातृभाषा सेवा मिशन के मॉरीशस के समाज साहित्य |

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| | Hooda | एवं भाषा का भारत पर प्रभाव जनवरी 28, 2019 हिंदी प्रचारिणी सभा कुरुक्षेत्र विश्वविद्यालय द्वारा आयोजित |
| | | राष्ट्रीय संगोष्ठी "मानव मूल्य और साहित्य" फरवरी 7, 2019 बाबा मस्तनाथ विश्वविद्यालय रोहतक के तत्वविधान में उत्तर प्रदेश भाषा संस्थान लखनऊ के सहयोग से आयोजित |
| 38. | Dr. Aparna | Attended and presented a lead paper in the National Seminar on "Innovative strategies for gender equality" on March 8, 2019 at I. C. College of Home Science, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Chaired Technical Session inInternational Seminar on "Indian writing in english: new trends and approaches: a global perspective" on February 11, 2019 at Department of English, Chaudhary Ranbir Singh University, Jind, Haryana, India. |
| | | Attended and presented paper in the Golden Jubilee & 14th International Annual Conference "Right to English" from 9 - 12 October 2019 at ELT@I Amity University, Noida, Haryana, India.. |
| 39. | Dr. Poonam Mor | Attended and presented poster in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented poster in International Symposium on "Innopreneurship: a need of sustainable agriculture" from February 2-3, 2019at College of Agriculture, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in International Seminar on "Indian writing in english: new trends and approaches: a global perspective" on February 11, 2019 at Department of English, Chaudhary Ranbir Singh University, Jind, Haryana, India. |
| **COMPUTER SECTION** | | |
| 40. | Dr. Sheetal Choudhary | Attended and Paper presented in Golden Jubilee International Conference on "New Millennia Agriculture Novel Trends and Future Scenario" from Nov 6 -8, 2019 organized by CCS Haryana Agricultural University, Hisar and Co organized by India Meteorological Department, New Delhi |
| | | Attended and Paper presented in two days National Seminar on "Biodiversity : Issues, Challenges and opportunities" from July 16 – 17, 2019 organized by Department of Zoology & Aquaculture, COBS&H , CCS HAU Hisar |
| **MATH & STAT** | | |
| 41. | Dr. Manoj Kumar | Attended and presented a paper in Golden Jubilee International Conference on "New Milennia Agriculture Novel Trends and Future Scenario" held at CCS HAU, Hisar from November 6-8, 2019 |
| 42. | Dr. Vikash | Attended and presented a paper in National Seminar on "Mathematical Sciences and Applications (NSMSA 2019)" held at Maharshi Dayanand University Rohtak on December 22, 2019 |
| | | Attended and completed Induction Training Course held at CCSHAU, Hisar from June 01, 2019 to July 01, 2019 |
| | | Attended and completed the Faculty Development Program on "Deep Learning and Applications" held at IIT Roorkee from May 27-31, 2019 |
| 43. | Dr. Sarita Rani | Attended and completed Induction Training Course held at CCSHAU, Hisar from June 1, 2019 to July 1, 2019 |
| 44. | Dr. Manoj Kumar | Attended training on "Statistical Advances in Designing of Agricultural experiments and data analysis" held at IASRI, IARI-New Delhi from July 19, 2019 to August 08, 2019 |

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| **MOLECULAR BIOLOGY AND BIOTECHNOLOGY** | | |
| 45. | Dr. Nita Lakra | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended CAFT Training on "Next generation sequencing and its application to crop science" on September 03, 2019 organized by NRCPB at New Delhi, India. |
| | | Attended "Plant molevulat biology" from October 23-25, 2019 at Amsterdam, Netherlands. |
| **MICROBIOLOGY** | | |
| 46. | Dr. Leela wati | Attended National Workshop on "Production, processing and value addition of nutri-cereals (millets) in India" on September 19, 2019 organised by Bajra Section at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 47. | Dr. Baljeet Singh Saharan | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Workshop on "Bio-analytical tools and techniques in the modern era of diagnostics" from April 13-14, 2019 at DNA Labs – A Centre for Applied Sciences (DLCAS) at Dehradun, Uttarakhand, India. |
| | | Attended National Seminar on "Biodiversity : issues, challenges and opportunities" from July 16-17, 2019 organized by Department of Zoology and Aquaculture, College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended "Induction training" from November 18 to December 17, 2019 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended 13th National Symposium of IAUA on "Low budget natural farming" on September 20, 2019 at Gurukul, Kurukshetra, Haryana, India. |
| | | Attended Webinar on "Teaching and learning modes post covid – 19" on April 29, 2020 organized by Department of Electronics and Communication Engineering at Punjabi University, Patiala, Punjab, India. |
| 48. | Dr. Kamla Malik | Attended 6th World Congress on "Nanomedical Sciences from January 07-09, 2019 at Delhi, India. |
| | | Attended International Symposium on "Innopreneurship: A need of sustainable agriculture" from February 02-03, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India |
| | | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Workshop on "Awareness and use of scopus citation databse" on November 29, 2019 organized by Nehru Library, at CCS Haryana Agricultural University, Hisar, Haryana, Hisar. |
| 49. | Dr. Anuj Rana | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in International Conference of Association of Microbiologist of India from November 15-18, 2019 at Central University of Haryana, Mahendargarh, Haryana, India. |

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| 50. | Dr. Meena Sindhu | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 51. | Dr. Monika Kayasth | |
| 52. | Dr. Poonam Ranga | |
| 53. | Dr. Shikha Mehta | Attended and presented paper in International conference on "Climate change towards health and agricultural sustainability" from February 18-20, 2019 organized by Department of Environmental Science and Engineering at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended "Induction training" from June 01- July 01, 2019 organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 54. | Jagdish Parshad | Attended and presented paper in "Golden jubilee international conference on new millenia agriculture- novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 55. | Dr. Ajay Kumar | Attended and presented paper in International Conference of Association of Microbiologist of India from November 15-18, 2019 at Central University of Haryana, Mahendargarh, Haryana, India. |
| **PHYSICS** | | |
| 56. | Dr. Rita Dahiya | Attended "Golden jubilee international conference on new millenia agriculture-novel trends and future scenario" from November 06-08, 2019 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| **FST** | | |
| 57. | Dr. Anju Kumari | Attended and participated in international training on "Food processing" from the Department of Chemical & Materials Engineering, Faculty of Engineering, The University of Auckland, New Zealand under NHAEP- institutional development plan project (IDP) from April 01 to June 29, 2019 |
| | | Attended workshop on "Libraries and learning services" at The University of Auckland, New Zealand on May 20, 2019 |
| | | Attended workshop on "Literature review: organizing and writing" at The University of Auckland, New Zealand on May 27, 2019 |
| | | Attended workshop on "Academic writing: what examiners expect" at The University of Auckland, New Zealand on May 28, 2019 |
| | | Attended workshop on "Three minute thesis (3MT) preparation" at The University of Auckland, New Zealand on June 12, 2019 |
| | | Attended and participated in ICAR short course on "Role of hygiene in food safety and quality control" organized at LUVAS, Hisar from September 09-18, 2019 |
| | | Attended and presented poster inGolden jubilee international conference on "New millennia agriculture novel trends andfuture scenario" organized by CCSHAU, Hisar, India from November 06-08, 2019 |
| 58. | Dr. Rekha | Attended training on "IUMS admission and academics module" at committee room of COBS&H on May 29, 2019 |
| | | Attended national conference on "Capacity building on sustainable food value chains for enhanced food safety and quality" organized by National Productivity Council at New Delhi from August 21-22, 2019 |

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| | | Attended and presented poster inGolden jubilee international conference on "New millennia agriculture novel trends andfuture scenario" organized by CCSHAU, Hisar, India from November 06-08, 2019 |
| 59. | Dr. Ritu Sindhu | Attended "Induction training course" organized by the Academy of Agricultural Research and Education Management (AAREM) from June 01 to July 01, 2019 at CCSHAU, Hisar |
| | | 3rd International conference on "Global initiatives in agricultural and applied sciences for eco-friendly environment (GIASE-2019)" organized at Tribhuvan university, Kathmandu, Nepal from June 16-18, 2019. |
| | | Attended national workshop on "Production, processing & value addition of nutri-cereals (Millets)" in India organized by Department of Genetics & Plant Breeding, CCSHAU, Hisar and sponsored by Directorate of Millets Development, Ministry of Agriculture and Farmers Welfare, Govt. of India at CCSHAU, Hisar on September 16, 2019 |
| | | Attended and presented poster inGolden jubilee international conference on "New millennia agriculture novel trends andfuture scenario" organized by CCSHAU, Hisar, India from November 06-08, 2019 |
| **SOCIOLOGY** | | |
| 60. | Dr. Subhash Chander | Training attended on "Biodiversity Governance" held at SIRD-HIPA, Shimla (HP) organized by NIRD & Panchayati Raj, MoRD, Govt. of India from March 11-13, 2019. |
| | | Attended Three days Training of Traineers (ToT) programme on "Biodiversity Governance" from 11th to 13 March, 2019 at Himachal Pradesh Institute of Public Administration, Shimla (HP) |
| 61. | Dr. Rashmi Tyagi | Attended and presented paper in International Symposium on "Innopreneurship : A need of Sustainable Agriculture & Rao-Bahadur Dr. Ram Dhan Singh Fifth Memorial Lecture" from 2-3 February, 2019 at CCSHAU, Hisar |
| | | Attended Three days Training of Traineers (ToT) programme on "Biodiversity Governance" from 11th to 13 March, 2019 at Himachal Pradesh Institute of Public Administration, Shimla (HP) |
| | | Attended One day workshop on "Awareness and use of Scopus Citation Database" on 29th November, 2019 organized by Nehru Library, CCS HAU, Hisar |
| 62. | Dr. Vinod Kumari | Attended Three days Training of Traineers (ToT) programme on "Biodiversity Governance" from 11th to 13 March, 2019 at Himachal Pradesh Institute of Public Administration, Shimla (HP) |
| | | Attended National Workshop on Empowering Women through Legal Awareness from March 28-29, 2019 organized by Women's Studies Research Centre, Kurukshetra University, Kurukshetra |
| 63. | Dr. Jatesh Kathpalia | Attended One day workshop on "Awareness and use of Scopus Citation Database" on 29th November, 2019 organized by Nehru Library, CCS HAU, Hisar |
| 64. | Dr. Bas Kaur | Attended One day workshop on "Awareness and use of Scopus Citation Database" on 29th November, 2019 organized by Nehru Library, CCS HAU, Hisar |
| | | Attended Induction Training Course from 18 Nov, 2019 to 17 December, 2019 at DHRM, CCSHAU, Hisar. |
| **ZOOLOGY** | | |
| 65. | Dr. Tejpal | Successfully completed the 34th ICAR–CAFT course on 'Issues in export of |

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| | Dahiya | livestock and livestock products vis-a-vis SPS agreement' organized by the ICAR-Centre for Advanced |
| | | National seminar on Biodiversity Issues, challenges and opportunities held on July 16-17, 2019, organized by Department of Zoology & Aquaculture, COBS&H, Hisar 125004 |
| | | One-Day Alumni Meet held on July 18, 2019, organized by Department of Zoology & Aquaculture, COBS&H, Hisar 125004 |
| **2020** | | |
| **BOTANY AND PLANT PHYSIOLOGY** | | |
| 66. | Dr. Sarita Devi | Attended and presented paper in International Plant Physiology Virtual Conference on "Prospects of plant physiology for climate proofing agriculture" from December 06-07, 2020 organized by Sher-e-Kashmir University of Agricultural Science and Technology, Jammu, India and Indian Society for Plant Physiology, New Delhi, India. |
| | | Attended Training on "Advances in fodder production, utilization and conservation for improving livestock health, productivity and environmental sustainability" from August 20- September 09, 2020 organized by ICAR-Indian Grassland and Fodder Research Institute Regional Research Station, Srinagar and National Agriculture Development Cooperative Ltd. Delina, Baramulla, India. |
| 67. | Dr Anita Kumari | Attended and presented paper in International Plant Physiology Virtual Conference on "Prospects of plant physiology for climate proofing agriculture" from December 06-07, 2020 organized by Sher-e-Kashmir University of Agricultural Science and Technology, Jammu, India and Indian Society for Plant Physiology, New Delhi, India. |
| 68. | Dr. Sukham Madaan | Attended online Webinar on "Molecular taxonomy and DNA barcoding: concepts, methods and applications" on May 20, 2020 organized by Department of Botany at R.D. and S.H. National College and SWA Science college, Mumbai, Maharashtra, India. |
| **CHEMISTRY** | | |
| 69. | Dr. Anil Duhan | Attended and presented paper in Global Conference of South-South Cooperation Forum on "Food security and agro-biodiversity in times of covid-19 and climate change" from November 30 to December 02, 2020 organized by United Nations Environment Programme in collaboration with Global Alliance for the Future of The Food, Icimod, Ifad, Ifpri. |
| 70. | Dr. Sonu Chauhan | Attended and presented paper in 1st International Conference of Indian Science Congress Association- Rohtak Chapter on "Science and technology: Rural Development" from March 04-05, 2020 at Maharshi Dayanand University, Rohtak, Haryana, India. |
| 71. | Dr. Ravi Kumar | Attended National Webinar on "Awareness and use of CeRA resourses through J-gate discovery platform" on June 25, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| **LHC** | | |
| 72. | Dr. Krishna Hooda | Attended National Web Sangoshti on 'Contribution of Jambhani literature for Rajasthani language and literature' on November 11, 2020 organized by Jambhani Sahitya Academy, Bikaner, Rajasthan, India. |

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| | | Attended International Webinar on 'Australia meinhindiadhyapan pe khatra' on December 6, 2020 organised by Kendriya Hindi Sansthantatha Vishwa Hindi Sachivalaya. |
| 73. | Dr. Aparna | Attended "National level e-quiz on virtual learning during covid-19 crisis" from 03-05, July 2020 organised by the Post-Graduate and Research Department of English in collaboration with the Internal Quality Assurance Cell (IQAC), Chevaliar T. Thomas Elizabeth College for Women, Chennai. |
| | | Addressed the participants as Guest of Honour in the National Webinar on "Acquiring proficiency in english for everyday communication, written and oral" on July 15, 2020 organised by DAV Centenary College, Faridabad, Haryana, India. |
| | | Attended in online Quiz on 'English drama in the eighteenth century' on July 27, 2020 organised by Department of English, Kisan P.G. College, Bahraich, Uttar Pradesh, India. |
| | | Attended in online Quiz on 'English fiction in the eighteenth century' on July 27, 2020 organised by Department of English, Kisan P.G. College, Bahraich, Uttar Pradesh, India. |
| | | Attended a webinar on the topic "Bharat ki Swatantrata me Vaigyanikon ka Yogdan" on October 27, 2020organised by Vigyan Bharti (Hisar chapter), Haryana, India. |
| | | Attended and presented paper in Webinar "Culture-An Integral Part of Life" from May 19-21, 2020 organised by Government College, Dhaliara, HPU, Shimla, India. |
| | | Chaired Technical Session in a Webinar “Culture-an integral part of life” from May 19-21, 2020 organized by Government College Dhaliara, HPU, Shimla, India. |
| | | Course Director of Three Weeks Online Refresher Course On "Language skills” in collaboration with D.H.R.M from May 27-June 16, 2020 at D.H.R.M, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 74. | Dr. Poonam Mor | Course Co-ordinator of Three Weeks Online Refresher Course On "Language skills” in collaboration with D.H.R.M from May 27-June 16, 2020 at D.H.R.M, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in a webinar “Culture-an integral part of life” from May 19-21, 2020 organized by Government College Dhaliara, HPU, Shimla, India. |
| | | Attended and presented a paper in International Virtual Conference “Life culture and education today” on June 5-6, 2020 organized by Mahatma Gandhi Education & Welfare Society, Parbhani (M.S.), Late Ramesh Warpudkar ACS College, Sonpeth Dist. Parbhani (M.S.), Shri PanditguruPardikar College, Sirsala, Dist. Beed (M.S.) and Kala Mahavidyalaya, Nandurghat, Dist. Beed (M.S.), India. |
| | | Attended Webinar on “Awareness and use of e-resources through remote login” on June 23, 2020 conducted by Nehru Library, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended an Interdisciplinary National Conference on “Cinema, literature and society” on June 24, 2020 organized by D.N. P.G. College, Hisar, Haryana, India. |
| | | Attended Webinar on “Awareness and use of e-Resources through Mobile app” Nehru Library on December 18, 2020 Haryana, India. |
| | | Attended National Webinar on “Impact of covid-19 on higher education: new challenges” on June 10, 2020 organized by D.N. P.G. College, Hisar, Haryana, |

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| | | India. |
| | | Attended National Webinar on “Role of science and technology during covid-19 pandemic” on June 12, 2020 organized by D.N. P.G. College, Hisar, Haryana, India. |
| | | Attended National Conference on “Cinema, literature and society” on June 24, 2020 organized by D.N. P.G. College, Hisar, Haryana, India. |
| | | Attended National Webinar on Awareness and use of cera resources through j-gate discovery platform on June 25, 2020 in collaboration with consortium for eResources in Agriculture (CeRA) DKMA-ICAR , New Delhi at Nehru Library, CCS Haryana Agricultural University, Hisar , Haryana, India.. |
| 75. | Dr. Devender Singh | Attended and presented paper entitled "NEP:2020 Impact on Higher Education in technical session on November, 12-14, 2021 organized by R.K.S.D. College Kaithal,Haryana in Collaboration with MVSU, Mundri, Kaithal Haryana. |
| **COMPUTER SECTION** | | |
| 76. | Dr. Sheetal Choudhary | Attended and Paper presented in online National Seminar on “Mathematical Sciences : Repositories of Logical Thoughts and Analytical Tools” on December 22, 2020 organized by Dept. of Mathematics and Statistics, COBS&H, CCS HAU Hisar |
| **MATH & STAT** | | |
| 77. | Dr. Manoj Kumar | Attended and completed online refresher course on “Language Skills” held at Directorate of Human Resource Management, CCS HAU, Hisar from May 27, 2020 to June 16, 2020 |
| 78. | Dr. Sarita Rani | Attended and completed online refresher course on “Language Skills” held at Directorate of Human Resource Management, CCS HAU, Hisar from May 27, 2020 to June 16, 2020 |
| | | Attended one day workshop on “Digital Library for Strengthening Agricultural knowledge in NARES” held at CCSHAU, Hisar on February 12, 2020 |
| | | Attended and completed the refresher course on “Statistical Tools and Techniques for Analysis of Agricultural Data” held at CCSHAU, Hisar from 8th July 08-28, 2020 |
| | | Attended and presented a paper in online National Seminar on “Mathematical Sciences: Repositories of Logical Thoughts and Analytical Tools” held at Department of Mathematics and Statistics, CCSHAU, Hisar on December 22, 2020 |
| 79. | Dr. Vikash | Attended and completed the refresher course on “Statistical Tools and Techniques for Analysis of Agricultural Data” held at CCSHAU, Hisar from 8th July 08-28, 2020 |
| **MICROBIOLOGY** | | |
| 80. | Dr. Baljeet Singh Saharan | Attended “COVID-19 pandemic general awareness quiz program", on May 09, 2020 at Dev Bhoomi Institute of Pharmacy and Research, Dev Bhoomi Group of Institutions, Dehradun, Uttarakhand, India. |
| | | Attended International Webinar on “Emerging trends in physics and its applications in agriculture” on June 29, 2020 organized by Department of Physics, College of Basic Sciences and Humanities at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended International Webinar on “COVID-19 and beyond: future prospects in biotechnology” from July 08-09, 2020 organized by Department of Molecular and Cellular Engineering, Jacob Institute of Biotechnology and Bioengineering (JIBB) at Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh, India. |

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| | Dr. Baljeet Singh Saharan | Attended International Webinar on "International funding for young researchers" on July 11, 2020 organized by Directorate of research, at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended National Webinar on "Awareness and use of CeRA resourses through J-gate discovery platform" on June 25, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended National Webinar on "Zero budget natural farming" from June 06-07, 2020 organized by Association of Plant Science Researchers (APSR) Plantica Foundation, Dehradun, Uttarakhand in association with Department of Agriculture, Amritsar Group of Colleges (AGC), Punjab, India. |
| | | Attended National Webinar on "Journal discovery platform (e- resource) J-gate" on June 04, 2020 organized by Nehru Library at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Workshop on "Digital library for strengthening agricultural knowledge in NARES" on February 12, 2020 organized by Nehru Library, at CCS Haryana Agricultural University, Hisar in collaboration with Indian Agricultural Research Institute, New Delhi, India. |
| | | Attended Workshop on "Awareness and use of scopus citation database" on November 29, 2020 organized by Nehru Library at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Training on "Educational technology" from December 18, 2019 - January 07, 2020 organized by the Academy of research and Education management, Directorate of Human Resource management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended National Workshop cum Webinar on "Endogenous, exogenous and housekeeping genes as an internal controls for the optimization, standardization and validations of nucleic acid amplification technologies for SARS-Cov-2 and Swine Flu (H1N1) virus 2009 pandemics" from June 27-28, 2020 organized by DNA Labs-A Centre for Applied Sciences (DLCAS) at Dehradun, Uttrakhand, India. |
| | | Attended Refresher Course on "Statistical tools and techniques for analysis of agricultural data" from July 08-28, 2020 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended 12th IFSDAA International Webinar on "Trends in technology for agriculture, food, nutrition, environment and health" on October 02, 2020 at Jagannath university, Delhi NCR, Haryana, India. |
| | | Attended Workshop on "Low budget natural farming" on March 12, 2020 organized by Directorate of Agriculture and Farmers Welfare, Government of Haryana at Gurukul, Kurukshetra, Haryana, India. |
| | | Attended International Webinar on "Translation regulation in eukaryotes: the role of regulatory networks and RNA epi transcriptome" on October 11, 2020 at Max Planck Institute for Biophysical chemistry, Gottingen, Germany. |
| | | Attended Faculty Development Programme on "Advances in bio techniques" from October 09-11, 2020 organized by Department of Biotechnology, Meerut Institute of Engineering and Technology, Meerut, Uttar Pradesh, India. |
| 81. | | Attended National Webinar on "Role of renewable energy technologies in conservation of energy" on December 14, 2020 organized by the ICAR-AICRP on EAAI, Department of Renewable Energy Engineering, College of Agricultural Engineering, University for Agricultural Sciences, Raichur, |

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| | | Karnataka, India. |
| | Dr. Kamla Malik | Attended Workshop on "Digital library for strengthening agricultural knowledge in NARES" on Februray 12, 2020 organized by Nehru Library at CCS Haryana Agricultural University Hisar, Haryana, India. |
| | | Attended Faculty Development Program on "Nanomaterials for energy harvesting and biomedical applications" from May 18-22, 2020 organized by Nanomaterials for photovoltaic and biomaterials laboratory (NPBL), Department of Humanities and Basic Sciences at Godavari Institute of Engineering and Technology, Rajamathendravaram, Andhra Pradesh, India. |
| | | Attended one day workshop on "Awareness and use of e-resources through remote login for faculty and students of CCS Haryana Agricultural University" on June 23, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Webinar on "Women in bioenergy sciences-promoting the bioeconomy in the post-COVID era" on June 26, 2020 organized by Department of Biotechnology at New Delhi, India. |
| | | Attended Refresher Course on "Extension management" from December 11-31, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended training on "Virtual biogas training tour" from October 07-08, 2020 organized by Indian Biogas Association at New Delhi, India. |
| 82. | Dr. Shikha Mehta | Attended International Webinar on "Emerging trends in physics and its applications in agriculture" on June 29, 2020 organized by Department of Physics, College of Basic Sciences and Humanities at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 83. | Dr. Anuj Rana | Attended Refresher Course on "Statistical tools and techniques" from July 08-28, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Induction training on "Teaching-learning pedagogy" from September 08-October 10, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized Twelve days International Indo-US-Afghanistan CAAI workshop on "Capacity development for agricultural innovation systems: agricultural research and climate-smart agriculture approaches" from March 07-18, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized Two days online Indo-US Afghanistan International workshop as Organizing Secretary on "Development of essential research capabilities: design, implement and perform analysis in applied research" from March 23-29, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized Three days online Indo-US Afghanistan International Workshop on "Integrated pest management" on September 14, 15 and 22, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized International Workshop on "Climate change" on July 16, 23, 30 and August 6, 2020 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 84. | Dr. Ajay Kumar | Attended One day workshop on "Digital library for strengthening agricultural knowledge in NARES" on February 12, 2020 organized by Nehru Library, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended "Induction training" from September 08 - October 08, 2020 conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |

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| | | Attended International Webinar on "COVID-19 infection: origin and transmission" on August 15, 2020 organized by Association of Microbiologists of India, Hisar, Haryana, India. |
| **PHYSICS** | | |
| 85. | Dr. Rita Dahiya | Attended one day Webinar on "Drone remote sensing in agriculture" on September 09, 2020 organized byIndian Society of Agro-Physics in association with Division of Agricultural Physics, Indian Council of Agricultural Research-Indian Agricultural Research Institute at New Delhi, India **.** |
| **FST** | | |
| 86. | Dr. Rekha | Attended webinar on "Food protection- science and strategies" organized by Association of Food Scientists & Technologists, India (AFSTI) on May 31, 2020 |
| | | Attended online training on "Advances in smart food processing technologies" organized by Centre for Advanced Agricultural Science and Technology for Climate Smart Agricultureand Water Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtraunder National Agricultural Higher Education Project (NAHEP), ICAR, New Delhi from June04-15, 2020 |
| | | Attended webinar on "Computational techniques for applied sciences"organised by Department of Mathematics & Statistics, COBS&H, CCSHAU, Hisarunder National Agricultural Higher Education Project (NAHEP), ICAR, New Delhi, from July 06-07, 2020 |
| | | Attended online refresher online course on "Statistical tools and techniques for analysis of agricultural data" conducted by Academy of Agricultural Research and Education Management (AAREM), Directorate of Human Resource Management in collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar from July 08-28, 2020 |
| | | Attended and participated in "Idea investors meet 2020" organized by ABIC, CCSHAU, Hisar on December 04, 2020 |
| | | Attended and presented paper in national seminar on "Mathematical science: repositories of logical thoughts and analytical tools" organized by Department of Mathematics & Statistics, COBS&H, CCSHAU, Hisar and sponsored by Haryana State Council for Science, Innovation & Technology, Panchkula, Haryana on December 22, 2020 |
| 87. | Dr. Anju Kumari | Attended massive open online courses (MOOC) on "Designing e-learning content" organized by ICAR-NAARM from July 01-31, 2020 |
| 88. | Dr. Ritu | Attended international web conference on "Perspective on agricultural and applied sciences in COVID-19 scenario" (PAAS-2020) jointly organized by the Agricultural & Environmental Technology Development Society (AETDS), U.S. Nagar, Uttarakhand, India; Bangladesh Agricultural Research Institute (BARI), Gazipur, Bangladesh; Shobhit Institute of Engineering & Technology (A NAAC Accredited, Deemed to be University), Meerut, India; Soils, Water and Environmental Res. Inst., (SWERI), Agriculture Research Centre, (ARC) Giza, Egypt, Rajiv Gandhi Central University, Itanagar, and Corteva agriscience from October 04-06, 2020 |
| | | Attended national seminar on "Mathematical science: repositories of logical thoughts and analytical tools" organized by Department of Mathematics & Statistics, COBS&H, CCSHAU, Hisar and sponsored by Haryana State Council for Science, Innovation & Technology, Panchkula, Haryana on December 22, 2020 |

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| **SOCIOLOGY** | | |
| 89. | Dr. Subhash Chander | Attended refresher course on "Language Skills" from May 27, 2020 - June 16, 2020. Held at CCSHAU, Hisar |
| | | Attended webinar on "Awareness and Use of e-Resources through Remote Login for Faculty and Students of CCS HAU" held at CCS HAU, Hisar on June 23, 2020 |
| 90. | Dr. Rashmi Tyagi | Refresher course on "Educational Technology" from December 16, 2019 to January 7, 2020 organized by DHRM, CCS HAU, Hisar |
| | | Attended Webinar on "Awareness and Use of e-Resources through Remote Login for Faculty and Students of CCS HAU" Hisar on 23rd June, 2020 organized by Nehru Library CCS HAU, Hisar |
| | | Attended National Webinar on "Awareness and Use of CeRA Resources through J-Gate Discovery Platform" on June 25, 2020 organized by Nehru Library CCS HAU, Hisar. |
| | | Attended Online Refresher course on "Language Skills" from 27thMay 2020 to June 16th 2020 at DHRM, CCSHAU, Hisar |
| 91. | Dr. Jatesh Kathpalia | Attended Webinar on "Awareness and Use of e-Resources through Remote Login for Faculty and Students of CCS HAU" Hisar on 23rd June, 2020 organized by Nehru Library CCS HAU, Hisar |
| | | Attended National Webinar on "Awareness and Use of CeRA Resources through J-Gate Discovery Platform" on June 25, 2020 organized by Nehru Library CCS HAU, Hisar. |
| 92. | Dr. Bas Kaur | Attended Webinar on "Awareness and Use of e-Resources through Remote Login for Faculty and Students of CCS HAU" Hisar on 23rd June, 2020 organized by Nehru Library CCS HAU, Hisar |
| | | Attended National Webinar on "Awareness and Use of CeRA Resources through J-Gate Discovery Platform" on June 25, 2020 organized by Nehru Library CCS HAU, Hisar. |
| | | Attended Online Refresher course on "Language Skills" from 27thMay 2020 to June 16th 2020 at DHRM, CCSHAU, Hisar |
| **ZOOLOGY** | | |
| 93. | Dr. Tejpal Dahiya | Successfully completed the 21 days National training course on 'Technology interventions towards transformation agriculture, sericulture, animal husbandry and allied sectors into sustainable enterprises for Atmnirbhar Bharat' from 11-31 October, 2020 organized by Agro Environmental Development Society, Majhra Ghat, Rampur, Uttar Pradesh. |
| | | Successfully completed the 'Ten days online faculty development program on teaching, learning and assessment conducted during 23 November to 03 December 2020 organized by Teaching Learning Centre, Central University of Rajasthan (TLC@CURaj). |
| **2021** | | |
| **BOTANY AND PLANT PHYSIOLOGY** | | |
| 94. | Dr. Sarita Devi | Attended International Plant Physiology Virtual Symposium on "Physiological interventions for climate smart agriculture" from March 11-12, 2021 organized by Indian Society for Plant Physiology (ISPP), National Academy of Agricultural Sciences (NAAS), Coimbatore, Society for Sugarcane Research and Development. |
| | | Attended Training on "Applications of statistical and econometric techniques in agriculture" from November 24-December 14, 2021 organized by Academy of |

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| | | Agricultural Research and Education Management, Directorate of Human Resource Management, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 95. | Dr Anita Kumari | Attended online Training on "Communication skills and technical writing" from February 03-23, 2021 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in International symposium on "Plant biotechnology towards improving agri-food industry and healthcare products" from October 27-30, 2021 organized by Department of Bioengineering and Biotechnology at Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India. |
| | | Attended online Refresher Course on "Education technology" from October 09-21, 2021conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in the International Conference on "Advanced developments in chemistry and allied sciences", from December 16-17, 2021 organised by Department of Chemistry, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Haryana, India. |
| 96. | Dr. Sukham Madaan | Attended and presented paper in the International Conference on "Advanced developments in chemistry and allied sciences", from December 16-17, 2021 organized by Department of Chemistry, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Haryana, India. |
| **CHEMISTRY** | | |
| 97. | Dr. Jayant Sindhu | Attended and presented paper in the International Conference on "Advanced developments in chemistry and allied sciences", from December 16-17, 2021 organized by Department of Chemistry, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Haryana, India. |
| 98. | Dr. Ravi Kumar | Attended and presented paper in National Web Conference on "Sustaining pulse production for self-sufficiency and nutritional security" from February 09-11, 2021 organized by Indian Society of Pulses Research and Development (ISPRD) and ICAR-Indian institute of pulses research (IIPR), Kanpur in collaboration with Indian Council of Agricultural Research (ICAR), New Delhi. |
| 99. | Dr. Sachin Kumari | Attended and presented paper in International Conference on "Nanoscience and nanotechnology" from February 01-03, 2021 organized by Department of Physics and Nanotechnology, Sri Ramaswamy Memorial Institute of Science and Technology , India. |
| | | Attended International Symposium "Smart polymers: application in current scenario" from January 15-16, 2021 by Amity Institute of Applied Sciences in association with Asian Polymer Association at Noida, Uttar Pradesh, India |
| | | Attended and presented paper in 2nd International Conference on "Instigating research in materials, energy and environment" from October 06-07, 2021 at Department of Chemistry, Easwari Engineering College, Rampuram, Chennai, India. |

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| 100. | Dr. Devender Singh | Attended and participated International Online Workshop series on 'Social and Emotional Learning in Early Years Education for Positive Life Outcomes' from January 18-23, 2021 conducted by HSNC University, Mumbai. |
| | | Attended Online Refresher Course on "Research Management" from 08-28 April, 2021 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended online Faculty Development Program on "Research Methodology"on Aug 2-6 2021 organized by DR D Y PATIL SCHOOL OF MANAGEMENT & DR D.Y. PATIL SCHOOL OF MCA. |
| | | Attended Capacity Building Programme "Data Analysis and Research Methodology in Social Sciences" from Sept. 03rd – 14th 2021 at the Dept. of Commerce, Alagappa University, Kraikudi |
| | | Attended National Training Workshop on "Research Article Writing and Plagiarism" on 18th Sept. 2021 organized by Zoology and Bitechnology Dept. and IQAC,. |
| | | Attended and participated in the FDP cum Workshop on "Personality Development" dated on December 14, 2021 organized by Department of Commerce in association with IQAC, Govt. Vikram College, Kachrod,Dist-Ujjain (M.P.). |
| | | Attended and participated in Webinar on 'Media: challenges and responsibilities in present context' on January 5,2021 organised by Dept. of Journalism and Mass Communication, GGN Khalsa College, Ludhiana. |
| | | Attended in International Webinar titled as 'Role of Community Media in Human Development' on January 6, 2021 organized by Dept. of Sociology, Parul University of Arts, Gujarat. |
| | | Attended an International Webinar titled as 'Changes in Bangladeshi Media & Impact of Pandemic' January 11, 2021 organized by Dept. of Journalism and Mass Communication, Parul University of Arts, Gujarat. |
| | | Dr. Devender Singh, Asstt. Prof. participated in the webinar on 'Characterization Techniques for Smart Matrials' from 15-16 January, 2021 organized by Dept. of Physics, COBS&H,CCSHAU, Hisar. |
| | | Presented a paper in National Webinar 'Feministic Approach in Indian English Literature' on 24th April 2021 organized by Department of English by Markanda National College Shahabad Markanda, Haryana. |
| | | Participated in all the five sessions of the National Webinar on 'Implementation of NEP 2020' on 16-06-2021 organised by Internal Quality Assurance Cell of our Instituion. |
| 101. | | Attended Web Samvaad on "Rang rangeelaprajatantra" on January 14, 2021 organized by 'Prayas Prakashan', Bilaspur, Chhatisgarh, India. |
| | | Attended International Webinar on 'Recent pandemic's environmental consequences, inter-relationships and solution in jambhani philosophy' dated June 4-5, 2021 organized by Giri Jambeshwar Environment Conservation Research Chair, Jainarayan Vyas University Jodhpur, Rajasthan |

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| | Dr. Krishna Hooda | Attended Tarang Sangoshthi on 'Hindi maankikaran: sudhucharan aur lekhan' on July 28, 2021 organised by Dept. of Hindi Vaishya Mahila College, Rohtak, Haryana, India. |
| | | Attended Online folk music workshop' from July 15-28, 2021 organised by DSW, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended online 'sangoshthi' on "Azadi ke pichhatarve varsh mein rajbhasaha hindi ki sthiti' on 31st August, 2021 organised by Hindi Prakoshtha, Nagaland Vishwavidyalaya, India. |
| | | Attended National Webinar on 'Role of a teacher as psychologist' on September 5, 2021organised by Surya College of Education, Kathua, Jammu and Kashmir, India. |
| | | Attended and participated in International Conference on 'Vishva shanti sthapnameinshrimadbhagwadgeeta ki prasangikta' from November 11-12, 2021 organised by Dept. of Youth and Cultural Affairs, Kurukshetra University, Kurukshetra, India. |
| | | Attended Webinar on 'New education policy, 2020: opportunity and challenges' (In the Context of Education and Teachers) on February 11, 2021 organised by Dept. of Education, University of Delhi; dated |
| | | Attended Webinar on 'Azadi ke 75 varshonmeinpatrakarita, shiksha ki dasha aur disha' on 22nd November, 2021organised by Integrated Society of Media Professionals, Lucknow, India. . |
| 102. | Dr. Aparna | Attended and Participated in 'Webinar-cum-seminar on teacher's role in nep implementation awareness, orientation, challenges and responses" on Feb. 24, 2021. organised by CCSHAU, Hisar in collaboration with BharatiyaShikshan Mandal & Nitiayog, India. |
| | | Attended and participated in National Webinar on "Implementation of NEP 2020 in HEI's" on June 16, 2021 organised by Internal Quality Assurance Cell - IQAC, B.S. Abdur Rahman Crescent Institute of Science and Technology Vandalur, Chennai, India. |
| | | Attended webinar on "Improving quality of Agricultural Research in India" on Wednesday 30 June, 2021organised by Elsevier, in collaboration with CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 103. | Dr. Poonam Mor | Attended and participated in National Webinar on "Implementation of NEP 2020 in HEI's" on June 16, 2021 organised by Internal Quality Assurance Cell - IQAC, B.S. Abdur Rahman Crescent Institute of Science and Technology Vandalur, Chennai, India. |
| | | Attended National Webinar on "Dr Ambedkar's role in empowerment of women in India" on Apr 13, 2021 at Nehru Library, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended webinar on "Improving quality of Agricultural Research" on 30 June, 2021organised by Elsevier & CCSHAU, Hisar CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | attended National Level e-Conference on "The story of story-telling: a study in the changing patterns of story-telling" on January 6, 2021 organized by the Dept. of English, Seva Bharati Mahavidyalaya, Kapgari, Jhargram, West Bengal and Dept. of English, Gourav Guin Memorial College, Chandrakona Road, Paschim Medinipore, West Bengal. |
| | | Attended National Webinar on "Gender concepts and definitions" on March 3, 2021 organised by Department of English, D.N.P.G. College, Hisar, Haryana, India. |

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| | | Attended and participated training on "Capacity building for extension workers" from August 16-19, 2021 organised by DHRM collaborative HAU-MANAGE, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 104. | Dr. Poonam Mor | Attended and participated in Online Webinar on "Challenges in higher education" on September 6, 2021 organized by GGN Institute of Management & Technology, Ghumar Mandi, Civil Lines, Ludhiana, India. |
| | | Attended and participated in an online National Webinar on "Interview skills and professional writings" on September 19, 2021 organized by ChanderdharGuleri Govt. Degree College Haripur Guler, District Kangra HP, India. |
| | | Attended and participated in Online Webinar on Awareness of Original (Urkund) Anti-Plagiarism Software Among Faculty And Pg Students of CCSHAU Sep 28, 2021 by Nehru Library, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended UGC sponsored 2-week Online Interdisciplinary Refresher Course on Sharpening Teaching Skills through Pedagogy Transaction and Evaluation from August 30 to November 12, 2020 organised by UGC-Human Resource Development Centre, Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended 2-week Online Refresher Course in Languages, Literature & Cultural Studies (India, English & foreign Languages) under the UGC scheme from November 16-28 organised by UGC-Human Resource Development Centre, Kurukshetra University Kurukshetra, Haryana, India. |
| | | Attended 3-week Online Refresher Course in Research Management from 08-28 April, 2021 organised by the Academy of Agricultural Research and Education Management, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | **MATH & STAT** | |
| 105. | Dr. Manoj Kumar | Presented a paper in one day multidisciplinary National Conference on "Significance of Mathematics as an interdisciplinary subject" held at SKUAST-Kashmir, University of Kashmir and SKUAST-Jammu, J&K on Dec 22, 2021 |
| | | Presented a paper in Multidisciplinary International Conference on "Applied Statistics in Biological, Agricultural, Social and Medical Sciences" held at SKUAST-Kashmir, J&K from October 20-21, 2021 |
| 106. | Dr. Vikash | Attended and presented a paper in the 27th International Conference of International Academy of Physical Sciences (CONIAPS XXVII) on "Recent Advances in Solid Mechanics and Seismology" held at Kurukshetra University, Kurukshetra, India from October 26-28, 2021 |
| | | Attended and presented a paper in the 4th International Conference on Frontiers in Industrial and Applied Mathematics (FIAM-2021) held at SLIET Longowal, Punjab on December 21-22, 2021 |
| | | Participated & completed successfully online Elementary FDP on "Recent Developments in Mathematical Sciences and Engineering" held at Maharshi Dayanand University, Rohtak from December 22-26, 2021 |
| 107. | Dr. Sarita Rani | Attended and completed international workshop on "Advance Statistical Data Analysis using SPSS" held at Science tech Institute, lucknow, UP from September 21-27 , 2021 |
| | | Attende and presented a paper in 3rd International Conference on "Global Initiative in Agricultural, Forestry and Applied Sciences For food security, Environmental Safety and Sustainable Development (GIAFAS-2021)" Jointly Organized by the Agricultural & Environmental Technology Development Society (AETDS), U.S. Nagar, Uttarakhand, India; Shri Guru Ram Rai |

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| | | University, Dehradun, Uttarakhand, India; Department of Agronomy, Sher-e-Bangla Agricultural University, Dhaka, Bangladesh; Soil and Water Research Institute (SWRI), Karaj, Iran; Department of Soil Science, Faculty of Agro-Based Industry, UMK, Malaysia; College of Horticulture and Gardening, Yangtze University, P.R. China and Corteva agriscience at Shri Guru Ram Rai University, Dehradun, Uttarakhand, India from October 17-18, 2021 |
| **MOLECULAR BIOLOGY AND BIOTECHNOLOGY** | | |
| 108. | Dr. Nita Lakra | Attended 15 days short term Training Course from April 06-20, 2021 at Noida Institute of Engineering and Technology, Noida sponsored by DBT, New Delhi, India. |
| **MICROBIOLOGY** | | |
| 109. | Dr. Baljeet Singh Saharan | Attended National web Conference on "Sustaining pulse production for self-sufficiency and nutritional security" from February 09-11, 2021 organized by Indian Society of Pulses Research and Development and ICAR-Indian institute of pulses research, Kanpur in collaboration with Indian Council of Agricultural Research, New Delhi. |
| | | Attended Webinar on "Nano Biosensors: applications in healthcare diagnostics" on June 05, 2021 organized by Department of Biotechnology, School of Basic and Applied Sciences. |
| | | Attended "National conclave on natural farming" from December 14-16, 2021 at Anand Agricultural University, Anand, Gujarat, India. |
| 110. | Dr. Kamla Malik | Attended and presented paper in International Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" from February 03-05, 2021 organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). |
| 111. | Dr. Anuj Rana | Organized Two days online International Webinar on "Deep learning for detection and management of plant disease" from March 08-12, 2021 in collaboration with Jagannath university, Bahadurgarh, India and CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized Two days online Indo-US Afghanistan International workshop on "Training on agribusiness experiential learning" from April 05-06, 2021 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized Three days online Indo-US Afghanistan International workshop on "Basic and advance laboratory/farm technologies in agriculture" from June 28-30, 2021 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized International Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on "What can the microbiome tell us about the conditions in agricultural soil" on September 29, 2021 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 112. | Dr. Meena Sindhu | Attended and presented paper in International Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" from February 03-05, 2021 organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). |
| | | Attended Refresher Course on "Research management" from April 08-28, 2021 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |

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| 113. | Dr. Monika Kayasth | Attended and presented paper in International Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" from February 03-05, 2021 organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). |
| | | Attended Refresher Course on "Research management" from April 08-28, 2021 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in 1st International Conference on "Advanced developments in chemistry and allied sciences-2021" from December 16-17, 2021 organized by the Department of Chemistry at Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, Haryana, India. |
| 114. | Dr. Poonam Ranga | Attended and presented paper in International Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" from February 03-05, 2021 organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). |
| 115. | Dr. Shikha Mehta | Attended and presented paper in International Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" from February 03-05, 2021 organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). |
| | | Attended and presented paper in 1st International Conference on "Advanced developments in chemistry and allied sciences" from December 16-17, 2021 organized by the Department of Chemistry at Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat, Haryana, India. |
| | | Attended Refresher course on "Applications of statistical and econometric techniques in agriculture" from November 24-December 14, 2021 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in collaboration with Department of Agricultural Economics at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 116. | Jagdish Parshad | Attended Gian Training on "Application of thermodynamic prediction for development of microbial biotechnological approaches" from November 12-21, 2018 organized by Department of Bio and Nano Technology at Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India. |
| | | Attended Refresher Course on "Research management" from April 08-28, 2021 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Twenty-one days National Training Course on "Opportunities in agriculture, animal husbandry and allied sectors for sustainable entrepreneurship and livelihood security" from July 01-21, 2021 jointly organized by Centre for Agribusiness Incubation and Entrepreneurship, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madha Pradesh), India, National Bank for Agriculture and Rural Development (NABARD) Gwalior, M.P. and Agro-Environmental Developmental Society (AEDS), Majhra Ghat, Rampur, U.P., India. |
| | | Attended Webinar on "Improving quality of agricultural research in India" on June 30, 2021 organized by Research Academy. |

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| | | Attended Two days online Workshop on "Modern techniques of antibody production" from March 25-26, 2021 organized by Department of Veterinary Microbiology, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India. |
| 117. | Dr. Ajay Kumar | Attended and presented paper in International Conference on "Microbial world: recent developments in health, agriculture and environmental sciences" from February 03-05, 2021 organized by The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA). |
| **FST** | | |
| 118. | Dr. Anju Kumari | Attended and presented paper in international conference on "Atamnirbhar Bharat: technological transformation and preparedness in post COVID world" at Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonipat from March 22-23, 2021 |
| | | Attended international virtual conference on "Role of micronutrients-immunity and health" organised by Manav Rachna University from June18-19, 2021 |
| | | Attended online training on "Stress management" organized by ICAR-NAARM from July 01-06, 2021 |
| | | Attended conference on "Implementing strategies to achieve food security and food sustainable partnership: progress and challenges" organised by College of Food and Dairy Technology, Tamilnadu Veterinary and Animal Sciences University, Koduveli, Chennai from July 29-30, 2021 |
| | | Attended refresher course on "Applications of statistical and econometric techniques in agriculture" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in collaboration with Department of Agricultural Economics at CCSHAU, Hisar, Haryana, India from November 24 -December 14, 2021 |
| 119. | Dr. Rekha | Attended and participated in online elementary FDP on "Recent trends in nonthermal processing: prospects and challenges" conducted by IIFPT, Thanjavur and coordinated by AICTE Training and Learning (ATAL) Academy from October 04-08, 2021 |
| **SOCIOLOGY** | | |
| 120. | Dr. Subhash Chander | Attended seminar on "Teacher's role in NEP Implementation Awareness, Orientation, Challenges and Responses" held at CCS HAU, Hisar on February 24, 2021 |
| | | Attended training on "Effective Utilization and Training workshop on EBSCO E-books Academic Collection" held at CCSHAU, Hisar on May 7, 2021 |
| | | Attended seminar on "Improving Quality of Agricultural Research in India" held at CCSHAU, Hisar on June 30,2021 |
| 121. | Dr. Vinod Kumari | Attended One day webinar-cum-seminar on "Teacher's role in NEP Implementation Awareness, Orientation, Challenges and Responses" on 24.02.2021 organized by CCS HAU, Hisar in collaboration with BharatiyaShikshan mandal and Niti Ayog |
| | | Attended Training on "Effective Utilization and Training workshop on EBSCO E-books Academic Collection" on 07.05.2021 organized by EBSCO and Nehru Library, CCSHAU, Hisar |
| | | Attended Seminar on "Improving Quality of Agricultural Research in India" on 30.06.2021 organized by CCS HAU/Elsevier by Researcher Academy. |

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| 122. | Dr. Jatesh Kathpalia | Attended One day webinar-cum-seminar on "Teacher's role in NEP Implementation Awareness, Orientation, Challenges and Responses" on 24.02.2021 organized by CCS HAU, Hisar in collaboration with BharatiyaShikshan mandal and Niti Ayog |
| | | Attended Training on "Effective Utilization and Training workshop on EBSCO E-books Academic Collection" on 07.05.2021 organized by EBSCO and Nehru Library, CCSHAU, Hisar |
| | | Attended Seminar on "Improving Quality of Agricultural Research in India" on 30.06.2021 organized by CCS HAU/Elsevier by Researcher Academy. |
| 123. | Dr. Rashmi Tyagi | Attended One day webinar-cum-seminar on "Teacher's role in NEP Implementation Awareness, Orientation, Challenges and Responses" on 24.02.2021 organized by CCS HAU, Hisar in collaboration with Bharatiya Shikshan Mandal and Niti Ayog |
| | | Attended Training on "Effective Utilization and Training workshop on EBSCO E-books Academic Collection" on 07.05.2021 organized by EBSCO and Nehru Library, CCSHAU, Hisar |
| | | Attended Seminar on "Improving Quality of Agricultural Research in India" on 30.06.2021 organized by CCS HAU/Elsevier by Researcher Academy. |
| 124. | Dr. Bas Kaur | Attended One day webinar-cum-seminar on "Teacher's role in NEP Implementation Awareness, Orientation, Challenges and Responses" on 24.02.2021 organized by CCS HAU, Hisar in collaboration with Bharatiya Shikshan mandal and Niti Ayog |
| | | Attended Training on "Effective Utilization and Training workshop on EBSCO E-books Academic Collection" on 07.05.2021 organized by EBSCO and Nehru Library, CCSHAU, Hisar |
| | | Attended Seminar on "Improving Quality of Agricultural Research in India" on 30.06.2021 organized by CCS HAU/Elsevier by Researcher Academy. |
| **2022** | | |
| **BIOCHEMISTRY** | | |
| 125. | Dr. Nisha Kumari | Attended training on "International pedagogy" from November 15, 2021-February 14, 2022 at Texas A and M University, College Station, Texas, USA. |
| **BOTANY AND PLANT PHYSIOLOGY** | | |
| 126. | Dr Anita Kumari | Attended and presented paper in ISPP North Zonal Seminar on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, 2022 at ICAR-Sugarcane Breeding Institute, Regional Centre, Karnal, Haryana, India. |
| 127. | Dr. Vinod Goyal | Attended and presented paper in National Conference on "Managing weather and climate risks in agriculture" from March 24-26, 2021 at Srinagar, Jammu and Kashmir, India. |
| | | Attended and presented paper in 6th International Conference on "Current issues in agricultural, biological and applied sciences for sustainable development" from June 11-13, 2022 at Kalimpong Science Centre, Deolo, Kalimpong, Darjeeling, West Bengal, India. |
| 128. | Dr Sarita Devi | Attended and presented paper in ISPP North Zonal Seminar on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, 2022 at ICAR-Sugarcane Breeding Institute, Regional Centre, Karnal, Haryana, India. |
| 129. | Dr. Sukham Madaan | Attended and presented paper in ISPP North Zonal Seminar on "Inter-disciplinary research strategies for climate resilient agriculture" on June 25, |

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| | | 2022 at ICAR-Sugarcane Breeding Institute, Regional Centre, Karnal, Haryana, India. |
| | | Attended and presented paper in National Symposium on "Paradigm shift in cotton cultivation" from August 08-10, 2022 at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. |
| **CHEMISTRY** | | |
| 130. | Dr. Anushree | Attended and presented paper in International Conference on "Integrated approaches in science and technology for sustainable future" from February 28-March 01, 2022 at J. C. Bose University of Science and Technology, Young Men's Christian Association University of Science and Technology, Faridabad, Haryana, India. |
| 131. | Dr. Sachin Kumari | Attended and presented paper in International Conference on "Advances in science and technology" March 09-10, 2022 at Rajarshi Chhatrapati Shahu College, Kolhapur, Maharashtra, India. |
| **LHC** | | |
| 132. | Dr. Poonam Mor | Attended and participated in the International Workshop on "National education policy (NEP) 2020: innovative teaching approaches" on February 5, 2022 by Vidya Bharati Uchcha Shiksha Sansthan, Vidharbh Region, Maharashtra in collaboration with Internal Quality Assurance Cell (IQAC), North-Eastern Hill University (NEHU), Shillong, Meghalaya, India and SVU Computer Centre, Sri Venkateswara University, Tirupati, Andhra Pradesh, India |
| | | Participated in 5-Days International online Workshop on "Academic Writing and Publishing" from January 17-21, 2022 organized by Tripura University, India. |
| | | Attended and presented paper in International Conference on "Peace, prudence and prosperity" from Aug, 5-6, 2022 at Apeejay Stya University, Gurugram, Delhi NCR, India. |
| | | Attended and presented paper in National Seminar "Professional development and quality enhancement in higher education through ICT (PDQEHE-2022)" on Sept 12, 2022 at NAAC Accredited Maharani Lakshmi Bai College, Hisar, Haryana, India. |
| | | Attended and presented paper in International Seminar on "Trends in american literature from transcendentalism to post-modernism: a reconsideration from indian perspective" from February 11-13 2023 in Ch. Ishwar Singh Kanya Mahavidyalaya, Fatehpur-Pundri, Kaithal, Haryana, India. |
| 133. | Dr. Devender Singh | Attended and presented paper in the International conference on Changing trends on diasporic literature from April 22-232022 organised by Department of English, Govt. College, Una(H.P), India. |
| | | Attended and presented paper in the International virtual conference dated on 22/04/2022 organised by P.G. Department of English, SGTB Khalsa College, Sri Anandpur Sahib,Punjab, India |
| | | Attended and presented paper in the International conference on "Peace ,Prudence and Prosperity" dated on 5-6 /08/2022 organised by School of Education, Centre for Liberal Arts & IQAC in collaboration with Gandhi Smriti & Darshan Samiti, Ministry of Culture, Govt. of India at ApeejayStya University, Gurugram, Delhi NCR. |
| | | Participated in an International webinar on Emerging Trends in Physics, College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended an international webinar on Human Rights and Society organized by IQAC and PG Dept.of Sociology Govt. Girls College, Ujjain. |

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| | | Attended and presented paper International conference on Advances in English Language Studies (ICAELS-2022) held on 14th to 15th October, 2022 organized by University of Engineering & Management, Jaipur, Rajasthan, India. |
| 134. | Dr. Aparna | Chaired a session and delivered a lecture in National Seminar on the "Professional development and quality enhancement in higher education through ICT (PDQEHE-2022)" on Sept 12, 2022.at NAAC Accredited Maharani Lakshmi Bai College, Hisar, Haryana, India. |
| **COMPUTER SECTION** | | |
| 135. | Dr. Sheetal Choudhary | Attended and Paper presented in online National Conference on "Mathematical Sciences for Applied and Agricultural Research" on February 22, 2022 organized by Dept. of Mathematics and Statistics, COBS&H, CCS HAU Hisar |
| **MATH & STAT** | | |
| 136. | Dr. Manoj Kumar | Attended and presented a paper in three days 73rd annual Conference on " Statistics and Machine Learning for Big data analytics" held at Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir (SKUAST-K), Shalimar, Srinagar, Kashmir from November 14-16, 2022 |
| 137. | Dr. Vikash | Attended and presented a paper in National Conference "Mathematical Sciences for Applied and Agricultural Research" held at CCS HAU, Hisar on February 22, 2022 |
| | | Participated and completed successfully Global initiative of Academic Network (GIAN) course on "Stochastic Processes: Theory and Its Applications in Medical Sciences" held at Maharshi Dayanand University, Rohtak from March 14-18, 2022 |
| 138. | Dr. Sarita Rani | Attended and presented a paper in National Conference "Mathematical Sciences for Applied and Agricultural Research" held at CCS HAU, Hisar on February 22, 2022 |
| **MOLECULAR BIOLOGY AND BIOTECHNOLOGY** | | |
| 139. | Dr. Shikha Yashveer | Attended Refresher course on "Statistical methods and data analysis" from July 30-August 19, 2022 organized by Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 140. | Dr. Nita Lakra | Attended and presented paper in International Conference cum-Workshop on "Physiological and molecular mechanisms of abiotic stress tolerance in plants and physiological and molecular markers of abiotic stresses in plants" from October 26-November 04, 2022 at Department of Botany, University of Calicut, Kerala, India. |
| **BIOINFORMATICS AND COMPUTATIONAL BIOLOGY** | | |
| 141. | Dr. Navjeet Ahalawat | Attended Faculty Training on "Molecular Biology and Bioinformatics Tools and its application in Agriculture and Allied Sciences" September 08-21, 2022 organized by Centre of Excellence at Agri-Biotechnology, College of Biotechnology, Meerut, Uttar Pradesh, India. |
| **MICROBIOLOGY** | | |
| 142. | Dr. Leela wati | Attended and presented paper in National Symposium on "Paradigm shift in cotton cultivation" from August 09-10, 2022 at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. |
| 143. | Dr. Baljeet Singh Saharan | Attended International Workshop on "Progress in adoption of sustainable agriculture in India: barriers and opportunities" from April 25–29, 2022 organized by National Institute Of Technology (NIT) Karnataka, Surathkal and Scheme for Promotion of Academic and Research Collaboration (Ministry of Education, GOI) |

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| | | Attended Workshop on "Panel discussion on production technology of *kharif* pulses and finalization of impact points" on July 12, 2022 at Saina Nehwal Institute of Agricultural Technology, Training and Education, CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended Joint Meeting of the Committee and Vice Chancellors of the State Agricultural Universities of Gujarat regarding "Finalisation of course curriculum on natural farming" on July 22, 2022 at Raj Bhavan, Gandhinagar, Gujarat, India. |
| | | Attended Training on "Pest surveillance" from August 22-26, 2022 at National Institute of Plant Health Management, Department of Agriculture, Cooperation and farmers welfare, Ministry of Agriculture and farmers welfare, Govt of India, Rajendranagar, Hyderabad, India. |
| | | Attended National Webinar on "Quit India movement to food secured India" on August 08, 2022 organized by Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India. |
| | | Attended Webinar on "Natural farming in horticulture crops" on June, 15, 2022 at Horticulture Training Institute (HTI), Karnal, Haryana, India. |
| | | Attended Training on "Natural farming" from December 05-16, 2022 at Natural Farming Training Institute (NFTI), Gurukul, Kurukshetra, Haryana, India. |
| | | Attended Training on "Natural farming to master trainers of Gujarat state" from November 22-24, 2022 at Gujarat University of Natural Farming and Organic Agriculture, Halol, Gujarat, India. |
| 144. | Dr. Kamla Malik | Attended Training on "International pedagogy" from November 15, 2021-February 14, 2022 at Texas, A and M University, College Station, Texas, USA. |
| | | Attended Refresher course on "Statistical methods and data analysis" from July 30 to August 19, 2022 organized by Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Attended and presented paper in International Conference on "Water, agriculture, dairy and food processing for sustainable economy" from March 25-26, 2022 organized by University Corporated Resource Centre at Eternal University, Baru Sahib, Himachal Pardesh, India. |
| 145. | Dr. Anuj Rana | Organized and coordinated International Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on "Antibiotic resistance in agro environments: epidemiology and microbial ecology" on May 24, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized and coordinated International Training and Webinar on "Reducing carbon emissions- simple solutions to complex problems- climate change" on June 03, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| | | Organized and coordinated International Training and Webinar in the celebration of 'Azadi ka Amrit Mahotsava' on "Your future after undergraduate or postgraduate degree" on September 09, 2022 at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| 146. | Dr. Meena Sindhu | Attended and presented paper in International Conference on "Water, agriculture, dairy and food processing for sustainable economy" from March 25-26, 2022 organized by University Corporated Resource Centre at Eternal University Baru Sahib, Himachal Pardesh, India. |
| 147. | Dr. Monika Kayasth | Attended and presented paper in International Conference on "Emerging materials for sustainable development" from October 09-11, 2022 jointly organized by Council of Scientific and Industrial Research - Central Scientific Instruments Organization at Chandigarh, India. |

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| 148. | Dr. Poonam Ranga | Attended and presented paper in International Conference on "Water, agriculture, dairy and food processing for sustainable economy" from March 25-26, 2022 organized by University Corporated Resource Centre at Eternal University Baru Sahib, Himachal Pardesh, India. |
| 149. | Dr. Shikha Mehta | Attended and presented paper in International Conference on "Emerging Materials For Sustainable Development" from October 09-11, 2022 jointly organized by Council of Scientific and Industrial Research - Central Scientific Instruments Organisation at Chandigarh, India. |
| 150. | Jagdish Parshad | Attended "World bio-sciences congress" from April 14-17, 2022 organized by Indian Society of Genetics, Biotechnology Research and Development and Hindustan College of Science and Technology, at Farah, Agra, Uttar Pradesh, India. |
| 151. | Dr. Ajay Kumar | Attended one-day Workshop on "Yoga for physical and mental wellbeing" on June 16, 2022 organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management at CCS Haryana Agricultural University, Hisar, Haryana, India. |
| **FST** | | |
| 152. | Dr. Rakesh Gehlot | Attended online workshop on "Income Tax for DDO's "organized by Comptroller Office, CCSHAU, Hisar on Februrary 02, 2022 |
| | | Attended, participated and compiled the outcome of sectoral discussion on "Post harvest management, FPO and agribusiness" during workshop on "Haryana horticulture vision 2030 and 2047" held at CCSHAU, Hisar from June 06-07, 2022 |
| 153. | Dr. Rekha | Attended training on "Government e-marketing (GeM)" conducted by DHRM, CCSHAU, Hisar on February 11, 2022 |
| | | Attended and presented paper in national conference on "Mathematical sciences for applied and agricultural research" organized by Department of Mathematics & Statistics, CCSHAU, Hisar and HSCSI&T, Punchkula, February 22, 2022 |
| | | Attended workshop on "Awareness and use of scopus citation and indexing database and other e-resourses" for the faculty/scientists of the university organised by Nehru Library CCSHAU, Hisar on March 09, 2022. |
| 154. | Dr. Ritu | Attended workshop on "Awareness and use of scopus citation and indexing database and other e-resourses" for the faculty/scientists of the university organised by Nehru Library CCSHAU, Hisar on March 09, 2022. |
| | | Attended training on "Government e-marketing (GeM)" conducted by DHRM, CCSHAU, Hisar on February 11, 2022 |
| 155. | Dr. Anju Kumari | Attended refresher course on "Extension management" organized by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar, Haryana, India from May 04-24, 2022 |
| **SOCIOLOGY** | | |
| 156. | Dr. Subhash Chander | Attended and presented paper in International Conference on "Economic to Earthonomics: shifting Paradigms, Policy Paralysis, and Worsening Sustainability" held at BPS Mahila Vishwa-vidyalya, Sonepat on March 9-11, 2022 |
| | | Attended and presented paper in international conference on Vision 2047: Sustainable Developments towards Atma Nirbhar Bharat (VSANB-2022) held at Footwear Design & Development Institute (FDDI), Chandigarh from December 23-24, 2022 |
| 157. | Dr. Vinod Kumari | Attended and presented paper in International Conference on "Economic to Earthonomics: shifting Paradigms, Policy Paralysis, and Worsening |

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| | | Sustainability" from March 9-11, 2022 at BPS Mahila Vishwa-vidyalya, Sonepat. |
| | | Attended and presented paper in International Conference on "Role of Higher Education Institutions in Advancing Sustainable Development Goals" from November 22-23, 2022 at Bhagat Phool Singh Mahila Vishwavidyalaya, Sonepat |
| 158. | Dr. Jatesh Kathpalia | Attended and presented paper in International Conference on "Economic to Earthonomics: shifting Paradigms, Policy Paralysis, and Worsening Sustainability" from March 9-11, 2022 at BPS Mahila Vishwa-vidyalya, Sonepat. |
| | | Attended and presented paper in International Conference on "Role of Higher Education Institutions in Advancing Sustainable Development Goals" from November 22-23, 2022 at Bhagat Phool Singh Mahila Vishwavidyalaya, Sonepat |
| | | Attend and presented paper in 10th National Seminar on "Agriculture and more beyond 4.0 organized by Society for Community Mobilization for Sustainable Development" from May 26-28, 2022 at SKUAST – Kashmir and SKUAST – Jammu at Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Main Campus, Shalimar |
| 159. | Dr. Rashmi Tyagi | Attend and presented paper in 10th National Seminar on "Agriculture and more beyond 4.0 organized by Society for Community Mobilization for Sustainable Development" from May 26-28, 2022 at SKUAST – Kashmir and SKUAST – Jammu at Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Main Campus, Shalimar. |
| | | Attended and presented paper in International Conference on "Economic to Earthonomics: shifting Paradigms, Policy Paralysis, and Worsening Sustainability" from March 9-11, 2022 at BPS Mahila Vishwa-vidyalya, Sonepat. |
| | | Attended and presented paper in International Conference on "Role of Higher Education Institutions in Advancing Sustainable Development Goals" from November 22-23, 2022 at Bhagat Phool Singh Mahila Vishwavidyalaya, Sonepat |
| 160. | Dr. Bas Kaur | Attended and presented paper in International Conference on "Economic to Earthonomics: shifting Paradigms, Policy Paralysis, and Worsening Sustainability" from March 9-11, 2022 at BPS Mahila Vishwa-vidyalya, Sonepat. |
| | | Attended and presented paper in International Conference on "Role of Higher Education Institutions in Advancing Sustainable Development Goals" from November 22-23, 2022 at Bhagat Phool Singh Mahila Vishwavidyalaya, Sonepat. |
| **ZOOLOGY** | | |
| 161. | Dr. Tejpal Dahiya | Successfully completed refresher course from 04-24 May, 2022 conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCS HAU Hisar. |
| **2023** | | |
| **COMPUTER SECTION** | | |
| 162. | Dr. Sheetal Choudhary | Attended and Paper presented in International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" from February 17-19, 2023 at CCS Haryana Agricultural University, Hisar, Haryana, India |
| | | Attended and Paper presented in one day National Conference on Computational Intelligence and Data Science (NCCIDS-23) on 21 March, 2023 organized by |

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|---|---|---|
| | | the Department of Computer Science and Applications, M.D. University, Rohtak, Haryana, India. |
| **FST** | | |
| 163. | Dr. Anju Kumari | Attended and presented paper in International Conference on "Climate resilient agriculture for food security and sustainability" from February 17-19, 2023 at CCS Haryana Agricultural University, Hisar, Haryana, India |
| **ZOOLOGY** | | |
| 164. | Dr. Tejpal Dahiya | Presented a paper entitled "Role of probiotics in Biofloc technology" in the International Conference on Biotechnology and Human Welfare: Vision 2023 and Beyond (ICBHW-2023) during March 03-04, 2023 organized by Chaudhary Devi Lal University, Sirsa, Haryana, India. |



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## I.C. COLLEGE OF HOME SCIENCES

# SELF STUDY REPORT






2023

**Chaudhary Charan Singh**
**Haryana Agricultural University**
**Hisar, Haryana-125004**




**Inauguration of Ramp by Worthy Vice Chancellor**




**Inauguration of Smart Class room by Worthy Vice Chancellor**




**Celebration of *Har Ghar Tiranga***





**Felicitation of Women Power**

# FOREWORD



All India Survey on Higher Education (AISHE) report 2020 reflected that the number of female students pursuing higher education in Haryana was more than the number of male students in the review period. The gender parity index i.e. female enrolment in higher education (18-23 years) stood at 122 females per 100 males for all categories and 124 per 100 males in scheduled caste (SCs) in 2019-20 in Haryana, as released by Union Ministry of Human Resource Development (HRD).

The AISHE report affirms that over a decade, the women in Haryana have not only caught up with men in higher education but have also outshined them. Though this ratio is higher than the national gender parity index, we, at CCSHAU, believe that consistent efforts in the direction of empowering women are imperative towards reducing gender discrimination and increasing women's role in nation building.

CCSHAU, Hisar is committed to the cause of higher education of women which is demonstrated by the increasing number of female students making the University as their preferred choice of studying various courses in the different departments of constituent colleges. Furthermore we are delighted to take note of the numerous accomplishments our female alumni have made in their area of expertise over all these years.

I.C. College of Home Sciences at CCSHAU is particularly noteworthy for the efforts it has made and continues to make in the direction of women empowerment. Its resolution to make the college one of the best for female seeking higher education is certified by the NIRF ranking 2022 where I.C.COHS has ranked 42 in college category. Along with the Bachelor's, Master's and Doctorate programmes that COHS offers to its students, the units on Experiential Learning in the college provide them with the requisite knowledge and skills to foray into entrepreneurial ventures.

The Self Study Report of COHS provides us an occasion to acquaint all the stakeholders with our aim towards a holistic approach to learning as well as our allegiance to contribute to the cause of women education and empowerment.

I appreciate the dedicated commitment of all the members concerned of various Committees in preparing this SSR.

**Prof. B. R. Kamboj**
Vice Chancellor
CCSHAU, Hisar

# PREFACE

It is my privilege to present this self-study report (SSR) for accreditation of I.C. College of Home Sciences. The task of preparing this report has accorded us with the opportunity to assess and analyse the progress our esteemed institute has made in the last five years. Additionally, it has also reinforced our pursuit for quality in all the pertinent areas.

Established in the year 1973 with an objective to empower women and communities, I.C. College of Home Sciences has come a long way to achieve its strategic ambitions. Its aim at providing multidisciplinary knowledge to the students for developing scientific and technical skills is bolstered by the finest infrastructure and state of the art equipment's set up in the college. Our alumni are employed in different sectors including academia (Government and Private Universities and colleges), Public services, Corporate houses and have also been setting up entrepreneurial ventures in their respective fields. The five department of the college: Extension Education and Communication Management, Foods and Nutrition, Family Resource Management, Human Development and Family Studies and Textile and Apparel Designing have been instrumental in our persisting quest to contribute to the growth of these five areas in particular and of the nation at large.

To compile the Self Study Report (SSR), a College SSR Committee was constituted which comprised of one faculty member each from five departments of the College. The Committee prepared SSR of College and different UG and PG Programmes. The procedure and guidelines issued by ICAR have been followed for preparing the SSRs and given format was followed in toto. The report is divided in seven parts – College SSR, UG Programme SSR and PG Programme SSRs (five).

This report is an outcome of dedicated hard work by the College SSR Committee, other faculty and staff associated in this process who held numerous meetings and discussions with all the stakeholders to review and compile the report. Under the valuable guidance of the Director, Human Resource Management, CCSHAU, Hisar and time to time discussion with all the Heads of the Departments, the course of the compilation steered positively to the final conclusion. It has been a remarkable team work.

The information contained in this document mostly pertains to the period 2018 to 2023. The encouraging leadership of Dr. B.R. Kamboj, Vice- Chancellor of CCSHAU, Hisar and Chairman, Steering Committee has contributed immensely in the finalization of this document. The inputs of the Director, Human Resource Management, Heads of the Departments, Nodal Officers and Members of SSR Committee at college level for preparing this Self Study Report for Accreditation -2023 are thankfully acknowledged.

Faculty and students of I.C. College of Home Sciences are eager to meet the Peer Review Team of the Indian Council of Agricultural Research during their visit to the institution. All faculty members, supporting staff, students and all stakeholders would be substantially benefited and enriched with Peer Review Team interactions.

I look forward to welcome and receive the Peer Review Team at the Institution.



**Prof. Manju Mehta**
Dean,
I.C. College of Home Sciences
CCSHAU, Hisar

# CONTENTS


| Point | Particular | Page No. |
|---|---|---|
| **Self-Study Report of the College** | | **1-88** |
| **About the College** | | 1-3 |
| **6.5.1** | **College Administration** | **4-14** |
| 6.5.1.1. | Dean's office Establishment | 4-6 |
| 6.5.1.2. | Monitoring Mechanism for Quality Education | 6-8 |
| 6.5.1.3. | CC/Board of Studies | 8-10 |
| 6.5.1.4. | Anti-Ragging Cell | 10-12 |
| 6.5.1.5. | Biological Waste Disposal Facility | 12-13 |
| 6.5.1.6. | Institutional Ethics Committee for Experiment on Animals | 13-14 |
| 6.5.1.7. | Committee for Prevention of Sexual Harassment of Women at Work Places | 14 |
| **6.5.2** | **Faculty** | **15-27** |
| 6.5.2.1. | Faculty Strength | 15 |
| 6.5.2.2. | Faculty Profile | 15-17 |
| 6.5.2.3. | Credential of the Faculty | 18-27 |
| 6.5.2.4. | Technical and Supporting Staff | 27 |
| **6.5.3** | **Learning Resources** | **28-50** |
| 6.5.3.1 | College Library | 28-29 |
| 6.5.3.2. | Laboratories, Instructional farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc. | 29-31 |
| 6.5.3.3. | Student READY/In-Plant Training/Internship/Experiential Learning Programmes | 31-50 |
| 6.5.3.4. | Curricula Delivery through IT | 50 |
| **6.5.4** | **Student Development** | **51-66** |
| 6.5.4.1. | Student Intake and Attrition | 51 |
| 6.5.4.2. | Average Number of students in Theory and Practical Classes | 51 |
| 6.5.4.3. | Admission Process | 51-52 |
| 6.5.4.4. | Conduct of Practical and Hands-on-Training | 52-57 |
| 6.5.4.5. | Examination and Evaluation Process | 57-60 |
| 6.5.4.6. | NCC/NSS Units | 60-63 |
| 6.5.4.7. | Language Laboratory | 64 |
| 6.5.4.8. | Cultural Centre | 64-65 |
| 6.5.4.9. | Personality Development | 65-66 |
| **6.5.5** | **Physical Facilities** | **66-71** |
| 6.5.5.1. | Hostels | 66-67 |
| 6.5.5.2. | Examination Hall | 67 |
| 6.5.5.3. | Sports and Recreation Facilities | 68-69 |
| 6.5.5.4. | Auditorium | 69-70 |

| | | |
|---|---|---|
| 6.5.5.5. | Exhibition Hall/Museum | 70-71 |
| **6.5.6** | **Research Facilities** | **71-74** |
| 6.5.6.1. | Postgraduate Laboratories and Equipments | 71-74 |
| 6.5.6.2. | Research Contingency | 74 |
| **6.5.7** | **Outcome/Output** | **75-88** |
| 6.5.7.1. | Students Performance | 75-78 |
| 6.5.7.2. | Students Placement Profile | 79-81 |
| 6.5.7.3. | Awards/Recognitions | 81-86 |
| 6.5.7.4. | Employability | 86-87 |
| **Self-Study Report of Programmes** | | **89-184** |
| Programme 1 | B.Sc. (Hons.) Community Science | 89-114 |
| Programme 2 | M.Sc. and Ph.D., Extension Education and Communication Management | 115-130 |
| Programme 3 | M.Sc. and Ph.D., Foods and Nutrition | 131-140 |
| Programme 4 | M.Sc. and Ph.D., Family Resource Management | 141-156 |
| Programme 5 | M.Sc. and Ph.D., Human Development and Family Studies | 157-168 |
| Programme 6 | M.Sc. and Ph.D., Textile and Apparel Designing | 169-184 |
| **Annexures** | | |
| **Self-Study Report of the College** | | **185-306** |
| Annexure I A-E | List of Publications by Faculty: EECM, FN, FRM, HDFS and TAD | 185-213 |
| Annexure II A-E | Seminars/ Conferences/ Workshops/ Trainings etc. attended by Faculty: EECM, FN, FRM, HDFS and TAD | 214-236 |
| Annexure III A-E | Salient Research Achievements: III: EECM, FN, FRM, HDFS and TAD | 237-279 |
| Annexure IV A-E | Extension Activities: EECM, FN, FRM, HDFS and TAD | 280-306 |
| **Self-Study Report of the Programmes** | | **307-405** |
| Annexure V A-E | Programme 1: Courses Offered for B.Sc. (Hons.) Community Science: EECM, FN, FRM, HDFS and TAD | 307-311 |
| Annexure VI A-G | Programme 2: M.Sc. and Ph.D., Extension Education and Communication Management | 312-333 |
| Annexure VII A-G | Programme 3: M.Sc. and Ph.D., Foods and Nutrition | 334-352 |
| Annexure VIII A-G | Programme 4: M.Sc. and Ph.D., Family Resource Management | 353-368 |
| Annexure IX A-G | Programme 5: M.Sc. and Ph.D., Human Development & Family Studies | 369-388 |
| Annexure X A-G | Programme 6: M.Sc. and Ph.D., Textile and Apparel Designing | 389-405 |

# SELF STUDY REPORT OF I.C. COLLEGE OF HOME SCIENCES




The Indira Chakravarty College of Home Sciences (I.C. COHS) is located at main campus of the Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar on National Highway No.10 at a distance of 170 Km. from Delhi, 2 Km. from the Railway Station and 3 Km. from the Bus Stand, Hisar. The I.C. College of Home Sciences is one of the six constituent colleges at main campus of CCSHAU, Hisar. The College was conceptualized by great visionary, Sh. A.L. Fletcher, ICS, the first Vice-Chancellor of the University and established in 1973. It has been renamed as I.C. College of Community Science in 2023 as per recommendations of 5$^{th}$ Deans' Committee. The College has successfully completed five decades of its existence with a glorious past, formidable present and a promising future. I.C. College of Home Sciences caters to the needs of women for higher education by providing relevant multi-disciplinary knowledge for developing scientific and technical skills in line with demands of job market and effective resource management for improved quality of life. The College has been playing an instrumental role in holistic development of community through its teaching, research and extension activities. The College continues to update its course curriculum from time to time as per guidelines of ICAR and mandate of the University. Besides teaching, the students are actively engaged in research and extension endeavor's. The College has gained a reputation for excellence and a proven record of students' success in the period of fifty years of its existence. The I.C. College of Home Sciences, CCSHAU, Hisar has consistently been in top fifty colleges of the country for the last three years as per MHRD ranking. It has received 49$^{th}$, 38$^{th}$ and 42$^{nd}$ NIRF ranking across India in 2020, 2021 and 2022, respectively.

## VISION

- To strive for creating change makers with scientific temperament to mobilize the community for attainment of sustainable goals
- To create equitable and sustainable community with focus on women led development

## MISSION AND GOAL

- To integrate the application of humanities, science and technology for improved quality of life and deal with real-life challenges
- To equip students with skill and opportunities to become self-reliant
- To develop and commercialize technologies through researches in niche areas

## OBJECTIVES

- To develop abilities for effective resource management and improved quality of life
- To groom students for multiple role performance
- To develop knowledge, skills and competencies among students to excel in personal and professional arena
- To enlighten students for equitable and sustainable women led development

The College offers B.Sc., M.Sc. and Ph.D. programmes. Presently, undergraduate degree programme of four year's duration leading to B.Sc. (Hons.) Community Science is being offered by the College. PG and Ph.D. programmes are offered in all the five disciplines i.e., Extension Education and Communication Management (EECM), Foods and Nutrition (FN), Family Resource Management (FRM), Human Development and Family Studies (HDFS) and Textile and Apparel Designing (TAD). The special feature of B.Sc. (Hons.) Community Science programme is that Student READY Modules are offered by all the five departments of the College for final year students and the students have to opt for anyone. To strengthen the knowledge and skill acquired in the respective area of specialization and to have the experience of real working environment, students undergo 12 weeks industrial training in related industries/organizations.

The I.C. College of Home Sciences has a galaxy of experienced faculty who constantly strive for excellence in teaching, research and extension. Faculty members keep themselves abreast with latest knowledge and skills through participation in trainings, seminars, workshops, conferences and have been honoured with prestigious awards at various National and International platforms. The excellent infrastructural facilities available in the College like theatre type lecture halls equipped with IT facilities, air-conditioned examination hall, five smart class rooms, well-equipped auditorium, air-conditioned computer labs, library with large number of books and periodicals, video studio, departmental subject related labs, experiential learning labs etc. provide conducive teaching-learning environment. The College provides excellent facilities for co-curricular activities that go a long way for all round development of students. A Centre of Excellence on 'Processing and Value Addition of Pearl Millet for Nutritional Security' has been established in the Department of Foods and Nutrition.

| YEAR | MILESTONES |
|---|---|
| 1971 | Foundation stone laid by Shri Bansi Lal, then Chief Minister of Haryana |
| 1972 | Appointment of First Home Science Faculty Member |
| 1973 | The Undergraduate Programme in B.Sc. Home Science, 4 Year and B.Sc. Home Science, 3 Year initiated under trimester system with internal system of evaluation |
| 1974 | Inauguration of the College by Smt. Indira Chakravarty, First Lady of the State |
| 1975 | Institution of All Round Best Student Award during International Women's Year |
| 1976 | First Undergraduate batch passed out |
| | M.Sc. Programme started in the Department of Foods and Nutrition |
| 1977 | Departments of Child Development (CD), Clothing & Textiles (CT), Home Management (HM) and Foods & Nutrition (FN) started working as independent Departments |
| | Pre-School Nursery Lab started in the Department of Child Development |
| 1979 | M.Sc. Programme started in the Department of Home Science Extension Education |
| | AICRP on Home Science started in the Departments of CD, FRM and FN |
| 1980 | M.Sc. Programme started in the Department of Child Development |
| 1982 | M.Sc. Programme started in the Department of Family Resource Management |
| 1983 | Ph.D. Programme stated in the Department of Foods and Nutrition |
| 1984 | PG Diploma in Pre School Education started in the Department of Child Development |
| 1987 | B.Sc. Home Science, 3 Year Programme after 10+2 started |
| | Semester system introduced |
| 1988 | Ph.D. Programme started in the Department of Child Development |
| | M.Sc. Programme started in the Department of Clothing and Textiles |
| | B.Sc. Home Science, 5 Year Programme after Matriculation started |
| 1989 | Department of Clothing and Textiles started functioning as an independent department |
| 1993 | Ph.D. Programme started in Department of Family Resource Management |
| 1997 | External examination system for UG programme started |
| 1998 | B.Sc. (Hons.) Home Science, 4 Year Programme after 10+2 started |
| | UG course curricula as per Third Deans' Committee recommendations implemented |
| 2000 | Ph.D. Programme started in the Department of Clothing and Textiles |
| | Department of Child Development renamed as Human Development and Family Studies |
| 2002 | PG Diploma in Human Nutrition and Dietetics started |
| | PG Diploma in School Counselling started |
| | PG Diploma in Apparel Designing and Management started |
| 2003 | Visit of ICAR Peer Review Committee for Accreditation |
| 2010 | Department of Home Science Extension Education renamed as Extension Education and Communication Management |
| | Department of Clothing and Textiles renamed as Textile and Apparel Designing |
| 2011 | UG course curricula as per Fourth Deans' Committee implemented |
| | B.Sc. (Hons.) Home Science, 6 Year Programme after matriculation started |
| | Revised PG course curriculum implemented |
| 2013 | Visit of ICAR Peer Review Committee for Accreditation |
| 2017 | Nomenclature of B.Sc. (Hons.) Home Science, 4 Year Programme changed to B.Sc. (Hons.) Community Science, 4 Year Programme |
| | UG course curricula as per Fifth Deans' Committee recommendations implemented<br>Student READY Programme implemented |
| 2018 | Visit of ICAR Peer Review Committee for Accreditation |
| 2020 | The College was ranked 49$^{th}$ across India in NIRF ranking including all UGC colleges |
| 2021 | First batch of B.Sc. (Hons.) Community Science graduated |
| | The College was ranked 38$^{th}$ across India in NIRF ranking including all UGC colleges |
| 2022 | The College was ranked 42$^{nd}$ across India in NIRF ranking including all UGC colleges |
| 2023 | Nomenclature of I.C. College of Home Sciences changed to I.C. College of Community Science |
| | Nomenclature of Department of Family Resource Management changed to Resource Management and Consumer Science |
| | Nomenclature of Department of Textile and Apparel Designing changed to Apparel and Textile Science |

### 6.5.1. College Administration

**6.5.1.1. College Dean's Office Establishment:** *Whether the Dean's post sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines? Date of selection of present Dean, mode of selection, tenure etc. shall be mentioned. Clearly mention the staff and infrastructure/facilities available in the Dean's Secretariat.*

The Dean's post is sanctioned by the appropriate authority as per ICAR Model Act. The Dean is appointed for tenure of four years through open selection on all India basis.

**Staff available in the Dean's Secretariat:**

| Name of the Post | Sanctioned | In position |
|---|---|---|
| **Dean** | 01 | Additional charge to the Director, Human Resource Management w.e.f. 04.04.2022 (regular appointment is under process) |
| **A&AO/Superintendent** | 01 | 01 |
| **P.A./P.S. to Dean** | 01 | 01 |
| **Office Assistant** | 03 | 03 |
| **Clerk** | 03 | 03 (2+1*) |
| **Storekeeper** | 01 | -- |
| **Jr. Scale Stenographer** | 01 | 01 |
| **Steno Typist** | 01 | 01* |
| **Driver (one each for light and heavy vehicle)** | 03 | -- |
| **Assistant Librarian** | 01 | 01 |
| **Shelf Assistant/ Library Attendant** | 01 | 01 |
| **GO-cum-Daftri** | 01 | 01 |
| **Messenger** | 02 | 01* |
| **Security Guard** | 03 | 03* |
| **Mate** | 01 | 01 |
| **Sweeper** | 05 | 05* |

*Contractual staff

**Infrastructure/Facilities available in the Dean's Secretariat:**

The College has sufficient infrastructure to meet the demand of increasing number of students seeking admissions under UG and PG programmes. The College has theatre like Lecture Halls, Smart Class Rooms, fully air-conditioned Examination Hall, Conference Room and IT enabled air-conditioned College Computer Lab, Committee Room and Exhibition Hall. Potable water supply is ensured through ROs and Aqua guards fitted with water coolers. The water coolers and tanks are cleaned as per specified schedule. The College has a committee headed by senior faculty member to look after the maintenance and cleanliness of premises. There are sufficient number of Lecture Rooms, office space and laboratories to accommodate the faculty, staff members and students. Total five parking spots are available on both entrance gates of the College to provide hassle free parking to all students, faculty and staff members.

| Offices | Infrastructure / facilities available |
|---|---|
| **Dean's Office** | Computers-02, Printers-03, Phone-01, CCTV monitors-03, ACs-02, Tables-03, Chairs-09, Sofa Sets, Cupboard-01. Kitchen with Water dispenser-01, Microwave oven-01. Attached washroom. |
| **Office of PS to Dean** | Independent office room with Computer-01, Printer-01, Phone-01, Tables-02, Chairs-07, Storage cabinets-02, Desert cooler-01 |
| **AAO/Superintendent Office** | Independent office room with Computer-01, Printer-01, Tables-02, Chairs-06, Storage cabinet-01, Desert cooler-01 |
| **Establishment Branch and Accounts Branch** | Computers-03, Printers-03, Tables-09, Chairs-10, Storage cabinets-13, Phone-01, Water dispenser-01, Desert coolers-03 |
| **Academic Branch** | Computers-02, Printers-03, Tables-05, Chairs-03, Storage cabinets-07, Phone-01, Water dispenser-01, Desert cooler-01 |
| **Cashier Chamber** | Computer-01, Printer-01, Tables-02, Chairs-03, Storage cabinets-03, Racks-02, Cash Chest-01, Desert coolers-03 |
| **Store(s)** | Six (one in Dean's office and one in each department) |
| **Committee Room** | Well furnished with seating capacity of 50 having interactive board and conferencing facility |
| **Waiting Lounge/Hall for Visitors/ Parents** | Furnished with tables, Chairs, Sofa set, Refrigerator, Desert Cooler and Magazines |
| **Common Room for students** | Furnished with tables and chairs |
| **College Canteen** | Cafeteria Tables, Chairs, Exhaust Fan, Refrigerator, Microwave oven, Desert cooler along with well-arranged canopy type space for outside seating |
| **Auditorium** | Auditorium having seating capacity of 284 persons, 02 Green rooms, ACs, LCD/LED projector, Sound system and wash rooms |
| **Examination Hall** | Fully Air conditioned with seating capacity of 200 students |
| **College Computer Lab** | 29 Computers with work stations, Chairs, 5KVA UPS-01, 1KVA UPS-09 and ACs-04 |
| **Lecture Halls** | Five theatre type Lecture Rooms with LCD/LED projectors having seating capacity of 70-75 students and one Conference Room type Lecture Room |
| **Smart Class Rooms** | Four- Two Theatre type smart classrooms with seating capacity of 70-75 students. PG Lab (Dept. of EECM) and CAD Lab (Dept. of TAD) are with smart board facility |
| **Seminar Rooms** | Five (One in each department, air conditioned and fitted with LCD/LED projectors) |
| **Exhibition Hall/ Wings** | One |
| **College Library** | One |
| **Departmental Library** | Five (One in each department) |
| **Departmental Computer facilities** | Each faculty member has computer with internet facility. Office staff is also provided computer facility as per requirement |
| **Ramp** | For ease in mobility of specially abled persons, transportation of heavy machinery and equipment's |
| **Washrooms/ Toilets (No.)** | |

| | **She** | **He** | **Other** |
|---|---|---|---|
| Dean's | 03 | 01 | |
| office | 03 | 01 | |
| EECM | 02 | 01 | |
| FN | 03 | 01 | |
| FRM | 05 | 01 | 01 (Preschool children) |
| HDFS | 03 | 01 | 01 (Specially abled persons) |
| TAD | | | |
| **Total** | **19** | **06** | **02** |



**College Committee Room**

**6.5.1.2. Monitoring Mechanism for Quality Education:** *Whether the College is having an internal quality assurance system, with appropriate structure and processes, and with enough flexibility to meet the diverse needs of the stakeholders which is required for planning, guiding and monitoring quality assurance and quality enhancement activities of the Colleges. How effectively monitoring of teaching, research and extension across the departments is being conducted? Mention the impact of monitoring on the outcome of the College with reference to students' excelling in academics, research and extracurricular activities.*

Yes, the College has an Internal Quality Assurance System with appropriate structure and processes for planning, guiding and monitoring quality assurance and quality enhancement of teaching, research and extension activities. An Internal Quality Assurance Committee has been constituted at College level comprising of the following members:

- Dr. Manju Mehta, Dean, COHS — Chairperson
- Dr. Neelam M. Rose, HOD, TAD — Member
- Dr. Beena Yadav, HOD, EECM — Member
- Dr. Sangeeta C Sindhu, HOD, FN — Member
- Dr. Kiran Singh, Principal Scientist, FRM — Member
- Dr. Meena Siwach, Principal Extension Specialist, KVK Rohtak — Member
- Dr. Sudesh Gandhi (Retd. Professor) — External Expert
- Dr. Krishna Khambra (Retd. Professor) — External Expert
- Ms. Nisha Garg, Assistant Registrar — Member
- Dr. Saroj Yadav, Assistant Professor — Member-Secretary

Two bodies i.e., Board of Studies (BoS) at College level and Departmental Advisory Committee (DAC) at Departmental level are responsible for quality assurance in course curriculum, research and extension activities to be conducted by the College and Departments, respectively. For monitoring quality assurance and enhancement activities of the College, different committees such as Academic Affairs Committee, Steering & Equivalence Committee, Time Table and Date-sheet Committee, Institutional Ranking Committee, Post Clearance Committee, College Cultural Forum, College Disciplinary Committee, College Magazine Editorial Committee, Flying Squad, DHAKAD team College Building Maintenance Committee, Landscaping & College Beautification Committee etc. have been constituted.

**Monitoring of Teaching:**

- There is a system of annual Self-Assessment Report (SAR) for teaching faculty and Confidential Report (CR) for non-teaching staff. SARs are reviewed by the Controlling Officer for performance appraisal and finally approved by the Vice-Chancellor.
- The performance of the faculty is also reviewed on the basis of results and feedback from the students.
- Faculty advisor is assigned to each fresh student admitted under UG programme of the College. The advisor is responsible for monitoring and guiding academic and other activities of the allotted students throughout their degree programme. The advisor also maintains regular communication with the allotted students pertaining to their performance and personality development. Tutorial classes are held at 12:00 o'clock every Monday, wherein students get an opportunity to discuss their personal and academic problems with the allotted faculty advisor.
- Final year students of B.Sc. (Hons.) Community Science are placed in different institutions/industries for In-plant training. Teachers visit these institutions during training period of students and have interaction with authorities of the institutes. Any suggestions provided by them are incorporated in the course curriculum.
- Programme of work, synopsis and thesis work of PG students are approved in Students' Advisory Committee. The credit seminar, synopsis seminar, thesis seminar and viva-voce examination of PG students are attended by the students' advisory committee, faculty members and students for open house discussion and suggestions on the topic. The synopsis is evaluated by internal experts and all the suggestions are incorporated before submission to the Dean, PGS for final approval.
- CCTV cameras have been installed in all the Lecture Halls, Teaching Labs and Examination Hall for online monitoring of teaching activities and ragging menace.
- For improvement in teaching and learning, the College regularly organizes online/offline seminars and invited lectures to give extensive exposure to the faculty as well as students.
- Best facilities and extremely conducive environment are provided to the staff as well as students to make the learning process an exemplary experience. Course lectures are made interactive and interesting through IT enabled presentations, group discussions and exercises. Students are motivated to work hard and attend their classes regularly. Every student is required to attend at least 75% of the lectures delivered and practical conducted in each course, being eligible to appear in the examination as per Rule 6, Chapter I, University Calendar Volume II.
- The utilization of funds in different departments is periodically monitored by the respective controlling officer through a series of department wise technical and financial review meetings.
- Annual teaching reports are prepared to review the activities undertaken by the Departments as well as the College.

**Monitoring of Research:**

- There are well defined thrust areas of research for each department. Research experiments are planned by the faculty in accordance with these thrust areas.
- Technical plan of research work of faculty is discussed in-house in the departmental meeting followed by discussion and approval in the meeting of Technical Programme of Research Work chaired by the Director of Research.
- In Annual Technical Programme meetings, faculty members present research outcomes of experiments planned under different schemes operational in the department. These meetings are convened under the Chairmanship of Director of Research along with ADR, Dean COHS, HODs

of the College and related departments to review and monitor the research work carried out in all the five departments of the College.

- Mid-term appraisal meetings are held to review the research work technically and financially. Modifications, if any are done as per constraints and requirement of the faculty.
- The utilization of funds in different departments is periodically monitored by the respective controlling officer through a series of department wise technical and financial review meetings.
- Annual research reports are prepared to review the activities undertaken by the Departments as well as the College.

**Monitoring of Extension:**

- Extension activities to be conducted by faculty members are planned in the Departmental Advisory Committee. The extension activities are monitored by the respective HODs.
- There is faculty extension in-charge at department as well as college level to coordinate extension activities.
- Feedback of stakeholders is obtained for future improvements.

There is a suggestion box in the premises of Dean's office for garnering students' feedback and suggestions. These suggestions are conveyed to the concerned faculty members and HODs. The stakeholders' feedback on the overall performance and quality of the College Services is obtained through periodical interactive meetings with parents, field functionaries from line departments, farmers and alumni. The teachers get informal feedback from the students based on suggestions and observations of their parents.

**Impact:**

Impact of monitoring on the outcome of the College in the form of improved students' performance in JRF/SRF/NET and other competitive examinations, different awards received by the students in academics, sports and cultural activities and increase in placement of students was observed.

- Total 137 students cleared various competitive examinations and were recipients of JRF/SRF/NET/NTS.
- During the period under report, 87 students got placement in SAUs, Colleges, Schools etc. in Haryana and other states.
- The students also excelled in academic pursuit and 24 students were recipient of Academic Gold Medal at College and University level.
- Due to concerted efforts of the College for all round development of the students, 17 Gold Medal were received by the NCC Cadets, NSS volunteers and College athletes at University, State and National level.

**Note: Details included in Section 6.5.7. from Pages 75 to 86.**

**6.5.1.3. CC/Board of Studies:** *Whether the CC in the Department level and Board of Studies at the College is in place? The composition of the BoS and date of conduct of meetings for last five years and major recommendations made by the BoS should be given in tabular form.*

I.C. College of Home Sciences has Departmental Advisory Committee **(**DAC) at the Department level and Board of Studies at College level.

**Departmental Advisory Committee:** The Departmental Advisory Committee (DAC) is constituted with the approval of the competent authority for rendering advice to manage teaching, research and extension within each department of the College. The tenure of the committee is two years.

**Composition of DAC:**

1. HOD (Chairperson)
2. Professor (Member)
3. Associate Professor/Scientist (One Member each from teaching and research stream)
4. Assistant Professor/Scientist (One Member each from teaching and research stream)

Member Secretary is nominated by the HOD from the approved DAC members.

**Board of Studies (BoS):** The College has a Board of Studies which has the responsibility of academic affairs such as proposing new courses of studies, number of seats for various degree programmes, eligibility for admission, curricula modification etc. for various programmes offered by the College. The Board of Studies also review the standards of teaching regularly.

**Composition of BoS:** The Dean of the College is the Chairperson and Heads of all the five departments of the College are the members of BoS. One Head of the Department from any other College of the University is the Vice-Chancellor's nominee. The composition of BoS of the College is as follows:

| | |
|---|---|
| Dean, I.C. College of Home Sciences | Chairperson |
| Head, Dept. of Extension Education and Communication Management | Member |
| Head, Dept. of Family Resource Management | Member |
| Head, Dept. of Human Development and Family Studies | Member |
| Head, Dept. of Foods and Nutrition | Member |
| Head, Dept. of Biochemistry, College of Basic Sciences & Humanities | Member |
| Head, Dept. of Textile and Apparel Designing | Member-Secretary |

**Date of conduct of meetings during last five years and major recommendations made by the BoS are given below:**

| Year | Date | Recommendations of BOS |
|---|---|---|
| **2018-19** | 17.12.2018 | • Admission to M.Sc. degree programme in different disciplines of Home Science be also given to candidates with UG degree in respective subject. |
| | 25.01.2019 | • Suggested changes for submission of synopsis and format of PG and Ph.D. thesis. |
| | 11.06.2019 | • Proposal for skill courses on 'Self Employed Tailor' and 'Graphic Designing' for participation in PMKVY scheme. |
| | 11.06.2019 | • The addition/amendments were proposed for registration of FN-491/ FRM-491/ HDFS-491/HECM-491/TAD-491, Rural Agricultural Work Experience and Industrial Attachment in Community Science for the students of B.Sc. (Hons.) Community Science admitted from 2017-18 onward. |
| **2019-20** | 20.11.2019 | • Admission policy for the year 2020-21 regarding number of seats and eligibility for admission to different degree programmes of the College. |
| | 03.02.2020 | • Minor revisions in admission policy 2020-21 were suggested and finalized. |
| | 20.02.2020 | • Approval of three month's certificate course on 'Entrepreneurship in Value Added Food Products' proposed by Department of Foods and Nutrition.<br>• Minor amendments/additions were proposed in existing rule 11.4 of Chapter I in University Calendar Volume II regarding repeat non-teaching courses of undergraduate students. |

| | | |
|---|---|---|
| **2020-21** | 13.08.2020 | • In accordance to academic support programme for SC students launched by UGC, faculty members were nominated to identify the students' academic deficiencies and devise academic support programme according to their actual requirements. |
| | 21.01.2021 | • Minor revisions in admission policy 2021-22 were suggested and finalized. The essential qualification for admission to Ph.D. programmes should be Master's Degree with thesis/dissertation in partial fulfilment of the degree. Approval of proposed changes in syllabus for entrance exam of Ph.D. FRM. |
| | 24.02.2021 | • According to 'Roadmap for Implementation of National Educational Policy-2020' 10% seats were increased in all the UG and PG programmes from academic session 2021-22. |
| | 12.03.2021 | • Proposal for opening of College of Home Sciences at CCSHAU Bawal Campus of the University. |
| **2021-22** | 08.02.2022 | • Admission policy for the year 2022-23 regarding number of seats and amendment in prospectus 2022-23. |
| | | • Restructuring of Masters' and Doctoral course curricula and syllabi of all the disciplines were discussed in light of BSMA recommendations and minor changed were included in the proposal. |
| | | • Change of nomenclature of Departments of Textile and Apparel Designing and Family Resource Management as per BSMA academic regulations. |
| **2022-23** | 16.01.2023 | • Name of the I.C. College of Home Sciences was suggested to be changed to I.C. College of Community Sciences.<br>• Change of nomenclature of post graduate degree programmes as per BSMA academic regulations. |

**6.5.1.4. Anti-Ragging Cell:** *In pursuance to the Judgment of the Hon'ble Supreme Court of India dated 08.05.2009 in Civil Appeal No. 887/2009, the University Grants Commission has framed "UGC Regulations on curbing the menace of ragging in higher educational institutions, 2009" which have been notified on 4th July, 2009 in the Gazette of India. Does the College follow this regulation and subsequent guidelines issued in the matter in letter and spirit? Give details.*

Yes, the College follows the regulation and subsequent guidelines issued in the matter. There is an Anti-Ragging committee under the chairmanship of the Dean, I.C. College of Home Sciences for curbing the menace of ragging. Contact Numbers of Anti-Ragging Committee are prominently displayed at Notice Boards of the hostels and College.

**Composition of Committee:** The Anti-Ragging Committee is constituted by the Dean, I.C. College of Home Sciences in consultation with the Director Students' Welfare comprising of following members**:**

| Name | Mobile No. |
|---|---|
| **Chairperson:** Dr. Manju Mehta, Dean, COHS | 9416217149 |
| **Coordinator:** Dr. Seema Rani, Professor, EECM | 9416397605 |
| **Members:** | |
| • Dr. Beena Yadav, Prof. & Head, EECM, Member | 9466533964 |
| • Dr. Neelam M. Rose, Prof. & Head, TAD, Member | 9560446939 |
| • Dr. C.K. Singh, Prof. & Head, HDFS | 9416928882 |
| • Dr. Sangeeta C. Sindhu, Assoc. Prof. & Head, FN | 9416687102 |
| • Dr. Kiran Singh, Professor, FRM | 9416345454 |
| • Dr. Mona Verma, Assistant Professor, TAD, Class Incharge | 9729175490 |
| • Dr. Promila K. Chahal, Assistant Professor, FRM, Class Incharge | 9896270928 |
| • Dr. Parul Gill, Assistant Scientist, TAD, Class Incharge | 9416792986 |

| | |
|---|---|
| • Dr. Santosh Rani, Assistant Scientist, EECM | 9053458962 |
| • Mrs. Asha Rani, Hostel Warden, New Wing, Gangotri Hostel | 9053068410 |
| • Dr. Nidhi Kamboj, Hostel Warden, Additional Wing, Gangotri Hostel | 8572848523 |
| • Dr. Kavita, Hostel Warden, Women Scholar Hostel | 7988361695 |
| • Dr. Baskaur, Hostel Warden, Old Wing, Gangotri Hostel | 8708955591 |
| • Sh. Sukhbir Singh, Chief Security Officer | 9416181816 |
| • Hostel Security | |
| **Professional Counsellors:** | |
| • Dr. C. K. Singh, Prof. & Head, HDFS | 9416928882 |
| • Dr. Vinod Kumari, Prof. & Head, Sociology | 9416305511 |
| **UG Mentors:** | |
| • Ms. Bhavya Sandhu | 8053157068 |
| • Ms. Kismat | 7494861614 |
| • Ms. Mahak Kaushik | 7015497835 |
| • Ms. Neha | 9813287120 |
| • Ms. Vidhi | 8168318113 |
| **PG Mentors:** | |
| • Ms. Mini | 9416042626 |
| • Ms. Madhu Priya | 9470851588 |
| • Ms. Rajni | 8059970367 |
| • Ms. Kritika | 9255203472 |
| • Ms. Kanti Ghimire | 9729523668 |
| **Non-teaching staff:** | |
| • Sh. Anil Duhan, Assistant | 9671781184 |
| • Sh. Babu Ram, Assistant | 9466479518 |
| • Ms. Ritu Rani, Junior Scale Stenographer | 8708732986 |
| **Parents:** | |
| • Sh. Murari Lal | 7015497835 |
| • Sh. Surat Suraj Singh | 9813287120 |

## Activities of the Committee

1. All the members, UG and PG mentors are put on round the clock duty on rotation basis to monitor and implement anti-ragging measures to maintain peaceful atmosphere.
2. All the first year students are informed about anti-ragging committee is constituted as per UGC regulations on curbing the menace of ragging in the University.
3. Leaflets are distributed among fresh students at the time of admission having names, address and telephone numbers of Anti-Ragging Committee members.
4. Wide publicity regarding anti-ragging helpline numbers, punishment provisions, zero tolerance policy for ragging etc. is done by displaying Posters and Boards in the College premises and surrounding areas.
5. At the time of physical counselling for admission, the newly admitted students and their parents are addressed by the Convener of Anti-Ragging Committee about the measures adopted by the University to curb the ragging menace.
6. Ice breaking sessions of freshers with seniors are organized by the Liaison officers and class in-charges.

**Preventive measures taken by the College to prevent ragging:**

- Ragging is strictly banned in the University. The University has adopted the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009 as well as the directions of the Hon'ble Apex Court.
- Before the commencement of the academic session, the Dean convenes a meeting of Hostel Wardens, representatives of students, parents/guardians and faculty members to discuss the measures to be taken to prevent ragging in the College.
- It is mandatory to submit an Affidavit/undertaking by old and fresh students as well as their parents mentioning that they will not engage in any ragging related activities.
- Frequent sessions are organized to create awareness among senior students regarding the consequences of indulgence in ragging.
- The committee identifies and keeps a close watch on ragging prone locations to be vulnerable to occurrence of ragging incidents. Faculty members take regular rounds and surprise visits of different locations in the College to check ragging activities.
- Security is provided in the College premises, especially at vulnerable places by Anti-Ragging Squad during first few months of each academic session.
- The College engages professional counsellors for counselling of the freshers.
- Orientation programme is scheduled for:
  (i) Sensitization and counselling of fresh and senior students.
  (ii) Address by the Chairperson and Coordinator of Anti-Ragging Committee.
  (iii) Cultural and other activities are organized to provide a common platform for the fresher's and seniors to interact in the presence of faculty members.

**Note: No incidence of ragging has been reported in the I.C. College of Home Sciences during the last five years.**

**6.5.1.5. Biological waste disposal facility:** *Whether wastes (chemical, biological, radioactive, universal, and recyclable) are generated by a variety of research, clinical, service, maintenance, and cleaning operations at the College level? If yes, then mention the disposal mechanism being adopted as per the government guidelines*

The University has Institutional Bio Safety Committee (IBSC) registered with Department of Biotechnology, Ministry of Science and Technology, registered by Gazette Notification with Registration No. D-221. The University takes care of safety aspects and biological waste disposal generated during research, maintenance and cleaning operations of the College. The Bio Safety Committee (IBSC) duly approved from Department of Biotechnology, Ministry of Science and Technology is as follows:

| S. No. | Name, Designation & Present affiliation | Composition |
|---|---|---|
| 1. | Dr. Jeet Ram Sharma, Director of Research, CCSHAU, Hisar | Chairman |
| 2. | Dr. Priti Malik, Lady Medical Officer, CCSHAU, Hisar | Biosafety Officer |
| 3. | Dr. Sushila Mann, Professor, Dept. of Animal Biotechnology, LUVAS, Hisar | Outside Expert |
| 4. | Dr. Neeraj Kumar, Dean, COBS&H, CCSHAU, Hisar | Internal Member |
| 5. | Dr. Surender Pahuja, Dean, College of Agriculture, CCSHAU, Hisar | Internal Member |

| | | |
|---|---|---|
| **6.** | Dr. Leela Wati, Prof. & Head, Dept. of Microbilogy, CCSHAU, Hisar | Internal Member |
| **7.** | Dr. Hawa Singh Saharan, Prof. & Head, Dept. of Plant Pathology, CCSHAU | Internal Member |
| **8.** | Dr. Sangeeta Sindhu, Assoc. Prof. & Head, Dept. of Food & Nutrition, CCSHAU, Hisar | Internal Member |
| **9.** | Dr. Sanjay Kumar Thakral, Prof. & Head, Dept. of Agronomy, CCSHAU, Hisar | Internal Member |
| **10.** | Dr. Rachna Gulati, Officer in-Charge, College of Fisheries Science, CCSHAU, Hisar | Internal Member |
| **10.** | Dr. Namita Singh, Professor, Dept. of Bio & Nanotechnology, GJUS&T, Hisar | DBT Nominee |
| **11.** | Dr. Shikha Yashveer, Asstt. Professor, Dept. of MBB&B, CCSHAU, Hisar | Member Secretary |

**6.5.1.6. Institutional Ethics Committee for Experiment on Animals:** *Whether the institute/College is following CPCSEA guidelines and constituted an Institutional Animal Ethics Committee (IAEC), get their animal house facilities inspected and get their project cleared by CPCSEA and IAEC before commencing them? If yes, the college should make statement that it is adhering all guidelines in the matter.*

The College is following CPCSEA guidelines. The University has Institutional Animal Ethics Committee registered with CPCSEA (Now renamed as CCSEA) vide letter No.25/12/2017-CPCSEA dated 26.08.2022 and works in full compliance. The registration number is 2187/GO/Re/S/22/CPCSEA. The Institutional Animal Ethics Committee duly approved from CPCSEA is as follows:

| S. No. | Name | Composition |
|---|---|---|
| **1.** | Dr. S.K. Sehrawat | Chairman |
| **2.** | Dr. Pushpa Kharb | Biological Scientist |
| **3.** | Dr. Suresh Kumar | Veterinarian |
| **4.** | Dr. Ravikant | Scientist In-charge of Animal House Facility |
| **5.** | Dr. Sangeeta C. Sindhu | Scientist from different biological discipline |
| **6.** | Dr. Rachna Gulati | Member-Secretary |

Yes, the College is adhering to all guidelines in the matter.






**Annual Inspection visit of CPCSEA Nominee**

**Institutional Ethical Committee**: In accordance with National Ethical Guidelines for Biomedical and Health research involving Human Participants, ICMR, the University has Institutional Ethical Committee (IEC). The composition of the IEC is as mentioned below:

| Sr. No. | Name and Designation | Composition |
|---|---|---|
| **1.** | Dr. Naresh Jindal, Director of Research, LUVAS, Hisar | Chairperson |
| **2.** | Dr. Jeet Ram Sharma, Director of Research, CCSHAU, Hisar | Co-Chairperson |
| **3.** | Dr. Manju Mehta, Dean, COHS, CCSHAU, Hisar | Member |
| **4.** | Dr. Neeraj Kumar, Dean, COBS&H, CCSHAU, HIsar | Member |
| **5.** | Chief Medical Officer, Civil Hospital, Hisar | Member |
| **6.** | Dr. Preeti Malik, Senior Medical Officer, University Hospital, CCSHAU, Hisar | Member |
| **7.** | Dr. Vinod Kumari, Prof & Head, Dept. of Sociology, CCSHAU, Hisar | Member |
| **8.** | Dr. Pooja Kataria, MD, Dept. of Community Medicines, MAMC, Agroha | Member |
| **9.** | Mrs. Saroj Bala, Legal Expert, H. No. 2360, Sector 9 & 11, Hisar | Member |
| **10.** | Dr. A.S. Nandwal, Professor (Retired), Member from the Community | Member |
| **11.** | Dr. Manju Dahiya, Associate Director (BS/HS), Directorate of Research, CCSHAU, Hisar | Member |
| **12.** | Dr. Rajesh Gera, Additional Director of Research, CCSHAU, Hisar | Member-Secretary |

**6.5.1.7. Committee for Prevention of Sexual Harassment of Women at Work Places:** *Does the institution is adhering the sexual harassment of women at workplace (Prevention, Prohibition and Redressal Act, 2013) in letter and spirit. If yes, mention the constitution of sexual harassment committees and date of proceedings conducted in last five years in tabular form.*

The College constituted a committee in the year 2013 for prevention, prohibition and redressal of sexual harassment.

**Present Composition of Sexual Harassment Committee:**

1. Dr. Manju Mehta, Dean, COHS - Chairperson
2. Dr. Atul Dhingra, DSW - Member
3. Dr. Chander Kala Singh, Professor, HDFS - Member
4. Dr. Saroj Yadav, Assistant Professor, TAD - Member
5. Dr. Urvashi Nandal, Assistant Professor, FN - Member
6. Ms. Swaroopa, 2021HS38M - Member
7. Ms. Kanti Ghimire, 2021HS20M - Member
8. Ms. Medhavi, 2021HS29BIV - Member
9. Ms. Bhawna, 2021HS12BIV - Member

No complaint regarding sexual harassment has been received from any student in the College during the period under report. The College has installed CCTV cameras at different entry points, corridors, class rooms, labs etc. The liaison officers and other faculty members of the College are very active and raise different issues pertaining to the women's safety and sensitize the students regarding issues related to sexual harassment. Awareness campaigns regarding sexual harassment are being organized from time to time. Trainings and lectures are also conducted in this regard. There is also a complaint/ suggestion box in front of the Dean's office for getting complaints from female students and employees.

## 6.5.2 Faculty

### 6.5.2.1. Faculty Strength: *Mention the Faculty position (both in sanctioned and in-position) at the College*

There are three sanctioned posts of Professors/equivalent, 11 Associate Professors/equivalent and 54 Assistant Professor/equivalent in the College. At present, there are 12 Professors/equivalent, 04 Associate Professors/equivalent, 21 Assistant Professors/equivalent. Two Instructors and eight Research Associate/Senior Research Fellow/Young Professional also contribute in teaching, research and extension activities of the College.

| Designation | Sanctioned | In-position |
|---|---|---|
| **Professor/equivalent** | 03 | 12PP (09+03*) |
| **Associate Professor/equivalent** | 11 (10+01*) | 04PP (03+1*) |
| **Assistant Professor/equivalent** | 54 (33+21*) | 21 (15+6*) |
| **Instructor** | 02 | 02 |
| **Research Associate/ SRF/YP** | 09 | 08 |
| **Total** | **79** | **47** |

PP- Personal Promotion from Assistant Professor *Faculty Posted in Extension

### 6.5.2.2. Faculty Profile: *Mention department wise faculty profile in tabular form and mention whether present profile is sufficient to meet the academic requirement of the College*

The College has a team of competent faculty members with vast experience and international exposure. The present faculty profile is sufficient to meet the academic requirement of the College. Faculty members are encouraged to participate in national and international seminars in their respective field of specialization. The faculty members have published number of books, book chapters and research papers in reputed journals. The faculty members also attended and presented research papers in National and International Conferences/Seminars (**Annexures I A-E and II A-E)**.

| S. No. | Name | Designation | Publications in number | | | | |
|---|---|---|---|---|---|---|---|
| | | | Full papers | Papers abstracted/ presented | Books | Book chapters | Manuals |
| **Department of Extension Education and Communication Management** | | | | | | | |
| **1.** | Dr. Beena Yadav | Professor & Head | 94 | 98 | - | 05 | 08 |
| **2.** | Dr. Seema Rani | Professor | 84 | 70 | 02 | 13 | 07 |
| **3.** | Dr. Manju Dahiya | Associate Director (BS/HS) | 70 | 114 | 08 | 13 | 10 |
| **4.** | Dr. Vandana Varma | Assistant Professor | 23 | 36 | 01 | 10 | 08 |
| **5.** | Dr. Poonam Kundu | Assistant Scientist | 28 | 42 | 01 | 01 | 03 |
| **6.** | Dr. Ella Rani | Assistant Professor | 46 | 85 | 02 | 07 | 04 |
| **7.** | Dr. Santosh Rani | Assistant Scientist | 12 | 28 | 04 Booklets | 01 | 01 |
| **8.** | Dr. Vinita Jain* | Principal Extension Specialist | 40 | 35 | 18 Booklets | 72 Popular articles | 03 |
| **9.** | Dr. Kanta Sabharwal* | District Extension Specialist | 26 | 25 | 02 | 05 | 02 |
| **10.** | Dr. Asma* | District Extension Specialist | 10 | 04 | - | 02 | - |
| **11.** | Dr. Asha Batra* | Principal Extension Specialist (Retd. in 2018) | 30 | 40 | - | 8 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **12.** | Dr. Rita Goel | Professor (Retd. in 2018) | 70 | 24 | - | 1 | 08 |
| **13.** | Dr. Veena Jain* | Senior Extension Specialist* (Retd. in 2020) | 03 | 12 | 10 Booklets | 140 Popular articles | - |
| **14.** | Dr. Sumitra Yadav | Principal Extension Specialist (Retd. in 2020) | 15 | 42 | 10 Booklets | 03 | 02 |
| **15.** | Dr. Prem Lata* | Senior Extension Specialist (Retd. in 2020) | 07 | 06 | 04 Booklets | 125 articles | 03 |
| **16.** | Dr. Sushma Kaushik | Professor (Retd. in 2021) | 103 | 137 | 07 | 35 | 26 |
| **17.** | Dr. Shashi Vashisht* | Principal Extension Specialist (Retd. in 2021) | 20 | 40 | 08 Booklets | 113 Popular articles | 34 Technical Bulletins |
| **18.** | Dr. Rajesh Dahiya | Assistant Professor (Retd. in 2022) | 61 | 72 | - | 01 | 03 |
| **Department of Foods and Nutrition** | | | | | | | |
| **19.** | Dr. Sangeeta Chahal Sindhu | Associate Professor & Head | 52 | 30 | - | 04 | 06 |
| **20.** | Dr. Veenu Sangwan | Assistant Scientist | 31 | 25 | - | 05 | 01 |
| **21.** | Dr. Urvashi Nandal | Assistant Professor | 17 | 20 | 01 | 02 | 01 |
| **22.** | Dr. Jyoti Sihag | Assistant Professor | 10 | 13 | - | - | - |
| **23.** | Dr. Monika Sharma* | Principal Extension Specialist | 17 | 39 | - | - | - |
| **24.** | Dr. Varsha Rani* | District Ext. Specialist | 47 | 27 | - | 04 | 03 |
| **25.** | Dr. Asha Kawatra | Consultant Faculty | 166 | 93 | 01 | 10 | 09 |
| **26.** | Dr. Amrit Pal Kaur* | Principal Extension Specialist (Retd. in 2018) | 11 | 21 | 04 | - | 01 |
| **27.** | Dr. Sudesh Jood | Professor (Retd. in 2018) | 120 | 75 | 05 | 12 | 09 |
| **28.** | Dr. Darshan Punia | Professor (Retd. in 2019) | 62 | 60 | 03 | - | 04 |
| **29.** | Dr. Pinky Boora | Professor (Retd. in 2019) | 56 | 50 | - | 01 | 07 |
| **30.** | Dr. Neelam Khetarpaul | Professor Emeritus (Retd. in 2020) | 262 | 66 | 22 | 58 | 13 |
| **31.** | Dr. Sunita Chawala* | Senior Extension Specialist (Retd. in 2021) | 10 | 12 | - | - | 02 |
| **32.** | Dr. Saroj Dahiya | Emeritus Scientist (Retd. in 2021) | 105 | 65 | - | 10 | 15 |
| **Department of Family Resource Management** | | | | | | | |
| **33.** | Dr. Manju Mehta | Professor & Head | 152 | 116 | 01 | 02 | 08 |
| **34.** | Dr. Kiran Singh | Professor | 32 | 01 | - | - | 04 |
| **35** | Dr. Kavita Dua | Assistant Professor | 44 | 10 | - | - | 03 |
| **36.** | Dr. Promila K. Chahal | Assistant Professor | 37 | 57 | - | 03 | 04 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **37.** | Dr. Kusum Rana* | Principal Extension Specialist | 65 | 65 | - | - | 03 |
| **38.** | Mrs. Sunita Ahuja* | Senior Extension Specialist | 29 | 26 | - | - | 01 |
| **39.** | Dr. Sudesh Gandhi | Principal Scientist (Retd. in 2018) | 113 | 156 | 01 | 08 | 09 |
| **40.** | Dr. Binoo Sehgal | Consultant Faculty | 55 | 51 | - | 02 | 11 |
| **Department of Human Development and Family Studies** | | | | | | | |
| **41.** | Dr. Poonam Malik | Assistant Scientist | 31 | 43 | - | 17 | 03 |
| **42.** | Dr. Meena Siwach* | Principal Extension Specialist | 25 | 17 | - | 04 | 10 |
| **43** | Dr. Anju Manocha* | Principal Extension Specialist | 104 | 52 | 01 | 10 | 08 |
| **44.** | Dr. Poonam Yadav* | District Extension Specialist | 29 | 18 | - | 02 | - |
| **45.** | Dr. Sudha Chhikara* | Principal Extension Specialist (Retd. in 2019) | 128 | 95 | 01 | 05 | 26 |
| **46.** | Dr. Shanti Balda | Professor (Retd. in 2019) | 135 | 45 | - | 06 | 23 |
| **47.** | Dr. Santosh Sangwan | Assistant Professor (Retd. in 2019) | 110 | 104 | - | 03 | 24 |
| **48.** | Dr. Krishna Duhan | Professor (Retd. in 2022) | 114 | 57 | - | 04 | 07 |
| **49.** | Dr. Bimla Dhanda | Professor (Retd. in 2022) | 112 | 24 | - | 03 | 15 |
| **50.** | Dr. Sheela Sangwan | Professor (Retd. in 2022) | 143 | 64 | - | 13 | 20 |
| **51.** | Dr. Chandra Kala Singh | Professor (Retd. in 2022) | 136 | 86 | - | 02 | 38 |
| **Department of Textile and Apparel Designing** | | | | | | | |
| **52.** | Dr. Neelam M. Rose | Professor & Head | 111 | 126 | 02 | 16 | 20 |
| **53.** | Dr. Nisha Arya | Assistant Professor | 105 | 86 | 03 | 12 | 15 |
| **54.** | Dr. Saroj Yadav | Assistant Professor | 99 | 95 | - | 12 | 02 |
| **55.** | Dr. Parul | Assistant Professor | 21 | 43 | 01 | 2 | - |
| **56.** | Dr. Mona Verma | Assistant Professor | 23 | 26 | 01 | 3 | 1 |
| **57.** | Dr. Suman Sodhi | Assistant Scientist | 14 | 11 | 01 | 3 | - |
| **58.** | Ms. Rakhi Dalal | Instructor, Textile Designing | 01 | - | - | 05 | 03 |
| **59.** | Dr. Neelam Saini | Instructor, Fashion Designing | 14 | 18 | 01 | 4 | 1 |
| **60.** | Dr. Vivek Singh* | Principal Extension Specialist | 99 | 191 | 03 | 04 | 18 |
| **61.** | Dr. Lalita Rani* | District Extension Specialist | 11 | 9 | - | 3 | - |
| **62.** | Dr. Saroj Devi* | District Extension Specialist | 10 | 03 | 03 | 01 | -- |
| **63.** | Dr. Nirmal Yadav | Professor (Retd. in 2019) | 146 | 63 | 02 | 05 | 19 |
| **64.** | Dr. Saroj S. Jeet Singh | Professor Emeritus (Retd. in 2022) | 156 | 187 | 03 | 08 | 24 |

**Faculty Posted in Extension*

**6.5.2.3. Credential of the Faculty:** *Whether the institution has employed competent faculty members qualified to accomplish the mission and goals of the institution? Give the highest qualification received by each faculty, related work experiences in the field, professional license and certifications, honours and awards, continuous documented excellence in teaching, or other demonstrated competencies and achievements that contribute to effective teaching and student learning outcomes.*

The College has qualified and competent faculty to accomplish the mission and goals of the institution. Almost all the faculty members have Doctorate Degree. Besides teaching, all the faculty members are involved in research and extension **(Annexures III A-E and IV A-E)**. The faculty members of the College have been awarded with prestigious fellowships and awards, such as Common Wealth Fellowship, Australian Development Cooperation Scholarship, Indian National Science Academy, Young Scientist Award, Best Teacher Award, Best AICRP Team Award, Best Thesis Award, Fellow Award of Professional Societies etc. The faculty members of the College have also successfully handled many projects funded by different agencies such as Department of Science & Technology, Department of Biotechnology, Ministry of Food Processing Industries, National Horticultural Board, UGC, ICAR, NATP, CSIR, RKVY etc. Credentials of the faculty are given in the following table:

| S. No. | Name, Designation Qualification and Experience (Years) | Honours/awards | Competencies and achievements that contribute to effective teaching and student learning outcomes |
|---|---|---|---|
| **Department of Extension Education and Communication Management** | | | |
| **1.** | Dr. Beena Yadav<br>Professor<br>Ph.D.<br>(30 Years) | • ICAR Merit Scholarship during B.Sc.<br>• ICAR Senior Fellowship during Ph.D.<br>• Fellow Award by Society of Extension Education<br>• Member of the court, MDU Rohtak (2018-20)<br>• Member, BOS SKRAU, Bikaner (2020-22) | • Developed eight teaching manuals<br>• Developed UG course on Mass Media Production as per recommendations of NEP 2020 to be offered by Dept. of EECM of all SAUs of the Country<br>• Managing Director, ELP<br>• Focus on group exercises, case studies and group discussion for comprehension of the subject matter<br>• Convener, RAWE programme, COHS<br>• Completed four projects as Co-IP<br>• Expert, selection committee and external examiner for comprehensive and viva voce examination of different universities |
| **2.** | Dr. Seema Rani<br>Professor<br>Ph.D.<br>(30 Years) | • Chaudhary Devi Lal Outstanding AICRP Team Award-2003 | • Prepared manual on Designing Information Material<br>• Delivered key note address in National Webinar on Community Science-Linkages and Way Forward, organized by MPUAT, Udaipur, Rajasthan<br>• University Coordinator, ELP<br>• Nodal Officer, Agri. Business Incubation Centre (ABIC)<br>• Member of BSMA Committee regarding restructuring of Master's and Ph.D. curriculum, syllabi and academic regulations |
| **3.** | Dr. Manju Dahiya*<br>Professor<br>Ph.D.<br>(30 Years) | • Common Wealth PDF<br>• Certificate of Honour<br>• Best Poster Award | • Training Coordinator, ICAR–JRF(PGS) and Basic Computer Training<br>• Compiled nine training/teaching manuals<br>• Script Writing and Recording of CD-ROMs<br>• Expert lectures in various Refresher Courses and Trainings |

| | | | |
|---|---|---|---|
| | | | • Expert, Paper-setter and External examiner for entrance exam and Post Doctorate, Ph.D. and M.Sc. degrees of different universities<br>• Expert, Selection committee for the post of Assistant Professor |
| **4.** | Dr. Vandna Verma<br>Assistant Professor<br>Ph.D.<br>(12 Years) | • Young Scientist Award, Indian Society of Extension Education<br>• Appreciation Award by Indian Society of Extension Education | • Imparted specialized training on handicraft for entrepreneurship development among students<br>• Organized various training for UG and PG students as Training Coordinator<br>• Development and standardization of print media on need-based messages<br>• Paper-setter for various SAUs<br>• Manager, Experience Learning Unit of the Department<br>• Organized industrial visit of students for better comprehension of theoretical aspects<br>• NSS Programme Officer from 2014-2019 |
| **5.** | Dr. Poonam Kundu<br>Assistant Scientist<br>Ph.D.<br>(09 Years) | • Best Poster presentation Award -02 | • Organized various weeks, days and trainings for rural women<br>• Organized Swachhta Abhiyan & Programmes under Unnat Bharat<br>• Paper setter for UG programme of other SAUs<br>• Developed and standardized CD-ROM on medicinal plants and WhatsApp messages on Water Conservation |
| **6.** | Dr. Ella Rani<br>Assistant Professor<br>Ph.D.<br>(09 Years) | Young Scientist Award by Indian Society of Extension Education | • Development and standardization of print media on need-based messages<br>• Organized various training for UG and PG students as Training Coordinator<br>• Paper-setter for various SAUs<br>• Incharge, Experiential learning Programme<br>• Sports Coordinator, COHS<br>• Chief Liaison Officer, COHS<br>• Nodal Officer, DHAKAD team, COHS, CCSHAU, Hisar<br>• Organized industrial visit of students for better comprehension of theoretical aspects |
| **7.** | Dr. Santosh Rani<br>Assistant Scientist,<br>Ph.D.<br>(05 Years) | - | • Member, Committee to Academic Support Programme for Scheduled Caste students, COHS<br>• Nodal Officer, SC/BC Cell, COHS<br>• Member, College Level Committee regarding Post Metric Scholarship for SC/BC students, COHS<br>• Organized farm women training, awareness programmes, FLDs, Group meetings, *Mahila Kisan Goshthis*, Farmers Scientist Interface, Exposure Visits etc. |
| **8.** | Dr. Vinita Jain*<br>Principal Extension Specialist<br>Ph.D.<br>(28 Years) | • Dr. Rajender Pal Singh Gold Medal for Best M.Sc. Thesis (2005) | • Organized lectures, demonstrations and trainings for rural women<br>• Formulated rural women self-help groups |

| | | | |
|---|---|---|---|
| **9.** | Dr. Kanta Sabharwal<br>District Extension Specialist<br>Ph.D.<br>(12 Years) | • Best KVK Scientist Award<br>• Fellow Award, Indian Society of Extension Education | • Delivered number of Expert lectures<br>• Celebrated various days & weeks; organized awareness campaign, group meeting, method demonstration and trainings to enhance knowledge of rural women.<br>• Worked for empowerment of women through income generating activities |
| **10.** | Dr. Asma*<br>District Extension Specialist<br>Ph.D.<br>(01 Year) | | • Organized lectures, demonstrations and trainings for rural women<br>• Formulated rural women self-help groups |
| **Department of Foods and Nutrition** | | | |
| **11.** | Dr. Sangeeta Chahal Sindhu<br>Associate Professor<br>Ph.D.<br>(18 Years) | • C.K. Lamba Gold Medal (B.Sc.)<br>• CCSHAU Merit Gold Medal (B.Sc.)<br>• ICAR-JRF in M.Sc.<br>• Silver Jubilee Year Univ. Gold Medal for Best Doctoral Thesis<br>• Best oral presentation Award -01<br>• Best poster presentation -01<br>• Nodal Officer, COHS, IDP project | • Compiled two course manuals, one training manual and three technical bulletins<br>• Completed IDP sponsored three months international training in the field of 'Food Processing' at University of Illinois, Urbana Champaign, USA from June25to September 24, 2019<br>• Completed 01 project as PI; 01 project as Co-PI |
| **12.** | Dr. Veenu Sangwan<br>Assistant Professor<br>Ph.D.<br>(12 Years) | • HAU Merit Gold Medal (B.Sc.)<br>• Mrs. Chandra Kanta Lamba Gold Medal (B.Sc.)<br>• Academic Gold Medals-Two<br>• Best Poster Presentation Award -03<br>• Best Oral Presentation Award- 02 | • Compiled four course manuals<br>• Completed 01 project as Co- PI |
| **13.** | Dr. Urvashi Nandal<br>Assistant Professor<br>Ph.D.<br>(17 Years) | • HAU Merit Gold Medal (B.Sc.)<br>• Mrs. Chandra Kanta Lamba Gold Medal<br>• Certificate of merit for achieving highest OGPA in Ph.D. Foods and Nutrition, 2015-16<br>• Award & Appreciation letters from different authorities-05<br>• Best Poster Presentation Award -01<br>• Best Oral Presentation Award- 01 | • Co-PI in CIMMYT funded research project |
| **14.** | Dr. Jyoti Sihag<br>Assistant Professor<br>Ph.D.<br>(04 years) | • A.L. Fletcher Gold Medal (B.Sc.)<br>• Mrs. Chandra Kanta Lamba Gold Medal (B.Sc.)<br>• HAU Merit Gold Medal | • Teaching Assistant Performance Evaluation Form, summarizing "Excellent Performance at All Levels," University of Manitoba, Canada<br>• Evidence-based publication record in Q1 |

| | | | |
|---|---|---|---|
| | | (B.Sc.)<br>• Dr. (Mrs.) Saroj Kashyap-Gold Medal (M.Sc.)<br>• International Women Year Gold Medal<br>• Emerging Leader Award - 01.<br>• Travel Award- 05<br>• Scholarship availed-03 | Ranking (world's top 25% journals), based on SC Imago Journal Rank, for the Year 2022<br>• Dietetics/Nutrition Internship, National Hospital, Bhopal, India<br>• Development of strong analytical skills:<br>○ GC-FID<br>○ UPLC-MS/MS<br>• Clinical trialist:<br>○ Animal experiments<br>○ Human clinical trials |
| **15.** | Dr. Asha Kawatra<br>Consultant Faculty<br>Ph.D.<br>(36 years) | • Mrs. Chandra Kanta Lamba Gold Medal (B.Sc.)<br>• CCSHAU Merit Gold Medal (B.Sc.)<br>• Best Poster Award | • Founder CO-PI, Centre of Excellence on Processing and Value Addition of Pearl Millet<br>• Dean, Post Graduate Studies (14.03.2017-13.03.2021)<br>• Dean, COHS (01.02.2018 to 12.08.2018)<br>• Incharge, International Affair Cell |
| **16.** | Dr. Monika Sharma*<br>Principal Extension Specialist<br>Ph.D.<br>(29 years) | • HAU Merit Gold Medal (B.Sc.)<br>• Best Poster Awards | • Organized lectures, demonstrations and trainings for rural women<br>• Formulated women SHGs in the area |
| **17.** | Dr. Varsha Rani*<br>Assistant Professor<br>Ph.D.<br>(12Years) | • Merit Gold Medal (B.Sc.)<br>• Best Poster Awards -06 | • Compiled three course manuals<br>• Completed IDP-NAHEP sponsored three months (December 30, 2022 to March29, 2023) International training in International Pedagogy at Wageningen University & Research, The Netherlands |
| **Department of Family Resource Management** | | | |
| **18.** | Dr. Manju Mehta<br>Professor<br>Ph.D.<br>(30 Years) | • Merit Fellowship through out B.Sc.<br>• 2nd position in Ph.D.<br>• Chaudhary Devi Lal Outstanding AICRP Team Award-2003<br>• Certificate of Appreciation for Reducing Drudgery of Women<br>• 2nd prize in poster presentation<br>• M.Sc. student got Dr. (Mrs.) Saroj Kashyap Gold Medal<br>• Awarded patent for<br>✓ Design of Composite stool for pruning and harvesting<br>✓ Design of Secateurs<br>✓ Bead Product workstation | • Compiled five course manuals<br>• Content creator in the learning activity under NAHEP in the E-learning activity<br>• Unit reviewer in the E-learning activity under NAHEP<br>• Committee member to finalize the FRM Courses of 6th Deans' Committee<br>• Consultancy to students for entrance exams like JRF exams<br>• Vice President, Cultural Forum, COHS and motivated students for participation in various cultural activities |
| **19.** | Dr. Kiran Singh<br>Professor<br>Ph.D.<br>(32 Years) | • ICAR JRF in M.Sc.<br>• Completed NASF Project entitled, 'Women Empowerment and Gender Sensitization – Developing | • Sports Organizer of the College till 2016 & 2020-22 and motivated students for participation in various sports activities<br>• Participated in National Trekking programme |

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| | | a Model for Bridging Gender Gap' as P.I. of 1.33 Crores Project | • Standard Chartered Half Marathon at Mumbai<br>• Got Walk-in-tunnel prepared for Cut flowers at Domestic Farm Unit<br>• Organized Workshop on 'Gender Sensitization: Breaking Barriers and Fuelling Gender Equality' for ICDS field functionaries under the NASF-ICAR project on October 19, 2022 |
| **20.** | Dr. Kavita Dua<br>Assistant Professor<br>Ph.D.<br>(06 Years) | • Appreciation letter from the Dean, COHS-02<br>• Received appreciation letter from Superintendent of Police, HSNCB, Haryana | • Prepared three manuals<br>• President, Cultural Forum of I.C. College of Home Sciences<br>• Contributed in "Finalizing the Draft of State Action Plan" by Haryana State Narcotics Control Bureau, Government of Haryana<br>• Participated in the programme of Implementation of "State Action Plan "by HSNCB, Haryana on June26, 2022 at Madhuban, Karnal |
| **21.** | Dr. Promila K. Chahal<br>Ph.D.<br>(04 Years) | • Received certificate of excellence for reviewer of International Journal of Environment and Climate Change<br>• Appreciation letter from the Dean, COHS for excellent work done | • Developed two teaching manuals<br>• Counsellor of Youth Red Cross, I.C. College of Home Sciences<br>• College coordinator to Assist Public Relations Office<br>• Member of Editorial/ Advisory board of UGC approved journal of SHRINKHALA |
| **22.** | Dr. Binoo Sehgal<br>Consultant Faculty<br>Ph.D.<br>(32 Years) | • HAU Merit Gold Medal (B.Sc.)<br>• Highest OGPA in Ph.D.<br>• Best Poster Award -02 | • Compiled ten course manuals<br>• President, Cultural and Art Forum of I.C. College of Home Sciences<br>• Motivated students for participation in literary, art and cultural activities and students won many Inter university prizes |
| **23.** | Mrs. Sunita Ahuja*<br>Senior Extension Specialist<br>M.Sc.<br>(35 Years) | | • Created around 23 SHGs and trained them in *papad* and pickle making |
| **24.** | Dr. Kusum Rana*<br>Principal Extension Specialist<br>Ph.D.<br>(18 Years) | | • Co-ordinated exposure visits and events with UG and PG students for effective learning<br>• Prepared two manuals for reference of students<br>• Empowered more than 600 rural women in varied skills like value added jute products, Cutting and Tailoring, Value added decorative items, Bakery, Food processing to start their own enterprise |
| **Department of Human Development and Family Studies** | | | |
| **25.** | Dr. Poonam Malik<br>Assistant Professor<br>Ph.D.<br>(06 Years) | • A.L. Fletcher Gold Medal (B.Sc.)<br>• International Women Year Gold Medal (B.Sc.) | • Two copyrights for educational content developed for pregnant women and mothers of pre-schoolers<br>• Organized visits of students to different |

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| | | • HAU Merit Gold Medal (B.Sc.)<br>• Mrs. Chandra Kanta Lamba Gold Medal (B.Sc.)<br>• Merit Certificate for Highest OGPA (M.Sc.)<br>• UGC-JRF (Ph.D.) | counselling centers and child and family welfare institute under various courses to provide first-hand experience to students<br>• Compiled three course manuals |
| **26.** | Dr. Meena Siwach*<br>Principal Extension Specialist<br>Ph.D.<br>(29 Years) | • HAU Merit Gold Medal (B.Sc.)<br>• UNDP Fellowship (M.Sc.) | • Developed various intervention programmes to strengthen different aspects of cognition and intelligence for various age groups |
| **27.** | Dr. Anju Manocha*<br>Principal Extension Specialist<br>Ph.D.<br>(31 Years) | • Chaudhary Devi Lal Outstanding AICRP Award, 2003 | • Compiled two course manuals<br>• Compiled seven intervention packages<br>• Developed intervention packages to strengthen various aspects of physical, emotional and cognitive development of pre-schoolers |
| **28.** | Dr. Poonam Yadav*<br>District Ext. Specialist<br>Ph.D.<br>(05 Years) | • Dr. R. N. Pal Memorial Gold Medal for Best Ph.D. Thesis<br>• UGC SRF | • Delivered number of Expert lectures<br>• Celebrated Mahila Diwas, International Women's Day<br>• Organized vocational training for scheduled caste for skill development<br>• Organized Mela/ awareness programme related to Natural farming, crop Residue management and importance of Nutri cereals |
| **Department of Textile and Apparel Designing** | | | |
| **29.** | Dr. Neelam M. Rose<br>Professor<br>Ph.D.<br>(30 Years) | • HAS Fellow Award<br>• Best Poster Award -04<br>• Best Paper Award-01<br>• Appreciation Letters from Vice Chancellor-02<br>• ELP-TAD stall got 1st prize (Twice) in Krishi Mela, CCSHAU, Hisar | • Created facilities for PG research through DST sponsored PURSE scheme<br>• Managing Director, Experience Learning Unit of the Department<br>• Developed UG course on Apparel Designing Techniques- Flat Pattern & Draping as per recommendations of NEP 2020 to be offered by Dept. of ATS of all SAUs of the Country<br>• Expert, selection committee and external examiner for comprehensive and viva voce examination of different universities<br>• Member, College committee for framing and finalization of PG and Ph.D. courses and compilation of Course Catalogue as per BSMA recommendations<br>• Developed five Teaching/design Catalogues<br>• Completed ICAR-NASF Multidisciplinary Project as Co-PI |
| **30.** | Dr. Nisha Arya<br>Assistant Professor<br>Ph.D.<br>(12 Years) | • Best Poster Award<br>• Best Paper Award-02 | • Consultancy to students for UGC/JRF/NET exams<br>• Completed Gap Filling Project as Co-PI<br>• Coordinated two trainings on CAD for students of COHS |
| **31.** | Dr. Saroj Yadav<br>Assistant Professor<br>Ph.D.<br>(12 Years) | • Best Poster Award -04<br>• ELP stall got 1st prize (Twice) in Krishi Mela, CCSHAU, Hisar<br>• Certificate of appreciation from the Dean, COHS for NIRF Ranking-2022 | • Assistant Coordinator of Experiential Learning of CCSHAU, Hisar<br>• Manager, Experience Learning Unit of the Department<br>• Co-Principal Investigator of UGC sponsored research project |

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| | | | • Coordinated trainings on Skill Development in Apparel and Textile Designing for SC/ST students of COHS (March, 2022)<br>• Review Editor, Pantnagar Journal of Research<br>• Guidance to students for career opportunities and various competitive exams |
| **32.** | Dr. Parul Gill<br>Assistant Professor<br>Ph.D.<br>(04 Years) | • ASRB-JRF and SRF<br>• Honoured by Prime Minister for academic excellence in Ph.D.<br>• NCC 'C' Certificate with Sgt. Rank<br>• Third prize in District Level Yoga Championship | • Developed 10 E-leaflets/E-folders<br>• Organized Workshop on 'Role of Youth in the Upliftment of Farm Women' |
| **33.** | Dr. Mona Verma<br>Assistant Professor<br>Ph.D.<br>(03Years) | • Dr. (Mrs.) Saroj Kashyap Gold Medal (M.Sc.)<br>• Inspire JRF and SRF Fellowship<br>• UGC NET JRF Fellowship<br>• ICAR JRF Fellowship<br>• Best Paper Award-02<br>• Best Article Award-01 | • Delivered expert lectures in training Programme on JRF preparation of Home Science students<br>• Organized trainings on Skill Development in Apparel and Textile Designing for SC/ST students of COHS (March, 2022<br>• NSS Programme Officer from 2021 |
| **34.** | Dr. Suman Sodhi<br>Assistant Scientist<br>Ph.D.<br>(05 Months) | • National Fellowship for Schedule Caste during Ph.D.<br>• Best Paper Award-01<br>• Best Article Award-01<br>• Award of Honour by OM Sterling Global University, Hisar | • Delivered lectures in trainings<br>• Resource person in Workshops on hand embroidery and *zardozi* embroidery |
| **35.** | Dr. Vivek Singh*<br>Principal Extension Specialist<br>Ph.D.<br>(30 Years) | • Best Paper Award-01<br>• Best Poster Award-01 | • Delivered number of Expert lectures<br>• Celebrated various days & weeks; organized awareness campaign, group meeting, method demonstration and trainings to enhance knowledge of rural women.<br>• Organized vocational training for skill development of scheduled caste women |
| **36.** | Dr. Lalita Rani<br>District Extension Specialist,<br>Ph.D.<br>(04 Years) | • UGC NET JRF<br>• Mahila Shakti Samman Patra, 2022 by Sarv Samaj Kalyan Sewa Samiti, Kurukshetra | • Delivered number of Expert lectures<br>• Celebrated various days & weeks; organized awareness campaign, group meeting, method demonstration and trainings to enhance knowledge of rural women.<br>• Worked for empowerment of women through income generating activities |
| **37.** | Dr. Saroj Devi*<br>District Extension Specialist,<br>Ph.D.<br>(01 Year) | • UGC NET JRF<br>• Best Thesis Award | • Compiled one course manual<br>• Delivered number of Expert lectures<br>• Organized Breast-feeding week/nutrition week, mela/ awareness programme related to natural farming, crop residue management and importance of Nutri cereals<br>• Celebrated Mahila Diwas, International Women's Day<br>• Organized lectures, demonstrations and trainings for rural women<br>• Formulated women SHGs in the area<br>• Organized vocational training for skill development of scheduled caste women |

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| **38.** | Ms. Rakhi Dalal<br>Instructor, Textile Designing<br>4-YearAdvanced Diploma in Textile Design,<br>PGD, Marketing and HR<br>(12 Years) | • Best Essay Award-01 | • Collaborated in compiling teaching manuals<br>• Delivered lectures on CAD in various training held in the Department and the University |
| **39.** | Dr. Neelam Saini<br>Instructor, Dress Designing<br>Ph.D.<br>(04 Years) | • Best Poster Award-01<br>• Best Article Award-01 | • Associated faculty of Experiential Learning Unit<br>• Delivered expert lectures in training Programme on JRF preparation of Home Science students<br>• Developed one design catalogue |

*Faculty Posted in Extension

- Most of the faculty members are Member, Board of Studies; Member, Selection Committee and External Examiner for comprehensive & Thesis viva-voce examination of students from different universities.
- Faculty and students published 402 research papers, 12 books, 81 book chapters, 25 manuals, 137 popular articles and presented 311 research papers in conferences, seminars, workshop etc. during the period under report.
- All the faculty members attended number of trainings, refresher courses and workshops for knowledge and skills up gradation leading to excellence in teaching and research.
- Faculty members regularly guide students for competitive exams.
- Most of the faculty members are the recipient of Appreciation letter for their contribution in teaching, research and organization of various University level events.
- All the faculty members make use of ICT, multi-media and exercises during teaching for better comprehension of the subject matter
- Faculty members actively contributed as Director/Coordinator/Resource Persons during various trainings organized by Directorate of Human Resource Management, SNIATTE and Directorate of Students' Welfare, CCSHAU, Hisar.
- Following National and International conferences/ workshops/ trainings have been organized by I.C. College of Home Sciences:
  - International Conference on 'Golden Jubilee International Conference on Gender Issues and Socio-Economics Perspectives for Sustainable Rural Development', October 23-25, 2017.
  - National Seminar on 'Innovative Strategies for Gender Equality', March 3, 2019.
  - Workshop on 'Menstrual Hygiene: Healthy Daughter - Healthy Society', September 2, 2019.
  - International Webinar on 'Combating Hidden Hunger–Obstacles and Interventions for Sustainability', September 19, 2020.
  - Webinar on 'Importance of *Khadi* in Present Context' October 02, 2020.
  - Workshop on 'Capacity Building of Young Researchers for carrying out Nutrition Research' organized in collaboration with ICMR, New Delhi. August 25-26, 2022.
  - Twenty-one days Refresher Course on 'Entrepreneurial Prospects in Agriculture and Allied Sciences' organized in collaboration with DHRM, CCSHAU, Hisar, January 10-30, 2023.

- International Lecture (online) on 'The Fuss about Food Supplements' delivered by Dr. Snehil Dua, Instructor, Department of Food and Human Nutritional Science, Faculty of Agriculture and Food Science, University of Manitoba, Canada, February 06, 2023.

**Faculty Members Superannuated during the Period (2018-23)**

| S. No. | Name and Designation | Date of Retirement | Honours/Awards/Recognition |
|---|---|---|---|
| **Department of Extension Education and Communication Management** | | | |
| **1.** | Dr. Asha Batra<br>Principal Extension Specialist | 31.10.2018 | • CSIR Fellowship for Ph.D. |
| **2.** | Dr. Rita Goel<br>Professor | 31.07.2018 | • PI in RKVY project |
| **3.** | Dr. Veena Jain<br>Senior Ext. Specialist | 31.01.2020 | |
| **4.** | Dr. Sumitra Yadav<br>Principal Extension Specialist | 31.07.2020 | • PI in RKVY project |
| **5.** | Dr. Prem Lata<br>Senior Ext. Specialist | 31.12.2020 | |
| **6.** | Dr. Sushma Kaushik<br>Professor | 31.05.2021 | • CSIR Fellowship for Ph.D.<br>• ICAR Best Teacher Award, CCSHAU |
| **7.** | Dr. Shashi Vashisht<br>Principal Extension Specialist | 31.07.2021 | • ICAR Junior Research Fellowship<br>• Best Paper Award-03<br>• Uttam Stall and Best Products Award<br>• Certificate for Outstanding Performance on Pearl Millet Awareness |
| **8.** | Dr. Rajesh Dahiya<br>Assistant Professor | 28.02.2022 | • CSIR Fellowship for Ph.D.<br>• Academic Award for Highest OGPA in Ph.D. |
| **Department of Foods and Nutrition** | | | |
| **9.** | Dr. Amrit Pal Kaur<br>Principal Extension Specialist | 31.08.2018 | • HAU Merit Gold Medal<br>• Best Poster Awards |
| **10.** | Dr. Sudesh Jood<br>Professor | 31.08.2018 | • INSA Young Scientist Award<br>• ICAR Best Teacher Award<br>• Common Wealth PDF<br>• Best Poster Awards-2<br>• Google citation 2060 |
| **11.** | Dr. Darshan Punia<br>Professor | 30.11.2019 | • Chaudhary Devi Lal Outstanding AICRP Team Award-2003<br>• Best Poster Awards- 04 |
| **12.** | Dr. Pinky Boora<br>Professor | 31.12.2019 | • Mrs. Chander Kanta Lamba Gold Medal (B.Sc.)<br>• HAU Merit Gold Medal |
| **13.** | Dr. Neelam Khetarpaul<br>Professor Emeritus | 31.12.2020 | • Dean, COHS (2006-10)<br>• Commonwealth Staff Academic Fellowship<br>• Distinguished Teacher Award<br>• Fellow of International College of Nutrition (FICN)<br>• Ms. Manju Utreja Gold Medal<br>• Young Investigator Award |
| **14.** | Dr. Sunita Chawala<br>Senior Extension Specialist | 31.01.2021 | |

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| **15.** | Dr. Saroj Dahiya<br>Emeritus Scientist | 31.03.2021 | • Awarded Rashtriya Samman<br>• Recognition for participating in National Plan of Action on Nutrition<br>• Best Poster Awards -02<br>• Young Scientist Award |
| **Department of Family Resource Management** | | | |
| **16.** | Dr. Sudesh Gandhi<br>Principal Scientist | 31.08.2018 | • Chaudhary Devi Lal Outstanding AICRP Award<br>• AHRD training in Family and Consumer Economics, USA<br>• Certificate of Appreciation for Reducing Drudgery of Women |
| **Department of Human Development and Family Studies** | | | |
| **17.** | Dr. Sudha Chhikara<br>Principal Extension Specialist | 31.01.2019 | • UNDP Fellowship<br>• World Bank Fellowship |
| **18.** | Dr. Shanti Balda<br>Professor | 30.09.2019 | • Australian Development Co-operation Scholarship for Ph.D. at QUT, Brisbane, Australia<br>• ICAR Best Teacher Award, CCSHAU |
| **19.** | Dr. Santosh Sangwan<br>Assistant Professor | 31.08.2019 | |
| **20.** | Dr. Krishna Duhan<br>Professor | 28.02.2022 | • Academic Award for Highest OGPA in Ph.D.<br>• Commonwealth Academic Fellowship |
| **21.** | Dr. Bimla Dhanda<br>Professor | 31.03.2022 | • Dean, COHS (2018-22)<br>• Academic Award for Highest OGPA in Ph.D. |
| **22.** | Dr. Sheela Sangwan<br>Professor | 31.08.2022 | • Academic Award for Highest OGPA in Ph.D. |
| **23.** | Dr. Chandra Kala Singh<br>Professor | 31.12.2022 | • ICAR Best Teacher Award for the year 2014-15 |
| **Department of Textile and Apparel Designing** | | | |
| **24.** | Dr. Nirmal Yadav<br>Professor | 30.04.2019 | • Certificate of Honour<br>• Best Poster Award- 03 |
| **25.** | Dr. Saroj S. Jeet Singh<br>Professor Emeritus | 14.04.2022 | • Dean, COHS (2010-14)<br>• ICAR Best Teacher Award, 2003-04 |

**6.5.2.4. Technical and Supporting Staff:** *Whether the College has appointed (in place) sufficient technical/laboratory/farm staff to cater the need of practical and field experiments. Mention department wise distribution of technical, supporting and field staff in the tabular form.*

In all the five departments, 22 technical, 18 supporting and 05 field staff members are in position. Eight technical, eight supporting staff and one field staff positions are filled on contractual basis for smooth functioning of official work, practical classes and field experiments.

| Departments | Technical | Supporting Staff | Field Staff |
|---|---|---|---|
| **EECM** | 04 (2+2*) | 04 (3+1*) | -- |
| **FN** | 06 (5+1*) | 05 (3+2*) | 01 |
| **FRM** | 03 | 03 (1+2*) | 04 (3+1*) |
| **HDFS** | 04 (3+1*) | 03 (2+1*) | -- |
| **TAD** | 05 (1+4*) | 03 (1+2*) | -- |
| | **22 (14+8*)** | **18 (10+8*)** | **05 (4+1*)** |

* Contractual staff/ Apprentice employed against the vacant post

Note: The staff members are assigned responsibilities for the multiple programmes.

### 6.5.3. Learning Resources

**6.5.3.1 College Library (Digital):** *Location of the library, Present staff position (in place), Availability of the following in library, Wi-Fi, No. of books and other reading materials, No. of periodicals and research journals, No. of internet points with number of computers, Seating capacity in library, Employing the latest technology in library sciences, Stocking arrangements of books, Collection of volumes on different subjects, Latest publications in the fields of relevant subjects, Automation and user services through computer, Opening hours, Subscription of journals of national and international repute, national dailies, magazines etc.*



**Library, I.C. College of Home Sciences**

The Library of I.C. College of Home Sciences is located near the main entrance gate of the College. One Library Assistant and Attendant looks after the functioning of the College Library. The library is equipped with text books, reference books, journals and periodicals on Home Science, related subjects as well as literary books. The College Library has a total number of 18560 books and six journals have been subscribed for reference of Research Scholars. Four newspapers i.e., two English dailies (The Hindustan Times and The Tribune) and two Hindi dailies (*Dainik Bhaskar* and *Dainik Jagran*) are subscribed for the Library to update the general knowledge and inculcate reading habit amongst the students. Employment News (Weekly) and Career Bulletin are also available in the Library. Magazines like India Today and *Pratiyogita Darpan* are also regular feature of the Library. The Library remains open on working days during office hours i.e. 9:00 am to 4:30 pm during winter and 7:00 am to 2:00 pm during summer. Automation and user services through computer are available in the Library. Books are also issued to the students for a period of fortnight. In addition, each department of the College has its own Departmental library with good collection of books, teaching manuals, thesis and other literature developed by the department which are accessible to the students and faculty.

CCS Haryana Agricultural University has a centrally located library named as Nehru Library. This is a central facility catering to the needs of teachers, scientists, extension specialists, students and non-teaching staff of all the colleges of the University. Library has large print collection of about 381636 lakhs volumes of books & other reading material. In addition, it has 106 Indian and foreign print and online journals on current subscription.

The digital library facility provides access to a large number of e- resources to all the students and faculty of CCSHAU. Digital library subscribes many e-resources i.e., indiastat.com; Britannica On-Line Academic Edition (BOLAE); DELNET resources, Scopus Citation Database, NIPA e-Resource Solution for Students for Preparation of Competitive Examinations, NIPA English Writing Improvement Tool, and NIPA Online English Language Development and Improvement Resources. Library provides access to more than 2659 e-journals of highly reputed publishers through CeRA-consortium of E-Resources on Agriculture. Millions of books, journals, technical reports, audio lectures, video lectures, proceedings, institutional repositories, question papers, datasets, reports, theses, etc. are accessible to the University users through National Digital Repository (NDLI). Library has subscribed DELNET resources' subscription which provides millions of bibliographic records of union catalogue of 7,561 libraries of India and overseas. Library provides access to more than 2,32,000 e-books through EBSCO Database. The Library has e-repository of all collection in the field of agricultural sciences i.e. Krishikosh. Full text access to Krishikosh database is accessible to all the SAUs/DAUs/ICAR Institutes. Koha Library Management Software and RFID System are being used

for all automated services. OPAC (Online Public Access Catalogue) helps users in access availability of books and other documents from campus wide network so that they could easily locate their desired documents in the Library.

The students are encouraged to use the College library facilities not only for preparing their subject notes but also to update themselves and to boost their knowledge to prepare for various competitive exams.





**6.5.3.2. Laboratories, Instructional farm, Workshops, Dairy Plant, Veterinary Clinic, Hatchery, Ponds etc.:** *Clearly mention about laboratories, instructional farm, workshop, dairy plant, veterinary clinic, hatchery, ponds etc. facilities available in the college with its numbers, space, speciality to conduct practical/hands on training.*

Information regarding lab facilities in various departments of I.C. College of Home Sciences is given in the following table:

| S. No. | Laboratory Dimensions (ft.) Length x Width | Speciality to conduct practical /hands on training |
|---|---|---|
| **Department of Extension Education and Communication Management** | | |
| **1.** | Multimedia Lab and Recording Room (40'x26'&17'x15') | For designing, editing and production of audio and multimedia programmes under UG and PG courses |
| **2.** | Video Studio with Control Room and Waiting Room (29'x25',23'x13'&13'x10') | Hands on training of UG and PG students on Camera handling; Script writing; Video shooting, editing & production; Panel discussion; Delivering TV talk etc. |
| **3.** | Print Media Lab (40'x26') | Hands on training on MS-Office, Coral Draw, Photoshop for Designing of Brochures, Invitation cards, Leaflets, Charts, Posters, Professional documents, Certificates etc. |
| **4.** | Experiential Learning Lab (40'x25') | Skill development in Market survey, Preparation of business plan, Analysis of cost benefit ratio, Printing of-teaching aids, visual aids, certificates, visiting/business cards, e-invitation cards, extension literature such as posters, charts, booklets etc. |
| **5.** | Training Lab (26'x26') | For organizing training of students and rural women |
| **6.** | Research Lab (25'x26') | Planning and designing of research activities like Objective setting, Annual plans, Annual reports and showcasing of research activities |
| **7.** | PG Lab cum Seminar Room (49'x25') | For conducting PG classes, Seminars (synopsis, thesis, credit), Comprehensive examinations (written and oral) and Viva voce examinations.<br>Presentation of assignments and reports by PG students |
| **8.** | Activity Lab cum Resource Room (23'x23') | Showcasing and consulting departmental theses, Reports, Manuals, Journals, Books, Extension literature etc. by PG students<br>Preparing presentations, reports and class assignments by PG students |

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|---|---|---|
| **Department of Foods and Nutrition** | | |
| **1.** | Cooking Lab-I (41'X41') | Cooking practical classes |
| **2.** | Cooking Lab-II (41'X41') | Cooking practical classes |
| **3.** | Food Processing Lab (29'X33') | Food Processing & Analysis |
| **4.** | PG Lab (24'X49') | Food Analysis |
| **5.** | Centre of Excellence (25'X53') | Processing, product development and training to rural and urban masses |
| **6.** | Bakery Lab/ Experiential Learning Lab (39'X51') | Practical hands-on bakery and confectionary |
| **7.** | AICRP Lab (25'X47') | Food Analysis |
| **8.** | Food Analysis Lab (42'x29') | Fully functional and well equipped with facilities for all analytical research work |
| **9.** | Community Nutrition Lab/Diet Counselling Centre (29' x17') | Community nutrition research work, nutritional status assessment and counselling of subjects |
| **10.** | Small Animal Research Lab<br>Washing Room (14' x13')<br>Operation Theatre (14'x13')<br>In-charge Room (28'x14')<br>Gallery (22') | For experiments on small animals (rodents/fish) |
| **Department of Family Resource Management** | | |
| **1.** | PG Resource Room (24'x16') | PG Teaching |
| **2.** | Furnishing Lab (39'x32') | Practical hands-on Interior's aspects, Table setting, napkin folding, bed making and colour schemes for different rooms |
| **3.** | Activity Lab (30'x 16') | Practical hands-on macramé, paper mache & several other handicrafts |
| **4.** | Research Lab (48'x 24') | Ergonomic analysis |
| **5.** | Computer Lab (24'x 17') | Practical hands-on making floor plans for different types of houses using softwares |
| **6.** | Design Studio (24'x 17') | Floor Plan making & Product designing |
| **7.** | Consumer & Appropriate Technology Lab. (39'x 32') | Using & testing different types of energy saving technologies. Conducting Consumer related practical classes |
| **8.** | Seminar Room (24'x 16') | For UG & PG Classes |
| **9.** | Domestic Farm Unit (2 acre) | U.G. & P.G. practical classes and research experiments |
| **Department of Human Development and Family Studies** | | |
| **1.** | Activity Room I (28'x23') | Used for planning and implementation of preschool curriculum for the children of 2-5 years of age. |
| **2.** | Activity Room II (33'x23') | Used for the children in the age group of 2-3 yrs. for indoor activities on various developmental aspects. |
| **3.** | Activity Room III (28'x23') | Used for children in the age group of 3-4 yrs. for observation of their behavioral problems and conducting indoor activities on various developmental aspects. |
| **4.** | UG Lab I (41'x23') | Used for conducting practical Classes of Module. |
| **5.** | UG Lab II (25'x23') | Used to conduct practical classes of UG students. |
| **6.** | PG Lab (41'x23') | Used by PG and Module students to develop teaching material and other assignment work. |
| **7.** | Computer Lab (46'x28') | Used by Module, M.Sc. and Ph.D. students. |
| **8.** | Seminar Room (38'x24') | PG teaching, presentation of seminars, reports and class assignments. |

| Department of Textile and Apparel Designing | | |
|---|---|---|
| **1.** | Experiential Learning Lab (46'x24') | Product Development through Digital Embroidery |
| **2.** | Apparel Construction Lab I (40'x24') | Apparel designing and construction through flat pattern and draping |
| **3.** | Apparel Construction Lab II (40'x26') | Apparel construction practical classes |
| **4.** | Apparel Construction Lab III (38'x24') | Apparel construction practical classes |
| **5.** | Weaving and Hosiery Lab (39'x28') | Handloom weaving<br>Hand and Machine knitting |
| **6.** | Dyeing and Printing Lab (32'x24') | Dyeing, printing and finishing of textiles |
| **7.** | Textile Science Lab (40'x24') | Fibre analysis, care and storage of textiles |
| **8.** | Textile Testing Lab (38'x43') | Chemical and physical testing of textiles and PG research work |
| **9.** | CAD Lab (46'x24') | CAD practical classes |
| **10.** | Seminar Room (38'x24') | PG teaching, presentation of seminars, reports and class assignments |
| **11.** | PG Resource Room (28'x24') | Consulting departmental theses, Books, Manuals, Reports etc. by PG students. Preparing reports, class assignments and presentations by PG students |

### 6.5.3.3. Student READY/ In-Plant Training/Internship/Experiential Learning Programmes:

*Clearly mention about the implementation of Student READY/In-plant training/ Internship/ Experiential Learning programmes and learning outcomes as per the guidelines of ICAR. Profit sharing mechanism (amount) shall be mentioned for each ELP unit sanctioned by the ICAR for the college.*

During final year of the UG degree programme, I.C. College of Home Sciences implements Student READY Programme. As per guidelines of ICAR, the College has adopted three components of Student READY i.e., Module/ Experiential Learning Programme/ Hands on Training programme for skill building in project planning and execution, decision-making, individual and team approach for problem solving and marketing. Following three components have been included in student READY programme:

- Module in Experiential Learning/ Skill Development
- Rural Agricultural Work Experience (RAWE)
- Industrial Attachment in Community Science

**MODULE I– Experiential Learning in Bakery and Confectionery**

The module offered in Bakery and Confectionery exposes students to entrepreneurial aspects in setting up of a bakery. The students get hands on experience in management of production unit right from procurement of items to preparation, packaging, storage and sale of products. The students learn the importance of hygiene, team work and financial management for running a successful bakery venture. They learn to develop business plan/project proposal for setting up entrepreneurial ventures along with production plan and marketing strategies. Students produce and sell bakery and confectionery products through bakery and confectionery unit of the Department.



**Products Prepared by Students under Module I**

## MODULE II- Skill Development in Event Management

The module offered by the Department of Family Resource Management provides skills in organization of various events. The students learn to develop business plan/project proposal for events, identify target market and customers, source and purchase materials required for events, time management as well as marketing strategies and assessment of events.





**Event Management under Module II**

## MODULE III– Skill Development in Early Childhood Education and Management

The module in Department of Human Development and Family Studies offers Skill Development in Early Childhood Education and Management. It provides orientation to methods and materials for teaching young children, analysis of early childhood education, developmental assessment of young children, planning and implementation of early childhood curriculum as well as counselling of parents and community. Students develop capacity as an administrator, planning ECCE programmes and proposals; develop and implement preschool programmes; conduct interaction programmes with teachers and parents; develop literature for parents; plan, execute and evaluate innovative programmes for optimum development of young children.









**Skill Development in Early Childhood Education and Management under Module III**

## MODULE IV – Experiential Learning in Print and Electronic Media Production

The module offered by the Department of Extension Education and Communication Management provides hands on trainings, professional exposure and learning experience to the students to conduct market survey, develop business plans and marketing strategies in designing and production of information materials. This helps to sharpen the entrepreneurial skills and business management competencies among under-graduate students to set up their own venture and to become job providers.




**Products Prepared by Students under Module IV**

## MODULE V- Experiential Learning in Product Design: Digital Embroidered Home Furnishings

The Experiential Learning Programme on Product Design: Digital Embroidered Home Furnishings offered by the Department of Textile and Apparel Designing provides interactive learning experience in developing innovative designs for digital embroidery; creating stylized designs for home furnishings through computer technology; prepare computerized graded sloppers for product development; develop customized digital embroidered articles by incorporating various designing features using computerized manufacturing technology; impart advanced skills in operation/maintenance of equipment's and manage trouble shooting situations; and develop merchandising skills for smooth supply chain management of product enterprise.




**Exhibition of Products Prepared by Students under Module V**

**Rural Agricultural Work Experience (RAWE):** RAWE programme of one month duration in village setup is implemented wherein students get rural home experience through placement with rural families. Such experience primarily helps them to understand the rural situations especially in context of rural women, status of technologies adoption by rural families, prioritize the problems of women and to develop skills and attitude of working with farm families. Till now RAWE programme has been implemented in 38 villages of Kurukshetra, Hisar and Fatehabad districts covering 4068 families.







**Activities of RAWE Students**

**The objectives of RAWE are:**

- ✓ To develop positive attitude and right perspective among students towards rural life
- ✓ To develop communication skills among students for extension work
- ✓ To develop an understanding of resources and constraints of rural community
- ✓ To develop functional linkages with various departments working for rural development

**Learning outcomes of the RAWE programme**

**Students learn about:**

- Traditional skills in art and craft, cooking food, crochet, mat weaving, decorative articles etc.
- Agricultural crops of the area and involvement of women in agriculture and allied activities.
- Existence and functioning of local political, financial and other institutions like *Aanganwadi*, *Chaupal*, PHCs, Veterinary Hospital, *Mahila Mandal*, Youth clubs etc.
- Need for liasioning with government officials, field functionaries and NGOs.
- Skills in organizing extension activities at village level.
- Values of rural life, hard work, love and affection, rural hospitality, feelings of sharing and caring among villagers etc.
- Hardships of rural life like availability and storage of water and fuel, shortage of electricity, space, kitchen layouts, sharing of living premises with animals, financial and other constraints etc.

**Learning outcome of the beneficiaries (rural women and girls):**

- Identify their capacities and capabilities
- Develop their entrepreneurial skills
- Learn about appropriate technologies
- Increase confidence and networking
- Sharpen their skills/ creativity
- Learn about development programmes in general and women programmes in particular
- Develop liasioning with field functionaries
- Become aware of their human, legal and political rights
- Get a chance to showcase their skills and creativity

**Department wise messages disseminated to the selected families under RAWE**

| Department of Extension Education and Communication Management | |
|---|---|
| **Lecture on:** Developmental programmes and schemes Formation of self-help groups, CCSHAU in the service of rural women, Village level organizations and their role in village development<br>**Campaign/ Rallies on:**<br>Nutri garden, Yoga, Plantation of medicinal and fruit plants, *Beti Bachao Beti Padhao*, Save environment, Plastic free India.<br>**Celebration of Days:**<br>National Girl Child Day, National Women day, International Women Day. | **Development of feature stories and case studies** of historical, social and practical interest of village to develop right perspective and positive attitude towards rural community.<br>**Competitions for sensitization on social issues:** Female foeticide, Environmental pollution, Challenges of girl child, Role of women in agriculture, harmful effects of single use plastic<br>**Need based information sharing through media:** Leaf lets, Short videos, Handouts, Posters, Pamphlets. |





**Exhibition on Products Prepared by Students**



**Rally on Tree Plantation**




**Posters on CCSHAU Toll Free Helpline Numbers**

| Department of Foods and Nutrition | |
|---|---|
| **Lectures on:** Nutritional and health benefits of millets; Balanced diet; Diet for pregnant & lactating mothers; importance of breast feeding and supplementary nutrition; Food adulteration; Foods fads & fallacies; Conservation of nutrients.<br>**Campaign/ Rallies on:** Millet awareness | **Demonstrations on:** Low cost nutritious recipes; Millet, oilseeds and soya products; food preservation.<br>**Competitions organized:** Coarse cereals recipes, Low cost nutritious recipes, seasonal pickle & chutney making |








**Demonstration on Value Added Food Products**

## Department of Family Resource Management

| | |
|---|---|
| **Lectures on:** Energy conservation through useful & small kitchen devices, waste management, health and fitness, work simplification, drudgery reduction, consumer rights and responsibilities, market malpractices, harmful effects of polythene, Consumer Protection Act, water purification and environment protection. | **Demonstrations on:** Installation of vermi composting units, smokeless *chulha*, kitchen gardening, use of solar technologies, wealth out of waste, drudgery reducing technologies, interior decoration, jewellery making and *rakhi* making. |
| **Competitions organized:** Clean home, best out of waste, maximum technologies adopted and maintained, vermi composting, water and energy conservation, crazy arts, kitchen gardening, installation of improved *chullah* at home and use of time and energy saving technologies. | **Days celebrated:** Consumer Day, Energy Conservation Day, Water conservation Day, Environment Day and Earth Day |
|  |  |
| **Demonstration on Smokeless *Chulha*** | |
|  |  |
| **Demonstration on Cotton Picking Bag** | **Demonstration on Flower Arrangement** |

## Department of Human Development and Family Studies

| | |
|---|---|
| **Lectures on:** Importance of personal & environmental hygiene, care of pregnant mother & new born baby, immunization schedule, identification of disability among children, problems of adolescents, common ailments among children – control & remedy, girl's education | **Demonstrations on:** School/home based developmental intervention activities, use of indigenous material for preschool activities and soft toys making<br>**Competitions organized:** Soft toys making, slogan writing on family planning, child marriage, female foeticides |
|  |  |
| **Preparing Teaching Aids** | |

<table>
<tr><th colspan="2">Department of Textile and Apparel Designing</th></tr>
<tr><td>Lectures on: Equipment's & accessories used in clothing construction, care & repair of sewing machine, tips for smart buying, tips for better health through clothing, washing & storage of cotton, silk and woolen clothes</td><td>Competitions organized: Making utility articles through underutilized textile materials, tie and dye, printing, embroidery, dress designing, worth out of waste.</td></tr>
<tr><td colspan="2">Demonstrations on: Equipment's & accessories used in clothing construction, care & repair of sewing machine, cutting and stitching of different garments, washing & storage of cotton, silk and woolen clothes</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td colspan="2">Demonstration on Cutting and Stitching of Garments</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td colspan="2">Exhibition of Products Prepared by Students</td></tr>
</table>

**Industrial Attachment in Community Science (IACS)**: After completion of RAWE, students join 12 weeks Industrial Attachment for In-plant training in the industry/ Govt./Non-Govt. organizations related to modules opted by them to acquire professional experience. In-plant training provides opportunity to the students to develop their skills in the application of practical knowledge acquired during Modules. It also uncovers the students in the real world of work environments and upgrading their skills to meet current standards of industry. For effective liaison with the industry, the intern works on a defined project in consultation with the industry. After training, though most of the students are offered job, yet majority of them choose for higher studies in their respective elective disciplines of Home Science. The students get stipend of Rs.12000 per month for five months during RAWE and in plant training from 2016-17. Department wise list of the Industries/ Organizations where the students are placed during industrial attachment:

## Department of Extension Education and Communication Management

### National Institutes/ Organizations

- ANV News, SCO 56-57, 4th Floor, Sector 17D, Chandigarh
- City Cable, 58, Manohar Colony, Patel Nagar, Hisar, Haryana
- Dainik Bhaskar, Model Town, Industrial Area, Hisar
- Dainik Jagran, Model Town, Industrial Area, Hisar
- Dainik Jaltedeep, E-287, Near Vidhan Sabha, Lalkothi, Jaipur, Rajasthan
- Deshbhagt Radio, SCO 181-182, Sector 8C, Chandigarh
- District Information & Public Relations Office, Mini Secretariat Part 1, Fatehabad, Haryana
- Doordarshan, Sector 13, Hisar
- Exchange 4 Media Publication, 1208-1210, Kailash Building, Kasturba Gandhi Marg, New Delhi
- Gurgaon Ki Aawaz Community Radio, Plot No. 27, Sector 18, Electronic City, Phase IV, Gurugram, Haryana
- India News Chandigarh, Plot No.17, First Floor, Phase 1, Industrial Area Phase 1, Chandigarh
- *Khabre Abhi Tak*, SCO 31, Madhya Marg, Sector 7-C, Chandigarh
- Panchkula Samachar, SCO 58-59, Cabin No. 117, 1st Floor, Sector 17D, Chandigarh
- Sandesh Vatak Newspaper, B-19, Behind Bharti Bhawan, New Colony, Jaipur, Rajasthan
- STV Haryana News, Old Judicial Complex, SCO 2,3,4, Jharsa Road, Sector 15, Gurugram, Haryana
- Times of India, 7 Bahadur Shah Zafar Marg, ITO, New Delhi
- Total TV, SCO. 169-170, 2nd floor, Sector 8C, Chandigarh
- TV Today, Aaj Tak News Channel, 120/121 3rd floor, Sector 17 C, Chandigarh

### International Institutes/ Organizations

- Asian Institute of Technology, Khlong Nueng, Thailand
- Can Tho University, Can Tho City, Vietnam
- Czech University of Life Science, Prague, Czech



**Learning News Editing at Dainik Jagran**



**In plant training at ANV News**






**Completion Certificates of In plant training**


आंझी

हरियाणवी संस्कृति और विरासत के समृद्ध खजाने से बनाई पहचान

दादा टिड़ सत्ता मंदिर में अपार श्रद्धा


दादा टिड़ सत्ता मंदिर में अपार श्रद्धा

दादा खेड़ा

भिवानी के गांव सिधनाज में दादा टिड़ सत्ता मंदिर। 'दादा टिड़ सत्ता' यानी ग्राम देवता। 80 साल पुराने मंदिर के प्रति तीन गांवों हरियावास, गोपालवास और सिधनाज के ग्रामीणों की अपार श्रद्धा है। मान्यता है सदियों से लेकर आज भी 'दादा टिड़ सत्ता' आपदा से बचाते चले आ रहे हैं। ग्रामीण कोई भी शुभ कार्य करने से पहले ग्राम देवता की पूजा की जाती है।

दादा टिड़ सत्ता मंदिर में शुक्ल पक्ष के प्रथम से पूर्णिमा तक विशेष पूजन होता है। ग्रामीणों के अलावा दूर-दूर से लोग धोक लगाने के लिए मंदिर आते हैं। वहीं, छठ के लिए विशेष पूजन के लिए भक्त जुटते हैं। इस दिन गुड़ का प्रसाद भी वितरित किया जाता है।

आस-पास के गांव में भी इस मंदिर की काफी मान्यता है। गांव हरिवास की



गांव सिधनाज स्थित दादा टिड़ सत्ता मंदिर। • डाक्टर

निवासी फूलवती देवी ने बताया कि माना जाता है कि जब दादा टिड़ सत्ता छोटे थे तब उनकी माता ने पगत में गर्म दूध रखा था। दादा खेलते हुए बर्तन में गिर गए व मारा गए। इस घटना के कुछ दिनों बाद गांव के पशुओं में बीमारी बढ़ने लगी। मान्यता है कि तब से गांव वालों ने दादा टिड़ सत्ता की धोक लगानी शुरू की। फिर पशु ठीक होने लगे। दादा टिड़ सत्ता की धोक में दूध खीर मीठे चावल इत्यादि सामग्री शामिल की जाती है। पशु पैदा होने पर दूध दादा टिड़ सत्ता को चढ़ाया जाता है। कोई भी शुभ कार्य शुरू करने से पहले, निकासी निकालने के समय, नवविवाहित जोड़े दादा सत्ता का आशीर्वाद लेते हैं। वहीं, मान्यता है कि ग्राम देवता पूरे गांव को आपदा और बीमारियों से रक्षा करते हैं। सरपंच प्रताप सिंह ने बताया कि गांव में कभी कोई आपदा या बीमारी फैलती है तो ग्राम देवता को प्रसन्न करने के लिए हवन व पूजन किया जाता है। जानकारी में तीनों गांवों की आबादी करीब दस हजार से ज्यादा है। अब दादा टिड़ सत्ता का भव्य मंदिर भी बनवाया गया है।

वस्तुति : राखी जोशीरण, भिवानी

Article published by student during inplant training in Dainik Jagran Newspaper

## Department of Foods and Nutrition

- Bikano (Bikanerwala), Lawrence Road, Industrial Area, New Delhi
- Bonn Biscuits, NH 95, Bholapur, Ludhiana, Punjab
- Britania Industrial Ltd., 33 Lawrence Road, Industrial Area, New Delhi
- Candy Rajputana, Panchbati Circle, Near Airport Ratnada, Jodhpur
- City Park,Gopal Mandir Park, Block KP, East Pitampura, New Delhi
- Crowne Plaza Hotel, Community Centre, Pocket A, Phase I, Okhla, New Delhi
- Food Processing Business Incubation cum Training Centre of National Institute of Food Processing Technology, Entrepreneurship and Management (NIFTEM-T), Phase 2, Adjoining BDA Office, Model Town, Bathinda
- Greenapple Hotel, Maturam Colony, G.T. Road, Fatehabad, Haryana
- HAIC R&D Centre, GT Link Road, Murthal, Sonepat, Haryana
- Haldiram Mfg. Co. Pvt. Ltd., Village KherkiDaula, Delhi-Jaipur Highway, Gurugram, Haryana
- Hotel Chandigarh Beckon, Sector 42 D, Chandigarh
- Hotel Fern, Airport Plaza, Tonk Road, Durgapur, Jaipur, Rajasthan
- Hotel Greenapple, Near Delhiwala Hospital, G.T. Road, Fatehabad, Haryana
- Hotel Jewels, Jewel Chowk, Kunjpura Road, Karnal, Haryana
- Hyatt Regency, BhikajiCama Place, Rama Krishna Puram, New Delhi
- Imperial Hotel, Janpath, Connaught Place, New Delhi
- JBA Enterprises Pvt. Ltd., Unit of Modern Food Industries (I) Ltd., Gurugram, Haryana
- JehanNuma Palace, Shyamla Hills Rd, Bhopal
- MJS Sardana Bakery, Industrial Area, Fatehabad, Haryana
- Modern Bread Unit, Faridabad, Haryana
- Mountain View Hotel, AzaadiRte, Sector 10A, Chandigarh
- Pan Food Industry, GT Road, Opp. Khadi Ashram, Panipat, Haryana
- Parle Biscuit Manufacturing Industry, Delhi Rohtak Corridor, Surya Nagar, Bahadurgarh, Haryana
- Polka Foods Factory, Plot No. 53-54, Sector-16, Sankhol, Bahadurgarh, Haryana
- Sabharwal Food Industries (P) Ltd., Yansh Adventure Motorsports, GT Road, Nathupura, Haryana

- Sakun Bread Puja Engineering Pvt., Didarganj, Patna, Bihar
- Taj Palace Hotel, Sardar Patel Marg, Diplomatic Enclave, Chanakyapuri, New Delhi
- The Bristol Hotel, Near Sikandeerpur Metro Station, A Block, DLF Phase 1, Sector 28, Gurugram, Haryana
- The Fort Ramgarh, NH 7, Sector 28, Panchkula, Haryana
- Trident Hilton, Amer Road, Jal Mahal, Amer, Jaipur, Rajasthan




**In-plant Training at Bakeries**

## Department of Family Resource Management

- All Rise Event Management Company, Chandigarh
- Global Media & Marketing Service, Chandigarh
- Hotel Grand International, Barakhamba Road, Connaught Place, New Delhi
- Hotel Jewels, Karnal, Haryana
- Hotel Maya, Chandigarh
- Hotel Mountain View, Chandigarh
- Maurya Shereton Hotel-5 Star, New Delhi
- Monarch Residency, H. No. 67, Sector 17A, Gurugram, Haryana
- Radisson Hotels & Resorts, New Delhi
- Red Carpet Event Management, Jaipur, Rajasthan
- Sepal 3 Star Hotel, Bhatinda, Punjab
- Sky touch Foundation, Delhi
- The Bristol Hotel, Gurugram, Haryana
- Way Master Hospitality Pvt. Ltd., New Delhi




**In-plant Training in Event Management**

**Department of Human Development and Family Studies**

- Anchal Mansik Vikas Kendra, Red Cross, Hisar, Haryana
- Army Public School, Alwar, Rajasthan
- Arpan Institute for Mentally Handicapped Children, Gandhi Nagar, Rohtak, Haryana
- Blooms Public School, Vasant Kunj, New Delhi
- Deaf and Dumb, Bahadurgarh, Haryana
- DISHA, Institute for Disabled, Sirsa, Haryana
- Jagan Nath International School, New Delhi
- Mata Parkash Kaur Welfare Society for Hearing Impaired Children, Karnal, Haryana
- National Institute of Public Cooperation and Child Development (NIPCCD), New Delhi
- PRYAAS (Rehabilitation Centre for Handicapped Children), Chandigarh
- Red Cross Centre for Elderly, Panchkula, Haryana
- Red Cross School for Mentally Retarded and Blind School, Sirsa, Haryana
- Salwan Montessori School, Sector-5, Gurugram, Haryana
- Shri Socha Mook-Badhir Educational Institute, Sainik Nagar, Sakhol, Bahadurgarh, Haryana
- SOS Bawana, SOS Rajpura, Punjab
- SOS Children's Village, Greenfields, Amar Nagar, Faridabad, Haryana
- Sri Jagdamba Andh and Mook Badhir Vidyalaya Samiti, Sri Ganganagar, Haryana



**Story Telling for Language and Moral Development in Early Childhood**



**Outdoor Play for Physical and Motor Development in Early Childhood**

## Department of Textile and Apparel Designing

- Alok Fashion, B-29, Infocity, Sector-34, Gurugram, Haryana
- Amartex Industries Limited, Chandigarh
- ANJ Exports, 103, Sector 29, Part-II, HUDA, Panipat, Haryana
- Bhiwani Textile Mills, Bhiwani, Haryana
- Chinar Syntex Limited, 13/12 Industrial Area, Bhiwani, Haryana
- Conoe, Run by Norspin, Unit No. 101, Sector 47, ILD Trade Centre, Gurugram, Haryana
- Culture Clothing Pvt. Ltd., A-11, Phase-11, Noida, U.P.
- Delhi Cloth Mill Textiles, Mill Gate, Hisar, Haryana
- Devgiri Export Pvt. Ltd., Panipat, Haryana
- Ganpati Textile, Plot No. 87, Sector 29, Part 1, HUDA, Panipat, Haryana
- GBTL Limited, BTM Road, Bhiwani, Haryana
- Givo Co. Ltd., 42$^{nd}$ Mile Stone, Kherki Daula, Delhi-Jaipur Highway, Gurugram, Haryana
- Global Exchange, Plot No. 30, Industrial Area Sector 18, Gurugram, Haryana
- H.P. Fabtex Private Limited, Plot No. 54, Industrial Area Surat, Gujarat
- Houzz N. Dezins LLP 19-B, Block N, Saket, New Delhi
- Internet Exports (India), 26D, Khizrabad, New Friends Colony, New Delhi
- ITC Limited, Life Style Retailing Business Division, 28, Basant Lok, Vasant Vihar, New Delhi
- Jain Group of Companies, Khandsa, Gurugram, Haryana
- Kanika Export, A-190, Okhala, Phase 1, New Delhi
- Kautaliya Industrial Pvt. Ltd., M -36 Market, GK-2, New Delhi
- Melange Couture Pvt. Ltd., Plot 22, Sector-33, Gurugram, Haryana
- MHK Export House Pvt. Ltd., Gurugram, Haryana
- Modelamma Export Ltd., 184, Udyog Vihar, Phase I, Gurugram, Haryana
- Nahar Fabrics, Nahar Tower, Industrial Area -A, Ludhiana, Punjab
- Nahar Industrial Enterprises Ltd., Village Lehli, Derabassi, Mohali, Punjab
- Nexus Clothing Co., 466, Udyog Vihar, Phase 5, Gurugram, Haryana
- Oliver Apparels Pvt. Ltd. 758-759 1$^{st}$ Floor,Katra Neel, Chandni Chowk, New Delhi
- Omega Designs, 863, Phase 5, Udhyog Vihar, Gurugram, Haryana
- Orient Craft Limited, Plot No. 9-13, Udyog Vihar, Phase -VI, Sector37, Gurugram, Haryana

- Pearl Apparel Ltd., Plot No. 74, Sector 37, Udyog Vihar, Gurugram, Haryana
- Pokarna Apparel Ltd. “STANZA”, Hyderabad, Telangana
- Rainbow Fabart Pvt. Ltd., C-71-72, Phase III, Noida, U.P.
- Ram’s Odhna Bichona Pvt. Ltd., Opp. Axis Bank, GT Road, Panipat, Haryana
- Ramrajya Clothing Pvt. Ltd., Plot No. 18, Sector 18, Maruti Industrial Area, Gurugram, Haryana
- Rana Polycot Knitting, Division B-103, Industrial Area, Phase-8, Mohali, Punjab
- RC Apparels, Delhi Road, Gurugram, Haryana
- Richa Global, 193, Udyog Vihar, Industrial Area, Phase 1, Gurugram, Haryana
- Richa Export House, 675, Udyog Vihar, Phase 5, Gurugram, Haryana
- Richa Knitwears, A-41, Maya Puri, Phase 1, Gurugram, Haryana
- Shahi Exports Pvt. Ltd., Plot No.1, Sector 28, Faridabad, Haryana
- Shivalik Prints Ltd., Faridabad, Haryana
- Sunny International Limited, 10th Haryana Mile Stone, Gohana Road, V.P.O. Naultha, Panipat, Haryana
- Textures, J 237, Gupta Tower, 2nd Floor, MD Road, Deepak Marg, Jaipur, Rajasthan
- Unique Enterprises, 13/3, NHPC Chowk, Mathura Road, Faridabad, Haryana
- Univers Art, Nar Shiv Mandir, Manmohan Nagar, Babail Road, Panipat, Haryana
- Vishal Home Furnishing, Shop No. 12, Shiv Nagar, Near Cold store, Panipat, Haryana
- White Apparels, Swami Vivekanand School Road, Above Greenlam warehouse, Phabhat, Zirakpur, Punjab




**Inplant Training at Export House**



**Learning Designing on CAD**



**Product Development**




**Fabric Inspection**

## Experiential Learning Programme (ELP)

Experiential Learning (EL) provides the students an excellent opportunity to develop creative and entrepreneurial skills and knowledge through meaningful hands-on experience and confidence in their ability to design and execute project work. In order to give the real experience and flavour of an enterprise to the students, the College runs three ELPs with the following organizational set up:

- Chief Executive Officer (CEO) - Dean of the College
- Managing Director (MD) - Head of the Department
- Manager - Faculty In charge

## Experiential Learning Programmes of the College

| Title of the EL Unit | Location |
|---|---|
| Bakery and Confectionery | Department of Foods and Nutrition, I.C. COHS, CCSHAU, Hisar |
| Product Design: Digital Embroidered Home Furnishings | Department of Textile and Apparel Designing, I.C. COHS, CCSHAU, Hisar |
| Designing and Production of Information Material | Department of Extension Education and Communication Management, I.C. COHS, CCSHAU, Hisar |

The Experiential Units puts up stall in *Krishi Mela (Rabi and Kharif), Kisan Diwas* organizd at CCSHAU, Hisar. ELU stall of I.C. College of Home Sciences won First Prize in *Krishi Mela*, 2019; Krishi *Mela* (*Rabi)*, 2022 and *Krishi Mela* (*Kharif*), 2022.

## EL-1: Experiential Learning in Bakery and Confectionery (Department of Foods and Nutrition)

Liking and popularity of Bakery and Confectionery products have been increasing in India during last decade. The demand of these products is increasing due to their ready to eat convenience nature, unique taste and instant availability at reasonable cost anywhere. However, per capita consumption of bakery products at present is low in India as compared to other advanced countries indicating greater potential for bakery products. The future demand of bakery products has to be met only by small scale sectors. Hence the small-scale sectors have the enormous responsibility of catering to the needs of various strata of population. To meet the job requirements, students need to be professional and also have potential to set their own start-ups as entrepreneurs.

**Objectives**

- To impart hands on training to undergraduate students in bakery and confectionery.
- To cultivate capabilities and build entrepreneurship spirit and business management skills among students for creating employment



**Icing of Cake**



**Bakery & Confectionary Products**



**Cookie Dropping Machine**



**Visit of Vice Chancellors of CCSHAU and LUVAS**

## Budget allocation and expenditure (2018-23)

| Year | Amount in Rupees | | |
|---|---|---|---|
| | Allocated | Utilized | Income/ Revenue generated |
| **2018-19** | 40000 | 39968 | 98385 |
| **2019-20** | 100000 | 81530 | 155401 |
| **2020-21** | 50000 | 15165 | 37470 |
| **2021-22** | 50000 | 49922 | 88000 |
| **2022-23** | 300000 | 294715 | 391550 |
| **Total** | **540000** | **481300** | **770806** |

## Facilities Created

**Laboratory/equipment/machinery:** The following equipment's are available in the Lab for product development:

- Spiral mixture (capacity 10 kg. flour)
- Planetary Mixer
- Electronic Oven (double deck)
- Single deck electric baking oven
- Bread slicer
- Dough sheeter
- Pasta making machine
- Cookie dropping machine
- Wire cut biscuit making machine
- Proofing cabinet
- Deep freezer
- Display case
- Refrigerator
- Electronic weighing balance
- Small bakery tools
- Water purifier
- Microwave oven

Various products like Biscuits, Cakes (chocolate/ eggless/sponge/butter/ fruit/cherry/ date/ caramel cakes with nuts and cherry), Pastries, Muffins, Swiss rolls, Cream rolls, Sweet paste, Eclairs, Madalenins, Patties, Pies, cookies, Bread, milk bread, whole meal breads, brown breads, Buns: basic buns, hot buns, fruit buns and Chelsea's buns), Fermented doughnuts, Breakfast roll, Danish pastry, Bread sticks etc. have been standardized.

**Products marketed:** Products are marketed through self-financing scheme e.g., eggless cake, chocolate cake, *atta* biscuit, melting moment, *Bajra*/Maize *Ladoo*, *Kaju*/*Bajra*/Maize biscuit, Sweet Salted Biscuit (*Bajra*/Maize/Maida), Sponge cake, Butter/fruit/cherry/date/caramel cake with nuts and cherry, nut cake, *Bajra*/Maize cake, *Bajra*/Maize *sev*, Basic oil cake, soft rolls, cupcake, Swiss rolls, cookies/*Til* Peanut/biscuit, Nan *Khatai*.

In the International year of millets, pearl millet based products are in great demand and even appreciated by *Vidhan Sabha* members, Haryana.

Since 2018-19 to 2022-23 this unit has generated an amount of Rs. 770806/-.

**EL-2: Product Design: Digital Embroidered Home Furnishings (Department of Textile and Apparel Designing)**

The Experiential Learning Unit provide interactive learning experience in developing innovative designs for digital embroidery; create stylized designs for home furnishings through computer technology; prepare computerized graded sloppers for product development; develop customized digital embroidered articles incorporating various designing features using computerized manufacturing technology; impart advanced skills in operation/maintenance of equipment's and manage trouble shooting situations; and develop merchandising skills for smooth supply chain management of product enterprise. They acquire skills in operating advanced equipment's and develop merchandising skills and dealing with customers. This process encompasses the entire life cycle of product development covering the gamut of operations from production, purchase and end use.

**Objectives**

- To provide interactive learning experience in developing innovative designs for digital embroidery
- To develop and create customized digital embroidered articles
- To impart advanced skills in operation/maintenance of equipment's and manage trouble shooting situations
- To develop merchandising skills for smooth supply chain management of product enterprise

**Budget allocation and expenditure**

| Year | Amount in Rupees | |
|---|---|---|
| | Allocated | Profit |
| **2018-19** | 50,000 | 22,038 |
| **2019-20** | 1,50,000 | 62,267 |
| **2020-21** | 1,50,000 | NIL |
| **2021-22** | 1,50,000 | 28,117 |
| **2022-23** | 1,50,000 | 15,010 |
| | **Total** | **1,27,432** |

Under Experiential Learning various digital embroidered home furnishing products like Single and Double bed sheets with pillow covers, Cushion covers, Top sheets, Quilt covers, Curtains, Table mats, Table runners, Coaster sets, Sofa covers, Face cover, Face mask, Apron, Cotton picking bags, Tote bag, File folder etc. have been prepared by the students. The prepared products were marketed by the students by putting exhibitions and are sold at various sale points like HAU Mart, exhibitions in different seminars, conferences, *mela*, etc. and profit earned is shared with the students as per ICAR guidelines.





**Received First Prize for ELP Exhibition in *Krishi Mela* (*Rabi and Kharif*, 2022)**



**Visit of Dr. Seema Jaggi, ADG, ICAR, New Delhi**



**Product Development in Experiential Learning Unit**

## EL-3-Designing and Production of Information Material (Department of Extension Education and Communication Management)

The rapidly changing nature of communication has made mandatory to make desirable changes in information material used for transfer of technologies. Designing and production of information material like, video films, radio programmes, posters, charts, visiting cards, advertisements, exhibition/display materials, multimedia, etc. with the help of latest high tech communication technologies has become a highly competitive and challenging profession. In this profession only the best and fittest having abilities to apply knowledge, critical thinking and other fundamental skills can survive, thus it is important to acquire practical skills. The Experiential Learning Unit provides professional exposure and learning experience to conduct market survey, develop business plans and marketing strategies in designing and production of information materials. The students gain skills on Graphic and multimedia production; photography and videography; audio and video editing. The students are trained to design and produce information and communication material on demand for providing entrepreneurial skills. This helps to sharpen the entrepreneurial skills and business management competencies among under-graduate students to set up their own venture and to become job providers.

**Objectives of the Unit:**

- To provide first-hand experiential learning exposure in professional environment to the UG students of professional elective in Journalism & Mass Communication.
- To design and produce information material on demand for providing entrepreneurial skills.




**Students Learning Video Recording**



**Students Working on Print Media Production**



**Students working on Print Media Production**



**Guided Visit to Video Studio Students in the Control Room**





**Display of Information Material Prepared under Experiential Learning Programme**

**Budget Allocation and Revenue Generated:**

| Year | Amount in Rupees | |
|---|---|---|
| | Allocated | Revenue Generated |
| **2018-19** | 50,000 | 18500 |
| **2019-20** | 50,000 | 13379 |
| **2020-21** | 50,000 | -- |
| **2021-22** | 50,000 | 1000 |
| **2022-23** | 50,000 | 23855 |
| | **Total** | **56774** |

**Products developed:** Video CDs on various topics like organic farming, poultry farming, bee keeping, mushroom cultivation, fruit and vegetable preservation were developed. Customized Certificates, Business cards, leaf lets, posters, Coasters, Book marks, Mugs, Calendars are being designed and prepared by the students under experiential Learning Unit (ELU)

**Alternate use of facilities created:**

- The students are using computers and printers purchased under ELU to gain hands on experience in designing instructional material (making posters, charts, handouts, flyers, lab journals etc.).
- PG Students and faculty members also use cameras and final cut pro studio setup for editing of audio and video recordings for development of media under research work.
- Art of the state video Lab and print journalism Lab. are being used for trainees of summer/winter school and faculty development programmes organized by DHRM, CCSHAU, Hisar.
- Video studio lab was used for preparing documentary on CCSHAU and editing of videos for on line *Kisan Mela* during COVID19.

**6.5.3.4. Curricula Delivery through IT (smart class rooms/interactive board etc.):** *Whether the College is using smart class rooms/interactive board etc. for teaching and practicals. Number of class rooms upgraded as smart class rooms should be mentioned*

There are seven Lecture Rooms in the College out of which two Lectures Rooms were upgraded to Smart Class Rooms and rest five have LCD/LED projectors adding value to the class room teaching and to help the students achieve expected outcomes. The Smart Class Rooms facilitate the course instructor with a variety of content presentation viz. text, images, diagrams, audio, video leading to collaborative learning. The College has robust ICT infrastructure comprising 187 computers, University website, networking automation of library, campus wide networking with Wi-Fi facilities, etc. for easy access to teaching learning resources. Type of ICT Application used in curricula delivery includes PPT presentations, Internet, e-learning, smart classroom, digital cameras, e-mail, WhatsApp, YouTube, CAD Softwares, Online Catalogues, etc. for UG, PG and Ph.D. teaching. To meet out the challenges of COVID19, the online teaching was performed through different portals like Microsoft Teams, Google meet, Zoom, Sysco Webex etc.





**Use of ICT for Curricula Delivery**





### 6.5.4 Student Development

*Student Development at the College directs its educational efforts at fostering the intellect and character of students by integrating in-class and co-curricular experiences. To accomplish this, the college provides a wide range of educational experiences through programmes and activities that complement and support the academic experience in the classroom.*

**6.5.4.1. Student Intake and attrition:** *The information about student intake and attrition, for the College as a whole but separated in UG, PG and Ph.D. categories shall be provided in tabular form for last five years.*

**Student Intake and attrition:** The information about student intake and attrition, for the College as a whole for UG, PG and Ph.D. programmes has been provided in tabular form for last five year.

| Programme | Actual number of students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **UG** | 80 | 97 | 87 | 104 | 98 | 10 | 6.18 | 8.04 | 9.61 | 2.04 |
| **PG** | 29 | 36 | 39 | 38 | 28 | 03.44 | 05.55 | 07.69 | 13.15 | - |
| **Ph.D.** | 16 | 22 | 25 | 19 | 11 | - | 04.54 | 04.00 | 05.26 | - |

**6.5.4.2. Average number of students in Theory and Practical Classes:** *Mention the degree programme-wise number of students sitting in a class for theory and practical, separately in tabular form.*

| Sr. No. | Name of the Degree Programme | Batch in theory class | Batch in practical class |
|---|---|---|---|
| **1.** | B. Sc. (Hons.) Community Science from 1st to 6th Semester | • 02 batches (40-50 students in each batch) | • 04 batches in 1st and 2nd Sem (20-25 students/batch)<br>• 3 batches from 3rd to 6th Sem (25 - 30 students/batch) |
| | 7th Semester | • Only practical based courses (Modules) | • 05 batches i.e. one batch for each Module (Approximately 15-20 students/batch) |
| **2.** | M.Sc. | • One batch for each course in all the five disciplines (04 to 30 students/batch) | • One batch for each course in all the five disciplines (04 to 30 students/batch) |
| **3.** | Ph.D. | • One batch for each course in all the five disciplines (02 to 06 students/batch) | • One batch for each course in all the five disciplines (02 to 06 students/batch) |

**6.5.4.3. Admission Process:** *Clearly give complete mechanism of admission for UG, PG and Ph.D. programmes, fee payment mechanism, registration procedure, academic schedule publication at the start of the semester etc. Write information in one page only.*

I.C. College of Home Sciences offers UG, PG and Ph.D. programmes in all the five disciplines. The number of seats in various programmes and all other matters regarding the admission policy are decided by the Academic Council as per provisions of Section 23 of the Haryana and Punjab Agricultural Universities Act, 1970 and other rules framed by the competent authority from time to time as prescribed under this Act. University Calendar Volume II deals in detail with the Rules and Regulations of all the UG and PG programmes offered by CCSHAU, Hisar.

**UG programme:** The Dean is the Head of the College and is accountable to the Vice-Chancellor for all matters concerning the College organization and conduct of resident instructions for undergraduate students (Section 21 of the Haryana and Punjab Agricultural Universities Act, 1970). The Registrar of the University is responsible to the Vice Chancellor for all matters related to admissions to undergraduate courses, credit load of the students, maintenance of academic records, attendance records and awards of degrees and medals.

**PG programmes:** The co-ordination of the postgraduate programmes is done by the Dean, Postgraduate Studies (DPGS) who is responsible for organization and conduct of postgraduate teaching. The DPGS also co-ordinates the research done by the postgraduate students, maintains liaison with the administration and is accountable to the Vice-Chancellor for all matters related to resident instructions for postgraduate students such as admission requirements, number of the courses offered, total course load prescribed for degree programmes, standard of teaching, evaluation methods, practical trainings and approval of advisory committee, programme of work, synopsis, selection of experts for preliminary and final viva voce of the students.

**Mechanism of admission:** Regarding admission in UG, PG and Ph.D. programmes, admission notice is published in National dailies and displayed on University Website. Prospectus is also uploaded on the University Website. From the session 2017-18 onwards, only online submission of application forms has been adopted.

At UG level admission is on the basis of merit in entrance examination. Eligibility criteria for admission are 10+2 in science stream (PCM/PCB) or Home Science as a subject with any stream from a recognized Board with 50% marks (relaxable up to 47.5% for Scheduled Caste candidates and Person with Disability).

From the session 2017-18 onward, entrance test is being conducted by the University for Admission in PG programmes. For PG and Ph.D. programmes, admission to 75% seats is based on merit in entrance examination and 25% of seats are reserved for the students recommended by ICAR based on merit in AIEEA. Eligibility for admission in PG programmes in Home Science is B.Sc. (Hons.) Community Science/Home Science with 55% marks for General and BC category, 52.25% for SC/PwD or OGPA of 5.50 (10.00 basis) and equivalent for General and BC category, 5.22 (10.00 basis) and equivalent for for SC/PwD at Bachelor's Degree level from recognized university.

The minimum qualification for admission in Ph.D. programmes in Home Science is 55% marks (where OGPA is not given) or a OGPA of 5.5 out of 10 at Master's level in the subject concerned from a recognized university.

**Fee Payment mechanism:** Mode of fee payment is fully online from the session 2016-17 onwards.

**Registration procedure:** The registration for UG and PG programmes is online from the academic session 2017-18 onwards. For UG programmes the offering of courses and registration is monitored by the Dean's office. For PG and Ph.D. programmes students fill up the courses in consultation with HOD/ advisors and then get the online approval from concerned teachers, advisors, Head of the Department and final approval by the Dean, PGS.

**Academic Schedule:** Academic schedule (academic calendar) is prepared with the approval of Academic Council and sent to different departments, upload on the student's portal, circulated among faculty and put on notice board before commencement of the new session.

### 6.5.4.4. Conduct of Practical and Hands-on-Training *(mention brief report of one page on practical and hands on training in different courses to meet the student satisfaction) write information in one page only.*

As per 5th Deans' Committee recommendations, core courses and Student READY Modules/ Experiential Learning Programmes are offered by the College to provide Hands on Training at UG level. The practical courses concentrate on giving hands on training and involve methods like Video

classes, Demonstrations, Visits, Case Studies, Simulation studies, Role play, Problem solving as per the curriculum requirements. College annually organizes hands-on training on ICT Competencies and Handicrafts, CAD, JRF preparatory training programmes and Self defence training programmes in collaboration with Directorate Students' Welfare.

**The Department of Extension Education and Communication Management** provides practical/hands on training through different core and module courses. In the Department, there is well equipped Video Studio with video cameras set up where UG and PG students get hands on training on script writing, panel discussion, camera handling, video shooting and editing. In print media lab hands on training on graphic designing like Photoshop, CorelDRAW, Page Maker, etc. for preparing computer aided teaching aids such as leaflets, posters, charts, booklets, pamphlets, flyers, calendars, business, invitation and greeting cards etc. is provided. Visits of the students are conducted to media houses like newspapers offices, community radio station, Doordarshan, Radio station etc. to provide orientation on working of media industries. Regular village visits of UG and PG students are conducted in order to provide practical exposure of PRA techniques, base line survey, identification of training need of rural women, implementation of extension programmes and evaluation thereof.




**Hands on Training in Media Production**

**The Department of Foods and Nutrition** provides practical skills and hands through various courses cooking, value addition and community nutrition. Apart from basic cooking, students also learn the impact of cooking and various domestic processing on nutrients. Under practical/hands on trainings in bakery and confectionary students give practical edge to their knowledge for setting up a small scale bakery and confectionery unit; they develop entrepreneurial competencies. Students manage bakery and confectionery unit where they produce and sell bakery and confectionery products. Under practical/hands on trainings in community nutrition, students learn various techniques used for assessing nutritional status, carrying out nutrition surveys, set up counselling center and carry out counselling of subjects of various physiological needs. Students carry out counselling of subjects of various therapeutic needs and organize counselling camps for specific diseases.




**Hands on Training in Bakery**




**Hands on Training in Analytical Skills**

**The Department of Family Resource Management** provides practical/hands on trainings through different courses on making colour schemes for different rooms; care and arrangement of furniture for different purposes and rooms; window treatments; types and placement of accessories for interior enrichment; flower arrangement; floor decoration; setting the table. Students learn practical skills and hands on training in preparation of utility and decorative articles: pottery decoration with different methods and materials, collage, paper mashie, macramé, candle making and decoration, flower making, calligraphy, decoupage, *rakhi* making, greeting cards, decorative envelopes, bags and gift wrapping. Students also develop skills in Auto CAD and prepare house plans, room layouts and home lighting arrangements, master plans through drawings of interior representations; planning furniture, fitment and fixtures for special needs and specific purposes; planning, programming, designing and evaluating interiors for elderly. Students are instructed to design space saving and multipurpose furniture; computer aided furniture arrangement. Design furniture, draperies, walls and flooring for persons with special needs. Prepare models of smokeless improved cooking stoves and flooring for persons with special needs.






**Hands on Training in Creative Arts**

**The Department of Human Development and Family Studies** provides practical and hands on trainings under different core and module courses. A Preschool Laboratory is being run in the department for children of 2-5 years of age. Students acquire skills in assessment of physical, motor, language and mental development of children using various scales. Students also formulate and implement curriculum in preschool laboratory based on scientific models. Students prepare stimulation programmes, activities and kit from indigenous low cost materials for physical, motor, cognitive, language, socio- emotional, moral and personality domains; prepare creativity file on different art activities including painting, printing, paper cutting, folding and pasting, modelling; develop story book, picture book and computer aided teaching material for children; implement prepared programmes in different ecological settings. Students also develop theme based developmentally appropriate programmes; prepare educational material as per lesson and activity plans; arrange and equip the classroom for different corners, organize large and small group activities; implement prepared plan and conduct pre and post sessions. Students prepare educational material for parents on issues related to developmental delays. Educational material and resource file on current issues related to adolescence and adulthood are also prepared. Students organize campaigns, panel discussions and puppet show related to marriage and family issues, conduct surveys on families with different background for understanding changing scenario of families, cultural diversification and marriage traditions in India. Conduct case studies of special children: mentally retarded, gifted, visually impaired, speech impaired and orthopedically handicapped; prepare resource file on issues related to special children. Prepare questionnaire and conduct surveys to identify families with problems.



**Hands on Training in Teaching Aids**

**The Department of Textile and Apparel Designing** provides practical skills and hands on trainings under different core and Module courses. Students acquire sufficient skills in handling sewing equipments and sewing machine, prepare samples of basic hand and machine stitches, basic weaves and hand knitting. They draft, cut and construct garments for different age groups i.e., infants, children, adolescents and adults using flat pattern and draping techniques. Develop designs and prepare apparel and utility articles using block, screen, stencil, nozzle, printing, tie and dye, batik and traditional embroideries. Learn to use designing softwares for creating motifs, designs, colour ways, design placements, rendering of patterns and different fabrics on the figure, develop theme based designs and prepare design catalogue of different dresses and articles. Under ELP practical hands on trainings in Product Design: Digital Embroidered Home Furnishings students are given practical edge to their knowledge for setting up a small scale digital embroidery unit; they prepare portfolio of a product line for commercialization, develop theme based product line for home furnishings and accessories and their costing for developing entrepreneurial competencies.



**Hands on Training in Digital Embroidery**



**Hands on Training in Hand Embroidery**

**Hands-on-Trainings organized to enrich course curricula**

| Name of training | Duration | Participants (Number) |
|---|---|---|
| Healthy Diet - Healthy Mind -Curbing Unhealthful Eating Habits | August 21- September 03, 2019 | UG students |
| Computer Aided Designing | October 14- 23, 2019 | UG students |
| Foundation Course for ICAR-JRF (PGS) Admission Exam in Home Science | October 25- November 23, 2019 | UG students |
| Computer Aided Designing | November 5- 14, 2019 | SC Category |
| Enhancement of Designing Competencies with ICT Tools | February 26 – March 6, 2020 | B.Sc. Final Year students |
| Enhancement of Handicraft Skills for Entrepreneurship Development | March 06-18, 2020 | B.Sc. Final Year students |
| Communication Skills and Personality Development (On Line) | March 07-16, 2022 | SC UG students |
| Communication Skills and Personality Development (On Line) | March 07 - 16, 2022 | SC PG students |
| Skill Development in Textile Designing | March 07-16, 2022 | SC/ST students of COHS |

| | | |
|---|---|---|
| Skill Development in Apparel Designing | March 07-16, 2022 | SC/ST students of COHS |
| Automation in Textile and Apparel Industry | September 27 - October 10, 2022 | UG students |
| Advance in Textile and Apparel Industries | September 27 - October10, 2022 | PG students |
| Research Project Management | October 01-12, 2022 | PG students |
| Enhancement of Competencies of UG Students on Information and Communication Technologies | October 01 - 12, 2022 | UG students |
| Training Programme for the Student of Home Science Appearing in JRF-2023 | November 14 -December 10, 2022 | B.Sc. Final Year students |
| Enhancement of Competencies of UG Students on Information and Communication Technologies | February 07 -22, 2023 | UG students |
| Communication Skills for Personality Development | February 08 -17, 2023 | PG students |
| Communication Skills for Personality Development | February 13 - 22, 2023 | UG students |
| Enhancement of Handicrafts Skills for Entrepreneurship Development | February. 16 -24, 2023 | UG students |

**6.5.4.5. Examination and Evaluation Process:** *The evaluation of students' performance is a central task of College administration. A brief report on examination and evaluation process for UG, PG and Ph.D. be given separately mentioning external/internal components. System of evaluation should clearly be mentioned for UG, PG and Ph.D.*

A brief report on examination and evaluation process for UG, PG and Ph.D. is given below separately mentioning external/internal components.

**UG Programmes**

**Examination system:** The students are evaluated in the middle of the semester as well as in the end of the semester. Besides this, the students are also evaluated continuously by assigning class exercises, projects and assignments. The examination system for B.Sc. (Hons.) Community Science is external for theory (50%) and internal theory + practical (50%). There is mid-term examination for internal theory. The weightage of mid-term, end-term and practical examination is as per the details given below:

| Nature of course Credit Hrs. | Weightage (%) | | | | |
|---|---|---|---|---|---|
| | Mid-Term Theory | Assignment | Mid-Term Practical | Final Practical | External |
| **Courses with theory & practical** | | | | | |
| **3+1** | 40 | 10 | -- | 50 | 100 |
| **2+1** | 30 | 10 | -- | 60 | 100 |
| **1+/2+2** | 20 | 10 | -- | 70 | 100 |
| **1+2** | 10 | 10 | -- | 80 | 100 |
| **Courses with only theory** | 80 | 20 | | -- | 100 |
| **Courses with only practical** | -- | 20 | 60 | 120 | -- |

* Weightage of marks vary according to credit hours of the course

Mid-term and final examinations are of 100 marks each. After adding marks of the examination, the total is divided by two for converting total marks out of 100 and combined (Theory + Practical) grade of each course is awarded.

B. Sc. (Hons.) Community Science 4 year programme students from Arts, Maths and Biology streams have to clear some deficiency courses offered by College of Basic Sciences & Humanties. The evaluation of these courses is internal for both theory and practical.

The mid-term and end-term exams are conducted at College level. Faculty members other than course instructor are assigned duties as invigilators. During end-term examination, the question papers are provided by the Controller of Examinations (COE) just before commencement of examination and answer sheets are handed over to the COE immediately after completion of examination in a sealed cover. There is internal and central flying squad to monitor the conduct of examination.

**Evaluation:** Marks for internal theory and practical examinations are submitted online by the Instructor concerned to the Controller of Examinations COE. For only practical based courses, practical exams are evaluated by a committee including the course teacher and one teacher nominated by Dean of the College. Immediately after the completion of the end term examination answer sheets are collected in the sealed cover by the COE for further evaluation. Student identity in the answer sheets is concealed and evaluation of answer sheets of end term theory examination is got done under the supervision of the COE by faculty other than the course instructor. COE arranges compilation and submission of the marks to the Registrar for declaration of result. A student obtaining 40% and above marks in theory and practical separately but 50% and above in aggregate is declared pass in the respective course(s), subject to further condition that student must maintain an OGPA as under.

Ending 1$^{st}$ year = 3.5/10.00; Ending 2$^{nd}$ year = 4.0/10.00; Thereafter = 5.00/10.00

There is no provision for supplementary examinations. Students who are declared fail in one or the other course are required to repeat that course, when offered as per academic calander provided they have maintained the required minimum OGPA. Those who do not achieve the minimum OGPA are declared 'Fail' in the respective class and have to repeat all courses of relevant year with benefit of repeat courses cleared in the year in which declared fail, before registration for next higher class.

Evaluation of Students enrolled under RAWE programme is done by College level Committee consisting of Dean, All HODs of the College and RAWE course instructors from all the five departments of the College.

**Grading**: Based on the evaluation in each course, the students are awarded grades as per the following scheme.

| OGPA | Percentage |
|---|---|
| **9.00 to 10.00** | (90 to 100%) |
| **8.00 to 8.99** | (80 to 89.9%) |
| **7.00 to 7.99** | (70 to 79.9%) |
| **6.00 to 6.99** | (60 to 69.9%) |
| **5.00 to 5.99** | (50 to 59.9%) |
| **4.00 to 4.99** | (40 to 49.9%) |

In deficiency courses "S" or "US" grade is awarded which has no effect on GPA/OGPA of the student. The students must obtain at least 5.00 OGPA for award of degree. Based on the position of result, Detailed Marks Card (DMC) is issued to all the students. The DMC clearly shows GPA and

OGPA at the end of each semester. On completion of degree, division is indicated in the DMC of final semester (year) as under:

| OGPA | Division |
|---|---|
| 5 to 5.99 | 2nd Class |
| 6.00 to 7.49 | 1st Class |
| 7.5 and above | 1st Class with distinction |

**PG and Ph.D. Programmes**

**Examination System and Evaluation:** Internal examination system has been adopted for PG and Ph.D. programmes. Two sets of question papers for each course are prepared for mid-term and end-term examination and are submitted by the course instructor to the concerned HOD. For both mid-term and end-term examinations, date sheet is prepared and examinations are conducted centrally at College level. On the day of examination HOD selects one question paper for each course for distribution among the students. Practical examinations are also conducted internally by the course instructor. For only practical based courses, practical exams are conducted by the course teacher and one more teacher nominated by the HOD. Evaluation of both theory and practical examination is internal. Weightage for theory and practical examinations varies according to course credit hours as given below:

| Credit hours (Theory & Practical) | Weightage/Marks | | |
|---|---|---|---|
| | Mid-Term | End-Term | Practical |
| **1 + 0** | 40 | 60 | - |
| **1 + 1** | 20 | 30 | 50 |
| **2 + 1** | 25 | 45 | 30 |
| **2 + 2** | 20 | 30 | 50 |
| **3 + 1** | 30 | 45 | 25 |
| **3 + 2** | 25 | 35 | 40 |
| **2 + 0** | 40 | 60 | - |
| **3 + 0** | 40 | 60 | - |
| **1 + 2** | 10 | 20 | 70 |
| **0+1** | -- | -- | Mid- term: 40<br>End-term: 60 |

**Comprehensive Examination (Written and Viva Voce/Oral):** In Ph.D., after completion of 75% course work separately in major and minor subjects, the Ph.D. students take written comprehensive exam. Written comprehensive examination is based on all the PG and Ph.D. courses from major subject. In major subject, two papers and in minor subject one paper is conducted. Two sets of question paper of major subject are submitted by the HOD to the Dean of the College and on the day of examination one question paper is selected by the Dean. Paper setting and evaluation is internal and qualifying marks are 60%. The grading for comprehensive examination is satisfactory/unsatisfactory. After clearance of written comprehensive examination, Viva Voce/Oral comprehensive examination is conducted by external examiner and grading is done as satisfactory/unsatisfactory.

**Thesis evaluation:**

| Evaluation steps | Master's program | Doctoral program |
|---|---|---|
| **i) Submission** | Thesis is submitted at least one week after thesis seminar | Thesis is submitted at least fifteen days after thesis seminar. One research paper should have been accepted and second submitted or one patent filed out of thesis work |
| **ii) Evaluation** | External (One examiner) | External (Two examiners of different institutes) |
| **iii) Viva Voce** | Open house viva-voce in the presence of one external examiner, advisory committee, faculty members and PG students | Open house viva-voce in presence of one external examiner, advisory committee, faculty members and PG students |
| **iv) Assessment** | Satisfactory/Unsatisfactory | Satisfactory/Unsatisfactory |

**Grading:** For PG and Ph.D. programs grading is done on a 10 point scale

(i) Minimum passing grade in a course: 6.00

(ii) Minimum OGPA to continue and obtain degree: 6.50

**6.5.4.6. NCC/NSS Units:** *Clearly mention the existence and functioning of these units and how it is benefiting the student development. A brief report should be given.*



**NCC Cadets at Prade**

**NCC Unit:** NCC plays an important role in inculcating qualities of courage, discipline, leadership and sportsmanship among cadets. Every activity performed by NCC cadets leaves a big impression on grooming personality of cadets. Cadets with 'C' certificate are eligible for direct commissioning for vacancies in armed forces without appearing for written examination. Students of I.C. College of Home Sciences are enrolled in second semester of each academic session to be a part of NCC (Air and Army wing) under unit "1HAR R&V SQN NCC, HISAR", "NCC 1(Air) Haryana Bn. Hisar" and "3 Haryana Girls BN NCC", NCC group- Rohtak and Directorate "Punjab, Himachal Pradesh, Haryana and Chandigarh." Girl Cadets regularly participated in various events like: Republic Day Parade, Annual Training Camp; Guard of honour to visiting dignitaries etc. and have come out in shining colours. During the reporting period, 71 cadets cleared "BEE" certificate examination and 63 cadets cleared "CEE" certificate examination. Total students enrolled in NCC during the reporting period were 55. A brief report of NCC unit of the College for period under report is given underneath.

**Medals/ Awards:**

| S. No. | Name | Medals/ Awards | Event | Year |
|---|---|---|---|---|
| **1.** | SUO Mamta Chahal (2017HS33BIV) from 1HAR R&V SQN NCC | Gold Medal | Show Jumping Girls in Gurgaon Horse Show | 2018 |
| | | Bronze Medal | Hacks Girls in Gurgaon Horse Show | 2018 |
| | | Gold Medal | Show Jumping Girls Novice in Inter Directorate Equestrian Competitions | 2019 |
| | | BronzeMedal | Dressage Girls Novice | 2019 |
| | | Bronze Medal | Hacks Girls Novice | 2019 |
| | | Gold medal | Show Jumping Girls Veteran in Inter Directorate Equestrian Competitions | 2020 |
| | | | Participated in Prime Minister's Rally at New Delhi | 2020 |

| | | | | |
|---|---|---|---|---|
| **2.** | SUO Bhawna | Appreciation certificate | NCC camp activities Annual Training Camp -173 at St. Joseph's International School, Hisar | 2022 |

**Camps attended:**

| Sr. No. | Name/ Number of Cadets | Name of Camp | Date | Venue |
|---|---|---|---|---|
| **1.** | Reeva | Practice Camp (ATC-173) Inter Group Shooting Championship | June 07-16, 2018 | CCSHAU, Hisar |
| | | North Zone Shooting Coaching Camp | July 02-11, 2018 | Ropar, Punjab |
| | | Combined Annual Shooting Practice Camp | August 06, 2018 | Chandigarh |
| | | Coaching Camp for G.V. Mavlankar Shooting Championship | August 19-27, 2018 | Chandigarh |
| | | Eight shooting practice and competition camps | 2018-2020 | Various places in India |
| **2.** | Meenu (2015HS18BVI) Ritu (2015HS32BVI) Ravita (2017HS53BIV) | SSB Camp | January 20-29, 2019 | Ropar, Punjab |
| **3.** | Twenty-one cadets NCC (Army) | Annual Training Camp | January 03-12, 2019 | TBDS School, Hisar, Haryana |
| **4.** | Five cadets | Combined Annual Training Camp | December 29, 2018 to January 07, 2019 | DAV PPS, Hisar, Haryana |
| **5.** | Kiran (2015HS13BVI) Kamna (2016HS14BVI) | *Ek Bharat Shresht Bharat Camp* | January 08-19, 2019 | Ropar, Punjab |
| **6.** | Sakshi Sharma (2016HS30BVI) | Skill and Personality Development Camp | March 29 to April 07, 2019 | Rohtak, Haryana |
| **7.** | 46 cadets | Annual Training Camp (ATC) | 2019-2020 | TDBS, Hisar |
| **8.** | 46 cadets | Combined Annual Training Camp | 2020-2021 | GJUS&T, Hisar |
| **9.** | 48 cadets | Combined Annual Training Camp (CATC) | October 19-25, 2021 | DN College, Hisar |
| **10.** | Mansi Mor | EBSB camp | October 18-23, 2021 | (Online by 1 Karnataka Girls Battalion) |
| **11.** | Bhawna | NCC camp activities Annual Training Camp -173 | June 03-12, 2022 | St. Joseph's International School, Hisar |
| **12.** | Three cadets | Annual Training Camp -173 | June 03-12, 2022 | St. Joseph's International School, Hisar |
| **13.** | 19 cadets | Annual Training Camp -190 | October 14-21, 2022 | Krishna Devi International School, Uklana |

**Participation in different events:**

| Sr. No. | Name | Event | Date | Venue |
|---|---|---|---|---|
| **1.** | NCC Girl Cadets | Yoga Day Celebration | June 21, 2018 | Mahavir Stadium, Hisar |
| **2.** | NCC Girl Cadets | Awareness campaign "Prakarm Parv" on 2nd Anniversary of Surgical Strike | September 29, 2018 | Indian Army Military Station, Hisar |
| **3.** | All NCC Girl Cadets | Anti-Drug Abuse Awareness Rally (Prepared posters & slogans) | October 02, 2018 | CCSHAU, Hisar |
| **4.** | NCC girl Cadets | **"**Road Safety Campaign**"** (30th National Road Safety Week 2019 from February 4-10, 2019) | February 8, 2019 | CCSHAU, Hisar |
| **5.** | 40 NCC Cadets with ANO | **"**Drug Free India**"** campaign | February 19, 2019 | Organized by Art of Living at GJUS&T |
| **6.** | Mansi Mor | *Ek Bharat Shreshth Bharat*camp held online with KARGO Directorate (online by 1 Karnataka Girls Battalion) | June03-12, 2022 | St. Joseph's International School, Hisar |
| **7.** | Three cadets | Annual Training Camp -173 | June 03-12, 2022 | St. Joseph's International School, Hisar |
| **8.** | 30 Cadets | Kargil Vijay Diwas | August 22, 2022 | I.C. COHS, CCSHAU, Hisar |
| **9.** | 30 Cadets | National Unity Day | October31, 2022 | I.C. COHS, CCSHAU, Hisar |
| **10.** | Platoon of NCC girl's wing | Republic Day celebration | January 26, 2023 | CCSHAU, Hisar |

**NSS Unit**

National Service Scheme (NSS) is a credit course which is offered to the students. The NSS functions with the objective of instilling and increasing students' sensitivity towards social welfare and to inspire them to provide their services to society objectively without any prejudices. NSS volunteers make efforts to extend help to the needy so as to assist them in uplifting their standards of living and leading a dignified life. In the process the volunteers learn from the villagers to live a good life despite scarcity of resources. Total students enrolled in NSS during the reporting period were 402.



**NSS Students at Republic Day Prade**

## Camps attended by NSS volunteers

| Name | Date | Venue |
|---|---|---|
| **NATIONAL INTEGRATION CAMP** | | |
| **NSS Volunteers** | September 20-27, 2019 | Bengaluru Central University |
| **NSS Volunteers** | February 22-28, 2020 | NSS University of Jammu, Jammu |
| **12 NSS Volunteers** | Attended Various Camps during 2021-22 | Different places of the country |
| **UNIVERSITY LEVEL NSS CAMP (7 DAYS)** | | |
| **NSS Unit** | February 27 to March 04, 2020 | Village *Shahpur*, Hisar, Haryana |
| **NSS Unit** | March 10-16, 2022 | Village *Shahpur*, Hisar, Haryana |
| **30 NSS Volunteers** | March 24-30, 2022 | CCSHAU, Hisar |
| **30 NSS Volunteers** | January 07-13, 2023 | CCSHAU, Hisar |
| **NSS DAY CELEBRATION** | | |
| **NSS Unit** | September 24, 2019 | Directorate of Students' Welfare and NSS Cell of CCSHAU, Hisar |
| **NSS Unit** | September 24, 2019 | Directorate of Students' Welfare and NSS Cell of CCSHAU, Hisar |

## Activities/ Events organized by NSS Volunteers

| S. No. | Event | Date | Venue |
|---|---|---|---|
| **1.** | *Swachhta Pakhwada* | September 2, 10-11,2019 | I.C. College of Home Sciences |
| **2.** | Plastic Waste Free Campaign | September 18, 2019 | I.C. College of Home Sciences |
| **3.** | Blood Donation Camp organized | October 31, 2019 | Directorate of Students' Welfare |
| **4.** | Duty in COVID Vaccination Camp | May, 3, 4 and 7, 2021 | CCSHAU Campus Hospital |
| **5.** | Participation in "Fit India Movement" launched by Prime Minister | August 29, 2019 | I.C. COHS, CCSHAU, Hisar, Haryana |
| **6.** | Health check-up Camp | March, 2022 | Village *Shahpur*, Hisar |
| **7.** | First Aid Training | March 15, 2022 | I.C. COHS, CCSHAU, Hisar, Haryana |
| **8.** | Lecture on road safety | March16, 2022. | I.C. COHS, CCSHAU, Hisar, Haryana |
| **9.** | *Balak Balika Spardha* Week Celebration | January 8-14, 2022 | I.C. COHS, CCSHAU, Hisar, Haryana |
| **10.** | Webinar on "Right Approach to Nutrition: Key to Growth and Development" | January 13-14, 2022 | I.C. COHS, CCSHAU, Hisar, Haryana |

## Various Days Celebrated by NSS Volunteers Every Year

| S. No | Name of the Day | Date |
|---|---|---|
| **1.** | National Voters Day | 25$^{th}$ January |
| **2.** | Republic Day | 26$^{th}$ January |
| **3.** | Deworming Day | 10 $^{th}$ February |
| **4.** | International Women's Day | 8$^{th}$ March |
| **5.** | National Consumer Day | 15$^{th}$ March |
| **6.** | Ozone Day | 16$^{th}$ September |
| **7.** | Gandhi Jayanti | 2$^{nd}$ October |
| **8.** | Birthday of Lal Bahadur Shashtri | 2$^{nd}$ October |
| **9.** | National Unity Day | 31$^{st}$ October |
| **10.** | World Aids Day | 1$^{st}$ December |
| **11.** | National Pollution Control Day | 2$^{nd}$ December |
| **12.** | International Volunteers Day | 5$^{th}$ December |

**6.5.4.7. Language Laboratory:** *It is required of any student to have a good command of the language for communication purposes, with clarity and accuracy being vital for effective and efficient communication. What help one to acquire such proficiency in a language is the process and the method of learning that language. Mention which of these type of Conventional, Lingua Phone, Computer Assisted Language Laboratory and Multimedia Hi-Tech Language Laboratory are being used for language teaching in the college.*

During B.Sc. (Hons.) Community Science degree programme, two English courses are offered by the Department of Languages and Haryanvi Culture, College of Basic Sciences and Humanities (COBS&H). The Language laboratory in COBS&H has Language software of Sanko Language Lab, a web based language teaching platform that transform passive language classes into an active speaking based environment. The software can be used in the class room, remotely and also in hybrid teaching.

The I.C. College of Home Sciences lays special emphasize on improving communication skills of the students. UG students are motivated to use different verbal communication softwares, Apps and YouTube channels to improve spoken English. The College publishes its magazine 'Manoveena' to hone literary skills expression power of the students. The Directorate of Students' Welfare organizes training on communication skills and spoken English from time to time. Proficiency in communication skills is an essential component of personality development. The Literary Society, CCSHAU, Hisar aims at overall personality development of students by training them in public speaking. The Society organizes Debate Competitions, Elocution and Extempore Speech competitions for students.

Students also have access to NIIPA English Writing Improvement Tool and NIIPA Online English Language Development and Improvement Resources subscribed through Nehru Library, CCSHAU, Hisar.

**6.5.4.8. Cultural Centre:** *Does the college has cultural center to empower student leaders to explore, celebrate, and educate the campus community about the diversity among them? Does the college offers and inclusive and reflective space, multicultural programming and support services that encourage positive interaction, academic, persistence, and growth among students, faculty, and staff.*

The College has a cultural forum with the objectives:

- To explore hidden talent of students in fine arts, literary and cultural activities
- To increase confidence and remove hesitation in performance on stage
- To inculcate the habit of participation in co-curricular activities for overall development of students

**Composition of Cultural Forum**

| | | |
|---|---|---|
| 1. | Dr. Manju Mehta, Dean, COHS | Chairperson |
| 2. | Dr. Kavita Dua, Assistant Professor | President |
| 3. | Dr. Urvashi Nandal, Assistant Professor | Member |
| 4. | Ms. Rakhi Dalal, Instructor | Member |

**Activities of Cultural Forum:**

To accomplish objectives of the cultural forum, various students' activities are organized under the supervision of faculty associated with cultural forum. The cultural forum celebrates all important Indian festivals which promote a sense of comradship and respect for diverse traditions and cultures. Various cultural and litrary competitions such as song and dance; fine art competitions including rangoli, mehandi, painting, collage making; and literary competitions like debate, declamations, quiz, etc. are organized. In the beginning of every academic session, 'Talent Search

Contest' is organized for fresh UG and PG students to explore and show case their hidden talent. Teachers' Day is also celebrated by the students every year on 5th September with great enthusiasm. Students participate in cultural activities with great vigour and commitment and are doing extremely well. Our students strongly mark their presence at various University and Inter-university competitions.





**Talent Search Contest**



***Swang* Performance**

The activities of college cultural forum are further boosted through CCSHAU Drama and Music Club. The club actively engages students in fulfilling their cultural quest. Besides imparting regular training to the enrolled students in Music, Haryanvi Folk Lore and Culture and dramatics, special intensive coaching involving extra classes are arranged for the talented students. Special efforts are made to introduce the students to Indian Folk lore and culture with special focus on *'Swang'*.

**6.5.4.9. Personality Development:** *Personality development programme is aimed at increasing employability of the students. Whether the college has provisions for inclusion of functional grammar in Standard English, speaking skills, reasoning, group discussions interview skills, personal interviews, quantitative ability, verbal ability, mock tests and some special sessions to promote the personality development in the students?*

The College recognizes personality development of the students equally important to regular academic activities. In order to provide orientation to the students about various communication skills, course on Communication Skills and Personality Development is offered during third semester of UG programme. Main emphasis is given on how to stay positive and resolve problems in tough environment, power of positive thinking, interpersonal relationships and stress management. Life Skill Trainings are also organized from time to time with the objective to enhance various skills required in coping up with the stressful and competitive environment. These training develop

confidence in students to take their life in a healthy way using various life skills developed through trainings.

The key highlights/focus areas of the training programmes are:

| | |
|---|---|
| • Communication and Presentation skills | • Resume writing |
| • Grooming | • Facing interviews |
| • Group discussion | • Interpersonal relationship |
| • Stress, Conflict and Aggression management | • Soft skills |
| • Team & Time Management | • Motivational approach |
| • Glosso-phobia -fear of public speaking | • Leadership approaches for youth |
| • Problem solving and Decision making | • Multiple intelligence and critical thinking |

### 6.5.5. Physical Facilities

**6.5.5.1. Hostels:** *Clearly mention the number of hostels available for the College students for boys and girls, separately with its total capacity, students per room accommodated in each hostel, mess facility, drinking water, indoor games specially for girls, cleaning of hostel premises, transport facility, emergency medical facility etc.*




There is an excellent facility of hostels for girl students. The Directorate of Students' Welfare looks after the facilities to be provided to the students in hostels. For girl students there are seven hostels – Narmada, Yamunotri, Gangotri (three wings), Women Scholar, Trainees Hostel and PG Married hostel. One new hostel for girls is under construction. The hostels are sufficient to meet accommodation requirement of registered students. There are well ventilated cubical and dormitory rooms fitted with electric fans in all the hostels and allotted to the students as per rules. Students' rooms have the facility of Almirah, Study table, Bed and Chair. The students are also allowed to use the desert cooler in their rooms during summer. The hostels are equipped with all modern amenities and facilities including Wi-Fi, LCD/LED TV with cable connection, Gym, refrigerator, facility of inverter in mess and common area, water cooler with water purifier, insect killer, solar water heating system, LPG supply in mess, furniture, magazines and national dailies. There are facilities of air conditioned night reading halls, indoor sports facilities, canteen, desert coolers in the common room areas.

In every hostel, there is hostel warden assisted by student hostel prefects. The hostel mess are being run on cooperative basis by committee of students under the guidance and supervision of hostel wardens. Due attention is given to the cleanliness of hostel premises and quality of meal served to the students.

**Transport facility**

Central transport facility is available for students as and when required. The vehicles can be requisted from the Transport Office of the University for visits under different courses and educational tours.

## Medical Facilities




There is a well-equipped 22 bedded Hospital in the CCSHAU main campus. Round the clock medical aid is provided to the students, university employee and their dependants and trainees/visitors. The Campus Hospital has one Senior Medical Officer, three Medical Officers, one Dental Surgeon, one Physiotherapist, two Pharmacists, one Nursing Sister and four Staff Nurses along with other para medical staff. Casualty services are run round the clock. ICU, X-ray and diagnostic facilities, RCT and Dental surgical procedures are available in the Campus Hospital. On-call Ambulance facility in emergency cases is also available in the Campus Hospital. The Campus hospital played a vital role during COVID19 period by regular monitoring of hostel, resident, foreign student besides regular sensitization and organization of COVID19 testing and vaccination camps. There is Amartya Shiksha Yojana and Personal Accident Policy for students which covers an accidental insurance of Rs. 1,00,000/-.

**6.5.5.2. Examination Hall:** *Mention the availability of number of examination halls, its capacity etc. for the college.*

The College has a spacious, well ventilated fully air conditioned Examination Hall with seating capacity of 200 students. The Examination Hall is used for conducting mid-semester and final theory examinations of UG and PG classes. To provide comfortable seating to the students during examinations, Examination Hall is equipped with cushioned chairs, cross ventilation, uninterrupted power supply. In addition to Examination Hall, seven lecture rooms of the College are also used for conducting examinations as per requirement. The Examination Hall is also used for conducting CCSHAU entrance tests and other competitive exams conducted by state and central Government.





**Examination Hall**

**6.5.5.3. Sports and Recreation Facilities:** *Clearly mention the number of indoor and outdoor sports facilities available for the College students. A brief note on day to day management and use of these facilities shall be provided in the report*

**Sports facilities:** Sports and games play a very important role in physical, mental and social development of human resource and excellence in sports enhance the sense of achievements. Considering the importance of sports for the students, University has made compulsory participation of all Under Graduate students in Co-Curricular activities by offering 0+1 credit course to all students. This definitely not only makes the students physically fit but also mentally and socially sound. A well established and adequately equipped Giri Centre for Sports Activities is having facilities of Volleyball, Handball, Football, Basketball, Cricket, *Kabaddi*, Indoor Boxing, Indoor Wrestling, Indoor Badminton, Tennis, Hockey, Athletics Synthetic Track, Table Tennis, Wushu and other games. University students take part in various competitions and the position holder players get free meal, free milk and cash incentives. This is the first University in Haryana who has provided these facilities to the position holder players.



**Annual Athletic Meet**




**Prize Winners in Annual Athletic Meet**



**First Runner Up in Annual Athletic Meet**



**International Yoga Day Celebration**

The Giri Centre for students' welfare and activities is an outstanding feature of this University with sports and other activities. It has two indoor Badminton Courts with a seating capacity for 600 spectators, two indoor squash courts, hobby rooms, two multi-purpose indoor gymnasiums with a reasonable seating capacity. Grounds/courts/tracks/links are available in the University Sports Complex. A synthetic track of international standard has also been provided in the Athletic Stadium. Volleyball grounds have light arrangements for playing at night. Hockey, Football and Cricket grounds are well maintained. Inter college athletics meet is organized every year which provides an opportunity to the students to show case their talent in different sports.

**Recreational facilities:** The Directorate of Students' Welfare is responsible for implementing co-curricular activities. Students interested in mountaineering and adventure, graphic arts, literary, music, dance, dramatics etc. register for these activities as adequate facilities are available on the campus. For promotion of these activities, regular classes and trainings/ workshops are arranged from time to time. Assistant Professor (Culture) in the Directorate of Students' Welfare looks after dance, music and theatre activities.

**The Mountaineering Club** organizes various adventure activities like Trekking, Mountaineering, Night Safari, Desert Safari, Skiing etc. for students. The students are also trained in rock climbing, river crossing, rappelling etc.



**Students of Mountaineering Club**



**Students at Hamta Pass**

**The CCSHAU Drama and Music Club** has been actively engaged in promoting the cultural activities with special emphasis on drama, dance and music. Such activities are source of inspiration for the students to develop their personality and tame the youth energy into a proper and creative channel. This club is one of the most popular clubs of the University with enrolment of an average of about two hundred students per year. It has been the leading co- curricular activity club of the University which inculcates and exposes the creative aspects of the students. The students of this club have participated in various state/Zonal/National level Youth Festivals. The students have participated in All India State Agricultural University Youth Festivals organized by ICAR and declared champion four times in theatrical events competitions. As part of University team, students of the club also won six times 1st position in the group song competitions in music category. The club has also brought many laurels for the University by winning competitions in State/North Zone/National youth festivals since its inception.



**Republic Day, 2023**



**Golden Jubilee Foundation Day Celebration, 2020**

**6.5.5.4. Auditorium:** *Does the college have auditorium? Mention its year of construction, sitting capacity and how frequently being used for the College functions*

The College has its own spacious, air conditioned and well ventilated Auditorium with latest sound and light system. The Auditorium was constructed in the year 1978 and has sitting capacity of 284 persons. The facilities of green room and wash rooms are also there in the Auditorium. The Auditorium is being used for organizing College functions like Orientation programme, Talent search programme, Fresher's day, Farewell parties, extension lectures during tutorial classes, seminars,

workshops and valedictory functions of various trainings etc. At University level, there is Indira Gandhi (IG) Auditorium, a central facility with a seating capacity of 1958 persons.






**Indira Gandhi Auditorium**






**Auditorium, I.C. College of Home Sciences**

**6.5.5.5. Exhibition Hall/Museum (description of events):** *Does the college have the Exhibition Hall/Museum? Mention about its use and special events being conducted in these units.*

The College has its own Exhibition Hall for showcasing Teaching, Research, Extension and extra co-curricular activities of the College. Technologies developed, publications and work done under different Modules is also depicted. There is a university level museum named as Dr. Mangal Sein Agricultural Sciences Museum. The College activities are exhibited in this museum also.




Different technologies developed under the research projects along with activities of ELP and Skill Development modules of the College are also displayed through various panels in the University Museum. To depict Haryanvi culture, the College has contributed traditional handicrafts and costumes of Haryana for the University Museum.




**Depiction of I.C. College of Home Sciences in Dr. Mangal Sein Museum**




**Exhibition Hall, I.C. College of Home Sciences**

### 6.5.6. Research Facilities

**6.5.6.1. Postgraduate laboratories and Equipment's:** *Clearly mention the department wise PG laboratories and equipment housed in individual laboratory in the Colleges along with any other research unit.*

| S. No. | P.G. Labs/ Other Research Labs/ Units | Major Equipments/ Facilities |
|---|---|---|
| **Extension Education and Communication Management** | | |
| 1. | Multimedia Lab and Recording Room (Lab No. 71) | Computer, Smart podium, Projector, LCD/LED Screen, Video cameras, Still cameras, Editing software, TV/Monitor, VCR, OHP, Slide projector, PA system, AC, DVD player, Microphones, audiovisual cabinet, UPS, CCTV camera and AC |
| 2. | Video Studio with Control Room and Waiting Room (Lab No. 65) | Cameras with accessories, Switcher/Audio Video Mixer with accessories, Digital Video Cassette Recorder, Monitor– PGM/PVW, Non-Linear editing setup apple mac pro with final cut studio, Teleprompter (News reader), Power Amplifier, Studio Table for Panel discussions, Light Console 24 Channel, Cool Light, Computers with accessories, , Studio Chairs , CCTV camera, AC |
| 3. | Print Media Lab (Lab No. 63) | 6 Tables, 35 Chairs, 10 Computers, Printer with Scanner, projector, LCD/LED Screen, Media storage cabinet, Storage cabinet, UPS, 2 AC |
| 4. | Experiential Learning Lab (Lab No. 61) | Smart podium, 5 Computers, 2 Big Tables, 25 Chairs, Digital plotter, A3 Printer, Laminator, Storage cabinet, LCD/LED projector, UPS 1.5 KV AC |
| 5. | PG Lab. Cum Seminar Room (Lab No. 49) | OPS Interactive Panel, Two Big Tables, 30 Chairs, AC (1) |
| 6. | Activity lab. cum Resource Room (Lab No. 59 B) | 20 Chairs, 4 Tables, 4 Storage cabinet, Computer with work station |

| | | |
|---|---|---|
| 7. | Research Lab (Lab No. 56) | Computer with workstation-02, Printer-02, Storage cabinets-05 |
| 8. | Training Lab (Lab No. 70) | 15 Chairs, 10 Drawing Tables, 4 Storage Cabinets, Computer with Work Station |
| **Foods and Nutrition** | | |
| 1. | Centre of Excellence (Lab No. 6) | Extruder with attachment for puff, Destoner cum grader, Double deck oven, Spiral mixer, UV spectrophotometer, Weighing machine, Sealing machine, Vacuum packaging machine, Parboiling unit, Tray drier, Hammer mill, Pearling machine, Puff gun, Semolina Making Machine, Cereal flake production line |
| 2. | PG Lab (Lab No. 18) | Orbital shaker, Spectrophotometer, Hot air oven, Automatic Protein Analyser, Fibre plus, Automatic Fat Analyser, Weighing Balance, Water bath, Moisture Analyser, Muffle Furnace, Centrifuge, Water distillation unit, Refrigerator, Temperature humidity meter, Magnetic stirrer, Food texture analyzer, Spinix Vortex Shaker |
| 3. | Bakery lab (Lab No. 4 & 5) | Pasta making machine, Dough sheeter, Single deck electric baking oven, Display case, Spiral mixer machine, Planetary mixer, Proofing cabinet, Electric oven double deck, Weighing balance, Water purifier, Deep freezer, Microwave oven, Cookie dropping machine, Biscuit cutting machine |
| 4. | Food Processing Lab (Lab No. 3) | Deep freezer with digital temp Controller, Automatic Protein Analyser, Fibra plus, Automatic Fat Analyser, Spectrophotometer, Rotary shaker, *Chakki* grinding mill, Vacuum oven, Hot air oven, Centrifuge, Lyophilizer, Cooling centrifuge, Deep freezer |
| 5. | AICRP Lab ( Lab No. 25) | Hot Air Oven, Refrigerator, Deep Freezer, Cooling Incubator, BOD Incubator, Centrifuge, Orbital Shaker, Socs Plus, Environmental Shaker, Kel Plus, Water Bath Shaker, Vacuum Oven, Fibra plus, Cyclotec Mill, Digital balance, water purifier |
| 6. | Cooking Lab-1 ( Lab No. 1) | Refrigerator, Food ingredient weighing scale, Gas stoves, Mixer Grinder, Air fryer, Water Dispenser |
| 7. | Cooking Lab-1I ( Lab No. 2) | Refrigerator, Food ingredient weighing scale, Gas stoves, Oven Toaster Griller (OTG), water purifier, Mixer grinder, Microwave, Roti maker, Induction stove, Water Dispenser |
| 8. | Food Analysis Lab (Lab No. 38A) | Fume hood, Hunter colour Lab, Vacuum dehydrator, Ultrasonic bath, Spectrophotometer, Deep freezer cum refrigerator, All quartz water distillation, NIR UV-Vis Spectrophotometer, Bio Safety Cabinet, Water bath with shaker, Automatic Nitrogen Analyser |
| 9. | Community Nutrition Lab/Diet Counselling Centre (Lab No. 38B ) | Body composition analyzer, Weighing scale, Heightometer, LCD/LED projector, Computers/Printers along with computer work stations and internet facility. Diet Cal software installed for student use. |
| 10. | Small Animal Research Lab (Lab No. 14 ) | Air curtains, Animal cages, aquarium, Refrigerator, Mixer grinder, Autoclave, Blood analyzer, RO water purifier, Hemo Cue-HB 301, Microwave, AC, Computer with printer, Teacher's Table & chair. |
| 11. | PG Classroom (Room No. 11) | LCD/LED Projector, Chairs (20), AC |
| 12. | Seminar Room (Room No. 20) | Computer, LCD/LED Projector, Chairs (25), AC (2) |
| **Family Resource Management** | | |
| 1. | Research Lab (Lab No. 74) | B.P. Apparatus, Anthropometric sliding caliper and Spreading calliper, Environmental kit, Polar heart rate monitor, Heart Rate monitor with interface, Electronic tread mill, Digital camera, Peak flow meter, Stethoscopes, Sapling transplanter, Digital wood/timber moisture meter, Digital grip dynamometer, Half minute calibrated electronic metronome, |

| | | |
|---|---|---|
| | | Oximeter, Pulse oximeter, Hanging weighing scale, Female dummy, Push and Pull dynamometers torsimeter, Spirometer, Proto type work station, Stop watch (swiss), Lux meter digital |
| 2. | Computer Lab (Lab No. 84) | Ten Computers along with stablizer |
| 3. | Consumer & Appropriate Technology Lab (Lab No. 44) | Vacuum cleaner, Microwave, Drudgery reducing small appliances, Oven |
| 4. | Furnishing Lab (Lab No. 46) | Living room, Dining room & Bed room furniture and furnishings |
| 5. | Design Studio Lab (Lab No. 41) | Multi Media with computer and sound system |
| 6. | Seminar Room (Room No. 91) | Multi Media with computer and sound system |
| 7. | Domestic Farm Unit | Poly house, Agricultural tools and implements |
| **Human Development and Family Studies** | | |
| 1. | AICRP Lab | Computer, Printer, Scanner |
| 2. | PG Lab | Psychological Tests and Intervention Programmes |
| 3. | Pre-School Lab:<br>Activity Room 1 (Room No. 129)<br>Activity Room 2 (Room No. 128)<br>Activity Room 3 (Room No. 124) | LED TV with music System, Air conditioner, Refrigerator, Modular kitchen with electric chimney, Cooking range, Microwave, Equipments for Physical-socio-emotional developments, Musical instruments, Gym equipments, Outdoor equipments |
| 4. | Seminar Room (Room No.108) | Multi-media with Computer and Sound System, AC (2) |
| **Textile and Apparel Designing** | | |
| 1. | Experiential Learning Lab (Lab No. 24) | Single Head Embroidery Machine (10 needles) -02, Computerized Single Head One Needle Embroidery Machine -06, Computerized Sewing Machine with Accessories-08, Industrial Sewing Machine (4), Multilayer Cutter-01, Round Knife-01, Five Thread Over Lock Machine-01, Fusing Machine-01, Pattern Layout and Cutting Machine-01, Cutting Table Big-02, Lab Stools-20, Digital Camera-01, Computer-06, Colour Design Jet- 01 |
| 2. | Dyeing and Printing Lab (Lab No. 14) | Flat Bed Fusing Machine-01, Computerized Colour Matching System 01, Infra-Red Heater-01, Steaming Chamber-01, Padding Mangle-02, Colour Matching Cabinet-01, Water Bath-02, pH meter, Electronic Balance, Hot Air Oven, Lab Shaking Machine-01, Nozzle Printing Unit, Printing Tables- 03 |
| 3. | Textile Testing Lab (Lab No. 26) | Refrigerator-01, Microwave-01, Tensile Strength Tester-02, Thickness Gauge-01, Perspirometer-01, Crockometer-01, Water Bath-01, Drape Meter-01, pH Meter, Stiffness Tester-01, Double Distillation Unit-01, Rotavapour-01, Precision Balance-01, Heating Mantle-01, Microscope-02, GSM Cutter-02, Quadrant Balance-01, Crease Recovery-01, Yarn Evenness Tester-01, Wrap Reel-01, Bending Length-02, Digital Weighing Balance-01, Pilling Strength Tester-01, Xenon Light Fastness Tester-01, Air Permeability Tester-01, Bursting Strength Tester-01, COD Digestion Unit-01, Hot Plate-01, Projection Microscope, Spectrophotometer-01, Flammability Tester-01, Open Bath Beaker Dyeing Machine-01, Grinder-01, Gas with Cylinder, Computer with UPS, AC (3) |

| | | |
|---|---|---|
| 4. | Textile Science Lab (Lab No. 16) | Laundrometer-01, Stain Removal Machine-01, Washing Machine-02 (Semi-Automatic-01 and Fully Automatic-01), Microscopes-05, pH Meter, Weighing Balance-01, Ironing board, Sleeve Ironing Board-05, Steam Iron-02, Multi parameters Pocket Tester, Commercial Mixer Grinder-01, Geyser-01, Washer with Dryer-01, Electronic Weighing Scale, µ-Controller Based Photoelectric Calorimeter, Double Distillation Water Unit-01, Digital Magnetic Hot Plate-01, Refrigerator-01, Waterbath-01, Hot Air Oven-01 |
| 5. | Apparel Construction Lab-I (Lab No. 23) | Industrial Sewing Machines- 16 (Industrial Sewing Machines-11, Foot Operated Sewing Machines-05), Chain Stitching Machine two Needle-01, Hosiery Sewing Machine Twin Needle-01, Picoting Machine-01, Feed Split Needle Bar Machine, Elastic Stitching Machine-01, Sequins Embroidery Machine-01, Lace Braiding Machine-01, Blind Hemming Machine-01, Cutting Tables Big-02, Cutting Tables-07, Ironing board-02, Steam Iron- 02, Dress forms- 13, Students Chair-20, Embroidery Machine-03, Single Needle Straight Stitch Machine-02, Multipurpose Automatic Zig-Zag Machine-02 |
| 6. | Apparel Construction Lab -II (Lab No. 21) | Foot Operated Sewing Machines-30, Cutting Tables- 02, Demonstration Table- 01, Ironing Board- 02, Steam Iron- 02 |
| 7. | Apparel Construction Lab-III (Lab No. 29) | Motorized Sewing Machines- 07, Foot Sewing Machines- 26, Big Cutting Tables- 03, Demonstration Table- 01, Ironing Board- 02, Steam Iron- 02, Picoting machine-01 |
| 8. | CAD Lab (Lab No. 27) | Computers with Work Stations (30), Interactive Panel (1), Plotters (3), Digitizer (1), Scanner (1), Rich peace Software (ten user key), Tuka CAD software (ten user key), White board (1) Storage cabinet (2), AC (5), Online UPS System, Internet Facility and CAD Softwares, CCTV Cameras-06, LCD/LED Unit-01, Fire Alarm System |
| 9. | Weaving & Hosiery Lab (Lab No. 18) | Table looms- 05, Jacquard loom-01, Different type of handlooms- 05, Warping unit-01, Flat Bed Knitting Machines -11, Hand Circular Knitting Machine -01 |
| 10. | Seminar Room (Room No. 32) | LCD/LED projector-02, Computer- 01, Online UPS- 01, Conference Table with Chairs-30, TV-01, CD player-01, AC (3) |
| 11. | PG Resource Room (Room No. 10) | Reading Table with chairs, Storage cabinets, Racks, Computer-02 |

**6.5.6.2. Research Contingency:** *A note on amount of research contingency for each department shall be provided. Whether it meets the students' demand?*

Every department in the College receives funds for conducting PG, Ph.D. and faculty research. This amount is utilized towards purchase of materials and equipments for conducting field studies, laboratory studies and data collection etc.

| Department | Research Contingency (Rs.) | | | | | |
|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Grand Total |
| **Dean's Office** | 21,38,270 | 21,60,700 | 33,52,180 | 31,20,000 | 93,96,910 | **2,01,68,060** |
| **EECM** | 62,02,050 | 20,70,670 | 10,91,640 | 1,50,800 | 3,85,100 | **99,00,260** |
| **FN** | 4,23,396 | 7,01,941 | 4,79,016 | 46,19,992 | 24,25,602 | **86,49,947** |
| **FRM** | 1,45,350 | 1,31,400 | 1,31,400 | 1,13,000 | 1,30,200 | **6,51,350** |
| **HDFS** | 6,00,300 | 5,53,320 | 3,95,820 | 7,61,420 | 5,92,100 | **29,02,960** |
| **TAD** | 5,27,000 | 15,08,660 | 3,50,009 | 3,90,000 | 5,22,000 | **32,97,669** |

Yes, research contingency is sufficient to meet the students' demand.

### 6.5.7. Outcome/Output

**6.5.7.1. Students Performance in National Examination:** *Provide detailed information in tabular form about student Performance in JRF/SRF/NET/ARS and other National Examinations for last five years. Only those students receiving fellowships should be mentioned here.*

An upward and positive trend is noticed in students' performance in national examinations. The initiative of the College in providing special classes for JRF aspirants and constant motivation and mentoring by the faculty, advisors, senior students to achieve success in different competitive examinations. During the period under report, 31 students qualified JRF, 10 students qualified SRF and 87 students qualified NET, four students qualified NTS and five awarded National Fellowship for SC Students. Year-wise detailed description is given in the table below:

**Year wise list of students qualifying various examinations**

| Year | Name of Examination | | | | |
|---|---|---|---|---|---|
| | JRF | SRF | NET | NTS | NF- SC/ NF-OBC |
| 2018-19 | 06 | 03 | 19 | 02 | -- |
| 2019-20 | 03 | 01 | 11 | -- | 02 |
| 2020-21 | 03 | 04 | 12 | -- | 01 |
| 2021-22 | 10 | 02 | 27 | 01 | 01 |
| 2022-23 | 09 | -- | 18 | 01 | 01 |
| **Total** | **31** | **10** | **87** | **04** | **05** |

**Details of students qualifying various examinations**

| Year | Name of Students | Admission No. | Examination passed |
|---|---|---|---|
| 2018-19 | Ms. Naaz Bano | 2017HS01M | UGC NET |
| | Ms. Raveena | 2019HS03M | UGC NET |
| | Ms. Anju Kapri | 2017HS01D | UGC NET |
| | Ms. Naaz Bano | 2019HS04D | UGC JRF |
| | Ms. Seema | 2017HS12M | UGC JRF |
| | Ms. Lavanya A | 2018HS08D | UGC JRF |
| | Ms. Tanvi Bansal | 2018HS10D | UGC NET |
| | Ms. Manisha | 2018HS09D | UGC NET |
| | Ms. Seema | 2017HS12M | UGC JRF |
| | Ms. Seema | 2017HS12M | UGC NET |
| | Ms. Lavanya A | 2018HS08D | UGC JRF |
| | Ms. Lavanya A | 2018HS08D | UGC NET |
| | Ms. Reema | 2017HS10M | ICAR SRF |
| | Ms. Reema | 2017HS10M | UGC NET |
| | Ms. Anjali Gairola | 2016HS23M | UGC SRF |
| | Ms. Ekta Kapri | 2017HS09D | UGC SRF |
| | Ms. Garima | 2015HS10D | UGC NET |
| | Ms. Anjali Gairola | 2016HS23 M | UGC NET |
| | Ms. Ekta Melkani | 2017HS35M | UGC NET |
| | Ms. Ekta Melkani | 2017HS35M | UGC JRF |

| | | | |
|---|---|---|---|
| | Ms. Shourya Negi | 2017HS17M | NTS |
| | Ms. Beulah Ravirakula | 2017HS18M | NTS |
| | Ms. Reena | 2015HS8D | ASRB NET |
| | Ms. Pavitra | 2018HS11D | UGC NET |
| | Ms. Sarita Devi | 2015HS11D | UGC NET |
| | Ms. Suman Sodhi | 2015HS13D | UGC NET |
| | Ms. Vandana Bhandari | 2017HD14D | UGC NET |
| | Ms. Neenu Poonia | 2018HS14D | UGC NET |
| | Ms. Pratishtha Verma | 2019HS21D | UGC NET |
| | Ms. Shalini Rukhaya | 2018HS29M | UGC NET |
| 2019-20 | Ms. Jyoti Rani | 2019HS04D | UGC NET |
| | Ms. Jyoti Rani | 2019HS04D | UGC NET |
| | Ms. Madhu Priya | 2020HS03D | UGC NET |
| | Ms. Sanyogita | 2019HS05D | UGC NFSC |
| | Ms. Shikha | 2019HS06D | UGC NFSC |
| | Ms. Sanyogita | 2019HS05D | UGC NET |
| | Ms. Shikha | 2019HS06D | UGC NET |
| | Ms. Seema | 2019HS15D | UGC JRF |
| | Ms. Seema | 2019HS15D | UGC NET |
| | Ms. Manisha | 2018HS09D | UGC NET |
| | Ms. Sonia | 2018HS15D | UGC NET |
| | Ms. Varsha | 2018HS18M | UGC NET |
| | Ms. Ayesha Be | 2019HS10M | ICAR JRF |
| | Ms. Ekta Melkani | 2019HS07D | UGC SRF |
| | Ms. Renu Joshi | 2019HS20D | UGC JRF |
| | Ms. Annu | 2019HS16D | UGC NET |
| | Ms. Pratishtha Verma | 2019HS21D | UGC NET |
| 2020-21 | Ms. Priyamka Kardam | 2020HS07M | UGC NET |
| | Ms. Sangeeta | 2019HS06M | UGC NET |
| | Ms. Anju | 2019HS01D | UGC NET |
| | Ms. Madhu Priya | 2020HS03D | UGC NET |
| | Ms. Vartika | 2021HS06D | ICAR SRF |
| | Ms. Ekta | 2020HS01D | Topped in ICAR AICE SRF Ph.D., HSEE |
| | Ms. Chanchal Payal | 2021HS02D | Secured fourth rank in ICAR AICE SRF Ph.D., HSEE |
| | Ms. Sheetal | 2020HS16D | UGC JRF |
| | Ms. Sheetal | 2020HS16D | UGC NET |
| | Ms. Sonia | 2020HS17D | UGC NET |
| | Ms. Divyashree Mohapatra | 2020HS07D | UGC SRF |

| | | | |
|---|---|---|---|
| | Ms. Ayesha Be | 2019HS10M | UGC NET |
| | Ms. Ekta Rohilla | 2018HS03D | UGC NET |
| | Ms. Adiel Chiba N. Sangma | 2017HS06M | UGC NET |
| | Ms. Mehak Walia | 2020HS25M | ICAR JRF |
| | Ms. Namrata Mamgai | 2020HS26M | ICAR JRF |
| | Ms. Vandana | 2020HS22D | UGC NET |
| | Ms. Sushila | 2018HS16D | UGC NET |
| | Ms. Pratishtha Verma | 2019HS21D | UGC NFOBC |
| | Ms. Diksha Bisht | 2020HS23D | UGC NET |
| 2021-22 | Ms. Kapila | 2020HS01M | UGC NET |
| | Ms. Mansi | 2020HS02M | UGC NET |
| | Ms. Sakshi | 2021HS11M | UGC NET |
| | Ms. Meenu | 2021HS08M | UGC JRF |
| | Ms. Meenu | 2021HS08M | UGC NET |
| | Ms. Ritu | 2021HS09M | UGC JRF |
| | Ms. Ritu | 2021HS09M | UGC NET |
| | Ms. Jagriti Bhandari | 2021HS03M | ICAR JRF |
| | Ms. Ekta | 2022HS30M | ICAR JRF |
| | Ms. Neha Yadav | 2022HS31M | ICAR JRF |
| | Ms. Preeti | 2017HS01D | UGC NET |
| | Ms. Santosh | 2021HS04D | NFSC |
| | Mr. Yashwanth B.S. | 2019HS22M | UGC JRF |
| | Ms. Yashwanth B.S. | 2019HS22M | UGC NET |
| | Ms. Karnika | 2019HS19M | UGC JRF |
| | Ms. Karnika | 2019HS19M | UGC NET |
| | Ms. Jyoti Verma | 2019HS18M | UGC NET |
| | Ms. Shalini | 2019HS20M | UGC NET |
| | Ms. Jyoti | 2018HS07D | UGC NET |
| | Ms. Manisha | 2018HS09D | UGC NET |
| | Ms. Neha | 2019HS12D | UGC NET |
| | Ms. Rajini | 2019HS13D | UGC NET |
| | Ms. Majji Chaya Priya | 2021HS13M | ICAR NTS |
| | Ms. Neelesh Kohli | 2021HS08D | UGC SRF |
| | Ms. Ayesha Be | 2019HS10M | NET JRF |
| | Ms. Jyoti | 2020HS24M | UGC NET |
| | Ms. Namrataa Mamgai | 2020HS26M | UGC NET |
| | Ms. Reema Sharma | 2020HS28M | UGC NET |
| | Ms. Bharti | 2021HS29M | UGC JRF |
| | Ms. Diksha | 2019HS17D | UGC NET |

| | | | |
|---|---|---|---|
| | Ms. Kritika | 2020HS18D | UGC NET |
| | Ms. Shtakshi Singh | 2020HS20D | UGC NET |
| | Ms. Shtakshi Singh | 2020HS20D | UGC JRF |
| | Ms. Sunita | 2021HS18D | UGC NET |
| | Ms. NeelamKumari | 2021HS16D | UGC SRF |
| | Ms. Pratishtha Verma | 2019HS21D | UGC NET |
| | Ms. Diksha Bisht | 2020HS23D | UGC NET |
| | Ms. Shalini Rukhaya | 2020HS25D | UGC NET |
| | Ms. Madhusmita Tarai | 2021HS19D | UGC NET |
| | Ms. Bindu Kumari | 2019HS33M | UGC NET |
| | Ms. Vemagiri Divya Krupa | 2020HS38M | UGC NET |
| 2022-23 | Ms. Nancy | 2022HS18M | UGC JRF |
| | Ms. Bhawana | 2021HS18M | UGC JRF |
| | Ms. Yachna | 2021HS26M | UGC JRF |
| | Ms. Mansi | 2021HS21M | UGC NET |
| | Ms. Simran Gupta | 2021HS25M | UGC NET |
| | Ms. Neetu Yadav | 2021HS23M | UGC NET |
| | Ms. Nishtha | 2021HS24M | UGC NET |
| | Ms. Santosh Rohilla | 2019HS09D | UGC NET |
| | Ms. Rupal Hooda | 2018HS05D | UGC NET |
| | Ms. Gargi Godara | 2020HS10M | UGC JRF |
| | Ms. Gargi Godara | 2020HS10M | UGC NET |
| | Ms. Anshu Devi | 2021HS27M | UGC NET |
| | Ms. Arju Saini | 2021HS28M | UGC NET |
| | Ms. Bharti | 2021HS29M | UGC JRF |
| | Ms. Bharti | 2021HS29M | UGC NET |
| | Ms. Bharti | 2021HS29M | UGC JRF |
| | Ms. Sangeeta | 2021HS30M | UGC NET |
| | Ms. Deeksha | 2022HS29M | NTS |
| | Ms. Samanta | 2021HS17D | UGC-NET |
| | Ms. Jyoti | 2021HS14D | UGE JRF |
| | Ms. Jyoti | 2021HS14D | UGE NET |
| | Ms. Priyanka | 2022HS12D | UGE JRF |
| | Ms. Priyanka | 2022HS12D | UGE NET |
| | Ms. Sunita | 2021HS18D | UGC-NET |
| | Ms. Simran | 2020HS21D | UGC-NET |
| | Ms. Diksha Bisht | 2020HS23D | UGC JRF |
| | Ms. Harmandeep Kaur Toor | 2021HS32M | UGC NET |
| | Ms. Namrata Khushwah | 2021HS35M | UGC NET |

**6.5.7.2 Students Placement Profile:** *Provide detailed information in tabular form about student performance in ARS/and other national examinations/State level examinations or equivalent. Year wise placement profile shall be provided.*

The increasing number of students clearing various competitive exams led to increase in employability prospects of the students. During the period under report 87 students got placement in SAUs, Colleges, Schools etc. With efforts of the College in organizing coaching classes for preparation of JRF, CV, Resumes, interviews the number of placement has increased positively.

| Sr .No. | Name | Position | Year |
|---|---|---|---|
| **1.** | Ms. Mamta Rani | Assistant Professor, Govt. of Haryana | 2018-19 |
| **2.** | Ms. Sikandra Devi | Assistant Professor, Govt. of Haryana | 2018-19 |
| **3.** | Ms. Anita Gautam | Subject Matter Specialist, RPCAU, Samastipur, Bihar | 2018-19 |
| **4.** | Ms. Shallu | Lecturer, Govt. of Delhi | 2018-19 |
| **5.** | Ms. Karamjeet Kaur | Department of Education, Panchkula, Haryana | 2018-19 |
| **6.** | Ms. Aprana Rai | Assistant Professor, IIM, Udaipur, Rajasthan | 2018-19 |
| **7.** | Ms. Aprajita Kumari | Assistant Professor, LNMU, Bhagalpur, Bihar | 2018-19 |
| **8.** | Ms. Parul Gill | Assistant Professor, CCSHAU, Hisar, Haryana | 2018-19 |
| **9.** | Ms. Promila Dahiya | Assistant Professor , CCSHAU, Hisar, Haryana | 2018-19 |
| **10.** | Ms. Pushpa Saini | Assistant Professor, Rajgarh, Rajasthan | 2018-19 |
| **11.** | Ms. Vatsala | Assistant Professor, SGT University, Gurgaon, Haryana | 2018-19 |
| **12.** | Ms. Shamli Rana | Assistant Professor, SKRAU, Bikaner, Rajasthan | 2018-19 |
| **13.** | Ms. Saurabh Arya | Guest faculty, Govt. College, Patiala, Punjab | 2018-19 |
| **14.** | Ms. Neha Gehlot | Subject Matter Specialist, Jodhpur University, Jodhpur | 2018-19 |
| **15.** | Ms. Savita Kumari | Subject Matter Specialist, KVK, Leh, | 2018-19 |
| **16.** | Ms. Varsha Kumari | Subject Matter Specialist, DRPCAU, Pusa | 2018-19 |
| **17.** | Ms. Kiran Sapra | Self Employed, Delhi | 2018-19 |
| **18.** | Ms. Renu Bala | Senior Research Fellow, CCSHAU, Hisar, Haryana | 2018-19 |
| **19.** | Ms. Sarita Verma | Senior Research Fellow, CCSHAU, Hisar, Haryana | 2018-19 |
| **20.** | Ms. Poonam Rani | Junior Research Fellow, CCSHAU, Hisar, Haryana | 2018-19 |
| **21.** | Ms. Kanika | Montessori School Teacher, Australia | 2018-19 |
| **22.** | Ms. Nikita | School Teacher, Govt. of Delhi | 2018-19 |
| **23.** | Ms. Taniya | Counsellor, Civil Hospital, Hisar, Haryana | 2018-19 |
| **24.** | Ms. Sangeeta Sidhola | Assistant Professor, Govt. Degree College, Thtyur, Tehri, Uttrakhand | 2019-20 |
| **25.** | Ms. Mumtaz Begum | Post Graduate Teacher, Delhi | 2019-20 |
| **26.** | Ms. Priyanka Rani | Post Graduate Teacher, Delhi | 2019-20 |
| **27.** | Ms. Vinita Sehrawat | Post Graduate Teacher, Delhi | 2019-20 |
| **28.** | Ms. Rajni | Post Graduate Teacher, Govt. of Haryana | 2019-20 |
| **29.** | Ms. Anita | Assistant Professor, SHUATS, Prayagraj, UP | 2019-20 |
| **30.** | Ms. Bharti Sharma | Assistant Professor, MM College, Fatehabad | 2019-20 |
| **31.** | Ms. Kiran Sain | Assistant Professor, FGM College, Adampur, Hisar, Haryana | 2019-20 |
| **32.** | Ms. Mona Verma | Assistant Professor, CCSHAU, Hisar, Haryana | 2019-20 |
| **33.** | Ms. Uma Soni | Assistant Professor, NIMS University, Jaipur, Rajasthan | 2019-20 |
| **34.** | Ms. Shourya Negi | Assistant Professor, MSU, Vadodra | 2019-20 |
| **35.** | Ms. Ritu | Assistant Professor ,Desh Bhagat University, Punjab | 2019-20 |
| **36.** | Ms. Raman Jodha | Subject Matter Specialist, Churu, Rajasthan | 2019-20 |

| | | | |
|---|---|---|---|
| **37.** | Ms. Neelam Saini | Instructor, CCSHAU, Hisar, Haryana | 2019-20 |
| **38.** | Ms. Reena | Senior Research Fellow CCSHAU, Hisar, Haryana | 2019-20 |
| **39.** | Ms. Neeta Kumari | Senior Research Fellow, CCSHAU, Hisar, Haryana | 2019-20 |
| **40.** | Ms. Komal | Senior Research Fellow, CCSHAU, Hisar, Haryana | 2019-20 |
| **41.** | Ms. Poonam Rathi | Senior Research Fellow, CCSHAU, Hisar, Haryana | 2019-20 |
| **42.** | Ms. Phool Kumari | Junior Research Fellow, CCSHAU | 2019-20 |
| **43.** | Ms. Neha Chauhan | Pre- Sales Associate Edu. Technology, Benguluru | 2019-20 |
| **44.** | Ms. Samta Khatkar | Nutritionist, Bharat Multispeciality Hospital, Hisar, Haryana | 2019-20 |
| **45.** | Ms. Anita Singh | Assistant Professor, UP | 2020-21 |
| **46.** | Ms. Naina Sharma | Assistant Professor, UP | 2020-21 |
| **47.** | Ms. Anshu | Assistant Professor, Om Sterling University, Hisar, Haryana | 2020-21 |
| **48.** | Ms. Kumari Medha | Assistant Professor, C.T. University, Ludhiana | 2020-21 |
| **49.** | Ms. Meera Rani | Assistant Professor, KU, Kurukshetra, Haryana | 2020-21 |
| **50.** | Ms. Summit Sheoran | Assistant Professor, GNG College, Yamuna Nagar | 2020-21 |
| **51.** | Ms. Sapna Dhami | MCSTM, Pithoragarh, Uttrakhand | 2020-21 |
| **52.** | Ms. Priyanka Beniwal | BMU, Rohtak, Haryana | 2020-21 |
| **53.** | Ms. Reena | Clinical Dietician, CMC Hospital, Hisar, Haryana | 2020-21 |
| **54.** | Ms. Jyoti | Assistant Professor, Bhatinda, Punjab | 2021-22 |
| **55.** | Ms. Preeti | Assistant Professor, Om Sterling University, Hisar, Haryana | 2021-22 |
| **56.** | Ms. Vandana Bhandari | Assistant Professor, HNB Gharwal University, Uttrakhand | 2021-22 |
| **57.** | Ms. Sushila | Assistant Professor, Subharthi University, Meerut, UP | 2021-22 |
| **58.** | Ms. Ashma | District Extension Specialist, CCSHAU, Hisar, Haryana | 2021-22 |
| **59.** | Ms. Kanchan Sheela | Subject Matter Specialist, KVK, RUVAS, Bikaner | 2021-22 |
| **60.** | Ms. Manisha Ohlan | Consultant, MANAGE , Hyderabad | 2021-22 |
| **61.** | Ms. Seema | Post Graduate Teacher, Delhi | 2021-22 |
| **62.** | Ms. Manisha Sindhu | Post Graduate Teacher, Delhi | 2021-22 |
| **63.** | Ms. Meenu Sirohi | Assistant Professor, Bijnor, Uttar Pardesh | 2022-23 |
| **64.** | Ms. Naaz Bano | Assstant Professor, MMU, Ambala, Haryana | 2022-23 |
| **65.** | Ms. NeenuPoonia | Assistant Professor, Hanumangarh, Rajasthan | 2022-23 |
| **66.** | Ms. Neeta | Guest Faculty, F.C. College for Women, Hisar | 2022-23 |
| **67.** | Ms. Neeta Kumari | Asstt. Prof., Chandigarh Group of Colleges, Mohali | 2022-23 |
| **68.** | Ms. Pragati Godara | Assistant Professor, Chandigarh University, Chandigarh | 2022-23 |
| **69.** | Ms. Sangita Tomar | Assistant Professor, GGGI, Ambala, Haryana | 2022-23 |
| **70.** | Ms. Sarita Devi | Assistant Professor, FDDI, Rohtak, Haryana | 2022-23 |
| **71.** | Ms. Sarita Verma | Assistant Professor, MJP Rohilkhand University, Bareilly | 2022-23 |
| **72.** | Ms. Saroj Devi | DES,CCSHAU, Hisar, Haryana | 2022-23 |
| **73.** | Ms. Suman Sodhi | Assistant Scientist, CCSHAU, Hisar, Haryana | 2022-23 |
| **74.** | Ms. Sunita | Assistant Professor, Government College, Taranagar, Churu, Rajasthan | 2022-23 |
| **75.** | Ms. Uma Soni | Assistant Professor, University of Delhi | 2022-23 |
| **76.** | Ms. Zeba Jamal | Assistant Professor, ANDUA&T, Faizabad, Uttar Pardesh | 2022-23 |
| **77.** | Ms. Pinki | Assistant Professor, Adarsh Mahila Mahavidyalaya, Bhiwani, Haryana | 2022-23 |
| **78.** | Ms. Annu | Assistant Professor, Adarsh Mahila Mahavidyalaya, Bhiwani, Haryana | 2022-23 |
| **79.** | Ms. Kshiptimayee Patra | Junior Lecturer, Sushilabati Government Junior Women's College, Rourkela, Odisha | 2022-23 |

| | | | |
|---|---|---|---|
| **80.** | Ms. Ekta Kapri | Research Associate, IRMA, Gujrat | 2022-23 |
| **81.** | Ms. Madhu Priya | Guest Faculty, RPCAU, Bihar | 2022-23 |
| **82.** | Ms. Ekta Rohilla | Young Professional, CCSHAU, Hisar, Haryana | 2022-23 |
| **83.** | Ms. Santosh Rohilla | Young Professional, CCSHAU, Hisar, Haryana | 2022-23 |
| **84.** | Ms. Vijay Chahal | Assistant Coach, SAI, New Delhi | 2022-23 |
| **85.** | Ms. Deeksha Sain | Dietician, Sodexo India Services, Pvt. Ltd, Gujarat. | 2022-23 |
| **86.** | Ms. Samta | Consultant-Diabetes Educator, Health Care at Home India Pvt Ltd., Mumbai, Maharashtra | 2022-23 |
| **87.** | Ms. Deepika Ahlawat | Sports Nutritionist, NIS Patiala, Punjab | 2022-23 |

**6.5.7.3. Awards/Recognitions/Certificates:** *Provide information on awards/recognitions/certificates in tabular form for last five years separately for students and faculty.*

Academic honours and recognition are an important part of academic career and are pivotal in a student's life. Appreciating and rewarding is a great approach to recognize outstanding achievements, celebrate hard work and success. Recognizing the importance of awards the university has instituted awards for students and faculty both. The alumni faculty of the university have also instituted some awards. The details of various awards received by students of College are mentioned below:

**Awards/Recognitions/Certificates received by students**

**i. Gold Medals**

| Year | Name | Admission No. | Name of Award |
|---|---|---|---|
| **2017-18** | Ms. Shalini Rukhaya | 2012HS37BVI | HAU Merit Gold Medal |
| **2017-18** | Ms. Bhumika Dalal | 2014HS01BIV | HAU Merit Gold Medal |
| **2017-18** | Ms. Gayatri Chahal | 2014HS14BIV | International Women year 1975 Gold Medal |
| **2017-18** | Ms. Gayatri Chahal | 2014HS14BIV | A.L. Fletcher Gold Medal |
| **2017-18** | Ms. Shakshi Bisht | 2015HS01M | Dr. (Mrs.) Saroj Kashyap Gold Medal* |
| **2018-19** | Ms. Mamta | 2015HS22BIV | HAU Merit Gold Medal |
| **2018-19** | Ms. Surjita Kumari | 2013HS37BVI | HAU Merit Gold Medal |
| **2018-19** | Ms. Chanchal Payal | 2015HS8BIV | International Women Year 1975 Gold Medal |
| **2018-19** | Ms. Manisha Ohlan | 2016HS2M | Dr. (Mrs.)Saroj Kashyap Gold Medal* |
| **2018-19** | Ms. Manisha Ohlan | 2016HS2M | HAU Merit Gold Medal |
| **2018-19** | Ms. Rupika Chopra | 2014HS10D | HAU Merit Gold Medal |
| **2019-20** | Ms. Yashvee | 2016HS73BIV | HAU Merit Gold Medal |
| **2019-20** | Ms. Priyanka | 2014HS25BVI | HAU Merit Gold Medal |
| **2019-20** | Ms. Ekta Malkani | 2017HS35M | Dr. (Mrs.) Saroj Kashyap Gold Medal* |
| **2019-20** | Ms. Komal | 2015HS09D | Dr. (Mrs.) Savita Singhal Gold Medal* |
| **2019-20** | Ms. Komal | 2015HS09D | HAU Merit Gold Medal |
| **2019-20** | Ms. Shikha Bhukal | 2017HS3M | HAU Merit Gold Medal |
| **2020-21** | Ms. Meenu | 2015HS18BVI | HAU Merit Gold Medal |
| **2020-21** | Ms. Reeva Godara | 2015HS29BVI | International Women Year 1975 Gold Medal |
| **2020-21** | Ms. Shallu Rana | 2016HS5D | HAU Merit Gold Medal |
| **2020-21** | Ms. Shalini Rukhaya | 2018HS29M | HAU Merit Gold Medal |
| **2021-22** | Ms. Bhavna | 2017HS16BIV | HAU Merit Gold Medal |
| **2021-22** | Ms. Nancy | 2018HS39BIV | HAU Merit Gold Medal |
| **2021-22** | Ms. Sharmila | 2016HS34BVI | HAU Merit Gold Medal |

* Gold Medal instituted by alumni faculty







**Gold Medal Awardees**

**ii. Toppers in Degree Programmes:**

| Year | Name | Admission No. | Programme |
|---|---|---|---|
| **Undergraduate Progrmme** | | | |
| **2018-19** | Ms. Anjali | 2018HS04BIV | 1st year 4 year |
| **2018-19** | Ms. Sapna Garg | 2017HS64BIV | 2nd year 4 year |
| **2018-19** | Ms. Yashvee Rathi | 2016HS73BIV | 3rd year 4 year |
| **2018-19** | Ms. Mamta | 2015HS22BIV | 4th year 4 year |
| **2019-20** | Ms. Bhvya Sandhu | 2019HS09BIV | 1st year 4 year |
| **2019-20** | Ms. Anjali | 2018HS04BIV | 2nd year 4 year |
| **2019-20** | Ms. Bhavna | 2017HS16BIV | 3rd year 4 year |
| **2019-20** | Ms. Yashvee Rathi | 2016HS73BIV | 4th year 4 year |
| **2020-21** | Ms. Mamta Kumari | 2020HS36BIV | 1st year 4 year |
| **2020-21** | Ms. Bhavya Sandhu | 2019HS09BIV | 2nd year 4 year |
| **2020-21** | Ms. Nancy | 2018HS39BIV | 3rd year 4 year |
| **2020-21** | Ms. Bhavna | 2017HS16BIV | 4th year 4 year |
| **2021-22** | Ms. Medhavi | 2021HS29BIV | 1st year 4 year |
| **2021-22** | Ms. Mamta Kumari | 2020HS36BIV | 2nd year 4 year |
| **2021-22** | Ms. Bhavya Sandhu | 2019HS09BIV | 3rd year 4 year |
| **2021-22** | Ms. Nancy | 2018HS39BIV | 4th year 4 year |
| **M.Sc. Programme** | | | |
| **2018-19** | Ms. Manisha Ohlan | 2016HS2M | M.Sc.(H.Sc.) |
| **2019-20** | Ms. Shourya Negi | 2017HS17M | M.Sc.(H.Sc.) |
| **2020-21** | Ms. Shalini Rukhaya | 2018HS29M | M.Sc.(H.Sc.) |
| **2021-22** | Ms. Chanchal Payal | 2019HS1M | M.Sc.(H.Sc.) |
| | Ms. Vaishali Sindhu | 2019HS8M | M.Sc.(H.Sc.) |
| **Ph.D. Programme** | | | |
| **2018-19** | Ms. Rupika Chopra | 2014HS10D | Ph.D. (H.Sc.) |
| **2019-20** | Ms. Komal | 2015HS09D | Ph.D. (H.Sc.) |
| **2020-21** | Ms. Shalu Rana | 2016HS5D | Ph.D.(H.Sc.) |
| **2021-22** | Ms. Manisha Ohlan | 2018HS1D | Ph.D.(H.Sc.) |

### iii. Recognition/Certificates

1. Ms. Naaz Bano (2019HS04D) secured 1st rank in All India Entrance Exam for Agriculture ICAR – Senior Research Fellowship (SRF), 2019.
2. Ms. Naaz Bano (20197S01M) secured 1st rank in Ph.D. Entrance Exam of Chaudhary Charan Singh Haryana Agricultural University, Hisar, 2019.
3. Ms. Tanvi Bansal (2018HS10D) received Best Poster Award in the Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario organized by Chaudhary Charan Singh Haryana Agricultural University, Hisar, November 6-8, 2019.
4. Ms. Manisha Ohlan (2018HS01D) received Best Poster Award for the paper entitled Socio economic & communication profile for cash less system by the respondents in ISEE National Seminar -2019 on Socio Digital Approaches for transforming Indian agriculture at Chaudhary Charan Singh Haryana Agricultural University, Hisar, November 20-22, 2019.
5. Ms. Manisha Ohlan (2018HS01D) received best research scholar award in Ag and Env. Technology Development Society in International Conference on Global Perspectives in Agriculture and Applied Science for Food and Environmental Security, UGC HRDS Hall Kumaun University, Nanital, UK, India, December 1-2, 2019.
6. Ms. Neenu Poonia (2018HS14D) received best paper presentation award in International Conference on Recent Advances in Engineering, Science and Technology, organized by Godavari College of Engineering, Jalgaon, Maharashtra, July 16, 2021.
7. Ms. Madhu Priya (2020HS3D) received 2nd best oral presentation award in International Conference on New Trends in Science, Technology, Management and Humanities, organized by *Jagannath* University Bahadurgarh, Haryana (INDIA), March 29, 2022.
8. Ms. Arpita Grover (2020HS23D) received 3rd best paper presentation award in National Seminar on Entrepreneurship Development: Innovation for Income Generation, organized by D.A.V. College for Girls, Yamuna Nagar, September 7, 2022.
9. Ms. Shalini Rukhaya (2020HS25D) received 2nd best paper presentation award in National Seminar on Entrepreneurship Development: Innovation for Income Generation, organized by D.A.V. College for Girls, Yamuna Nagar, September 7, 2022.
10. Ms. Santosh **(**2021HS04D) awarded second best poster award during International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023.

### Achievements in Sports and Cultural Activities

| Year | Name of Students |
|---|---|
| **2018-19** | • Two cadets i.e. cadet Simran (HR/16/SWF/268789), and SUO Diksha (HAR/SW/2015/10029) awarded **ADG Appreciation Certificate** on July 17, 2018 at NCC Group Head Quarter, Rohtak.<br>• Three cadets of NCC (R&V) named Mamta Chahal, Kiran and Sheetal Sabharwal were **honoured by Rotary International (Hisar Chapter)** on September 5, 2018<br>• Achievements of Under Officer Reeva<br>✓ **Gold Medal, Inter Directorate Shooting Competition, 2018**<br>✓ **Bronze medal,** Inter Battalion Shooting Competition, CCSHAU, Hisar in 2019<br>✓ **Gold Medal**, Inter Group Shooting Championship, Ropar, Punjab in 2019<br>✓ **Bronze Medal**, All India Inter Directorate Sports Shooting Championship, Chandigarh in 2019<br>• Cadet **Simran,** promoted to the **rank** of **Senior Cadet Under Officer (SCUO) the highest rank** of a NCC Cadet in Air Wing |

| | |
|---|---|
| | • Cadet Annu Kumari and SUO Mamta Chahal attended the **Annual Republic Day Camp and Prime Minister's Rally, 2019**<br>• Cadet Sakshi Sharma attended **RDC/TSC/Shooting Base Camp (CATC-194) & Pre RDC 2020,** Bhiwani and won Gold Medal in solo song during camp competition in 2020<br>• SUO Mamta Chahal, 2017HS33BIVwon **three Gold and three Bronze medals** in various **Equestrian events of Republic Day Competitions** (RDC-2019) at Delhi<br>• SUO Mamta Chahal, 2017HS33BIV, First in Show Jumping Girls Veteran in 2020 at Inter Directorate Equestrian Competitions, Participated in Prime Minister's Rally<br>• Cadet Annu Kumari, 2016A9BIV, won **Bronze medal** in Hacks Novice Girls Competition. |
| **2019-20** | • Ms. Shivangi and Ms. Swaroopa got NSS award for the year 2019-20 by Directorate of students' Welfare and NSS Cell of CCSHAU, Hisar.<br>• Ms. Swaroopa got Camp leader award during NSS Annual Camp, 2020.<br>• Ms. Anjali, best NSS volunteer during NSS Annual Camp, 2020.<br>• Ms. Khushboo, got third prize in skit competition during National Integration Camp, 2019 organized by Bengluru Central University (BCU), Bengluru.<br>• Ms. Nancy got second prize in Declamation contest on human rights, organized during NSS Annual Camp (February 27 - March 4, 2020).<br>• Ms. Tamanna, got first prize, Ms. Ravita Rani, got second prize and Ms. Renu, got Consolation prize in innovative idea contest.<br>• Ms. Garima Singroha got 2nd prize and Ms. Annu Dhanda got 3rd prize in online Slogan Writing Competition.<br>• Ms. Barkha Jangra got 2nd prize and Ms. Shilpa Babal got 3rd prize in Short Video Contest<br>• Ms. Renu, got first prize in online singing competition. |
| **2021-22** | • Ms. Neha Rani and Ms. Muskan won 1st and 2nd position on World Aids Day, December 1, 2021.<br>• Ms. Riya and Ms. Tamanna won 1st and 2nd position in National Pollution Control Day, December 2, 2021.<br>• Ms. Medhavi and Ms. Meenakshi Sheokand won 1st and 2nd position in essay writing competition organized on the occasion of International Volunteers Day, December 5, 2021. |
| **2022-23** | • Ms. Sanju won gold Medal in 4x400 meters relay race and bronze medal in 4x100 meters relay race in All India Inter Agri. Athletics Meet, December 8, 2022. |






**Prize Winners of NCC and NSS**

## Awards/Recognitions/Certificates received by faculty

| Year | Awards/Recognitions/Certificates received by faculty |
|---|---|
| **2018-19** | • Dr. Promila K. Chahal received best paper presentation Award during International Conference on Renewable Environment and Agriculture, organized by SARC-ISER New Delhi, March 15-16, 2019. |
| **2019-20** | • Dr. Poonam Kundu received Best Poster Award in the Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario organized by Chaudhary Charan Singh Haryana Agricultural University, Hisar from November 6-8, 2019<br>• Dr. Vandana Verma was conferred Young Scientist Award by Indian Society of Extension Education during the National Seminar -2019 on Socio Digital Approaches for transforming Indian agriculture organized at Chaudhary Charan Singh Haryana Agricultural University, Hisar from November 20-22, 2019<br>• Dr. Ella Rani was conferred Young Scientist Award by Indian Society of Extension Education during the National Seminar -2019 on Socio Digital Approaches for transforming Indian agriculture organized at Chaudhary Charan Singh Haryana Agricultural University, Hisar from November 20-22, 2019<br>• Dr. Neealm M. Rose, Dr. Saroj Yadav and Dr. Mona Verma received Third Prize for poster presentation in 'National Incubators Colloquium' organized by Agribusiness Incubation Center, CCSHAU, Hisar on January 15-16, 2020.<br>• Dr. Nisha Arya received Academic Excellence Award 2020 by Institute of Scholars, Bengaluru, Karnataka. |
| **2021-22** | • Dr. Poonam Kundu received second Best Poster award during International Conference on Advancement of Science and Technology for Environment, Society and People organized by The Society of Technology, Environment, Science & People. Kozhikode, India from January 28 -29, 2022.<br>• Dr. Sangeeta C. Sindhu received Best Oral Presentation Award during International Conference on Advancement of Science and Technology for Environment, Society and People organized by The Society of Technology, Environment, Science & People, Kozhikode, India from January 28 -29, 2022.<br>• Dr. Veenu Sangwan received Best Oral Presentation Award during International Conference on Advancement of Science and Technology for Environment, Society and People Organized by The Society of Technology, Environment, Science & People, Kozhikode, India from January 28 -29, 2022.<br>• COHS stall was awarded Third Best Stall Award during University level *Kisan Mela* organized from March 15-16, 2022.<br>• Dr. Promila K. Chahal received Best Cover Article Award for paper entitled 'Assessment of women participation in Health problems in carrot production' in Agriculture letter. |
| **2022-23** | • Dr. Manju Dahiya received Best Oral Presentation Award during International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023.<br>• Dr. Neelam M. Rose received Best Oral Presentation Award during International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023.<br>• Dr. Veenu Sangwan received third prize in oral presentation during International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023.<br>• Dr. Neealm M. Rose, Dr. Saroj Yadav and Dr. Neelam Saini got First Prize for ELP Exhibition in *Krishi Mela (Kharif)*, CCS Haryana Agricultural University, Hisar, March 15-16, 2022.<br>• Dr. Promila K. Chahal received certificate of excellence in reviewing in International Journal of Environment and Climate Change' in recognition of an outstanding contribution to the quality of journal. |

| | |
|---|---|
| | • Dr. Neelam M. Rose, Dr. Saroj Yadav and Dr. Neelam Saini got First Prize for ELP Exhibition in *Krishi Mela (Rabi)*, CCS Haryana Agricultural University, Hisar, September 8-9, 2022.<br>• Dr. Sangeeta C Sindhu and Dr. Urvashi Nandal got First Prize for ELP Exhibition in *Krishi Mela (Kharif)*, CCS Haryana Agricultural University, Hisar, March 15-16, 2022.<br>• Dr. Sangeeta C. Sindhu and Dr. Urvashi Nandal got First Prize for ELP Exhibition in *Krishi Mela (Rabi)*, CCS Haryana Agricultural University, Hisar, September 8-9, 2022. |



**Best Teacher Award**



**Best Paper Presetnation Award**

**6.5.7.4. Employability:** *What are the set of achievements such as skills, understandings and personal attributes that make College students more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy? Provide one page note on the subject.*

One of the inherent goals of any academic institution is to inculcate values, impart knowledge and develop the skills & attributes that equip the students for the world of work either as professionals or entrepreneurs. The efforts of the College for employability are as follows:

**Student Work Experience and Internships:** Academic internships are a mandatory part of the curriculum. During internship, students get hands-on experience working within an organization which is a valuable stepping stone for students into a successful career. Aside from giving students the opportunity to explore their career interests, internships also help students develop professional and transferable skills that are sought out by employers across all fields.

Student READY programme offered in the final year of undergraduate programme provides an opportunity to the students to develop professional competence, skill and confidence to start their own entreprise. This is a step towards 'Earn while Learn' concept. Experiential Learning units of the College endow the students with excellent opportunity to develop managerial, analytical and entrepreneurial skills through meaningful hands on experience to design and execute an enterprise. Keeping a pulse on emerging fields and their evolving needs, courses are aligned with in-demand skills. The Student READY Modules are a launch pad for our students for entrepreneurship in Skill Development in Event Management, Bakery and Confectionery, Designing and Production of Information Material, Product Design: Digital Embroidered Home Furnishings and Skill Development in Early Childhood Education and Management and prepare students for setting their own Preschools, Early Childhood Care and Education Centres or Day Care Centres.

**Alignment of educational offerings with in-demand skills:** The courses of UG and PG are revised time to time as per ICAR/UGC guidelines.

**Agri Business Incubation Center:** Agri Business Incubation Center at CCSHAU, Hisar provide guidance, technology and infrastructure and focus on capacity building through counselling, training

and business advisory services for helping the students for starting, running and sustaining the business in different areas of agriculture.

**The Students' Counselling & Placement Cell:** There is Counselling & Placement Cell in the University located in the Directorate of Students' Welfare. The Students' Counselling & Placement Cell of the university has been assigned four mandates viz., imparting trainings, placements, liaison with leading industries and guidance to the university students for exploring job opportunities in the public and private sectors and also arranges campus interviews. The Training & Placement Incharge of the College collaborates with the Counselling & Placement Cell of the University. The Counselling and Placement Cell of the Directorate in association with the Department of Employment, Haryana, has set up a University Employment Information and Guidance Bureau, which provides information to the students on job opportunities, competitive examinations, scholarships /fellowship etc.

**Student Placements:** The undergraduate students of the I.C. College of Home Sciences after completion of their degree programme are mostly placed as Counsellors, Dietitian, Nutritionist, Textile Designers, Preschool managers, Interior and Exterior Designers, Video Designers, Script writers and editors. The post graduate students are mostly placed as Assistant Professors, Subject Matter Specialists, Teaching Associates, Research Associates, Research Fellows and Lecturers in various disciplines.

**6.5.8.** SSR of the College must have the SSR of all its Degree Programmes (following section 6.4), then the report of the Colleges shall be considered.

**6.5.9.** Certificate (Applicable when SSR is submitted for Programmes & College).

I, the Dean, **Dr. Manju Mehta,** hereby certify that the information contained in Sections 6.4 and Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the college and degree awarding university.

**6.5.10.** Each college shall submit SSR as mentioned in 6.5.8. It shall be prerequisite for the SSR of the Agricultural University.



**Signature of the Dean of the college with Date & Seal**

# I.C. College of Home Science: Media Converge

## परिवार की धुरी है महिलाएं, उन्हें आगे बढ़ाने के लिए प्रोत्साहन की जरूरत : संतोष कुमारी

समस्त हरियाणा न्यूज

हिसार। महिला परिवार की धुरी है। जिस पर हर सदस्य का कार्यभार टिका है। इसलिए हमें हर क्षेत्र में महिलाओं व लड़कियों को आगे बढ़ाने के लिए प्रोत्साहित करना चाहिए। जो महिला औद्योगिक क्षेत्र में अपना हाथ आजमा रही है तो वे उद्यमिता मार्गदर्शकता की मिसाल है। ऐसी महिलाओं को अपने उत्पाद को बढ़ाने के लिए नवीनतम तकनीकों के साथ उच्च स्तर की सामग्री का इस्तेमाल करना चाहिए। ये विचार चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय के कैपस स्कूल की निदेशिका संतोष कुमारी ने कहे। जो गांव डोभी में ईंटेड चाकवर्ती गृह विज्ञान महाविद्यालय द्वारा आयोजित ग्रामीण कार्य अनुभव कार्यक्रम के समापन पर मुख्यातिथि के तौर पर मौजूद रही। कार्यक्रम में विभिन्न अतिथि गृह-विज्ञान महाविद्यालय की अधिष्ठाता डॉ. मंजू महता ने बताया कि ग्रामीण कार्य अनुभव कार्यक्रम के माध्यम से महिलाओं को अजित ज्ञान का साथ उजागर चाहिए। साथ ही अपने विभिन्न उत्पाद को बढ़ा सकें। इसके लिए ऐसी महिलाओं को गृह-विज्ञान महाविद्यालय के साथ तालमेल स्थापित करना चाहिए। इससे महिलाएं अपने उत्पाद को बढ़ाने को उत्सुक है। उन्होंने बताया कि कार्यक्रम में गृह-विज्ञान महाविद्यालय की डॉ. विमला जागलान, डॉ. वंदना वर्मा, डॉ. इला रानी, डॉ. उर्वशी जंघारा, डॉ. प्रीतिमल, डॉ. सुमन सोहो की देखरेख में कोएसो कम्युनिटी साइंस की अंतिम वर्ष की 60 छात्राओं ने 30 दिन तक कार्यक्रम का संचालन किया। इस कार्यक्रम के समापन समारोह में भारी संख्या में महिलाएं, गुरुकुल की छात्राएं, जिला परिषद, कार्यक्रम समिति एवं ग्राम पंचायत के सदस्य, युवा खेतान, महिला स्वयं सहायता समूह की महिलाएं, महिला सरपंच, पंचायत समिति के सदस्य, ग्राम सचिव, आंगनवाड़ी कार्यकर्ता, आशा वर्कर, आंगनवाड़ी सहायिका, आदि ने भाग लिया। इस अवसर पर कार्यक्रम में भाग लेने वाली महिलाओं को प्रमाण पत्र दिए गए। इस अवसर पर कार्यक्रम में भाग लेने वाली महिलाओं को प्रमाण पत्र दिए गए। इस अवसर पर कार्यक्रम में भाग लेने वाली महिलाओं को प्रमाण पत्र दिए गए।

## पौधारोपण के साथ-साथ उनकी देखभाल भी जरूरी : डा. मंजू मेहता

- होम साइंस कॉलेज की छात्राओं ने डोभी में ग्रामीणों को किया पौधारोपण के प्रति जागरूक



## गेहूं-चावल के मुकाबले मोटे अनाज का सेवन सेहत के लिए फायदेमंद : डॉ. मंजू

समस्त हरियाणा न्यूज

हिसार, 22 मार्च। चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय के गृह विज्ञान महाविद्यालय के विस्तार शिक्षा एवं संचार प्रबंधन विभाग की टीम ने गांव खानकाना में महिलाओं के विकास के लिए कार्यक्रम का आयोजन किया। इस कार्यक्रम का आयोजन जी-20 के अंतर्गत गृह विज्ञान महाविद्यालय की अधिष्ठाता डॉ. मंजू महता के नेतृत्व में आयोजन गया। कार्यक्रम में विभागाध्यक्ष डॉ. बीना चहल ने ग्रामीण महिलाओं के सशक्तिकरण के लिए प्रशिक्षण एवं सेवाओं की जानकारी दी, साथ ही जी-20 का महत्व बताया। उन्होंने बताया कि 2023 को अंतरराष्ट्रीय पोषक अनाज वर्ष के रूप में मनाया जा रहा है। गेहूं-चावल के मुकाबले मोटे अनाज उत्पादन और खाने दोनों ही तरह फायदेमंद है, जिससे शरीर को इम्यूनिटी मजबूत होती है और बीमारियों से लड़ने की शक्ति मिलती है। महाराज प्रभादान डॉ. चंदन वर्मा ने बच्चों को स्वच्छता व स्वास्थ्य के प्रति जागरूक करने का संदेश दिया। महाराज वैज्ञानिक डॉ. संतोष रानी ने गृह-वाटिका लगाने के लिए जागरूक किया। उन्होंने बताया कि गृह वाटिका से घर के पत्तों और खाली भूमि का सदुपयोग होता है, साथ ही मनपसंद सब्जियां भी मिलती है, जोकि ताजा सब-सुथरी व कीटनाशक रहित और पोषक तत्वों से भरपूर होती है। गांव के सरपंच पवन कुंडागिया ने सामाजिकसेवा अभियान सुरेश कुमार ने कार्यक्रम के आयोजन में सहा महिला विस्तार शिक्षा डोभी महिलाओं को जानकारी उपलब्ध की।



## एचएयू के गृह विज्ञान महाविद्यालय की ओर से गांव किरतान में चलाया पौधारोपण अभियान

समस्त हरियाणा न्यूज

हिसार। चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय के गृह विज्ञान महाविद्यालय एवं आजाद हिंद चुवा कलब के संयुक्त तत्वावधान में गांव किरतान के विभिन्न सार्वजनिक स्थानों पर पौधारोपण अभियान चलाया गया। महाविद्यालय के कलब एवं परिवार अधिकल्पन विभाग की ओर से आयोजित इस अभियान के दौरान गांव के कब्रिस्तान में दो सौ से अधिक पौधे लगाए गए। कार्यक्रम में विभागाध्यक्ष डॉ नीलम रोजू व डॉ सरोज यादव ने विशेष तौर पर शिरकत की। युवाओं को अधिक से अधिक पौधारोपण के लिए प्रेरित करते हुए उन्होंने कहा कि पौधे हमारे जीवन का आधार है। उन्होंने युवाओं से भी आह्वान किया कि वे न केवल खुद बल्कि अन्य ग्रामीणों को भी पौधारोपण के लिए प्रेरित करें और लगाए गए पौधों को संरक्षित भी रखें। इस मौके पर राष्ट्रीय स्वयंसेवक संघ की डी राज्य माधव शाखा किरतान का भी विशेष सहयोग रहा। इस मौके पर कलब प्रधान कपूर सिंह आर्य, प्रोमिला आर्य, सुकेश किरतान, सुखेमिंह, रोहतास, शकूर खान, मनवीर, राजेश, रविंद सिंह सहित अन्य युवा मौजूद थे।



## छात्राओं का सामाजिक भलाई के साथ-साथ आत्मनिर्भरता की ओर कदम

अब तक विभिन्न संस्थाओं के ऑर्डर पर तैयार कर चुकी हैं 166 बॉडी कवर किट

ऐसे आया आइडिया



गृह विज्ञान महाविद्यालय की छात्राओं की तैयारी में स्पन्न व बॉडी कवर किट तैयार करती छात्राएं।

### विभिन्न संस्थाओं से मिले ऑर्डर, तैयार की 166 किट

## बुड़ाक में उद्यमशील महिलाएं-सशक्त समाज विषय पर कार्यशाला आयोजित



## नुक्कड़ नाटक से लड़का-लड़की एक समान होने का दिया संदेश



सिटी रिपोर्टर - माता-पिता अपने बेटा व बेटी में कोई फर्क न समझें बल्कि उन्हें आगे बढ़ने के लिए समान अवसर प्रदान करें। लड़का और लड़की से उन्हें समान अपेक्षाएं रखते हुए बच्चों को एक-दूसरे का सम्मान करना भी सिखाएं। उक्त संदेश एचएयू के गृह विज्ञान महाविद्यालय की छात्राओं ने एक नुक्कड़ नाटक के माध्यम से दिया। कार्यक्रम का आयोजन जिले के गांव बुड़ाक में महाविद्यालय की ओर से 'महिला सशक्तीकरण एवं लिंग संवेदीकरण' लिंग भेद मिटाने की ओर एक कदम विषय के तहत किया गया। डॉ. किरण सिंह ने बताया कि इस कार्यक्रम का मुख्य उद्देश्य समाज में लड़के व लड़कियों में समझे जाने वाले भेदभाव के प्रति लोगों को जागरूक करना है।

## पोषण माह के तहत आयोजित की विभिन्न प्रतियोगिताएं



प्रतियोगिता के दौरान भाग लेती प्रतिभागी एवं अन्य।

## होम साइंस कॉलेज ने बालसमंद व हिंदवान में आयोजित की विभिन्न प्रतियोगिताएं



### ये रहे प्रतियोगिताओं के परिणाम

# Programmes

- **B.Sc. (Hons.) Community Science**
- **M.Sc. and Ph.D., Extension Education and Communication Management**
- **M.Sc. and Ph.D., Foods and Nutrition**
- **M.Sc. and Ph.D., Family Resource Management**
- **M.Sc. and Ph.D., Human Development and Family Studies**
- **M.Sc. and Ph.D., Textile and Apparel Designing**






I. C. College of Home Science
CCSHAU, Hisar
ULTURAL EVE





# Programme # 1



# B.Sc. (Hons.) Community Science


इन्दिरा सहकारी गृह विज्ञान महाविद्यालय
भूकृत्य संरचना इकाई















## 6.4. SELF STUDY REPORT OF UG PROGRAMME

### 6.4.1. Brief History of the Degree Programme: *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

With the advent of Agricultural Universities, the focus of Home Science education was shifted from urban to the rural households and the curricula was designed accordingly and implemented appropriately. 1990-2000 decade of application oriented education to transform the role of students from job seekers to job providers and to keep pace with fast changing demands of the community. This period laid the foundation for many educational reforms like Rural Home Science Work Experience (RHWE) in villages, skill and entrepreneurial oriented teaching, computer aided learning and internship in respective reputed institutions/ industries for hands-on training. The skill oriented education system transformed the role of women from becoming mere homemakers to empowered women and from a skilled vocational person to a professional in the area of Home Science. The academic programme was further strengthened by introducing Experiential Learning, which oriented the students towards marketing skills and resource generation, making Home Science a leading professional Hons. Degree Programme. With the renaming and restructuring the degree programme from Home Science to Community Science the focus has been shifted to application of scientific knowledge for empowerment of families and communities.

The I.C. College of Home Sciences presently offers degree programme of four year duration, after Senior Secondary leading to B.Sc. (Hons.) Community Science. A distinctive feature of the UG degree programme is that professional education is imparted in the final year of the degree programme through five Modules viz. Experiential Learning in Bakery and Confectionery, Skill Development in Event Management, Skill Development in Early Childhood Education and Management, Experiential Learning in Print and Electronic Media Production, and Experiential Learning in Product Design: Digital Embroidered Home Furnishings. The College has so far produced 2679 Graduates, 924 Post Graduates and 297 Ph.D. Scholars. Academic milestones of the degree programme are mentioned below:

| YEAR | MILESTONES |
|---|---|
| 1973 | The undergraduate programme in B.Sc. Home Science, 4 Year and B.Sc. Home Science, 3 Year initiated under trimester system with internal system of evaluation |
| 1976 | First batch of B.Sc. Home Science, 3 year graduated |
| 1977 | First batch of B.Sc. Home Science, 4 year graduated |
| | Pre-School Nursery Lab started in the Department of Child Development |
| 1987 | B.Sc. Home Science, 3 Year Programme after 10+2 started |
| | Semester system was introduced |
| 1988 | B.Sc. Home Science, 5 Year Programme after Matriculation started |
| 1997 | External examination system for UG programme started |
| 1998 | B.Sc. (Hons.) Home Science, 4 Year Programme after 10+2 started |
| | UG course curricula as per Third Deans' Committee recommendations implemented |
| 2011 | UG course curricula as per Fourth Deans' Committee implemented |
| | B.Sc. (Hons.) Home Science, 6 Year Programme after matriculation started |
| 2017 | Nomenclature of B.Sc. (Hons.) Home Science, 4 Year Programme changed to B.Sc. (Hons.) Community Science, 4 Year Programme |
| | UG course curricula as per Fifth Deans' Committee recommendations implemented<br>Student READY Programme implemented |
| 2021 | First batch of B.Sc. (Hons.) Community Science graduated |

**Objectives:**

- To develop abilities for effective resource management and improved quality of life
- To groom students for multiple role performance
- To develop knowledge, skills and competencies among students to excel in personal and professional arena
- To enlighten students for equitable and sustainable women led development




**In-plant Training at International Institutes**

**Accomplishments:**

- Total 65 batches of students have graduated from the College since its inception in 1973 to 2022. Fourteen batches of B.Sc. 4-Year. Programme (after High School); eight batches of B.Sc. 3-Year. Programme (after Higher Secondary); eleven batches of B.Sc. 3-Year. Programme (after Senior Secondary); seven batches of B.Sc. 5-Year. Programme (after High School); nineteen batches of B.Sc. (Hons.) 4-Year. Programme (after Senior Secondary); four batches of B.Sc. (Hons.) 6-year Programme (2+4) and two batches B.Sc. (Hons.) Community Science (after Senior Secondary) have completed their degree.
- Many of the alumni of the College are serving in Govt. and private sectors like Department of Women and Child Development, Department of Higher Education Govt. of Haryana; Universities; Research institutions; NIFT & IIM; Hospitals of repute; Secondary Education, Govt. of Haryana and Govt. of Delhi. These alumni are serving at positions of CDPO, Programme Officers, Lecturers, TGT, PGT, Dietician, Subject Matter Specialists and Research Associates. Some of the alumni have set up their own enterprises.
- Our graduates also obtain admission in other institutes of repute for higher education like CAUs, SAUs, GJUS&T, KUK, Banasthali Vidyapeeth, National Institute on Agriculture Management Jaipur, National Institute of Fashion Technology.
- Total 137 students have cleared JRF/SRF/NET exams conducted by UGC/ICAR and are recipients of fellowships. Further 87 students got employed in public and private sector during period under report.

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

There are three sanctioned posts of Professors/equivalent, 11 Associate Professors/equivalent and 54 Assistant Professor/equivalent in the College. At present, there are 12 Professors/equivalent, 04 Associate Professors/equivalent, 21 Assistant Professors/ equivalent and are assigned the responsibilities for the multiple programmes. In addition to present faculty members, two Instructors and eight Research Associate/Senior Research Fellow/Young Professionals also contribute in teaching/research/extension activities of the College.

| Designation | Sanctioned | In-place | Vacant position | Faculty recommended by ICAR |
|---|---|---|---|---|
| **Professor/equivalent** | 03 | 12PP (09+03*) | -- | 05 |
| **Associate Professor/equivalent** | 11 (10+01*) | 04PP (03+1*) | 07 | 10 |
| **Assistant Professor/equivalent** | 54 (33+21*) | 21(15+6*) | 24 (9 Promoted to Professor) | 20 |
| **Instructor** | 02 | 02 | -- | -- |
| **Research Associate/ SRF/YP** | 09 | 08 | 01 | -- |
| **Total** | **79** | **47** | **32** | **35** |

PP- Personal Promotion from Assistant Professor *Faculty Posted in Extension

**6.4.3. Technical and Supporting staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

**Technical and Supporting Staff:** In the Dean's Secretariat and all the five departments, 25 technical, 38 supporting and 05 field staff positions are filled up. The gap in technical, supporting and field staff positions is filled by engaging persons on contractual basis for smooth functioning of official, practical and field work.

| Dean's Secretariat and Departments | Technical | | Supporting Staff | | Field Staff | |
|---|---|---|---|---|---|---|
| | Sanctioned | In-place | Sanctioned | In-place | Sanctioned | In-place |
| **Dean's Secretariat** | 06 | 03 | 22 | 20 (9+11*) | -- | -- |
| **EECM** | 07 | 04 (2+2*) | 05 | 04 (3+1*) | -- | -- |
| **FN** | 06 | 06 (5+1*) | 05 | 05 (3+2*) | 01 | 01 |
| **FRM** | 05 | 03 | 03 | 03 (1+2*) | 05 | 04 (3+1*) |
| **HDFS** | 06 | 04 (3+1*) | 04 | 03 (2+1*) | -- | -- |
| **TAD** | 05 | 05(1+4*) | 03 | 03 (1+2*) | -- | -- |
| **Total** | **35** | **25 (17+8*)** | **42** | **38 (19+19*)** | **06** | **05 (4+1*)** |

* Contractual staff

**Note:** The staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**Classrooms/Lecture rooms:** There are two smart classrooms and five lecture rooms with LCD/LED projectors having seating capacity of 70-75 students. In addition to these seven lecture rooms there is well equipped College Computer Lab and College Conference Room meant for teaching activities. All the five departments have seminar rooms equipped with LCD/LED projector. In addition to this, smart board facilities are available in College Committee Room, PG Lab (Dept. of EECM) and CAD Lab. (Dept. of TAD).

**Laboratories:** The I.C. College of Home Sciences has well equipped 46 laboratories and one Domestic Farm Unit. All the departments have well established UG and PG laboratories, computer room, seminar room and departmental library being utilized for award of Degree Programme. Hence, number of class rooms and functional laboratories available for the Degree Programme are sufficient to meet the course curricula requirement. Department wise details of labs are as under:

| S. No. | Name of Lab (Location) | Purpose |
|---|---|---|
| **Department of Extension Education and Communication Management** | | |
| 1. | Multimedia Lab and Recording Room (Lab No. 71) | For designing, editing and production of audio and multimedia programmes under UG and PG courses, and PG research and research by faculty. |
| 2. | Video Studio with Control Room and Waiting Room (Room No. 65) | Hands on training of UG and PG students on Camera handling ; Script writing; Video shooting , editing & production; Panel discussion; Delivering TV talk etc. |

| | | |
|---|---|---|
| 3. | Print Media Lab<br>(Lab No. 63) | Hands on training on MS-Office, Corel DRAW, Photoshop, Designing of Brochures, Leaflets, Charts, Posters, Invitation cards, Professional documents, Certificates etc. |
| 4. | Experiential Learning Lab<br>(Lab No. 61) | Skill development in - Market survey , Preparation of the business plan, Analysis of cost benefit ratio , Printing of-teaching aids, visual aids , certificates, visting/ business cards, e invitation cards, extension literature such as posters, charts, booklets, etc. |
| 5. | Training Lab<br>(Lab No. 70) | For organizing training of Students and Rural Women |
| 6. | PG Lab. cum Seminar Room<br>(Lab No. 49) | For conducting PG classes, Seminars (synopsis, thesis, credit), Comprehensive examinations (written and oral) and Viva voce examinations<br>Presentation of assignments and reports by PG students |
| 7. | Research Lab<br>(Lab No. 56) | Planning and designing of research activities like Objective setting, Annual plans, Annual reports<br>Showcasing of research activities |
| 8. | Activity Lab. cum Resource Room<br>(Lab No. 59B) | Showcasing and consulting departmental Theses, Reports, Manuals, Journals, Books, Extension literature etc. by faculty and PG students<br>Preparing presentations, Reports and Class Assignments by PG students |
| **Department of Foods and Nutrition** | | |
| 1. | Cooking Lab-I<br>(Lab No. 1) | Practical classes of cooking for UG courses |
| 2. | Cooking Lab-II<br>(Lab No. 2) | Practical classes of cooking for UG courses |
| 3. | Bakery Lab<br>(Experiential Learning Unit)<br>(Lab No. 4&5) | Practical classes of cooking, baking as well as hands on training on bakery and confectionery |
| 4. | PG Lab<br>(Lab No. 18) | Analytical research work of PG Practicals and students research |
| 5. | Food Processing Lab<br>(Lab No. 3) | Analytical research work |
| 6. | AICRP Lab<br>(Lab No. 25) | Analytical research work. Showcasing AICRP activities |
| 7. | Centre of Excellence<br>(Lab No. 6) | Processing and product development for carrying out demonstrations and hands on trainings to rural and urban masses. |
| 8. | Food Analysis Lab (Lab No. 38A) | Facilities for all analytical research work |
| 9. | Community Nutrition Lab/Diet Counselling Centre (Lab No. 38B) | Community nutrition research work, nutritional status assessment and counselling of subjects |
| 10. | Small Animal Research Lab (Lab No. 14) | For experiments on small animals (rodents/fish) |

| | | |
|---|---|---|
| 11. | PG Class Room (Room No.11) | For conducting classes of PG students |
| **Department of Family Resource Management** | | |
| 1. | P.G. Resource Room<br>(Lab No. 92) | PG Teaching |
| 2. | Furnishing Lab<br>(Lab No. 46) | Interior's aspects and Table setting/ napkin folding |
| 3. | Activity Lab<br>(Lab No. 78) | Preparation of Creative articles in the course FRM 405 |
| 4. | Research Lab<br>(Lab No. 74) | Ergonomics related practical classes and students' research work |
| 5. | Computer Lab<br>(Lab No. 84) | Practical Auto CAD course and PG students' work |
| 6. | Design Studio Lab<br>(Lab No. 41) | U.G. & P.G. practical classes related to housing and designing |
| 7. | Consumer & Appropriate Technology Lab (Lab No. 44) | Taking practical classes of equipments, appropriate technology and housing. |
| 8. | Seminar Room<br>(Lab No. 91) | Used for presentation of assignments and delivering seminars by PG students and also used for conducting UG & PG classes |
| **Department of Human Development and Family Studies** | | |
| 1. | Pre-school Lab:<br>Activity Room 1 (Room No. 129)<br>Activity Room 2 (Room No. 128)<br>Activity Room 3 (Room No. 124) | Conducting practical classes and hands on Training in UG courses and PG courses |
| 2. | Kitchen<br>(Room No. 119) | Cooking and heating food for pre-school children enrolled in nursery. |
| 3. | Dining Room<br>(Room No. 117) | Serving lunch for preschool children. |
| 4. | UG Lab-I<br>(Room No. 100) | Conducting practical classes of UG students |
| 5. | PG Lab<br>(Room No.114) | Conducting M.Sc. and Ph.D. practical classes |
| 6. | Computer Lab<br>(Lab No.106) | Used for Module, M.Sc. and Ph.D. courses. |
| 7. | AICRP Lab<br>(Lab No. 104) | Showcasing AICRP activities |
| 8. | Seminar Room<br>(Room. No. 108) | Presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |

| Department of Textile and Apparel Designing | | |
|---|---|---|
| 1. | Dyeing and Printing Lab (Lab No.14) | Conducting practical classes related to dyeing and printing courses of UG and PG Programme |
| 2. | Textile Science Lab (Lab No.16) | Conducting practical classes related to textile science of both UG and PG students |
| 3. | Weaving and Hosiery Lab (Lab No.18) | Conducting classes of weaving course of UG students |
| 4. | Apparel Construction Lab -I (Lab No. 23) | Conducting apparel construction classes of UG and PG students |
| 5. | Apparel Construction Lab-II (Lab No. 21) | Conducting apparel construction classes of UG students |
| 6. | Experiential Learning Lab (Lab No. 24) | Conducting practical classes and hands on training on computerized digital embroidery machines to UG students. |
| 7. | Textile Testing Lab (Lab No. 26) | Teaching PG students and conducting research work using various textile testing equipment's |
| 8. | CAD Lab (Lab No. 27) | Practical classes of UG and PG CAD courses by using different designing software |
| 9. | Apparel Construction Lab-III (Lab No. 29) | Classes of garment construction and hosiery are conducted in this lab for students of UG and one year certificate course. |
| 10. | Seminar Room (Room No. 32) | Presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |
| 11. | PG Resource Room (Room No.10) | Keeping books and theses for the reference of PG students and faculty. |

**List of major equipment's, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme:**

| S. No. | Name of Lab/Location | Equipment's/ Facilities |
|---|---|---|
| **Department of Extension Education and Communication Management** | | |
| 1. | Multimedia Lab and Recording Room (Lab No. 71) | Computer , smart podium , projector , LCD/LED Screen, video cameras, still cameras, editing software, TV/Monitor, VHS, VCR, OHP, Slide projector, PA system, AC, DVD player, microphones, audio visual cabinet, UPS, CCTV camera |
| 2. | Video Studio with Control Room and Waiting Room (Room No. 65) | Cameras with accessories, Switcher/Audio Video Mixer with accessories, Digital Video Cassette Recorder, Monitor– PGM/PVW, Non Linear editing setup apple mac pro with final cut studio, Teleprompter (News reader), Power Amplifier, Studio Table for Panel discussions, Light Console 24 Channel, Cool Light, Computer with accessories |
| 3. | Print Media Lab (Lab No. 63) | 6 Tables, 35 Chairs, 10 Computers, Printer with scanners, Projector, LCD/LED Screen, Media storage cabinet, UPS, 2 ACs |

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| 4. | Experiential learning Lab (Room No. 61) | 5 Computers with Work Station , 2 Big Tables, 25 Chairs, Digital Plotter, A3 Printer, Storage Cabinet, Smart Podium, LCD/LED Projector, UPS 1.5 KV, Laminator , AC |
| 5. | PG Lab. Cum Seminar Room (Lab No. 49) | OPS interactive panel, Two Big Tables, 30 Chairs , AC |
| 6. | Activity lab. cum Resource Room (Lab No. 59B) | Book Storage Cabinet, Computer with Work Station. |
| 7. | Training Lab (Lab No. 70) | 15 Chairs, 10 Drawing Tables, 4 Storage cabinet, Computer with work station |
| **Department of Foods and Nutrition** | | |
| 1. | Centre of Excellence (Lab No.6) | Extruder with attachment for puff, Destoner cum grader, Double deck oven, Spiral mixer, UV spectrophotometer, Weighing machine, Sealing machine, Vacuum Packaging machine, Parboiling unit, Tray drier, Hammer mill, Pearling machine |
| 2. | PG Lab (Lab No.18) | Body composition analyzer, Blood analyzer, Food texture analyzer, Automatic moisture analyser, Orbital shaker, Spectrophotometer, Hot air oven, Automatic Protein Analyser, Fibre plus, Automatic Fat Analyser, Weighing Balance, Water bath, Moisture Analyser, Muffle Furnace, Centrifuge, Water distillation unit, Refrigerator |
| 3. | Bakery Lab (Lab No.4&5) | Pasta making machine, Dough sheeter, Single deck electric baking oven, Display case, Spiral mixer machine, Planetary mixer, Proofing cabinet, Electric oven double deck, Weighing balance |
| 4. | Food Processing Lab (Lab No.3) | Deep freezer with digital temp Controller, Automatic Protein Analyser, Fibra plus, Automatic Fat Analyser, Spectrophotometer, Rotary shaker, Grinding mill (*Chakki*), Vacuum oven, Hot air oven, Centrifuge, Lyophilizer, Cooling centrifuge, Deep freezer |
| 5. | AICRP (Lab No.25) | Hot Air Oven, Refrigerator, Deep Freezer, Cooling Incubator, BOD Incubator, Centrifuge, Orbital Shaker, Socs Plus, Environmental Shake, Kel Plus, Water Bath Shaker, Vacuum Oven, Fibra plus, Cyclotec Mill, Digital balance |
| 6. | Cooking Lab-I (Lab No.1) | Refrigerator, Food ingredient weighing scale, Gas stoves, Mixer grinder |
| 7. | Cooking Lab-II (Lab No.2) | Refrigerator, Food ingredient weighing scale, Gas stoves, Oven Toaster Griller (OTG) |
| 8. | Food Analysis Lab (Lab No. 38 A) | Fume hood, Hunter colour Lab, Vacuum dehydrator, Ultrasonic bath, Spectrophotometer, Deep freezer cum refrigerator, All quartz water distillation, NIR UV-Vis Spectrophotometer, Bio Safety Cabinet, Water bath with shaker |
| 9. | Community Nutrition Lab/Diet Counselling Centre (Lab No. 38 B) | Body composition analyzer, Weighing scale, Heightometer, LCD/LED projector, Computers/Printers along with computer work stations and internet facility. Diet Cal software installed for student use. |
| 10. | Small Animal Research Lab (Lab No. 14) | Air curtains, Animal cages, aquarium |
| 11. | PG Classroom (Room No. 11) | LCD/LED |
| 12. | Seminar Room (Room No. 14) | Multi Media with computer and sound system, AC (2) |
| **Department of Family Resource Management** | | |
| 1. | Research Lab. (Lab No. 74) | Digital B.P. Apparatus, Anthropometric sliding caliper and Spreading calliper, Heart Rate monitor with interface. Electronic tread mill with Acc. Digital temperature Indicator, Environmental kit bag, Peak flow meter, B.P. Apparatus Stethoscopes, Chest belt, Sapling transplanter, Digital wood/timber moisture meter, |

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| | | Extendable goniometero-18 degree built in 4x magnifying lens Digital grip dynamometer range-0-1kg, electronic metronome.<br>Oximeter, Push and Pull dynamometers, torsimeter complete with 400 pond push with digital inclinometer along with P.C. interface.<br>Air quality monitor, Spirometer, Proto type work station top wooden plate flat, Stop watch (Swiss) & Lux meter digital, Drudgery reducing farm tools |
| 2. | Consumer & Appropriate Technology Lab. (Lab No. 44) | Vacuum cleaner, Microwave, Oven, Refrigerator, Dish Washer, Washing Machine, Drudgery Reducing Small Tools and Appliances |
| 3. | Furnishing Lab (Lab No. 46) | Living Room, Dining Room & Bed Room Furniture and Furnishings |
| 4. | Activity Lab (Lab No. 78) | Refrigerator, Water Filter |
| 5. | Seminar Room (Room No. 91) | Multi Media with Computer and Sound System |
| 6. | PG Resource Room (Room No. 92) | Chair and Tables (Big) |
| 7. | Domestic Farm Unit | Walk in tunnel for cut flowers (Poly house) |
| **Department of Human Development and Family Studies** | | |
| 1. | Activity Room 1 (Lab No. 129)<br>Activity Room 2 (Lab. No. 128)<br>Activity Room 3 (Lab. No. 124),<br>Room No. 130, Outdoor Play Area | Anthropometric equipments, Play and gym equipment for children, Outdoor play equipments, LED TV, Smart TV, Speakers, Mini Projector, AC (3), Washing Machine, Geyser, CCTV cameras, Power back up |
| 2. | Kitchen (Room. No. 119) | Well equipped Kitchen with Induction stoves, Microwave, Refrigerators and Geyser |
| 3. | Dining Room (Room. No. 117) | Dining Chairs |
| 4. | UG Lab (Lab No.100, 108) | LCD/LED Projector (Two) |
| 5. | Departmental Library (Room No. 107) | Psychological Tests and Theses (191) |
| 6. | Computer Lab (Lab. No. 106) | Computers with Accessories |
| 7. | Seminar Room (Room No. 108) | Big table 72x24x30 (eight) and 30 chairs, LCD/LED Projector, AC (2) |
| **Department of Textile and Apparel Designing** | | |
| **1.** | Dyeing and Printing Lab<br>(Lab No. 14) | Flat Bed Fusing Machine-01, Computerized Colour Matching System-01, Infra-Red Heater-01, Steaming Chamber-01, Padding Mangle-02, Colour Matching Cabinet-01, Water Bath-02, pH meter, Electronic Balance, Hot Air Oven, Lab Shaking Machine-01, Nozzle Printing Unit, Printing Tables- 03 |
| **2.** | Textile Science Lab<br>(Lab No. 16) | Laundrometer-01, Stain Removal Machine-01, Washing Machine-02 (Semi-Automatic-01 and Fully Automatic-01), Microscopes-05, pH Meter, Weighing Balance-01, Ironing board-06, Sleeve Ironing Board-05, Steam Iron-02, Multi parameters Pocket Tester, Commercial Mixer Grinder-01, Geyser-01, Washer with Dryer-01, Electronic Weighing Scale, µ-Controller Based Photoelectric Clorimeter, Double Distillation Water Unit-01, Digital Magnetic Hot Plate-01, Refrigerator-01, Waterbath-01, Hot Air Oven-01 |
| **3.** | Weaving and Hosiery Lab<br>(Lab No. 18) | Table looms- 05, Jacquard loom-01, Different type of handlooms- 05, Warping unit-01, Flat Bed Knitting Machines -11, Hand Circular Knitting Machine -01 |
| **4.** | Apparel Construction Lab -II<br>(Lab No. 21) | Foot Sewing Machines- 30, Cutting Tables- 02, Demonstration Table- 01, Ironing Board- 02, Steam Iron-02 |

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| **5.** | Apparel Construction Lab-I<br>(Lab No. 23) | Industrial Sewing Machines- 16 (Industrial Sewing Machines-11, Foot Operated Sewing Machines-05), Chain Stitching Machine-01, Hosiery Sewing Machine-01, Picoting Machine-01, Feed Split Needle Bar Machine, Elastic Stitching Machine-01, Sequins Embroidery Machine-01, Embroidery Machine-01, Lace Braiding Machine-01, Blind Hemming Machine-01, Cutting Tables Big-02, Cutting Tables-07, Ironing Board- 02, Steam Iron-02, Dress Forms- 13, Students Chair-20, Embroidery Machine-03, Single Needle Straight Stitch Machine-02, Multipurpose Automatic Zig-Zag Machine-02 |
| **6.** | Experiential Learning Lab<br>(Lab No. 24) | Single Head Embroidery Machine (10 needles) -02, Computerized Single Head One Needle Embroidery Machine -06, Computerized Sewing Machine with Accessories-08, Industrial Sewing Machine (4), Multilayer Cutter-01, Round Knife-01, Five Thread Over Lock Machine-01, Fusing Machine-01, Pattern Layout and Cutting Machine-01, Cutting Table Big-02, Lab Stools-20, Digital Camera-01, Computer- 06, Colour Design Jet- 01 |
| **7.** | Textile Testing Lab<br>(Lab No. 26) | Refrigerator-01, Microwave-01, Tensile Strength Tester-02, Thickness Gauge-01, Perspirometer-01, Crockometer-01, Water Bath-01, Drape Meter-01, pH Meter, Stiffness Tester-01, Double Distillation Unit-01, Rotavapour-01, Precision Balance-01, Heating Mantle-01, Microscope-02, GSM Cutter-02, Quadrant Balance-01, Crease Recovery-01, Yarn Evenness Tester-01, Wrap Reel-01, Bending Length-02, Digital Weighing Balance-01, Pilling Strength Tester-01, Xenon Light Fastness Tester-01, Air Permeability Tester-01, Bursting Strength Tester-01, COD Digestion Unit-01, Hot Plate-01, Projection Microscope-01,Spectrophotometer-01, Flammability Tester-01, Open Bath Beaker Dyeing Machine-01, Grinder-01, Gas with Cylinder, Computer with UPS, AC (3), Hot Air Oven-01, Electronic Balance-01, Fibre Microtome-01 |
| **8.** | CAD Lab<br>(Lab No. 27) | Computers with Work Stations-30, Interactive Panel-01, Plotters-03, Digitizer-01, Scanner-01, Rich peace Software (ten user key), Tuka CAD software (ten user key), White board-01, Storage Cabinet (2), AC (5), Online UPS System, Internet Facility, CCTV Cameras-06, LCD/LED Unit-01, Fire Alarm System |
| **9.** | Apparel Construction Lab-III<br>(Lab No. 29) | Motorized Sewing Machines- 07, Foot Sewing Machines-26, Big Cutting Tables- 03, Demonstration Table- 01, Ironing Board- 02, Steam Iron- 02, Picoting machine-01 |
| **10.** | Seminar Room<br>(Room No. 32) | LCD/LED projector-02, Computer- 01, Online UPS- 01, Conference Table with Chairs-30, TV-01, CD player-01, AC (3) |
| **11.** | PG Resource Room<br>(Room No. 10) | Reading Table with chairs, Storage cabinet, Racks, Computer-02 |

**Theory and Practical Batches**

- Theory (core courses): Two batches with an average of about 40-50 students in each batch from 1st to 6th Semester of UG degree Programme.
- Practical (core courses): Four batches in 1st and 2nd semesters with an average of about 20-25 students in each batch.
- Practical (Module: I-V): One batch with an average of about 20 students per batch in each Module during 7th Semester.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

For a professional degree, some of the practical and hands-on training skills are needed to be acquired besides sound grasp of the theory. Hence, it is important to provide learning material and opportunities that allow students to get involved in activities that increase their knowledge and skills. As per 5th Deans' Committee Recommendations, core courses and Module are offered at UG level in all the five departments (**Annexure V A-E)**. Out of total 46 courses offered during B.Sc. (Hons.) degree Programme, 39 courses are practical based. Following courses with practical components provide practical skills and hands-on learning by involving the students in practical however sound grasp of the theory is important which is taken care through theory classes, assignments, presentation etc.

| Course No. and Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
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| **Department of Extension Education and Communication Management** | | |
| **HECM 103 Diffusion and Adoption of Homestead Technologies** 3 (2+1) | • Survey on identification and use of appropriate homestead technologies by rural and urban families<br>• Calculation of adoption index of selected technologies<br>• Practice in demonstration of improved technologies supplemented with communication media for teaching rural women/ girls<br>• Visit to different successful SHGs and categories of adopters among SHG members<br>• Analysis and presentation of report | • Students conduct survey for identification and use of appropriate homestead technologies by rural and urban families<br>• Student calculate adoption index of selected technologies<br>• Student do practice in demonstration of improved technologies supplemented with communication media for teaching rural women/ girls<br>• Through visits to different successful SHGs students gain knowledge about categories of adopters among SHG members<br>• Students acquire analysis and presentation skills |
| **HECM 201/ HDFS 201 Communication Skills and Personality Development** 3 ( 2+1) | • Writing skills, oral presentation skills<br>• Footnote and bibliographic procedures<br>• Reading and comprehension of general and technical articles<br>• Summarizing, abstracting, individual and group presentations<br>• Public speaking, group discussion | • Student learn writing and oral presentation skills<br>• Student have practice of public speaking, group discussion<br>• Students practice nonverbal communication, reading and comprehension of general and technical articles |

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| | | • Development of self confidence among students<br>• Students apply SWOT analysis on themselves. |
| **HECM 202 Extension Training Management**<br>3 ( 2+1) | • Visit to different training institutions to observe on-going trainings; Report writing and presentation<br>• Hands-on-experience with training need analysis; writing training objectives, development of training module<br>• Experience in delivering the training package<br>• Evaluating the impact of instructional delivery with developed training package | • Students get exposure of functioning of various training institutes<br>• Students get hands on training need analysis and formulation of training objectives<br>• Get familiarized with the process of developing training module for rural women on the selected topic<br>• Organize training by using different training methods and strategies and evaluate the impact |
| **HECM 203 Communication and Instructional Technology**<br>4 (2+2) | • Orientation to Microsoft Office-MS Word, MS Power Point, MS Excel<br>• Internet applications-web browsing, creating e-mail<br>• Orientation to basic graphic designing soft ware's- Corel DRAW and Photoshop<br>• Planning, preparation, presentation of posters, charts, pamphlet, greeting cards, PPT by using computers.<br>• Handling of audio-visual equipment's. | • Students get expertise in using Microsoft Office-MS Word, MS Power Point, MS Excel<br>• Students get acquainted with Internet applications-web browsing, creating e-mail<br>• Students learn to design and develop posters, charts, pamphlet, greeting cards, leaflets and e material etc. by using graphic designing software's- Corel DRAW and Photoshop. |
| **HECM 301 Programme Development for Rural Families**<br>3 (1+2) | • Establishing rapport with rural families<br>• Identification of leader<br>• Conducting baseline survey of village and household<br>• Analysis of information; different PRA tools; its applications in programme development<br>• Triangulation of information from conventional and PRA method<br>• Preparation of detailed plan of work for small need based programme<br>• Implementation and evaluation of programme<br>• Documentation and presentation of findings. | • Students learn to develop linkages with village families<br>• Students learn to develop and conduct baseline survey<br>• Student learn about different PRA tools like mapping, matrix ranking, seasonal diagram, wealth ranking and their applications under village conditions<br>• Students practiced preparation of detailed plan of work for small need based programme and acquire skill in programme implementation and evaluation |
| **HECM 302 Introduction to Mass Communication and Journalism**<br>3 (2+1) | • Orientation to photography and photographic equipment's<br>• Handling and operation of different types of cameras<br>• Familiarization with instructional video; stages in video production.<br>• Preparation of still, digital, video<br>• Writing of photo feature and captions<br>• Exercises on writing, scripts for radio and TV programmes,<br>• Orientation to Corel DRAW and Photoshop for print publications. | • Students get acquainted with different types of photography and photographic equipment's and students develop skills in handling and operation of different types of cameras<br>• Students gets hands on preparation of still, digital, video, writing of photo feature and captions<br>• Students get hands on different exercises on writing, scripts for radio and TV programmes,<br>• Students get orientation to use Corel DRAW and Photoshop for print publications. |

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| **MODULE IV**<br>**Experiential Learning in Print and Electronic Media Production**<br>20 (0+20) | • Identification of the print and electronic media products to be manufactured<br>• Market survey; analysis of the existing status of the identified products and targeted market and customer<br>• Preparation of the project proposal with supply chain of inputs, personnel plan, production plan, finance plan etc. and its preparation<br>• Selection and purchase of material used in print and electronic media production<br>• Costing and standardization of new products as per demand of consumers; plan for the production<br>• Preparation of posters, charts, pamphlets, photo collage, other display material, colored and B&W printing, audio and video recording, editing etc.<br>• Product pricing-physical inputs, man-hours, depreciation etc.; quality assessment; market strategy and assessment of sales performance; profit generated including cost benefit ratio, payback period etc. | • Students learn to conduct market survey for identification of print and electronic media products, targeted market and customer;<br>• Students gets hands on use of Corel DRAW and Photoshop to prepare computer aided leaflet, poster, banner, chart, pamphlet, invitation/ greeting card, certificates, logo, etc.<br>• Students develop skill in planning, production& editing of educational video, documentary and social advertisement<br>• Visit to print and electronic media houses are conducted to get the students familiar with working of industry.<br>• Students get acquainted with marketing strategies/ skill and do product pricing, plan market strategy and calculate cost benefit ratio |
| **Department of Foods and Nutrition** | | |
| **FN 102 Food Science and Processing**<br>3 (2+1) | • Laboratory conduct and responsibilities<br>• Knowledge of different food stuffs in English, Hindi and local language<br>• Terms used in cookery, weights and measures<br>• Identification and use of different kitchen items and equipment's<br>• Identification and listing of various food groups<br>• Market survey of processed and preserved foods<br>• Cereal cookery- preparation of plain rice, lime-rice, *pulao*, *paratha*, *chapatti*, *upma*, *halwa*<br>• Pulse cookery-preparation of plain *dal*, *dal* with green leafy vegetables, *pakoras*, *sambar*<br>• Preparation of cereal and pulse combined recipes-*idlis*, *adai*, *missi roti*<br>• Nuts and oilseeds-preparation of *chikki*, *til ladoos*, *thandai*; milk cookery-preparation of curd and *paneer*<br>• Egg cookery<br>• Fruits and vegetables cookery-preparation of sauces, pickles, squash, chips, jams, jellies, marmalade, candy, preserves, chutneys, candies, syrup, *sabji*, soups and salad<br>• Demonstration on canning and bottling of fruits and vegetables<br>• Sugar cookery-preparation of fudge and fondent; process of caramelization; demonstration of 1-thread and 2-thread consistency syrups; fats and oils- | • Students learn the conduct and responsibilities to work in a cooking lab<br>• Students learn to standardize the basic recipes.<br>• Students learn to add value to common basic recipes from different food groups<br>• Students' get familiar about the current price of raw and processed food ingredients<br>• Students get acquainted with basics of cooking using different food groups such as cereals, vegetable, milk and milk products, egg etc.<br>• Students learn use of various processing methods including germination, frying, fermentation and steaming in recipe preparations |

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| | preparation of *puri*, cakes and biscuits<br>• Appetizers<br>• Visit to food industries. | |
| **FN 201 Community Nutrition and Education**<br>3 (2+1) | • Assessment of nutritional status of an individual/community using anthropometry and dietary survey- preparation of schedule, survey work, analysis of data and writing of report<br>• Visit to local health centre to identify clinical signs and symptoms of nutritional problems<br>• Identification of adulterants in common foods<br>• Visit to an ICDS Block<br>• Development of audio visual aids-radio script, popular articles, chart/posters, leaflets etc.<br>• Planning, implementation and evaluation of nutrition education for target group. | • Students learn assessment of nutritional status of an individual/community using anthropometry, clinical examination and interpretations of biochemical tests and dietary survey<br>• Students learn to identify adulterants in common foods<br>• Students learn the different methods and techniques of developing and imparting nutrition education |
| **FN 203 Normal and Therapeutic Nutrition**<br>3 (2+1) | • Standardization of serving size portions<br>• Planning and preparation of diets for different age groups-infancy, preschool age, school age, adolescent, adult, old age<br>• Planning and preparation of diets for pregnant and lactating women<br>• Planning and preparation of diets for special occasions like birthdays, festivals and packed lunches<br>• Planning and preparation of diets for following diseased conditions-diarrhea, constipation, hepatitis, hypertension, diabetes mellitus, overweight/obesity. | • Students learn to plan and prepare balanced diets according to sex and age<br>• Students plan and prepare balanced diets according to special physiological as well as therapeutic conditions<br>• Students learn to standardize the portion size of common dishes<br>• Students learn to plan and prepare specific nutrient rich dishes<br>• Students learn practically to modify and prepare diets for therapeutic purposes |
| **FN 301 Food Standards and Quality Control**<br>3 (2+1) | • Sensory and nutritional evaluation of some finished products<br>• Detection of adulterants and preservatives in products. | • Students learn the methods of evaluating the quality of raw and processed food products quantitatively and qualitatively<br>• Students get a know how about the adulteration detection in common foods |
| **FN 302 Clinical Nutrition and Dietetics**<br>3 (2+1) | • Estimation of albumin, glucose, ketone bodies, creatinine and creatine in urine<br>• Analysis of blood glucose level<br>• Estimation of total protein, albumin, haemoglobin<br>• Estimation of blood urea<br>• Estimation of total cholesterol, HDL, LDL, TG in blood<br>• Assignment and presentation. | • Students learn the biochemical methods of analysis to diagnose different diseases using samples of blood and urine<br>• Students will gain knowledge about interpretation of results for diagnosis of a disease quantitatively through biochemical examination in assessing nutritional status |
| **FN 303 Bakery and Confectionery**<br>3 (2+1) | • Study of various types of baking equipment's<br>• Type of baking ingredients, flour, yeast, salt and their uses<br>• Balancing the formulae for bakery and confectionery products<br>• Preparation and cost calculation of | • Student becomes aware of various bakery and confectionery ingredients and functioning of various baking instruments<br>• Students learn to prepare various bakery and confectionery products and their cost calculation. |

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| | different types of bakery and confectionery products: straight dough, sponge dough, fermented doughnuts, various types of breads-French bread, raisin bread, milk bread, whole meal bread, brown bread, buns basic bun dough, hot cross buns, fruit buns, breakfast roll, Danish pastry, breadsticks<br>• Cakes, pastries, muffins, cream roll, Swiss roll, sweet paste, biscuits, éclairs, madeleine, patties, pies<br>• Packaging and sale of products<br>• Visit to bakery and confectionery units. | • Students also learn to carry out the sale of products |
| **MODULE I Experiential Learning in Bakery and Confectionery** 20 (0+20) | • **Developing a Business Plan/ Project Proposal:** Market survey of available bakery and confectionery products; developing a Business Plan/ Project Proposal; preparation of the project proposal with supply chain of inputs, personnel, production, and finance plan.<br>• **Plan for the Production:** Selection and purchase of material used in bakery & confectionery for the preparation of value added products; standardization of portion and costing as well as standardization of new products as per demand of consumers;<br>• **Production and Sale:** Preparation of bakery and confectionery items Packaging and storage of developed products; product pricing-physical inputs, man-hours, depreciation etc.; quality assessment; market strategy and assessment of sales performance; profit generated including cost benefit ratio, pay back period etc.<br>• **Documentation, Report Presentation and Evaluation** | • Students give practical edge to their knowledge for setting up a small scale bakery and confectionery unit<br>• Students learn to manage bakery and confectionery unit<br>• Students develop entrepreneurial competencies<br>• Students become aware about production, packaging, quality control, sale, marketing and advertisement strategies<br>• Students produce and sell bakery and confectionery products |
| **Department of Family Resource Management** | | |
| **FRM 101 Management of Family Resources** 2 (1+1) | • Identification of individual and family values<br>• Identification of immediate, short term and long term goals of individual and family, standards for individual and family goals<br>• Decision making by individuals and families<br>• Listing out human and non-human and community resources<br>• Application of management process to organize an event, planning, organization, evaluation | • Conduct survey to identify individual and family values, immediate, short term and long term goals of individual and family; and standards for individual and family goals<br>• Conduct survey on decision making by individuals and families<br>• Listing out human, non-human and community resources<br>• Planning, organizing and evaluating an event<br>• Conduct survey to learn management of personal time record for a week |
| **FRM 102 Fundamentals of Interior Decoration** 3 (2+1) | • Learning elements of art and principles of design<br>• Development of motif and design through art principles | • Students learn elements of art and principles of design<br>• Students learn to develop motif and design using art principles |

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| | • Colour: colour schemes, values and intensity scale, colour wheel<br>• Furniture: care and arrangement of furniture<br>• Accessories: preparation and placements of accessories<br>• Flower arrangement<br>• Learning different types of table setting and napkin folding<br>• Window treatment; lighting, fixtures and their utility<br>• Market survey of different types of wall and floor coverings | • Student learn skills regarding making colour schemes for different rooms<br>• Care and arrangement of furniture for different purposes and rooms<br>• Types and placement of accessories for interior enrichment<br>• Window treatments; planning window dressings for different types of windows flower arrangement<br>• Floor decoration on different occasions and functions<br>• Setting the table<br>• Market survey for wall and floor coverings and materials; cost for installation; project work on low cost floor and wall materials; latest floor and wall treatments<br>• Market survey for curtain materials, hanging systems and cost |
| **FRM 202**<br>**Ergonomics and Appropriate Technologies**<br>1(1+1) | • Work, worker and work place relationship<br>• Work simplification techniques<br>• Household drudgery<br>• Impact of household equipment's on work, worker and environment<br>• Renewable and non-renewable energy saving technologies | • Study of different activities of household and agriculture activities through motion studies<br>• Study on drudgery level among different activities by using process chart, operational chart and flow chart.<br>• Techniques of work simplification at workplace<br>• Appropriate technologies in rural area for farm, home and dairy<br>• Use and care of common household appliances: refrigerator, washing machine, vacuum cleaner, oven etc.<br>• Demonstration of solar household technologies, biogas, zero energy cool chamber etc. |
| **FRM 203**<br>**Housing and Space Management**<br>3(2+1) | • Housing Standards<br>• Housing legislation and regulation for building construction<br>• Design and dimension as per HUDA (Housing Urban Development Authority)<br>• Concept of house planning Development of house plans<br>• Technology in housing construction | • Specification of Sanitary facilities, food preparation and refuse disposal, space and security, thermal environment, illumination and electricity, structure and materials, interior air quality and water supply in building design.<br>• Market survey to know the actual picture of using HUDA standards in building design.<br>• Floor plan, site plan, cross sectional plan, perspective plan, elevation plan and landscape plan<br>• Architectural designing of house according to LIG, MIG, and HIG types of family<br>• Advance technology in housing construction, low cost building technology and material |

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| | | • Filed survey on uses and application of housing technologies in city area |
| **FRM 204 Tourism and Hospitality Management** 3 (2+1) | • Hospitality and Tourism Industry<br>• Importance & Purpose of a Business Plan<br>• Customer Service Management and Customer Satisfaction<br>• Food and Beverage Operations Food and Beverage Services<br>• Organizational structure of housekeeping<br>• Duties and Responsibilities of Housekeeping personnel | • Career opportunities or Scope of Hospitality and Tourism Industry<br>• Hand on training on making business plan for a start-up<br>• Study on services provided by organization and satisfaction level among customers |
| **FRM 301 Residential and Commercial Space Design** 3(2+1) | • Residential buildings and commercial buildings<br>• Factors Influencing the Design of Buildings<br>• Materials and finishes used in Interior designing and decoration<br>• Manufacturer details and specifications<br>• Space needs in commercial buildings | • Designing of residential and commercial building in floor plan<br>• Study on building Bye Law and their application in design survey<br>• Market survey on availability of building material in market.<br>• Designing a house for special need. |
| **FRM 302 Entrepreneurship Development and Business Management** 3(2+1) | • Development, need and importance of entrepreneurial development<br>• Types of entrepreneurs, and entrepreneurial development.<br>• Good policies, schemes for entrepreneurship development.<br>• Role of financial institutions and other agencies in entrepreneurship development<br>• Identification, selection and formulation of project; management: manpower planning, labour turn over, wages/salaries<br>• Financial management of an event | • Entrepreneurial opportunity<br>• Study on Entrepreneurship Growth strategies and Project Proposal,<br>• Making of Business plan<br>• Starting a project by students<br>• Steps involved in functioning of an enterprise<br>• Detailed hands-on knowledge of marketing and market finance of a project<br>• Project report preparation<br>• SWOT Analysis of an event |
| **Module-II Skill Development in Event Management** 20 (0+20) | • Developing a Business Plan/ Project Proposal<br>• Development of a business plan/ project proposal<br>• Plan for the Event Management<br>• Organization of resources; organizing utility of resources; sequential grouping of activities/ time management<br>• Cost-Benefit analysis of events<br>• Documentation and Report Presentation and Evaluation. | • Market survey of event organizing companies;<br>• Identification of the events to be organized and targeted market and customer<br>• Preparation of the project proposal with supply chain of inputs, personnel, production, and finance plan<br>• Selection and purchase of material used for organizing various events<br>• Organization of Events (big and small); purchase of ingredients; planning and pre preparation of decorative articles to be used for venue decoration as per demand of consumers.<br>• Managing Events (academic, social and religious): Advertising/publicity as a stakeholder<br>• Event costing - physical inputs, man-hours, depreciation etc.; quality assessment; market strategy and assessment of event, profit generated etc. |

| Department of Human Development and Family Studies | | |
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| **HDFS 102**<br>**Life-Span Development-I**<br>3 (2 + 1) | • Visits to neo-natal clinic to observe full-term and pre-term babies<br>• Observation of children to evaluate individual differences<br>• Assessment of development at various stages in fancy, early and late childhood and writing reports<br>• Preparation of resource file | • Visit to neo-natal clinics to observe normal and premature babies<br>• Visit families with infants and observe feeding, bathing, dressing and bed making of infants<br>• Assess infant and children during early and late childhood for their physical, motor, social, emotional, cognitive and language development<br>• Prepare stimulation kit for promoting all round development of infants |
| **HDFS 103**<br>**Life-Span Development-II**<br>2 (1+1) | • Case studies of adolescents, adults and elderly<br>• Critical analysis of case study reports<br>• Preparation of resource files<br>• Collection of literature depicting adolescents, adults and elderly in media | • Assess cognitive, social abilities, emotions, moral values, sex-role development and aspirations of adolescents, adults and old age<br>• Conduct surveys on prejudices, self-concept, interests, problems and values of adolescents and influence of media<br>• Conduct surveys on psycho-social adjustment and crisis during adulthood and old age<br>• Prepare educational material and resource file on current issues related to adolescence adulthood and old age |
| **HDFS 201/ HECM201**<br>**Communication Skills and Personality Development**<br>(2+1) | • Developing questionnaire to study impact of physique, educational institutions, aspirations on personality<br>• Developing questionnaire to study social perceptions, gender and family on personality, aspirations and achievements<br>• Collecting data through the questionnaires on small samples<br>• Report writing and presentation<br>• Case study of an individual suffering with personality disorders | • Assess characteristics and types of personality<br>• Develop questionnaires and interview schedule to assess the impact of physique, social perceptions, gender and family on personality, aspirations and achievements<br>• Assess impact of family and other factors on personality |
| **HDFS 203**<br>**Educational Psychology and Early Childhood Education**<br>3 (2+1) | • Assessment of class room learning, evaluating performance and interpretation using different methods<br>• Study the impact of reinforcement, motivation and discipline on learning<br>• Observation and recording of activities in ECE centre<br>• Developing and conducting activities to promote all round development- gross and fine motor, cognitive, language, socio-emotional skills and creativity<br>• Preparation of teaching learning material for preschool children | • Formulate and implement curriculum in preschool laboratory based on models of Jean Piaget, Maria Montessori and Frobel<br>• Learn to review children literature available in the market<br>• Prepare resource book and teaching material for promoting language development<br>• Prepare creativity file on different art activities: painting, printing, paper cutting, folding and pasting, modeling<br>• Develop story book, picture book and computer aided teaching material for children |

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| | | • Screen and assess young children for various developments through different tools and techniques:<br>• Assess home and institutional environment<br>• Analyze and compile reports<br>• Develop intervention packages for parents to improve various developments of children<br>• Develop theme based developmentally appropriate programmes<br>• Develop individual and shared lesson plan, activity plan and flow chart<br>• Prepare educational material as per lesson and activity plans<br>• Arrange and equip the classroom for different corners, large and small group activities |
| **HDFS 301**<br>**Marriage and Family Dynamics**<br>3(2+1) | • Survey on motives of marriage, marriage bureau and family counselling center<br>• Comparative study on nuclear and joint families, marital roles and adjustments, interviewing families of different background for understanding changing functions of families<br>• Cultural diversification and marital traditions in India<br>• Talk on marriage and family laws<br>• Preparing a questionnaire and studying at-least ten families at different stages-cross section of the family life cycle stages | • Organize campaigns, panel discussions and puppet show related to marriage and family issues.<br>• Conduct surveys on families with different background for understanding changing scenario of families, cultural diversification and marriage traditions in India.<br>• Prepare resource file related to marriage and family issues<br>• Compile and present reports of surveys. |
| **HDFS 302**<br>**Developmental Challenges in Children**<br>3 (2+1) | • Observational visits to institutes for children with special needs<br>• Identification of children with special needs in the local community<br>• Developing educational material for children with special needs<br>• Organizing educational programmes for families of children with special needs, planning, recreational and vocational activities for children with special needs<br>• Presentation of case study reports | • Visit local educational and rehabilitation institutions for children with special needs<br>• Visit Red Cross Society, Hisar<br>• Conduct case studies of special children: mentally retarded, gifted, visually impaired, speech impaired and orthopedically handicapped<br>• Prepare resource file on issues related to special children<br>• Compile and present case studies |
| **HDFS 303**<br>**Family Counselling and Community Welfare**<br>3 (2+1) | • Visits to family counselling centre<br>• Identifying the families in need of counselling<br>• Case studies and conducting counselling sessions<br>• Visits to various government and non-government organizations working for the welfare of the children, family and community<br>• Report writing and presentation | • Visit guidance and counseling centers<br>• Prepare questionnaire and conduct surveys to identify families with problems<br>• Develop, implement and evaluate intervention programmes<br>• Compile and present reports<br>• Visit various local and state agencies working for the welfare of children, youth and elderly<br>• Conduct surveys to identify the causes for mortality and morbidity in mothers and children in rural |

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| | | and slum areas<br>• Visit family planning centre<br>• Develop demographic profile of a village and urban slum<br>• Organize campaigns and discussion in rural and slum areas on various welfare issues |
| **Module III**<br>**Skill Development in Early Childhood Education and Management**<br>20(0+20) | • Orientation to Methods and Materials for Teaching Young Children:<br>• Review and Analysis of Early Childhood Education<br>• Developmental Assessment of Young Children<br>• Planning and Implementation of Early Childhood Curriculum<br>• Education and Counseling of Parents and Community<br>• Documentation, Report Presentation and Evaluation | • Observe different early childhood programmes<br>• Develop theme based developmentally appropriate programmes<br>• Plan yearly, monthly, weekly and daily programmes<br>• Develop individual and shared lesson plan, activity plan and flow chart<br>• Prepare educational material as per lesson and activity plans<br>• Arrange and equip the classroom for different corners, large and small group activities<br>• Implement prepared plan and conduct pre and post sessions<br>• Develop and implement inclusive programme<br>• Prepare a project proposal: need assessment in different settings for various programmes, selection of locale and clientele<br>• Plan lay out for different programmes in rural and urban settings |
| **Department of Textile and Apparel Designing** | | |
| **TAD 101**<br>**Fundamentals of Clothing Construction**<br>3 (1+2) | • Demonstration on sewing equipments and tools, sewing machine and its care<br>• Preparation of samples of hand stitches, machine stitches, seam and seam finishes, pleats, gathers, tucks and placket opening<br>• Demonstration on taking body measurements<br>• Preparation of fabric for cutting and layout of paper pattern on different fabrics patterns<br>• Drafting, cutting and stitching of baby frock, T-shirt and bloomer. | • Acquire sufficient skills in handling sewing equipments and sewing machine<br>• Prepare samples of hand stitches, machine stitches, seam and seam finishes, pleats, gathers, tucks and placket opening<br>• Draft, cut and construct baby frock, T-shirt and bloomer |
| **TAD 102**<br>**Fundamentals of Fabric Construction**<br>3 (2+1) | • Observation of fabric structures under magnifying glass<br>• Graphical representation of woven designs<br>• Demonstration on handloom and its parts<br>• Setting of loom and weaving of plain weave fabric<br>• Demonstration on knitting machine and its parts<br>• Preparation of hand knitted samples of plain, rib and purl stitches<br>• Sample preparation of other fabric construction techniques | • Acquire sufficient knowledge of handloom and its parts and setting of handloom for weaving<br>• Prepare samples of basic weaves<br>• Acquire sufficient knowledge of knitting machines and its parts<br>• Prepare basic samples of hand knitting and other fabric construction techniques |

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| **TAD 201**<br>**Textile Science and Fabric Care**<br>3 (2+1) | • Identification of textile fibres: visual, microscopic, burning and chemical test<br>• Study of yarns: type and size<br>• Study of fabric: weight, thickness, count, bow and skewness<br>• Study of common fabrics available in the market<br>• Removal of common stains from different fabrics<br>• Demonstration of laundry equipment's<br>• Washing, care and storage of cotton, silk, wool, synthetics and other special articles – zari, embroidered and laced fabrics | • Students learn to identify textile fibres through visual, microscopic, burning and chemical test<br>• Learn to measure yarn and fabric parameters like count, weight and thickness<br>• Learn the procedure of removal of various stains from different types of fabrics<br>• Get acquainted with the washing, finishing and storage of textile articles |
| **TAD 202**<br>**Textile Finishes**<br>2 (1+1) | • Desizing and scouring of yarn and fabric<br>• Bleaching and mercerization of cotton fabric<br>• Study of labels pertaining to finishes<br>• Identification of finishes | • Develop skills in desizing and scouring of yarn and fabric<br>• Learn the procedure for bleaching and mercerization of cotton fabric<br>• Acquire knowledge to study the labels pertaining to finishes and learn to identify the finishes |
| **TAD 301**<br>**Principles of Dyeing and Printing**<br>3 (2+1) | • Design development for apparel and utility articles with suitability to different printing techniques<br>• Preparation of yarn and fabric for dyeing<br>• Dyeing cotton with different classes of dyes<br>• Preparation of samples: block, screen and stencil printing, tie and dye and batik | • Develop designs for apparel and utility articles as per suitability to different printing techniques<br>• Learn the procedure to prepare yarn and fabric and dyeing of cotton with different classes of dyes<br>• Prepare samples of block, screen, stencil, nozzle printing, tie and dye and batik |
| **TAD 302**<br>**Computer Aided Textile and Apparel Designing**<br>3 (1+2) | • Introduction to fundamental designing softwares<br>• Use of designing, drawing and editing tools<br>• Sources of inspiration for basic designing<br>• Use of ethnic and traditional motifs for creating designs<br>• Creating geometrical, natural, stylized and abstract motifs and design development for various end-uses<br>• Developing colour ways<br>• Application and modification of scanned images using softwares to create new designs for specific end-uses | • Learn fundamental designing softwares<br>• Use different designing, drawing and editing tools<br>• Application of ethnic and traditional motifs for creating geometrical, natural, stylized and abstract designs for various end-uses<br>• Develop design catalogue of different dresses and articles using different softwares<br>• Acquire knowledge of portfolio preparation |

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| | • Developing design catalogues of dresses for the casual, party, night, sports, office and formal wears and different home textile articles<br>• Portfolio preparation of developed designs | |
| **TAD 303**<br>**Apparel and Accessory Designing**<br>3 (1+2) | • Preparation of samples of collars, sleeves and yokes<br>• Drafting and construction of blouse, *kameez*, *salwar*, *pyjami*, *kurta*, pyjama and night dress/gown<br>• Designing of accessories for women, men and children<br>• Selection of designs for construction of accessories;<br>• Construction of one accessory for women/men/ children | • Develop patterns for various collars, sleeves and yokes<br>• Acquaint skills in drafting, cutting and stitching of blouse, *kameez*, *salwar*, *pyjami*, *kurta*, pyjama and night dress/gown<br>• Acquire sufficient skills in accessory designing and construction |
| **TAD 304**<br>**Traditional Textiles of India**<br>3 (2+1) | • Documentation of motifs of traditional Indian embroideries<br>• Sample preparation of traditional Indian embroideries<br>• Documentation of woven textiles of India<br>• Creative projects in the adaptation of traditional motifs and designs in contemporary textiles through collection of samples, sketches and development of scrap book | • Document motifs of traditional Indian embroideries<br>• Prepare samples of traditional Indian embroideries<br>• Document woven Indian textiles<br>• Learn adaptation of traditional designs to contemporary textiles |
| **MODULE V**<br>**Experiential Learning in Product Design: Digital Embroidered Home Furnishing**<br>20 (0+20) | • Market survey to study the prevailing trends in home furnishings<br>• Visit to local units of home textiles and accessories production<br>• Product selection as per demand analysis and market potential<br>• Preparation of the project proposal with supply chain of inputs, personnel, production and finance plan<br>• Sequential grouping of activities/ time management<br>• Designing product line for commercialization<br>• Theme based designing<br>• Development of selected product line of home furnishings<br>• Finishing and packaging<br>• Marketing of products<br>• Documentation of developed products | • Conduct surveys and analyze recent trends in home furnishings<br>• Gain knowledge to analyse the demand and market potential for home textiles and accessories<br>• Learn to prepare project proposal for product development<br>• Selection of theme, conceptualization and mood board; creation of digital embroidery designs for selected home furnishing products<br>• Development of collection; preparation of spec sheets, work sheets and designer's costing sheets<br>• Selection and purchase of material used for preparation of home textiles and accessories<br>• Gain knowledge regarding promotion, sale and distribution of prepared products<br>• Learn to maintain stock-sales records<br>• Project the work through different channels |

| Rural Agricultural Work Experience and Industrial Attachment in Community Science | | |
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| **FN 491/**<br>**FRM 491/**<br>**HDFS 491/**<br>**HECM491/**<br>**TAD491**<br>20 (0+20) | • Orientation and modus operandi of Rural Agricultural Work Experience (RAWE): Briefing about general Community Science messages and developing questionnaire for need assessment and evaluation of RAWE programme<br>• RAWE through placement with families: conducting survey of village, family, personal profile, need assessment, organizing skill trainings and demonstrations on income generating activities/ appropriate technology, organizing village fair, exhibition and competitions<br>• In plant/ Industrial Attachment: understand various materials, machines, processes, products and their applications, selecting area of work according to one's interest and capabilities, getting training and expertise on the selected area, understand the scope, functions and job responsibilities in various departments of an organization<br>• Report preparation and presentation | • During RAWE, students learn to conduct base line survey, need identification and rapport building with rural families<br>• Organizing skill trainings and demonstrations related to all five departments of the college for income generation and resource management<br>• Students get familiar with various Govt. organizations and institutes working for villagers and develop liaison with them.<br>• In Industrial internship students undergo training in related industry for three months which provide them an opportunity to apply the knowledge and skills acquired during module courses in a Professional atmosphere.<br>• During industrial training the students get an opportunity to apply the acquired knowledge and skills under actual working environment.<br>• Most of the students get job offers after internship programme. |

**6.4.6 Supervision of students in PG/PhD programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

The description for supervision of students Masters/Ph.D. Programme have been elucidated under respective Departmental Programme.

**6.4.7 Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

**Students:** The feedback Performa regarding available infrastructure of the College, facilities available, academic activities etc., is being collected through student's interaction with the Dean/ HODs. The feedback is also being obtained on the performance of the faculty on various parameter like Delivery of subject matter, Use of teaching aids, Communication skills, Discussion in class, Command on language, Course coverage, Class management, Mannerism and personality,

Punctuality, Motivating students in personal development, Involvement in student activities etc. If any improvement is necessary, Dean/ Head of the Department advices the faculty for improvement in the relevant area as feedback. The performance of the faculty is also reviewed on the basis students' performance, feedback from the students.

**Parents:** Feedback of the parents on various parameters like infrastructure, medical, hostel, library and canteen facilities, curriculum delivery & evaluation mechanism, behaviour of teachers, cleanliness, safety & security, anti-ragging measures etc. through informal Parent – teacher interaction. The parents of the fresh students are abreast of information on rules & regulations governing UG programmes of the University during the admission counselling and orientation programme.

**Industries:** Students are placed in different institutions/industries for industrial training. Teachers visit these institutions during training period of students and conduct meetings with authorities of the institutes. Any suggestions provided by them are incorporated in the curriculum. Some of the successful entrepreneurs are being invited to the College during various events of the College and are requested to provide the feedback. Most of the representatives from industries expressed a need to improve technical, communication and soft skills of the students that are required for their career planning. To address this, training programmes on communication and personality development, soft skills, resume writing and facing the interview were organized. Accordingly, the College administration had taken several programmes like organizing industry visits, interaction meetings with industry representatives, exposure visits–cum- interaction meetings with successful agri-entrepreneurs.




**Stakeholders' Meets**

### 6.4.8 Student intake and attrition in the programme for last five years: *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

During the period under report, a total of 466 UG students were admitted and average attrition in the last five years was 7.08 per cent.

| Actual number of students admitted | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 80 | 97 | 87 | 104 | 98 | 10 | 6.18 | 8.04 | 9.61 | 2.04 |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

Yes, the faculty members of the I.C. College of Home Sciences use ICT in teaching and practical. There are Lecture Rooms and Seminar Rooms with computer, LCD/LED projector and internet connection. Most of the teaching labs are also equipped with LCD/LED projector. All faculty members have computer, printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. The faculty members use Microsoft Teams, Google meet, Zoom, Sysco Webex, power point presentations, YouTube, emails, Internet, e-learning modules, smart classroom, digital cameras, e-mail, WhatsApp, YouTube, CAD Softwares, Online Catalogues, in teaching different courses.






**Use of ICT in Teaching and Practical**

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and PhD Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Dr. Manju Mehta,** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.




**Signature of Dean of the College with Date & Seal**

# Programme # 2



## M.Sc., Extension Education & Communication Management

## and

## Ph.D., Extension Education & Communication Management














MILLETS


कृषक महिला कार्यशाला
SBI



## 6.4. SELF STUDY REPORT OF PG PROGRAMME

### About the Department

The Department of Home Science Extension Education was formally established as an independent Department in the year 1979 and renamed as Extension Education and Communication Management in the year 2010. M.Sc. and Ph.D. programmes in the Department were started in 1979 and 1986, respectively. So far 233 M.Sc. and 74 Ph.D. students have passed out from the Department. Thirteen courses at M.Sc. level and ten courses at Ph.D. level are offered by the Department **(Annexure VI-A)**. The Department has expertise in designing and developing print (leaflet, poster, handout, flyer, booklets, extension literature etc.) and electronic (audio, video and multimedia) information material. Experiential Learning Unit on Designing and Production of Information Material is operational in the Department since 2009.

All faculty members of the Department have doctorate degree and have been bestowed with various awards like ICAR sponsored Best Teacher Award; Best KVK Scientist Award; Fellow Award by Society of Extension Education and Indian Society of Extension Education; Chaudhary Devi Lal Outstanding All India Coordinated Research Project team Award and Young Scientist Award. During the period under report i.e. 2018-19 to 2022-23 the faculty members and students published 124 research papers, four books, nine teaching/ reference manual and 144 abstracts.

The undergraduate final year students enrolled in the Module-IV offered by the Department under student READY programme are placed for in-plant training in reputed media organizations viz. *Khabre Abhi Tak*, Gurugram; Haryana News, Gurugram; ANB news, Chandigarh; MH One TV Network Ltd., Panchkula; Total TV, Chandigarh; *Dainik Bhaskar* & *Dainik Jagran*, Hisar*; Hari Bhoomi*, Rohtak; *Dainik Jaltedeep*, Jaipur; Community Radio Station, CCSHAU, Hisar; Gurugram *Ki Aawaz*, Community Radio, Gurugram; *Doordarshan*, Hisar; Exchange 4 Media Publication, New Delhi etc.



Seven students of Module IV attended in plant training under NAHEP Institutional Development Plan Project for Student Development Programme to International Organization at Czech University of Life Science, Czech Republic; Asian Institute of Technology, Thailand and Can Tho University, Vietnam.

Department has undertaken 24 funded research projects till date. During the period under report, the Department completed one RKVY project. At present research under All India Coordinated Research Project on Women in Agriculture and State funded research scheme under thrust areas viz; technology assessment, refinement and transfer; evaluation and impact assessment of developmental programmes; media development, standardization and effectiveness; communication, adoption and diffusion of farm and homestead technologies is being undertaken. One scheme under Scheduled Caste (SC) sub plan on entrepreneurship and skill development of SC rural women is also being implemented by the Department. Total 14 vocational trainings for 302 SC rural women were organized during period under report.

In order to stand up in the tough competition, the students need to possess extra valuable knowledge and skills which can make them recognized and distinguished from others. Hence, Department of EECM organizes trainings for UG and PG students on topics like Skill development in

handicrafts; Designing competencies with ICT tools; Communication skills & personality development and Research project management to develop soft skills, improve employability. Moreover, the students get an important element which they can add to their resumes by attending such trainings.

The focus of extension activities of the Department is on developing and strengthening horizontal and vertical linkages with various stakeholders working for welfare of rural community. The Department contributes significantly in capacity building of field functionaries, members of self-help groups and rural women to acquire the latest know-how by organizing short term trainings, extension activities and media exposure on need based messages.

**Objectives of the Department**

- To create appreciation of rural life, its problems and finding out ways for improvement of rural home living.
- To disseminate knowledge of appropriate technologies for adoption among rural community
- To prepare teachers, extension workers, research scientists and professionals in communication, training, social marketing and programme management.
- To develop ability and skill among students to undertake employment/ entrepreneurship

### 6.4.1 Brief History of the Degree Programme: *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

**M.Sc. programme:** M.Sc. programme in Home Science Extension Education (now Extension Education and Communication Management) was initiated in the year 1979. Entry qualification for Master's programme is B.Sc (Hons.) Home Science. Minimum duration of the programme is 2 years. During 2018-23, total 54 students were enrolled in M.Sc. Programme of the Department out of which 37 passed out and 17 are on roll **(Annexure VI-B).**

**Objectives of initiating M.Sc. programme:**

- To inculcate knowledge and skill among students on various aspects of extension education like training, communication, gender studies, human resource development, programme planning, implementation, evaluation and participatory management techniques
- To develop competency in production and management of print and electronic media
- To prepare students for job market and entrepreneurship in the discipline of Extension Education and Communication Management

**Accomplishments of M.Sc. Programme:**

**i. Publications out of M.Sc. Students' Research Work (2018-23): (Annexure VII-C).**

| Publication | Number |
|---|---|
| Books | 02 |
| Book Chapters | 05 |
| Research Papers | 52 |
| Research Papers Abstracted | 32 |
| Leaflets | 02 |

**ii. Details of Competitive Examinations cleared by M.Sc. Students:**

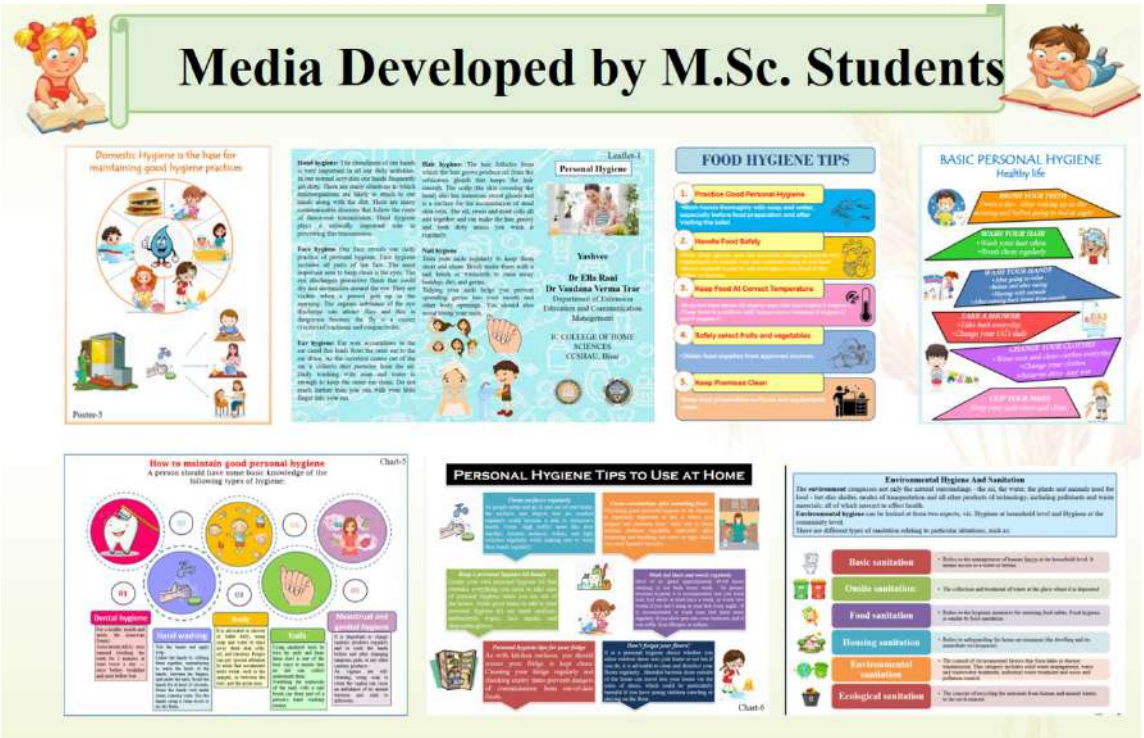
| Sr.No. | Name | Admission No. | Name of Examination | Year |
|---|---|---|---|---|
| **1.** | Ms. Naaz Bano | 2017HS01M | UGC NET | 2019 |
| **2.** | Ms. Raveena | 2019HS03M | UGC- NET | 2019 |
| **3.** | Ms. Jyoti Rani | 2019HS04D | UGC NET | 2020 |
| **4.** | Ms. Priyanka Kardam | 2020HS07M | UGC NET | 2021 |
| **5.** | Ms. Sangeeta | 2019HS06M | UGC NET | 2021 |
| **6.** | Ms. Kapila | 2020HS01M | UGC NET | 2022 |
| **7.** | Ms. Mansi | 2020HS02M | UGC- NET | 2022 |
| **8.** | Ms. Sakshi | 2021HS11M | UGC- NET | 2022 |
| **9.** | Ms. Meenu | 2021HS08M | UGC- NET and JRF | 2022 |
| **10.** | Ms. Ritu | 2021HS09M | UGC- NET and JRF | 2022 |
| **11.** | Ms. Jagriti Bhandari | 2021HS03M | ICAR JRF | 2022 |
| **12.** | Ms. Ekta | 2022HS30M | ICAR JRF | 2022 |
| **13.** | Ms. Neha Yadav | 2022HS31M | ICAR JRF | 2022 |
| **14.** | Ms. Vaishali | 2019HS8M | HTET | 2022 |

**iii. Conferences/ Seminar/ Trainings etc. attended by M.Sc. students**: All M.Sc. students of the Department attended National Seminar on 'Innovative Strategies for Gender Equality' on March 8, 2019, Webinar on 'Role of Women in Agriculture' on December 4, 2020; Webinar on Awareness and Effective Use of e-Resources through Mobile App' on December 18, 2020 and Webinar on 'Digital Library Framework for Strengthening Agricultural Knowledge' on February 17, 2021. Training on 'Research Project Management' from October 1-12, 2022 and 'Communication Skills and Personality Development' from October 13-22, 2023 were also attended by all M.Sc. students of the Department. Total 22 conferences/ seminars/ trainings were attended by M.Sc. students (**Annexure VI-D)**.

**iv. Other Achievements**

- ✓ Ms. Manisha Ohlan (2016HS02M), awarded University Level Gold Medal for obtaining Highest OGPA in the I.C. College of Home Sciences during M. Sc. Programme, 2018-19.
- ✓ Ms. Manisha Ohlan (2016HS02M), awarded Dr. (Mrs.) Saroj Kashyap Gold Medal for quality of M.Sc. thesis, I.C. College of Home Sciences, 2018-19.
- ✓ Ms. Naaz Bano (2017HS01M), secured 1st rank in All India Entrance Exam for Agriculture ICAR- Senior Research Fellowship and Ph.D. Entrance Exam of Chaudhary Charan Singh Haryana Agricultural University, Hisar, 2019.
- ✓ Ms. Manisha Ohlan (2016HS02M), received Best Poster Award during ISEE National Seminar on Socio Digital Approaches for transforming Indian Agriculture at Chaudhary Charan Singh Haryana Agricultural University, Hisar, November 20-22, 2019.
- ✓ Ms. Manisha Ohlan (2018HS01D), received Best Research Scholar Award by Agriculture and Environment and Technology Development Society during International Conference on Global Perspectives in Agriculture and Applied Science for Food and Environmental Security, Kumaun University, Nanital, December 1-2, 2019.
- ✓ Ms. Shikha Bhukal (2017HS03M), awarded Gold Medal for obtaining Highest OGPA in M.Sc., 2019-20.
- ✓ Ms. Sanju (2022HS07M), received Gold Medal in 4x400 meters relay race and bronze medal in 4 x100 meters relay race in All India Inter Agri Athletics Meet at CCSHAU Hisar, February 20-24, 2023.

- ✓ Through M.Sc. students' researches useful data were generated on impact of Government Schemes like *Pradhan Mantri Kaushal Vikas Yojna, Rashtriya Krishi Vikas Yojana, Janani Surkasha Yojana, on* beneficiaries, Central Sector Scheme on promotion of Agricultural Mechanization for *in-situ* Management of Crop Residue*;* Livelihood status of SC families, Inter gender participation in agriculture, usage of internet and ICT, Impact of on line teaching etc.
- ✓ Print Media (chart, poster, and leaflet) on hygiene management practices were developed and standardized. The media are used for creating awareness on personal hygiene among masses.




**Ph.D. Programme:** Ph.D. programme in the Department was initiated in 1986. The Department of EECM has conferred Ph.D degree to 74 students till now. During the period under report, 31 Ph.D. students were enrolled in the Department out of which 11 passed out and 20 are on roll **(Annexure VI-E).**

**Objectives of initiating Ph.D. programme:**

- To develop understanding about recent advances in concepts, approaches, models and theories of communication and adoption
- To enable the students to prepare and execute research projects for addressing issues pertaining to rural women
- To prepare teaching, research and extension professionals in the field of training, communication, media and gender studies

**Accomplishments of Ph.D. Programme:**

**i. Publications out of Ph.D. Students' Research Work (2018-23): (Annexure VI-F).**

| Publication | Number |
|---|---|
| Books | 02 |
| Book Chapters | 09 |
| Research Papers | 38 |
| Research Paper Abstracted | 33 |
| Popular Articles | 08 |
| Leaflets | 09 |

**ii. Details of Competitive Examinations Cleared by Ph.D. Students:**

| S. No. | Name | Admission No. | Name of Examination | Year |
|---|---|---|---|---|
| **1.** | Ms. Anju Kapri | 2017HS01D | UGC NET | 2019 |
| **2.** | Ms. Naaz Bano | 2019HS04D | UGC- JRF | 2019 |
| **3.** | Ms. Jyoti Rani | 2019HS04D | UGC NET | 2020 |
| **4.** | Ms. Madhu Priya | 2020HS03D | UGC NET | 2020 |
| **5.** | Ms. Sanyogita | 2019HS05D | National Fellowship for Scheduled Caste Students | 2020 |
| **6.** | Ms. Shikha | 2019HS06D | National Fellowship for Scheduled Caste Students | 2020 |
| **7.** | Ms. Sanyogita | 2019HS05D | UGC NET | 2020 |
| **8.** | Ms. Shikha | 2019HS06D | UGC NET | 2020 |
| **9.** | Ms. Anju | 2019HS01D | UGC NET | 2021 |
| **10.** | Ms. Madhu Priya | 2020HS03D | UGC NET | 2021 |
| **11.** | Ms. Vartika | 2021HS06D | ICAR-SRF | 2021 |
| **12.** | Ms. Preeti | 2017HS01D | UGC NET | 2022 |
| **13.** | Ms. Ekta | 2020HS01D | Topped in ICAR AICE SRF, Ph.D., Home Science Extension Education | 2021 |
| **14.** | Ms. Chanchal Payal | 2021HS02D | Secured fourth rank in ICAR AICE SRF Ph.D., Home Science Extension Education | 2021 |
| **15.** | Ms. Santosh | 2021HS04D | National Fellowship for Scheduled Caste Students | 2022 |

**iii. Seminar/Conferences/trainings etc. attended by Ph.D. students**: All Ph.D. students of the Department attended National Seminar on 'Innovative Strategies for Gender Equality' on March 8, 2019; Webinar on 'Role of Women in Agriculture' on December 4, 2020; Webinar on Awareness and Effective Use of e-Resources through Mobile App on December18, 2020; Webinar on 'Digital Library Framework for Strengthening Agricultural Knowledge' February, 17, 2021; Training on 'Research Project Management' October 1-12, 2022; Training on 'Communication skills and Personality Development' October 13-22, 2023. Total 27 Seminars, Conferences etc. were attended by Ph.D. students. For details see (**Annexure VI-G).**

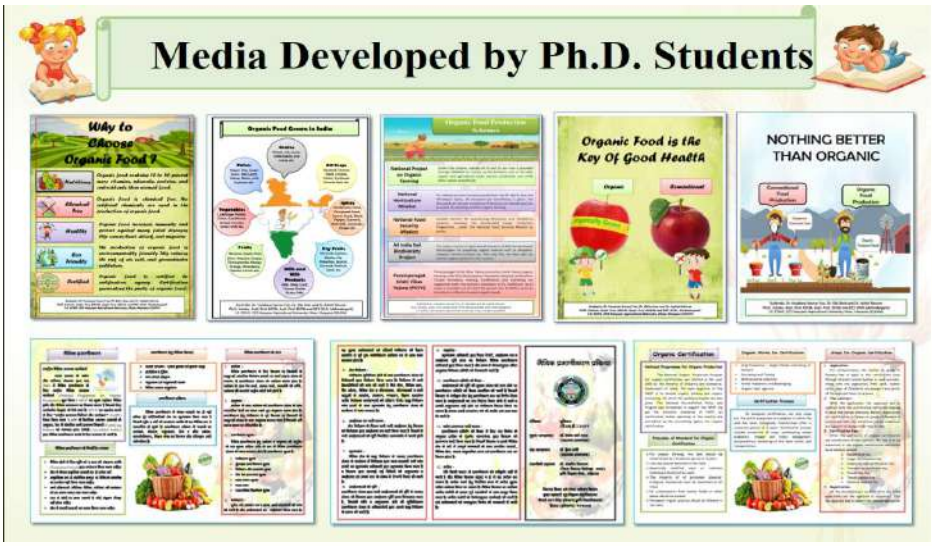
**iv. Students Placement details:**

| S.No. | Name | Name of the Post | Year |
|---|---|---|---|
| **1.** | Ms. Saurabh Arya | Guest faculty, Governent College, Patiala, Punjab | 2018-19 |
| **2.** | Ms. Rajni | PGT, Government Senior Secondary School, Siwani, Hisar, Haryana | 2019-20 |
| **3.** | Ms. Ritu | Assistant Professor, Desh Bhagat University Mandi Gobind Garh, Punjab | 2019-20 |
| **4.** | Ms. Kiran Sain | Assistant Professor, FGM,PG College, Adampur, Hisar, Haryana | 2019-20 |
| **5.** | Ms. Uma Soni | Assistant Professor, NIMS University Jaipur, Rajastham | 2019-20 |

| | | | |
|---|---|---|---|
| **6.** | Ms. Anita | Assistant Professor, Ethelind College of Home Science, Sam Higginbottom Univesity of Agriculture Technology and Sciences, SHUATS, Prayagraj, Uttar Pardesh | 2019-20 |
| **7.** | Ms. Raman Jodha | Subject Matter Specialist (Home Science), KVK Sardarshahar, Churu, Rajasthan | 2019-20 |
| **8.** | Ms. Anita Singh | Assistant Professor, Govt. College, Uttar Pardesh | 2020-21 |
| **9.** | Ms. Anshu | Assistant Professor, Om Sterling University, Hisar | 2020-21 |
| **10.** | Ms. Jyoti | Assistant Professor, Shri Snatan Dharam College Bhatinda, Punjab | 2021-22 |
| **11.** | Ms. Ashma | District Extension Specialist (Home Science), KVK Yamuna Nagar, CCSHAU, Hisar, Haryana | 2021-22 |
| **12.** | Ms. Preeti | Assistant Professor, Om sterling University, Hisar, Haryana | 2021-22 |
| **13.** | Ms. Manisha Ohlan | Consultant, Diploma in Agriculture Extension Services for Input Dealers (DAESI) Project at MANAGE, Hyderabad, Telangana | 2021-22 |
| **14.** | Ms. Naaz Bano | Assistant Professor, Maharishi Markandeshwar University, Ambala, Haryana | 2022-23 |
| **15.** | Ms. Uma Soni | Assistant Professor, Lakshmibai College, University of Delhi, Delhi | 2022-23 |
| **16.** | Ms. Mahu Priya | Guest Facuty, RPCAU Pusa, Samastipur, Bihar | 2022-23 |

**v. Other Achievements**

- ✓ Ms. Anju Kapri (2017HS01D) and Ms Manisha Ohlan (2018HS01D) completed three month internship programme organized by MANAGE, July 1 to September 30, 2019.
- ✓ Ms. Madhu Priya received Second Best Oral Presentation Award during International Conference on New Trends in "Science, Technology, Management and Humanities" organized by *Jagannath* University *Bahadurgarh*, Haryana, March 29, 2022.
- ✓ Ms. Santosh **(**2021HS04D) awarded second best poster award during International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023.
- ✓ Useful data were generated on impact aaseessment of Govt. Schemes like Post Matric Scholarship Scheme; Old Age Samman Allowance; Krishi Vigyan Kendra; ATMA and Self Help Group through student researches.
- ✓ Print Media in the form of charts, posters and leaflets on organic products was developed and standardized. These media are used for creating awareness of organic products among masses.



**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

One post of Professor, two posts of Associate Professor and equivalent and eleven posts of Assistant Professor and equivalent are sanctioned in the Department. Currently, there are four Professors/equivalents (all promoted under CAS), out of which one is posted at KVK. There is one Associate Professor and equivalent and five Assistant Professors and equivalent in the Department. Out of five Assistant Professors and equivalent, two are posted at KVKs. One Research Associate is appointed in AICRP scheme on Women in Agriculture.

| S. No. | Designation | Sanctioned | In-Place | Vacant position | Faculty recommended by ICAR |
|---|---|---|---|---|---|
| **1.** | Professor and equivalent | 01 | 04 (3PP+1* PP) | -- | 01 |
| **2.** | Associate Professor and equivalent | 02 | 01 | 01 | 02 |
| **3.** | Assistant Professor and equivalent | 12 (7+5*) | 05 (3+2*) | 04 (3 Promoted to Professor) | 04 |
| **4.** | Research Associate | 01 | 01 | -- | |
| | **Total** | **16** | **11** | **05** | **07** |

PP- Personal Promotion from Assistant Professor *Faculty posted at KVK

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

### 6.4.3. Technical and Supporting Staff

In the Department of Extension Education and Communication Management, there are 12 posts sanctioned for technical and supporting staff. In position, there are 08 posts of technical and supporting staff out of which 03 posts are filled by employing contractual staff/apprentice.

| S. No. | Designation | Sanctioned | In-Place | Technical and supporting staff recommended by the ICAR |
|---|---|---|---|---|
| **1.** | Assistant/ Steno | 02 | 02 | 01 |
| **2.** | Clerk | 01 | 01 | 01 |
| **3.** | Lab Assistant/ Attendant/ Beldar/ Dark Room Attendant | 04 | 02 | 04 |
| **4.** | Messenger | 01 | 01* | 01 |
| **5.** | Projector Operator | 01 | 01* | -- |
| **6.** | Technical Assistant | 02 | 01* | -- |
| **7.** | *Mahila Sevika* | 01 | -- | -- |
| | **Total** | **12** | **08 (5+3*)** | **07** |

*Contractual staff/ Apprentice

***Note:*** All the technical and supporting staff has been assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists of major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

The Department has well established UG and PG Labs. including video studio, multimedia lab, computer room and resource room/ departmental library. All Labs. have computers and internet facility. There is one Smart PG Teaching Lab cum Seminar Room. Sufficient numbers of labs are there in the Department to meet the course curricula requirements and accommodate the existing number of UG and PG students.

| S. No. | Name of classroom/ Lab | Purpose |
|---|---|---|
| 1. | Multimedia Lab and Recording Room (Lab No. 71) | For designing, editing and production of audio and multimedia programmes under UG and PG courses |
| 2. | Video Studio with Control Room and Waiting Room (Lab No. 71) | Hands on training of UG and PG students on Camera handling; Script writing; Video shooting, editing & production; Panel discussion; Delivering TV talk etc. |
| 3. | Print Media Lab (Lab No. 63) | Hands on training on MS-Office, CoralDraw, Photoshop, Designing of Brochures, Leaflets, Charts, Posters, Invitation cards, Professional documents, Certificates etc. |
| 4. | Experiential Learning Lab (Lab No. 61) | Skill development in - Market survey, Preparation of the business plan, Analysis of cost benefit ratio, Printing of-teaching aids, visual aids, certificates, visiting/ business, invitation cards, extension literature such as posters, charts, booklets, e invitation cards etc. |
| 5. | Training Lab (Lab No. 70) | For organizing training of students and rural women |
| 6. | PG Lab. Cum Seminar Room (Lab No. 49) | For conducting PG classes, Seminars (synopsis, thesis, credit), Comprehensive examinations (written and oral) and Viva voce examinations<br>Presentation of assignments and reports by PG students |
| 7. | Research Lab (Lab No. 56) | Planning and designing of research activities like Objective setting, Annual plans, Annual reports and<br>Showcasing of research activities |
| **Other Instructional Units being utilized for the Award of Degree Programme** | | |
| 8. | Activity Lab. cum Resource Room (Lab No. 59B) | Showcasing and consulting departmental Theses, Reports, Manuals, Journals, Books, Extension literature etc. by faculty and PG students<br>Preparing presentations, Reports and Class Assignments by PG students |
| 9. | Teachers' office Rooms | Equipped with Computers, Web cameras and Internet facilities for on line Teaching whenever required |

## List of equipment/ Facilities at present available in the Department

| S. No. | Name of Lab | Equipment/ Facilities |
|---|---|---|
| 1. | Multimedia Lab and Recording Room (Lab No.71) | Computer, Smart podium, Projector, LCD/LED Screen, Video cameras, Still cameras, Editing software, TV/Monitor, VHS, VCR, OHP, Slide projector, PA system, DVD player, Microphones, Audio visual cabinet, UPS, CCTV camera, AC |
| 2. | Video Studio with Control Room and Waiting Room (Lab No.65) | Cameras with accessories, Switcher/Audio Video Mixer with accessories, Digital Video Cassette Recorder, Monitor – PGM/PVW, Non Linear editing setup apple mac pro with final cut studio, Teleprompter (News reader), Power Amplifier, Studio Table for Panel discussions, Light Console 24 Channel, Cool Light, Computers with accessories, Studio chairs etc. |
| 3. | Print Media Lab (Lab No.63) | 6 Tables, 35 Chairs, 10 Computers, Printer with Scanner, Projector, LCD/LED Screen , Media storage cabinet, Almirah, UPS, 2 AC |
| 4. | Experiential Learning Lab (Lab No.61) | Smart podium laminated, LCD/LED projector 5 Computers, 2 Big tables, 25 Chairs, Digital plotter, A3 Printer, Storage cabinet, UPS 1.5 KV, AC |
| 5. | PG Lab. Cum Seminar Room (Lab No.49) | OPS interactive panel, Two big tables. 30 Chair , AC (1) |
| 6. | Training Lab (Lab No.70) | 2 Tables and 25 Chairs |
| 7. | Research Lab (Lab No.56) | 2 Computers with Work Station , 2 Printer, Storage cabinets, AC (1) |
| 8. | Activity lab. cum Resource Room (Lab No.59 B) | 20 Chairs, 4 Tables, 4 Storage Cabinet one Computer with work station. |

## Theory and practical batches

- On an average there are 5-10 students per batch in M.Sc. Programme. Some courses are offered as minor courses for students of other departments in which large number of students (upto 35) register. There is only one batch for theory classes and one batch for practical classes in all the courses with an average number of 4-35 students.
- In Ph.D. programme, the average number of students in theory and practical classes range between 3-6 as Ph.D. courses are offered for the students of EECM Department only. There is only one batch for theory as well as practical classes of all the courses.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

At PG level, besides imparting theoretical knowledge, students are equipped with practical skills and hands-on-training as per the curriculum requirements. At M.Sc. level, the Department of EECM offers 13 courses out of which 09 courses have practical components to provide practical skills and hands-on training.

| Course No.<br>Title<br>Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands –on-training as per curriculum |
|---|---|---|
| **HECM 502**<br>**Training and Human Resource Development**<br>3 (2+1) | Practice of selected training methods; Planning, organizing and evaluation of training programmes for different clientele | • Visit training institutions and prepare list of on-going trainings<br>• Study functioning of training institutes<br>• Assessment of training needs of rural women<br>• Development of training schedule and training module for different types of training<br>• Organize training programme for rural people |
| **HECM 503**<br>**Communication for Development**<br>3 (2+1) | Practical exercises on oral and written communication, Analysis of communication studies under field conditions | • Exercises on different oral and write communication skills<br>• By analyzing communication studies under field conditions the students get familiar with elements and barriers in communication process |
| **HECM 504**<br>**Media Production and Management**<br>4 (2+2) | Planning, production and management of media programmes, management of media organizations | • Visit and study structure and functioning of selected media organizations: newspaper, radio, TV, PRO<br>• Plan and produce selected media programmes: print and electronic |
| **HECM 505**<br>**Participatory Programme Management**<br>3 (1+2) | Planning, preparation, implementation and evaluation of home improvement work plans | • Prepare questionnaire for base line survey and need analysis<br>• Visit village, select families and rapport building<br>• Plan, implement an extension programme for rural women<br>• Critically evaluate Extension programmes<br>• Critical analysis of on-going development programmes related to women and children |
| **HECM 508**<br>**Research Methods in Home Science**<br>3 (2+1) | Skill in designing and conduction of scientific research; preparation of synopsis, construction of interview schedule, data collection, analysis, interpretation and reporting | • Prepare mini research project on any one topic of social science<br>• Prepare synopsis<br>• Construct interview schedule<br>• Collect, analyze, prepare and present research report |
| **HECM 509**<br>**Scientific Writing and Reporting for Media**<br>3 (1+2) | Develop skill in reporting, coverage of science and technology events: conference, speeches, seminars, | • Report and cover science and technology events: conference, speeches, seminars, conventions, exhibitions and natural phenomena. |

| | | |
|---|---|---|
| | conventions, exhibitions and natural phenomena.; Writing and editing for different clientele | • Write, edit and proof read letters for different clientele. |
| **HECM 510 Educational Technology** 3 (2+1) | Designing a course curriculum; Preparation of lesson plans; Preparation and use of different instructional material; Conducting selected teaching lessons | • Design course curriculum on a subject<br>• Prepare lesson plans of selected topics<br>• Prepare and use different instructional material<br>• Conduct selected teaching lessons by using different teaching learning strategies<br>• Construct competency based question paper |
| **HECM 511 ICT and Media** 2 (0+2) | Writing for Web<br>Designing Web site<br>Designing interactive elements | • Familiarization of students with the ICT and new media technologies, their preparation and use |
| **HECM 599 Master's Research** 20 | Master's research. Prepare synopsis, review of literature, collect and analyze data. | • Students use practical knowledge to conduct researches in thrust areas of the Department |

Besides imparting theoretical knowledge, students are equipped with practical skills and hands-on-training during Ph.D. programme as per the curriculum requirements. In Ph.D. programme 10 courses are offered by the Department of EECM, of which 05 courses have practical component.

| Course No. Title Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per curriculum |
|---|---|---|
| **HECM 603 Advanced Media Management 3 (1+2)** | Designing and development of media, Management of media organizations | • Capabilities of students in media planning and production is strengthened |
| **HECM 604 Research Project Management 3 (2+1)** | Review and SWOT analysis of research projects with respect to: research objective and design, implementation, monitoring and evaluation system and impact assessment; Planning a research project in view of funding agency | • Critically review and analyze two research projects with respect to: objective, design, implementation, monitoring, evaluation and impact assessment<br>• Plan a research project in view of funding agency<br>• Write one research paper, review paper, popular article and technical report |
| **HECM 605 Advanced Research Techniques and Measurement 4 (2+2)** | Practical exercises on scaling techniques, paired comparison, equal appearing interval, successive interval and summated rating; CIT and Q-sort technique. | • Exercises on scaling techniques: Paired comparison, Equal appearing interval, Successive interval, Summated rating, Critical incidence, Q-sort technique. |
| **HECM 607 Advertising and Marketing Communication 2 (1+1)** | Creating advertisements for mass communication Advertisement campaigns | • Advertising layout techniques for newspaper, radio, posters, TV, hoardings, wall paintings, and institutional advertisement |
| **HECM 699 Doctoral Research 45** | Doctoral research Prepare synopsis, review of literature, collect and analyze data, thesis writing | • Students use practical knowledge to conduct researches in the areas of Home Science |

In addition to above mentioned practical based PG and Ph.D. courses, the Department runs Experiential Learning Unit (ELU) on Designing and Production of Information Material. The students

gain skills on Graphic and multimedia production; photography, videography, audio and video editing using the facilities and infrastructure of the ELU. The PG students use computers, printers, laminators to gain hands on experience in courses on Media Production and Management (HECM 504), Educational Technology (HECM 510), ICT and Media (HECM 511), Advanced Media Management (HECM 603). PG Students and faculty members also use cameras and final cut pro studio setup for editing of media developed under research work.

**6.4.6. Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

There are10 seats for Master's and 04 seats for Ph.D. programmes. Hence the teacher student ratio is good.

**Supervision of M.Sc. students in the Department:**

| Year | Number of PG faculty | Number of students on roll | Teacher-Student Ratio (T:S) |
|---|---|---|---|
| 2018-19 | 08 | 16 | 1:2.0 |
| 2019-20 | 07 | 14 | 1:2.0 |
| 2020-21 | 09 | 19 | 1:2.1 |
| 2021-22 | 08 | 23 | 1:2.8 |
| 2022-23 | 06 | 17 | 1:2.8 |

**Supervision of Ph.D. students in the Department:**

| Year | Number of PG faculty | Number of students on roll | Teacher-Student Ratio (T:S) |
|---|---|---|---|
| 2018-19 | 08 | 10 | 1:1.2 |
| 2019-20 | 07 | 13 | 1:1.8 |
| 2020-21 | 09 | 18 | 1:2.0 |
| 2021-22 | 08 | 24 | 1:3.0 |
| 2022-23 | 06 | 24 | 1:4.0 |

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

Performance of the faculty is reviewed on the basis of allotted course results and feedback proforma filled by the students. Regular feedback regarding teaching is taken by joining the on line classes (during COVID 19), taking round of offline classes and having interaction with the students during mid-session as well as near completion of the course. Realistic suggestions for improvement in teaching are incorporated. Students of Module IV are placed in different institutions for In-plant training. Concerned course instructors visit these institutions during training period and conduct meetings with authorities of these institutes. Any suggestions provided by them are incorporated in the curriculum. Feedback from parents of the students is also obtained occasionally. All PG students

have been directed to have visit of their parents to the Department whenever they visit CCSHAU Hisar to have interaction with them. The teachers get feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the concerned individuals and discussed in faculty meeting also. Feedback of rural women, village *panchayat*, village level organizations (youth club, *Mahila Mandal*, SHGs) is obtained regarding the RAWE/IACS programme (content, duration and timings), implementing faculty and students. On the basis of analysis of feedback results, future programmes are planned, modified and implemented accordingly. During *Krishi Melas*, feedback and suggestion of the farmers (male as well as female) are taken about content of exhibits. Workshop of scheduled caste rural women trainees are organized to obtain feedback about adoption of technologies and constraints in adoption, if any. On the basis of feedback of students the resource room was shifted to big size room and dust bins were placed in premises of the Department.

## Interaction with stakeholders for feedback



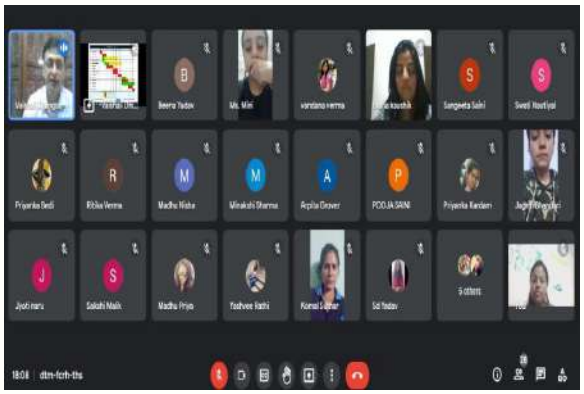
**6.4.8. Student Intake and Attrition:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Programme | Actual students admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 07 | 05 | 05 | 06 | 10 | | 14.3 | - | - | 16.7 |
| **Ph.D.** | 05 | 03 | 04 | 06 | 04 | | - | - | - | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of the Department of Extension Education and Communication Management use ICT in teaching and practical for curricula delivery. All faculty members have computer, printer, and internet connection in their offices. Wi-Fi facility is also available in the University for the faculty, staff and students. Such infrastructure provides opportunities for effective use of ICT in teaching. All teaching labs are equipped with LED projectors and internet connection. Faculty members use PPTs, educational games and videos to make teaching an interactive, interesting and experiential activity. Use of WhatsApp groups and e-mail is done to remain connected with the students and addressing their queries. Availability of interactive board in the PG teaching Lab. provides opportunity for use of graphics, video, audio leading to interactive learning









# EECM Department: Media Coverage



## विद्यार्थी अनुशासन, मेहनत और लगन से हर लक्ष्य को प्राप्त कर सकते हैं : प्रो. बी.आर काम्बोज

### हकृवि के गृह-विज्ञान में तीन प्रशिक्षण का हुआ समापन





## परिवार की धुरी है महिलाएं, उन्हें आगे बढ़ाने के लिए प्रोत्साहन की जरूरत : संतोष कुमारी





## गेहूं-चावल के मुकाबले मोटे अनाज का सेवन सेहत के लिए फायदेमंद : डॉ. मंजू

समस्त हरियाणा न्यूज

**हिसार, 22 मार्च।** चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय के गृह विज्ञान महाविद्यालय के विस्तार शिक्षा एवं संचार प्रबंधन विभाग की टीम ने गांव बालावास में महिलाओं के विकास के लिए कार्यशाला का आयोजन किया। इस कार्यशाला का आयोजन जी-20 के अंतर्गत गृह विज्ञान महाविद्यालय की अधिष्ठाता डॉ. मंजू महता के नेतृत्व में करवाया गया। कार्यशाला में विभागाध्यक्ष डॉ. वीना यादव ने ग्रामीण महिलाओं के सशक्तिकरण के लिए प्रशिक्षण एवं सेवाओं की जानकारी दी, साथ ही जी-20 का महत्व बताया। उन्होंने बताया कि 2023 को अंतरराष्ट्रीय पोषक अनाज वर्ष के रूप में मनाया जा रहा है। गेहूं-चावल के मुकाबले मोटा अनाज उगाना और खाना दोनों ही ज्यादा फायदेमंद है, जिससे शरीर को इम्युनिटी मजबूत होती है और बीमारियों से लड़ने की शक्ति मिलती है। सहायक प्राध्यापक डॉ. वंदना वर्मा ने बच्चों को स्वच्छता व स्वास्थ्य के प्रति जागरूक रहने का संदेश दिया। सहायक वैज्ञानिक डॉ. संतोष रानी ने गृह-वाटिका लगाने के लिए जागरूक किया। उन्होंने बताया कि गृह वाटिका से घर के चारों और खाली भूमि का सदुपयोग होता है, साथ ही मनपसंद सब्जियां भी मिलती है, जोकि ताजा साफ-सुथरी व कीटनाशक रहित और पोषक तत्वों से भरपूर होती है। गांव के सरपंच पवन बुडानियां व समाजसेवक अध्यापक सुरेश कुमार ने कार्यशाला के आयोजन में मुख्य भूमिका निभाई। उन्होंने महिलाओं व बच्चों को कार्यशाला में बढ़-चढ़कर भाग लेने के लिए प्रेरित किया। आंगनबाड़ी वर्कर प्रोमिला देवी व तारो देवी ने भी आईसीडीएस की स्कीमों के बारे में महत्वपूर्ण जानकारी दी।

## पौधारोपण के साथ-साथ उनकी देखभाल भी जरूरी : डा. मंजू मेहता

- होम साइंस कॉलेज की छात्राओं ने डीभी में ग्रामीणों को किया पौधारोपण के प्रति जागरूक





**6.4.10** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and PhD Degree Programmes, separately, and to be presented College-wise.

**6.4.11** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Dr. Manju Mehta,** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the College, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# Programme # 3



# M.Sc., Foods and Nutrition

# and

# Ph.D., Foods and Nutrition


Colour
Appearance
Aroma
Texture
Taste
Control biscuit
5%
10%

## 6.4. SELF STUDY REPORT OF PG PROGRAMME

### About the Department

The Department of Foods and Nutrition was established in the year 1976 and is one of the outstanding departments of CCSHAU, Hisar. The M.Sc. degree programme in Foods and Nutrition was started in the year 1976, Ph.D. degree programme in 1983 and PG Diploma in Human Nutrition and Dietetics in 2002. The Department attracts meritorious students from all over the country. International students also take admission in PG programme of the Department. The Department of Foods and Nutrition offers 16 courses at M.Sc. level and 13 courses at Ph.D. level **(Annexure VII-A)**. The Department has well qualified and experienced faculty members having vast teaching and research experience and also international exposure. The faculty of Department has been awarded with prestigious fellowships and awards, such as Common Wealth Fellowship, Indian National Science Academy, Young Scientist Award, Best Teacher Award, Best AICRP Team Award, Best Thesis Award etc. The faculty of Department has successfully completed many National and International projects funded by different agencies such as Department of Science & Technology, Department of Biotechnology, Ministry of Food Processing Industries, National Horticultural Board, UGC, ICAR, NATP, CSIR, Wagninghen University, Netherland etc. This Department added a feather in its cap in 2010 when Government of India, Ministry of Agriculture sanctioned 'Centre of Excellence on Processing and Value Addition of Pearl Millet', considering its expertise in processing, value addition and utilization of pearl millet grown in Haryana. At present one AICRP Scheme, one State Research Scheme and Centre of Excellence on Pearl Millet are going on in the Department. Departmental research addresses the major nutritional problems of Haryana. Surveys are continuously being carried out for updating of nutritional status profile of vulnerable populations of Haryana. The Department focuses on development and popularization of value added food products which can curb problems of food security, nutritional disorders and propagate good health. One of our major research focuses is on 'value addition' of local foods and utilization of underutilized foods. The developed technologies have good potential in meeting the nutritional security and also good scope of commercialization. Several MOU's of technologies have also been signed with entrepreneurs. Faculty of Department have published many research papers in reputed journals, manuals and books. There is no use of scientific research that limits itself to laboratories, therefore, the department responsibly takes up extension work to spread nutritional knowledge and technical know-how of the developed technologies among ICDS functionaries, SHG, *Anganwadi* workers, rural and urban masses through trainings/demonstrations/awareness campaigns, *Krishi Mela* etc. Besides this, celebrations of World Health Day ($7^{th}$ April), Breast Feeding Week (1-$7^{th}$ August), Nutrition Week (1-$7^{th}$ September), National Nutrition month (September), participation in *Krishi Mela* (*Rabi* and *Kharif*), technology exhibitions at State and National level etc. are also important regular activities of the Department. Department also collaborates with PNB, *Sacha Khera*, Directorate of Extension Education, Directorate Students Welfare etc. for imparting training to masses. All faculty members remain actively involved in teaching, research and extension activities.

### Objectives of the Department:

- To create awareness regarding the role of nutrition in normal and diseased conditions
- To educate individuals, families and communities to develop good food habits
- To impart scientific information on foods and nutrition
- To educate students for gainful employment as food professionals





**Visit of Dignitaries to Centre of Excellence at Dept. of Foods & Nutrition**

**6.4.1. Brief History of the Degree Programme**: *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

**M.Sc. Programme:** Master's degree programme in Foods and Nutrition was initiated in the year 1976. Entry qualification for Masters Programme is B.Sc. (Hons.) Home Science/ Community Science. Minimum duration of the programme is 02 years and maximum duration is 04 years.

**Objectives of initiating M.Sc. Programme:**

- To generate human resource in the field of Foods and Nutrition
- To strengthen the research component of the discipline

**Accomplishments of M.Sc. Programme:**

- During last five years (2018-23), 42 students have completed their Master's degree from this Department while18 student are on roll at present **(Annexure VII-B)**.
- One student (Ms. Varsha Kumari) has joined as Subject Matter Specialist, Home Science.
- One student (Ms. Vijay Chahal) joined as Asstt. Coach at SAI, New Delhi.
- One Student (Ms. Deeksha Sain) joined as Dietician.
- One student (Ms. Samta) joined as Nutritionist and later as Consultant-Diabetes Educator
- Students' research brought out one book chapter, 39 research papers and 10 abstracts **(Annexure VII-C)**.
- Three conferences were attended by M.Sc. students **(Annexure VII-D)**.

**Ph.D. Programme:** Doctoral degree programme in Foods and Nutrition was initiated in the year 1983. Entry qualification for Ph.D. programme is M.Sc. Foods and Nutrition. Minimum duration of the programme is 03 years and maximum duration is 05 years.

**Objectives of initiating Ph.D. Programme:**

- To produce advanced quality human resource in the discipline of Foods and Nutrition
- To strengthen the research component of the discipline

**Accomplishments of Ph.D. Programme:**

- During last five years (2018-23), 17 students have completed their doctorate degree from this department while16 students are on roll at present **(Annexure VII-E)**.
- Students' research brought out 14 research papers, 3 book chapters, 24 abstracts and 31 popular articles **(Annexure VII-F)**.
- Six students (Ms. Mamta Rani, Ms. Sikandra Devi, Ms. Vatsala, Ms. Sarita Verma, Ms. Pragati Godara, Ms. Neeta Kumari, Ms. Meenu Sirohi) have joined as Assistant Professor Home Science.
- Five students (Ms. Mumtaz Begum, Ms. Priyanka Rani, Ms. Vinita Sehrawat, Ms. Seema, Ms. Manisha Sindhu) have joined as PGT teacher in Delhi.
- Four students joined as SRF (Ms. Sarita Verma, Ms. Neeta Kumari, Ms. Suman, Ms. Reena) in various research projects.
- Twelve Ph.D. students cleared UGC NET and two got UGC JRF.
- Ph.D. students attended and participated in Seminars and Conferences **(Annexure VII-G)**.

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

One post of Professor, two post of Associate Professor/equivalent and eleven posts of Assistant Professor/equivalent are sanctioned. There is one Professors/equivalent (promoted under CAS) and posted in KVK. There are two Associate Professor/ equivalent (promoted under CAS). There are four Assistant Professors in the Department including one Assistant Professor posted at KVK. One Research Associate is also appointed in AICRP on Women in Agriculture.

| Sr. No. | Designation | Sanctioned | In-Place | Vacant position | Faculty recommended by the ICAR |
|---|---|---|---|---|---|
| **1.** | Professor and equivalent | 01 | 01 PP* | -- | 01 |
| **2.** | Associate Professor and equivalent | 02 | 02PP | -- | 02 |
| **3.** | Assistant Professor and equivalent | 11 (7+4*) | 4 (2+1*+1Consultant Faculty) | 07 | 04 |
| **4.** | Research Associate | 01 | 01 | -- | -- |
| | **Total** | **15** | **08** | **07** | **07** |

PP- Personal Promotion from Assistant Professor *Faculty posted at KVK

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

In the Department of Foods and Nutrition, there are 12 posts sanctioned for technical and supporting staff. In position there are 12 posts of technical and supporting staff, one person is re-employed as clerk and one person is on contractual basis against the post of messenger.

| Sr. No. | Designation | Sanctioned | In-Place | Vacant position | Technical and supporting staff recommended by the ICAR |
|---|---|---|---|---|---|
| **1.** | Assistant/ Steno | 01 | 01 | -- | 01 |
| **2.** | Clerk cum store keeper | 02 | 02 (1+1*) | -- | 01 |
| **3.** | Lab Asstt./ Technician/ Attendant | 05 | 05 (4+1*) | -- | 04 |
| **4.** | Messenger | 01 | 01* | -- | 01 |
| **5.** | Cook | 01 | 01 | -- | -- |
| **6.** | Beldar | 01 | 01 | -- | -- |
| **7.** | Sweeper | 01 | 01 | -- | -- |
| | **Total** | **12** | **12 (9+3*)** | **--** | **07** |

* Contractual staff/ apprentice employed against the vacant post

Note: All the staff is assigned responsibilities for the multiple programmes.

**6.4.3. Classrooms and Laboratories**: *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipment's, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

The Department has ten laboratories, one Seminar Room, one PG Classroom and one Departmental Library for conducting the classes of UG, PG and Ph.D. programmes. Hence, sufficient number of labs is there to meet the course curricula requirements.

| S. No. | Laboratories/ Classrooms | Purpose |
|---|---|---|
| **1.** | Cooking Lab-I (Lab No. 1) | Lab is being used for conducting cooking practical classes of UG and PG courses- Teaching/ research |
| **2.** | Cooking Lab-II (Lab No. 2) | Lab is being used for conducting cooking practical classes of UG and PG courses- Teaching/ research |
| **3.** | Bakery Lab (Experiential Learning unit) (Lab No. 4 & 5) | Lab is well equipped for conducting practical classes of cooking, baking as well as hands on training on bakery and confectionery |
| **4.** | PG Lab (Lab No. 18) | Lab is being used for food analysis related teaching/research work |
| **5.** | Food Processing Lab (Lab No. 3) | Lab is being used for food analysis related research work |
| **6** | AICRP Lab (Lab No. 25) | Lab is being used for research work of AICRP scheme |
| **7.** | Centre of Excellence (Lab No. 6) | The COE is used for research/demonstrations/trainings related to pearl millet processing and product development. |
| **8.** | Food Analysis Lab (Lab No. 38A) | Lab is being used for analytical research work. |
| **9.** | Community Nutrition Lab/ Diet Counselling Centre (Lab No. 38B) | Lab is being used for community nutrition teaching/research work, nutritional status assessment and counselling of subjects. |
| **10.** | Small Animal Research Lab (Lab No. 14 ) | Lab is being used for experiments on small animals (rodents/fish) as per CPCSEA mandate. |
| **Other Instructional Units being utilized for the Award of Degree Programme** | | |
| **11.** | PG Class Room (Room No. 11) | Used for PG teaching of FN Dept. |
| **12.** | Seminar Room (Room No. 20) | Seminar room is used for delivering seminars by PG students. |
| **13.** | Departmental Library (Room No. 5) | Reference material, thesis etc. are referred by PG students for preparation of assignments, synopsis and thesis work. |
| **14.** | Teacher's Office Rooms | Equipped with computers, web cameras and internet facility for online teaching whenever required. |

## List of Equipment/Facilities at present available in the Department

| Sr. No. | Location/Lab | Equipment/Facilities |
|---|---|---|
| **1.** | Centre of Excellence (Lab No. 6) | Extruder with attachment for puff, Destoner cum grader, Double deck oven, Spiral mixer, UV spectrophotometer, Weighing machine, Sealing machine, Vacuum Packaging machine, Parboiling unit, Tray drier, Hammer mill, Pearling machine, Puff gun , Semolina Making Machine, Cereal flake production line |
| **2.** | PG Lab (Lab No. 18) | Orbital shaker, Spectrophotometer, Hot air oven, Automatic Protein Analyser, Fibra plus, Automatic Fat Analyser, Weighing Balance, Water bath, Moisture Analyser, Muffle Furnace, Centrifuge, Water distillation unit, Refrigerator, Temperature humidity meter, magnetic stirrer, Blood analyzer, Food texture analyzer, Spinix Vortex Shaker |
| **3.** | Bakery Lab (Lab No. 4 & 5) | Pasta making machine, Dough sheeter, Single deck electric baking oven, Display case, Spiral mixer machine, Planetary mixer, Proofing cabinet, Electric oven double deck, Weighing balance, water purifier, Deep freezer, Microwave oven, Cookie Dropping Machine, Biscuit Cutting Machine |
| **4.** | Food Processing Lab (Lab No. 3) | Deep freezer with digital temp Controller, Automatic Protein Analyser, Fibra plus, Automatic Fat Analyser, Spectrophotometer, Rotary shaker, Chakki grinding mill, Vacuum oven, Hot air oven, Centrifuge, Lyophilizer, Cooling centrifuge, Deep freezer |
| **5.** | AICRP Lab ( Lab No. 25) | Hot Air Oven, Refrigerator, Deep Freezer, Cooling Incubator, BOD Incubator, Centrifuge, Orbital Shaker, Socs Plus, Environmental Shaker, Kel Plus, Water Bath Shaker, Vacuum Oven, Fibra plus, Cyclotec Mill, Digital balance, water purifier |
| **6.** | Cooking Lab-1 ( Lab No. 1) | Refrigerator, Food ingredient weighing scale, Gas stoves, Mixi |
| **7.** | Cooking Lab-1I ( Lab No. 2) | Refrigerator, Food ingredient weighing scale, Gas stoves, Oven Toaster Griller (OTG), water purifier, Air fryer, Roti maker, Induction stove, Water Dispenser |
| **8.** | Food Analysis Lab (Lab No. 38A) | Fume hood, Hunter colour Lab, Vacuum dehydrator, Ultrasonic bath, Spectrophotometer, Deep freezer cum refrigerator, All quartz water distillation, NIR UV-Vis Spectrophotometer, Bio Safety Cabinet, Water bath with shaker, Automatic protein analyser, Vortex shaker, Auto pipettes |
| **9.** | Community Nutrition Lab/Diet Counselling Centre (Lab No. 38B ) | Body composition analyzer, Weighing scale, Heightometer, LCD/LED projector, Computers/Printers along with computer work stations and internet facility. Diet Cal software installed for student use. |
| **10.** | Small Animal Research Lab (Lab No. 14 ) | Air curtains, Animal cages, Aquarium, Web Camera, Refrigerator |

## Theory and Practical Batches

- At M.Sc. level, the Department of Foods and Nutrition offers 16 courses and 10 courses have practical components. There are 5-6 students per year in M.Sc. programme. Some courses are offered as minor courses for students of other Departments. There is single batch for theory as well as for practical classes in all the M.Sc. courses with an average of 7-10 students.
- Similarly, at Ph.D. level there is single batch for theory as well as for practical classes in all the Ph.D. courses. Department of Foods and Nutrition offers 13 courses and amongst these, three courses have practical components.

**6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

**Conduct of Practical and Hands-on-Training in M.Sc., Foods and Nutrition**

At M.Sc. level the Department of Foods and Nutrition has16 courses. Out of these 16 courses, 10 courses provide practical skills and hands-on training as per the curriculum requirements. In addition to these courses, one course on Masters Research also provides hands-on-experience in research.

| Course No. Title Credit Hours | Practical and Hands-on-training courses | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|
| **FN 501 Food Science** 3 (2+1) | • Microscopic structure of different starch granules<br>• Evaluation of food by subjective and objective methods<br>• Changes in colour, texture and flavour of foods due to processing; effect of cooking on protein, fat and carbohydrates<br>• Product preparation using leavening agents; project work | • Students understand the physico-chemical properties of foods<br>• Students can appreciate the effect of processing techniques on food and nutrients.<br>• Students learn the sensory evaluation methods. |
| **FN 503 Food Analysis** 4 (1+3) | • Handling of equipment and instruments<br>• Preparation of samples, solutions and buffers<br>• Quantitative estimation of proximate principles, minerals and vitamins by use of calorimetry, flame photometry, UV spectrophotometer, chromatography, atomic absorption spectrophotometer and photo fluorometry; analysis of anti-nutritional factors; estimation of protein and starch digestibility; fractionation of protein; food adulteration. | • Students learn precision with the principles, techniques and application of different methods of analysis for varied food and products<br>• The students are equipped with knowledge to ascertain quality of the developed food products. |
| **FN 504 Advances in Community Nutrition** 3 (2+1) | • Development of low cost nutritious recipes suitable for various vulnerable groups<br>• Visit to the on-going public health nutrition programme and report writing<br>• Techniques of assessment of nutritional status. | • Students understand the nutritional problems of the community and gain skills for planning and executing nutrition projects of the community<br>• Students learn techniques of assessment of nutritional status.<br>• Students acquire skills in management of adequate nutritional statures of the population conducive to National Development. |
| **FN 506 Advances in Clinical Nutrition** 4 (2+2) | • Biochemical analysis of blood under normal and diseased conditions for glucose, calcium, iron, creatinine, urea, uric acid, albumin, globulin, cholesterol, phosphate, glutamate oxaloacetate transaminase, glutamate pyruvate transaminase, phospholipids<br>• Analysis of urine for specific metabolites under normal and diseased conditions | • Students learn to carry out the analysis of different nutrients and metabolites in blood and urine in normal and diseased conditions.<br>• Students understand the inter-relationship, etiology and management techniques to a specific disease situation |

| | | |
|---|---|---|
| **FN 508 Nutrition and Physical Fitness** 3 (2+1) | • Project work: planning of project, development and standardization of tool, collection of data, analysis of data, report writing. | • Students learn to identify, evaluate and evolve ways in addressing various aspects of physical fitness.<br>• Students learn the recent techniques of estimating body composition and energy metabolism for assessment of nutritional status. |
| **FN 509 Advanced Diet Therapy** 3 (2+1) | • Formulation of food exchanges<br>• Therapeutic modifications of diet in terms of nutrients, consistency and composition for various disorders and diseases<br>• Preparation of SOAP notes and case studies.<br>• Visits to hospitals. | • Students put theoretical knowledge to practical use, plan diets for therapeutic conditions.<br>• Course enables the students to become effective member of Health Care Team in Medical Nutrition Therapy. |
| **FN 511 Advanced Human Physiology** 3 (2+1) | • Estimation of haemoglobin<br>• Identification of blood groups; preparation of blood slide<br>• Identification and counting of blood cells<br>• Haematocrit and sedimentation rate<br>• Measurement of blood pressure<br>• Examination of abnormal constituents of urine<br>• Estimation of glucose and cholesterol in blood. | • Students learn complex physiological systems of the human body through scientific enquiry into the nature of mechanical, physical and biochemical function of humans, their organs. |
| **FN 512 Food Service Management** 3 (1+2) | • Standardization of recipes: planning and preparation, modification in basic recipe,<br>• preparation of standard recipe<br>• Use of left over foods<br>• Visit to different types of food service institutions and study the following: organization, physical plan and layout, food<br>• service equipment, sanitation and hygiene<br>• Practical experience in organization and management of college cafeteria/ hotels | • Students learn the multi-dimensional knowledge associated with institutional food service in a given setup.<br>• Students have the knowledge to set up and manage their own small scale food service set up. |
| **FN 513 Food Product Development** 2 (1+1) | • Sensory evaluation: methods, training of judges, score card preparation. Selection and modification of food product to be developed<br>• Formulation and standardization of products<br>• Objective and subjective evaluation of the products<br>• Evaluation of consumer acceptability<br>• Packaging and sale of products.<br>• Preparation of video film for media | • Students understand the concept of product development, their sensory evaluation and quality control.<br>• Students learn the application of sensory evaluation methods. |
| **FN-599 Master's Research** 20 | Research work under Master's programme | • Nutritional status assessment of rural and urban community.<br>• Development of value added and therapeutic food products.<br>• Organoleptic acceptability, nutritional analysis and shelf life of developed products |

## Conduct of Practical and Hands-on-Training in Ph.D., Foods and Nutrition

The Department of Foods and Nutrition offers 13 courses at Ph.D. level. Out of these 13 courses, 02 courses provide practical skills and hands-on training as per the curriculum requirements. In addition to these courses, one course on Ph.D. Research also provides hands-on-experience in research.

| Course No. Title Credit Hours | Practical and Hands-on-training courses | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|
| **FN 603 Minerals in Human Nutrition** 3(2+1) | • Assessment of antioxidants in foods<br>• Project to combat micro nutrient deficiencies vulnerable sections, groups with special needs | • Students appreciate importance of macro and micro nutrients in health.<br>• Students can analyze antioxidants and minerals in foods.<br>• Students also plan small scale project to study micro nutrient deficiencies in vulnerable sections and groups of special needs |
| **FN 610 Maternal and Child Nutrition** 3(2+1) | • Preparation of a database on prevailing supplementary and weaning practices-planning, collecting data, analyzing data, writing report<br>• Preparation of low cost complementary foods<br>• Analysis of weaning/ complementary foods for its nutrient content | • Students study prevailing supplementary and weaning practices in community.<br>• They plan mini project and collect data on maternal health, students also prepare low cost complementary foods |
| **FN 699 Doctoral Research** 45 | • Research work under Doctoral programme | • Food consumption trends and their relation to life style diseases.<br>• Development and evaluation of value added and therapeutic food products. |









**Student Researches**

The Department of Foods and Nutrition is running Experiential Learning Unit on 'Bakery and Confectionery. Under Experiential Learning, PG and Ph.D. students standardize bakery and confectionery products recipes and get experience right from procurement of raw material to the sale of products. The students learn and develop capabilities of building entrepreneurship and business management for creating employment.







**6.4.6. Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

Department of Foods and Nutrition has qualified faculty to guide M.Sc. and Ph.D. students.

**M.Sc. Programme**

| Year | Number of PG faculty | Number of students on roll | Teacher-Student Ratio (T:S) |
|---|---|---|---|
| **2018-19** | 9 | 27 | 1:3.0 |
| **2019-20** | 8 | 24 | 1:3.0 |
| **2020-21** | 4 | 24 | 1:6.0 |
| **2021-22** | 4 | 26 | 1:6.5 |
| **2022-23** | 4 | 19 | 1:4.7 |

**Ph.D. Programme**

| Year | Number of PG faculty | Number of students on roll | Teacher-Student Ratio (T:S) |
|---|---|---|---|
| **2018-19** | 9 | 16 | 1:1.7 |
| **2019-20** | 8 | 16 | 1:2.0 |
| **2020-21** | 4 | 20 | 1:5.0 |
| **2021-22** | 4 | 23 | 1:5.7 |
| **2022-23** | 4 | 23 | 1:5.7 |

**6.4.7. Feedback of Stakeholders *(Students, Parents, Industries, Employers, Farmers etc.):*** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

- The performance of faculty is also reviewed on the basis of their results and feedback from students.
- Students of Module I are placed in different Institutions for In-plant training. Teachers visit these Institutions during training period of students and conduct meetings with authorities of the Institutes. Any suggestions provided by them are incorporated in the curriculum.
- Students of final year visit villages for Rural Agricultural Work Experience where they apply their theoretical knowledge in training rural people for transfer of technology. The interaction of students with villagers, local leaders and grass root workers give feedback in improving the curriculum.
- The stakeholders' feedback on the overall performance and quality of the Institutions is obtained through general meetings with parents and interaction with alumni. The teachers get feedback from the students based on their parents' observation and suggestions. These suggestions are discussed in DAC and Bos to make required improvement.



**Feedback from Alumni**



**Feedback from Rural Stakeholders**



**Feedback from ICDS Workers**

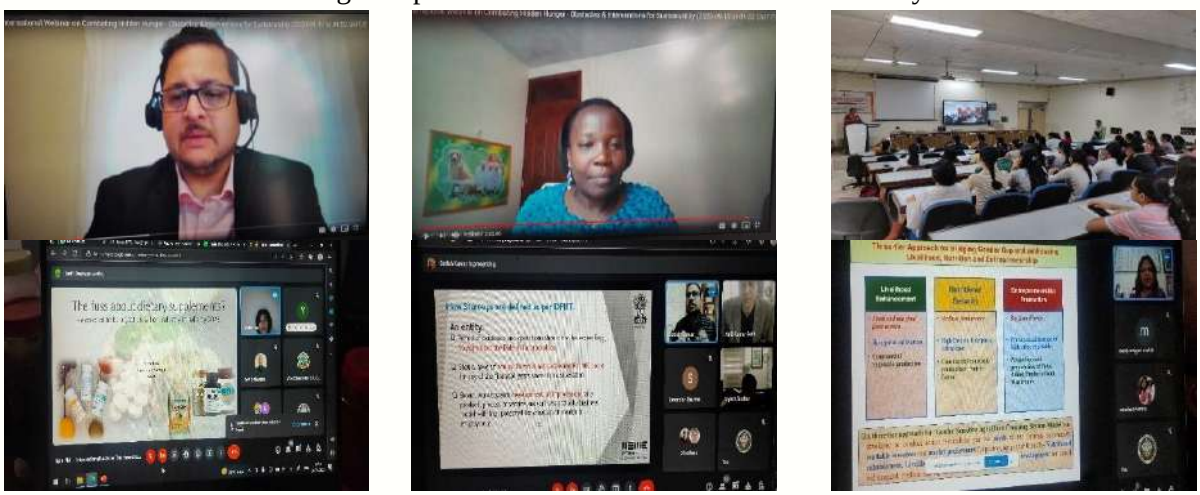
**6.4.8. Student Intake and Attrition in the Programme for the Last five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Programme | Actual number of student admitted | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| M.Sc. | 7 | 9 | 8 | 9 | 9 | - | - | - | - | - |
| Ph.D. | 5 | 4 | 7 | 3 | 4 | - | - | - | - | - |

**6.4.9. Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

Yes, the faculty members of Foods and Nutrition use ICT in theory and practical classes. There is one Seminar Room with computer, LCD/LED projector and internet connection. The faculty of Foods and Nutrition delivers the course contents to students through proper use of ICT (CD, DVD, pen drive, LCD/LED projector, emails, internet, smart class room, interactive boards, scanner, computers etc.) which is worth in understanding the basic concepts of courses and developing expression power, improving comprehension, speed and vocabulary, developing self-concept and value clarification.

Faculty is well apt with use of ICT. Other than using it for daily teaching, Several National/International lectures/webinars/training programs/workshops have been organized using online mode. Thus increasing the sphere of interaction of students with faculty from India and abroad.



**Use of ICT for lectures/Webinars/Workshops**

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Dr. Manju Mehta**, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the College, and degree awarding university.

Mehta

**Signature of Dean of the College with Date & Seal**

# Programme # 4



# M.Sc., Family Resource Management

# and

# Ph.D., Family Resource Management
















## 6.4. SELF STUDY REPORT OF PG PROGRAMME

### About the Department

The Department of Family Resource Management (FRM) was established in the year 1982. Both the M.Sc. and Ph.D. programmes were launched in 1982 and 1994, respectively. Since that time, it has been endeavouring to achieve its objectives in accordance with the department's mandate to foster academic excellence in the discipline of Family Resource Management. The Department offers 10 Ph.D. courses and 17 M.Sc. courses **(Annexure VIII-A)**. Courses on management concepts, consumer issues, housing and space management, interior design and its application, family financial management, energy and the environment, appropriate technology, occupational biomechanics, consumer product design and ergonomics and its application in daily life are all included in the postgraduate programmes and doctoral programmes. The faculty members are highly qualified, experienced and have a wide range of exposure. They are involved in teaching, research and extension activities. A certificate of appreciation for Reducing Drudgery of Women at Global Conference, ICAR, New Delhi, 2012, and the Chaudhary Devi Lal Outstanding AICRP Award (ICAR) for AICRP on Home Science, 2003, have both been awarded to the department's teachers. The Bureau of Indian Standards' Ergonomics Sectional Committee is primarily comprised of members from the Department of FRM. The faculty members have served as the Technical Coordinator for an All India Coordinated Research Project on Home Science as well as a member of the QRT Team for an All India Coordinated Research Project on Ergonomics for Safety in Agriculture (ESA). The faculty has successfully managed numerous research projects. Currently, research is being carried out in the focus areas of Family Resource Management through the 'All India Coordinated Research Project on Women in Agriculture (AICRP) and state scheme 'Resource Conservation and Management for Sustainable Living'. In addition to manuals and book chapters, the departmental faculty has produced a number of research papers in reputed national and international journals. Through trainings, demonstrations, and awareness campaigns, faculty members actively participate in extension activities to spread knowledge and technical expertise of the created technologies to the rural and urban people.

Additionally, the Department has excelled in creating various technologies to lessen the laborious tasks that women in agriculture perform and numerous patents have been submitted. Three innovations got their designs registered with the GOI Patent Office. In addition to this, the faculty members are actively involved as subject matter experts in a number of national and international academic committees, including the Board of Studies (FRM) in Patiala and Udaipur, the referee for Journal of Research in Dharwad, Karnataka, Palampur, Ludhiana, as well as IGNOU, the international organising committee for HWWE and the Indian Society of Ergonomics. Presently there are two Professors/equivalents (promoted under CAS) and two Assistant professors/equivalents in the Department.

### Objectives of the Department:

- To enlighten the students about new dimensions and possible challenges to become proficient administrators of personal and community resources.
- To impart design knowledge to the students in order to create high-quality interior and exterior consumer items.
- To explore challenges related to resource management, resource conservation and development of technology that is suited for the home, farm and allied sector.
- To sensitize the rural masses through dissemination of appropriate technologies in relation to home, farm and allied sector for uplifting the quality of life.

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the degree program was initiated along with its objective and accomplishments.*

**M.Sc. Programme**

M.Sc. programme was started in the year 1982. Since then it has been working towards accomplishing its goals as per the mandate of the Department to promote academic excellence in field of Family Resource Management. Entry qualification for Master's programme is B.Sc. (Hons.) Home Science/Community Science and minimum duration of the Master's programme is 2 years and maximum duration is 4 years.

**Objectives of initiating M.Sc. Programme**

To provide academic excellence to students in the following thrust areas:

- Ergonomics and its application in daily living
- Drudgery reduction through technology development
- Fuel energy conservation and renewable energy
- Environmental and ecological issues
- Housing, space management and interior designing
- Family resources and consumerism

**Accomplishments of M.Sc. Programme:**

- Sixteen M.Sc. students have completed degree from Department of Family Resource Management and fourteen are on roll **(Annexure VIII-B)**.
- 22.5 per cent students went for higher studies during last five years.
- Ms. Aprajita Kumari (2012HS30M) joined as Assistant Professor at Women College, Samastipur, Jharkhand in 2018.
- Ms. Anita Gautam (2008HS20M) joined as Subject Matter Specialist at Dr. Rajendra Prasad Central Agricultural University, PUSA Bihar in 2018.
- Ms. Aparana Rai joined as Assistant Professor at IIM Udaipur in 2018.
- Ms. Ekta Melkani (2017HS35M) received patent design for bead product workstation with Design No. 106277 dated 21.12.2021
- Ms. Khusbhoo (2017HS35M) applied for patent design for Motile cattle feeding trolley with Application No. 339710-001
- Ms. Ekta Melkani (2017HS35M) received Dr. (Mrs.) Saroj Kashyap Gold Medal for Excellent M.Sc Research work
- One student Ms. Majji Chaya Priya (2021HS13M) received ICAR NTS in year 2021 for pursuing M.Sc.
- Ms. Ekta Melkani (2017HS35M) received ICAR SRF fellowship for pursuing Ph.D.
- Ms. Aysha Be (2019HS10M) received NET JRF fellowship for pursuing Ph.D.
- Ms. Anjali Gairola (2016HS23M) received UGC NET in 2018
- Ms. Anjali (2016HS23M) received ICAR SRF fellowship for pursuing Ph.D. in 2018
- Ms. Naina Sharma (2013HS26M) joined as Assistant Professor at Government Women Post Graduate College, Kandhla, Shamli in 2021.
- Three M.Sc. students cleared NET during last five years.
- Post Graduate Students' publish 31 research papers during last five years **(Annexure VIII- C)**.
- Students attended various conferences and presented oral and poster of research papers. **(Annexure VIII- D).**
- Three M.Sc. students got placement as guest faculty during 2018-2022.
- Ms. Karamjeet Kaur (2018HS09M) joined Department of Education, Panchkula in 2018.

- Students have developed package of media/literature on different technologies, interventions for imparting knowledge among rural communities.
- M.Sc. students developed 17 technologies under their research work viz. bead product workstation, Motile cattle feeding trolley, load carrier, multipurpose study table, Versatile Handy Trolley, Tandoor-cum-*Chulha*, handicraft chair, mobile milking stool and solar cap.



**Tools Developed by Students under their Research Work**

## Ph.D. Programme

The Ph.D. programme was started in year 1994. For Doctorate programme entry qualification is Master's programme; minimum duration is 3 years and maximum duration is 5 years.

## Objectives of initiating Ph.D. Programme

- To sensitize the rural masses through dissemination of appropriate technologies in relation to home, farm and allied sector for uplifting the quality of life.
- Promotion and development of inclusive infrastructure for human well-being, with a focus on affordable and equitable access for all.
- Promotion of gender equality and the empowerment of women in agriculture and allied sectors

## Accomplishments of Ph.D. Programme

- Total 15 students passed out and 09 are on roll **(Annexure VIII- E)**.
- Ms. Savita Kumari (2012HS15D) received patent design for Composite stool for pruning and harvesting no. 305085 dated 25.11.2019.
- Ms. Kanchal Shilla (2014HS13D) applied for patent design for KS-Secateurs by Design No. 356939-001.

- Ms. Komal (Admn No. 2015HS9D) received Dr. (Mrs.) Savita Singal Gold Medal for Excellent Ph.D. Research work.
- Ms. Komal (2015HS9D) received University Level Gold Medal for obtaining highest OGPA.
- Two Ph.D. students cleared NET during last five years.
- Ms. Divya Shree (2020HS07D) is Content writer at Trando Consulting Services.
- Ms. Neha Gahlot (2013HS11D) joined as Subject Matter Specialist at KVK Phalodi (Jodhpur-II), Jodhpur Agricultural University, Jodhpur.
- Ms. Savita Kumari joined as Subject Matter Specialist at KVK, Lahaul and Spiti-II at Tabo, Solan, Himachal Pradesh in 2018.
- Ms. Promila Dahiya (2010HS105D) joined as Assistant Professor at FRM, COHS, CCSHAU, Hisar in 2019.
- Ms. Kanchan Shilla (2014HS13D) joined as Subject Matter Specialist at KVK, Subject Matter Specialist, Krishi Vigyan Kendra Hanumangarh-II, Nohar Rajasthan University of Veterinary and Animal Science, Bikaner in 2022.
- Ms. Komal (2015HS09D) joined as Senior Research Fellow under NAFS, COHS, CCSHAU, Hisar in 2020.
- Two Ph.D. students got placement as Guest faculty.
- Students' research brought out 96 research papers and 08 book chapters during last five years.
- Fifteen Ph.D. students completed degree during last five years and 09 are on roll.
- Four Ph.D. students cleared NET exam during last five years.
- Students published research papers and attended various conferences and presented oral and poster presentations of research papers **(Annexure VIII-F & G).**
- Students have developed package of media/literature on different technologies, interventions for imparting knowledge among rural communities.
- Two Ph.D. students joined as Young Professionals.
- Ph.D. students developed 11 technologies by working on Ergonomics and drudgery reducing technologies. Developed technologies are Composite stool for pruning and harvesting, KS-Secateurs, fruit cutter, head load manager, ergo dung collector, scholar chair, convertible book case, head load manager; Foldable standing load carrier, Folding iron table with storage cabinet, Grater Box.



**Tools developed by Ph.D. Students**

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

One post of Professor, three post of Associate Professor/equivalent and six post of Assistant Professor/equivalent are sanctioned. There are three Professors (all promoted under CAS), out of these one is posted in KVK. There are two Assistant Professors in Department. One Associate Professor/ equivalent is posted at KVK. Two Young Professionals are working in AICRP on Women in Agriculture.

| Sr. No. | Designation | Faculty | In-Place | Vacant position | Faculty recommended by the ICAR |
|---|---|---|---|---|---|
| **1.** | Professor and equivalent | 01 | 03 (2PP+1*) | -- | 01 |
| **2.** | Associate Professor and equivalent | 03 (2+1*) | 01* | 02 | 02 |
| **3.** | Assistant Professor and equivalent | 06 (3+3*) | 03 (02+1 Consultant Faculty) | 01 (2 Promoted to Professor) | 04 |
| **4.** | Young Professional | 02 | 02 | -- | -- |
| | **Total** | **12** | **09** | **03** | **07** |

PP- Personal Promotion from Assistant Professor *Faculty posted in Extension

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes. Faculty appointed in teaching also carries out teaching and extension activities; faculty appointed in research also conducts teaching and research; faculty appointed in extension also guide PG students.

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

In the Department of Family Resource Management, there are 13 posts sanctioned for technical and supporting staff. In position, there are 10 posts of technical and supporting staff. There are three persons on contractual basis/ Apprenticeship.

| S. No. | Designation | Sanctioned | In-place | Vacant position | Technical and supporting staff recommended by the ICAR |
|---|---|---|---|---|---|
| **1.** | Assistant/ Steno | 02 | 02 (1+1*) | -- | 01 |
| **2.** | Lab Asst./ Sr. Lab. Asst./Technician/ Attendant | 05 | 03 | 02 | 04 |
| **3.** | Messenger | 01 | 01* | -- | 01 |
| **4.** | Mali/ Beldar | 05 | 04 (3+1*) | 01 | - |
| | **Total** | **13** | **10** | **03** | **07** |

*****Contractual Staff/Apprentice

**Note:** All the staff is assigned the responsibilities for the multiple programmes

**6.4.3. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

The Department has six labs for UG and PG teaching, Seminar Room, PG Resource Room and Departmental Library. Hence, sufficient numbers of labs are there to meet the course curricula requirements. Department also has Domestic Farm Unit (DFU) for students' research work and practicals.

| S. No. | Name of Lab/Classroom | Purpose |
|---|---|---|
| **1.** | Research Lab (Lab No. 74) | Ergonomics related practical classes and students' research work |
| **2.** | Furnishing Lab (Lab No. 46) | Interior's aspects and Table setting/ napkin folding |
| **3.** | Activity Lab (Lab No. 78) | Preparation of Creative articles in the course FRM 405 |
| **4.** | Computer Lab (Lab No. 84) | Practical Auto CAD course and PG students' work |
| **5.** | Design Studio Lab (Lab No. 41) | U.G. & P.G. practical classes related to housing and designing |
| **6.** | Consumer & Appropriate Technology Lab (Lab No. 44) | Taking practical classes of equipment's, appropriate technology and housing. |
| **Other instructional units being utilized for the award of degree programme** | | |
| **7.** | Seminar Room (Room No. 91) | Used for presentation of assignments and delivering seminars by PG students and also used for conducting UG & PG classes |
| **8.** | P.G. Resource Room (Room No. 92) | PG Teaching |
| **9.** | Departmental Library (Room No. 75) | Reference material, journals, thesis etc. are referred to PG students for preparation of assignments, synopsis and thesis work. |
| **10.** | Domestic Farm Unit | Taking practical class on flower arrangement, home stay tourism and agri-business tourism<br>Domestic Farm Unit is used for taking practicals related to appropriate technologies, flower arrangements, floriculture, vegetables etc. |
| **11.** | Teacher's Office Rooms | Equipped with computers, web cameras and internet facility for online teaching whenever required. |



**Departmental Labs**

**List of Equipment/ Facilities at present available in the Department:**

| S. No. | Location/Lab | Equipment/ Facilities |
|---|---|---|
| 1. | Computer Lab (Lab No. 84) | Desktop computers (18), UPSs, Computer Tables, Chairs |
| 2. | Research Lab (Lab No. 74) | B.P. Apparatus Digital, Anthropometric sliding caliper and Spreading caliper, Heart Rate monitor with interface, inter face Electronic treadmill with Acc., Digital temperature Indicator<br>Portable hand held Camera, Environmental kit for temperature humidity, light noise and sound intensity, Polar heart rate monitor model, Peak fellow meter, B.P. Apparatus (Diamond), Stethoscopes, Sapling transplanter, Digital wood/timber moisture meter, Extendable goniometero-18 degree built in 4x magnifying lens, Digital grip dynamometer range-0-1kg, Half minute calibrated electronic metronome, Oximeter, Push and Pull dynamometers, Air quality monitor, Spirometer (PFT), Proto type work station top wooden plate flat, Stop watch (swiss), Lux meter digital, Drudgery reducing farm tools, Blood Lactate analyser, Non-Contact Thermometer, Complete Digital Body Composition Monitor, Digital Temperature Hygrometer, Complete Digital Body Composition Monitor, Solar lighting, Air Quality Meter, Finger Tip Pulse Oximeter, Lux Meter, Sound level meter, Lactate analyzer |
| 3. | Consumer & Appropriate Technology Lab (Lab No. 44) | Vacuum cleaner, Microwave, Oven, electric iron, refrigerator, dishwasher, washing machine, drudgery reducing small tools and appliances, Solar Power Plant at rooftop of I.C. COHS |
| 4. | Furnishing Lab (Lab No. 46) | Living room, dining room & bed room furniture and furnishings |
| 5. | Activity Lab (Lab No. 78) | Refrigerator, Water Filter |
| 6. | Seminar Room (Room No. 91) | Multi Media with computer and sound system |
| 7. | Domestic Farm Unit | Walk in tunnel for cut flowers (Poly house), Lawn Mower Electric, Bush Cutter and other agricultural tools |

**Theory and Practical Batches**

The Department of FRM offers 17 M.Sc. courses and 15 courses has practical components. Some courses are offered as minor courses for students of other departments. There is only one batch for theory classes and one batch for practical classes in all the courses with an average of 4-12 students. Similarly, at Ph.D. level, there is only batch for theory and practical classes each in all the courses. For Ph.D., the Department of FRM offers 10 courses and 06 courses have practical components.

**6.4.5. Conduct of Practical and Hands-on-Training**: *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

**Conduct of Practical and Hands-on-Training in M.Sc. Family Resource Management**

The Department of Family Resource Management offers 17 courses at Master's level. Out of these 17 courses, 14 courses have practical component besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements. In addition to these courses, one course on Masters Research also provides hands-on-training in research.

| Course No.<br>Title<br>Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|
| **FRM 502**<br>**Fundamentals of Ergonomics**<br>3 (2+1) | • Experience with ergonomic research tools; learning how to take Anthropometric measures, body composition and size analysis, physical fitness evaluation utilising a variety of methods, and procedures for calculating the ergonomic cost of work in terms of physiological indicators<br>• Analysis of posture, measurement of various environmental parameters, determination of work-rest cycles, evaluation of physical workload, and evaluation of the impact of environmental factors on worker and work performance | • Learn how to employ ergonomic tools, evaluate physical fitness using a variety of approaches, and evaluate the ergonomic cost of employment in terms of physiological parameters.<br>• Determine the physical workload; evaluate the work-rest cycle; assess posture and postural pain using the OWAS, RULA, Human Body Map, and ODS approaches; and measure a variety of environmental factors, such as temperature, relative humidity, light, noise, and others. Analyse how environmental factors affect employees' performance at work. |
| **FRM 503**<br>**Advanced Interior Space Management**<br>3 (2+1) | • Visit furniture and furnishing showrooms, hotels, residential structures and building design colleges to spot emerging trends -Market analysis of surface components, coatings, fixtures, and fittings<br>• Exact pricing estimates for interior decoration and design components | • In order to spot emerging trends in surface materials, finishes, fittings, and fixtures, students tour building design institutions, hotels, furniture and furnishing showrooms, and residential structures. Students get hands on experience in cost estimation of interior design and decoration elements |
| **FRM 504**<br>**Advanced Housing**<br>3 (2+1) | • Visits to housing development organizations and building design centres. Analysis of building forms in various geo-climatic regions. Evolution of eco-, ergo-, and space-saving house plans for chosen geo-climatic regions for various socio-economic groups through CAD | • Suggesting affordable improvements after visiting building design institutes and housing development organizations |

| | | |
|---|---|---|
| | • Construction cost estimates, evaluation of current floor plans and recommendations for affordable modifications, and landscape planning | |
| **FRM 505**<br>**Consumer Issues and Challenges**<br>3 (2+1) | • Identifying issues with rural and urban consumers<br>• Project work: thorough analysis of any single identified issue-identifying solutions to the issue -creating consumer education materials on a certain topic | • Examine consumer issues and observe Consumer Day. |
| **FRM 506**<br>**Consumer Guidance and Counselling**<br>3 (2+1) | • Visit to local consumer *Lok Adalat*<br>• Probing out the structure and functioning of consumer court<br>• Understanding the procedures for filing a consumer complaint | • Practical insight to students regarding redressal forum and acquaintance with legal procedure of hearing and remittance of damaged or wrong product. Complaining against other fraudulent practices prevailing in society. |
| **FRM 507**<br>**Consumer Communication Media**<br>3 (1+2) | • Consumer communication media-impacting masses<br>• Exploring the different print media and electronic media on consumer behaviour<br>• TV & Radio Advertisements content analysis<br>• Mini research on a specific consumer issue and developing a communication package to educate not awaked population<br>• Study the Role of advertising as a mode of communication<br>• Developing a consumer friendly advertisement for a specific product<br>• Report writing and presentation | • Communication package prepared on a specific consumer issue.<br>• Report writing and presentation.<br>• Develop a consumer friendly advertisement for a specific product. |
| **FRM 508**<br>**Product Design, Testing and Evaluation**<br>3 (1+2) | • Standardisation norms for worker health and safety<br>• User choice in the design of a particular consumer product<br>• Understanding the chosen consumer products through manufacturer guidelines<br>• Conceptualization and development of functional consumer products<br>• Using CAD software for product design and prototyping • Electrical and non-electrical equipment product testing processes<br>• Determining device efficiency in electrical and non-electrical equipment<br>• Visiting quality control laboratories<br>• Spotting adulterants in food products | • Analyses user requirements and design choices for a particular consumer product; Evaluates a number of consumer items based on manufacturer's specifications.<br>• Conceptualization and development of consumer products with functional alternatives; Review and collection of standard norms for a limited group of consumer products based on user health and safety.<br>• Using CAD software to design and create a product prototype.<br>• Visit quality control labs to learn about product testing procedures for electrical and non-electrical equipment.<br>• Estimate the efficiency of electrical and non-electrical equipment.<br>• Look for adulterants in food items. |

| | | |
|---|---|---|
| **FRM 509**<br>**Consumer Economics and Retail Management**<br>5 (3+2) | • The mechanism for marketing a good or service<br>• Learn to determine the cost of living. Analyse national budgets. Examine the effects of changing economic policies on family consumption. Study of various retail store kinds, including small-scale, mobile, convenience, general, specialty, and consumer cooperatives; large-scale, super market, departmental, chain, manufacturer's showrooms, shopping centres, and multiplexes. Telemarketing, mail-order, and vending machine direct marketing Selling on the side -E-shopping | • Project work on a service or good's marketing system Examine national budgets.<br>• Evaluate how shifting economic priorities will affect how much is spent by families.<br>• Calculate the cost of living; Consumer cooperatives, chain stores, supermarkets, department stores, manufacturer's showrooms, shopping centres, and direct marketing (telemarketing, mail order, vending machines, personal selling, and online shopping) were all the subject of a study on various retail store types. |
| **FRM 510**<br>**Work and Work Station Design**<br>3 (1+2) | • Establishing the space relationships at specific workstations in accordance with workers' anthropometry, posture, and movement<br>• Measuring and documenting the anthropometric measures of the worker and the dimensions of the equipment and furniture used in the unit workspace; measuring the work-space envelope for a particular activity; and calculating the physiological indices that represent the cost of the labour.<br>• Creating various workstations and storage facilities<br>• Selecting and analysing a work station in regard to design elements, space relationships, dimensions of equipment and furniture, and environment management methods. • Preparing floor and perspective designs of a unit work space.<br>• Creating workplace designs in 2D and 3D • Analysing current workstations in both home and commercial settings and recommending an ergonomic design plan | • Establishing the space relationships at specific workstations in accordance with workers' anthropometry, posture, and movement.<br>• Evaluation of the work-space envelope for a particular activity; measurement of the expenses of the task in terms of physiological indices; measurement of the anthropometric measures of the worker and the dimensions of the equipment and furnishings used in the workspace.<br>• Designed several workstations and storage Creating 2D and 3D workplace designs.<br>• Analysing existing workstations in residential and commercial settings;<br>• Preparing floor and perspective plans of a work space.<br>• Analysing a work station in relation to design features, space relationships, equipment and furniture dimensions, and environment control methods. |
| **FRM 511**<br>**Advanced CAD for Product Design**<br>4 (0+4) | • A description of the modelling applications REVIT and 3DS Max<br>• Appreciating how useful software is for designing the inside and exterior of buildings and consumer goods<br>• Developing creative concepts and ironing out the details for homes and businesses<br>• Designing, building, and modelling consumer goods like furniture, lighting fixtures, and artefacts; creating surface elements and built-in decorative features; massing, rendering, and camera animation; creating interior and exterior walkthroughs and movie files; | • Using software to create interior and exterior designs for buildings and consumer goods.<br>• Creating conceptual plans and figuring out the specifics for residential and commercial structures.<br>• Creating decorative aspects that are both built-in and on the surface.<br>• Producing unique designs for special effects.<br>• Creating, constructing, and modelling furniture, artefacts, and lighting fixtures<br>• Camera animation, rendering, and massing. |

| | | |
|---|---|---|
| | and creating customised designs for special effects. | • Making movie files and creating interior and outside walkthroughs. |
| **FRM 512 Energy Conservation in Building Design** 2 (2+1) | • Energy audits, estimation of energy requirements in buildings using energy models, development of conceptual designs for residential and commercial buildings using green strategies, calculation of energy costs, case studies on particular buildings and design assessment in terms of energy use and conservation | • Develop conceptual designs for residential and commercial buildings using green strategies after visiting energy-efficient and environmentally friendly structures. Case studies on particular structures and design assessments in terms of energy use and conservation.<br>• Estimating energy costs. |
| **FRM 513 Interior Design Business Management** 3 (2+1) | • Cost estimation for projects ensuing from project conceptualization to completion medium project<br>• Contracting and sub-contracting procedure for the estimated projects<br>• Strategic plan for presentation of project for a tender call<br>• Portfolio for job in professional firm and resume design | • Contracting and subcontracting procedures for the estimated projects.<br>• A strategic plan for the presentation of the project for a tender call.<br>• A portfolio for employment in a professional firm and resume design. |
| **FRM 514 Furniture Design and Fabrication** 3 (2+1) | • Through literary research and exposure to the market, you may learn about the many furniture types, materials they're made of, and fixation techniques. You can also develop concept ideas and schematic drawings of your favourite pieces of furniture. You can work out detailed drawings of the parts and joineries.<br>• Building small-scale models and sample boards; calculating the materials' quantities and costs; having workshop experience in furniture design and manufacturing; and caring for and maintaining furniture | • Market research on the many types of furniture materials used.<br>• Market research on the various types of furniture fixing techniques utilised.<br>• Producing designs and schematic drawings of chosen furniture. Producing drawings of furniture's parts and joineries.<br>• Created a miniature furniture model and sample board.<br>• Estimating the amount of materials needed and the cost of construction; having first-hand knowledge of the design and building of furniture; and knowing how to take care of various types of furniture. |
| **FRM 515 Colour and Lighting in Interiors** 3 (2+1) | • Studying the psychological and emotional effects of colours in interiors;<br>• Developing Munsell and Ostwald colour wheels;<br>• Developing colour schemes for problem areas in residential and non-residential interiors. | • Development of colour schemes for problem areas in residential and non-residential interiors.<br>• Researched the psychological and emotional effects of colours in interiors Analysing the influence of light on colour in simulated conditions. |
| **FRM 599 Master's Research** 20 | Master's Research | • Students undertake research in the fields of family resource management, ergonomics, and occupational hazards using real-world experience.<br>• Appropriate and affordable technologies.<br>• Waste Management and Vermi-Composting Family and Consumer Economics Interior Design and Decoration Renewable Energy Rural Housing and Sanitation. |

The Department of Family Resource Management offers 10 courses at Ph.D. level. Out of these 10 courses, 05 courses have practical component besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements. In addition to these courses, one course on Doctoral Research also provides hands-on-training in research.

| Course No.<br>Title<br>Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum (bullet form) |
|---|---|---|
| **FRM 602**<br>**Occupational Biomechanics**<br>2 (2+1) | • Work task analysis using ergo software, the EVTA (Empirically Validated Task Analysis) / Ergo Master technique, and studies of occupational environments and occupational stress in certain occupations<br>• Analyse the biomechanics used in work performance. Identify dangerous and stressful jobs and recommend performance improvement approaches.<br>• Using EQ (Ergonomic Quality) and IQ (Industrial Quality) when carrying out work-related tasks | • Research working conditions for various professions.<br>• Employing EQ (Ergonomic Quality) and IQ (Industrial Quality) in the performance of occupational tasks.<br>• Assess occupational stress in selected occupations.<br>• Analyse work tasks.<br>• Analyse biomechanics applied in work performance.<br>• Identify accident prone and stressful occupations.<br>• Suggest remedial performance techniques for accident prone and stressful occupations. |
| **FRM 603**<br>**Globalization and Consumer Economics**<br>3 (2+1) | • Case studies of various markets and consumer behaviour are conducted; modules for promoting consumer protection are designed; a consumer help centre is planned; and current consumer and marketing concerns are read. | • Designing modules to raise knowledge about consumer protection; planning for a consumer assistance centre; reviewing published works on current consumer and marketing challenges; doing case studies of various sorts of markets and consumer behaviour. |
| **FRM 604**<br>**Family Dynamics and Women Power**<br>3 (2+1) | • Critical review of research studies in India and in developing countries on the role analysis of women<br>• Analysis of aspects of family dynamics in stages of family life<br>• Case studies on management in families with special needs such as families with aged and handicapped people<br>• Coping strategies followed by families in stress management: through case studies<br>• Visit to stress management centres/ counselling centres: report writing.<br>• Field study on gender disparity for paid and unpaid activities | • A critique of research on the role of women conducted in India and other emerging nations.<br>• Case studies on management in families with specific requirements, such as families of the elderly and disabled.<br>• Analysis of characteristics of family dynamics in phases of family life.<br>• Coping mechanisms used by families to handle stress: through case studies.<br>• Report writing after a visit to a counselling or stress management facility.<br>• Field research on gender differences in paid and unpaid work. |
| **FRM 605**<br>**Consumer Product Design**<br>3(1+2) | • Analysing the user's preferences regarding the design of a particular consumer product; Collecting and reporting standards for a particular consumer product in accordance with safety regulations; Conceptualising and developing the design concept; | • Analysing consumer preferences for a particular product's design; collecting standards for a chosen consumer product in accordance with safety requirements; conceptualising a design concept; evolving a prototype of the product; and evolving and documenting |

| | | |
|---|---|---|
| | • Developing the product prototype; Evaluating the product and documentation. | a product. |
| **FRM 607**<br>**Managerial Dimensions for Special Groups**<br>3(2+1) | • Inventory of external facilitators and services accessible as management catalysts<br>• Evaluation of needs and coping mechanisms used by people with special needs at various levels through case studies<br>• Creating conceptual management models; designing simulated living spaces that are comfortable; analysing service providers for those with special needs and providing a report. | • Evaluating the needs and coping mechanisms used by individuals with special needs at various levels.<br>• Delivering reports.<br>• Reviewing the available external facilitators and services as management catalysts.<br>• Creating theoretical management models.<br>• Planning simulated living spaces; Analysing service providers to ensure they can accommodate people with special needs; and presenting a report. |
| **FRM 699**<br>**Doctoral Research**<br>45 | Doctoral Research | • Students undertake research in the fields of family resource management, ergonomics, and occupational hazards using real-world experience.<br>• Appropriate and affordable technologies.<br>• Family and Consumer Economics, Interior Design and Decoration, Waste Management and Vermi-Composting, Rural Housing and Sanitation, Renewable Energy. |

**6.4.6 Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

**M.Sc. Programme:**

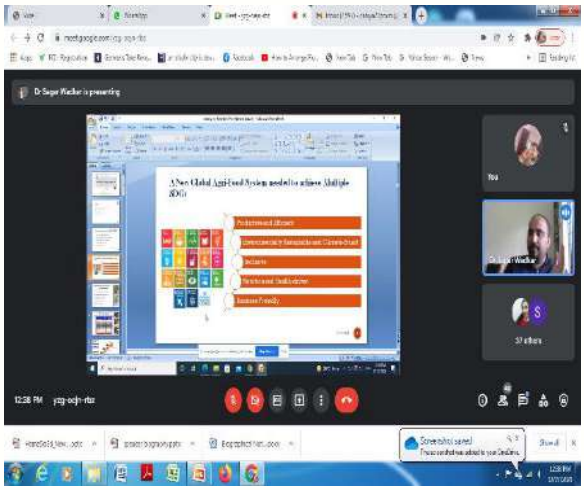
| Year | Number of PG faculty | Number of students on roll | Teacher-Student Ratio |
|---|---|---|---|
| **2018-19** | 07 | 11 | 1:1.6 |
| **2019-20** | 07 | 14 | 1:2.0 |
| **2020-21** | 07 | 13 | 1:1.8 |
| **2021-22** | 07 | 09 | 1:1.3 |
| **2022-23** | 06 | 13 | 1:2.2 |

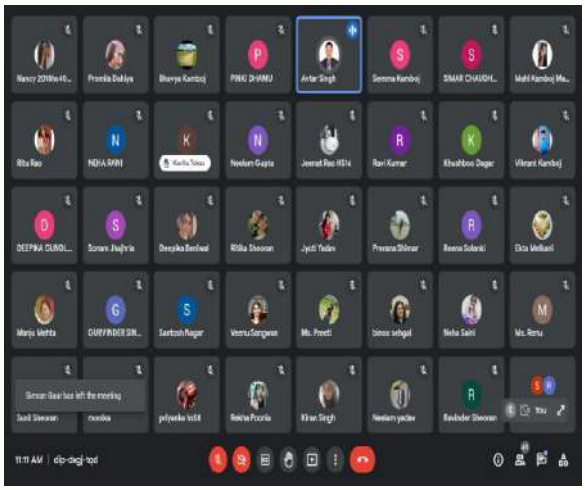
**Ph.D. Programmes:**

| Year | Number of PG faculty | Number of students on roll | Teacher-Student Ratio |
|---|---|---|---|
| **2018-19** | 07 | 11 | 1:1.5 |
| **2019-20** | 07 | 14 | 1:2.0 |
| **2020-21** | 07 | 17 | 1:2.4 |
| **2021-22** | 07 | 19 | 1:2.7 |
| **2022-23** | 06 | 16 | 1:2.6 |

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback.*

The performance of the faculty is also reviewed on the basis or their results, feedback from the students. Students of Professional Elective course are placed in different institutions for In-plant training. Teachers visit these institutions during training period of students and conduct meetings with authorities of the institutes. Any suggestions provided by them are incorporated in the curriculum. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get feedback from the students based on their parents' observation and suggestions. These suggestions are conveyed to the HODs and controlling officers.





**Meeting with Stakeholders**

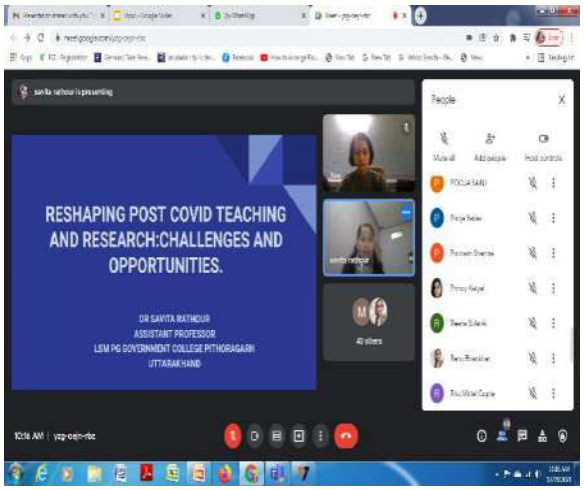
**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

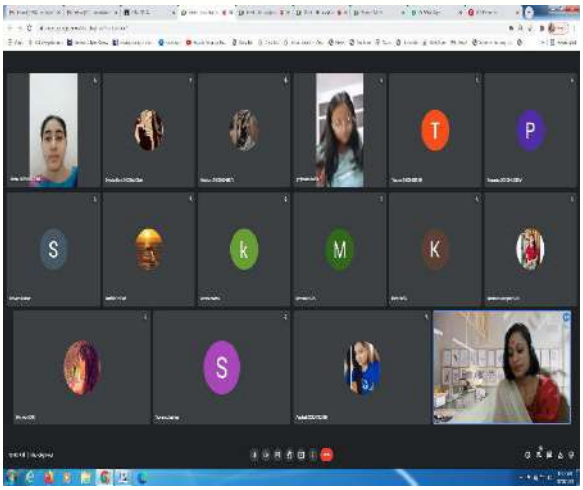
| Programme | Actual number of students admitted | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 2 | 4 | 6 | 5 | 5 | -- | -- | 33.3 | -- | -- |
| **Ph.D.** | 4 | 5 | 4 | 3 | 2 | -- | -- | -- | -- | -- |

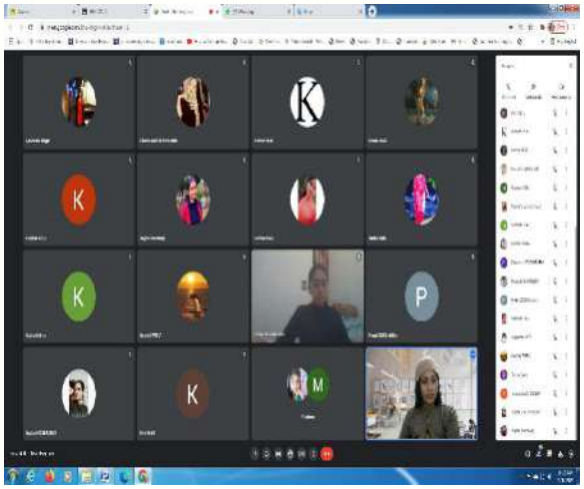
**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

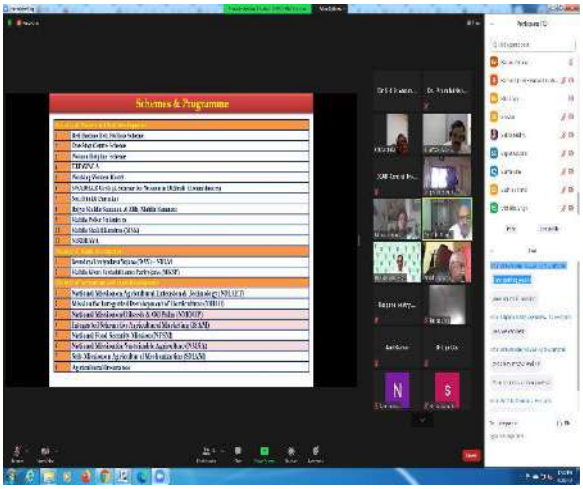
The ICT is now integral part of the teaching programme. There is one Seminar Room with computer, LCD/LED projector and internet connection. One Lab is also equipped with LCD/LED projector. All faculty members have computer printer and internet connection in their offices. There is Wi-Fi facility for faculty, staff and students. This infrastructure provides opportunities for the use of

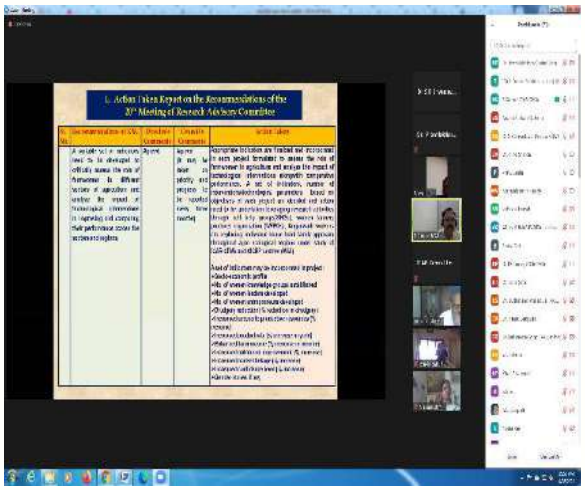
ICT in quality teaching, research and extension. Faculty members use power point presentations, YouTube, emails and CD ROM in teaching all courses at UG, PG and Ph.D. level.

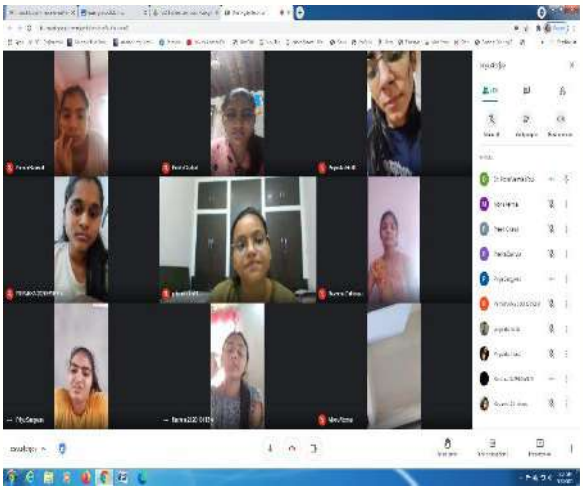






**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and PhD Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Dr. Manju Mehta,** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the College, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# Programme # 5



# M.Sc., Human Development and Family Studies

# and

# Ph.D., Human Development and Family Studies


PRESCHOOL
LABORATORY


FAREWEL PARTY
PRESCHOOL LABORATORY
Human Development and Family Studies






PARENT TEACHER MEETING
PRESCHOOL LABORATORY





## 6.4. SELF STUDY REPORT OF PG PROGRAMME

### About the Department

The Department of Human Development and Family Studies (earlier Child Development) was established in the year 1979. Since then, the Department has been working towards accomplishing its goals as per the mandate to promote academic excellence in field of Human Development and Family Studies. Master's programme in the Department was initiated in 1980 and Ph.D. programme in 1990. So far 174 M.Sc. and 82 Ph.D. students have completed degree from the Department. The Department offers sixteen courses under M.Sc. and twelve courses under Ph.D. Programme (**Annexure IX-A**).

The Department has well qualified and experienced faculty members having vast experience and international exposure. All faculty members have Doctorate degree and have excellent academic record. Dr. Meena Siwach was awarded HAU Merit Gold Medal for obtaining highest OGPA in graduation. Dr. Poonam Yadav was awarded Dr. R.N. Pal Memorial Gold Medal for best Ph.D. thesis. Dr. Poonam Malik was conferred with four Gold Medals viz. HAU Merit Gold Medal, C K Lamba Gold Medal, International Women Year Gold Medal and A L Feltcher Gold Medal for obtaining highest OGPA in graduation and All Round Best Student of the University. Dr. Poonam Malik and Dr. Poonam Yadav were awarded UGC Junior Research Fellowship during Ph.D.

The faculty of the Department has been recipient of prestigious fellowships and awards. Dr. Shanti Balda was recipient of Australian Development Cooperation Scholarship (ADCOS) for undertaking Ph.D. at Queensland University of Technology, Queensland, Brisbane, Australia (1994) and also received ICAR sponsored Best Teacher Award for I. C. College of Home Sciences, CCSHAU, Hisar during 2005-06. Dr. Praveen Kaur, Dr. Shakuntla Punia and Dr. Sudha Chhikara attended training under UNDP programme at Michigan State University, USA. Dr. Krishna Duhan received Commonwealth Academic Fellowship by Association of Commonwealth Universities (ACU), London (UK) in 2014. Dr. Anju Manocha received Chaudhary Devi Lal Outstanding All India Coordinated Research Project Team Award 2003. Dr. Chander Kala Singh received ICAR sponsored Best Teachers Award for the year 2014-15.

The faculty has successfully handled many research projects. During the period under report, three research schemes were operational in the Department viz. one AICRP scheme, one state scheme and one multidisciplinary ICAR-NASF Project in thrust areas of Human Development and Family Studies i.e developmental domains of children, development of intervention packages and implementation of intervention programme to promote development of children in different domains. Presently, research on issues related to childhood, adolescence, adulthood, old age and family relations and ecological factors are being carried out in the Department. During the period under report, faculty members and students published two books, 32 book chapters, three teaching manuals, 120 research papers and 68 abstracts. Faculty members and students attended a number of refresher courses, national and international conferences, seminars, workshops, trainings etc.

The faculty members were actively involved in extension work to extend knowledge and developed technologies among rural and urban masses, school children and ICDS functionaries through trainings/demonstrations/awareness campaigns etc. Besides this, various workshops were conducted for children, *Anganwadi* workers and parents; campaigns were organized; special days and weeks were celebrated.

**Objectives of the Department**

- To provide quality education and develop competency among students in preschool management
- To develop professionals in Human Development and Family Studies
- To conduct research in the thrust areas of Human Development and Family Studies
- To sensitize the rural masses through dissemination of appropriate technologies regarding human development for enriching their life style

**6.4.1. Brief History of the Degree Programme:** *Clearly mention in which year the degree programme was initiated along with its objective and accomplishments.*

**M.Sc. Programme:** M.Sc. Programme in the Department was initiated in the year 1990. Nomenclature of the programme was changed to Human Development and Family Studies in 1999. Entry qualification for Master's programme in HDFS is B.Sc. (Hons.) Home Science/ Community Science. Minimum duration of the programme is 2 years. Detailed information of M.Sc. students is provided in **(Annexures IX B –D)**.

**Objectives of initiating M.Sc. Programme:**

- To generate human resource in the field of Human Development and Family Studies.
- To provide academic excellence to students in the following thrust areas:
  - Life span development
  - Early childhood care and education
  - Children with developmental challenges
  - Gender issues and Family studies
  - Health related problems and social issues

**Accomplishments of M.Sc. Programme:**

- Till date, the Department of Human Development and Family Studies has produced 174 M.Sc. students. During the period under report, 39 students have completed their Master's degree and 7 M.Sc. students are on roll **(Annexure IX- B)**
- Seven M.Sc. students have cleared UGC NET and two of them (Ms. Sangeeta and Ms. Bharti) have also qualified for UGC JRF.
- Three M.Sc. students (Ms. Mehak Walia, Ms. Namrata Mamgai and Ms. Bharti) have been awarded ASRB JRF.
- Three M.Sc. students (Ms. Shourya Negi, Ms. Beulah Ravirakula and Ms. Deeksha) were awarded NTS scholarship.
- Thirteen students went for higher studies (Ph.D.) during last five years.
- 14 book chapters, 25 research papers and 6 abstracts have been published by M.Sc. students**. (Annexure IX- C)**.
- Fourteen M.Sc. students attended and participated in 13 different Seminars/Conferences/trainings etc. **(Annexure IX- D)**.

**Ph.D. Programme:** Ph.D. Programme in the Department was initiated in the year 1990. Entry qualification for Ph.D. Programme in HDFS is M.Sc. (Hons.), Human Development and Family Studies. Minimum duration of the programme is 3 years. Detailed information of Ph.D. students is provided in **(Annexures IX E –G)**.

**Objectives of initiating Ph.D. Programme:**

- To produce advanced quality human resource in the discipline of Human Development and Family Studies.
- To conduct research with emphasis in Human Development and Family Studies.
- Contribution in research especially in the thrust areas like:
  - Life span development
  - Early childhood care and education
  - Children with developmental challenges
  - Gender issues and Family studies
  - Health related problems and social issues
  - Strategies, interventions and counselling

**Accomplishments of Ph.D. Programme:**

- The Department of Human Development and Family Studies has conferred degree to 82 Ph.D. students till now. During the period under report, 20 students have completed their Ph.D. degree and 13 students are on roll (**Annexure IX - E**).
- Nine students joined as Assistant Professor.
- Ms. Shallu Rana joined as Lecturer; Ms. Kshiptimayee Patra as Junior Lecturer; Ms. Taniya as counsellor; Ms. Reetu Devi as teacher; Ms. Renu and Ms. Nigam Rani as SRF and Ms. Poonam as JRF.
- Two books, 14 book chapters, 75 research papers, 38 abstracts and 13 popular articles have been published by Ph.D. students. **(Annexure IX- F)**
- Eighteen Ph.D. students attended and participated in 26 different Seminars, Conferences and trainings etc. **(Annexure IX- G).**

**6.4.2. Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

Two posts of Associate Professor and 11 posts of Assistant Professor and equivalent are sanctioned. There are two Professors/equivalents (promoted under CAS) and both are posted at KVKs. There is one Assistant Scientist in the Department. One Assistant Professor/equivalent is posted at KVK. One Research Associate is appointed in AICRP on Women in Agriculture, three SRFs are working under ICAR-NASF project and three Ph.D. scholars are also involved in teaching.

| S. No. | Designation | Sanctioned | In-Place | Vacant position | Faculty recommended by the ICAR |
|---|---|---|---|---|---|
| **1.** | Professor and equivalent | -- | 02 PP* | - | 01 |
| **2.** | Associate Professor and equivalent | 02 | -- | 02 | 02 |
| **3.** | Assistant Professor and equivalent | 11 (7+4*) | 02 (01+01*) | 07 (2 Promoted to Professor) | 04 |
| **4.** | Research Associate/ SRF | 05 | 04 | 01 | |
| | **Total** | **18** | **08** | **10** | **07** |

PP=Personal Promotion from Assistant Professor *Faculty posted in Extension

**Note:** All the faculty of this programme is assigned the responsibilities for the multiple programmes.

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

In the Department of Human Development and Family Studies, there are 10 posts sanctioned for technical and supporting staff. In position there are seven posts of technical and supporting staff out of which two persons are on contractual basis against the post of messenger and attendant.

| S. No. | Designation | Sanctioned | In Place | Vacant | Technical and supporting staff recommended by the ICAR |
|---|---|---|---|---|---|
| **1.** | Assistant/ Steno | 02 | 01 | 01 | 01 |
| **2.** | Clerk | 01 | 01 | -- | 01 |
| **3.** | Lab Assistant/ Technician/ Attendant | 05 | 04(3+01 Contractual) | 01 | 04 |
| **4.** | Messenger | 01 | 01 (contractual) | -- | 01 |
| **5.** | Teacher (Preschool) | 01 | -- | 01 | -- |
| | **Total** | **10** | **07** | **03** | **07** |

**Note:** All the staff is assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. Lists major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme*.

The Department has well established Preschool Laboratory with three activity rooms, one Kitchen and one Dining room. Outdoor Play Area is used by preschool children for free play and outdoor activities. There is UG Lab, PG Lab, Computer Lab, Seminar Room and Departmental Library. Hence, sufficient numbers of labs are there to meet the course curricula requirements. Seminar Room and UG Lab are equipped with LCD/LED and internet facility; Departmental Library with reference material and psychological tests.

| S. No. | Laboratories/Classrooms | Purpose |
|---|---|---|
| **1.** | Preschool Lab:<br>Activity Room 1 (Room No. 129)<br>Activity Room 2 (Room No. 128)<br>Activity Room 3 (Room No. 124) | Conducting practical classes in UG courses HDFS 102, HDFS 201, HDFS 203, HDFS 302, HDFS 303 andand hands on training of Module-III i.e. 'Skill Development in Early Childhood Education and Management', Conducting practical classes in PG courses HDFS 504, HDFS 505, HDFS 506, HDFS 507, HDFS 599, HDFS 514, HDFS 603, HDFS 604 and HDFS 699. |
| **2.** | Kitchen (Room No. 119) | Storing, cooking and reheating food for preschool children. |
| **3.** | Dining Room (Room No. 117) | Serving food to preschool children. |
| **4.** | UG Lab I<br>(Lab No. 100) | Conducting practical classes of HDFS 102, HDFS 103, HDFS 201, HDFS 202, HDFS 301, HDFS 302, HDFS 303. |
| **5.** | UG Lab II (Room No. 114) | Conducting practical classes of UG courses. |
| **6.** | PG Lab (Lab No. 130) | Conducting M. Sc. practical classes of HDFS 502, HDFS 503, HDFS 507, HDFS 508, HDFS 509, HDFS 510, HDFS 511, HDFS 512. |

| | | |
|---|---|---|
| | | Used for conducting Ph.D. practical classes of HDFS 601, HDFS 602, HDFS 604, HDFS 605, HDFS 607 and HDFS 608. |
| **7.** | Computer Lab (Lab No. 106) | For use of M.Sc. and Ph.D. students. |
| **Other Instructional Units being utilized for the Award of Degree Programme** | | |
| **8.** | Seminar Room<br>(Room No.108) | Departmental seminars<br>Conducting PG classes<br>Presentation of assignments by PG students |
| **9.** | Departmental Library<br>(Room No.107) | Reference material, Journals, Theses etc. are referred by PG students for academic and research work. |
| **10.** | Outdoor Play Area | Scientifically planned and organized outdoor activities for preschool children. |
| **11.** | Teacher's Office Rooms | Equipped with computers, web cameras and internet facility for online teaching whenever required. |

## List of Equipment/ Facilities at present available in the Department

| S. No. | Lab/Location | Equipments/ Facilities |
|---|---|---|
| **1.** | Preschool Lab:<br>Activity Room 1 (Room No. 129)<br>Activity Room 2 (Room No. 128)<br>Activity Room 3 (Room No. 124)<br>Kitchen (Room No. 119) | LED TV with music System, Smart TV (one), Mini Projector, Sony speaker, Air conditioner, CCTV camera, Refrigerator, Modular kitchen with electric chimney, Cooking range, Microwave, Water purifier, Water dispenser, Refrigerators and Induction stove, Washing Machine and Geyser, Equipment for Physical-socio-emotional developments, Anthropometric equipment, Musical instruments, Gym equipment, Outdoor play equipment. |
| **2.** | UG Lab I (Room No. 100) | LCD/LED projector, CCTV cameras. |
| **3.** | UG Lab II (Room No. 114) | Inverter, table, chairs |
| **4.** | PG Lab (Lab No. 130) | Psychological Tests and Intervention Programmes |
| **5.** | Computer Lab (Lab No. 106) | Computers (Eighteen), Printers |
| **6.** | Seminar Room (Room No. 108) | Multi-media with Computer and Sound System, AC (02), CCTV camera, Big table (eight) and 30 chairs |

## Theory and practical batches

- Seats for admission in M.Sc. range from 3-10. Some courses are offered as minor and supporting courses for students of other departments. There is only one batch for theory and practical classes in all the courses with an average of 4-20 students.
- At Ph.D. level there are 2-5 seats. Hence, there is only one batch for theory and practical classes in all the courses for Ph.D.

- **6.4.5. Conduct of Practical and Hands-on-Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

The Department of Human Development and Family Studies offers 16 courses at Master's level. Out of these 16 courses, 13 courses provide practical skills and hands-on training. Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements. In addition to these courses, one course on Master's Research also provides hands-on-training in research.

| Course No.<br>Title<br>Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|
| **HDFS 502**<br>**Advances in Life Span Development**<br>3 **(**2+1**)** | • Study of physical, motor, social, emotional, intellectual, language, moral and personality development at different ages using standard measurement tools/instruments<br>• Writing interpretative reports for parents, teachers and referral services | • The students learn to assess physical, motor, social, emotional, intellectual, language, moral and personality development at different ages using appropriate standard measurement tools like Gomez classification, Vineland Adaptive Behaviour Scale, Stanford-Binet Intelligence Scale, Reynell Scales, Heinz dilemma, Big Five Personality Trait Inventory etc.<br>• Interpret test results<br>• Prepare analytic report |
| **HDFS 503**<br>**Gender Issues in Human Development and Family Relations**<br>3 **(**2+1**)** | • Gender analysis in mass media content, books, television and films.<br>• Interviewing children and parents to study gender socialization practices.<br>• Administering gender role orientation scale to adolescents /women and interpreting the results<br>• Case study of three generation families to identify the differences in the gender orientation roles and responsibilities<br>• Case studies for gender role performance | • Collect and analyse content related to portrayal of gender in mass media like newspapers, internet, radio, books, television and films etc.<br>• Interview children and parents using well-structured questions to study gender socialization practices and prepare reports<br>• Use gender role orientation scale with among adolescents and women and prepare reports<br>• Carry out case study of three generation families to identify the differences in the gender orientation roles and responsibilities<br>• Carry out case studies for gender role performance |
| **HDFS 504**<br>**Early Childhood Education and Organization**<br>3 **(**2+1**)** | • Capacity building as administrators, planning ECCE programmes including infrastructural facilities and budget proposals<br>• Evaluating regular teachers and student teacher's performance<br>• Preparing plans for mid-day meal programmes<br>• Organizing health check-ups<br>• Developing and implementing theme-based projects for children (e.g. | • Develop pertinent skills for planning and administering ECCE programmes<br>• Evaluate performance of teachers and students<br>• Prepare plans for mid-day meal programme<br>• Organize health check-ups for preschool children<br>• Develop and implement theme-based |

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| | science concepts, numerical concepts) in preschool<br>• Conducting interaction programmes with teachers and parents (PTMs)<br>• Developing literature for parents, preparing and using visual aids | projects for preschool children<br>• Plan and conduct PTMs<br>• Develop literature and AV aids for parents |
| **HDFS 505 Innovative Programmes in Early Childhood Care and Education** 3 **(**2+1**)** | • Planning, execution and evaluation of innovative programmes for intellectual, social, emotional and motor growth of young children | • Plan, execute and evaluate developmental programme for children |
| **HDFS 506 Methods and Techniques of Assessment in Human Development** 3 **(**2+1**)** | • Screening and diagnostic assessment for various developments through different tools and techniques, physical – anthropometric. measurement, psychomotor; mental development- Bayley's scales of infant development<br>• Cognitive and language -Wechsler's scale of intelligence<br>• Achievement, interest and aptitude scales<br>• Personality and behaviour<br>• Emotional maturity and temperament<br>• Parent child relations, child -rearing practices, parenting styles<br>• Interpretation of assessment and reporting to parents and teachers | • Assess physical, psycho-motor and mental development of children<br>• Assess cognitive and language development of children<br>• Assess achievement, interest and aptitude of children<br>• Assess socio-emotional maturity of children<br>• Assess temperament of children<br>• Explore parent child relations and child -rearing practices Assess personality development of children and adolescents |
| **HDFS 507 Guidance and Counseling** 3 **(**1+2**)** | • Research reviews on various aspects of guidance and counselling<br>• Prepare an observation checklist to analyze guidance and counselling centres -organizational structure, objectives, types of services provided, facilities available etc.<br>• Prepare an observation checklist to analyze competencies of the personnel and feed back of the clients towards the services<br>• Compile successful case studies of the guidance and counselling centres<br>• Prepare simulation exercises of guidance and counselling to children and parents<br>• Critical evaluation of films/TV/video shows related to the course | • Collect and compile research reviews on various aspects of guidance and counselling<br>• Critical evaluation of guidance and counselling centres<br>• Compile successful case studies of the guidance and counselling centres<br>• Carry out simulation exercises of guidance and counselling to children and parents<br>• Critically evaluate films and TV shows related to the course |
| **HDFS 508 Adolescent Development and Challenges** 3 **(**2+1**)** | • Case studies, interviewing early and late adolescents on issues – problems, pubertal changes, friendships, career, aspirations, self and social awareness, political awareness, mass media preferences<br>• Depiction of adolescents in mass media<br>• Content analysis of media- films, television and literature | • Develop questionnaire and conduct surveys on various aspects of adolescent life<br>• Conduct case studies of adolescents and present reports<br>• Critically analyze depiction of adolescent in mass media<br>• Analyse media content (films, television and literature) for its impact on adolescents |

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| **HDFS 509 Gerontology** 3 **(**2+1**)** | • Review of study methods in gerontology<br>• Identification of focus areas on aging<br>• Developing a tool on selected topics on aging, field testing and appraisal<br>• Visit to institutions for aged and critical evaluation<br>• Project proposal for developmental programmes for aged | • Identify focus areas on aging<br>• Develop tools on aging<br>• Critically evaluate institutions for aged<br>• Develop proposal for developmental programmes for aged |
| **HDFS 510 Parent and Community Education** 3 **(**1+2**)** | • Conducting parent teacher meetings in *anganwadi* and schools of urban, rural and slum areas<br>• Assessing knowledge of youth and parents regarding various aspects of family and community life<br>• Starting short-term action oriented programmes for parent education<br>• Preparing educational material for parent education and community participation | • Conduct parent teacher meetings<br>• Assess knowledge of youth and parents regarding various aspects of family and community life<br>• Prepare educational material for parent education and community participation<br>• Develop and implement action oriented intervention programmes for parent education. |
| **HDFS 511 Appraisal of Child and Family Welfare Institutions** 2 **(**1+1**)** | • Visits to study child welfare institutions and evaluation of strategies for enhancing managerial skills of personnel and generation of resources<br>• Implementing developed plan of action and its evaluation, report writing;<br>• Observational visits and evaluation of family welfare institutions and organizations<br>• Proposals for developing welfare projects for health, nutrition, education and rehabilitation of the disabled families<br>• Implementation strategies of projects to test their efficacy<br>• Monitoring and evaluation of services for family welfare, criteria and impact assessment | • Evaluate child welfare institutions and organizations<br>• Develop and implement welfare projects for rehabilitation of the disabled families<br>• Evaluate intervention programmes for child and family welfare<br>• Conduct monitoring, evaluation and impact of services for family welfare |
| **HDFS 512 Development of Learning Material and Children's Literature** 3 **(**1+2**)** | • Visit to play centres, toy manufacturing units, shops, fairs etc.<br>• Preparation of teaching materials for different developmental domains and field testing<br>• Survey of children's literature<br>• Writing children's poems, stories, puppet shows, cartoon scripts, picture books<br>• Developing audio-video and computer aided materials for different domains | • Exposure to teaching material preparation process through visits to play centres, toy manufacturing units, shops, fairs etc.<br>• Prepare and test suitable teaching materials for different developmental domains<br>• Evaluate current children's literature<br>• Write children's poems, stories, puppet shows, cartoon scripts, picture books<br>• Develop audio-video and computer aided materials for different domains |
| **HDFS 513 Family Therapy** 3 **(**2+1**)** | • Observational visits and screening families in need of therapy<br>• Case studies of different areas of marriage and family therapy<br>• Case studies of different methods and techniques of marriage and family therapy | • Identify families in need of therapy<br>• Identify different areas of marriage and family therapy<br>• Use different methods and techniques of marriage and family therapy |

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| **HDFS 514**<br>**Children with Developmental Challenges**<br>3 **(**2+1**)** | • Study of etiology, characteristics and diagnosis of children with different disabilities<br>• Developing and conducting individual home based intervention for children with special needs<br>• Developing and conducting center-based intervention in schools with special children<br>• Conducting case studies of special children | • Knowledge of the etiology, characteristics and diagnosis of children with different disabilities<br>• Develop and conduct personalized home based intervention programme for children with special needs<br>• Develop and conduct center-based intervention in schools with special children<br>• Conduct case studies of special children: mentally retarded, gifted, visually impaired, speech impaired and orthopaedically handicapped |

## Conduct of Practical and Hands-on-Training in Ph.D. Human Development and Family Studies

The Department of Human Development and Family Studies offers 12 courses at Ph.D. level. Out of these 12 courses, 06 courses provide practical skills and hands-on training. Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements. In addition to these courses, one course on Ph.D. research also provides hands-on-training in research.

| Course No.<br>Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|
| **HDFS 601**<br>**Adulthood Dynamics**<br>3 **(**2+1**)** | • Case studies on roles and family relations, changes during adulthood, menopausal changes<br>• Development of case studies on adults with special focus on different ecological settings, intergenerational perspectives<br>• Visit to recreational centers, health clubs and other institutes working for adults<br>• Critical evaluation of portrayal of adulthood in media and film shows<br>• Appraisal of community on issues and policies related to adulthood<br>• Presentation of reports on case studies | • Practical understanding of roles and family relations, changes during adulthood and menopausal changes<br>• Develop interview schedule and conduct case studies on adults with special focus on different ecological settings and intergenerational perspectives<br>• Critically evaluate recreational centers, health clubs and other institutes working for adults<br>• Critically evaluate the portrayal of adulthood in media and film shows<br>• Appraise the community on issues and policies related to adulthood<br>• Present reports on case studies |
| **HDFS 602**<br>**Advances in Family Studies**<br>3 **(**2+1**)** | • Appraisal of tools in family area (at least ten tools)<br>• Critical evaluation of family welfare programmes towards family welfare<br>• Developing research proposal on current issues relating to family<br>• Survey of family patterns in rural, slum and urban areas<br>• Case studies of different areas of marriage and family therapy using different methods and techniques | • Appraise tools for family studies<br>• Critically evaluate existing family welfare programmes<br>• Prepare research proposals on current issues relating to family<br>• Identify rural, slum and urban family patterns<br>• Identify and explore different marriage systems and family therapy using different methods and techniques |

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| **HDFS 604 Principles and Strategies in Developmental Intervention** 3 **(**2+1**)** | • Identification of groups for intervention and assessment<br>• Selection of groups and conducting need assessment<br>• Development of intervention package and evaluation of available intervention packages<br>• Conducting intervention for the selected groups with developed intervention packages<br>• Field testing of developed intervention packages | • Identify groups in need for intervention<br>• Select vulnerable groups and conduct need assessment for intervention<br>• Develop and implement intervention package to groups<br>• Field test developed intervention packages for groups<br>• Implement and evaluate available intervention packages on selected groups |
| **HDFS 605 Women Studies** 2 **(**1+1**)** | • Observational visits to women's organizations<br>• Planning and organising awareness campaigns on vital women's issues<br>• Portrayal of women in mass media-newspapers, magazines, television, movies<br>• Study of practices in various castes, communities and religions and status of women<br>• Study of attitude towards women's education and employment<br>• Situational analysis of gender equality and equity | • Observe different organizations working for welfare of women and prepare report<br>• Plan and organize awareness campaigns on women's issues<br>• Critically evaluate portrayal of women in mass media<br>• Conduct study on status of women and practices in various castes, communities and religions<br>• Conduct study on attitude towards women's education and employment<br>• Conduct situational analysis of gender equality and equity |
| **HDFS 607 Qualitative Research Methods** 3 **(**2+1**)** | • Critiquing research papers using qualitative methods<br>• Extensive review of the empirical research work using qualitative method<br>• Identifying researchable issues that can be researched for qualitative methods<br>• Conducting in-depth interviews, focused group interviews<br>• Analysis of data, interpretation and reporting | • Critiquing research papers using qualitative methods<br>• Conduct extensive review of the empirical research work using qualitative method<br>• Identify researchable issues for qualitative methods related to family studies<br>• Prepare interview schedule and conduct in-depth and focused group interviews<br>• Analyse data, interpret results and write reports |
| **HDFS 608 Programme Development for Vulnerable Families** 3 **(**2+1**)** | • Identifying vulnerable population in rural and urban areas<br>• Developing programmes for their rehabilitation; execution and evaluation of programmes<br>• Learning to use selected PRA techniques – focus group discussions/interviews, transit walk, social mapping, time line, executing the use of each technique and appraisal | • Identify vulnerable population in rural and urban areas<br>• Develop, execute and evaluate programmes for rehabilitation of vulnerable population<br>• Use PRA techniques in rural and urban areas<br>• Develop concept note and pre-project proposal<br>• Plan, develop and implement a project<br>• Develop monitoring and evaluating |

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| | • Developing a concept note and a pre-project proposal and appraisal.<br>• Developing a project – planning and implementing<br>• Proposing monitoring and evaluating strategies using appropriate techniques<br>• Implementing management techniques- Programme Evaluation and Review Technique (PERT), Critical Path Method (CPM), Line of Balance (LOB), and Gantt Chart, SWOT analysis<br>• Dissemination, publishing of success stories, popular articles | strategies<br>• Implement various management techniques<br>• Publish success stories and popular articles |

**6.4.6. Supervision of students in PG/Ph.D. programmes:** *Number of students being supervised by Faculty in case of Masters/Ph.D. Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

There are 3-6 seats in Master's and Ph.D. programmes. Hence, the teacher-student ratio is good.

**Supervision of M.Sc. students in the Department**

| Year | Number of PG faculty | Number of students on roll | Teacher- Student-Ratio |
|---|---|---|---|
| **2018-19** | 06 | 19 | 1:3.1 |
| **2019-20** | 08 | 15 | 1:1.8 |
| **2020-21** | 05 | 23 | 1:4.6 |
| **2021-22** | 05 | 17 | 1:3.4 |
| **2022-23** | 05 | 08 | 1:1.6 |

**Supervision of Ph.D. students in the Department**

| Year | Number of PG faculty | Number of students on roll | Teacher - Student Ratio |
|---|---|---|---|
| **2018-19** | 06 | 14 | 1:2.3 |
| **2019-20** | 06 | 13 | 1:2.1 |
| **2020-21** | 02 | 12 | 1:6.0 |
| **2021-22** | 05 | 15 | 1:3.0 |
| **2022-23** | 05 | 15 | 1:3.0 |

**6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feedback?*

Feedback from the students about the conduction of theory and practical classes are obtained. Students of Professional Elective course are placed in different institutions for In-plant training. Teachers visit these institutions during training period of students and conduct meetings with

authorities of the institutes. Any suggestions provided by them are incorporated in the curriculum. The stakeholders' feedback on the overall performance and quality of the institutions is obtained through general meetings with parents and interaction with alumni. The teachers get feedback from the students based on their parents' observation and suggestions. These suggestions are considered by the HODs and controlling officers.

**6.4.8. Student intake and attrition in the programme for last five years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

| Programme | Actual No. of student admitted in last five years | | | | | Attrition (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 7 | 8 | 10 | 4 | 3 | -- | -- | -- | -- | -- |
| **Ph.D.** | 3 | 4 | 5 | 5 | 2 | -- | -- | -- | -- | -- |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

ICT is regularly used by the faculty members of the Department of Human Development and Family Studies in theory and practical classes. The Department has well equipped Seminar Room with computer, LCD/LED projector and internet connection. One UG Lab is also equipped with LCD/LED projector. All faculty members have computer, printer and high speed internet connection in their offices. Wi-Fi facility is also available for faculty, staff and students. This infrastructure provides opportunities for the use of ICT in quality teaching, research and extension. The faculty members use power point presentations, YouTube, emails, goggle classroom, google meet, Microsoft teams, zoom etc. as per requirement in teaching all M.Sc. and Ph.D. courses.

**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage.

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Dr. Manju Mehta,** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the College, and degree awarding university.



**Signature of Dean of the College with Date & Seal**

# Programme # 6



# M.Sc., Textile and Apparel Designing

# and

# Ph.D., Textile and Apparel Designing


I.C.COLLEGE OF HOME SCIENCES

## 6.4. SELF STUDY REPORT OF PG PROGRAMME

### About the Department

The Department of Clothing and Textiles was established in the year 1977 and came into existence as an independent Department in August, 1990. The Department was renamed as Textile and Apparel Designing in the year 2010 and subsequently changed to Apparel and Textile Science in 2023 as per BSMA recommendations. Prof. Saroj S. Jeet Singh and Prof. Parveen Punia of the Department headed the College as Dean from May, 2010 to March, 2014 and August, 2014 to January, 2018 respectively. Dr. Neelam Pruthi received Chaudhary Devi Lal Outstanding All India Coordinated Research Project Team Award 2003 for outstanding contribution in the field of Home Science. Dr. Saroj S. Jeet Singh received ICAR sponsored Best Teacher Award for the year 2003-04 and also attended training under AHRD Programme at Michigan State University, USA. Faculty of the Department are members of Board of Studies and selection committees in different Universities and also member of different scientific societies.

The Department was instituted with the vision to achieve the following objectives:

- Promotion of academic excellence in the field of apparel and textiles among students
- Value addition, quality improvement and development of performance textiles
- Dissemination of developed technologies to the masses for up gradation of skills and socio-economic status

The Department has highly trained and talented faculty with Ph.D. consisting of two Professors/equivalent, seven Assistant Professors/equivalent and two Instructors. All faculty members are actively involved in research and so far the Department has undertaken 12 research projects funded by ICAR, DST, UGC and State Government. At present the Department has two ongoing research schemes and one research project completed in 2020 and another in 2023. During the period under report i.e. 2018-23, three books, seven book chapters, 52 research papers, 46 research papers abstracted/presented and 5 manual/design catalogues have been published by the faculty. All the faculty members also attended number of seminars/conferences/trainings etc. The Department significantly contributes in organizing and imparting trainings for field functionaries and rural women from different villages of the state to acquaint them about the technologies developed by the Department on different income generating activities like apparel designing and construction, fabric surface enrichment, diversified value added products etc.

The Department offers 14 M.Sc. and 11 Ph.D. courses **(Annexure X-A)**. The Department is offering eight core courses of B.Sc. (Hons.) Community Science along with Module-V to the final year undergraduate students. In the VIII semester of degree programme, the students undergo three months In-plant training in different garment industries, export houses, design studios and textile industries at Delhi, Chandigarh, Ludhiana, Jaipur, Surat, Faridabad, Gurugram, Panipat, Bhiwani etc. One student also completed her In-plant training at Czech University of Life Science, Prague, Czech. An Experiential Learning Unit on Product Design: Digital Embroidered Home Furnishings is also functional in the Department since March, 2013. The Department organized two ICAR sponsored Short Courses on 'Enrichment of Fabric for Entrepreneurial Development' and 'Entrepreneurial Development - through Skill Up-gradation in Apparel Designing Techniques' in 2001 and 2013, respectively.

Two MOUs have been initiated by the Department with TIT&S, Bhiwani, Haryana and ICAR-CSWRI, Avikanagar, Rajasthan which provide facilities to PG students of the Department to utilize lab and library facilities for collaborative research and teaching work. The Department also runs 'One Year Certificate Course in Home Industry: Garment Construction and Hosiery' for the needy rural

women. Women from varied backgrounds are benefitted by the efforts undertaken in the course to enhance their technical skills. This course has been instrumental in boosting their confidence and developing their self-esteem as a result of which some of them have started their own enterprises to improve socio-economic conditions of their families.

Through the researchers conducted in the Department, new technologies are being generated and disseminated to accomplish the mandate of the Department. Major thrust areas in which the Department is excelling are:

- Utilization of plants for textile processes
- Performance textiles for various end uses
- Diversified product development
- Computer aided apparel and textile designing
- Innovation in traditional crafts, textiles and costumes for contemporary applications
- Designing and development of functional and protective clothing
- Value addition/quality improvement of underutilized textiles for environment sustainability
- Development of paper patterns for apparel and household articles

**6.4.1 Brief History of the Degree Programme:** *Clearly mention in which year the degree programme was initiated along with its objective and accomplishments.*

**M.Sc. Programme:** The Master's programme in Clothing and Textile, presently Textile and Apparel Designing was initiated in the year 1988. Up to now 134 students have completed their master degree from the Department.

**Objectives of initiating M.Sc. Programme:**

- To provide academic excellence to students in various aspects of Textile and Apparel Designing
- To inculcate knowledge and skill among students for designing and development of textile and apparel products
- To generate human resources for job market and entrepreneurship in the field of Textile and Apparel Designing

**Accomplishments of M.Sc. Programme (2018-23):**

- During the period under report, 19 students completed their M.Sc. degree and at present 12 students are enrolled in the PG programme **(Annexure X - B)**.
- Ms. Neeta Kumari and Ms. Nameeta joined as Assistant Professor, Ms. Kiran Sapra, Ms. Diksha Rani and Ms. Jyoti Sharma started their own enterprises.
- Ms. Harmandeep Kaur Toor and Ms. Lata Samant received JRF, ICAR.
- Ms. Kumari Medha, Ms. Kiranjot Kaur, Ms. Vemagiri Divya Krupa and Ms. Namrata Kushwah received NTS Fellowship.
- Eight students got CCSHAU Merit Fellowship.
- Ms. Shalini Rukhaya received University Level Gold Medal for obtaining Highest OGPA in M.Sc. in I.C. College of Home Sciences (2020-21).
- Four students cleared UGC NET.
- Two students got best paper/ poster awards
- 25 research papers, 23 abstracts, one Book chapter and three design catalogues have been published out of students' research **(Annexure X - C)**.
- Twelve students attended and presented papers in elven different International and National Seminars/Conferences/Workshops **(Annexure X - D)**.

**Ph.D. Programme:** The Ph.D. in Clothing and Textiles, presently Textile and Apparel Designing was initiated in the year 2001. Till date 32 Ph.D. Scholars completed their doctorate degree from the Department.

**Objectives of initiating Ph.D. Programme:**

- To develop understanding about recent advances in Textile and Apparel Designing
- To generate specialized human resources for teaching, research and extension in the field of Textile and Apparel Designing
- To provide academic excellence to the students in following thrust areas:
    - Utilization of plants for textile processes
    - Value addition/ quality improvement of underutilized textiles for environmental sustainability
    - Theme based products designing for different end uses
    - Development of performance textiles using wet processes
    - Innovations in traditional crafts, textiles and costumes for contemporary applications
    - Development of E-media on developed technologies for income generation
    - Designing and development of functional and protective clothing
    - Designing of apparel and household articles and development of paper patterns
    - Product designing and development through computer technology

**Accomplishments of Ph.D. Programme (2018-23):**

- During the period under report, 11 students completed their Ph.D. degree and at present five Ph.D. students are on roll **(Annexure X - E)**.
- During last five years 12 students have joined as Assistant Professor, one student as Instructor, Dress Designing, one as SRF and one as Pre Sales Associate.
- Four students, one each got UGC JRF, UGC SRF, UGC OBC fellowship and UGC SRF (NFSC)
- Ten students were recipient of CCSHAU Merit Fellowship.
- Three students got best paper/ poster awards.
- Eight students cleared UGC NET.
- From students' research work 38 research papers, 48 abstracts and three design catalogues have been published **(Annexure X - F)**.
- All the Ph.D. students of the Department have attended and presented papers in Twenty three International and National Seminars/Conferences/Workshops **(Annexure X - G)**.

**6.4.2 Faculty Strength:** *The faculty strength of the Degree Programme need to be given cadre-wise, both sanctioned and in-place (under the table mentioned below). Clearly mention the number of permanent faculty appointed for the Degree Programme, part time faculty being deputed from the other departments (in such case mention the name of these departments). If the Degree Programme is also taking the help of Research staff, extension staff, contractual faculty, guest faculty, adjunct faculty or any other arrangement being made to complete the curriculum, it should be clearly mentioned in the report.*

There are two sanctioned posts of Associate Professor/equivalent, thirteen posts of Assistant Professor/equivalent and two posts of instructor (Textile Designing and Dress Designing) in the Department. At present two Professors/equivalent (promoted under CAS), seven Assistant Professors/equivalent and two Instructors are working in the Department. Out of these, one Professor/equivalent and two Assistant Professors/equivalent are posted at KVKs. During the period under report, one Professor retired in April, 2019 and one Professor Emeritus retired in April, 2022.

| S. No. | Designation | Sanctioned | In-Place | Vacant position | Faculty recommended by the ICAR |
|---|---|---|---|---|---|
| 1. | Professor and equivalent | -- | 02 PP (1+1* ) | -- | 01 |
| 2. | Associate Professor and equivalent | 02 | -- | 02 | 02 |
| 3. | Assistant Professor and equivalent | 14 (9+5*) | 07 (5+2*) | 05 (2+2*) (2 Promoted to Professor) | 04 |
| 4. | Instructor, Textile Designing | 01 | 01 | -- | |
| 5. | Instructor, Dress Designing | 01 | 01 | -- | |
| | **Total** | **18** | **11** | **07** | **07** |

PP= Personal Promotion from Assistant Professor; *Faculty Posted in Extension

**Note:** All the faculty of Department is assigned the responsibilities for multiple programmes.

**6.4.3. Technical and Supporting Staff:** *The position of the technical and supporting staff of the Degree Programme including farm and field workers need to be mentioned for both sanctioned and in-place.*

| S. No. | Designation | Sanctioned | In- place | Vacant position | Technical and supporting staff recommended by the ICAR |
|---|---|---|---|---|---|
| 1. | Assistant/ Steno | 02 | 02 (1+1*) | -- | 01 |
| 2. | Lab Asstt. / Technical Asstt. | 05 | 05 (1+4*) | -- | 04 |
| 3. | Messenger | 01 | 01* | -- | 01 |
| | **Total** | **08** | **08** | **--** | **07** |

* Contractual Staff/ Apprentice

**Note:** All the technical and supporting staff has been assigned the responsibilities for the multiple programmes.

**6.4.4. Classrooms and Laboratories:** *Mention the number of class rooms and functional laboratories available for the degree programme and justify if it is sufficient to meet the course curricula requirement. List major equipments, laboratories, farm facilities, workshops and other instructional units being utilized for the award of the Degree Programme may be given. Mention theory and practical batches for the Degree Programme.*

**List of Functional Laboratories**

The Department has nine well established laboratories for conducting the practical classes of UG, PG and Ph.D. programmes. There is one Seminar Room with LCD/LED projector and internet facility and PG Resource Room. Hence, sufficient numbers of labs are there to meet the course curricula requirements.

| S. No. | Name of Lab/Class Room | Purpose |
|---|---|---|
| **1.** | Dyeing and Printing Lab (Lab No. 14) | Used for conducting practical classes related to dyeing and printing courses of UG and PG classes. |
| **2.** | Textile Science Lab (Lab No. 16) | Used for conducting practical classes related to textile science of both UG and PG students. |

| | | |
|---|---|---|
| **3.** | Weaving and Hosiery Lab (Lab No. 18) | Used for conducting practical classes of Fundamentals of Fabric Construction of UG students and Advanced Textile Designing and Knitting Technology of PG students. |
| **4.** | Apparel Construction Lab-II (Lab No. 21) | Used for conducting apparel designing and construction classes of UG students. |
| **5.** | Apparel Construction Lab -I (Lab No. 23) | Used for conducting apparel construction classes of UG and PG students. |
| **6.** | Experiential Learning Lab (Lab No. 24) | Used for conducting practical classes and hands on training on computerized digital embroidery machines for UG and PG classes. |
| **7.** | Textile Testing Lab (Lab No. 26) | Used for teaching PG students and conducting research work using various textile testing equipment's. |
| **8.** | CAD Lab (Lab No. 27) | Used by UG and PG students for practical classes of Computer Aided Designing courses with the help of different textile and apparel softwares. |
| **9.** | Apparel Construction Lab-III (Lab No. 29) | Used for garment construction classes of UG and One Year Certificate Course. |
| **Other Instructional Units being utilized for the Award of Degree Programme** | | |
| **10.** | PG Resource Room (Room No. 10) | Reference material, journals, thesis etc. are referred by PG students for preparation of assignments, synopsis and thesis work. |
| **11.** | Seminar Room (Room No. 32) | Used for presentation of assignments and delivering seminars by PG students and also used for conducting PG classes. |
| **12.** | Teacher's Office Rooms | Equipped with computers, web cameras and internet facility for online teaching whenever required. |

## List of Major Equipments and Facilities

All equipments available in different labs of the Department are being utilized for conducting practical classes, hands-on-training, demonstrations etc. for effective teaching and learning. Major equipments/ facilities in the Department and their location are as follows:

| S. No. | Name of Lab (Location) | Equipments/ Facilities |
|---|---|---|
| **1.** | Dyeing and Printing Lab (Lab No. 14) | Flat Bed Fusing Machine, Computerized Colour Matching System, Infra-Red Heater, Steaming Chamber, Padding Mangle-02, Colour Matching Cabinet, Water Bath-02, pH meter, Electronic Balance, Hot Air Oven, Lab Shaking Machine, Nozzle Printing Unit, Printing Tables-03, Chairs-30 |
| **2.** | Textile Science Lab (Lab No. 16) | Laundrometer, Stain Removal Machine, Washing Machine-02 (Semi-Automatic and Fully Automatic), Microscopes-05, pH Meter, Weighing Balance, Ironing board-06, Sleeve Ironing Board-05, Steam Iron-02, Multi parameters Pocket Tester, Commercial Mixer Grinder, Geyser, Washer with Dryer, Electronic Weighing Scale, µ-Controller Based Photoelectric Calorimeter, Double Distillation Water Unit, Digital Magnetic Hot Plate, Refrigerator, Waterbath, Hot Air Oven |
| **3.** | Weaving and Hosiery Lab (Lab No. 18) | Table looms- 05, Jacquard loom, Different type of handlooms- 05, Warping unit, Flat Bed Knitting Machines-11, Hand Circular Knitting Machine |
| **4.** | Apparel Construction Lab-II (Lab No.21) | Foot Sewing Machines-30, Cutting Tables-02, Demonstration Table, Ironing Board- 02, Steam Iron- 02, Ironing Board- 02, |

| | | |
|---|---|---|
| **5.** | Apparel Construction Lab -I (Lab No.23) | Industrial Sewing machines-16 Operated Sewing Machines-05, Chain Stitching Machine, Hosiery Sewing Machine, Picoting Machine, Feed Split Needle Bar Machine, Elastic Stitching Machine, Sequins Embroidery Machine, Embroidery Machine, Lace Braiding Machine, Blind Hemming Machine, , Ironing Board-02, Steam Iron-02, Dress Forms-13, Embroidery Machine-03, gSingle Needle Straight Stitch Machine-02, Multipurpose Automatic Zig-Zag Machine-02, Cutting Tables Big-02, Cutting Tables-07, Students Chair-20, Demonstration Table |
| **6.** | Experiential Learning Lab (Lab No. 24) | Single Head Embroidery Machine (10 needles)-02, Computerized Single Head Single Needle Embroidery Machine-07, Computerized Sewing Machine with Accessories-08, Industrial Sewing Machine -04, Multi-layer Cutter, Round knife, Five Thread Over Lock Machine, Fusing Machine, Pattern Layout and Cutting Machine, Cutting Table Big-02, Lab Stool-20, Embroidery Machine, Digital Camera, Computer- 06, Colour Design Jet |
| **7.** | Textile Testing Lab (Lab No. 26) | Tensile Strength Tester-02, Thickness Gauge, Per-spirometer, Crockometer, Water Bath, Drape Meter, pH Meter, Stiffness Tester, Double Distillation Unit, Rotavapour, Precision Balance, Heating Mantle, Microscope-02, GSM Cutter-02, Quadrant Balance, Crease Recovery, Yarn Evenness Tester, Wrap Reel, Bending Length-02, Digital Weighing Balance, Pilling Strength Tester, Xenon Light Fastness Tester, Air Permeability Tester, Bursting Strength Tester, COD Digestion Unit, Hot Plate, Projection Microscope, Spectrophotometer, Flammability Tester, Open Bath Beaker Dyeing Machine, Grinder, Computer with UPS, AC (3), Hot air oven, Fibre Microtome, Refrigerator, Microwave, Gas with Cylinder |
| **8.** | CAD Lab (Lab No. 27) | Computers with Work Stations-30, Interactive Panel, Plotters-03, Digitize, Scanner, Rich peace Software (ten user key ), Tuka CAD software (ten user key), White board, Storage cabinate-02, AC-05, Online UPS System, CCTV Cameras-06, LCD/LED Unit, Internet Facility, Fire Alarm System, Computer chairs-30 |
| **9.** | Apparel Construction Lab-III (Lab No. 29) | Motorized Sewing Machines-07, Foot Sewing Machines-26, Big Cutting Tables-03, Steam Iron-02, Demonstration Table, Ironing Board-02, Picoting machine, Chairs-30 |
| **10.** | PG Resource Room (Room No. 10) | Computer-02, Reading Table with 10 chairs, Storage cabinet-03, Book Racks-02, AC |
| **11.** | Seminar Room (Room No. 32) | LCD/LED projector-02, Computer, Online UPS- 01, Conference Table with 30 Chairs, TV, CD Player, AC-03 |

**Theory and practical batches of M.Sc. and Ph.D. in Textile and Apparel Designing**

- There are eight seats in M.Sc. programme. Hence, there is only one batch each for theory and practical classes in all the courses.
- There are four seats in Ph.D. programme. Therefore, there is only one batch each for theory and practical in all the courses.

**6.4.5 Conduct of Practical and Hands-on Training:** *It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.*

**Conduct of Practical and Hands-on Training in M.Sc., Textile and Apparel Designing**

The Department of Textile and Apparel Designing offers 14 courses at Masters Level. Out of these 14 courses, 12 courses provide practical skills and hands-on training. Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements.

| Course No.<br>Title<br>Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|
| | | |
| **TAD 501**<br>**Textile Chemistry and Quality Analysis**<br>4 (2+2) | • Fibre testing, yarn testing, fabric testing<br>• Quantitative analysis of fibre blends and mixtures<br>• Processing and statistical analysis of the tested data | • Gain knowledge on polymers and their molecular structure<br>• Get an understanding of the structure-property relations of textile fibres<br>• Students learn to identify and evaluate different fibres and their performance<br>• Students learn to analyze and interpret the results and predict the quality of textile and apparel |
| **TAD 502**<br>**Advanced Textile Designing**<br>3 (1+2) | • Weaving- Preparation of draft plans, peg plans etc. for all weaves; weaving of different samples, analysis of woven samples<br>• Developing designs for weaving-motif preparation and placement, colour and texture plans<br>• Documentation of traditional and modified textile designs and development of textile design library | • Students get exposure to working of different looms and development of different types of weaves<br>• Gain skills in designing woven patterns and weaving<br>• Students get understanding to analyze different weave patterns<br>• Learn to identify different woven designs<br>• Learn to prepare woven patterns on sample looms |
| **TAD 503**<br>**Advanced Pattern Making and Draping**<br>4 (1+3) | • Procedures used in the development of slopers and patterns<br>• Princess line variations; blouses; halters and surplice, collars, sleeves-variations; skirts; pants- pant length variations<br>• Application of pattern making and draping techniques to garment designing and construction<br>• Draping knits and designing custom clothing | • Understand the style reading, pattern making, draping and garment construction techniques<br>• Acquire skill in advance pattern making and obtain perfect fit and harmony between the fabric and design of the garment<br>• Students get enabled to make pattern from sketch/photograph |
| **TAD 504**<br>**Historic Costumes and Socio-Psychological Aspects of Clothing**<br>3(2+1) | • Collection of traditional textile prints and surface designs and documentation; designing textile surface with combination of motifs of different countries<br>• Documentation and designing of various styles of men and women's garments | • Students learn the historical development in India and Western textiles and costumes from ancient world to 21st century<br>• Get knowledge of textiles and costumes of India and western countries<br>• Get design inspiration from historic costumes and textiles<br>• Portray style variations in ancient costumes of India and western countries |

| | | |
|---|---|---|
| | | across centuries<br>• Learn to study the socio-psychological effects of clothing on the individual in social situations |
| **TAD 506**<br>**Advanced Dyeing, Printing and Finishing of Textiles**<br>3 (2+1) | • Preparation of fabrics for dyeing, printing and finishing<br>• Preparation of shade cards with various class of dyes and colour matching; dyeing with different mordants<br>• Advanced techniques of fabric printing; identification and application of finishes<br>• Eco-friendly finishing of textiles<br>• Assessment of properties of the finished fabrics<br>• Study of labels pertaining to finishes | • Develop knowledge about types of dyes and theory of dyeing<br>• Acquire skills in advanced dyeing and printing techniques<br>• Students get familiarized with the finishing treatments specific to fibre type<br>• Showcase skill in surface enrichment with combination of dyeing and printing techniques |
| **TAD 507**<br>**Apparel Quality Analysis**<br>2(1+1) | • Inspection of raw material, classification and analysis of fabric defects<br>• Study of specification sheets- various garments<br>• Analysis of sewing and fasteners quality<br>• Study of quality auditing system in the industry<br>• Quality analysis of selected garments available in the market | • Students become familiarized with different apparel quality standards<br>• Develop ability to analyze and interpret the results and predict the general quality control<br>• Students get acquainted with the internationally accepted apparel quality standards<br>• Students get equipped to analyze and interpret the results and predict the quality of apparel |
| **TAD 508**<br>**Textile Auxiliaries and their Applications**<br>2(1+1) | • Collection of various surfactants available in the market<br>• Analysis of the surfactant properties in selected surfactants<br>• Preparation of various sizing combinations; analysis of the sized samples and selection of suitable combinations<br>• Assessment of whiteness of fabrics finished with various bleaches and optical brightening agents<br>• Assessment of finished fabrics with selected finishing auxiliaries<br>• Finishing with eco-friendly auxiliaries and assessment | • Become familiar with various textile auxiliaries used in textile processing<br>• Gain knowledge about the judicial use of auxiliaries based on end use performance<br>• Become skilled in analyzing the textiles finished with various auxiliaries |
| **TAD 509**<br>**Advanced Computer Aided Textiles and Apparel Designing**<br>3 (1+2) | • Creation of designs (2D and 3D) and their application for different end uses using designing softwares<br>• Creation of dress designs for different age groups, occupation and occasions and theme based creation<br>• Development of paper patterns of selected designed dresses on computer; grading and marking of patterns<br>• Preparation of portfolio of developed designs, product designing and development of trims, foot wears, hand bags, buttons, buckles, belts, hats, scarf, jewellery, neck ties | • Become skilled in computer aided textile and apparel designing<br>• Learn to develop portfolios through CAD as per fashion forecast<br>• Students gain knowledge about various textile, apparel and jewellery designing concepts through various advanced textile and apparel designing software packages<br>• Enhance the creativity among students in use of different CAD softwares<br>• Build competency for a career in design studios and textile industry |

| | | |
|---|---|---|
| **TAD 510**<br>**Home Textiles**<br>3 (1+2) | • Study of various household textiles<br>• Development of theme board<br>• Project work | • Create awareness about different home textiles and furnishing<br>• Students get acquainted about care and maintenance of different home textiles |
| **TAD 511**<br>**Knitting Technology**<br>2 (1+1) | • Study and identification of different types of knitted fabrics<br>• Practicing knitting on flat knitting machines by making samples of different designs using multi-coloured and complex designing techniques | • Students familiarize with special techniques of knitted fabric production and creation of new designs<br>• Students get acquainted with the art of handling different fabrics and styles using knits |
| **TAD 512**<br>**Consumer Behaviour- Textiles and Apparel**<br>2 (1+1) | • Conducting survey to study the consumer behaviour and preferences of fabric, colour, texture, style of garments etc. from various sectors<br>• Identification of areas of consumer education in the field of apparel and textiles<br>• Developing educational packages for educating selected consumer groups in the identified areas | • Acquire in-depth knowledge of consumer behaviour, consumer protection measures and knowledge about retailing in fashion industry |
| **TAD 599**<br>**Master's Research**<br>20 | • Conducting researches in the field of emerging thrust areas<br>• Designing for apparel and household articles and development of paper patterns<br>• Plants as potential sources for textile processes<br>• Environment sustainability through reuse/value addition of underutilized fibres and fabrics<br>• Theme based products designing for different end uses<br>• Development of performance textiles using wet processes<br>• Innovations in traditional textiles and crafts for contemporary applications<br>• Development of E-media on developed technologies for income generation<br>• Designing and development of functional and protective clothing<br>• Product designing and development through computer technology | Students use practical knowledge to conduct researches in emerging thrust areas of Textile and Apparel Designing. The different areas in which researches are conducted by the students are:<br>• Utilization of plants for textile processes<br>• Computer Aided Apparel and Textile Designing<br>• Innovation in traditional crafts, textiles and costumes for contemporary applications<br>• Value addition/quality improvement of underutilized textiles for environment sustainability<br>• Development of paper patterns for apparels and household articles<br>• Dyeing and printing techniques using natural and synthetic dyes<br>• Protective clothing for farm workers for pesticide application and thrashing<br>• Functional clothing for specially - abled persons to develop confidence and make them independent in dressing<br>• Development of Standardized Paper Patterns different garments for easy construction |

## Conduct of Practical and Hands-on Training in Ph.D., Textile and Apparel Designing

The Department of Textile and Apparel Designing offers 11 courses at Ph.D. level. Out of these 11 courses, 5 courses provide practical skills and hands-on training. Besides imparting theoretical knowledge, students are provided practical skills and hands-on-training as per the curriculum requirements.

| Course No. Title Credit Hours | Practical and Hands-on-training | How far students are getting desired practical and hands-on-training as per the curriculum |
|---|---|---|
| **TAD 601 Functional Clothing** 3 (2+1) | • Survey on selected functional clothing available in the market<br>• Designing clothing for special groups, protective clothing for pesticide applicators, selected industrial workers and fire fighters, specific sports clothes and analysis | • Understanding the importance of functional and portable clothing<br>• Students learn to identify and analyse the functional features in special purpose clothing<br>• Develop skills for designing functional clothing for farm, industrial workers and fire fighters etc. |
| **TAD 605 Product Development** 3 (1+2) | • Survey on selected products from textile and apparel field<br>• Product testing and analysis of selected textiles and apparel- quality, serviceability, material, construction performance, products standards, specification and cost<br>• Product planning: design production relative to cost requirements, aesthetic and functional requirements, reducibility and market needs<br>• Project work | • Gain knowledge about various product standards and product specifications<br>• To learn the process of product development towards market need<br>• Students experience product testing and analysis, various product standards, product specifications<br>• Survey on selected textile and apparel products to study the market trends |
| **TAD 606 Textile Conservation** 2 (1+1) | • Study of various textile conservation methods<br>• Analysis of aged textiles- fibre content, yarn and fabric structure; assessment of damage; repair and stabilization of textiles and exposure to cleaning techniques; project work | • Develop awareness about textiles conservation and skill in assessment of damage, repair and stabilization of textiles |
| **TAD 607 Colour Application in Textiles** 2 (1+1) | • Laboratory techniques for assessing colour strength and reflectance<br>• Developing arbitrary scales familiarization of commands to use software in colour spectrophotometer<br>• Analysis of dyed fibre, yarn and fabrics; creation of data files and reproduce dyed samples with the match prediction<br>• Analysis of colour fastness of dyed samples | • Gain an in depth knowledge into theories of dyeing and dye chemistry<br>• Get acquainted with different colour matching systems and its assessment<br>• Develop knowledge about conditions for dyeing, printing and finishing treatments<br>• Skills in assessment of dyed fibre, yarn and fabric and predict computer colour matching |
| **TAD 699 Doctral Research** 45 | • Conducting researches in the field of emerging thrust areas<br>• Designing for apparel and household articles and development of paper patterns<br>• Plants as potential sources for textile processes<br>• Environment sustainability through reuse/ value addition of underutilized fibres and fabrics<br>• Theme based products designing for different end uses<br>• Development of performance textiles using wet processes<br>• Innovations in traditional textiles and crafts | Students use practical knowledge to conduct advance researches in emerging thrust areas of Textile and Apparel Designing. The different areas in which researches are conducted by the students are:<br>• Utilization of plants for textile processes<br>• Computer Aided Apparel and Textile Designing<br>• Innovation in traditional crafts, textiles and costumes for contemporary applications<br>• Value addition/quality improvement of underutilized textiles for environment |

| | | |
|---|---|---|
| | for contemporary applications<br>• Development of E-media on developed technologies for income generation<br>• Designing and development of functional and protective clothing<br>• Product designing and development through computer technology | sustainability<br>• Development of paper patterns for apparels and household articles<br>• Dyeing and printing techniques using natural and synthetic dyes<br>• Development of Protective clothing and Functional clothing<br>• Development of Standardized Paper Patterns of different garments for easy construction |

The Department of Textile and Apparel Designing has Experiential Learning Unit on **Product Design: Digital Embroidered Home Furnishings** which is a skill development and hands-on training programme. It provides practical skills and hands on training to UG and PG students. Under Experiential Learning, PG and Ph.D. students conduct researches and get experience right from procurement of raw material to the marketing of digital embroidered products. The students acquire skills in operating advanced equipment's and develop merchandising skills and dealing with customers. The Experiential Learning Unit (ELU) helps the student to develop competence, capability, capacity building, acquiring skills, expertise and confidence to start their own enterprise. Under Experiential Learning the students gain experience in developing creative designs for digital embroidery and develop different embroidered home furnishing articles using digital embroidery machines.

**ELP Activities at a Glance**





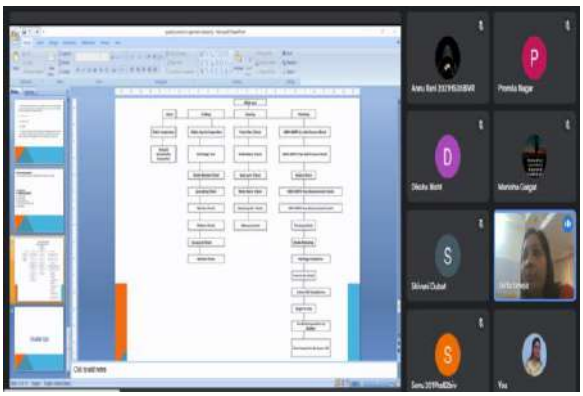



**6.4.6 Supervision of Students in PG/Ph.D. Programmes:** *Number of students being supervised by Faculty in case of Masters/Ph. D Programme (as per ICAR/UGC guidelines). Mention the realistic figure number of qualified faculty in relation to the intake of students, as per the guidelines in the matter.*

| Year | Number of PG faculty | Number of students on roll | Teacher-Student Ratio |
|---|---|---|---|
| **M. Sc. Programme** | | | |
| 2018-19 | 07 | 11 | 1:1.57 |
| 2019-20 | 07 | 13 | 1:1.85 |
| 2020-21 | 05 | 14 | 1:2.80 |
| 2021-22 | 05 | 17 | 1:3.40 |
| 2022-23 | 05 | 17 | 1:3.40 |
| **Ph.D. Programme** | | | |
| 2018-19 | 07 | 13 | 1:1.85 |
| 2019-20 | 07 | 12 | 1:1.85 |
| 2020-21 | 05 | 14 | 1:2.80 |
| 2021-22 | 05 | 12 | 1:2.40 |
| 2022-23 | 05 | 07 | 1:1.40 |

**6.4.7 Feedback of Stakeholders (Students, parents, industries, employers, farmers etc.):** *Mention the feedback mechanism (duly supported by the documents) from different stakeholders of the degree programme. What action the University has taken in last five years to address the issues raised in the feed back?*

The teachers get informal feedback from the students based on their parents' observations and their suggestions are conveyed to the HOD. Alumni also provide feedback about the faculty and college environment which also helps in evaluating the quality of the programmes. Moreover their suggestions are further conveyed to the faculty who modify their work accordingly. Formal feedback is obtained from the students, parents and stakeholders. Besides this informal feedback is also taken which is found to be very effective. PG students of the Department visit different institutes/ industries for conducting their research experiments. The stakeholders also provide the feedback and the suggestions if any provided by them are incorporated in the curriculum. All this feedback is communicated to the Dean through HOD who is the member of Board of Studies. This feedback has been used effectively for curricular enrichment, introducing changes and development of new programmes. Meeting with stakeholders are also being organized from time to time for deliberations on course curricula and their suggestions are obtained for incorporation in existing curricula.



March, 2022



October, 2019



October, 2019



September, 2019

**Stakeholders' Meets**

**6.4.8. Student Intake and Attrition in the Programme for Last Five Years:** *Year wise information on sanctioned strength, actual intake and attrition in the last five years of the Degree Programme, in the tabular form, shall be provided.*

Sanctioned strength of student admission in PG programme of Textile and Apparel Designing was six seats during the academic session 2018-19 to 2020-21 while there are eight seats from the session 2021-22 onwards. For admission in Ph.D. degree programme, the sanctioned strength was three seats during academic session 2018-19 to 2020-21 and from academic session 2021-22 onwards there are four seats for Ph.D. admission.

| Programme | Actual No. of student admitted in last five years | | | | | | Attrition (%) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| **M.Sc.** | 4 | 4 | 6 | 8 | 6 | 5 | - | 16.66 | - | 12.50 |
| **Ph.D.** | 3 | 2 | 3 | 1 | - | - | - | - | - | - |

**6.4.9. ICT Application in Curricula Delivery:** *The ICT is now integral part of the teaching programme. ICAR has also been promoting the use of ICT in teaching and practical. Mention whether the Degree Programme is meeting the expectations. If there is any shortfall, it shall be clearly mentioned.*

The faculty members of Department of Textile and Apparel Designing use ICT applications in teaching and practical for curricula delivery. All faculty members have computer, printer and internet

connection in their offices. There is Wi-Fi facility for faculty, staff and students. As per the requirement of curricula delivery Power point presentations, YouTube videos, e-manuals, e-learning modules, CD-ROM, CAD Softwares and Online Catalogues are used. During the hard-hitting times of COVID 19 classes were conducted on various online platforms such as Google meet, MS Teams, Zoom, Sysco webex etc.










**Use of ICT Application in Curricula Delivery**

# TAD Department: Media Coverage

## गांधी जी का चरखा, आत्मनिर्भरता और अहिंसा का प्रतीक : डॉ. बिमला

एचएयू में गांधी जी की 151वीं जयंती के उपलक्ष्य में वेबिनार व पोस्टर मेकिंग प्रतियोगिता



एचएयू में वेबिनार के दौरान विचार प्रस्तुत करती वक्ता।

### खादी बना फैशन स्टेटमेंट : डॉ. नीलम एम. रोज

### सरकार की योजनाओं के बारे में भी बताया

## हकृवि छात्राएं तैयार कर रही हैं बॉडी कवर किट तैयार



### विभिन्न संस्थाओं से मिले ऑर्डर, तैयार की 166 किट

### एस अग्र अड़ाइस

हकृवि की छात्राओं का सामाजिक भलाई के साथ आत्मनिर्भरता की ओर कदम

## विभिन्न संस्थाओं के ऑर्डर पर तैयार कर चुकी 166 बॉडी कवर किट



## गांधी जयंती के उपलक्ष्य में वेबिनार व पोस्टर मेकिंग प्रतियोगिता का आयोजन



## एचएयू के गृह विज्ञान महाविद्यालय की ओर से गांव किरतान में चलाया पौधारोपण अभियान

समस्त हरियाणा न्यूज

हिसार। चौधरी चरण सिंह हरियाणा कृषि विश्वविद्यालय के गृह विज्ञान महाविद्यालय एवं आजाद हिंद युवा क्लब के संयुक्त तत्वावधान में गांव किरतान के विभिन्न सार्वजनिक स्थानों पर पौधारोपण अभियान चलाया गया। महाविद्यालय के वस्त्र एवं परिधान अभिकल्पन विभाग की ओर से आयोजित इस अभियान के दौरान गांव के कब्रिस्तान में दो सौ से अधिक पौधे लगाए गए। कार्यक्रम में विभागाध्यक्ष डॉ नीलम रोज व डॉ सरोज यादव ने विशेष तौर पर शिरकत की। युवाओं को अधिक से अधिक पौधारोपण के लिए प्रेरित करते हुए उन्होंने कहा कि पौधे हमारे जीवन का आधार हैं। उन्होंने युवाओं से भी आह्वान किया कि वे न केवल खुद खल्कि अन्य



मानवता • मुसीबत की घड़ी में अपने-अपने तरीके से मदद के लिए आगे आ रहे लोग

## एचएयू के स्टूडेंट्स बना रहे हैं फेस मास्क



### कोरोना रिलीफ फंड: एचएयू देगा अपने स्टाफ का एक दिन के वेतन का ₹1 करोड़ 50 लाख

## छात्राओं ने सिंगल यूज प्लास्टिक का प्रयोग कर फूलदान, टेबल मैट, पैन स्टैंड बनाना सीखा



## हकृवि में सिंगल यूज प्लास्टिक से निर्मित उत्पादों की प्रदर्शनी लगाई



**6.4.10.** The information pertaining to 6.4.1 to 6.4.9 shall be provided for each one of UG, PG and Ph.D. Degree Programmes, separately, and to be presented College-wise.

**6.4.11.** Since the accreditation of Programmes is related to the All India Admission from ICAR and also having weightage for College accreditation, therefore the data presented in the section 6.4 is liable to the verification at any stage**.**

**6.4.12.** Certificate (Applicable when SSR is submitted for Programme)

I, the Dean, **Dr. Manju Mehta,** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university**.**



**Signature of Dean of the College with Date & Seal**

# ANNEXURES

# *ANNEXURE I-IV*

# Self Study Report of the College

*ANNEXURE I*

## LIST OF PUBLICATIONS BY FACULTY (2018-23)

*ANNEXURE I- A*

## LIST OF PUBLICATIONS BY FACULTY OF EXTENSION EDUCATION AND COMMUNICATION MANAGEMENT

### Books

1. Verma, V. and Rani, E. (Eds.). 2019. Book of abstracts of National Seminar on Innovative Strategies for Gender Equality, March 8, 2019, I.C. College of Home Sciences, Chaudhary Charan Singh Haryana Agricultural University Hisar, Haryana. pp 240.
2. Verma, S., Verma, V. and Rani, E. 2019. Formulation and Nutritional Evaluation of Cereal Bars, AKINIK Publications. ISBN 978-93-5335-766-5. pp110.
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24. Yashvee, Rani, E. and Verma, V. (2022), Personal Hygiene Management (Eight leaflets), Deptt. of Extension Education and Communication Management, I.C. COHS, CCSHAU, Hisar, Haryana

## *ANNEXURE I- B*

## LIST OF PUBLICATIONS BY FACULTY OF FOODS AND NUTRITION

### Book Chapters

1. Sehgal, E., Sindhu, S. C., Roopa, H., Kumari, A., Kumar, R., Ahlawat, P. & Sindhu, R. 2022. By-products Utilization of Fruits and Vegetables as Edible Packaging. In Poonia, A., Dhewa, T. (Eds.) Edible Food Packaging, Springer, Singapore. 10.1007/978-981-16-2383-7_8: 157-173.
2. Khurana, S., Sindhu, S.C., Kumar, A., Sindhu, A. & Anju Kumari. 2022. Probiotics in Human Health. In Malik, D.K., Rathi, M., Bhatia, D. & Jaggi, S. (Eds.) Microbes for Humanity and its Applications. Daya Publishing House, New Delhi. ISBN: 978-93-5461-397-5 (HB): 289-313.
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4. Kawatra, A., Sangwan, V. & Dahiya, S. 2022. Nutri-cereal pearl millet: a promising climate smart crop for food and nutrition security. In: Dayal, D. and Shamsudheen, M. (Eds.) Advances in Agricultural, Animal and Fisheries Sciences. Znan Publishers, Society for Technology, Environment, Science & People Kozhikode, India. (ISBN: 978-81-956227-2-6):71-81.

### Manuals

1. Nandal, U., Sangwan, O., Dhanda, B. & Dahiya, D.S. 2019. Training Manual: Healthy Diet - Healthy Mind. Department of Food and Nutrition, COHS, CCSHAU, Hisar.
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2. Hammad, S.S., Sihag, J., Chen, X., Eck, P., Connelly, P.W., Lamarche, B., Couture, P., Bowen, K.J., West, S.G., Kris-Etherton, P.M., Taylor, C.G., Zahradka, P., Jenkins, D.J.A. & Jones, P.J.H. 2018. Nutrient-Gene Interactions. Polymorphisms in IRS1 and FABP1 modify insulin resistance in response to fatty acid composition in non-diabetic subjects with abdominal obesity (E14-03). Curr Dev in Nutr; 2(1):29.
3. Bowen, K.J., Kris-Etherton, P.M., West, S.G., Fleming, J.A., Connelly, P.W., Lamarche, B, Couture, P. Jenkins, D.J.A., Taylor, C.G., Zahradka, P., Hammad, S.S., Sihag, J., Chen, X., Guay, V., Maltais-Giguère, J., Perera, D., Wilson, A., Castillo, S. & Jones, P.J.H. 2018. Canola and high-oleic acid canola oils improve lipid/lipoprotein parameters compared to an oil blend characteristic of a western dietary pattern in individuals at risk formetabolic syndrome: A randomized crossover clinical trial. Circulation, 137 (Suppl 1): AP382–AP382.
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17. Sindhu, S.C. 2018. Body image in young adults and influence of media. Souvenier, International Conference on Positive Psychology for Health & Well Being, GJU, Hisar: 115.
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27. Sangwan, V. & Bishnoi, M. 2019. Diversity of finger millets: In contrast to its quality, nutritional and health benefits. National Workshop on 'Production, Processing & Value Addition of Nutri-Cereals (Millets) in India'. September, 16, Department of Genetics & Plant Breeding, Bajra Section, CCS HAU, Hisar: 113.
28. Sangwan, V. & Kawatra, A. 2019. Processing of pearl millet for value addition: Overview. International symposium 'Innopreneurship: A need of sustainable agriculture' (ISINSA). Feb. 2-3. CCS HAU, Hisar, Haryana: 365.
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31. Sangwan, V., Rana, K. & Bishnoi, M.2019. Pearl millet: A climate smart crop with varied innovation scopes. Golden Jubilee International Conference on New Millenia Agriculture-Novel Trends and Future Scenario, November 6-8, 2019, CCS HAU, Hisar: 153.
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33. Sindhu, S.C. &Rani, V. 2019. Efficacy of nutrition education among college going youth. National Seminar on 'Innovative strategies for gender equality' March 8, 2019, I.C. College of Home Science, CCSHAU Hisar: 174.
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35. Rani, V., Sangwan, V. & Sindhu, S.C. 2022. Assessment of nutritional status of ICDS fieldfunctionaries from Faridabad. International conference on recent advances and innovations inbiological and applied sciences (RAIBAS-2022), faculty of agricultural sciences, SGT University, Gurugram and society of academic research for rural development and ICAR-central soil salinity research institute, Karnal, June 14-16, 2022: SS-13.
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40. Rani, V., Yadav, V.P.S. and Gupta, R.B. 2023. Nutri-gardens: A sustainable tool for capacity building of rural farm women towards achieving household food security. International conference on climate resilient agriculture for food security and sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023: 873.
41. Popular Articles
42. Sangwan, V. and Sirohi, M. 2018.Vibhinn Pae Padhartho ka Swasthiya per Prabhav. Haryana Kheti, 51 (4): 23.
43. Sangwan, V. and Sandhu, B. 2020. Mousami phal evam sabjiyaa: swasthya m mehtaav evamCOVID-19 k epariprekshya me surakshit isstemaal. Haryana Kheti, 53(7): 22.
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48. Sangwan, V., Rani, V. and Reena. 2021. Bajra prassansakaran ke labh. Haryana Kheti, 54(11): 24.
49. Nandal, U. and Gupta, M.2021. Prediabetes: karan, lakshan vai upchar, Haryana Kheti, 54(04):22-23.

50. Nandal, Urvashi and Gupta, M. 2021. Adhik wazan / motapa: karan, lakshan va upchar, Haryana Kheti, 54 (11): 28.
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53. Rani, V., Yadav, V.P.S. and Gupta, R.B. 2022. Poshan vatika gheralu star per khadya suraksha ka behtar vikalp. Kheti Duniya, 6(14): 3.
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15. Technical Bulletin
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1. Sangwan, V. and Gupta, M. 2020. Corona ke sankat ke beech immunity badhane vale khadye padarth khaayen. Published by Department of Foods and Nutrition, CCS HAU, Hisar and CIWA, Bhubaneswar.

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6. Rani, V. Yadav, V.P.S., Deswal, A.K. 2022. Swasthy se bherpoo rsehjan ke utpado ke paushtik vyanjan Published by Department of Foods and Nutrition, CCS HAU, Hisar
7. Rani, V. Yadav, V.P.S., Kumar R. 2022. Jowar, bajra-ragi ke poshan mehtava v mulya sanwardhit utpad. Published by Department of Foods and Nutrition, CCS HAU, Hisar
8. Rani, V. Yadav, V.P.S., Kumar R.2022. Moong ki dal ke paustik v swadisht vyanjan Published by Department of Foods and Nutrition, CCS HAU, Hisar

## *ANNEXURE I- C*

## LIST OF PUBLICATIONS BY FACULTY OF FAMILY RESOURCE MANAGEMENT

### Book Chapters

1. Dua, K. 2020. Event Management: An Overview in *Research Trends in Multiplidisciplinary Research*. Akinik Publications, pp 139-157.
2. Chahal, P. 2021. Housing in India: Status, Problems and Government Initiative for Better Housing in *Research Trends in Home Science and Extension,* Akinik Publications, 7:1-24.
3. Dua, K. 2022. Geriatric Disorders: An Overview in *Research Trends in Medical Sciences.* Akinik Publications. New Delhi.
4. Chahal, P. (2022). Quality Function Deployment: A Methodology for Testing Agriculture Sickle. In: Rana, N.K., Shah, A.A., Iqbal, R., Khanzode, V. (eds) Technology Enabled Ergonomic Design. HWWE 2020. *Design Science and Innovation.* Springer, Singapore. pp.447-458.
5. Chahal, P. and Singh. K. 2022. Workplace Environment and its Impact on Polyhouse Workers. L. P. Singh, A. Bhardwaj, R. Iqbal and V. Khanzode (eds.), *Productivity with Health, Safety, and Environment Select Proceedings of HWWE 2019*, Springer, and Singapore. pp 267-278.
6. Chahal, P. and Mehta, M. 2022. Development of Tool for Work Simplification in Kitchen' in Proceedings of the 2nd Indian International Conference on Industrial Engineering and Operations Management, Warangal, Telangana, India, August 16-18, 2022

### Research Papers

1. Dahiya, P and Singh, K. 2018. Protected cultivation: introducing farmers to innovative practices. *Agriculture Update*, 13(1):9-13
2. Dahiya, P and Singh, K. 2018. Polyhouse farming: A new concept of agriculture, *Rashtriya Krishi Anusandhan Patrika*, 33(1-2):109-112.
3. Dua, K., Dilbaghi, M. and Gandhi, S. 2019. Gender participation and work station analysis of bead making enterprises. *Journal of Pharmacognosy and Phytochemistry*, 8(1):1477-1480.
4. Dua, K., 2019. Stress management: An overview. *Journal of Pharmacognosy and Phytochemistry*, 8(1): 1448-1452.
5. Dua, K., 2019. Activity analysis and discomfort rating of workers involved in vegetable production system for gender equity. *Journal of Annals of Biology*, 24(1):123-128.
6. Rani, K., Singh, K. and Rani, M. 2019. A descriptive study to assess the level of depression among the elderly people in Hisar district. *The Pharma Innovation Journal*, 8(5):311-313
7. Chahal, P. 2020. Testing of agriculture hand tool design using ergonomics principles. *Agriculture Update,* 15(4):419-427.
8. Sehgal, B. 2020. Drishti sambandhi bhram vai antrik sajawat. *Pathak Paksh,* 33(75):2.
9. Dua, K. and Kumari, S. 2020. Quality of indoor environments for aging people: A review based study. *The Pharma Innovation*, 9(6):115-120.
10. Chahal, P. and Mehta, M. 2021. Ergonomic assessment of storage shelves of standing kitchen in rural Haryana. *International Journal of Scientific Research in Engineering and Management*, 5(7):1-9.
11. Chahal, P. and Mehta, M. 2021. Study of human factors in rural kitchen design. *International Journal of Social Sciences*, 10(02): 99-107.
12. Mehta, M. and Dua, K. 2021. Management of work stress of self- employed women in rural area. *International Journal of Home Science*, 7(3): 95-99.
13. Singh K, Komal and Chahal, P. 2021. Farmer's practices in pesticide use. Indian Journal of Agriculture and Allied Sciences, 7(3):75-80.

14. Chahal, P. and Mehta, M. 2021. Study of human factors in rural kitchen design. *International Journal of Social Sciences*, 10(2):99-107.
15. Chahal, P. and Singh, K. 2021. Testing and evaluation of peeling tools. *Bhartiya Krishi Anusandhan Patrika*, 36(1):62-65.
16. Chahal, P. 2021. Assessment of women participation in Health problems in carrot production. *Agriculture letter*, 2(1):8-11.
17. Chahal, P. 2021. Testing of agriculture hand tool design using ergonomics principles. *Journal of Ergonomics*, 11(S3):2165-7556.
18. Chahal, P. 2021. Cost-economic analysis of carrot production in Hisar district of Haryana. *International Journal of Agriculture Innovations and Research*, 9(6):385-393.
19. Chahal, P., Singh, K. and Komal 2021. Vermicomposting for Revenue and Employment Generation. *International Journal of Scientific Research in Engineering and Management*, 5(8):1-8.
20. Chahal, P. and Mehta, M. 2021. Ergonomic assessment of storage shelves of standing kitchen in rural Haryana. *International Journal of Scientific Research in Engineering and Management*, 5(7):1-9.

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1. Dua, K and Mehta, M. 2021. Tourism and Hospitality Management. Department of Family Resource Management, COHS, CCS HAU Hisar.
2. Dua, K. 2021. Residential and Commercial Space Design. Department of Family Resource Management, COHS, CCS HAU Hisar.
3. Chahal, P. 2021. Housing and Space Management. Department of Family Resource Management, COHS, CCS HAU Hisar.
4. Dua, K. 2022. Approaches to Resource Management. Department of Family Resource Management, COHS, CCS HAU Hisar.
5. Chahal, P. and Mehta, M. 2022. Family Finance and Consumer Education. Department of Family Resource Management, COHS, CCS HAU Hisar.

## Papers Presented and Abstracted in Conferences/ Seminars/Workshops

1. Dahiya, P. and Singh, K. 2019. Environmental hazards on health condition of polyhouse female workers. National Seminar on Innovative Strategies for Gender Equality, COHS, CCSHAU, Hisar, March 8, 2019.
2. Chahal, P. and Singh, K. 2019. Workplace Environment and its impact of polyhouse workers. 17th International Conference on Humanizing Work and Work Environment-HWWE 2019, November 8–10, 2019, NIT, Jalandhar, Punjab :240-241.
3. Chahal, P. 2020. Quality Function Deployment: A Methodology for Testing Agriculture Sickle. 18th International Conference on Humanizing Work and Work Environment-HWWE 2020, December 10–12, 2020, Theem College of Engineering, Boisar, Mumbai :2.
4. Chahal, P. 2021. Human factors in rural kitchen design and customizing a tool for work simplification. VIth International Conference in Hybrid Mode on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021), December 13-15 2021, Meerut :498
5. Singh, K., Chahal, P, Komal, Ahuja, S. 2021. Pesticide Usage and health risks among farmers. 3rd International Conference on Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development (GIAFAS-2021), December 17-18, 2021:196.
6. Chahal, P 2022. Ergonomically designed tool management through GFD methodology. 7th National Conference on Innovation in Science, Engineering & Technology, Arya PG College Panipat, Febuary19, 2022: 9-10.
7. Chahal, P and Mehta, M. 2022. Ergonomic Designing of Tool: An application of Quality Function Deployment (GFD). National Conference on "Mathematical Sciences for Applied and Agricultural Research, Department of Mathematics and Statistics, CCSHAU, Hisar on Febuary 22, 2022:85-86.
8. Chahal, P 2022. Quality Function Deployment: A checklist for ergonomic evaluation of handy step Stool. 20th International Conference on Humanizing Work and Work Environment- HWWE 2022, Punjabi University, Patiala, Punjab, November 24–26, 2022:9-10.

## *ANNEXURE I- D*

## LIST OF PUBLICATIONS BY FACULTY OF HUMAN DEVELOPMENT AND FAMILY STUDIES

### Book Chapters

1. Kaushik, R., Malik, P., Mini, Kumari, R. & Khusbhu. 2022. Role of guidance and counselling in marital relationships. In Singh, P. and Saini, V. (Eds.), Research Trends in Home Science and Extension. AkiNik Publications, New Delhi, ISBN: 978-93-5570-178-7, 8: 39-49.
2. Khushbu, Malik, P., Kumari, R., Sharma, M. & Kaushik, R. 2022. Counseling for mental health issues caused by smartphone addiction. In Jayakumar, R. and Duvvuru, R.R. (Eds.), Recent trends in multidisciplinary research. AkiNik Publications, New Delhi. ISBN: 978-93-5570-280-7, 36:51-66.
3. Kumari, R., Malik, P., Khushbu, Kaushik, R. & Rani, S. 2022. Significance of educational counseling: A review. In Jayakumar, R. and Duvvuru, R.R. (Eds.), Recent trends in multidisciplinary research. AkiNik Publications, New Delhi. ISBN: 978-93-5570-280-7, 36:77-91.
4. Sharma, M., Nautiyal, S., Malik, P., Saini, P. & Sharma, R. 2022. Review paper on importance of guidance and counseling for mentally retarded children and their parents. In Kayastha, B.L. (Ed.), Recent trends in humanities and social sciences. AkiNik Publications, New Delhi. ISBN: 978-93-5570-120-6, 12:53-68.
5. Yashvee, Malik, P., Sharma, S., Verma, S. &Verma, V. 2022. Role of guidance in adolescents' life. In Jayakumar, R. and Duvvuru, R.R. (Eds.), Recent trends in multidisciplinary research. AkiNik Publications, New Delhi. ISBN: 978-93-5570-280-7, 36: 19-37.

### Manuals

1. Malik, P. and Duhan, K. 2018. Manual on life span development -1. Department of Human Development and Family Studies, CCSHAU, Hisar.
2. Malik, P. and Sangwan, S. 2020. Manual on Philosophy of early childhood education. Department of HDFS, COHS, CCSHAU, Hisar.
3. Sangwan, S., Singh, C.K. and Malik, P. 2020. Manual on Educational psychology and early childhood education. Department of HDFS, COHS, CCSHAU, Hisar.

### Research Papers

1. Balda, S. and Sangwan, S. 2018. Promoting social competence for management of aggressive behavior. *Indian Journal of Health & Wellbeing*, 9(8-9):978-981.
2. Batra, N. and Malik, P. 2018. *Vaastu Shastra* for bringing positivity to life- a review. *Indian Journal of Health and Wellbeing*, 9(3):681-684.
3. Dahiya, R., Sabarwal, K. and Sangwan, S. 2018. Cognitive development of rural pre-schoolers through grass- root approach. *Annals of Agri- Bio Research*, 23(2):189-189.
4. Duhan, K. and Devarakonda, C. 2018. Teacher trainees' perceptions of inclusion and its challenges: disability, CBR and Inclusive Development.10.5463/DCID.v29i1.649. 29(1): 93-102.
5. Gill, P., Malik, P. and Gill, P. 2018. Decision making power of college girls in relation to clothing. *Indian Journal of Positive Psychology*, 9(1):74-77.
6. Aneja, A. and Malik, P. 2019. Maternal and child health knowledge of rural mothers. *Indian Journal of Health and Wellbeing*, 10(7-9):276-78.
7. Balda, S. Sangwan, S. and Kumari, A. 2019. Family environment as perceived by adolescent'sboys and girls. *International Journal of Current Microbiology and Applied Sciences*, 8(1):2262-2269.
8. Singh, C.K. and Sangwan, S. 2019. Depression among senior citizens living with and without family. *Indian Journal of Health and Well Being*, 10(1-3):65-68.

9. Malik, P. and Aneja, A. 2019. Reproductive Health Knowledge of Rural Mothers of Hisar District. *India. International Journal of Current Microbiology and Applied Sciences,* 8(2): 2864-2870.
10. Malik, P. and Duhan, K. 2020. Differences in self-concept of adolescents from urban and rural Haryana. *International Journal of Advances in Agricultural Science and Technology*, 7(1):63-69.
11. Punam, Singh, C.K. and Sunita. 2022. A study of the relationship between emotional intelligence and personsality development of rural adolescents. *Asian Journal of Agricultural Extension, Economics and Sociology,* 4(10):89466.
12. Gill, P., Malik, P., Arya, N. and Yadav, N. 2023. Evolving fashion trends and choices of Indian youth: family approval and disapproval. *International Research Journal of Modernization in Engineering Technology and Science,* 5(2):503-506.
13. Gill, P., Malik, P., Arya, N. and Yadav, N. 2023. Khadi: A proud choice of Indian youth. *International Journal of Home Science*, 9(1):122-125.

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1. Duhan, K. 2019. Impact of a child stimulation intervention on cognitive abilities of preschool children. International conference on Human Development in a globalizing World: Perspectives from South and South-east Asia, Center of Advance Study (CAS), Department of HDFS, MSU Baroda and International Society for the Study of Behavioral Development- India on January 31-February 2, 2019.
2. Duhan, K. and Malik, P. 2019. Comparative study on adolescent's creativity with regards to home and school environment. National Seminar on Innovative strategies for gender equality, I.C. college of Home Sciences, CCSHAU, Hisar in Collaboration with Vision India NGO Hisar, March 8, 2019:177.
3. Gill, P., and Malik, P. 2019. Accepted and expected level of modernity in clothing by college girls.National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019.
4. Malik, P. and Aneja, A. 2019. Physical health perceptions and practices among rural mothers of Haryana. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019:56
5. Malik, P. and Aneja, A. 2019. Reproductive health status of urban and rural women of Haryana: A comparative. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019:57.
6. Manocha, A. and Sangwan, S. 2019. Environmental stimulation, parental nurturance and language development in urban preschoolers. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019.
7. Sangwan, S., Singh, C.K. and Manocha, A. 2019. Study of contributing variables in guidance needs of adolescent. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019
8. Sangwan, S. and Balda, S. 2019. Assessment of internalized behavior problems in 6-10 years old boys and Girls. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019.
9. Singh, C.K. and Sangwan, S. 2019. Depression among senior citizens: A comparative study. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019:133.
10. Aneja, A. and Malik, P. 2023. Mental health of rural women during COVID-19. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023, CCS HAU, Hisar, Haryana:868.
11. Gill, P. and Malik, P. 2023.Ways to Promote Entrepreneurship of Traditional Handicrafts: A New Approach to Sustainable Economic Development of Rural Women. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023, CCS HAU, Hisar, Haryana:851.

12. Malik, P. and Gill, P. 2023. Lockdown and gender inequality. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023, CCS HAU, Hisar, Haryana:859.
13. Malik, P., Sangwan, S., Kathpalia, J. and Gill, P. 2023. Academic Stress and Mental Health. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023, CCS HAU, Hisar, Haryana: 824.

**Popular Articles**

1. Malik, P. 2019. Gharelu hinsa se mahilaon ki suraksha, Haryana Kheti, 4:21.
2. Malik, P. and Gill, P. 2020. Corona ke samay mein maansik swasthya ka khayal kaise rakhein. Haryana Kheti, 8:24
3. Malik, P., Gill, P. and Gill, P. 2022. *Mahila shashaktikaran ki yojnaein, Haryana Kheti*, 6:32.

## *ANNEXURE I- E*

## LIST OF PUBLICATIONS BY FACULTY OF TEXTILE AND APPAREL DESIGNING

### Books

1. Yadav, N. and Arya, N. 2019. *Kapas Chugai ka Unnat Bag*. Earth Vision Publications, Haryana.
2. Singh, S.S.J. and Rose, N.M. 2022. *Fundamentals of Textile Dyeing*. Today and Tommorow's Printers and Publishers, New Delhi.
3. Singh, S.S.J., Pruthi, N. and Rose, N.M. 2022. *Vastron ki Drafting Taknik, 2nd Edition.* Today and Tommorow's Printers and Publishers, New Delhi.

### Book Chapters

1. Yadav, S. 2019. Durrie- Handloom weaving craft of Haryana. *An Insight into the Traditional Folk Arts of India*, ICAR –CIWA, Compiled by Vastrad J.V. and Nadaf, S.S., University of Agricultural Sciences:57-65.
2. Gill, P. and Gill, P. 2020. Upcycling textile waste into doormats. Traditional Lifestyle and Adolescents. ISBN: 978-81-941704-3-3:136-140.
3. Rani, L. and Brar, K. 2020. Extraction of fibres from ashoka (*Polyalthia Longifolia*) for development of yarns from plant-waste material. *Recent Advances in Science and Technology Research*. Vol.6. Akinik Publications, New Delhi. ISBN 978-93-90206-95-7:148-157.
4. Saini, N., Verma, M. and Yadav, S. 2022. Different applications and development of sports textiles. *Recent Adavnces in Clothing and Textiles*. Kripa Drishti Publications, Pune: 58-66.
5. Verma, M., Saini, N. and Rose, N.M. 2022. Advances in Textile Finishing. *Recent Adavnces in Clothing and Textiles*. Kripa Drishti Publications, Pune: 110-126.
6. Sodhi, S., Singh, V. and Arya, N. 2022. Recycling: An optimize solution for sustainability. *Research Trends in Home-Science and Extension*. Akinik Publications, New Delhi.
7. Yadav, S., Rose, N.M. and Saini, N. 2022. Applications of bio-plastics in textiles and apparel industries. *Research Trends in Home Science and Extension*. Vol.1. Akinik Publications, New Delhi: 67-94.

### Manuals and Design Catalogues

1. Arya, N., Sangwan, O. and Dahiya, D.S. 2019. Manual on Computer Aided Designing. Directorate of Students Welfare, CCS Haryana Agricultural University, Hisar.
2. Arya, N., Sangwan, O. and Dahiya, D.S. 2019. Training Manual on Computer Aided Designing. Directorate of Students Welfare, CCS Haryana Agricultural University, Hisar.
3. Rose, N.M., Yadav, S. and Saini, N. 2020. Manual on Experiential Learning in Product Design: Digital Embroidered Home Furnishings. Department of Textile and Apparel Designing, CCS Haryana Agricultural University, Hisar.
4. Verma, M. and Rose, N.M. 2020. Textile Finishes. Department of Textile and Apparel Designing, CCS Haryana Agricultural University, Hisar.
5. Sodhi, S., Singh, V. and Arya, N. 2020. Up-Cycled Apparel Waste Articles Developed by Using Pre and Post Apparel Waste. Department of Textile and Apparel Designing, CCS Haryana Agricultural University, Hisar.

### Research Papers

1. Arya, N. and Singh, V. 2018. Impact assessment of trainings imparted on technical know-how of paper patterns for skill improvement. *International Journal of Current Microbiology and Applied Science*s, 7(1):3612-3618.
2. Saini, N., Yadav, S. and Rose, N.M. 2018. Fabric designing for product development by combination of weaves through CAD. *International Journal of Management Information and Engineering*, 6(2):41-44.

3. Saini, N., Yadav, S. and Rose, N.M. 2018. Shoddy woollen industries: Say no to dye chemicals. *International Journal of Chemical Studies*, 2(6):1572-1576.
4. Yadav, S. 2018. Creating awareness among farm workers regarding health risks and use of protective clothing during harvesting and threshing. *Indian Journal of Health and Well Being*, 9(3):464-466.
5. Yadav, S. and Gaba, G. 2018. Awareness of farm workers regarding health problems and use of protective clothing during pesticide application. *Journal of Applied and Natural Science*, 10(2): 540-543.
6. Yadav, S. and Verma, M. 2018. Phytochemical screening of peepal leaves. *Indian Journal of Health and Well Being*, 9(6):50-951.
7. Arya, N., Singh, V. and Chauhan, N. 2018. Study on existing clothing practices of rural elderly women of Hisar. *The Anthropologist*, 34(1-3):48-52.
8. Verma, M., Singh, S.S.J. and Rose, N.M. 2018. Phytochemical screening of onion skin (*Allium cepa*) dye extract. *Journal of Pharmacognosy and Phytochemistry*, 7(6):1414-1417.
9. Verma, M., Singh, S.S.J., Rose, N.M. and Singh, R. 2018. Effect of biopolymer treatment on the dyeing of cotton fabric with natural dye (onion skin). *International Journal of Chemical Studies*, 6(1):1715-1720.
10. Singh, V. and Arya, N. 2019. Clothing preferences of elderly women. *International Journal of Current Microbiology and Applied Sciences*, 8(3):1813-1818.
11. Rani, L. and Arya, N. 2019. Dyeing and finishing of fabrics with low or without water. *The Pharma Innovation Journal*, 8(6):1159-1165.
12. Rani, L. and Brar, K. 2019. Constructional and physical properties of China-rose (*Hibiscus rosa-sinensis*) union fabrics. *Journal of Cotton Research and Development*, 33(2):344-349.
13. Arya, N. and Chauhan, N. 2019. An unconventional luxury fibre: A review. *International Journal of Current Microbiology and Applied Science*s, 8(7):3409-3416.
14. Yadav, S. 2019. Assessment of antimicrobial activity of plant extracts for application on textiles. *International Journal of Chemical Studies*, 7(1):33-36.
15. Yadav, S. and Pruthi, N. 2019. Clothing practices and problems of workers engaged in cotton ginning. *International Journal of Chemical Studies*, 7(1):2040-2043.
16. Yadav, S. and Rose, N.M. 2019. *Punja Durrie*: A diminishing textile craft of Haryana. *International Journal of Current Microbiology and Applied Science*s, 8(2):2659-2665.
17. Singh, V., Tomer, J. and Dahiya, M. 2019. Opinion of rural women regarding protective clothing to mitigate occupational health hazards. *Technofame – Journal of Multidisciplinary Research*, 8(1):12-16.
18. Saini, N., Yadav, S. and Rose, N.M. 2020. A comparative study of physical properties of yarns and fabrics produced from fresh and recycled fibres. *Current Science*, 118(5):791-795.
19. Rani, L. 2020. Designing of the school uniforms for pre-school children. *International Journal of Current Microbiology and Applied Science*s, 9(2):2689-2696.
20. Singh, V., Tomer, J. and Arya, N. 2020. Impact assessment of stitching trainings for empowerment of rural women. *International Journal of Current Microbiology and Applied Science*s, 9(6):693-700.
21. Verma, M. 2020. Use of recycled cotton for making composite material used for different application: An Overview.*International Journal of Chemical Studies*. 8(1):1489-1492.
22. Verma, M., Singh, S.S.J., Rose, N.M. 2020. Effects of biopolymer treatments on dyeing efficiency of cotton fabric with marigold petals. *Journal of Pharmacognosy and Phytochemistry*, 9(2):321-325.
23. Verma, M., Singh, S.S.J. and Rose, N.M. 2020. Use of peanut skin for the dyeing of cotton fabric. *Chemical Science Review and Letters*, 9(34):313-317.
24. Rani, L. and Brar, K. 2020. Physical and tactile properties of woven textile textures from plant and agro-waste materials. *The Pharma Innovation Journal*, 9(4S):104-109.

25. Singh, V. and Arya, N. 2020. Existing kasuti embroidery practices of rural women. *The Pharma Innovation Journal*, 9(4):100-103.
26. Arya, N., Yadav, N. and Singh, V. 2020. Ergonomically assessed *unnatgathri* for diversified activities. *International Journal of Agricultural Science and Research*, 10(6):7-12.
27. Gill, P. and Singh, S.S.J. 2020. Innovative approach in the use of traditional *aangi* of Haryana. *International Journal for Modern Trends in Science and Technology*, 6(9S):126-131, 2020.
28. Yadav, S., Rose, N.M., Devi, S. and Kumar, A. 2020. Development of antibacterial finish for cotton with neem leaves extract and assessment of wash durability. *Journal of Cotton Research and Development*, 34(1):158-166.
29. Yadav, S., Rose, N.M., Devi, S. and Kumar, A. 2020. Assessment of wash durability of eucalyptus herbal extract derived antimicrobial finish. *Plant Archives*, 20 Special Issue (AIAAS-2020):16-20.
30. Dahiya, R. and Yadav, S. 2020. Perception of women towards vocational training on garment construction. *Indian Journal of Health and Well-being,* 11(4-6):139-143.
31. Yadav, S., Rose, N.M., Sunita and Rani, P. 2020. Simulation of textile designs from durrie motifs for varied applications. *International Journal of Advances in Agricultural Science and Technology*, 7(1):22-33.
32. Gill, P. and Gill, P. 2020. Diversification of denim. *Man Made Textiles in India*, 48(5):155-162.
33. Yadav, S., Rose, N.M., Sunita and Rani, P. 2020. Designing of articles through screen printing using innovative durrie designs. *International Journal of Home Science*, 6(2):17-22.
34. Yadav, S. and Rose, N.M. 2020. Designing and development of functional products using herbal finished cotton fabric. *The Pharma Innovation Journal*, 9(11):90-93.
35. Yadav, S. and Rose, N.M. 2020. Market potential of screen printed products inspired from durrie designs. *International Journal of Education and Management*, 10(4):349-354.
36. Yadav, S., Verma, M. and Rose, N.M. 2021. Assessment of total phenolic content and microbial activity of plant leaves extract. *Journal of Pharmacognosy and Phytochemistry*, 10(1):819-823.
37. Arya, N. and Yadav, N. 2020. Suitability assessment of vegetable picking bag for diversified activities. *International Journal of Current Microbiology and Applied Science*s, 9(10):1145-1149.
38. Verma, M., Gahlot, N., Singh, S.S.J. and Rose, N.M. 2021. UV protection and antibacterial treatment of cellulosic fibre (cotton) using chitosan and onion skin dye. *Carbohydrate Polymers*, 257(117612).
39. Rani, S., Kadam, V., Rose, N.M., Jose, S., Shakyawar, D.B. and Yadav, S. 2021. Effect of enzyme treatment on wool fabric properties and dimensional stability. *Indian Journal of Fibre and Textile Research*, 46(3):83-90.
40. Verma, M., Gahlot, N., Singh, S.S.J. and Rose, N.M. 2021. Enhancement of dye absorption of cotton fabric through optimization of biopolymer treatment. *Cellulose Chemistry and Technology*, 55(4):343-354.
41. Yadav, S., Verma, M. and Rose, N.M. 2021. Assessment of total phenolic content and antimicrobial activity of plants leaves extract. *Journal of Pharmacognosy and Phytochemistry*, 10(1):819-823.
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43. Yadav, S., Rose, N.M. and Verma, M. 2021.Consumer preferences for development of textile product for entrepreneurial activity. *International Journal of Agricultural Sciences and Research*, 11(2):37-42.

44. Arya, N., Yadav, N. and Singh, V. 2021. User friendly pick bag for pearl millet ear head collection. *Journal of Krishi Vigyan*, 10(1):297-302.
45. Arya, N., Singh, V. and Yadav, N. 2021. Content assessment on usage pattern of pick bag technology for vegetable collection. *Agriways*, 9(2):113-115.
46. Verma, M., Singh, S.S.J. and Rose, N.M. 2022. Optimization of reactive dyeing process for chitosan treated cotton fabric. *Cellulose Chemistry and Technology*, 56(1-2):165-175.
47. Sodhi, S., Singh V. and Arya, N. 2022. Upcycling: Innovative way of textile waste management. *The Pharma Innovation Journal*, SP-11(3):1247-1248.
48. Gill, P., Malik, P. and Gill, P. 2022. Nursing wipes for lactating mothers. *The Pharma Innovation Journal*, 11(3):621-623.
49. Sodhi, S., Singh, V., Arya, N. and Jamal, Z. 2022. Upcycling practices for pre and post textile and apparel waste. *Journal of Agricultural Mechanization in Asia, Africa and Latin America*, 53(03): 6675- 6682.
50. Sodhi, S., Singh, V., Arya, N. and Jamal, Z. 2022. Textile waste reduction by upcycling. *Journal of Agricultural Mechanization in Asia, Africa and Latin America*, 53(03):6769 - 6772.
51. Yadav, S., Rose, N.M. and Saini, N. 2023. Designing and development of textile products: A promising enterprise for entrepreneurship. *International Journal of Home Science*, 9(1):21-27.

**Papers Presented and Abstracted in Conferences/ Seminars/Workshops**

1. Saini, N., Yadav, S. and Rose, N.M. 2018. Ergonomics: A science for reduction of health problems of women workers in textile industry. International Conference on Women's Work & Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector, Arya P.G College, Panipat, Haryana, March 24-25, 2018:174.
2. Yadav, S. and Verma, M. 2018. Creating awareness farm workers regarding health risks and use of protective clothing during harvesting and threshing. International Conference on Women's Work & Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector, Arya P.G College, Panipat, Haryana, March 24-25, 2018:161.
3. Saini, N. Yadav, S., Rose, N.M. and Khambra, K. 2018. An overview: Shoddy wollen industries in Panipat district. National Seminar on Trends and Advances in Wool and Specialty Hair, GBPUA&T, Pantnagar, Uttarakhand, March 16-17, 2018:37.
4. Saini, N. Yadav, S., Rose, N.M. and Khambra, K. 2018. Carbon credit: Control of Environmental pollution from industries. National seminar on Trends and Advances in Wool and Specialty Hair, GBPUA&T, Pantnagar, Uttarakhand, March 16-17, 2018:49-50.
5. Verma, M. and Yadav, S. 2018. Analysis of presence of phytochemicals in plant extract (*Peepal* leaves). National Seminar on Trends and Advances in Wool and Specialty Hair, GBPUA&T, Pantnagar, Uttarakhand, March 16-17, 2018:39.
6. Saini, N., Yadav, S. and Yadav, N. 2018. Stress relief of workers through ergonomics in workplace. International Conference on Positive Psychology for Health & Well Being, Guru Jambheshwer University of Sciences and Technology, Hisar, Haryana, March 9-10, 2018.
7. Verma, M., Singh, S.S.J. and Rose, N.M. 2018. Effect of eco friendly biopolymer for enhancing functional properties of cotton fabric through dyeing. XXXII Biennial Conference of the Home Science Association of India on Family and Community Science: A Catalyst for Sustainable Development Goals, MPUA&T, Udaipur, Rajasthan, February1-3, 2018:470-471.
8. Yadav, N. 2018. Cotton picking bag user friendly drudgery reducing technology. International Congress on Cotton and Other Fibre Crops, ICAR Research Complex for NEH Region, Umiam (Barapani) Meghalaya, February 20-23, 2018:176-183.
9. Verma M., Singh, S.S.J. and Rose, N.M. 2018. Eco-friendly approach of biopolymer and natural dye (onion skin) to impart multifunctionality to cotton fabric. 8th International

Science Congress, Maharishi Markandeshwar University, Mullana, Ambala, Haryana, December 8-9, 2018.

10. Arya, N. and Singh, V. 2019. User friendly paper patterns for functional clothing. International Conference on Innopreneurship: A Need of Sustainable Agriculture, CCS Haryana Agricultural University, Hisar, Haryana, February2-3, 2019:422.
11. Arya, N. and Singh, V. 2019. Development of user friendly paper patterns. National Seminar on Innovative Strategies for Gender Equality. I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019:211.
12. Gill, P. and Singh, S.S.J. 2019. Traditional *doobla* of Haryana: Ecofriendly *odhani*. International Conference on Innovations in Chemical, Biological & Environmental Sciences, Arya PG College, Panipat, Haryana, February 27-28, 2019:270.
13. Gill, P. and Malik, P. 2019. Accepted and expected level of modernity in clothing by college girls. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019:84.
14. Saini, N., Yadav, S. and Rose, N.M. 2019. Safe environment through use of old clothes. International Conference on Climate Change towards Health and Agricultural Sustainability. Guru Jambheshwar University of Science and Technology, Hisar, Haryana, February 18-20, 2019:324-325.
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16. Saini, N., Yadav, S., Rose, N.M. and Khambra, K. 2019. Best of waste: Diversification of used clothes. International Symposium on Innopreneurship: A Need of Sustainable Agriculture, CCS Haryana Agricultural University, Hisar, Haryana, February 2-3, 2019:238-239.
17. Saini, N., Yadav, S. and Khambra, K. 2019. Income generating activity of rural women: Phulkari embroidery. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019:146.
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19. Sodhi, S., Singh, V. and Arya, N. 2019. Upcycling: An innovative wave of sustainable fashion. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber 6-8, 2019:410.
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22. Gill, P. and Singh, S.S.J. 2019. Exploring innovative use of traditional *kandh* of Haryana. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber 6-8, 2019:416
23. Saini, N., Yadav, S. and Rose, N.M. 2019. Recycling: An innovative way to utilize post-consumer apparel waste. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber 6-8, 2019:410-411.
24. Verma, M., Singh, S.S.J. and Rose, N.M. 2019. Optimization of dyeing process of onion skin dye for biopolymer treated cotton fabric. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber 6-8, 2019.

25. Verma, M. 2019. Use of jute in technical textiles and its advantages. National Conference on Recent Trends In field of Environmental Science & Engineering, GJUS&T, Hisar, September 20-21, 2019.
26. Singh, V. and Rana, K. 2020. Opinion of rural women regarding face masks to mitigate occupational health problems. Compendium National Symposium on Cotton production technologies in the next decade: Problems and perspectives, OUAT, Bhuwneshwar, January 22-24, 2020.
27. Rani, L. and Brar, K. 2020. Physical properties of extracted fibres from plant materials: Ashoka, china-rose and corn husk. International Conference on Recent Trends in Textiles-A Paradigm for Innovative and Sustainable Fibers, Yarns, Fabrics and Garments Production, Processing & Designing Aspects, TITS, Bhiwani, Haryana, September 18-19, 2020.
28. Rani, L. and Brar, K. 2020. Motifs and designs used for making traditional Punjabi basketry handicraft. International Conference on Recent Trends in Textiles-A Paradigm for Innovative and Sustainable Fibers, Yarns, Fabrics and Garments Production, Processing & Designing Aspects, TITS, Bhiwani, Haryana, September 18-19, 2020.
29. Gill, P. and Singh, S.S.J. 2020. Innovative approach in the use of traditional *aangi* of Haryana. International Conference on Recent Trends in Textiles-A Paradigm for Innovative and Sustainable Fibers, Yarns, Fabrics and Garments Production, Processing & Designing Aspects, TITS, Bhiwani, Haryana, September 18-19, 2020.
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32. Arya, N. and Yadav, N. 2021. Effective dissemination of pick bag technology through media Form. 3rd International Conference on Global Initiatives in Agricultural, Forestry and Applied Sciences (GIAFAS-2021), Shri Guru Ram Rai University, Dehradun, Uttarakhand, India, October 17 -18, 2020:168.
33. Rani, L. and Arya, N. 2021. Basketery production from bamboo by rural women in kalka region. 3rd International Conference on Global Initiatives in Agricultural, Forestry and Applied Sciences (GIAFAS-2021), Shri Guru Ram Rai University, Dehradun, Uttarakhand, India, October 17 -18, 2020 :225.
34. Yadav, S., Bhandari, V. and Rose, N.M. 2021. Role of nano technology in textile industry. International Web Conference on Global Research Initiatives for Sustainable Agriculture and Allied Sciences. Ashtha Foundation, Meerut, UP, December 13-15, 2021:77-78.
35. Saini, N., Yadav, S. and Rose, N.M. 2021. Recycling: An eco-environmental approach. International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns. Agriculture Letters, Raichur, Karnataka, February 26-28, 2021:13.
36. Verma, M. 2021. Promotion of regional textile craft of India for employment generation. National Seminar on Empowering India through Regional Textile Crafts, L.N. Mithila University, Bihar, January 30, 2021.
37. Verma, M., Singh, S.S.J. and Rose, N.M. 2021. Eco-friendly dyeing of cotton fabric with onion skin dye after biopolymer treatment. International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns (NPAFSC-2021), Agriculture Letters, Raichur, Karnataka, February 26-28, 2021.
38. Singh, V. and Rana, K. 2022. Market potential of hand painted canvas embroidery cotton *kurti*. National Symposium on Paradigm Shift in Cotton Cultivation, MPUAT, Udaipur, August 6-8, 2022.

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40. Saini, N., Yadav, S. and Rose, N.M. 2023. Adaptation of traditional *phulkari* embroidery designs on ladies *kurti*. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023:777.
41. Saini, N., Yadav, S. and Rose, N.M. 2023. Comparative analysis of washing effect on performance properties of manufactured fresh and recycled woollen blended fabrics. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023:795.
42. Sodhi, S., Singh, V. and Arya, N. 2023. Upcycling for sustainable clothing. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023:797-798.
43. Gill, P. and Malik, P. 2023. Ways to promote entrepreneurship of traditional handicrafts: A new approach to sustainable economic development of rural women. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023:851.
44. Rani, L. and Arya, N. 2023. Agro-waste diversified textile products towards sustainability and advanced utilization. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023:860-861.
45. Rani, L. and Arya, N. 2023. Role of traditional textile handicrafs in sustainable development and capacity building community resilience. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023:866.
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**Popular Articles**

1. Gill, P., Gill, P. and Malik, P. 2019. Kaise hon dhatri (doodhpilanewali) mataon ke vastra. Haryana Kheti, 52(7):23.
2. Sodhi, S., Singh, V. and Arya, N. 2020. Mask: *Corona se bachhav me sahaya. Haryana kheti,* 53(12):27-29.
3. Gill, P., Malik, P. and Gill, P. 2020. *Barsaat ke mausam mein kaise ho vastra*. *Haryana Kheti,* 53(8):20.
4. Arya, N. and Rani, L. 2021. *Rangai ki vibhinvidhiyan*. *Haryana Kheti,* 54(3):23-25.
5. Gill, P., Malik, P. and Gill, P. 2021. *Divyaang bachhon ke liye vastra*. *Haryana Kheti,* 53(6):29.
6. Rani, L. and Arya, N. 2021. *Chapai karne ki vibhin vidhiyan*. *Haryana kheti,* **54**(4):19-20.
7. Saini, N., Verma, M. and Yadav, S. 2021. *Phulkari: Ek rachnatmak kala. Haryana Kheti,* **54**(6):27-28.
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9. Verma, M., Yadav, S. and Rose, N.M. 2021. Corona *kaal mein surakshatmak vastron ki bhumika or rakh rakhav*. *Haryana Kheti,* **54**(2):25.
10. Verma, M. and Saini, N. 2021. Bhandhani (Tie and Dye) *se badayein vastro ki gunvatta evam aaye. Madhya Bharat Krishak Bharti,* **16**(7): 79.

11. Verma, M. and Saini, N. 2021. Bengal *ki paramparik kala: Kantha kadai. Madhya Bharat Krishak Bharti*, **16**(05): 80.
12. Verma, M. and Saini, N. 2021. *Kutch kadai: Gujrat ki paramparik hast kala.* Madhya Bharat Krishak Bharti, **16**(4): 82.
13. Saini, N. and Verma, M. 2021. Himanchal Pradesh *ki paramparik kadai: Chambarumal. Madhya Bharat Krishak Bharti*, **16**(8): 5.
14. Sodhi, S. and Arya, N. 2021. Stencil printing: *Sajawat ki ek pracheen taknik. Haryana kheti*, **55**(6):21-23.
15. Saini, N. and Yadav, S. 2021. Vastron se Daag Dhabbe Chudane ke kuch aasaan ghrelu upay. Madhya Bharat Krishk Bharti, **16**(9):52.
16. Sodhi, S., Singh, V. and Arya, N. 2021 *Croshia: Gramin mahilaon ki aay ka sadhan. Haryana kheti*, **54**(6):28-30.
17. Saini, N., Verma, M. and Yadav, S. 2021. *Phulkari: Ek rachnatmak kala. Haryana Kheti*, **54**(6):27-28.
18. Arya, N. and Rani, L. 2021. *Rangai ki vibhinvidhiyan. Haryana kheti*, **54**(3):23-25
19. Rani, L. and Arya, N. 2021.*Chapaikarne ki vibhinvidhiyan. Haryana kheti*, **54**(4):19-20.
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21. Verma, M. and Saini, N. 2021. *Garmimein ultra-violet vastro ki bhumika. Haryana Kheti* :27.
22. Sodhi, S., Singh, V. and Arya, N. 2022. Banana fiber- an eco-friendly textile. *Vigyan Varta*, **3**(4): 135-136.
23. Sodhi, S. and Arya, N. 2022. Bamboo and its diversified applications. *Vigyan Varta*, **3**(4):128-130.
24. Saini, N., Verma, M. and Yadav, S. 2022. Uni kapde ki kharid avam rakh rakhaav ke kuch asaan tareeke. Madhya Bharat Krishk Bharti, **16**(10):56.
25. Yadav, S., Rose, N.M. and Saini, N. 2022. Screen printing: *Chapai ki ek pracheentam taknik. Madhya Bharat Krishk Bharti*, **16**(12):72.
26. Saini, N. and Yadav, S. 2022. Applications of compression garments. *Just Agriculture*, **3**(2):1-8.
27. Saini, N. and Yadav, S. 2022. *Garmi ke mausam me sahivastron ka chunav. Madhya Bharat Krishk Bharti*, **17**(5):99.
28. Verma, M. and Saini, N. 2022. Computerized *kadhai ko bnaerojgar ka sadhan. Madhya Bharat Krishk Bharti*, **16**(11):88.
29. Saini, N. and Yadav, S. 2023. Diversification of old textile and apparel. *Vigyan Varta*, **4**(1):58-61.
30. Gill, P., Malik, P. and Gill, P. 2023. *Stanpaan va oopari aahar lene wale bachhon ke liye vishesh vastra. Haryana Kheti.*
31. Verma, M. and Saini, N. 2023. Fashion *ke yug mein* upcycling *ka mahatav*. *Madhya Bharat Krishk Bharti*, **16**(11):95.

*ANNEXURE II*

## SEMINARS/ CONFERENCES/ WORKSHOPS/ TRAININGS ETC. ATTENDED BY THE FACULTY

### *ANNEXURE II -A*

### Seminars/ Conferences/ Workshops/ Trainings etc. attended by Faculty of Department of Extension Education and Communication Management

| Name of faculty | Title of seminar/ conference/workshop/training/unit meeting |
|---|---|
| Dr. Vandana Verma | ICAR sponsored CAFT course on Extension Led Nutritional Security, Division of Agricultural Extension, ICAR IARI New Delhi, Sept. 04-24, 2018 |
| Dr. Rajesh Dahiya<br>Dr. Poonam Kundu<br>Dr. Vandana Verma<br>Dr. Ella rani<br>Dr. Manju Dahiya | International Symposium on Innopreneurship**:** A Need of Sustainable Agriculture, CCSHAU, Hisar, February 2-3, 2019 |
| Dr. Kanta Sabharwal | XXIII Biennial Workshop of All India Coordinated Research Project on Home Science at Maharana Pratap University of Agriculture and Technology, Udaipur, Feb.15-16, 2019, |
| Dr. Beena Yadav<br>Dr. Sushma Kaushik<br>Dr. Rajesh Dahiya<br>Dr. Vandana Verma Dr. Poonam Kundu<br>Dr. Ella Rani | Seminar on Innovative Strategies for Gender Equality, IC Collegeof Home Sciences, CCSHAU, Hisar, March 8, 2019. |
| Dr. Beena Yadav<br>Dr. Rajesh Dahiya<br>Dr. Poonam Kundu | International Conference on Emerging Paradigms in Social Science Research, Faculty of Social Sciences, Bhagat Phool Singh, Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat, March 25-26, 2019. |
| Dr. Rajesh Dahiya | National Conference on Recent Trends in the field of Environmental Science and Engineering , Department Environmental Science and Engineering, GJUS&T, Hisar, Sept. 20-21, 2019. |
| Dr. Seema Rani | Attended 25th Edition of DST-CII Technology Summit at Hotel JW Marriott, New Delhi, October 13-16, 2019. |
| Dr. Rajesh Dahiya<br>Dr. Vandana Verma<br>Dr.Poonam Kundu | Golden Jubilee International Conference on New Millennia Agriculture: Novel Trend and Future Scenario, Directorate of Research, CCSHAU Hisar, November 6-8, 2019. |
| Dr. Beena Yadav<br>Dr. Vandana Verma<br>Dr. Poonam Kundu<br>Dr. Ella Rani | ISEE National Seminar for Socio Digital Approaches for Transforming Agriculture, ISEE, CCSHAU and Banda Univ, UP at CCSHAU, November 20-22, 2019. |
| Dr. Poonam Kundu | National Incubators Colloquium,t ABIC, CCSHAU, Hisar, January 15-16, 2020. |
| Dr. Vandana Verma | International conference advances and innovations in agriculture and alluies sciences (AIAAS-2020), Jawahar lal Nehru university convention centre, New Delhi held, January 31- February 1, 2020. |
| Dr. Vandana Verma | National Webinar on Gender Sensitization: Need of the hour, Institute of Home Science & IQAC, Dr. Bhimrao Ambedkar University, Agra, May 26, 2020. |
| Dr. Ella Rani | Webinar and discussion series Migration, Displacement and De-urbanization in the Context of COVID-19, Land Portal Foundation, Netherlands, May 28, 2020. |
| Dr. Manju Dahiya | National Webinar on Deconstructing the Gender Binary, Govt.College for Women, Hisar, May 30, 2020. |

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| Dr. Vandana Verma<br>Ella Rani | Online workshop on Effective Strategies of Managing Stress: Handling Self, Family and Nation, IDP-NAHEP GBPUAT, Pantnagar, May 31, 2020. |
| Dr. S. Kaushik<br>Dr. Vandana Verma<br>Dr. Ella Rani | National Webinar on Community Science: Linkages and Way Forward, Department of EECM, College of Community and Applied Sciences, MPUAT, Udaipur (Rajasthan), June 3, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | National Webinar on Nutrition Security Challenges and Importance of Nutrition to Boost the Immune System During Covid-19 Pandemic, Department of Food Nutrition and Public Health, Ethelind College of Home Science, Sam HigginBottom University of Agriculture, Technology & Sciences, Prayagraj U.P. India, June 5, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | Two days National Webinar on Role of ICT in Agriculture and Extension in Present Scenario of Covid-19, Department of Extension Education and Communication Management, College of Community and Applied Sciences, MPUAT, Udaipur , June 11-12, 2020. |
| Dr.Seema Rani | National Webinar on Post COVID-19 Agribusiness: Challenges and Opportunities, Junagadh Agricultural University, Junagadh, June 13-14, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | Two days International Webinar on Capacity Building to Cope with Unprecedented Conditions at Work Place, Department of Mechanical Engineering, College of Technology & Engineering, MPUAT, Udaipur under TEQIP-III project, June 15-16, 2020. |
| Dr. Vandana Verma | International Webinar on Critical Thinking and Future of Learning, Faculty of education Teerthanker Mahaveer University Moradabad, June18, 2020. |
| Dr. Vandana Verma | Future of Indian Media, Department of Communication, Bangalore University, Bangalore, June 22 to 27, 2020. |
| Dr. Vandana Verma<br>Dr. Poonam Kundu<br>Dr. Ella Rani | Thirty-one days Massive Open Online Course (MOOC) on Designing E-learning Content, ICAR NAARM, Hyderabad, July 01-31, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | International Webinar on Strengthening the Immune System against COVID-19 through Agricultural Innovations, Agricultural Research Station, SKNAU, Jobner Fatehpur - Shekhawati, Sikar, Rajasthan, July 29, 2020. |
| Dr. Vandana Verma | Webinar on Entrepreneurial Challenges & Opportunities Post Covid-19, Faculty of Engg. & Computing Sciences, TMU Moradabad UP, August 6, 2020. |
| Dr. Ella Rani | Webinar on Popular Science Writing under AWSAR Programme, DST and Vigyan Prasar, August 7, 2020. |
| Dr. Vandana Verma | Webinar on Startup - A Stepping Stone to Attain Self Reliance and Sustainability in Agricultural Sciences, ASPEE College of Home Sc & Nutrition, SDAU, Gujarat ,August 8, 2020. |
| Dr. Ella Rani | Two weeks online course on Measuring of Entrepreneurial Impact, Coventry University, UK August 8 - September 13, 2020. |
| Dr. Ella Rani | International Webinar on Entrepreneurship During COVID-19, IILM Academy of Higher Learning Lucknow, August 12, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | MOOCs training program on Gender Mainstreaming in Agriculture & Allied Sectors, MANAGE, Hyderabad, September 7-11, 2020. |
| Dr. Santosh Rani | National Webinar on Women FPOs: An Effective Approach for Boosting Entrepreneurship, Empowerment and Self reliance (Atmanirbhar), MPUAT, Udaipur, September, 10, 2020. |
| Dr. Vandana Verma | International Webinar on COVID -19 Biodiversity and Climate Change ; Indigenous people defining the path forward organized by Land Portal Foundation, Netherlands, September 10, 2020. |

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| Dr. Beena Yadav | Online panel discussion on NEP 2020. Organized by DHRM, CCSHAU Hisar. September 16, 2020. |
| Dr. Vandana Verma | International Webinar on COVID -19 Regulatory Rollback and the Green Recovery: Indigenous Peoples Raise Their Voices, Land Portal Foundation, Netherlands, September 17, 2020. |
| Dr. Beena Yadav<br>Dr. Ella Rani | International Webinar on, Combating Hidden Hunger - Obstacles & Interventions for Sustainability, Department of FN, COHS, CCSHAU, Hisar ,September 19,2020. |
| Dr. Rajesh Dahiya | International web conference on food security through sustainable Agriculture, Shri Vaishanv Vidya peethVishavVidyalya of Agri. Indore M.P., September 21-22, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | MOOCs Training Programme on Application of ICTs in Agriculture, MANAGE, Hyderabad, September 21-27, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | Online MOOCs Programme on Extension of Women Entrepreneurial Skills for Agriculture Development, MANAGE, Hyderabad, September 28-30, 2020. |
| Dr. Santosh Rani | National Webinar on Nutri-sensitive Agriculture: A way to Empower India for a Healthier Future, AICRP (HS) Centre, College of Community Science, CAU , Tura, Meghalaya, September 29, 2020. |
| Dr. Vandana Verma | Online MOOCs Programme on Monitoring and Evaluation of Agriculture Project, MANAGE, Hyderabad, October 5-11, 2020. |
| Dr. Vandana Verma<br>Dr. Ella Rani | MOOCs training program on Agri Journalism, MANAGE, Hyderabad, November 23-27, 2020. |
| Dr. Beena Yadav | Brain storming session on Gender Sensitization Issues and Challenges,NASF project COHS, CCSHAU, Hisar December 3, 2020. |
| Dr. Beena Yadav<br>Dr. Rajesh Dahiya<br>Dr. Vandana Verma<br>Dr. Poonam Kundu<br>Dr. Ella Rani<br>Dr.Santosh Rani | Webinar on Role of Women in Agriculture, Deptt. of EECM, COHS, CCSHAU, Hisar, December 4, 2020. |
| Dr. Santosh Rani | Online Idea Investors Meet 2020, ABIC Center, CCSHAU, Hisar. December 4, 2020. |
| Dr. Rajesh Dahiya | Virtual International Extension Education Conference on Role of NGO's in Extension Service: Opportunities & Challenges, Deptt. of Ext.Edu , Institute of Agricultural Science, BHU Varanasi, U.P., December 27-30,2020. |
| Dr. Beena Yadav | Webinar on Vaccine and Medication Equity, Haryana State Higher Education Council and Gautam Buddha University ,May 18,2021. |
| Dr. Beena Yadav<br>Dr. Poonam Kundu | Online Lecture of Gurudev Sri Sri Ravi Shankar on How to overcome stress, ICAR, June 28, 2021. |
| Dr. Beena Yadav | Webinar on Improving quality of Agricultural Research Landscape in India, Nehru Library, CCSHAU Hisar and Elsevier, June 30,2021. |
| Dr. Rajesh Dahiya | Virtual International Conference on new paradigms for Agriculture, Food and sustainability Concerns, Raichur, Karnataka Feb.26-28, 2021. |
| Dr. Vandana Verma | International Conference on Soil and Water Resource Management, College of Technology and Engineering, MPUAT, Udaipur, Rajasthan, India, February 26-27, 2021. |
| Dr. Poonam Kundu<br>Dr. Ella Rani | Virtual workshop on digital library framework for strengthening agricultural knowledge, Nehru Library, CCS HAU Hisar and IARI, New Delhi, February 17-19. 2021. |
| Dr. Vandana Verma | Twenty days Massive Open Online Course on Information Handling Skills for |

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| Dr. Ella Rani | Teaching, Learning and Research, TSAU, Hyderabad, March 1-21, 2021. |
| Dr. Vandana Verma<br>Dr. Ella Rani | Thirty days Massive Open Online Course (MOOC) on Theoretical Foundations of Educational Technology, ICAR NAARM, Hyderabad, June 1-30, 2021. |
| Dr. Ella Rani<br>Dr. Vandana Verma | National level Conference on Boosting your immune system against corona virus: how to minimize the risk of infection, Department of Home Science I.B. PG College Panipat, Haryana, July 1, 2021. |
| Dr. Vandana Verma | National webinar on Research Methodology and Paper Writin, Rajasthan College of Agriculture, MPUAT, Udaipur, July 12, 2021. |
| Dr. Vandana Verma<br>Dr. Ella Rani | Online MOOCs Programme on India e-Extension in Agriculture and Allied Secto, MANAGE, Hyderabad, July 19-23, 2021. |
| Dr. Vandana Verma | Five days MOOC Training Program on Agri Journalism, MANAGE, Hyderabad, India, July 26-30, 2021. |
| Dr. Ella Rani | Two weeks course on Communication and Interpersonal Skills At Work, University of Leeds And Institute Of Coding under future learn, July 28- August 10, 2021. |
| Dr. Vandana Verma | Online Training Programme on developing work life well being for farm women extension functionaries, MANAGE, Hyderabad in collaboration with PAMETI, Ludhiana, August 2-5, 2021. |
| Dr. Poonam Kundu | Start-up Idea for Clean and Green India Organized by AICRP – Women in Agriculture, College of Home Science, G.B.P.U.A. &T Pantnagar, August10, 2021. |
| Dr. Vandana Verma | Online Training Programme on capacity building of extension worker sponsored by MANAGE, Hyderabad, CCSHAU, Hisar, August 16-19, 2021. |
| Dr. Poonam Kundu | National Conference on Women in Leadership & Governance,Department of Public Administration & Women cell at GSW Hisar. August 26, 2021. |
| Dr. Ella Rani | Four days online Training Program on organic and natural farming, MANAGE, Hyderabad in collaboration with CSK HPKV Himachal Pradesh, August 24-26, 2021. |
| Dr. Vandana Verma | MOOC Training Programme on improving e-governance,MANAGE, Hyderabad, August 25-28, 2021. |
| Dr. Vandana Verma<br>Dr. Ella Rani | Webinar on Popular Science Writing under AWSAR Programme, Department of Science and Technology and Vigyan Prasar, September19, 2021 |
| Dr. Vandana Verma | Online Training Programme on Education Management and Academic Leadership, ICAR-NAARM, Hyderabad, September 23-28, 2021. |
| Dr. Ella Rani | Webinar on Leadership in the pandemic – challenges opportunities and confirmation, NAARM Hyderabad, October 3, 2021. |
| Dr. Vandana Verma | Webinar on AWSAR augmenting writing skills for articulating research, Department of Science and Technology and Vigyan Prasar, October 8, 2021. |
| Dr. Vandana Verma | One day webinar on NRI Marriages-issues, challenges and way forward, National Commission for Women, Department of Extension Education and Communication Management, PAU, Ludhiana, November 7, 2021. |
| Dr. Vandana Verma | Online Training Programme on financial management for agriculture starts ups, MANAGE, Hyderabad, October 25-29, 2021. |
| Dr. Vandana Verma<br>Dr. Ella Rani | Thirty-one days Massive Open Online Course (MOOC) on Digital Teaching Techniques, ICAR NAARM, Hyderabad, December 1-31, 2021. |
| Dr. Poonam Kundu | On line International Conference on Advancement of Science and Technology for Environment, Society and People (ICASTESP), Society of Technology, Environment, Science & People. Kozhikode, India, January 28-29, 2022. |
| Dr. Poonam Kundu | On line International Webinar on Women and Neonatal Health, Department of Agriculture, MM(DU) Mullana – Ambala, March 7, 2022. |

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| Dr. Ella Rani | Training Program on Video Production and dissemination Skills for Agricultural Extension Functionaries at MANAGE through online mode, May 9-12, 2022. |
| Dr. Santosh Rani | Annual workshop of AICRP on Women in Agriculture, Bhubenshwar, May 12-13, 2022. |
| Dr. Vandana Verma | Four days online Training Program on "Strengthening Nutrition Sensitive Agriculture Capacities of Mid-Senior Level Officers" conducted by MANAGE, Hyderabad in collaboration with PAMETI, Ludhiana, Punjab, June 7-10, 2022. |
| Dr. Vandana Verma | Training Program on "community extension approaches conducted by National Institute of Agricultural Extension Management, June 13-16, 2022. |
| Dr. Vandana Verma<br>Dr. Poonam Kundu<br>Dr. Ella Rani<br>Dr. Santosh Rani | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCSHAU Hisar, February17-19, 2023. |

## *ANNEXURE II - B*

## SEMINARS/ CONFERENCES/ WORKSHOPS/ TRAININGS ATTENDED BY FACULTY OF DEPARTMENT OF FOODS AND NUTRITION

| Name of Faculty | Title of seminar/ conference/workshop/training/unit meeting |
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| Dr. Veenu Sangwan | National Start Up Summit, CCSHAU, Hisar from 1.6.18-2.6.18 |
| Dr. Varsha Rani | 3rd convention of Veterinary Biochemists and Biotechnologist of India and National symposium on 'Bridging Biochemical Interventions and Environmental Remediations for One Health Improvement', LUVAS, Hisar, Haryana from 2.11.18-3.11.18 |
| Dr. Sangeeta C. Sindhu | Winter school on 'Entrepreneurship development through value addition of underutilized crops' organized by Department of Agricultural Processing and Food Engineering, College of Agricultural Engineering and Technology, OUAT, Bhubaneswar from 15.11.18-05.12.18 |
| Dr. Sangeeta C. Sindhu | International Conference on 'Positive Psychology for Health & Well Being', Guru Jambheshwar University, Hisar from 9.3.18-10.3.18 |
| Dr. Sangeeta C. Sindhu<br>Dr. Veenu Sangwan<br>Dr. Varsha Rani<br>Dr. Urvashi Nandal | International symposium "Innopreneurship: A need of sustainable agriculture" ISINSA-2019, Director of Research, CCS HAU, Hisar, Haryana from 2.2.19-3.2.19 |
| Dr Urvashi Nandal | Sensitization Workshop on Water Conservation, COHS on 5.8.19 |
| Dr Urvashi Nandal | One day workshop 'Healthy daughters- Healthy society for menstrual hygiene for students' in COHS on 2.9.19 |
| Dr Urvashi Nandal | Sensitization Workshop BIRAC BIG-15 (Biotechnology Ignition Grant Call 15)grant funding & Bio-entrepreneurship Scheme start up organized by SIIC, IIT Kanpur and ABIC, CCSHAU, Hisar on 20.7.19 |
| Dr. Sangeeta C. Sindhu<br>Dr. Veenu Sangwan<br>Dr. Varsha Rani<br>Dr. Urvashi Nandal | National seminar on innovative strategies for gender equality.<br>I. C. College of Home Science, CCS HAU, Hisar, Haryana on 8.3.19 |
| Dr. Sangeeta C. Sindhu<br>Dr. Veenu Sangwan<br>Dr. Varsha Rani<br>Dr. Urvashi Nandal | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario (GINMA), CCS HAU, Hisar, Haryana from 6.11.19-8.11.19 |
| Dr. Veenu Sangwan | Accounts Training Programme for Teachers from organized by DHRM, CCS HAU from 26.8.19-31.8.19 |
| Dr. Varsha Rani<br>Dr. Veenu Sangwan | National workshop on production, processing & value addition of nutria-cereals (millets) in India, Deptt. of Genetics & Plant Breeding, CCS HAU, Hisar Haryana on 16.9.19 |
| Dr. Sangeeta C. Sindhu | International Training at University of Illinois, Urbana Champaign,, Illinois, USA) under NAHEP-IDP of CCS HAU, Hisar from 25.6.19-24.9.19 |
| Dr Urvashi Nandal | One day workshop on Awareness and use of Scopus Citation Database organized by Nehru Library, CCS Haryana Agricultural University, Hisar on 29.11.19 |
| Dr Urvashi Nandal | Induction Training Course conducted by Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCS HAU, Hisar from 18.11.19-17.12.19 |

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| Dr. Varsha Rani<br>Dr Urvashi Nandal | National Incubators Colloquium organized by Agri Business Incubation Centre, CCS HAU, Hisar from 15.1.20-16.1.20 |
| Dr Urvashi Nandal | 12th IFSDAA International Webinar on "Trends in technology for Agriculture, Food, Nutrition, Environment and Health" organized by Jagan Nath University, Bahadurgarh on 2.10.20 |
| Dr Urvashi Nandal | National Webinar on 'Community Science Linkages and Way Forward' organized by College of Community and Applied Sciences, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan on 3.6.20 |
| Dr Urvashi Nandal | idea Investors Meet organized by Agri Business Incubation Centre, CCSHAU on 4.12.20 |
| Dr Urvashi Nandal | National Webinar Series on Immuno-Nutrition, Wellness Management & Livelihood Change organized by AICRP on Women in Agriculture, Directorate of Research (Agri.), Assam Agricultural University, Jorhat in association with ICAR-CIWA, Bhubaneshwar from 3.7.20-5.7.20 |
| Dr Urvashi Nandal | International Webinar on Impacts of COVID-19 on Global Economy and Higher Education: Challenges and Opportunities organized by Shri Kalyan Govt. Girls College, Sikar (Rajasthan) in collaboration with Federation of Community Radio Stations, New Delhi from 4.7.20-5.7.20 |
| Dr Urvashi Nandal | International webinar on How to conduct evaluation of agricultural extension programmes organized by Directorate of Extension Education, Maharana Pratap university of Agriculture and Technology, Udaipur on 5.11.20 |
| Dr Urvashi Nandal | Web Sanghosthi title *Corona mahamari mei fasal katai paschat sanrakshan hetu uchit prabhandhan takneek*, organized by College of Home Science, Swami Keshwanand Rajasthan Agriculture University, Bikaner, Rajasthan on 27.5.20 |
| Dr Urvashi Nandal | Webinar on Skills and Startup organized by ABIC, CCSHAU, Hisar on 29.5.20 |
| Dr Urvashi Nandal | Webinar on Project Formulation and Funding opportunities for Young Researchers organized by Directorate of Research, CCSHAU, Hisar on 16.6.20 |
| Dr Urvashi Nandal | Two days National Webinar on Enhanced Employability for Home Scientists in Current Scenario organized by Post Graduate Teaching Department of Home Science, RTMNagpur University, Nagpur from 22.6.20-23.6.20 |
| Dr. Varsha Rani | Refresher training course on 'Educational Technology' from conducted by the Academy of Agricultural Research and Education Management (AAREM), Directorate of HRM, CCSHAU, Hisar from 18.12.19- 7.1.2020 |
| Dr Urvashi Nandal | One day training at COBS&H on Modules for course offer and teacher course assignment on 15.07.20 |
| Dr. Varsha Rani<br>Dr. Veenu Sangwan | Refresher course on statistical tools and techniques for analysis of agricultura data conducted by the Academy of Agricultural Research and Educatior Management, Directorate of Human Resource Management in collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar from 8.7.20-28.7.20 |
| Dr Urvashi Nandal | Massive Open Online course (MOOC) on Designing E-Learning Content organised by ICAR- National Academy of Agricultural Research Management, Hyderabad from 1.7.20-31.7.20 |
| Dr. Veenu Sangwan | Virtual Brainstorming Workshop on Identification of New Dimensions for Preparing National/Global Level Database on Women in Agriculture orgnaized by ICAR-CIWA on 28.8.20 |
| Dr. Varsha Rani<br>Dr. Veenu Sangwan | Three Days National e-Conference on "Future Strategic Technological Innovation and Entrepreneurship Development in Agriculture & Allied Sector for Food & Livelihood Security" organized by IAS, SOADU, Bhubaneswar through online platform from 14.9.20-16.9.20 |
| Dr Urvashi Nandal | International Webinar on Combating Hidden Hunger- Obstacles & |

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| | Interventions for Sustainability organized by Deptt. of Foods & Nutrition, I.C. College of Home Science, CCS Haryana Agricultural University, Hisar on 19.9.20 |
| Dr Urvashi Nandal<br>Dr. Veenu Sangwan | National Webinar on Nutritional and Health Benefits of sorghum and other millets organized by University of Agricultural Sciences, Dharwad on 29.9.20 |
| Dr. Veenu Sangwan | National Webinar on Nutri-sensitive agriculture a way to empower India for a healthier future organized by AICRP (HS), CAU, Meghalaya on 29.9.20 |
| Dr. Veenu Sangwan | Attended National Webinar on 'Women FPOs: An effective approach for boosting entrepreneurship, empowerment and self reliance (*Atmanirbhar*)' organized by AICRP-HS, MPUAT, Udaipur in association with ICAR-CIWA, Bhubaneshwar on 10.9.20 |
| Dr. Veenu Sangwan | Virtual celebration of *Mahila Kisan Diwas* organized by ICAR-CIWA, Bhubaneswar on 15.10.20 |
| Dr Urvashi Nandal | Webinar on Plant based Protein by 2020/2050 organized by AMITY University, Gurugram on 16.10.20 |
| Dr Urvashi Nandal | Webinar on RDA 2020: The way forward to tackle malnutrition in India organized by Nutrition Society of India (NSI), Mumbai Chapter on 19.10.20 |
| Dr Urvashi Nandal | National Webinar on Agrometeorology and Food Security organized by Department of Agronomy, MPUAT, Udaipur on 20.10.20 |
| Dr. Veenu Sangwan | 20th meeting of the Research Advisory Committee of the ICAR- CIWA Institute held in virtual mode from 28.10.20-29.10.20 |
| Dr. Veenu Sangwan | Webinar on "Effective Health Management for Enhancing Work Efficiency of Employees" orgnaized by ICAR-CIWA on 20.11.20 |
| Dr. Sangeeta C. Sindhu<br>Dr. Veenu Sangwan | AICTE sponsored Training programme on Innovative teaching & learning methods for inspiring students organised by Dept. Of ECE, Sagi Rama Krishnam Raju Engineering College (A), Bhimavaram, AP, India from 18.12.20-23.12.20 |
| Dr. Varsha Rani | National conference (NCHSC-2021) on Boosting your immune system against corona virus: how to minimize the risk of infection organized by I.B. (PG) college, Panipat on 1.7.21 |
| Dr. Veenu Sangwan | Attended the Foundation Day programme of ICAR-CIWA on 17.2.21 |
| Dr Urvashi Nandal | Five days training program on Gender mainstreaming in agriculture and allied sectors conducted by National Institute of Agriculture Extension (MANAGE), Hyderabad in collaboration with College of Community and Applied Sciences, (MPUAT, Udaipur) through online mode from 22.2.21-26.2.21 |
| Dr. Veenu Sangwan | Webinar on “Partnering Women in Value Chain Development: A Promising Way for Creating Sustained Livelihood and Agripreneurship” organized by ICAR-CIWA, Bhubaneswar on 17.3.21 |
| Dr. Veenu Sangwan | World Water Day celebration organized by ICAR-CIWA on 22.3.21 |
| Dr Urvashi Nandal | Training in Accounts for Teachers and Technical Employees for Departmental Examination for eligibility for assigning the duties of the DDO organized by The Academy of Agricultural Research & Education Management, Directorate of Human Resource Management, CCSHAU, Hisar. 31.8.21-4.9.21 |
| Dr. Veenu Sangwan | Virtual meeting of scientific staff of ICAR-CIWA and AICRP (HS) centers on Action taken report of Research Projects and Future Action Plan for ICAR-CIWA, and AICRP (HS) on 17.4.21 |
| Dr. Veenu Sangwan | Video Conference of ICAR-CIWA and AICRP on Women in Agriculture under the Chairmanship of Dr. Trilochan Mohapatra, Secretary DARE and Director General ICAR, New Delhi on 24.4.21 |
| Dr. Veenu Sangwan | 21st Research Advisory Committee meeting (virtual mode) organized by ICAR-Central Institute for Women in Agriculture (ICAR-CIWA), Bhubaneswar from |

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| | 28.4.21-29.4.21 |
| Dr. Varsha Rani | Two days virtual International Conference on Role of Micronutrients: Immunity & Healthorganized by Manav Rachna International Institute of Research & Studies, Faridabad from 18.6.21- 19.6.21 |
| Dr. Veenu Sangwan | Global Summit on food fortification webinar on scaling up innovation for a fortified future: fortification quality digitization organised by Global Alliance for Improved Nutrition on 30.6.21 |
| Dr. Veenu Sangwan | Attended webinar on Agricultural Research Landscape in India organised by Library, CCS HAU, Hisar on 30.6.21 |
| Dr. Varsha Rani | Three days International training program on"Biofortification: Key to nutritional security" conducted by National Institute of Agriculture Extension (MANAGE), Hyderabad, in collaboration with Harvest Plus India through online mode at MANAGE from 12.7.21-14.7.21 |
| Dr Urvashi Nandal | International Webinar series on Qualitative Research in Public Health Nutrition- Sampling Techniques, Data Collection, Analysis and Report Writing organized by Nutrition Society of India, Mumbai chapter. 10.7.21-26.7.21 |
| Dr. Sangeeta C. Sindhu<br>Dr. Veenu Sangwan | Collaborative Online Training Program on "Promoting Women Agripreneurship through Crop- Livestock-Fisheries Technologies' organized by ICAR-CIWA, Bhubaneswar & MANAGE, Hyderabad from 14.9.21-18.9.21 |
| Dr. Sangeeta C. Sindhu<br>Dr. Veenu Sangwan<br>Dr. Urvashi Nandal | International Conference on Advancement of Science and Technology for Environment, Society and People, (ICASTESP-2022), Kozhikode, India from 28.1.22-29.1.22 |
| Dr. Veenu Sangwan | Annual Workshop of AICRP on Women in Agriculture at Bhubaneswar, Orissa from 12.5.22-13.5.22 |
| Dr. Varsha Rani | International Conference on recent advances and innovations in biological and applied sciences (RAIBAS 2022) at SGT University, Gurugram from 14.6.22-16.6.22 |
| Dr. Veenu Sangwan | "Awareness Programme on Nutri-Sensitive Agriculture" organised by ICAR-CIWA, Bhubaneswar on 8.7.22 |
| Dr. Veenu Sangwan | Research Advisory Committee Meeting for the year 2022-23 held at ICAR-CIWA, Bhubaneswar under the Chairpersonship of Dr. Madhura Swaminathan from 15.9.22-16.9.22 |
| Dr. Veenu Sangwan | Interaction Meeting with Director, ICAR-CIWA Bhubaneswar on 21.12.22 |
| Dr. Sangeeta C. Sindhu<br>Dr. Veenu Sangwan | National Seminar on 'Engineering interventions for millet production and its value addition' at Northern Region Farm Machinery Training and Testing Institute, Hisar on 19.2.23 |
| Dr. Veenu Sangwan<br>Dr. Varsha Rani<br>Dr. Urvashi Nandal | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, Haryana from 17.2.23-19.2.23 |
| Dr. Veenu Sangwan | International Conference on 'Enhancing productivity and value addition in millets' organised by ICAR-IARI, New Delhi on 18.3.23 |
| Dr. Veenu Sangwan | Webinar on "Women and IP: Accelerating Innovation and Creativity" orgnaized by ICAR-CIWA on 26.4.23 |

## *ANNEXURE II- C*

## SEMINARS/ CONFERENCES/ WORKSHOPS/ TRAININGS ETC. ATTENDED BY FACULTY OFFAMILY RESOURCE MANAGEMENT

| Name of faculty | Title of seminar/ conference/workshop/training/unit meeting |
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| Dr. Kavita Dua | 2nd International Conference on Innovations in Chemical, Biological & Environmental Sciences 19) (Science & Technology for a Sustainable Future) (A Multi-Disciplinary International Conference for all Discipline (ICICBES -2019) at ARYA P.G. COLLEGEPANIPAT, HARYANA (INDIA)on February 27-28, 2019 |
| Dr. Manju Mehta<br>Dr.Promila Krishna Chahal | National Seminar on Innovative Strategies for Gender Equality, organized by COHS, CCS HAU Hisar on March 8, 2019. |
| Dr.Promila Krishna Chahal | National Seminar on Innovative Strategies for Gender Equality organized by COHS, CCSHAU, Hisar on 8th March, 2019. |
| Dr. Promila Krishna Chahal | International Conference on Renewable Environment and Agriculture, SARC-ISER New Delhi, March 15-16, 2019. |
| Dr. Promila Krishna Chahal | Induction Training Course organized by AAREM, Directorate of Human Resource Management CCSHAU, CCS HAU Hisar June 1, 2019 to July 1, 2029. |
| Dr. Kavita Dua | Refresher Course on ICT-preparing teachers for 21st Century, GJUS&T, June 13, 2019 to June 26, 2019. |
| Dr. Promila Krishna Chahal | Two Month Certificate Course on Autocad designing, ARENA Institute, July 2, 2019 to September 2, 2019. |
| Dr. Manju Mehta | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends and Future Scenario GINMA-2019, CCS HAU Hisar, November 6-8, 2019. |
| Dr. Promila Krishna Chahal | Gender gaps and interventions to address Gender issues in Agriculture organized by ICAR-CIWA, Bhubaneshwar, September 17, 2019 – September 26, 2019. |
| Dr. Manju Mehta | Workshop on Digital Library for strengthening agricultural knowledge in NARES, CCS Haryana Agricultural University, Hisar in collaboration with ICAR-IARI, New Delhi on February 12, 2020. |
| Dr. Promila Krishna Chahal | Workshop on 'Digital library for strengthening agricultural knowledge in NARES' organized by CCSHAU, Hisar, February 12, 2020 |
| Dr. Promila Krishna Chahal | 1st International Conference On "Science & Technology: Rural Development" (ICSTRD-2020), MDU, Rohtak, March 4-5, 2020. |
| Dr. Kavita Dua | Online International Workshop on Skill Development Through Communication Skills' Community College, Gujranwala Guru Nanak Khalsa College, Civil Lines, Ludhianaa. April 27, 2020 to May 1, 2020 |
| Dr.Promila Krishna Chahal | Webinar on 'Ergonomics and Psychological Issues in Working from Home during COVID-19 Pandemic' Organized by NIT, Jalandhar, Punjab, May 17, 2020. |
| Dr.Binoo Sehgal | Webinar on 'NDDB Samvad: Managing Self during COVID-19 through Mind-Body Relaxation techniques' organized by National Dairy Development Board, Anand, Gujarat, June 3, 2020. |
| Dr. Manju Mehta | National Webinar on 'Community science: Linkages and Way Forward' organized by COHS, MPUA&T Udaipur on June 3, 2020. |
| Dr. Manju Mehta | Webinar-J-Gate (eResource Platform) 'Nehru Library', organized by Nehru Library, CCS Haryana Agricultural, University, Hisar,(Haryana) on June 4th 2020. |
| Dr. Manju Mehta<br>Dr.Binoo Sehgal | Webinar on 'Project formulation and funding opportunities for young researchers" organized by Directorate of Research, CCSHAU, Hisar on 16-6-2020 at 11.00 a.m. |

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| Dr. Manju Mehta | Webinar on 'Ergonomics and psychological issues and coping during COVID 19 pandemic' organized by College of Community Science, Maharana Pratap University of Agriculture & Technology. Udaipur (Raj) INDIA on 20th June 2020. |
| Dr. Manju Mehta | Webinar on 'Physical & Mental Fitness during COVID: Yoga & Exercises' organized by Department of Industrial and Production Engineering, Department of Industrial and Production Engineering. 22nd June 2020. |
| Dr.Binoo Sehgal | National Webinar on "Enhanced Employability for Home Scientists in Current Scenario" organized by Post Graduate Teaching Department of Home Science, RTM Nagpur University, Nagpur on 22nd and 23rd June, 2020. |
| Dr.Binoo Sehgal | National Webinar on 'Awareness and use of CeRA resources through J-Gate Discovery platform' organized by Nehru Library in collaboration with Consortium for e-resources in Agriculture (CERA) DKMA-ICAR, N. Delhi and Informatics Publishing Ltd., Bangalore on 25-6-2020 |
| Dr. Manju Mehta<br>Dr.Binoo Sehgal | National webinar on 'Event management- Gaining a New Skill' organized by P.G. department of Home Science, Patna University on 27-6-2020. |
| Dr.Binoo Sehgal | 'Online National Talk Show on Skill Development Dynamics for Agro-preneurship in Post Pandemic India' on 29-6-2020. |
| Dr. Manju Mehta | Two days Webinar on "Computational Techniques and Applied Sciences" on 06-07 July, 2020, Organized by the Department of Mathematics and Statistics |
| Dr.Promila Krishna Chahal | Refresher Course on 'Statistical Tools & Techniques for Analysis of Agricultural Data' from 8th-28th July, 2020, organized by HRM, CCSHAU, Hisar (21days) |
| Dr. Manju Mehta | International webinar on 'Climate change/environment conservation' organized by university of Queensland Australia on 17th July 2020 |
| Dr. Manju Mehta | Expert Consultation Webinar on "Role of Women in Environmental Sustainability" on 28th July 2020 organized by NIOH Ahmedabad. |
| Dr. Manju Mehta | Webinar on Work, Work Environment and Wellness - An Ergonomic Perspective' organized by CSC & RI, TNAU Madurai on Aug 5, 2020. |
| Dr. Manju Mehta | 5 Days online training on 'Ergonomics Methodologies for Designing and Assessing Women Friendly Agriculture Tools and Technologies' From 17-21th August, 2020 organized by Department of Resources Management and Consumer Science, CCAS, MPUAT, Udaipur. |
| Dr. Kiran Singh | Virtual 'Brainstorming Workshop on Identification of New Dimensions for Preparing National/Global Level Database on Women in Agriculture' orgnaized by ICAR-CIWA on 28.08.2020 |
| Dr. Manju Mehta | Webinar on Visual Ergonomics in Digital Era organized by College of Community Science, PJTSAU, Hyderabad, Telangana, on 10th September 2020. |
| Dr. Kiran Singh | National Webinar on 'Women FPOs: An effective approach for boosting entrepreneurship, empowerment and self reliance (Atmanirbhar)' organized by AICRP-HS, MPUAT, Udaipur in association with ICAR-CIWA, Bhubaneshwar on 10.09.2020. |
| Dr. Kiran Singh | 3 days National e-Conference on 'Future strategic technological innovation and entrepreneurship development in Agriculture & allied sector for food & livelihood security organized by SOADU', Bhubaneshwar from 14.09.2020 to 16.09.2020. |
| Dr. Kiran Singh | National Webinar on 'Nutritional and health benefits of sorghum and other millets' organized by University of Agricultural Sciences, Dharwad on 29.09.2020. |
| Dr. Kiran Singh | National Webinar on 'Nutri-sensitive agriculture a way to empower India for a healthier future' organized by AICRP (HS), CAU, Meghalaya on 29.09.2020. |
| Dr. Kiran Singh | Virtual celebration of 'Mahila Kisan Diwas' organized by ICAR-CIWA, Bhubaneswar on 15th October, 2020. |
| Dr. Kiran Singh | Meeting of the 'Research Advisory Committee of the ICAR- CIWA Institute' held on 28-29 October, 2020 in virtual mode. |

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| Dr. Kiran Singh | Webinar on 'Effective Health Management for Enhancing Work Efficiency of Employees'' orgnaized by ICAR-CIWA on 20th November, 2020. |
| Dr.Promila Krishna Chahal | 18th International Conference on Humanizing Work and Work Environment- HWWE 2020, December 10 – 12, 2020 |
| Dr. Kiran Singh | National level programme in which Hon'ble Prime Minister of India addressed the farmers and released PM Kisan Money on 25.12.2020. |
| Dr. Manju Mehta | TEQIP – III Sponsored 3 - Days National Webinar On Ergonomics Applications For Higher Productivity From 24 – 26 March 2021. Organised by: Department of Industrial & Production Engineering Hyderabad Karnataka Education Society's PoojyaDoddappaAppa College of Engineering (Autonomous Institution Affiliated to VTU, Belagavi) Aiwan-e-Shahi Area - Kalaburagi – 585102 |
| Dr. Kiran Singh | Foundation Day programme of ICAR-CIWA' on 17th February, 2021 |
| Dr. Kavita Dua | Training on " Communication Skills and Technical Writing" organized by Directorate of Human resource management from 3rd Feb. to 23rd Feb., 2021.(21 Days) |
| Dr.Promila Krishna Chahal<br>Dr. Kiran Singh | Webinar on 'Partnering Women in Value Chain Development : A Promising Way for Creating Sustained Livelihood and Agripreneurship' on 17th March 2021, organized by ICAR-CIWA, Bhubaneswar |
| Dr. Kiran Singh | World Water Day celebration organized by ICAR-CIWA on 22nd March, 2021. |
| Dr.Promila Krishna Chahal | 3 Day National Webinar on 'Ergonomics Applications For Higher Productivity', organized by Industrial & Production Engineering Department, P.D.A.College of Engineering, GULBARGA-585102, Karnataka State, INDIA, 24 – 26 March, 2021. |
| Dr. Manju Mehta<br>Dr.Promila Krishna Chahal | National Workshop on 'Air Pollution & Health Hazards (APHH-2021)', organized under National Clean Air Programme, Government of India on 31st March 2021. Organized by NIT Jalandahar. |
| Dr. Kiran Singh | Virtual 'Meeting of scientific staff of ICAR-CIWA and AICRP (HS) centers on Action taken report of Research Projects and Future Action Plan for ICAR-CIWA', and AICRP (HS)' on 17th April, 2021 |
| Dr. Kiran Singh | Video Conference of ICAR-CIWA and AICRP on Women in Agriculture under the Chairmanship of Dr. Trilochan Mohapatra, Secretary DARE and Director General ICAR, New Delhi on 24th April, 2021. |
| Dr. Kiran Singh | 21st Research Advisory Committee meeting (virtual mode) organized by ICAR-Central Institute for Women in Agriculture (ICAR-CIWA), Bhubaneswar on 28-29 April, 2021. |
| Dr. Manju Mehta | 3 Days 'International Training Series on 'Healthy Workplace Initiative # Ergonomics' Organized by Directorate of Research & All India Coordinated Research Project on Home Science, College of Community and Applied Sciences, Maharana Pratap University of Agriculture and Technology, Udaipur on 21$^{st}$ June, 28$^{th}$ June & 5$^{th}$ July 2021 |
| Dr. Kiran Singh | ICAR-CIWA, Bhubaneswar & MANAGE, Hyderabad Collaborative Online Training Program on 'Promoting Women Agripreneurship through Crop- Livestock-Fisheries Technologies' held from 14-18 September, 2021. |
| Dr.Promila Krishna Chahal | VI International Conference in Hybrid Mode on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021) from 13-15 December 2021, Meerut. |
| Dr.Promila Krishna Chahal | One week online Short course on 'Recent advances in Industrial and Production engineering (RAIPE-21)', Organized by NIT, Jalandhar, Punjab from 17-21 Dec, 2021 |
| Dr.Promila Krishna Chahal | National Seminar on Impact of Digitalization on Women, Organized by Govt. PG College for Women, Rohtak held on 22 January, 2022. |
| Dr.Promila Krishna Chahal | 7th national conference on Innovation in Science, engineering and Technology, organized by Arya PG College, Panipat on 19th Feb, 2022. |

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| Dr.Promila Krishna Chahal | National Conference on "Mathematical Sciences for Applied and Agricultural Research, organized by Department of Mathematics and Statistics, CCSHAU, Hisar on 22nd Feb, 2022 |
| Dr. Kiran Singh | Annual Workshop of AICRP on Women in Agriculture held at Bhubaneswar, Orissa on 12-13, May, 2022 |
| Dr. Kiran Singh | Awareness Programme on Nutri-Sensitive Agriculture,organised by ICAR-CIWA, Bhubaneswar on 8th July 2022 |
| Dr.Promila Krishna Chahal | 2nd IEOM India Conference. Organized by Warangal, Telangana, India 16-18th August, 2022 |
| Dr. Kiran Singh | Research Advisory Committee Meeting for the year 2022-23 at ICAR-CIWA, Bhubaneswar under the Chairpersonship of Dr. Madhura Swaminathan held on 15-16 September, 2022 |
| Dr.Promila Krishna Chahal | 20th International Conference Humanizing Work and Work Environment Organized by Punjabi University, Patiala from 24-26 November 2022 |
| Dr. Kiran Singh | Interaction Meeting with Director, ICAR-CIWA Bhubaneswar on 21.12.2022. |
| Dr. Kiran Singh | Webinar on ''Women and IP: Accelerating Innovation and Creativity'' orgnaized by ICAR-CIWA on 26.04.2023. |
| Dr. Manju Mehta | Zoom Webinar 'Exploring eResources Through CCSHAU eLibrary' organised by Nehru Library Team on June 23. |

## *ANNEXURE II- D*

## SEMINARS/ CONFERENCES/ WORKSHOPS/ TRAININGS ETC. ATTENDED BY FACULTY OF DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

| Name of faculty | Title of seminar/ conference/workshop/training/unit meeting |
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| Dr.K.Duhan<br>Dr. Sheela Sangwan<br>Dr. Shanti Balda<br>Dr.BimlaDhanda<br>Dr. C.K. Singh | Golder Jubilee International Conference on Gender Issues and Socio Economic Perspectives for Sustainable Rural Development, I.C.College of Home Science, CCS HAU Hisar, October 23-25, 2017. |
| Dr. K. Duhan | 2nd Annual Conference on Mental Health and Domestic Violence, Society for Rural Mental Health (SRMH) in collaboration with College of Home Science, October 28-29, 2017. |
| Dr.Poonam Malik | Workshop on Awareness and Use of Indian Citation Index Database, Nehru Library, CCS Haryana Agricultural University, Hisar, November 9, 2017. |
| Dr. Poonam Malik | Workshop on Natural and Spiritual Farming, CCSHAU, Hisar, November 29-30, 2017. |
| Dr. K. Duhan | International Symposium on Modern Sustainable Agriculture, CCSHAU, Hisar, December 3, 2017. |
| Dr. Santosh Sangwan | Training on SCOPUS, Nehru Library, CCSHAU, Hisar, January 15, 2018. |
| Dr. K. Duhan | Rao Bahadur Dr. Ram Dhan Singh fourth memorial lecture and Workshop on State level Biosafety Capacity Building, CCSHAU, Hisar, March 14 th, 2018. |
| Dr. K. Duhan | Plagiarism Software Training, CCSHAU, Hisar, April 5th, 2018. |
| Dr. K. Duhan | Training on IUMS Leave Management Self Service Portal, CCSHAU, Hisar, April 6 th, 2018. |
| Dr. Poonam Malik | All India Coordinated Research Project (AICRP) Review Meeting at CIWA Bhubaneshwar, April 9-10, 2018. |
| Dr. Santosh Sangwan | Training on SCOPUS, CCSHAU, Hisar, May 5 th, 2018. |
| Dr. K. Duhan<br>Dr. Shanti Balda<br>Dr. Sheela Sangwan<br>Dr.BimlaDhanda<br>Dr. C.K. Singh<br>Dr. Santosh Sangwan | National Start up Summit, June 1- 2, 2018. |
| Dr.Poonam Malik | Induction Training Course, CCSHAU, Hisar, June 7 - July 7, 2018. |
| Dr. K. Duhan | Training Program on Stress Management, NAARM (Hyderabad), September 17-20, 2018. |
| Dr. Santosh Sangwan | Refresher Course on Research Methodology at GJUS&T, Hisar, November 15- December 5 th, 2018. |
| Dr. K. Duhan<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Santosh Sangwan | Workshop on Women in Agriculture, COHS, CCS Haryana Agricultural University, Hisar, December 4 th, 2018. |

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| Dr. Sheela Sangwan<br>Dr. Shanti Balda<br>Dr. C.K. Singh | Workshop on Awareness of e-Resources Available in Nehru Library, January 8, 2019. |
| Dr. Krishna Duhan<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Santosh Sangwan | Workshop on Awareness and Use of SCOPUS Database and Mendeley Reference Manager ,College of Basic Sciences and Humanities, CCSHAU, Hisar, January 28, 2019. |
| Dr. K. Duhan | International Conference on Human Development in a Globalizing World: Perspectives from South and South –east Asia, Vadodara, Gujrat, January 31 - February 2, 2019. |
| Dr. K. Duhan<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Santosh Sangwan | Seminar on Professional Opportunities in Home science, COHS, CCS Haryana Agricultural University, February 21, 2019. |
| Dr. K. Duhan<br>Dr. Shanti Balda<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Santosh Sangwan<br>Dr. Poonam Malik | National seminar on Innovative strategies for gender equality, I.C. College of Home Science, CCSHAU, Hisar, March 8 th, 2019. |
| Dr.C.K.Singh | Workshop on Water Conservation, Department of HECM, COHS, August 5 th, 2019. |
| Dr. K. Duhan<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Poonam Malik | Training on ERP, COHS, October 3, 2019. |
| Dr. Poonam Malik | Massive Open Online Course on Teaching Excellence conducted by National Academy of Agricultural Research Management, Rajendra Nagar, Hyderabad, November 1-30, 2019. |
| Dr. K. Duhan<br>Dr. Poonam Malik | Golden Jubilee International Conference on New Millennia Agriculture- Novel trends and Future Scenario, CCSHAU, Hisar, November 6-8, 2019. |
| Dr. K. Duhan<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Poonam Malik | Scientific Publications Writings Dos and Don'ts, by Harbans Bariana, Professor Cereal Rust Genetics, The University of Sydney, Australia, November 19, 2019. |
| Dr. Krishna Duhan<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Poonam Malik | National Incubation Colloquium, ABIC, CCSHAU, January 15-16, 2020. |
| Dr. K. Duhan<br>Dr. Sheela Sangwan<br>Dr. C.K. Singh<br>Dr. Poonam Malik | Golden Jubilee Celebration Seminar of CCSHAU, COA, February 2, 2020. |
| Dr. Poonam Malik | Online Review Workshop of AICRP on Home Science, April 24, 2020. |
| Dr.C.K.Singh | National Webinar on Ayurved and Lifestyle, Mahila Vidyalaya Degree College, |

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| Dr. Poonam Malik | Lucknow, May 23, 2020. |
| Dr. Sheela Sangwan<br>Dr.C.K.Singh<br>Dr. Poonam Malik | National Webinar on Gender Sensitization: Need of the Hour, Institute of Home Science & IQAC, Dr. B. R. Ambedkar University, Agra, May 26, 2020. |
| Dr. Poonam Malik | Refresher Course on Language Skills conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCS HAU, Hisar, May 27 - June,16 2020 |
| Dr. Sheela Sangwan | Online Seminar on Publishing Research Paper in to top Journals: Why and How, June 2, 2020. |
| Dr.C.K.Singh | National level Online workshop on Nutrition and Lifestyle: Diet management and mental wellness, Govt. College for Girls, Palwal, June 5, 2020. |
| Dr.C.K.Singh | National Webinar on Postural Problems caused by E-Devices during Covid-19: Prevention& Cure, Mahila Vidyalaya Degree College, Lucknow, June 9, 2020. |
| Dr.C.K.Singh | National Webinar on Teaching- learning methods and practices on digital platform: understanding and developing MOOCs, Swyam – MOOC Cell, June 11, 2020. |
| Dr. Poonam Malik | International Webinar on Managing Stress & Anxiety in the Family during COVID 19, Gandhi Memorial National College, Ambala Cantt., Haryana ,June 21, 2020. |
| Dr. Sheela Sangwan | National Webinar on COVID-19 Unlock down: Lifestyle for Health and Livelihood, June 22 to 24, 2020. |
| Dr. Poonam Malik | National Webinar on Awareness and Use of CeRA Resources through J-Gate Discovery Platform, Nehru Library, CCS Haryana Agricultural University, Hisar in Collaboration with Consortium for e-Resources in Agriculture (CeRA) DKMA-ICAR , New Delhi , June 25, 2020. |
| Dr. K. Duhan | Online National Talk show on Skill Development Dynamics for Agro-prenueurship in Post Pandemic India, June 29, 2020. |
| Dr. K. Duhan | Online Workshop on Gender Sensitization, NAHRD, July 3, 2020. |
| Dr. Poonam Malik | National webinar series on Immuno - Nutrition, Wellness Management & Livelihood Change , AICRP on Women in Agriculture, Directorate of Research (Agri.), Assam AgriculturalUniversity, Jorhat in association with ICAR- CIWA, Bhubaneswar, July 3-5, 2020. |
| Dr. Sheela Sangwan<br>Dr. C. K., Singh | National level online workshop on Tool Development for Psychometric Assessment , National Psychological Corporation, Agra (U.P.) in academic collaboration with School of Education, July 6-12, 2020. |
| Dr. Poonam Malik | National Webinar on Development & Standardization of Tests‖, APRC Agra Psychological Research, cell, August 30, 2020. |
| Dr. Poonam Malik | Heartfulness Workshop for college faculty, Heartfulness Campus, Heartfulness Education Trust, Rajasthan, September 3-5, 2020. |
| Dr. Poonam Malik | National Webinar on Women FPOs: An effective Approach for Boosting Entrepreneurship, Empowerment and Self- reliance (Atmanirbhar), AICRP-HS, MPUAT, Udaipur in association with ICAR-CIWA, September 7-10, 2020. |
| Dr. Sheela Sangwan<br>Dr.C. K. Singh<br>Dr. Poonam Malik | International Webinar on Combating Hidden Hunger - Obstacles & Interventions for Sustainability , department of food and Nutrition CCS HAU Hisar, September 19th, 2020. |
| Dr. Poonam Malik | Workshop on NEP 2020, Social Entrepreneurship, Swachhta and Rural Engagement for Higher Educational Institutions , Mahatma Gandhi National Council of Rural Education, Department of Higher Education, Ministry of HRD, GOI, September 20, 2020. |
| Dr. Sheela Sangwan | Webinar on Importance of Khadi in Present Context, October 2, 2020. |
| Dr. Sheela Sangwan<br>Dr. C. K. Singh | Spirituality and mental wellness webinar, Academy of Wellbeing Society, October 3rd, 2020. |
| Dr. Sheela Sangwan | Life Skills Orientation Program, Indian Association of Life Skills Education, November |

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| | 7-8, 2020. |
| Dr. Sheela Sangwan<br>Dr. C. K.Singh<br>Dr. K. Duhan<br>Dr. Poonam Malik | Online Brain Storming Session on Gender sensitization – Issues and Challenges, , Department of Human Development and Family Studies under NASF, CCSHAU, Hisar, December 3, 2020. |
| Dr. Sheela Sangwan<br>Dr. C. K. Singh<br>Dr. Poonam Malik | iDEA Investors Meet 2020 (online) , Agri Business Incubation Centre, CCS Haryana Agricultural University, Hisar, Haryana, India, December 4, 2020. |
| Dr. C .K. Singh | Webinar on ―Awareness and Use of e- Resources through Mobile App‖ Equality , Nehru library ,CCS Haryana Agricultural University Hisar, December18, 2020. |
| Dr C. K .Singh | National Webinar on Scope & Challenges of Community Science in National Education Policy", College of Community and Applied Sciences, MPUAT, Udaipur, February 18, 2021. |
| Dr. C. K. Singh | Webinar on capacity building programme Parenting and family stress management: issues and coping strategies, College of Community Science, CAU, Imphal, February 24, 2021. |
| Dr. Sheela Sangwan<br>Dr. Poonam Malik | Webinar on Teachers Role in NEP Implementation, Awareness, Orientation, Challenges and Responses, NITI Aayog and CCSHAU, Hisar, February 24, 2021. |
| Dr. C. K.Singh | National Webinar on Managing Health and Stress during COVID -19 , College of Community and Applied Sciences, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan , May 3, 2021. |
| Dr. C. K. Singh | Counseling session on Psychological manifestation in COVID era , DSW , May 10, 2021 |
| Dr. Sheela Sangwan | Webinar on Corona: Vaccine and Medication Equity, UAVM: Universal Access to Vaccines and Medicines, May 13, 2021. |
| Dr. C. K. Singh | National Webinar - "Nutraceuticals and Immunity Booster Foods for Combating COVID-19 , Department of Food Science & Nutrition, ASPEE college of home science , May 17, 2021. |
| Dr. Sheela Sangwan<br>Dr. C. K. Singh | Online webinar on World Environment Day to encourage the awareness among the farmers, faculty and students , Department of Agricultural Meteorology with the collaboration of Directorate of Extension Education, CCSHAU Hisar , June 5, 2021. |
| Dr. Sheela Sangwan | Online Lecture series on Publication in International Journals by Bhagirath Singh Chauhan, Professor (Weed Science), The University of Queensland, Australia, During the celebration of Azadi Ka Amrut Mahotsav, the Directorate of Research, CCS HAU , June 23, 2021. |
| Dr. Sheela Sangwan<br>Dr. C. K.Singh | Webinar on Improving the Quality of Agricultural Research Landscape in India, Nehru Library, CCS HAU, Hisar, June 30, 2021. |
| Dr. Sheela Sangwan | Online Lecture series on Implementation on Technological Advances to achieve Food Security by Harbans Bariana, Professor Cereal Rust Genetics, The University of Sydney, Australia, During the celebration of Azadi Ka Amrut Mahotsav , the Directorate of Research, CCS HAU, Hisar, July 6, 2020. |
| Dr. C. K.Singh | National Webinar on Research Methodology and Paper Writing, College of Agriculture, Maharana Pratap University of Agriculture and Technology,Udaipur, Rajasthan. July 12, 2021. |
| Dr. Poonam Malik | National Webinar on Community Science: Marching towards women Empowerment through Community Mobilization, College of Community and Applied Sciences, MPUAT, Udaipur, July 23, 2021. |
| Dr. C. K. Singh | Webinar on World Hepatitis Day , Department of Foods and Nutrition I. C.College of Home Sciences in collaboration with NAHEP, IDP, CCS HAU, Hisar, Haryana, July 28, 2021. |
| Dr. Poonam Malik | National webinar on Sensitization on Intellectual Property Rights in Agricultural |

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| | Research and Education, ICAR-CIWA, Bhubaneshwar, August 4, 2021. |
| Dr. Poonam Malik | Online lecture series during the celebration of Azadi ka Amrut Mahotsava on Water and Nutrition Sensitive Agriculture – Increasing land and water productivity for sustainable food security, CCS HAU, Hisar, August 5, 2021. |
| Dr. C. K. Singh | Awareness program on Current Trends in Research & Innovation, Research Paper Publications and Presentation, IPR and Patents, Research Projects & Fundraising Topics -National Level Webinar for Faculty Members of Higher Educational Institutions. August 27-31, 2021. |
| Dr. C. K. Singh | Webinar on Talking Menopause: Health & Nutrition, National Commission for Women, September 8, 2021. |
| Dr. Poonam Malik | Online training program on Promoting Women Agripreneurship through Crop-Livestock-Fisheries Technologies, ICAR-CIWA, Bhubaneswar & MANAGE, Hyderabad, September 14-18, 2021. |
| Dr. C. K. Singh | Webinar on Dr.B.R. Ambedkar's views on education held at COBS&H Auditorium, CCS HAU Hisar, November 25, 2021. |
| Dr. C. K. Singh | National Webinar on changes perspective of TRE (Teaching, Research and Extension) for preparing a post COVID future in Home Science, Department of family resource management, CCSHAU Hisar, December 27-29, 2021. |
| Dr. Poonam Malik | National webinar on Job Avenues in Welfare Services for Graduates of Community and Applied Sciences, College of Community and Applied Sciences, MPUAT, Udaipur, January 29, 2022. |
| Dr. Poonam Malik | National webinar on Science and Gender Equality, College of Community and Applied Sciences, MPUAT, Udaipur, February 11, 2022. |
| Dr. Sheela Sangwan | National webinar on Restructuring of Community Science Curriculum in Context to NEP-2020, College of Community Science and Applied Science MPUAT, Udaipur, Rajasthan, April 22, 2022. |
| Dr. Poonam Malik | Induction Training Course, CCSHAU, Hisar, June 27-July 27, 2022. |
| Dr. Poonam Malik<br>Dr. Anju Aneja | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, February 17-19, 2023 at CCSHAU, Hisar. |

## *ANNEXURE II- E*

## SEMINARS/ CONFERENCES/ WORKSHOPS/ TRAININGS ETC. ATTENDED BY FACULTY OF DEPARTMENT OF APPAREL AND TEXTILE DESIGNING

| Name of Faculty | Title of seminar/ conference/workshop/training/unit meeting |
|---|---|
| Dr. Saroj Yadav<br>Dr. Neelam Saini | International Conference on Women's Work & Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector. Arya P.G College, Panipat, Haryana, March 24-25, 2018. |
| Dr. Mona Verma<br>Dr. Neelam Saini | National Seminar on Trends and Advances in Wool and Specialty Hair. GBPUA&T, Pantnagar, Uttarakhand, March16-17, 2018. |
| Dr. Neelam Saini | International Conference on Positive Psychology for Health & Well Being. Guru Jambheshwer University of Sciences and Technology, Hisar, Haryana, March 9-10, 2018. |
| Dr. Mona Verma | XXXII Biennial Conference of the Home Science Association of India on Family and Community Science: A Catalyst for Sustainable Development Goals. MPUA&T, Udaipur, Rajasthan, February1-3, 2018. |
| Dr. Nirmal Yadav | International Congress on Cotton and Other Fibre Crops. ICAR Research Complex for NEH Region, Umiam (Barapani) Meghalaya, February 20-23, 2018. |
| Dr. Mona Verma | 8$^{th}$ International Science Congress. Maharishi Markandeshwar University, Mullana, Ambala, Haryana, December 8-9, 2018. |
| Dr. Neelam M. Rose | BSMA Community Science Stakeholders Workshop. NAARM, Hyderabad, October 3-4, 2018. |
| Dr. Neelam M. Rose | Discussion/Debate on Appraisal of Swaminathan Commission's Recommendation by Grass Root Innovators. Society for Sustainable Agriculture & Resource Management and CCS HAU, Hisar, October 20, 2018. |
| Dr. Saroj Yadav | Refresher Course on Research Methodology. GJUS&T, Hisar, November 15-December 05, 2018. |
| Dr. Nisha Arya<br>Saroj Yadav | One Day Training Programme on Elsevier Empowering Agriculture Research in India. Nehru Library, CCS HAU, Hisar, August 24, 2018. |
| Dr. Saroj Yadav | Seminar on Intellectual Property Rights- A Mechanism for Social Economic Growth. Directorate of Human Resource Management, CCS HAU, Hisar, September 06, 2018. |
| Dr. Lalita Rani | Induction Training Course. Academy of Agricultural Research and Education Management, Directorate of Human Resource Management, CCSHAU, Hisar, June 1-July 1, 2018. |
| Dr. Neelam M. Rose | Training on Basic Research Tools in Textile Chemistry, Textile Manufacturing and Textile Chemistry Division. ICAR- Central Sheep and Wool Research Institute, Avikanagar, Rajasthan, August 13-24, 2018. |
| Dr. Nisha Arya<br>Dr. Saroj Yadav<br>Dr. Neelam Saini<br>Dr. Suman Sodhi | International Conference on Innopreneurship: A Need of Sustainable Agriculture. CCS Haryana Agricultural University, Hisar, Haryana, February 2-3, 2019. |
| Dr. Neelam M. Rose<br>Dr. Nisha Arya<br>Dr. Saroj Yadav | National Seminar on Innovative Strategies for Gender Equality. I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019. |

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| Dr. Parul Gill<br>Dr. Lalita Rani<br>Dr. Neelam Saini | |
| Dr. Parul Gill | International Conference on Innovations in Chemical, Biological & Environmental Sciences. Arya PG College, Panipat, Haryana, February 27-28, 2019. |
| Dr. Saroj Yadav | Biennial Workshop of All India Coordinated Research Project in Home Science at MPUA&T. Udaipur, February 15-16, 2019. |
| Dr. Neelam Saini | International Conference on Climate Change towards Health and Agricultural Sustainability. Guru Jambheshwar University of Science and Technology, Hisar, Haryana, February 18-20, 2019. |
| Dr. Neelam Saini | National Conference on Biodiversity and Environmental Sustainability in Modern Era, CRM Jat College, Hisar, Haryana, February 16, 2019. |
| Dr. Nisha Arya<br>Dr. Parul Gill<br>Dr. Mona Verma<br>Dr. Neelam Saini<br>Dr. Suman Sodhi | Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber6-8, 2019. |
| Dr. Lalita Rani | State Level Youth Red Cross Training Camp as Counsellor. Haridwar, November 1-6, 2019. |
| Dr. Parul Gill<br>Dr. Mona Verma | Induction Training Course, Directorate of Human Resource Management. CCSHAU, Hisar, November 18 to December 17, 2019. |
| Dr. Lalita Rani | One Day Workshop on Awareness Use of Scopus Citation Database. Nehru Library, CCS HAU, Hisar, November 24, 2019. |
| Dr. Parul Gill | 3rd International Conference on Innovations in Science, Engineering and Technology. Arya PG College, Panipat, Haryana, November 9-10, 2019. |
| Dr. Lalita Rani | One Day Webinar on Awareness and Use of E-Resources through Remote Login for Faculty and Students of CCSHAU, Nehru Library, CCS HAU, Hisar, November 24, 2019. |
| Dr. Parul Gill | International Conference on Innovations in Chemical, Biological & Environmental Sciences. Arya PG College, Panipat, February 27-28, 2019. |
| Dr. Mona Verma | National Conference on Recent Trends Infield of Environmental Science & Engineering. GJUS&T, Hisar, September 20-21, 2019. |
| Dr. Nisha Arya | One Day Workshop on Digital Library for Strengthening Agricultural Knowledge in NARES. Nehru Library, CCS Haryana Agricultural University, Hisar in Collaboration with ICAR-IARI, New Delhi, 12th February, 2019 |
| Dr. Vivek Singh | Compendium National Symposium on Cotton Production Technologies in the NextDecade: Problems and Perspectives, OUAT, Bhuwneshwar, January22-24, 2020. |
| Dr. Lalita Rani<br>Dr. Parul Gill | International Conference on Recent Trends in Textiles-A Paradigm for Innovative and Sustainable Fibers, Yarns, Fabrics and Garments Production, Processing & Designing Aspects. TITS, Bhiwani, Haryana, September 18-19, 2020. |
| Dr. Lalita Rani | National Webinar on Community Science-Linkages and Way Forward, College of Community and Applied Sciences. MPUAT, Udaipur, Rajasthan, June 3, 2020. |
| Dr. Lalita Rani | One Day Workshop on Digital Library for Strengthening Agricultural |

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| | Knowledge in NARES. Nehru Library, CCS HAU, Hisar in Collaboration with ICAR-IARI, February 12, 2020. |
| Dr. Lalita Rani | NAHEP Webinar on Project Formulation and Funding Opportunities for Young Researchers. Directorate of Research, CCSHAU Hisar, June 16, 2020. |
| Dr. Saroj Yadav<br>Dr. Nisha Arya | Refresher Course on Language Skills, Directorate of Human Resource Management. CCSHAU, Hisar, May 27 to June 16, 2020. |
| Dr. Saroj Yadav | Brainstorming Workshop to Develop a Framework for Propelling ICAR-CIWA as Global Institute for Women in Agriculture, ICAR-CIWA, Bhubaneshwar, July 31, 2020. |
| Dr. Saroj Yadav | Short Term Course on TextileTesting and Analytical Techniques in Textiles and Fashion. Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, November 27 to December 1, 2020. |
| Dr. Saroj Yadav | Short Term Course on Textile Testing and Analytical Techniques in Textiles and Fashion. Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, December 15-19, 2020. |
| Dr. Saroj Yadav<br>Dr. Nisha Arya | iDEA Investors Meet- 2020. ABIC, CCS HAU, Hisar, December 4, 2020. |
| Dr. Saroj Yadav | Webinar on Women in Agriculture. Department of EECM, COHS, CCS HAU, Hisar, December 4, 2020. |
| Dr. Nisha Arya | International e-Conference on Recent Trends in Textiles. Technological Institute of textile and Sciences, Bhiwani, September 18-19, 2020 |
| Dr. Vivek Singh | National Conference on Sustainable Growth in Textiles. Textile Technology Institute, Kanpur, UP. August 12-14, 2020. |
| Dr. Saroj Yadav<br>Dr. Mona Verma | National Incubators Colloquim. Agribusiness Incubation Centre, CCSHAU, Hisar, January 15-16, 2020. |
| Dr. Mona Verma | Webinar Series on Post COVID-19: Challenge and Opportunities. Faculty of Family and Community Sciences, MSU, Baroda, and Vadodara, May 21-23, 2020. |
| Dr. Saroj Yadav | Two Days National Webinar on Enhanced Employability For Home Scientists in Current Scenario. Post Graduate Teaching Department of Home Science, RashtrasanTukadoji Maharaj Nagpur University, Nagpur, June 22-23, 2020. |
| Dr. Saroj Yadav<br>Dr. Mona Verma | One Day Workshop on Awareness and Use of Scopus Citation Database. Nehru library, CCSHAU, Hisar, November 29, 2020. |
| Dr. Saroj Yadav | Webinar on Awareness and Use of CeRA Resources through I-Gate Discovery Platform. Nehru Library, CCS HAU, Hisar, June 25, 2020. |
| Dr. Saroj Yadav<br>Dr. Mona Verma | One Day Workshop on Digital Library for Strengthening Agricultural University. Nehru library, CCSHAU, Hisar. February 12, 2020. |
| Dr. Nisha Arya | Faculty Development Programme on Managing Online Classes and Co-Creating MOOCS, Ministry of Human Resource Development, Govt. of India, April 20 to May 6, 2020. |
| Dr. Parul Gill<br>Dr. Lalita Rani | Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data, Academy of Agricultural Research and Education Management, Directorate of HRM in Collaboration with Department of Mathematics & Statistics, CCSHAU, Hisar, July 8- 28, 2020. |
| Dr. Nisha Arya<br>Dr. Lalita Rani | 3rd International Conference on Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and |

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| Dr. Mona Verma<br>Dr. Neelam Saini | Sustainable Development. Dehradun, Uttarakhand, India, October 17-18, 2021. |
| Dr. Saroj Yadav | International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns. CHM, Ahmadabad from February 26-28, 2021. |
| Dr. Saroj Yadav | International Web Conference on Global Research Initiatives for Sustainable Agriculture and Allied Sciences. Ashtha Foundation, Meerut, UP, December 13-15, 2021. |
| Dr. Neelam Saini | International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns. Agriculture Letters, Raichur, Karnataka, February 26-28, 2021. |
| Dr. Nisha Arya | National Webinar on Innovation in Comfort Textiles for Wearable Clothing. College of Community and Applied Science, Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan), June 11, 2021 |
| Dr. Mona Verma | National Seminar on Empowering India through Regional Textile Crafts, L.N. Mithila University, Bihar, January 30, 2021. |
| Dr. Mona Verma | International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns (NPAFSC-2021). Agriculture Letters, Raichur, Karnataka, February 26-28, 2021. |
| Dr. Lalita Rani | Workshop on Sensitization Workshop on Homeshed Farming and Nutrition Garden organised by ATARI. Jodhpur, February 23, 2021. |
| Dr. Lalita Rani | International Women's Day on Women Leadership in Agriculture: Entrepreneurship, Equity & Empowerment (3E's). Indian council of Agricultural Research, Krishi Bhawan, New Delhi, March 8, 2021. |
| Dr. Lalita Rani | Orientation Workshop for ICAR related CBBOs on Ministry of Agriculture and Farmer Welfare Central Sector Scheme Formation & Promotion of 10,000 FPOs, March 5, 2021. |
| Dr. Parul Gill | National Webinar on Sensitization on Intellectual Property Rights in Agricultural Research and Education, ICAR-CIWA. Bhubaneshwar, August 4, 2021. |
| Dr. Nisha Arya | International Conference on Research Initiatives for Agriculture, Biotechnology and Allied Sciences (ICRIABAS – 2021), SoAS, IIMT University. Meerut (U.P.), March 30-31, 2021 |
| Dr. Parul Gill | Online Training Program on Promoting Women Agripreneurship through Crop-Livestock-Fisheries Technologies, ICAR-CIWA, Bhubaneswar & MANAGE, Hyderabad, September 14-18, 2021 |
| Dr. Saroj Yadav | Webinar on Processing and Value Addition in the Context of Accelerated Retting of Jute, ICAR-National Institute of Natural Fibre Engineering and Technology, Kolkata, July 19, 2021. |
| Dr. Mona Verma | Accounts Training Programme, Directorate of Human Resource Management, CCSHAU, Hisar, August 31 to September 4, 2021. |
| Dr. Mona Verma | National Seminar on Empowering India through Regional Textile Crafts, L.N. Mithila University, Bihar, January 1, 2021. |
| Dr. Mona Verma | National Webinar on Principles of Design: The Crux of Family Well-being, College of Community and Applied Sciences, MPUA&T, Udaipur, Rajasthan, May 15, 2021, |

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|---|---|
| Dr. Mona Verma | International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns (NPAFSC-2021), Agriculture Letters Raichur, Karnataka on 26th to 28th February 2021. |
| Dr. Mona Verma | Webinar on Characterization Techniques for Smart Materials, College of Basic Sciences and Humanities, CCS Haryana Agricultural University, Hisar, Haryana, India, January 15-16, 2021. |
| Dr. Parul Gill | Online National Webinar on Natural Farming for Sustainable Production, Nutrition and Health, ICAR-CIWA, Bhubaneswar, April 23, 2022. |
| Dr. Saroj Yadav | Training on Government E-Marketing, Directorate of Human Resource Management, CCS HAU, Hisar, February 11, 2022. |
| Dr. Saroj Yadav<br>Dr. Vivek Singh | Workshop on Awareness and Use of Scoupus Citation and Indexing Database and other Resource, Nehru Library, CCS HAU, Hisar, March 2, 2022. |
| Dr. Saroj Yadav | Webinar on Recent Advances in Apparel and Textile Industry Department of Apparel and Textile Technology, GNDU, Amritsar, April 4, 2022. |
| Dr. Saroj Yadav | Workshop on Yoga for Physical and Mental Health, Directorate of Human resource Management, CCS HAU, Hisar, June 16, 2022. |
| Dr. Vivek Singh | One Day Online Sensitization Training on Uses of Digital Library for Strengthening Agricultural Knowledge in NARES, Nehru Library CCS HAU, Hisar in collaboration with ICAR-IARI, New Delhi, March 7, 2022. |
| Dr. Vivek Singh | One Day Online Workshop on Income Tax, CCS HAU, Hisar, February 2, 2022. |
| Dr. Vivek Singh | National Symposium on Paradigm Shift in CottonCultivation, MPUAT, Udaipur, August 6-8, 2022. |
| Dr. Mona Verma | 6$^{th}$ National Conference on Textile Recycling and Sustainable Apparel Design, SVITT, Indore, Madhya Pradesh, March 3-4, 2023. |
| All faculty members | International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, February 17-19, 2023. |

*ANNEXURE III*

## SALIENT RESEARCH ACHIEVEMENTS

### *ANNEXURE III- A*

### SALIENT RESEARCH ACHIEVEMENTS OF DEPARTMENT OF EXTENSION EDUCATION AND COMMUNICATION MANAGEMENT

**Research Schemes:**

| Number and Title of the Scheme | Funding Agency | Date of start | Date of termination |
|---|---|---|---|
| C(a)HSEE-1Plan (Agri Empowering Rural Women through Entrepreneurial Activities | State | 2007 | 2018 (Merged with1221C(a) Dte-R -1-Plan (Agri.) (A) |
| 3333/c(g)COHS-18 OA Monitoring and Evaluation of ICDS and Community Involvement | Deptt. of Women and Child Development, Govt. Of Haryana | 2008 | 2010 |
| C(b)-EE-12-ICAR Public Private Partnership for Gender Mainstreaming in Agriculture | ICAR | 2009 | 2012 |
| 3407/C(g) HSEE-1-OA Capacity building of farm women in diversified agriculture | State (RKVY) | 2010 | 2012 |
| C(g)HSEE-2-OA(RKVY) Empowerment of Rural Women through Value Addition & Post Harvest Interventions | State (RKVY) | 2012 | 2014 |
| C(g)HSEE-3-OA(RKVY) Livelihood and Food Security of BPL, Rural Families through Diversified Agricultural Activities | State (RKVY) | 2016 | 2018 |
| 1221C(a) Dte-R -1-Plan (Agri.) (A) Empowerment of rural women through extension and technological interventions | State | 1981 | Continued |
| All India Coordinated Research Project on Women in Agriculture | ICAR | 1996 | Continued |
| T-6 (a) Agri (A) StateEntrepreneurship and Skill Development of Scheduled Caste Rural Women of Hisar district | State (Under Scheduled Caste sub Plan) | 2007 | Ciontinued |

## Salient researchAchievements

### Media and ICT




Five posters, six leaflets, five handouts and two charts on organic farming were developed in Hindi language. The media were evaluated by subject experts and rural women in terms of accuracy, coverage, objectivity, writing style, content presentation, illustration and compatibility. Effectiveness of media perceived by the experts as well as rural women was of high extent.

Ten posters, four charts, six handouts and four leaflets on nutritional literacy were standardized and exposed to 120 rural women and adolescent girls from Sirsa and Fatehabad district of Haryana state for promoting messages on nutritional literacy. Significant gain in knowledge and attitude was observed after exposure of print media.

- Ten messages on water conservation were developed. All the messages were assessed appropriate in terms of clarity of picture, usefulness and understandability. The messages were sent through whatsapp to 40 literate women of Gawar and Burak village. In village Gawar 80.0 percent and in village Burack 65.0 percent of the selected rural women adopted water conservation techniques like minimizing the use of water in daily household activities and recycling of water used for washing of clothes and utensils after exposure to whatsapp messages.

- Audio/ video messages related to Agricultural Technology Information centre (ATIC) CCSHAU Hisar, stubble burning and soil & water testing were developed and delivered on whatsapp to 25 male and female farmers each from Neoli Kalan Village, Hisar district. Messages on ATIC and soil & water testing were rated good and message on stubble burning was rated average in terms of audio/ visual parameters and usefulness. Majority of the male (80.0%) and female farmers (88.0%) further forwarded the messages received on whatsapp. Maximum number of male farmers (72.0%) discussed the messages with friends & neighbours while female farmers (76.0 %) with family members. Hence, horizontal diffusion of the messages by the respondents was observed.




Compact disk of 25 minutes duration on the benefits and uses of medicinal plants was prepared in collaboration with the Department of Medicinal, Aromatic and Potential Crops Section, Dept. of Genetics & Plant Breeding and was provided to DES (Home Science) posted at various KVKs and RAWE students for awareness generation about uses and benefits of medicinal plants among rural population with special focus on farming community.

- The women *panchayat* members from Bhiwani Rohilla, Juglan and Sarangpur villages of Hisar district were aware of the ICT facilities available at common service center. All of them had personal phones while computer / laptop were available in the households of 30.0% women *panchayat* members. None of the women *panchayat* members used ICT facilities for panchayat related work mainly due to lack of awareness about use of ICT facilities.

- Only 20.0% (out of 200) rural women were aware regarding toll free helpline of CCSHAU, Hisar After exposure to print media on toll free helpline, all of them could correctly tell the purpose,

days and timings of helpline while 92.0 % mentioned the correct contact number of toll-free helpline. Total 441 calls were made on helpline by the respondents or their family members and 92.0 percent of the women shared information with male family members after they were exposed to the information on helpline through print media suggesting that women can be an active agent of diffusion of information not only among female but male members also.

- Information processing pattern of KVK mobile advisory service by farmers revealed that all the farmers read the messages as soon as they received it; most of them recorded the messages in note book (78.0%), discussed with KVK Scientists (69.0%) and family members / relatives (73.0%) and around one fourth (26.0%) of the farmers further forwarded the messages among fellow farmers,. The farmers suggested that there should be consistency in delivery of messages (97.0%) and agriculture information should be given prior to on set of *Rabi* and Kharif season.
- Possession of digital equipments/ tools by rural women / girls educated upto at least middle class revealed that smart phone was possessed by 70.0 percent of rural women / girls. More number of male members possessed desk top /lap top computer, printer, scanner etc. which indicated gender gap in possession of digital devices and tools. The rural women/ girls used mobile internet for total 12 purposes with mean use score being 5.1. They reported lack of digital skills as the constraint in use of digital devices/ tools which need to be addressed by organizing trainings and interventions for improving their digital skills.
- Thirty text messages on climate smart practices were developed and validated and effectiveness of mobile phone as ICT tool in delivery of these messages among rural women was assessed. Majority of the respondents attained complete knowledge about the climate smart practice. Diffusion of the information was done among family members (53.3%), friends (51.6%) and relatives (18.3%) by the respondents.
- More number of female respondents (47.0%) had mobile phone without internet connection than male (38.0%) respondents. Majority of the female respondents faced problems with use of ICT due to technical illiteracy (92.0%), poor network connectivity (83.0%), erratic power supply (79.0%) and language problem (87.0%).
- Productivity and economic analysis of Integrated Farming System (IFS) Model at CCSHAU farm, was calculated. Net return of Rs. 190735/hectare from cropping IFS system comprising of vegetable, mushroom, horticulture, dairy and vermi-compost was reported.

## Trainings and Interventions for Capacity Building of Rural Women

### Medicinal Plants

- Training on medicinal plants was organized for 60 women from Gorchi and Bichpari villages of Hisar district. Gain in knowledge of respondents regarding medicinal uses of various plants was between 56.6 percent to 83.3 percent. Majority of the women (78.3 5%) reported domestic use of medicinal plants for curing minor ailments like fever and cold, sore throat, headache, stomach ache, burns, blisters, etc.
- Video based messages on importance and uses of 18 medicinal plants were exposed to 120 rural women from Shahpur village of Hisar district. At pre-exposure stage, 18.8 per cent of the respondents had knowledge of medicinal plants which changed to 91.06 per cent at post exposure stage. Maximum number of respondents acquired knowledge about medicinal uses of *giloy* (81.6 %) and more than 70.0 per cent acquired knowledge regarding *Sadabahar* (76.6%), *Stevia & Sataavar* (75.8% each) and lemon grass & ginger (75.0% each).

## Value Added Peanut Products

Trainings on peanut products (Ladoos, Nutties, Chat and Chikki) were organized for 40 rural women from Hasinga and Shanwal village of Fatehabad district. Maximum number of rural women acquired knowledge about peanut chikki preparation (85.0%) followed by peanut nutties & peanut *chaat* (80.0 % each) and peanut *ladoo* (72.5%). Peanut *ladoo, chat* and chikki were liked and nutties were somewhat liked by the respondents. Majority of the respondents perceived peanut products as monetarily beneficial & triable (72.5% each), having low initial cost of adoption (70.0%), socially acceptable (70.0%), easy to prepare (70.0%) and having high use consistency (65.0%).

## Stitching and Embellishment Techniques

Training on embellishment techniques was organized for rural women. Majority of the respondents had low to medium level of knowledge regarding methods and materials required for embellishment and importance of embellishing the garments at pre-exposure stage. After training, slightly more than half of the respondents (57.5 %) could execute various embroidery stitches and tie dye techniques, 45.0 per cent could do fabric painting and least number of them i.e 27.5 per cent could do block printing without any difficulty after training exposure.

Training on stitching of adolescent garments (female) was imparted to 40 rural women of Gawar and Burak village of Hisar district. As an outcome of training, increase in knowledge of women was maximum for cutting of garments (72.5%) followed by stitching (62.3%) and designing of garments (50.0%).

Preferential choices of tying techniques revealed that thread tying and object binding techniques were most preferred by women trainees followed by knotting marbling, pleating and ruching techniques. Feasibility of tie and dye in terms of infrastructural facilities and cultural compatibility was found high, while organizational ability and marketability were found medium.

## Save Environment Save Earth through plants:




Training in collaboration with the Department of Forestry was organized in Gawar village and 211 saplings of nine plants viz; Acasianilotica (Babool), Melia composita (Bakain), Thespesia populaneai (Bhindi tree), eucalyptus tereticornis (Safeda), Prosopis cineraria (Khejari), Ailanthus excels (Mahaneem, neem), Pongamia pinnata (Papri) and Tecomella undulate (Rohida) were distributed. Regular care of majority of the plants (88.1%) was observed with overall survival rate being 77.2 %. Survival rate of Mahaneem (66.6%) and Rohida (34.2%) was comparatively less due to damage by animals, lack of irrigation facilities and poor quality of sapling.

On the basis of preferential pattern of rural women 60 plants of lemon were distributed for household plantation and 60 plants (20 guava and 40 lemon) were planted in community places like village Schools, PHC and Temple. All respondents took regular care of the plants and 90.0 percent of lemon and 85.0 percent of guava plants survived. Survival rate of plants planted in school and Temple was 100.0 % but those planted in PHC died in April – May due to lockdown, lack of irrigation facilities, high temperature, lack of proper and timely care and damage by animals.



Promotion of nutri-garden among 100 rural women from five villages viz; *Kushal ki Dhani, Dhani Peerawali, Heeran ki Dhani, Raju ki Dhani* and *Kumhaaro ki Dhani of* Hansi block in Hisar district was done by using Nutri-garden intervention package Maximum gain in knowledge was recorded in general approach about nutri-garden (Mean score 4.17/5) followed by advantages of nutri-garden (Mean score 4.16/5) and use of implements/kit/tools for nutri-garden (Mean score 3.85/5).

### Intervention on Pre Natal care



Intervention package consisting of leaflet, poster, demonstration and lecture was developed on pre natal care. The intervention was used during five days on line training of 60 field functionaries (anganwadi workers and accredited social health activists) on prenatal care. Maximum gain in knowledge was observed regarding symptoms and physiological changes during pregnancy (48.6%) followed by problems and complications during pregnancy (34.9%) and clothing for lactating mother (38.5%).

### Entrepreneurship Development:

### Pro tray Nursery Technique



Total 20 women from Shahpur village of Hisar district were imparted training on pro tray nursery technique. Required input and leaflet on Pro tray Nursery technique were distributed for small scale trial of the technique. Increase in duration of training with more focus on practical orientation, provision of financial assistance, exposure to hi-tech nurseries, knowledge about availability of raw materials, sale of product or provision of marketing facilities and linkage with sale points were the suggestions given by respondents to improve training content.

### Attitude of students towards entrepreneurship

Personal attitude of 64.0 per cent undergraduate students from College of Home Science towards entrepreneurship was in the medium category, 78.0 per cent of the students' subjective norms was of medium level while 53.0 per cent student's perceived control in entrepreneurship was in high category. Comparatively older students, with entrepreneurial background, having entrepreneurial aspiration and exposure to entrepreneurship training had higher entrepreneurial intention to create jobs.

### Value Added dairy Products

Training on value added dairy products was organized for 30 rural women of Kaimri and Muklan villages of Hisar district. Maximum number of trainees (94.6 %) perceived content of the topic scope 'Agriculture Entrepreneurship' as most appropriate followed by importance of clean milk production (87.3 %) and cost benefit analysis (86.6 %). Majority of the respondents (84.0%) adopted the value added dairy products but not for household purpose only not as an entrepreneurial activity due to lack of credit facility to start a venture ( 80.0%), lack of technical skill (72.0 %) and lack of confidence (60.0 %). The acquired information was disseminated among family members/ relatives/ neighbours by 60.5% trainees.

Impact of lockdown on rural women

Resuls of on line data collected from 200 farm women of different villages of Hisar District indicated that all of them visited the nearby stores in the village for purchasing grocery items, 77.00 per cent reported less availability of the food due to poor financial condition. Majority (62.0%) of the respondents perceived that their food consumption pattern different during lockdown than before lockdown and 54.00 per cent respondents reported reduced food consumption during lockdown.

Majority of the respondents (75.0%) had free time available during lockdown and used it to watch news, particularly on corona, spent time with their family members (78.3%) and learning new skills (73.3%). Majority of the farm women (96.6%) reported increase in household workload as major effect of lockdown followed by decrease in income (60.0%). About one third

of them reported stress and lack of medical services for the sick (33.3 % and 30.0%, respectively).

**Empowerment of Scheduled Caste (SC) and BPL families**

Under RKVY project, total eight trainings i.e.2 each on Value Added Products of Fruit & Vegetables, Bag Making, Post-Harvest Management and Value Addition in Cereals & Pulses, Bakery and Handicrafts were organized for 200 rural women from BPL families from different villags of Hisar district. The trainees were exposed to technical knowledge on the subject by experts from collaborating departments i.e. Food Science & Technology, Foods and Nutrition, Textile and Apparel Designing and Family Resource Management, CCSHAU Hisar and external experts in the related fields. As the trainings were incentive based, hence after completion of the trainings, the relevant incentives were distributed to the participants to motivate and help them to prepare the products at household level to enhance nutritional and livelihood security.

Workshop of 80 ex SC women trainees enrolled in bakery and confectionary and vegetable nursery raising trainings from *Mangali, ludas, Kumbha, Sulkhni,Ramayan* and *Dahima* villages were organized to obtain feedback of the women regarding adoption of technologies imparted during trainings. Majority of the women were satisfied with content and methods of training and around 80.0 percent adopted the technologies at household level. The women were made aware of importance of warranty card and effective use & maintenance of the incentives (food processor and pressure cooker) provided to them

*ANNEXURE III- B*

## SALIENT RESEARCH ACHIEVEMENTS OF DEPARTMENT OF FOODS AND NUTRITION

**Research Schemes:**

### ONGOING PROJECTS

| Sr. No. | No.& Title of the Project | Funding Agency | Principal Investigator | Sanctioned Budget (2018-19 to 2022-23) |
|---|---|---|---|---|
| 1. | C(a) Dte-R-1-Agri(A)-1140 Assessment and improvement of nutritional status of masses of Haryana | State | Dr. Sangeeta C. Sindhu ( Assoc. Prof.& Head Deptt. of FN) | Rs. 2574100/- |
| 2. | C (b) COHS-5-ICAR All India Coordinated Research Project in Home Science (Foods & Nutrition). | ICAR | Dr. Veenu Sangwan (Nodal Officer) | Rs. 3717588/- |
| 3. | C(b) PB167 ICAR CRP Bio fortification Consortia Research Project on Bio fortification in selected crops for Nutritional Security (Pearl Millet) | ICAR | Dr. Veenu Sangwan (Nodal Officer) | Budget is with Deptt. of Genetics & Plant Breeding |
| 4. | T(g) -COA-1-ICAR (Code 3700) Strengthening Institutional Capacity to Produce Skilled Professional for Market Driven Agriculture | ICAR (NAHEP-IDP) | Dr. Sangeeta C. Sindhu (Nodal Officer) | Budget is central to university. |
| 5. | Transforming Agri-Food systems in South Asia and (TAFSSA) | ICAR-CSSRI and CIMMYT | Dr. Urvashi Nandal (Nodal Officer) | Budget is with CSSRI |

### COMPLETED PROJECTS

| Sr. No. | No.& Title of the Project | Funding Agency | Duration | Principal Investigator |
|---|---|---|---|---|
| 1. | C(g) FN-10-(OA) Development of value-added products incorporating red palm oil and its blends: Their sensory and nutritional evaluation. | CSIR, New Delhi | 2003-2006 | Dr. Neelam Khetarpaul |
| 2. | C(g) FN-11-OA(DBT) Formation of value-added products from coarse cereals through probiotic fermentation | DST, New Delhi | 2004-2008 | Dr. Neelam Khetarpaul |
| 3. | C(b) FN-11-ICAR Quality assessment and marketing potential of value added quality protein maize based products. | ICAR | 2004-2007 | Dr. Asha Kawatra |
| 4. | C(g) FN-14(OA) Tailoring plant, food and social science to | The Netherlands | 2007-2011 | Dr. Neelam Khetarpaul |

| | | | | |
|---|---|---|---|---|
| | empower local mungbean production and consumption patterns. | and DBT, New Delhi | | |
| 5. | C(g) FN-13-(OA)<br>Nutrition transition as affected by mass media study on Youth of Haryana | UGC, New Delhi | 2009-2012 | Dr. Sangeeta C. Sindhu |
| 6. | C(g) FN-15-OA<br>Setting up of Center of Excellence (COE) on Processing and Value Addition of Pearl Millet for Nutritional Security. | NFSM | 2011-2018 | Dr. Salil Sehgal |
| 7. | 5509 C(b) FN-15-ICAR<br>Development of value-added products from coarse Blended with Tulsi (Ocimun Sanctuml.) and their sensory and nutritional characteristics | ICAR | 2018-2021 | Dr. Saroj Dahiya |
| 8. | 5278-C(b) FN-16-ICAR<br>Shelf life enhancement in millets | ICAR | 2018-2020 | Dr. Asha Kawatra |
| 9. | C(b)-HDFS-3-ICAR-5295<br>Women Empowerment and Gender Sensitization Developing a model for bridging gender gap. | ICAR | 2019-2023 | Dr. Sangeeta C. Sindhu (Co-Investigator) |

**Thrust Areas of Research:** The major research focus of the department is on nutrition surveys, value addition, and development of healthy and therapeutic foods using variety of foods.

- Diet and nutrition surveys to assess nutritional status of population of Haryana
- Development of value-added/functional food products from cereals, millets, pulses, nuts, oil seeds and medicinal plants
- Post-harvest processing and utilization of foods
- Development of therapeutic foods to combat degenerative diseases
- Utilization of unconventional/under-utilized foods of Haryana for human consumption

## Salient Research Achievements:

### Food Processing and Value Addition:

- Unprocessed and processed purple wheat was analysed for nutrient composition and antioxidant activity. Processing (soaking, blanching, boiling, roasting and germination) enhanced minerals (Ca, Fe, Zn) bioavailability significantly and maximum increase was observed for germination followed by roasting, blanching, soaking and boiling. An inverse correlation was observed between phytic acid and *in vitro* availability of starch and protein. The maximum availability of protein and starch resulted from a significant reduction of phytic acid was observed for germinated grains followed by boiled, roasted, soaked and blanched grains. Purple wheat contained 11.81 percent of moisture, 1.49 per cent of ash, 14.29 per cent of crude protein, 3.63 per cent of fat and 4.93 per cent of crude fiber, which were ranged from 11.50 to 12.40, 1.54 to

**Processing of purple wheat grain**



1.72, 12.71 to 14.41, 3.05 to 3.76 and 5.10 to 6.20 per cent, respectively in processed grains. Processing has increased the contents of moisture, crude fiber, ash, *in vitro* digestibility of protein and starch, *in vitro* availability of calcium, iron and zinc. Among all processes the maximum nutrients retention was found in germination process followed by roasting, blanching, boiling and soaking.

- Four variants of gluten free cookies with or without incorporating *shatavari* (*Asparagus racemosus*) root powder were developed. Experimental gluten free cookies had higher amount of protein, fat, carbohydrates and energy and lower price in comparison to gluten free cookies available in market.Sensory evaluation of fresh cookies showed that gluten free cookies (control) without modifications had the lowest mean sensory scores than that of four variants of gluten free cookies with or without *shatavari* root powder. As a result, these cookies were adjudged as "liked moderately by the judges. Incorporating 10 per cent *shatavari* root powder in the basic flour of gluten free cookies did not influence the overall acceptability of chocolate chip walnut cookies and coconut cookies and therefore both the cookies were adjudged as "liked very much" by the judges. Incorporating 10 per cent *shatavari* root powder in the basic flour of gluten free cookies increased the overall acceptability of almond apple jam cookies and raisin cookies, however both the cookies were liked by the judges and adjudged between'liked moderately' to 'liked very much'. Four variants of gluten free cookies i.e. chocolate chip walnut cookies, coconut cookies, almond apple jam cookies and raisin cookies with the incorporation of *shatavari* (A. racemosus) root powder (@ 10%) had higher mean scores of texture, aroma and taste during storage. Similar trend for the texture, aroma and taste during storage was followed by the cookies stored in refrigerator than room temperature. The increase in fat acidity and peroxide value was observed within all four variants of cookies during storage. However, the progression was significantly less in the cookies incorporated with *shatavari* root powder and further stored in refrigerator.
- Four developed variants of gluten free cookies i.e. chocolate chip walnut cookies, coconut cookies, almond apple jam cookies and raisin cookies with (@ 10%) or without incorporation of *shatavari* root powder (SRP) were studied for shelf life by storing at room temperature or under refrigeration ($4^0$C). The mean scores for sensory characteristics declined gradually during storage period (90 days). However, it was observed that this decline was more in all four variants of gluten free cookies prepared without incorporating SRP and stored at room temperature than SRP incorporated cookies and stored refrigerated. A significant difference (P=0.05) for fat acidity and peroxide value was observed within all four variants of cookies with respect to SRP incorporation.
- The sun dried seed pods of *Acacia nilotica* were studied for mineral content. The total calcium, iron and zinc content were 120.1, 20.10 and 22.80mg/100g, respectively. Available calcium, iron and zinc content were 4.78, 0.68and 0.52 mg/100g, respectively.
- Fenugreek seeds were soaked in milk and water (3:1) for 8 hours for debittering. Seeds were soaked in water for 8 hours and left in sterile petri dishes lined with wet filter paper for 48 hrs at 37ºC with frequent watering for germination (GFSP-II). Incorporation of 10 per cent of either of the processed fenugreek i.e. debittered, germinated and debittered followed by germinated in the basic recipe of biscuit, cake, *laddoo* and *namakpara* significantly improved the contents of protein (26.61%), fiber (34.14%), sugars (28.66%), minerals (48.19%) and antioxidants (28%).

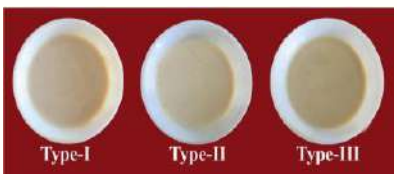



- Value added biscuits were developed using different levels of quinoa (20 to 60%). The protein and fat contents in refined flour (control) biscuits were 4.18 and 22.26 per cent, respectively. The levels of protein and fat contents in biscuits increased significantly with the increase in level of substitution of refined flour with quinoa (20 to 60%) and the values ranged from 7.25 to 10.10 and 23.28 to 26.22 per cent.
- Black wheat was analysed for its functional and nutritional parameters. Crude protein was 11.99 per cent, crude fibre was 1.63 per cent, available iron and zinc was 4.37 mg/100 gm and 2.56 mg/100 gm respectively. Antioxidant activity of black wheat was significantly higher than white wheat with values of total flavonoid content 32.11mgRE/100g and DPPH activity as21.16 mgTE/100. Total soluble sugars and reducing sugars were significantly higher than control wheat (P<0.05). Total and available iron and total and available zinc in black wheat was significantly higher than control wheat (P<0.05). Total phenolic content and total flavanoid content in black wheat was found lower than the control wheat (P<0.05). *Chapati*, *Paratha*, *Poori*, Cake and Biscuit were developed from black wheat flour and subjected to organoleptic analysis. All the products were found to be acceptable in terms of colour, appearance, aroma, texture, taste and overall acceptability. The overall acceptability varied from 7.96 to 8.31.





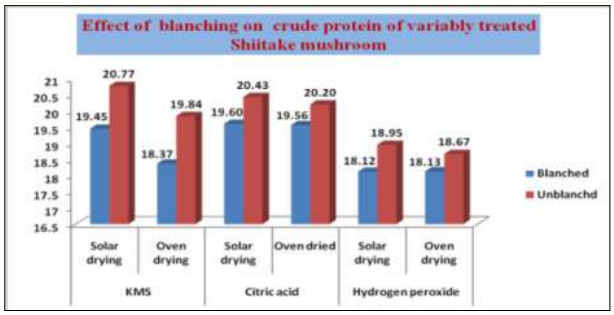
- *Kufri bahar* potatoes were subjected to microwave cooking (15, 20, 25 min.) followed by hot air oven drying (6, 12, 18 hr.) to develop potato powder. The developed powders were studied for color variation using Hunter color meter. It was observed that more than 20 minutes of microwaving followed by 16 hr. hot air drying darkened the final product. Overall, the highest Hunter-l value (73.01) with lowest Hunter-a value (5.59) was obtained for 15-minute microwave at full power followed by 18 hr. drying at $65^0$C.
- Weaning foods were developed using sorghum, pearl millet, soybean, mungbean and banana. Simple home scale processing methods were used. All developed weaning foods were highly acceptable and rich in nutrients. Mothers with young weaning infants formed the panel for acceptability.




- The moisture, protein, ash, fat and fibre content in multigrain mix developed for overnourished subjects was 10.70±0.05, 14.76±0.43, 2.66±0.07, 3.79±0.25 and 3.04±0.03 % respectively. The moisture, protein, ash, fat and fibre content in multigrain mix for undernourished subjects was 10.33±0.08, 16.00±0.75, 3.37±0.04, 30.19±2.63 and 1.89±0.06 % respectively. The products prepared from multigrain mixes were acceptable organoleptically. The multigrain mixes were

free from any microbial load upto 3 months of storage. The mean height of the selected overnourished subjects was 153.78±3.74 cm and mean weight was 65.64±4.69. The body mass index (kg/m2) was measured as 27.81±2.62 (kg/m2). The mean height of the selected undernourished subjects was 155.16±2.40 cm and mean weight was 41.08±0.82. The body mass index (kg/m2) was calculated as 16.93±0.47 (kg/m2). The intake of all food groups was less than the Recommended Dietary Intake suggested by ICMR (2010) except fats and oils and milk and milk products in all the subjects. Among nutrients the mean intake of energy, protein, iron, folic acid and vitamin B12 was less whereas the intake of fat, calcium, thiamine, vitamin C and magnesium was high when compared to recommended dietary allowances.

- Shiitake mushroom was subjected to different processing methods for developing mushroom powder, which was further used for value addition in different products. Among chemical treatments, citric acid treatment turned out to be most effective in producing powders with higher acceptability than any other treatment. Among drying methods, solar drying proved to be more effective over oven drying towards obtaining higher overall acceptability of powders. All developed products had a rich nutrient profile and were acceptable. Value addition has been carried out with Oyster as well as Milky mushroom.





Mushroom Pickle


Mushroom Chutney


Mushroom Soup


Mushroom Biscuits

## Nutrition Surveys and Technology Dissemination:

- To assess gender disparity, Nutritional status of two hundred male and female subjects (hundred each in the age group 13-18 years and 18-60 years) from Village Budak of Hisar district was assessed in terms of BMI. Mean BMI of male respondents was 21.15 as against 18.25 for female respondents. A higher number (n=26) of females were underweight as compared to male counterparts (n=18). In the age group of 18-60 years, Mean BMI of male respondents was 23.64 as against 21.49 for female respondents. A higher number (n=18) of males were underweight as compared to female counterparts (n=11).
- Trainings were imparted to rural women of Village Budak (Hisar Distt.) on *PaustikLaddoo* , *Paustik* Coconut *Laddoo* , *Bajra* Sev , *Bajra matar* and *Bajra* cake. Perceived feasibility score regarding capacity building training on different demonstrated food products among respondents were analyzed for sensory preference and ease of making on different food products. *Paushtik* Coconut *Laddoo* received highest scoring in sensory preference. Also, it was perceived as easier to make as compared to other products by majority of respondents. This was followed by Bajra *sev* in terms of sensory preference as well as perceived ease of making. Bajra Cake and Paushtik laddoo scored equally in terms of sensory preference as well as perceived ease of making. Perceived feasibility of demonstrated technologies (Peanut, multigrain,

mothbean and pearl millet products) in terms of sensory preference and ease of making was found 'liked very much' to 'liked extremely' and 'easy' to 'very easy' by the respondents.

- The mean daily intake of minerals (calcium, iron and zinc) and vitamins (riboflavin and niacin) among all the respondents was significantly lower than recommended dietary intake (RDA) i.e. 62 to 90 per cent of RDA whereas mean daily intake of folic acid was 104-108 per cent of RDA.
- Survey was carried out to assess nutritional status of school children (7-9 yrs.) from CCSHAU Hisar. Mean height, weight, Body Mass Index (BMI) and Mid-Upper Arm Circumference (MUAC) were significantly (p=0.05) lower than the NCHS standards in both boys and girls.
- Leaflets, pamphlets and self explanatory videos of department technology were developed and disseminated among 100 women of Mewat district through whatsapp group. Radio talks were delivered through Community Radio Station, CCS HAU, Hisar. Video messages were developed and uploaded on YouTube channel. Advisories regarding nutrition and health impacts of COVID 19 were propagated through social media including YouTube link, newspaper, e *mausam* facebook page, Whatsapp Group etc.
- A study conducted on 30 non obese and 30 obese women (30-45 years) residing in CCS HAU, Hisar to assess their nutritional status revealed that majority of obese women (76.7%) consumed cereals, 100 per cent and above the RDI. The remaining 20 and 3.3 per cent of them took cereals 75 to 99.9 and 50 to 74.9 per cent of RDI, respectively. Among obese women mean daily intake of cereals, sugar and jaggery and fats and oils was 291, 31, and 47g, respectively which was higher than recommended dietary intake (RDI) and that of non-obese women was 307, 29 and 48g, respectively which was also higher than RDI. It was found that adequacy of pulses intake by 43.3 per cent of obese women was 50 to 74.9 per cent of RDI. As many as 13.3 and 23.4 per cent of obese women consumed 75 to 99.9 per cent and less than 50 per cent of RDI of pulses, respectively. Twenty per cent of respondents consumed 100 per cent and above the RDI of pulses. Intake of sugar and jaggery and fats and oils was adequate inmajority of respondents i.e. 93.3 and 100 per cent.
- Nutritional survey was carried out on school going children (13-15 yr.; n=60). It was found that mean height (158.14cm) and weight (45.96kg) of male students was comparable to 50$^{th}$ percentile of WHO reference standards. Mean height of female students (150.94cm) was significantly ($P \leq 0.05$) lower than 50$^{th}$ percentile of WHO standards with no significant difference ($P \leq 0.05$) observed in case of weight (44.16kg). Mean BMI of both male and female students were well within the normal range. It was 18.58for male and 19.50for female students. Mean waist to hip ratio for male and female students were 0.80and 0.79respectively which signifies 'thinness'. The daily mean intake of energy (1636.68Kcal,) protein (28.47g), iron (10.31mg) and calcium (400.69mg) by the female students was significantly ($P \leq 0.05$) lower than the recommended RDA intake. The daily mean nutrient intake value of various nutrients viz., energy (2367.42Kcal), protein (38.77g), iron (15.57mg), and calcium (433.63mg) by the male students was significantly ($P \leq 0.05$) lower than the recommended RDA intake.
- Sixty ICDS field functionaries from Faridabad district were assessed for nutritional status through anthropometric measurements and results indicated that ICDS field functionaries had significantly higher weight (67.38kg), BMI (26.11), waist circumferences (102.17cm) and waist to hip ratio (0.7) than the reference values suggested by ICMR, 2020 and WHO (2008). On the basis of BMI classification, more than half of the respondent (56.7%) were found to be overweight followed by normal (28.3%), underweight (8.3%) and obese (6.7%). As indicated

by waist circumferences and waist to hip ratio the respondent were found be at the substantially increased risk of diabetic mellitus and cardiovascular diseases.

- A survey of 100 rural adult females (sedentary) of Neoli Kalan village, Hisar was conducted by interviewing. Rural adult females had poor eating habits. They were in the habit of snacking (65%) and were not taking balanced diet. Maximum 75 per cent respondents drink 4-6 glasses of water in a day only. Intake of fruits and green leafy vegetables was minimal including banana, guava, mango, spinach and coriander. There was found monotony in the intake of food items in each type of food group. Like main cereal consumed everyday was wheat by 100 per cent respondents followed by rice and bajra. So, there is need to impart nutrition education for changing the food frequency of different food groups to the respondents for fulfilling balanced diet requirements.
- An online survey was conducted and 80 responses were recorded from different districts of Haryana (Rewari, Hisar, Mewat, Mahendargarh, Nuh, Kaithal, Jhajjar, Yamunanagar, Jind, Sirsa, Bhiwani, Rohtak, Gurugram, Fatehabad and Sonipat) to assess their food consumption frequency and anthropometric measurements. The cereals and millets i.e. wheat, rice, bajra, maize and jowar were consumed by all the rural women. Maximum number of respondents consumed red gram *dal* (23.75%), *rajmah* (36.25%), soybean (28.75%) and peas (22.50%) twice a week, weekly, rarely and thrice a week, respectively. Maximum number of respondents consumed curd (61.25%), butter milk (38.75%), *desi* ghee (90.00%) and butter (33.750%) on daily basis. As many as 8.75 to 55.0 per cent of rural women did not consume refined oil, olive oil, mustard oil and hydrogenated fat. The mean values of height and weight of rural women were 160.50 cm and 56.13 kg, respectively. The body mass index of rural women was 21.75. The mean values of waist and hip circumference of rural women were 78.44 and 92.48 cm, respectively. The mean value for waist to hip ratio was 0.85. Pearson's correlations coefficients of family income were significant for intakes of protein, vitamin A, vitamin C, iron, zinc and calcium (r=0.53, r=0.46, r=0.35, r=0.27, r=0.41 and r=0.39 respectively; $p<0.05$, $p<0.01$). A similar trend of correlations was observed between respondent's education, spouse's education and family size and intakes of major nutrients.
- Two trainings were organized for ICDS field functionaries to develop a better understanding of foods belonging to different food groups, nutrients, their functions, deficiency disorders and locally available rich food sources and recipes etc. It was found that to prevent corona, the consumption of fruits and vegetables, citrus fruits, garlic, ginger, honey, nuts and fruit juice was increased by the respondents. They reduced the consumption of fast food, chips, puffs, junk food, street food and raw foods. The lifestyle and eating habits of the respondents did not change during COVID-19. Expenditure on green leafy vegetables, pulses and legumes, fruits, vegetables and milk and milk products s increased whereas expenditure on ready to eat foods decreased in 37.16 per cent of the respondents during COVID – 19.
- Training on Peanut products was imparted to twenty-five rural women (20-50 years old) from Fatehabad (Village Badopal). Hands on training along with lectures were given on Peanut value added products namely peanut *mathi*, peanut *chaat* and peanut *nutties.* Average pretraining awareness score regarding nutritional benefits was 4.33±2.16 which improved to 8.24 ±0.73 after the training programme. Average awareness score regarding varied uses of peanuts was 1.11±0.17 which improved to 4.27±0.26 after the training programme. Paired sample t-test depicted significant (p=0.05) difference in pre and post training knowledge scores. All three value added recipes were highly appreciated by trainees. Peanut nutties followed by *Chaat* scored highest in sensory preference as well as ease of making.

- Sixty school going children (7-9 yr.) including both boys and girls, were assessed for their nutritional status. Mean height, weight, Body Mass Index and Mid upper arm circumference were significantly (p=0.05) lower than the NCHS standards in both boys and girls. Boys under study had a mean height 110.94±10.09 cm, weight 19.78±5.37 Kg, BMI 16.08±1.20 Kg/$m^2$and MUAC14.83±2.45 cm. Mean height, weight, BMI and MUAC for girls under study were 111.53±7.92 cm, 18.39±3.72 Kg, 14.72±2.03 Kg/$m^2$ and 13.94±1.32 cm, respectively. Energy, Protein, Calcium and Iron intake were only 62.90, 75.12, 50.01 and 65.87 per cent of RDA in boys while it was 60.90, 73.29, 51.84 and 62.44 per cent of RDA for girls. Diets of boys, as well as girls, were most deficient in fruits, total vegetables as well as pulses. Intake of cereals, milk & milk products, Sugar & Jaggery and Fats & Oilswas 68.27, 65.26, 89.50 and 75.77 per cent of RDI in boys while it was 71.24, 70.41, 87.50, and 61.00 per cent of RDI in girls.
- Data were collected for anthropometric measurements and dietary pattern of overweight rural women. Results showed that the mean height of the selected overweight control subjects was 155.01±5.30cm and mean weight was 73.16±10.65kg. The body mass index (kg/m2) was calculated as 30.37±3.53 (kg/m2). The mean intake of all food groups was less than the Recommended Dietary Intake suggested by ICMR (2010) except fats & oils and milk & milk products in all the subjects. Among nutrients the mean intake of energy, protein, iron, folic acid and vitamin $B_{12}$ was less whereas the intake of fat, calcium, thiamine, vitamin C and magnesium was high when compared to recommended dietary allowances.



- An online survey was conducted on diet and nutrition during COVID-19 pandemic era. Results revealed that during COVID-19 the fruit intake of 53.66 percent of the respondents was increased. The foods consumed less during corona outbreak were fast food, junk food and outdoor food. Cooked food (70.12 percent), fruits & vegetables (69.16 percent), nuts (40.24 percent) and dairy products (41.20 percent) were consumed most during corona outbreak. Regarding safety of food, majority of respondents washed their hands after grocery shopping, and rinsing fresh produce and disinfecting purchased food items either with water or water plus salt. In order to prevent corona, the consumption of fruits and vegetables, citrus fruits, garlic, ginger, turmeric and nuts was increased by 63.04, 52.90, 42.75, 45.41, 43.96 and 32.37 percent of the respondents respectively. Majority (88.54 percent) of the respondents were of the opinion that warm/hot temperament foods could prevent or treat corona.
- Changes in food and dietary habits of rural families during COVID-19 were assessed. Data obtained showed that majority of the respondents were in the age group of 20-50 years. All of them were Hindu and females. The study on food consumption pattern of rural women showed that 66.22 per cent of the respondents were taking meals 3 times a day before COVID but during COVID an increase was observed in number of meals taken by the respondents. Majority (92.57%) of them were vegetarian. The meal pattern showed no change in respondents' taking breakfast and dinner before COVID and during COVID. Majority (86.49 %) of the respondents were not taking any supplements during COVID however 55.41per cent of the respondents had knowledge regarding role of vitamin C and vitamin D in immunity building. There was not much change in the food portion of each meal as a result of COVID – 19. The food portion of each meal was same as before in majority of the respondents. Among cereals and millets wheat was consumed by 100% of the respondents irrespective of COVID situation. It was observed that their consumption of pulses, green leafy vegetables, other vegetables, fruits, milk and milk

products increased during COVID-19. The consumption of ready to eat foods decreased during COVID and the consumption of homemade recipes was found to increase during COVID. The daily consumption of water also increased during COVID.

- Data were collected on food consumption pattern and dietary intake of 150 rural women from different villages of Hisar (*Kushal ki Dhani, Peerawali Dhani, Heeran ki Dhani, Raju ki Dhani* and *Kumhaaro ki Dhani*). It was found that the mean intake of energy (62.80 %), calcium (77.59 %), iron (42.76 %), zinc (56.69 %), thiamine (68.24 %), riboflavin (36.49 %), niacin (47.74 %), vitamin B6 (55.70 %) and vitamin A (20.26 %) was less than Recommended Dietary Allowance (ICMR, 2020). The intake of different food groups was less (31.08 to 80.33%) than Recommended Dietary Intake except milk & milk products which was 77.4 per cent higher than the Recommended Dietary Intake. The clinical symptoms of nutrient deficiency were not visible in majority (85.33 to 100%) of subjects and morbidity status of families indicated that only 40.67, 38.00 and 36.67 per cent of the respondents had cold, cough and fever, respectively in past three months.



*ANNEXURE III- C*

## SALIENT RESEARCH ACHIEVEMENTS OF DEPARTMENT OF FAMILY RESOURCE MANAGEMENT

### Participation of rural women in dung collection and mitigating solution

- Females were collecting dung themselves twice a day using *Tasla* & *Indi*. The average distance travelled was 573.88m, carried 17.6 kg of dung per trip, and spent 93.6 min in dung. Back bending posture in collection and lifting neck bending in disposal was mainly used. Women were found to be involved in dung collection including preparation of dung cakes and cleaning of animal shed, 98.9% and 96.67%, respectively were involved.
- The Main constraint in dung collection was uncomfortable posture with heavy load.Grip fatigue of 23.65 percent was observed for right hand and 18.59 percent in the left hand after performing the dung collection activity was observed.The total biomechanical stress score was maximum in collection activity (32.9), followed by lifting activity (27.3).
- Ergo dung collector was developed to combat the biomechanical stress.

### Income generation through eco-friendly utility articles

- Pre-exposure knowledge of the respondents regarding environment protection was low but it increased to high level after knowledge was imparted to them. For promoting environment, five days training on making of eco-friendly utility and decorative articles was conducted in village Mangali from 29.03.2019 to 03.04.2019, where about 20 rural women participated.
- Maximum income of Rs.3750 was generated in 'Decorative mud *diyas'* (for *Diwali*) followed by 'Necklace made from wooden beads' (Rs. 2100) and 'Decorative *rakhis'* (Rs. 2000) and minimum income Rs. (600) was generated through 'Decorated glass bangles'. The highest Benefit-Cost Ratio of. 4.00 was for 'Decorative paper envelops' (used for ceremonies/s*hagun*). Whereas least Benefit-Cost Ratio of 1.50 was for 'Decorated glass bangles'



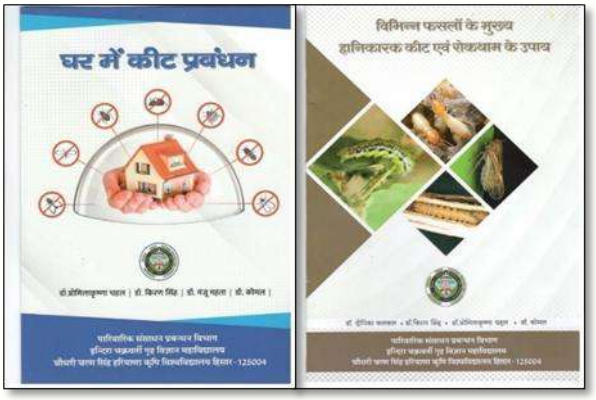
### Linkage Development for Income Generation:

- Exhibition-cum-sale of rakhis and wooden bead ornaments prepared by women of Mangali village was organized in COHS before Raksha Bandhan on 9.8.2019.
- Exhibition-cum-sale of various eco-friendly articles prepared by women of Mangali village was organized in deptt stall of Krishi Mela (*Rabi*) on 12.9.2019
- Exhibition-cum-sale of various eco-friendly articles prepared by women of Mangali village was organized in College function 'Creations 2019' on 24.10.2019
- Exhibition-cum-sale of various eco-friendly articles prepared by women of Mangali village was organized in deptt stall in 'Startup Summit' on 2.2.2020



**Trainings on Eco-Friendly Utility Articles**

## Involvement of farm families in pest control




- Majority of the families were facing problem of ants (85.3%), rodents (79.4%) and pantry pests (70.0).
- Majority of respondents (93.3) used physical method of pest control followed by natural remedies (89.0), and poisoned bait (62.6).
- Farmers were found to be spraying pesticides by themselves and only few of them (4.33%) were using special gloves while spraying, 57.33 percent covered their nose and mouth with cloth piece or *dupatta* as a type of face mask in order to protect inhalation of pungent smell and precaution to reduce side effects of pesticides. Long sleeved shirt was used as protective method while applying pesticides at farm by 86.0 percent respondents
- Two booklets were prepared to aware the rural people about pests and their management techniques at farm and household level. Pest infestation is gigantic problem both at farm and at household level, the crisp piece of information in form of booklets is ready reference material for farmers and farm women.

## Assessment of the work stress of self employed women in rural area

- Majority of respondents complained about no control over the day-to-day work activities and unavailability of support when undertaking new tasks / activities, The major personal factors of stress among respondents were pressure of being physically active (2.63) followed by relationship stress factors involved difficulties with partner, relatives, friends, etc (2.30) followed by inability to spend quality time with family / friends (2.30).
- Lack of financial security and well being was the major financial stress factor identified among self employed rural womrn.

## Development of Modules to Overcome Stress

- Following three module were developed to overcome the stress of women at work.



**Module I: Lecture on Coping Strategies to overcome stress** was delivered to self employed women at Village Dabra (Block 1) from 27$^{th}$ to 29$^{th}$ November, 2019

**Module-II: Yoga and Meditation*:*** Session on "Yoga for stress management" was organized for self employed women at village Dabra (Block 1) on 30$^{th}$ November, 2019.

**Module – III Mindfulness Techniques:** Two Days Sessions on "Mindful Techniques" was conducted at Rawalws Khurd (Block-II) from 31st January to 1st Feb., 2020.

## Human factors in rural kitchen design and customizing a tool for work simplification

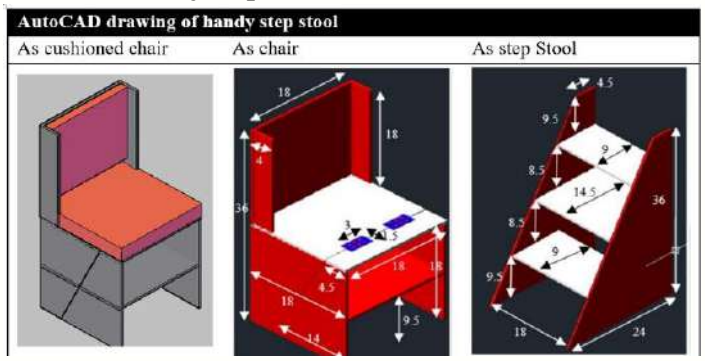
- In all kitchen there were storage shelf 1 and 2 and only 60.0 per cent kitchen were found to be having storage shelf 3. The mean height of counter was found to be 94.27±4.44 cm and depth was 62.05±8.13cm. The height of counter was not adequate and was either too high (20.0%) or too low (38.0%) in more than fifty percent of the kitchens.
- The mean height of 1st, 2nd and 3rd storage shelf were 138±15.6 cm, 183.4±18.6cm and 244.7±21.6cm which were found to be higher than women standing shoulder height (130.8±5.7cm), standing height (160.2±5.31cm) and standing vertical reach (188.3±19.8cm), respectively.
- Women were taking help of other family members to get the material from upper shelf and using stool or *patra* to reach and grasp the material which sometime also causes injuries and fall. Not a single kitchen was found appropriate/fit to women users who were working 5-6 hrs daily in the kitchen.
- In order to create a prototype tool for kitchen work simplification, anthropometry data of women was collected and tool (handy step stool) was developed.

## Specifications of tool (handy step stool)

**Materials used:**Wood;**Weight:** 5 kg; **Total length:** 36 inches; **Blade length:** 18inches; **Price (Rs.):** 800 + 18% GST = Rs. 944

**Dimensions of handy step stool**

| Particulars | Dimension (inches) |
|---|---|
| **Chair** | |
| Height of chair | 36 |
| Sitting height | 18 |
| Width of seat | 18 |
| Back rest | 18x18 |
| **Cushion** | |
| Size seat cushion | 18x18 |
| Size back rest cushion | 14x18 |
| Width of seat cushion | 2.5 |
| Width of back rest cushion | 1.25 |
| Nature of cushioning | Removable/easy to fix |
| **Steps stool** | |
| Height of step 1, 2, 3 | 9.5, 8.5, 8.5 |
| Width of step | 18 |
| Depth | 10±2.5 |
| Maximum height of last step | 27 |
| Maximum height of tool | 36 |
| Weight | 5kg |
| Steady convertible point | Hinge joint |
| Attachment point | Magnetic lock |
| **PVC buffer** | |
| Height | 0.87 |
| Width | 0.87 |
| Total number | 6 |







- Tool was found suitably fit for women workers working task inside the kitchen specially related to reaching, grasping, replacing of tool form high height storage shelf and in sitting helpful to preparation and cooking tasks. As per p value, regression model was found to be significantly fit for women respondents ($p<0.03$) and engineer (0.036) and highly significant for ergonomists (0.0007).

## Awareness and perception of rural women towards green products

- Majority of respondents, i.e. 78 percent and 86 percent respondents from Hisar and Mahendergarh respectively had never considered the green product while doing shopping. As their awareness level is low, therefore its conversion into purchase intention was also very low.
- Majority i.e. 72% of the respondents in case of Hisar and 70% in case of Mahendragarh were not using organic food. More than half i.e. 53 percent respondents from Hisar and 67 percent those of Mahendergarh were not familiar with or unaware about price differentiation and a meager percent of respondents from both the districts believed lower price of green products in comparison to its benefits.
- Around one fourth (26%) of respondents from Hisar expressed their favorable attitude towards green products and 17% of respondents from Mahendergarh were observed in the same category.

## Productivity Improvements through Work Study Methods in Cotton Mill Workers

- Maximum number of machines were found to be installed in card (24 machine) and ring frame (24 machine), besides in lap former activity only one machine i.e.LMW (LH-10) was available.
- Maximum number of workers appointed per activity was found to be in ring fame (42), followed by speed frame (28) and card (12), and an equal number of workers (10 each ) were found to be engaged in auto corner and link corner activity.
- Training was given after selection of the workers for job at Cotton Mill. There was separate training for each activity.
- In operation maximum time involvement was found in TFO (34.22minutes) and link corner (32.00minutes) activities. Blow room worker was spending major time in inspection followed by comber has major action time as storage (9.40minutes).
- Twelve yarn making processes were analysed in cotton mill under the criteria, no of activities, involvement time and distance travelled.
- Yarn making activities were studied under eight sections of flow process chart including; operation, inspection, storage, delay, transportation, change point, operation and inspection and operation and transportation. Maximum no of activities was observed in ring frame activity (83/hr), followed speed frame (70/hr) and finisher (68/hr). In case of involvement time maximum activity time was, spend by ring frame worker (58.44minutes/hr) on work, followed by in finisher activity (57.41minutes/hr) and breaker (53.8 minutes/hr). Workers of card (3.02km/hr) covered maximum travel; followed by ring frame (2.83km/hr) and speed frame (2.68km/hr) workers.
- No association was found between total activities, time involvement and distance travelled by workers. As each activity was demanding time involvement and number of activities and distance travelled in different way.







## Appraisal of carbon footprint of household energy use

- Maximum number of women were having medium level of knowledge regarding generation of carbon footprint during transportation (50.0%) followed by in households through equipment and through households waste (44.4 %)

- The annual electricity consumption by 45.8% respondents was 4001-6000 kWh followed by 41.7% were consuming 2001-4000 kWh and 12.5% were consuming 1000-2000 kWh. The average annual electricity consumption was 3706.5KWh.
- About half (48.4%) of the respondents were consuming 90-144 kg of LPG annually for cooking followed by 41.6% who were consuming 145-199and kg of LPG/year. Only 10.0% of respondents consumed 200-254 kg of LPG in a year. Average annual LPG consumption was 154.94 kg.
- Half of the respondents (50.83%) had generated 4.11 – 5.49 tonnes of $Co_2$/year, whereas, 30.00% respondents produced high amount of carbon footprints annually (5.50-6.88 tonnes of $Co_2$). Low amount of carbon footprints (2.72-4.1 tonnes of $Co_2$) were generated by 19.17 % of the respondents per year. The acceptable range of carbon footprint is 0-2 tonnes of $Co_2$.
- The carbon footprint generated by all the households was more than acceptable limit. So training and awareness is required in this area.

**Ergonomic assessment of women involved in activities of Tomato production system**





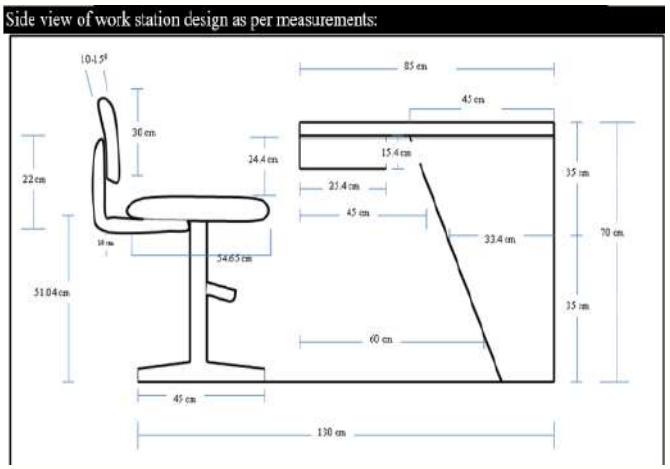
- Average energy expenditure of respondents was 11.70 kj/min (Heavy physiological workload) by the conventional method and 9.76 kj/min (Moderately heavy workload) by using transplanter.Overall score of RPE was 4.07 in conventional method (Heavy exertion) and 3.51 (Moderately heavy exertion) by using transplanter in tomato cultivation. After using transplanter highest percent reduction in exertion was found in thighs (16.67%), followed by neck (15.79%), legs (15%), knees (13.64%), lower arms (10.87%) and fingers (10.53%).

**Ergonomic evaluation of existing and improved method in bead making**




- Majority of the respondents were aware about the health hazards due to the working conditions in bead making enterprise. All the respondents had cuts (100%) followed by eye irritation (90%), itching (70%), muscle pain and discomfort (70% each).
- None of them were using apron, gloves, face mask, hat and ear plugs.Total Job Strain score was 4.5 depicting that job may place individual at increased risk for distal upper extremities disorder.
- On the basis of workplace ergonomic risk assessment, bead making score was 42 depicting "Task needs to be further investigated and requires change".
- Five interventions i.e. organized workplace, comfortable seating place (with cushioned mat/ gaddi); finger protector; eye glasses, ear plugs and face masks and string maker were made in existing condition of bead making and their effect on workers were studied in terms of rating of perceived exertion, physiological health and grip fatigue. After using improved methods of bead making the energy expenditure of workers was reduced by 10.58 percent. The workers were found to be comfortable at improved condition and overall RPE was reduced by 11.27 percent.

- Grip fatigue was also found lower in improved conditions as compared to existing conditions.
- Workers expressed willingness to adopt and use above mentioned items which make the working conditions comfortable as compared to existing conditions.
- Anthropometric measurements were taken to redesign/modify the workplace because the workers were satisfied with the height and other dimensions of the existing workplace.
- A module was prepared to minimize work hazards of workers engaged in bead making enterprise. The booklet was published with university no. CCSHAU/PUB#22-068. Booklet is helpful material for bead makers on how to improve their working condition at get higher output with minimal input of energy and time.




## Impact assessment of gender friendly technologies in carrot production system

- Total production cost of carrot farming in one acre agriculture land was found to be Rs. 58,472 (harvested manually) and Rs. 63,222 (harvested by tractor) and total production of carrot was 11,250 kg (112.5 Quintal) which was Rs.1,35,000 as gross return.
- Net return in term of rupees was Rs. 76,528 (by tractor) and Rs. 71,778 (manually).
- Most of drudgery prone activities were performed by female like; weeding (DI-83.67), separating green (DI-70.67), packing and loading (DI-56.33), and collecting carrot (DI-55.67) with their drudgery rank of I, II, V,VI, respectively.
- Blood pressure, heart rate and grip strength of workers were found to be near to rest level after using improved tool; besides these traditional tools were found to be significantly increasing the blood pressure, heart rate and grip fatigue of workers.
- By using hand wheel hoe and sickle in weeding activity the production was found to be increased by 73.3% per cent followed by use trolley and head load manager in loading activity increased the productivity by 50.0 per cent and carrot green cutter found to be increasing the work productivity by 33.3 per cent in separating green activity.

## Establishment and Management of Resource center

- Training and demonstration on agriculture tools was organized and tools were kept at resource centers for use of farm women.
- Two resource centers were established in Mangali and Behbalpur villages (one in each) of Hisar district, where agriculture hand tools were kept for use purposes of farm women.





- Demonstration on use of five agriculture hand tools i.e.sickle, capron, cot bag, string maker and head load manager was given. These tools were kept at resource centers.




- Each agriculture hand tool was given to each farm women for 30 days for use. A register was maintained in which issuing date, return date and performance level of each tool were recorded. Sickle (96.7%), cot bag (72.0%) and string maker (44.0%) were found to be used by farm women in daily agriculture activities, besides this capron and head load manager were mostly used in seasonal activities (100.0% and 78.0 %, respectively). No major discomfort was mentioned in use of capron, cot bag and string maker.
- As per Quality function deployment (QFD) methodology, improved sickle and head load manager were not found appropriate for use by farm women. Capron, cot bag and string maker were got high scores in all the perspectives of customer requirements, which represented that hand tools were found to be appropriate by farm women for use.

**Testing of technologies developed by different centers of AICRP**

- Ergonomic assessment of ring cutter (developed by PAU) in okra harvesting was done. As per Job strain index score and Workplace Ergonomic Risk Assessment (WERA) no significant effect was observed on by using ring cutter in Okra harvesting system. Ring cutter needs more changes for better adaptation by respondents, even the ring edges need more smooth finishing and blade with better sharp edge.

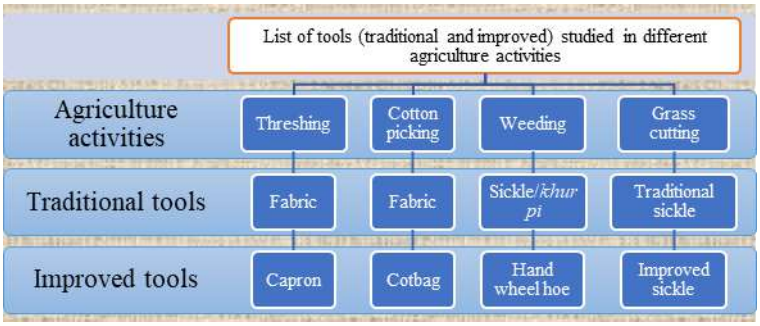
**Performance and acceptance of Improved chullah installed in village during RAWE**

- Respondents were found to be facing several problems while using traditional *chullah* for cooking. The various health related problems faced by the respondents were, irritation in eyes, respiratory problems, backache, low visibility, headache etc. Time taken in preparing the meal on traditional *chullah* varied from 50 minutes to 56 minutes, with an average of 53.4 minutes. The time taken in preparing the same meal on MDV *chullah* varied from 38 minutes to 43 minutes with an average of 39.9 minutes. Thus, the average time saved in cooking on MDV *chullah* was found to be 13.5 minutes.



- The significant reduction of 17.34 per cent in time was observed while cooking on MDV *challah.* SPM was 825 µg/m³ in the traditional *chullah* whereas, in the MDV *chullah*, it was observed that 543 µg/m³. SPM was decreased 34.18 per cent by the use of MDV *chullah*. Permissive value was 500 µg/m³.Improved *chullah* was found to improve indoor environmental, work conditions and Suspended particulate matter **(**SPM) level decreased by 34.18 per cent.

## Evaluation and quantification of the drudgery reduced by AICRP tools




- Capron was used as an improved tool instead of fabric and results unveiled that heart rate ($\bar{X}$=88.4±6.9 beats/min) to $\bar{X}$=81.7±6.2 beats/min) and blood pressure ($\bar{X}$=82.9±7.7 to $\bar{X}$=79.8±7.2bp/min) of farm women was found significantly improved (t -=3.07 and 2.02, respectively) by using improved tools.
- The use of hand wheel hoe was found to be significantly improving (t= 1.98, 7.5, 2.21 and 2.68) the physiological health (heart rate, grip strength, oxygen consumption, and energy expenditure) of the farm women.
- Improved sickle was found to be significantly improving the grip strength ($\bar{X}$=21.2±2.1kg to $\bar{X}$=28.2±2.7 kg) and reducing energy expenditure ($\bar{X}$=15.01±2.8 to $\bar{X}$=11.43±2.3) of farm women.
- Cotton-picking tool (cotbag) used in improved condition was found appropriate in all parameters of testing including; difficulty felt (p=0.003), time spent (p=0.00018), and frequency of performance (p=0.002). Cotbag was found to be highly significant for cotton picking instead of fabric/*chunni*.

## Success story of rural women for revenue and employment generation

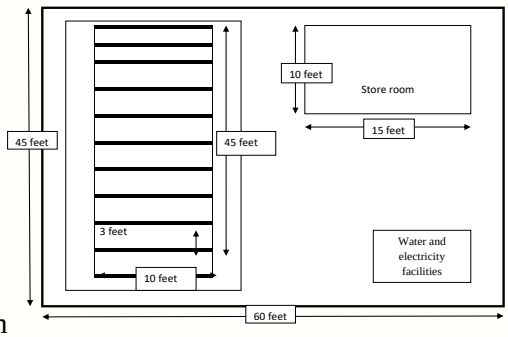

Products of craft jewellary


Training on craft jewellery making

***Success story-1****: Craft Jewellery making: Extended Work of Bead Making Enterprise.* Enterprise was established in Village 'Mangali' from last 10 years and was started by owner itself. Four bead making machine were installed at unit and 2 extra were also kept for emergency. Working time was 8-10 hrs with 30 days per month. Rate or wages was Rs. 300, paid in cash to workers. The total cost involved in bead making was Rs. 10,900. As per data the total production was of Rs.15,900 which represents that benefit cost ratio of 1:45 means respondents were having profit of Rs 1.45 over expenditure of Rs. 1.Besides this, two women of Mangali village have extended their bead making work to handicraft material. They have started to make handicraft article like *lariya*, silk and woolen thread bangles, pom poms, *gotapatti*, paper flowers, crochet and embroidery designs, etc by using beads. The total cost under tools purchased was Rs. 570/-. Craft making process was analyzed based on one week performance. The cost involved in making article under a week was studied. Products made by respondents were beads *lariya*, bangles, *pom poms*, *gotapatti*, paper flowers and crochet and embroidery designs. Cost involved in input for making these articles was calculated based on raw material requirement, time and labor involved and travel and transportation cost. Involvement of cost was Rs 1,315 and selling was of Rs. 2,750. Based on this the benefit cost ratio was found to be 2:09, which represent that Rs. 2.09 benefit on expenditure of every rupee.

## Success story of Vermi composting for Revenue and Employment Generation

Mr. Sukhpal, from Daya village, had started vermicomposting farming in his early years. He is educated up to 12th and now working as a messenger (contract basis) in CCSHAU, Hisar. He was found to be involved in vermicomposting production from 2001 to till now by following the passion of his father. He had five members in the family and all were engaged in vermicomposting production in their anyhow way. In 2011 he took the training on vermicomposting production from LUVAS, CCSHAU Hisar 2011. After that, he developed a new big unit of vermicomposting at home. The above diagram shows the detail of the unit. The total production cost involved was Rs. 63.658/-. Gross production under 10 beds of vermicompost production was 12,000kg of compost which was having Rs. 96,000/- as selling cost. The net return was found at Rs. 32,342/-.per 40 days. Overall benefit-cost ratio (BC ratio) of production was 1:51 which means there was Rs 1.5/- income on investment of Rs. 1.0/-.







## Acceptance and satisfaction level of potato peeler distributed in village during RAWE

- Knife took more time in potato peeling ($\bar{X}$=2.27±0.90 min.) compared to peeler ($\bar{X}$=1.02±0.15) and the capacity of knife ($\bar{X}$=440.26±38.9 grams/min.) was found less than peeler ($\bar{X}$=980.39±80.5 grams/min).
- The peel weight proportion was found less by using peeler (9.0%) comparative to knife (15.0%). Peel thickness was also found less ($\bar{X}$=1.1±1.9mm) by using potato peeler in comparison to knife ($\bar{X}$=1.7±2.3mm). The peeling efficiency of peeler was 60.0 per cent. The mean grip strength of right hand of women was $\bar{X}$=28.04±5.1 kg, which was found to be significantly (t=3.35 and p=0.004) decreased (15.47%) after using knife, besides, peeler was not found to be affecting the grip strength (t=0.879 and p=0.0049).
- Preference score of knife, was $\bar{X}$-4.02, which shows the highly discomfort level, besides peeler got $\bar{X}$=3.56 score represent highly comfort in use.

*ANNEXURE III -D*

## SALIENT RESEARCH ACHIEVEMENTS OF DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

**Research Schemes (2018-2023):**

| S. No. | Name of scheme | Scheme No. | Funding Agency |
|---|---|---|---|
| 1. | Human development and well being across life span | C(a)Dte-R-1-Agri.(A)-1220 | State Govt. |
| 2. | All India Coordinated Project on Home Science renamed as All India Coordinated project on Women in Agriculture w.e.f. 1.4.2022 | C(b) COHS-5-ICAR-5111 | ICAR |
| 3. | Women Empowerment and Gender Sensitization– Developing a Model for Bridging Gender Gap | C(b)-HDFS-3 ICAR NASF-5295 | ICAR |

### HUMAN DEVELOPMENT AND WELL BEING ACROSS LIFE SPAN

#### Creativity among adolescents (16-19 yrs.)

Comparative study on adolescents' creativity with regards to socio-economic variables was conducted. It was found that rural adolescents were more creative than their urban counterparts. Creativity was not found to be significantly correlated with socio-personal variables and the home environment of respondents but it had a significant positive correlation with the quality of the school environment.

#### Depression and loneliness among senior citizens

Study on depression and loneliness among senior citizens on two living arrangements revealed that most of the elderly who were living alone were having higher levels of depression and loneliness as compared to elderly who were living with their family. Female respondents were having higher loneliness feelings as compared to their male counterparts. The higher the level of loneliness among the elderly the higher was the depression.

#### Genetic and environmental influences on development

The heritability estimates indicated that height and intellectual abilities were the most genetically influential developmental domains in the twins study whereas, weight and socio-emotional abilities were found less influential & have scope for further improvement by providing a better environment.

#### Social maturity among preschool children

Rural preschoolers were having significantly higher social maturity than their urban counterparts. Social maturity was negatively and non-significantly correlated with ordinal position, family size, family income and parent's education.

#### Behaviour problems in children (6-10 Years)

The majority of children displayed a medium level of aggression. Boys were more aggressive as compared to girls and young children were more aggressive than older children. Most children were somewhat shy. Girls were shyer as compared to boys.

**Parental encouragement and academic achievement of adolescents**

Rural adolescents perceived high parental encouragement that resulted in high academic achievement than their urban counterparts. Parental encouragement was found to be significantly and positively correlated with ordinal position and family size of urban respondents.

**Psychological well being of institutionalized and non-institutionalized elderly**

The present study discovered the predictors of psychological well-being among elderly and found that marital status, education, and family living arrangement were the main predictor of psychological well-being.

**Introversion/extraversion and self-concept of adolescents**

The introversion / extraversion aspect of personality had no effect on self concept of adolescents. Rural adolescents had significantly higher self concept on intellectual and school status than their urban counterparts. Family size of urban respondents had a positive and significant correlation with their introversion /extraversion level

**Intervention for anger management**

Intervention programme had significant impact on the management of childhood aggression. After exposure to the intervention programme, children suggested significantly greater number of alternatives and consequences in solving interpersonal problems.

**Intervention to overcome shyness among children**

At pre-testing stage, boys were better than girls in coping with shyness behavior. After exposure to intervention programme, both boys and girls were similar in coping with shy behaviour.

**School environment and development of preschool children (3-5 years)**

More than 70 percent children from urban area enrolled at Preschool Laboratory. Department of HDFS were in average category of physical, cognitive, language and socio-emotional development respectively.

**Parental expectations and academic achievement of adolescents**

A sample of 100 parents (50 mothers and 50 fathers) of adolescents from rural area was assessed for their perceived parental expectations. Both mothers and fathers had high and medium level of expectations. Academic achievement of adolescents was found to be positively and significantly correlated with father's expectations. Mothers and fathers had high involvement in the academics of their adolescent children. The level of parental involvement in academics had no significant correlation with the academic achievement of adolescents.

**Life skills of college students**

Fifty college girl students of College of Home Sciences were assessed for their life skills. More than half of students were having high level of overall life skills while approximately one-third of them had average life skills. Only one-tenth of students scored low on life skills. After the intervention, majority of the students showed improvement in effective communication skills, critical thinking skills, decision making, problem solving and coping with stress.

**College Students' Perception Regarding Online Learning**

Perception of 300 students from CCSHAU, Hisar regarding online learning during lockdown was studied. Most of the students used mobile phone for attending online classes. They faced

problems related to device availability, data consumption, network issues, lack of privacy at home, health issues due to increased screen time etc. The advantages of online classes included ability to attend classes from home which saves time and money. The suggested optimum duration for an online class was 40 minutes.

### Academic stress and mental health of college students

Academic stress and mental health of college students were studied. College students were having medium level of academic (70 %) and mental (62%) stress. Their academic stress was positively and significantly correlated with mental stress (r= .52**). Academic stress was significantly associated with family income ($\chi 2$ = 10.34*) and programme of study ($\chi 2$= 9.83*) while mental stress was significantly associated with area (5.61*), family type (7.00*) and family size (11.63*).

### All India Coordinated Research Project on Women in Agriculture

This was five-year long project focused on reproductive health, psychological well being of rural women and parenting in rural families. Data were collected from 300 rural women from five villages in Hisar district. Major findings and achievements are as under –

### Reproductive health of rural women

Majority of respondents belonged to lower middle socio economic status families. The level of knowledge of maternal and child health care of majority of respondents was average. Majority of respondents were having average level of reproductive health knowledge.

### Psychological well-being of rural women

Quality of home environment of majority of respondents was moderate. Psychological well being of majority of respondents was of average level. Psychological well being of young rural mothers got improved after intervention.

### Parenting index of rural families

Parent competency level of rural mothers and fathers was found to be high. Majority of the rural mothers and fathers had ‘slow to warm up’ parental temperament and average parent child relationship. Authoritative parenting style was preferred by majority of both rural mothers and fathers.

### Online intervention during lockdown

A WhatsApp group named “Jagruk Mahilayein’ for rural women during lockdown was formed. Knowledge was disseminated to rural mothers on Parenting and Psychological Well being during COVID-19 through e-posters and e-leaflets.

### Parenting problems during lockdown

Rural mothers of school going children faced multiple parenting challenges in the form of problems related to routine work, laziness, mobile phone usage as well as behaviour and adjustment problems among children during COVID-19. Mothers reported that their children watch more T.V., waking up late in the morning and showed irregularity in daily self-care activities like brushing teeth, bathing, eating etc. Majority of children had become lazy and showed lack of interest in studies during this period. Children spent more time on mobile phone during COVID pandemic and made a demand for smart phone. Approximately half of the mothers said that their children had become irritable and quarrel more with siblings. They also argued more with their elders during this period.

## Mental health of rural women during pandemic

Overall mental health status of the majority of the rural mothers was average followed by a very small number (2%) in the high category of mental health while none of them showed poor mental health.

### Leaflets Prepared

| | | | |
|---|---|---|---|
|  |  |  |  |
| **COVID 19 ke baare mein bachchon se baat karna** | **Khel khel mein seekhna** | **Jab bachche durvyavhar karein** | **Bachchon ki online suraksha ka khayal karna** |
|  |  |  |  |
| **Sakaratmakta banayin rakhein** | **Ek vyavasthit dincharya banayein** | **Bachchon ko mobile ki lat se nuksan** | **Bachchon mein mobile ki lat kaise chhuraein** |

Approaching coping strategies was adopted by rural women to tackle stress during the pandemic as they scored high on logical analysis, positive appraisal and problem solving dimensions of approaching strategies. Avoiding coping strategies were also adopted by rural women for dealing with stress during pandemic as the majority of the respondents showed a high level of acceptance and scored average with regard to cognitive avoidance and emotional discharge.

## Intervention for parenting and psychological well being during COVID era

Knowledge was disseminated with the help of lectures, leaflets, folders, group discussion etc. to rural mothers parenting in the COVID era. A five-day workshop on psychological well being and reproductive health of rural women was also organized. All the respondents found this knowledge as useful and the majority of them (90%) were willing to apply this knowledge in their day-to-day life.

## Intervention on Reproductive Health, Psychological Well being and Parenting



Lecture on Reproductive System



Lecture on Preparation for Parenthood



Group Discussion on Immunization



Lecture on Birth Control Methods



Lecture on Household hygiene



Lecture on Personal Hygiene



Lecture on Psychological Wellbeing



Workshop on Stress management



Lecture on immunization schedule



Lecture on healthy family relationships



Lecture on modern parenting practices



Lecture on ways to reduce family conflict

## Nutritional knowledge, attitude and practice of farm families

Majority of the respondents had no knowledge about super foods but they had knowledge about balanced diet. They also had knowledge that taking milk and milk products in diet enhances calcium and improves bone health. Most of them had no knowledge about the disadvantages of skipping meals but had knowledge about the importance of eating green leafy vegetables in their diet. None of them were using Chia seeds, quinoa seeds and flax seeds in their diet. Majority of them kept themselves hygienic and majority of the families were consuming cereals and milk and milk products in their daily diet. Vegetable seeds were distributed among farm women and they were motivated to establish nutria gardens. The intervention activities received wide media coverage and thus created awareness among masses also.


स्वरोजगार शुरू कर आर्थिक रूप से मजबूत हो सकती हैं महिलाएं : डॉ. एस.के. सहरावत


महिलाओं को बच्चों के विकास, स्वच्छता इम्युनिटी बढ़ाने को लेकर किया अवेयर


'आधुनिक तकनीक से श्रम व शक्ति बचाएं महिलाएं'


ग्रामीण महिलाओं व किशोरियों को किया जागरूक


'न्यूट्रीगार्डन बनाकर तनाव से मुक्ति पा सकती हैं महिलाएं'


महिलाओं पर मानसिक दबाव कम करने को काम कर रहे हैं एचएयू के विज्ञानी


हकृवि ने ग्रामीण महिलाओं को तनाव से दूर रहने का सिखाया फार्मूला


ग्रामीण महिलाओं के लिए तनाव मुक्ति के लिए लुदास में कार्यशाला आयोजित


ग्रामीण महिलाओं को व्हाट्सएप ग्रुप के माध्यम से सिखाए जीने के गुर


ग्रामीण महिलाओं को सेहत के प्रति किया जागरूक, बाजरे के विभिन्न व्यंजन बनाने सिखाए

**Women Empowerment and Gender Sensitization - Developing a Model for Bridging Gender Gap**

The scheme was aimed at identifying and assessing gender gap indicators in rural areas to develop a Gender Sensitive Schematic Extension Model for addressing social and technological issues. Under the scheme, village Budak, Block Hisar II, District Hisar, Haryana was adopted.

**Major achievements-**

- The critical gender gaps in five fundamental pillars to holistic development viz., Social, Health & Nutrition, Economic, Environmental and Technological (SHEET) facets were identified and prioritized. The major areas of gender gap identified were 'equally paid for same amount of work done' (82.5%) in Social aspect; 'BMI (Body Mass Index) of female was at par with recommended BMI' (92.5%) in Health & nutrition aspect; 'equal access, control over land and water' (72.5%) in Environmental aspect; 'avail loan from financial institutions'(87.5%) in economic and 'knowledge in carrying out crop production and post-harvest activities' (57.5%) in technological aspects, respectively. Initial survey depicted that male members were more sensitized as compare to female regarding equality. Both male and female participants gained significant sensitivity level regarding gender equality as they tried to overcome the differences.
- Following models were developed and validated:

i. Gender sensitive schematic extension model

ii. A three-tier approach for *'Gender Sensitive Agri-Horti Cropping System Model'*

iii. Entrepreneurship Promotion Model in Mushroom Farming

Technologies were introduced for reducing daily work drudgery in rural women.

Interventions brought a significant change in all kind of gender roles and responsibilities.

Garment construction, soft toy making and artificial jewelry making were well adopted by women and there were three success stories of entrepreneurship initiated. The Success Story of the project has been uploaded in the homepage of ICAR website and Face book page of ICAR

The group approach in vegetable farming under Nutritional Security Model has generated a total income of Rs. 6, 55,515/- and it also enhanced the nutritional status of farm women and generated lot of awareness among the women group which motivated them to replicate this farming in different location of the cluster.

Farm women adopted paddy straw mushroom cultivation and earned an average gross return of Rs. 34,140/100 beds, while the average net return was Rs. 26,040/100 beds. The benefit: Cost (B: C) ratio worked out on the basis of net returns and cost of cultivation was 4.21, which was a remarkable achievement for a one-month crop. The intake of paddy straw mushroom being rich source of protein, dietary fiber and iron can also help to meet out the nutrition requirement of the farm families.

**Capacity building trainings organized for women of Burak village**

| Sr. No. | Trainings | Dates |
|---|---|---|
| 1. | Jewellery making | 02.12.2020 - 03.12.2020 |
| 2. | Nutritious recipes:<br>• *Sev* making<br>• Cake making<br>• Paushtik *laddoo*<br>• Bread rolls | <br>03.12.2020<br>04.12.2020<br>05.12.2020<br>07.12.2020 |
| 3. | Stitching of different types of face mask, face cover and cot-n picking bag | 15.01.2021 - 22.01.2021 |
| 4. | Nutritious recipes:<br>• Paustik l*addoo*<br>• Paustik coconut *laddoo*<br>• Bajra s*ev*<br>• Bajra *matar*<br>• Bajra cake | <br>16.01.2021<br>18.01.2021<br>19.01.2021<br>21.01.2021<br>22.01.2021 |
| 5. | Stitching of chapatti cover& different types of pouches | 25.01.2021 27.01.2021 |
| 6. | Stitching of different types of frocks with gathers, box pleat, inverted box pleat and layered skirts | 28.01.2021 - 30.01.2021 |
| 7. | Stitching of kameez–salwar, plazo pant, panelledplazo& different types of blouses (simple, belt, princess line) | 01.02.2021 - 12.02.2021 |
| 8. | Stitching of *kurta–pyjama*& night suit (*pyjama*) | 15.02.2021 - 20.02.2021 |
| 9. | Small beads' earrings, tassels earrings | 23.02.2021 - 26.02.2021 |
| 10. | Long chain earrings, anklets, bracelets, dream capture, macramé articles, bangles etc. | 01.03.2021 - 06.03.2021 |
| 11. | Flowers earrings and *maangteeka* | 09.03.2021 - 10.03.2021 |

| | | |
|---|---|---|
| 12. | Environment day celebration<br>(Lecture through audio & video method and discussion with rural people) | 05.06.21 |
| 13. | Peanut recipes | 12.07.21 |
| 14. | *Paustik* bread p*akora* and *tikki* | 13.07.21 |
| 15. | *Paustik* bread roll and cutlets | 14.07.21 |
| 16. | Paustik sprout *chat* and sprout cutlets | 09.08.21 |
| 17. | Rakhi making<br>• Thread *rakhi*<br>• Small beads *rakhi*<br>• Flowers *rakhi*<br>• Wooden beads *rakhi* | 16.08.21-18.08.21 |
| 18. | *Paustik* pumpkin seed coconut *laddoo* | 13.09.21 |
| 19. | *Paustik aaloo* bonda | 17.09.21 |
| 20. | *Paustik* samosa roll | 18.09.21 |
| 21. | Yoga camp | 28.9.21-30.9.21 |
| 22. | Soft toys making | 23.11.21-06.12.21 |
| 23. | **Different types of covers:**<br>Blouse, *peticoat*, *saree*, single & double blanket, different types of cushion (square, rectangle and round), washing machine, sewingmachine,mattress, *mudha*, box, bottle, *chapati* & cooler covers, etc. | 20.12.21-31.12.21 |
| 24. | **Modern artificial Jewellery making**<br>Small beads/simpl earrings, Long chain ear rings, *Kalire*, *Gajra*, Tissue paper fashion jewellery, Thread Bangles | 27.12.21- 31.12.21 |
| 25. | *Pausti k*soya *poha* | 05.03.22 |
| 26. | *Paustik cheela* | 07.03.22 |
| 27. | Beetroot *halwa* | 08.03.22 |
| 28. | *Ankurit channa* salad and *ankuri tchanna chaat* | 09.03.22 |
| 29. | *Paustik khoya barfi* | 11.03.22 |

## Entrepreneurial skill trainings organized

| Sr. No. | Entrepreneurial skill trainings | Dates |
|---|---|---|
| **1.** | Vermi composting | 10.01.22- 12.01.22 |
| **2.** | Value added products of pearl millet (Group-1) | 06.08.21 - 11.08.21 |
| **3.** | Value added products of pearl millet (Group-2) | 01.09.21 - 07.09.21 |

| | | |
|---|---|---|
| **4.** | Value added products of pearl millet (Group-3) | 13.09.21 - 18.09.21 |
| **5.** | **Different types of bags:**<br>*Potli*, hand bag, money bag, envelope clutch, *saloni*bag, travel bag, gym bag (duffel bag), folding bag, backpack bag, round bag, storage kit, makeup box kit, pen & pencil kit, kitchen napkin storage & multipurpose organizer<br>Others: apron, different types of curtains, fitted bed sheets, different types of face masks, face cover & cotton pickbag | 20.12.21 - 31.12.21 |
| **6.** | **Advanced artificial jewellery making**<br>Flowers jewellery, Oxidized jewellery, Different styles of earrings, Bridal jewellery, Beads jewellery, Fabric jewellery, Thread bangles<br>Glass bangles | 7.12.21- 14.12.21 |
| **7.** | **Garments production:** Different types of frocks (with pleated and gathered skirts), *kameez-salwar*, different types of blouses, *petticoat*, panelledplazo, pant plazo, skirt, gown, *kalies*suit, gents' *kurta-pyjama*, night suit, different types of neck and sleeve designs and woollen socks | 03.01.22 - 4.01.22 |

## *ANNEXURE III - E*

## SALIENT RESEARCH ACHIEVEMENTS OF DEPARTMENT OF TEXTILE AND APPAREL DESIGNING

### Research Schemes (2018-2023):

| Number and Title of the Scheme | Funding Agency | Date of start | Date of termination |
|---|---|---|---|
| Standardization of Paper Patterns for Promotion of Garment Construction Amongst Rural Women Entrepreneurs | ICAR | 1995 | 1999 |
| Study on Designing the Garments for Physically and Orthopedically Handicapped | ICAR | 1999 | 2002 |
| Value Addition in Female Line Apparel Through Computer Aided Technology | ICAR | 2003 | 2006 |
| C(g)Dte-R-35-OA<br>Remote sensing based R&D incentive support project under PURSE | DST | 2011 | 2014 |
| C(g) COHS-22-OA 3497<br>Module development of digital embroidery designs for customized designing using traditional Indian motifs | UGC | 2012 | 2015 |
| C(a)CT-1-Plan(Agri.)<br>Development of Protective clothing for farm workers and rural women | State | 2007 | 2019 |
| 2930- C (a) CT-3<br>CD ROM preparation of developed pick bag technology for diversified activities- Gap filling Adhoc Research Project | State | 2016 | 2019 |
| C(b) HDFS-3-ICAR-5295<br>Women Empowerment and Gender Sensitization- Developing a Model for Bridging gender Gap | ICAR- NASF | 2019 | 2023 |
| C(b)COHS-5-ICAR-5114<br>All India Coordinated Research Project on Women in Agriculture | ICAR | 1996 | Continued |
| C(a) Dte-R-1-Agri.(A)-1218<br>Development of Functional Clothing and Accessories for Quality Life | State | 1993 | Continued |

### Salient Research Achievements

**CD ROM Preparation for Dissemination of Developed Pick Bag Technology for Diversified Activities:** Based on the identified training needs of the end users, yhe print and electronic media package viz. CD ROMs and Book on Pick bag for Pearl Millet ear head collection, Pick bag for vegetable collection and Pick bag cum *gathri*; Booklets on cutting and stitching procedure of Pick bag for Pearl Millet ear head collection, Pick bag for vegetable collection and Pick bag cu*m gathri* and pamphlets on Pick bag for Pearl Millet ear head collection, Pick bag for vegetable collection and Pick

bag cum *gathri* were developed for dissemination of developed Pick bag technology among the beneficiaries and field functionaries. Developed media package was found very effective in dissemination of developed user friendly technology.




**Foot Covers for Weeding Activity in Paddy Crop:** For development of foot covers for weeding activity in paddy crop, problems of farmers were identified and as per identified problems, twenty designs of foot cover were created by incorporating different functional features. Three top preferred designs were used for development of foot covers and wear trial were conducted during weeding activity in paddy crop. As per the suggestions of the respondents, modifications were made in the most preferred design of the foot cover. The wear trials of the modified foot covers were conducted consecutively for three years to assess their suitability/ acceptability for weeding activity in paddy crop from respondents of different villages of Sirsa, Fatehabad and Kurukshetra districts on five-point rating scale. The opinions of respondents were also obtained about the acceptability of cost of developed foot covers. The developed foot covers were found easy to wear and remove being consisted of two separate parts, hence found acceptable by the respondents for weeding activity in paddy crop. Majority of the respondents reported the developed foot covers suitable for weeding activity in paddy crop. Eighty per cent respondents rated the cost of developed foot covers as appropriate. The developed foot covers were also suggested to be used for multiple functions in various crop operations such as fertilizer application and crop irrigation in winter season, pesticide application in different crops and tying and harvesting of sugarcane crop. Hence the developed foot covers can be used for multiple functions in various crop operations.



**Developed Foot Covers**

**Development of diversified textile products from textile textures:** Twelve diversified utility/ decorative products were developed using textile textures. In plant waste category the most preferred articles were table mat and bottle cover of *Bhabber* Grass, flower pot and coasters of *Sarkanda* straw and utility basket and Table mat of Date palm. In agro-waste category, paper weight and platter of Wheat straw; coasters and file coverof Paddy straw and table mat and decorative basket of Corn husk were most preferred. The cost of all the developed textile products ranged between ₹ 50-150/- and was rated appropriate by more than 80 per cent respondents. Hence, all the developed diversified textile products were found acceptable by the consumers.

**Products Developed from Textile Textures of Plant and Agro Wastes**

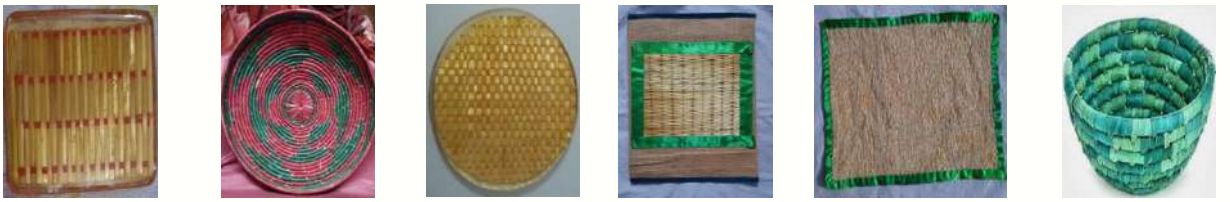
**Plant Wastes**



Table Mat | Bottle Cover | Flower Pot | Coaster | Utility Basket | Table Mat

***Bhabbar* Grass** | ***Sarkanda*** | **Date Palm Leaves**

**Agro Wastes**



Paper Weight | Platter | Coaster | File Cover | Table Mat | Decorative Basket

***Sarkanda*** | **Paddy Straw** | **Corn Husk Leaves**

**Designing and development of home textile/utility articles using selected surface enrichment techniques:** Eight products namely Pillow cover (2 sets), Cushion cover (2 sets), apron (02) and File folder (02) were developed employing selected designs, placement, colour ways and surface enrichment techniques. The developed products were got assessed from thirty consumers. In terms of embellishment techniques used, cushion cover I was found to be best in terms of appeal (WMS 2.80), colour combination, (WMS 2.64) and overall appearance (WMS 2.70). The cost of all the developed products was considered appropriate by majority of the consumers.



**Products Developed through Surface Enrichment Techniques**

**Exploration of diversified uses of *aak* (*Calotropis procera*) seed fibre:** Only three existing uses of aak seed fibre i.e. filling for pillow (30%), filling for soft toy (8%) and foot mat (2%) were reported. The experts suggested 21 articles which can be prepared using aak seed fibres i.e. mask, baby quilt/cover, baby wrap, bib, baby pillow, diaper, baby sheet, baby jacket, baby winter shirt/vest, baby bolster, baby feeder cover, pillow, cushion, prayer mat, bed cover/ bed spread, tiffin cover, bottle cover, *chapati* box cover, curd vessel cover, travelling pillow/neck pillow and wall hanging. Out of the 21 listed articles, baby pillow was the most preferred article followed by baby winter shirt/vest and tiffin cover. The *aak* seed fibres were also found suitable for hand spinning.



**Baby Pillow**

**Revival of Traditional Textile Craft**

- Data base of traditional motifs of Haryana was compiled. Designs were developed for contemporary application using traditional motifs and apparel, home textile and utility articles were developed through digital embroidery.
- The traditional motifs of *durrie* weaving craft of Haryana were utilized for development of innovative designs. Diversified products (Cushion covers, Sofa back covers and Tote bag) were prepared using the developed designs through screen printing technique. The developed products were found acceptable among the consumers.



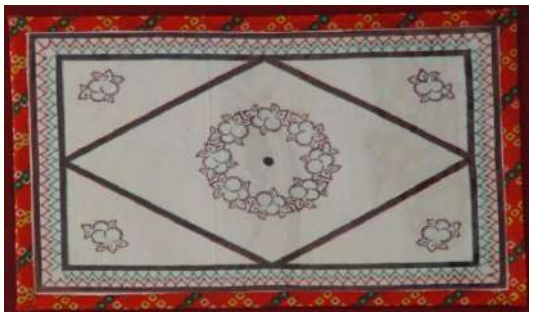




**Diversified Products Developed using *Durrie* Motifs**

## Utilization of natural resources for textile wet processes

Prepared value added products (Table mats and file folders) through screen printing using *kachnar* bark and henna leaves dyes and natural thickeners i.e. cassia tora gum and mango kernel starch.The prepared products were found cost effective and acceptable among the consumers.

**Screen Printed Table Mats**

Development of health care textile products using antimicrobial herbal finish: The different products selected for development of health care textiles were multi purpose wipes, apron, kitchen napkin, hand towel, mask and head cover. The woven cotton fabric was selected for preparation of multi purpose wipes, apron, kitchen napkin and head cover whereas knitted cotton fabric was selected for hand towel and face mask. The top ranked design of each article was selected for development of selected health care textile products using herbal finished fabric. Five plant extracts i.e., *giloy, amaltas, neem, arjun* and lemon were used for assessment of antimicrobial activity against *Pseudomonas aeruginosa* (Gram negative bacteria), *Staphylococcus aureus* (Gram positive bacteria), *Candida* (Unicellular fungi) and *Aspergillus awamori* (Filamentous fungi). Among all the plant extracts, *neem* leaves extract exhibited maximum antimicrobial activity against growth of microorganisms; therefore, *neem* was selected for synthesis of silver nanoparticles for application of herbal finish on cotton fabric.



**Diaper**



**Baby Sheet**



**Bib**



**Gloves/ Mittens**



**Apron**



**Mask**



**Kitchen Napkin**



**Baby Feeder Cover**

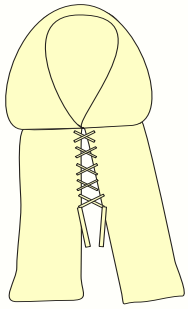


**Baby Night Wear**

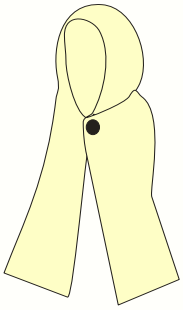
Products Prepared from Herbal Finshed Fabric

Development of herbal nursing wipes: Knitted cotton fabric was the most preferred fabric for development of nursing wipes (WMS 7.75). Antibacterial efficacy of herbal extract combination of *harada* (*Terminalia chebula*) and *jaiphal* (*Myristica fragrans*) towards the test micro-organism (lactic acid bacteria) was found to be maximum at optimum values of treatment parameters i.e. 3 percent concentration of herbal extract, $60^0$ C treatment temperature and 30 minutes treatment time for application on knitted cotton fabric. The treated fabric showed strong activity with 16 mm zone of inhibition against the bacteria and the fungi. Hence, nursing wipes were prepared using the herbal treated fabric.

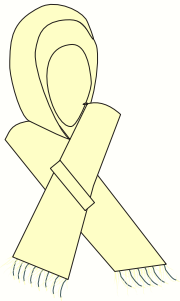
Development of Ultraviolet Protective Scoodie: The cotton fabric was selected for development of ultraviolet protective scoodie and different finishing treatments were given to impart ultra-violet protection. The highest UPF value (27.69) was noticed in mordant combination of ferrous sulphate+myrobalan and dyed with curry leaves which depicted very good protection whereas the ferrous sulphate+myrobalan pretreated onion skin dyed cotton fabric showed good protection (23.39) followed by henna leaves (21.79), *neem* leaves (20.94) and turmeric (19.48). Three top preferred designs i.e., design number 1, 4 and 5 were selected for development of scoodie using ultra-violet finished cotton fabric.



Design 1 (WMS 2.68)



Design 4 (WMS 2.52)



Design 5 (WMS 2.36)

**Selected Designs for UV Protective Scoodie**

Standardized conditions for application of herbal finishes on cotton, silk and wool and tested the efficacy of finishes against different gram positive and gram negative bacteria. Different herbal extracts viz. *neem*, *safeda*, *jatamansi*, *giloi*, *karanj*, aloe vera, *harada*, *jaiphal* etc. imparted very good bacterial resistance to the selected fabric and were found to be the effective sources of bacterial resistant finishes. Standardized conditions for application of biopolymers and enzymes on natural fabrics for improving their dyeability. The application replaced the use of metallic mordants and salt for dyeing, improved the dyeability, fastness and shrink resistance properties of natural fabrics.

**Value Addition/Quality Improvement of Underutilized Textiles for Environment Sustainability**

**Designing and Development of Value-Added Diversified Products using Textile Waste:** Textile waste in the form of left over and defective fabrics was collected from CCS HAU Campus. After initial experimentation, the collected fabrics resulting in creative outcomes were selected for the development of innovative products. Different diversified products viz. Baby Sheet, Carry bag, Shopping bag, Sling bag, *Potli* bag, Ceremony bag, Children's dress, Ladies' suit, Multipurpose

basket and Wall pocket were developed from collected textile material as per their suitability. The cost of developed products was calculated including the cost of raw material and labour charges. The developed products were assessed from fifty consumers on different parameters using a three-point continuum scale. The developed products were also got assessed for market potential and consumer acceptance.



**Value-Added Diversified Products using Textile Waste**

**The ICAR-NASF multidisciplinary project on Women Empowerment and Gender Sensitization- Developing a Model for Bridging gender Gap:** The Project was implemented in village Burak of Hisar district, Haryana with the aim of creating and sustaining Women Empowerment and Gender Sensitization for bridging the gender gap, gender gap indicators have been identified through on-farm and off-farm survey, workshops and brainstorming sessions. A three-tier viz; 'Mass', 'Target group' and 'Focused group' approach was adopted for addressing identified

social and technological issues and Gender Sensitive Extension Model was developed for conducting action research as per the needs, interest, available assets and market preferences of the rural community. The model is based on moving from generalized to specific approach to minimize the identified gender gaps in social participation, health & nutrition, educational, economical, technological and political matters. All the three core approaches i.e. mass, targeted group and focus group approaches helped in women empowerment through skill development and entrepreneurship. These approaches also sensitized the rural community for sustainable development, though the sensitization is the ongoing process.

**Lecture Organized for Rural Women:**

- Sustainable Use of Textile Waste for Income Generation Activities for rural women on December 16, 2021
- Use of Paper Pattern for Entrepreneurial Activities for rural women on January 28, 2022
- Protective Clothing for Farm Workers and Animal Husbandry Activities for rural women on February 04, 2022
- Establishment of Microenterprises (TAD) for rural women on February 04, 2022

**Capacity Building Trainings Organized for Rural Women:**

Organized Entrepreneurial Skill Development Training on 'Utility Article Production' for rural women of Burak village from December 20- 24, 2021 for production of potli, hand bag, currency pouch, envelope clutch, sling bag, travel bag, gym bag (duffel bag), folding bag, backpack bag, round bag, storage kit, makeup box kit, pen & pencil kit, kitchen napkin storage and multipurpose organizer.

Organized Entrepreneurial Skill Development Training on 'Home Textiles and Accessories Production' for rural women of Burak village from December 26- 31, 2021 for stitching of apron, different types of curtains, fitted bed sheets, different types of face masks, face cover, cotton pick bag, different types of covers i.e. blouse, *peticoat*, *saree*, single & double blanket, cushion (square, rectangle and round), washing machine, sewing machine, mattress, *mudha*, box, bottle, *chapati* and cooler covers.

Organized Entrepreneurial Skill Development Training for rural women of Burak village on 'Apparel Production' from January 03- 14, 2022 for stitching of different types of frocks (with pleated and gathered skirts), *kameez-salwar*, different types of blouses, *petticoat*, panelled plazzo, skirts, gowns, *kalidar* suit, gents' *kurta-pyjama*, night suit, different types of neck and sleeve designs and woolen socks.

After imparting trainings, perceived feasibility of the demonstrated products was calculated to measure the extent of liking and ease of making products.



**Entrepreneurial Skill Development Trainings**

Organized Entrepreneurial Skill Development Training on 'Home Textiles and Accessories Production' for rural women of Burak village from December 26- 31, 2021 for stitching of apron, different types of curtains, fitted bed sheets, different types of face masks, face cover, cotton pick bag, different types of covers i.e. blouse, *peticoat*, *saree*, single & double blanket, cushion (square, rectangle and round), washing machine, sewing machine, mattress, *mudha*, box, bottle, *chapati* and cooler covers.

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After imparting trainings, perceived feasibility of the demonstrated products was calculated to measure the extent of liking and ease of making products.

- **Perceived feasibility of stitching of utility articles among respondents:** Mean scores of data pertaining to perceived feasibility related to construction/design techniques of utility articles highlighted that most of the respondents 'extremely liked' the construction/design technique of utility articles as mean scores of all the articles were above 2.73. Making of utility articles was found very easy for *potli* bag followed by different types of cushion covers and *petticoat* cover. All the other utility articles were also found very easy to make as feasibility mean scores were above 2.40.
- **Perceived feasibility of stitching of home textiles and accessories among respondents:** Mean scores of data pertaining to perceived feasibility related to making of home textiles and accessories highlighted that most of the respondents 'extremely liked' the construction/design techniques of kitchen napkin storage kit (3.00), multipurpose organizer (3.00), pen & pencil kit

(2.96) makeup box kit and different types of face masks (2.93 each). Making of articles was found very easy for kitchen napkin storage kit (2.66) followed by pen & pencil kit (2.63), round bag and apron (2.60 each).

- **Perceived feasibility of stitching of various garments:** Mean scores of data pertaining to perceived feasibility of various demonstrated garments among respondents depicted that most of the respondents 'extremely liked' the construction/design technique of *kameez-salwar* (2.96), gown and woollen socks (2.93 each) and different types of frocks (2.83). Making of utility articles was found very easy for *kameez-salwar* (2.73) followed by different types of frocks (2.66) and night suit pajama (2.36).

*ANNEXURE IV*

## EXTENSION ACTIVITIES

### *ANNEXURE IV- A*

### Department of Extension Education and Communication Management



Awareness Programme on Hygiene and Sanitation (21.7.2018): As a part of *Swachh Bharat* Mission, awareness programme was organized in Govt Girls Secondary School, village Gawar on July 21 2018. Lecture was delivered on health and hygiene and students were encouraged to keep themselves and their surroundings clean. It was also emphasized to segregate solid waste from non-degradable waste. School teachers were also apprised about the *Swach Bharat campaign*.

Tree Plantation Drive (23.7.2018): Under *Unnat Bharat Abhiyaan,* tree plantation drive was organized in Govt Girls Secondary School, Gawar on July 23, 2018 by plantation of 100 saplings of various fruit trees by faculty members of the Deptt. of EECM and UG students. Interactive lecture on importance of trees was delivered by Dr.Vandana Verma and Dr Ella Rani.

Awareness on crop residue management and climate resilience (28.8.2018): Lectures were organized for rural women of Gawar village by Dr. Rajesh Dahiya on crop residue management for sustainable development. She advised the women to participate in conservation technique like mulching of crops in the field and not to burn crop residues. The women were also apprised about ill effects of residue burning on soil fertility and environmental degradation. Dr.Kanta Sabharwal delivered lecture on climate resilient practices with respect to water and energy saving.

Poster Making Competition on Nutrition and Health (29.9.2018): The competition was organized in Govt. Girls' Middle School in village Gawar in collaboration with department of Foods and Nutrition. Girl students actively participated in competition and emphasized the role of good nutrition in health of individual. Lecture was delivered on segregation of wastes into dry and wet. Students were motivated to make water bodies and their environment clean.

Farm Women Day (October 25-26, 2018): Farm Women Day was celebrated with 65 rural women of Village Gawar and saplings of fruit plants were distributed. Lecture on role of women in agriculture was delivered by emphasizing how women could improve nutritional security at home by adopting nutrition garden.



Awareness Campaign on Hygiene and Sanitation (November 26-29, 2018): Two campaigns of two days each on Awareness of Hygiene and Sanitation under RKVY project entitled 'Livelihood and food security of BPL rural families through diversified agricultural activities' were organized in village Shahpur (Nov. 26-27, 2018) and village Gawar (Nov. 28-29, 2018) for 100 BPL rural women and girls. Sanitary kits were distributed among participants to encourage health hygiene and sanitation among them.

Women Farmer Workshop (4.12.2009): State level workshop for women farmers on the occasion of Women in Agriculture Day was organized. About 650 women farmers and 26 women agrop entrepreneurs from Ambala, Faridabad, Fatehabad, Jhajjar, Jind, Kurukshetera, Mahendergarh, Mewat, Palwal , Rewari, Rohtak, Sonipat, Sirsa and Yamunanagar districts of the state participated in the workshop. Prof. K.P. Singh, Vice Chancellor, CCSHAU, Hisar was the chief guest of the function.






- **National Seminar on Innovative Strategies for Gender Equality (8.3.2019):** One day National Seminar on Innovative Strategies for Gender Equality in collaboration with NGO "Vision India" was organized. Honorable Vice Chancellor, CCSHAU, Prof. K.P. Singh was the chief guest on the occasion. About 250 research papers were received and presented during the seminar. Women achievers from multifarious fields shared their experiences and were honored on the occasion. The seminar was attended by 300 participants.






**Trainings on use and Function of Mobile Phone (March –April, 2019):** In order to increase mobile literacy of rural women**,** trainings and demonstrations were organized. The focus of training was on usage procedure and functions of mobile phone like making calls, receiving calls, saving contact, send and receive SMS, write, save and send message, use of internet and use of social media app like watts app etc. Total 40 rural women (10 in each group) from Mangali and Ludas village of Hisar district attended these trainings.

**Poster Making Competition on Gender Equality and *Shikhism* (26.8.2019*):*** Considering, the role of *shikhism*in promoting gender equality poster making competition on Gender Equality and *Shikhism* was organized.Total 42 students from College of Home Science participated in the competition.





***SwachataPakhwada and Jal shakti jan shakti abhiyan* (2.9.19 to 17.9.19):**To create awareness among rural masses regarding hygiene , sanitation and water conservation *Swachata Pakhwada* and *Jal shakti jan shakti abhiyan* were organized at village Dahima. Dean College of Home science Dr. Bimla Dhanda, HOD EECM Dr. Beena Yadav and HOD TAD Dr. Neelam Rose visited village Dahima and motivated and sensitized the villagers about need and importance of Swachhata *Pakhwada, Jal Shakti Jan Shakti Abhiyan*. Rallies on sanitation and water conservation and video shows on sanitation were organized to awaken the people about sanitation and water conservation.

**World Food Day (16.10.2019):** The Day was celebrated in Government Girls Secondary School village Gawar. Poster making competition was organized on importance of healthy diet for well being. Students by using their imagination created poster on different aspects of food and health. Lecture was delivered on needs of good food and healthy diet and how the students can improve their diets. Best three posters were given prizes.**C**leanliness drive was also undertaken in the school with active participation of the teachers, staff and students. They were made aware of importance and facts related to cleanliness and encouraged to become partners in *Swachhta Abhiyaan* and contribute their efforts to make the drive a big success.

**Workshop on Water Conservation (5.9.2019)**: Total 110 Scheduled caste women hailing from Tokas, Luda, Hajampur, Mangali, Patan, Shahpur and Sahu village of Hisar district and 44 PG and professional elective students of the department participated in the workshop. In order to sensitize the participants about importance of water lectures on conservation of water at household and farm level were delivered by the expertsDr.Sanjesh Singh was Chief Guest, Dr. Bimla Dhanda Dean, COHS presided over the function.and Dr. Anita Sehrawat Principal, FC College for Women was the guest of honour.






**Van-Mahotasav (5.9.2019)**: To persuade the students about importance of "Tree-Plantation" and propagate the concept of "one student one tree" coordinated Van- Mahotasav celebration at college level. Slogan writing completion was organized on importance of trees. All fresh students planted a tree each and took oath to take regular care of it.Poster making competition on Importance of trees was organized and 46 students participated in the competition.



**Farm Women Day (15.10.19):** Lecture on role and challenges of women in agriculture was delivered and it was emphasized that women while performing household task play very important role by doing substantial proportion of agricultural activities in rural areas. Women get lesser importance than they deserve.Women were made aware of advantages of cotton picking bags and were motivated to perform agricultural task by using improved tools and appliances.

**Vigilance Awareness Week during 2019 and 2020 (From 28 October to 2 November**): The theme of the Awareness week during 2019 was "Integrity – A Way of Life" and during 2020 theme was *satark Bharat, samridh Bharat*. To raise awareness about the corruption free governance, which is transparent and accountable to its stakeholders, various activities like street play on corruption, quiz competition on RTI, poem recitation on honesty were organized in Govt. High School, CCS HAU, Hisar. Under Issue Point No 12 (Gender Sensitization) of Vigilance Awareness week, poem writing completion on women equality was organized.

**Campaign on Tree Plantation to Mitigate Climate Change (January –February, 2020):** Plants were distributed among rural women of Kaimari, Mangali, Tokas and Ludas villages of Hisar district. The plants were also planted in community buildings like *anganwadis, panchaytghar* and temple. On this occasion, lecture was delivered on climate change and the women were motivated to plant trees to mitigate the effect of climate change.



**Rally on Plastic Free India (9.2.2020)**: A rally was organized to create awareness among rural masses of Siswal village about harmful effect of plastic and single use plastic ban. School students, village women, youth, anganwadi workers and panchayat members participated in the rally.

**Handicraft Exhibition (15.2.2020 and 8.3.2021)**: Exhibition of traditional and contemporary handicrafts of rural areas was organized in village Seeswal and Neoli Kalan of Hisar district. Smt. Jyoti Bainda, Chairperson Haryana State Commission For Protection of Child Rights and Professor Samar Singh, Vice Chancellor, CCSHAU Hisar were the Chief Guest during 2020 and 2021, respectively.







**International Women day Celebration activities (6-8.3.2020):** Three day awareness program on women empowerment and human rights was organized in village Shahpur. About 100 women including; farm women and school students participated in the programme. Group discussions and interactive sessions were held on personal hygiene, menstrual hygiene, gender equality, women empowerment and benefits and need of healthy diet for girls. A street play was presented by college students throwing light on social evils of our society like domestic violence, child marriage, female feticide, rape and violence against women. Sports event for women and girls of the village were organized in which everyone participated with enthusiasm and prizes were given to the winners.



**Poster making competition (5.6.2020):** On the occasion of World Environment Day, online poster making completion on the theme 'Time for Nature' was organized for the students of College of Home Science. Total 72 students participated in the competition. On line certificated were given to the participants and winners of the competition.

**Webinar on Role of women in Agriculture (4.12.2020):** On the occasion of women in Agriculture Day, Webinar on role of women in Agriculture was organized. Total 250 women farmers from various districts of Haryana state attended the webinar. Vice Chancellor Prof Samar Singh was the chief guest of the webinar and he addressed the



participants on line from Committee room, College of Home Sciences, CCSHAU, Hisar.

**International Women day (8.3.2022):** The Day was celebrated in Shahpur Village of Hisar district and attended by 150 rural women. Dr. Bimla Dhanda, Dean College of Home Science was the Chief Guest. Debate competition on gender equality was organized in which rural women were the participants. A rally on gender equality for sustainable future was organized by the B.Sc final year students of the College with active participation of school girls, anganwadi workers and self help group members. The students took round of the village by carrying the placard with slogans on gender equality in Hindi.

**Tree Plantation Drive (23.8.2022).** Department of EECM organized plantation drive on 23. 8. 2022 in Mangali village of Hisar district. Total 100 plants were distributed among the villagers and sapling plantation was done in *anganwadi centres* and village schools. HOD EECM, Dr. Beena Yadav highlighted the importance of trees in our life and creating green environment in the village. Dr. Santosh Rani Assistant Scientist (AICRP) motivated the villagers for planting trees. Ph D students of the department participated actively in the drive.





**Trainings Organized for Rural Women**

| Duration | Name of training | Venue | Villages covered | Number of trainees |
|---|---|---|---|---|
| Jan. 24 to 30, 2019 | Jewellery and Bag Making | Deptt.of EECM | Patan, Tokas and Hajampur (Hisar District) | 22 SC women |
| Feb. 27 to March 2, 2019 | Value Added Milk Products | Deptt.of EECM | Kaimari and Muklan (Hisar District) | 20 Women |
| Feb. 27 to March 5, 2019 | Value Added Milk Products | Deptt.of EECM | Mangali, Ludas and Sahu (Hisar District) | 22 SC women |
| Feb. 25 to March 1, 2019 | Nursery Raising | Deptt.of EECM | Kaimri and Rawat Khera (Hisar District) | 22 SC women |
| March to April, 2019 | Uses and functioning of mobile phone | Mangali and Ludas | Mangali , and Ludas (Hisar district) | 20 Women |
| November 18 to 20, 2019 | Protray nursery as an entrepreneurial activity | Nursery, Deptt. of Forestry, CCSHAU,Hisar | Shahpur (Hisar district) | 20 Women |
| December 19 to 21, 2019 | Save environment save earth | Gawar village | Gawar village (Hisar District) | 20 Women |
| Dec.13-17, 2019 | Making of cloth bags and eco-friendly utility items | Deptt.of EECM | Kumbha, Dahima and Sulkhani (Hisar District) | 24 SC women |
| Dec.13-17, 2019 | Making of cloth bags and eco-friendly utility | Deptt.of EECM | Nangthala , Moth Rangran and Mangali | 24 SC women |

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| | items | | (Hisar District) | |
| Jan .20-23, 2020 | Promotion of medicinal plants | Gorchi village | Gorchi (Hisar District) | 30 Women |
| Jan. 20-23, 2020 | Entrepreneurial development of women through value added dairy products | Deptt.of EECM | Gangwa, Muklan and Mangali (Hisar District) | 25 Women |
| Jan. 24-31, 2020 | Making of cloth bags and eco-friendly utility items | Deptt.of EECM | Ramayan and Mangali (Hisar District) | 21 SC women |
| Feb. 17-20, 2020 | Promotion of medicinal plants | Bichpari village | Bichpari (Hisar District) | 30 Women |
| Feb. 20 -24, 2021 | Bakery as an enterprise | Deptt.of EECM | Sahu, Kumbha, ludasMangali (Hisar District) | 20 SC women |
| Feb, 22-26, 2021 | Nursery raising and processing & preservation of fruit and vegetable | Deptt.of EECM | Sahu, Kumbha and ludas (Hisar District) | 20 SC women |
| Feb. 22-26, 2021 | Nursery raising and processing & preservation of fruit and vegetable | Deptt.of EECM | Mangali and Dahima (Hisar District) | 20 SC women |
| March 1-5, 2021 | Bakery as an enterprise (SC) | Deptt.of EECM | Ramayan (Hisar District) | 20 SC women |
| May 15-19, 2021 | Malted sorghum based weaning foods | On line | Various villages of Hisar District | 20 Pregnant and lactating women |
| March 25-29,2021 | Skill development in Handicrafts | On line | Various villages of Hisar District | 25 Adolescent girls |
| May 20-23, 2021 | Malted sorghum based weaning foods | On line | Various villages of Hisar District | 20 Pregnant and lactating women |
| June 6-10, 2021 | Skill development in Handicrafts | On line | Various villages of Hisar District | 25 Adolescent girls |
| May 23-24, 2022 | Fabric surface enrichment techniques for women entrepreneur | Shanal village | Shanal village (Fatehabad District) | 20 Women |
| May 25-27, 2022 | Value added peanut products | Shanal village | Shanal village (Fatehabad District) | 20 Women |
| Feb. 11-12, 2022 | Vermi composting | Dhaani Peerawali | DhaaniPeerawali (Hisar District) | 57 Women |
| Jan 25- Feb 1, 2023 | Making of Cloth Bags | Deptt. of EECM | Mangali, Patan, Muklan, Dhandheri, Kheri (Hisar District) | 22 SC women |
| Jan. 31- Feb 4, 2023 | Making of Cloth Bags | Deptt. of EECM | Mangali, Patan, Muklan, Dhandheri (Hisar District) | 22 SC women |

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| Jan. 31- Feb, 4. 2023 | Bakery | Deptt. of EECM | Mangali, Patan, Muklan, Dhandheri (Hisar District) | 22 SC women |
| Feb 2-6, 2023 | Bakery | Deptt. of EECM | Mangali, Deva, Muklan, Dhandheri (Hisar District) | 22 SC women |

**Trainings Organized for Students**

| Duration | Name of training | Venue of training | Participants (Number) |
|---|---|---|---|
| 26.02.2020 to 6.03. 2020 | Enhancement of designing competencies with ICT tools | I.C. College of Home Science | B.Sc Final year students (32) |
| March 7 to 16, 2022 (2:00 to 4:00 pm) | Communication skills and personality development (On line) | I.C. College of Home Science | SC UG students (20) |
| March 7 to 16, 2022 (4:00 to 6:00 pm) | Communication skills and personality development (On line) | I.C. College of Home Science | SC PG students (20 ) |
| October 1 to 12, 2022 (4.00 to 6.00 pm) | Research Project Management | I.C. College of Home Science | PG students (25 ) |
| October 1 to 12, 2022 | Enhancement of Competencies of UG students on Information and Communication Technologies | I.C. College of Home Science | UG students (40 ) |
| Feb. 7 to 22, 2023 | Enhancement of Competencies of UG students on Information and Communication Technologies | I.C. College of Home Science | UG students (40 ) |
| Feb. 8 to 17, 2023 (4:00 to 6:00 pm) | Communication skills for personality development | I.C. College of Home Science | PG students (40 ) |
| Feb. 13 to 22, 2023 | Communication skills for personality development | I.C. College of Home Science | UG students (40 ) |
| Feb. 16 to 24, 2023 | Enhancement of Handicrafts Skills for Entrepreneurship development | I.C. College of Home Science | UG students (25 ) |

**Other Extension Activities Organized**

| Date | Activity | Venue | Participant |
|---|---|---|---|
| 14.9.2020 | On line Celebration of Hindi Diwas | On line | 33 PG students of the Deptt. of EECM |
| 3.12.2020 | Poster making competition on "Rural Women: Backbone of Agriculture" | On line | UG and PG student, College of Home Science |
| December 16-31, 2020 | SwachhataPakhwada | VillageLudas and Tokas | Panchayat members, school students , ICDS functionaries and rural women |
| 28.2.2021 | Rally on plastic free India | VillageNeoli Kalan | Rural Women |
| 1.10.21 to 7.10.21. | Tree plantation drive | Village Dhani Siswal, Kabrel and Bagla | 65 Rural women and children |
| 1.3.2022 to 3.3.2022. | Campaign on nutri garden | VillageRamayan | 76 school students and rural women |
| 5.3.2022 | Competition on local nutritious recipes | Village Shahpur | 44 Rural women and adolescent girls |
| 7.3.2022. | Rally on plastic free India | Village Shahpur | 70 Final Year students, 35 school students and 25 rural women |
| 9.9.2021 | Guided visit of rural women to *Rabi* Kisan Mela | CCSHAU Hisar | 90 Rural Women |
| 23.12.21 | Guided visit of rural women to Kisan Diwas celebration | CCSHAU Hisar | 150 Rural Women |
| 15.3.2022 | Guided visit of rural women to *Kharif* Kisan Mela | CCSHAU Hisar | 80 Rural Women |
| 29.3.2022 | Guided visits (2) | Department of EECM, CCSHAU Hisar | 60 trainees from Rural Self Employment Training Institute, Gangwa |
| 5.4.2022 | Feedback workshop of SC women trainees | Department of EECM, CCSHAU Hisar | 80 women from Ramayan, Dahima, Ludas, Mangali, Sahu and Kumbha villages |
| 26.5.2022 | Lecture on hygiene and sanitation | Village Dhani Peerawali | 40 students of Government High School |
| 26.8.2022 | Tree Plantation | Village Mangali | Anganwadi workers and School Students |
| 20.1.2023 | Rally on Plant Trees for Healthy Future | Village Dobhi | 74 B.Sc. (CS) Final year Students |
| 20.3.2023 | Workshop on Women Led Development | Village Balawas | 40 Rural Women |

## *ANNEXURE IV - B*

## EXTENSION ACTIVITIES OF DEPARTMENT OF FOODS AND NUTRITION

Department of Foods and Nutrition remains on the forefront for showcasing their developed technologies to rural and local masses. Department organizes 'on campus' as well as off campus trainings for rural and urban women on 'Bakery and confectionery products' in collaboration with SNIATTE and other agencies. Similar trainings are also organized for students in collaboration with office of DSW, CCSHAU and has become a regular feature.

Department regularly celebrates different national and international days, weeks and government programmes related to nutrition like World Breast Feeding Week (Aug. 1-7) and National Nutrition Month (September). During these Weeks, lectures and demonstrations are organized in different villages in collaboration with ICDS and government schools. Competitions are also organized for school/ college students as well as ICDS functionaries.

Faculty also regularly delivers radio and TV talks. Other than celebration of National/ International days, our faculty members are also involved as resource person in workshops/training programmes organized by other line departments/ colleges of Hisar and other districts of Haryana. Kisan Mela, Krishi Diwas and Flower show are annual features of CCSHAU, during these events, our Departmrnt puts up stall for display of technologies.

| Activity | Venue | Date | Beneficiaries | Organised by |
|---|---|---|---|---|
| Panel discussion on 'Nutrition, Health & Hygiene' for students of College of Home Science. | COHS | 17.09.18 | COHS students and Faculty | Department of FN during Nutrition Month |
| Lecture on 'Nutrition Education: The required soft skill' | Dept. of HDFS | 17.09.18 | Students of CCSHAU | Deptt. of HDFS |
| Skit for awareness against Food wastage | COHS | 28.09.18 | COHS students and Faculty | Department of FN during Nutrition Month |
| Poster and slogan competition 'Go further with Food' | COHS | 28.09.18 | Students of CCSHAU Hisar | Department of FN during Nutrition Month |
| Recipe Competition | COHS | 28.09.18 | ICDS field functionaries and college students | Department of FN during Nutrition Month |
| Lecture on importance of water conservation | Govt. School Village Gawar | 29.09.18 | School Children | Department of FN during Nutrition Month |
| Poster competition 'Santulit Aahar' | Govt. School Village Gawar | 01.10.18 | Govt. School students | Department of FN |
| Lecture on '*Sehat ke liye santulit aahar ka mahatav*' | Aangawari Village Gawar | 06.04.19 | Rural Women | Department of FN on World Health Day |
| '*Santulit Aahar'* –Nutritional Counselling | Village Gawar | 06.04.19 | School Children | Department of FN on World Health Day |
| PSA Growers Training Workshop in collaboration with Ag Center Louisiana State University, USA. | DHRM, CCSHAU Hisar | 27.05.19 | Farmers of Haryana | Deptt. of FN in collaboration with Deptt. of Horticulture |

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| Lecture and demonstration on Preparation of value added products from milk | PNB FTC, Sacha Khera | 12.07.19 | Rural Women | PNB FTC, Sacha Khera |
| Lecture on balanced diet, importance of hygiene during | Mangali<br>Agroha<br>Gawar<br>Muklan | 03.08.19<br>06.08.19<br>07.08.19<br>07.08.19 | Rural Women | Department of FN during World Breast Feeding Week |
| Ten days Training on 'Healthy Diet - Healthy Mind -Curbing Unhealthful Eating Habits'. | Department of FN | 21.8.19-030.9.19 | CCSHAU Students | Department of FN in collaboration with DSW, CCS HAU, Hisar |
| Awareness campaign regarding water and health, water conservation, Single Plastic use ban | Dahima | 02.09.19-17.9.19 | Rural Women | Department of FN during Nutrition Month |
| Department exhibition stall during Krishi Mela (Rabi-2019) | CCS HAU, Hisar | 11.09.19-12.09.19 | Rural Women | Department of FN |
| Role of Nutrition in the daily life of students- Balanced Diet | COHS | 25.09.19 | College Students | N.S.S. Unit Govt. College, Hisar |
| Lecture on 'Meal planning: principles, menu planning for normal individuals for different age groups and at different stages of life' | COHS | 30.10. 19 | UG students for appearing in JRF EXAM | COHS, CCS HAU, Hisar |
| Demonstration on Making of value added products from pearl millet and other cereals etc | PNB FTC, Sacha Khera | 26.12. 19 | Rural Women | PNB FTC, Sacha Khera |
| Demonstration and training to rural women on 'Value added milk products' | COHS | 23.01.20 | Rural Women | Deptt. of EECM |
| Department stall during Golden Jubilee Flower Carnival Competitions | CCS HAU, Hisar | 15.01.20-16.1.20 | Rural and urban masses | CCS HAU, Hisar |
| Department stall during Hisar Gaurav Swadeshi Mela | Old Govt. College ground, Hisar | 29.01.20-02.02.20 | Rural and urban masses | Govt. of Haryana |
| Demonstration on Processing and preservation of vegetables- 'Pickle of radish and carrot'. | PNB FTC, Sacha Khera | 07.02.20 | Rural Women | PNB FTC, Sacha Khera |
| Essay/Photo competition Theme 'COVID-19, Me and Nature: My Observations' | Online | 05.06.20 | National participation from all age groups | Department of FN organised on World Environment Day |
| Lecture on 'Food, Nutrition and Hygiene during COVID-19' | CRS University Jind | 12.06.20 | Students of CRS University Jind | Deptt. of Physical Education, CRS University Jind |

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| Online training on Diet Cal 'Adding meaning to nutritional data' | Online mode | 05.07.20 | University Students | Department of FN |
| Recipe Competition 'Innovative Nutritious Recipes for lactating women' | Department of FN | 06.08.20 | University Students | Department of FN during World Breast Feeding Week |
| Poster Making Competition on the theme 'Support Breast feeding for Healthier Planet'. | Online | 06.08.20 | School Children | Department of FN during Breast feeding week |
| Slogan writing competition on the theme 'Support Breast feeding for Healthier Planet'. | Online | 07.08.20 | University Students | Department of FN during World Breast Feeding Week |
| Recipe Competition 'Nutritious Baked Recipes' | Department of FN | 15.09.20 | University Students | Department of FN during Nutrition Month |
| Poster Competition on '*Har Jeevan Ho Poshan Se Roshan*'. | Online | 18.09.20 | School and College students | Department of FN during Nutrition Month |
| International Webinar on 'Combating Hidden Hunger- Obstacles & Intervention for sustainability' | Online | 19.09.20 | International participation | Department of FN |
| Essay writing competition on theme 'Eat Right, Bite by Bite' | Department of FN | 24.09.20 | University Students | Department of FN during Nutrition Month |
| Lecture on 'Value addition of mushroom' | NIOS, NOIDA | 12.10.20 | National participants of MOOCs Course on "Mushroom Production" | National Institute of Open Schooling (NIOS), NOIDA |
| Lecture on 'Value added products from milk' | PNB FTC, Sacha Khera | 5.02.21 | SC/ST Women group | PNB FTC, Sacha Khera |
| Lecture on topic "Role of Millets in Food Security" | CDLU, Sirsa | 15.02.21 | Students of CDLU, Sirsa | Dept. of Food Science and Technology, CDLU, Sirsa |
| Demonstration ' Baking methods and techniques' | COHS, CCS HAU, Hisar | 22.02.21 | SC/ST Women group | Department of EECM |
| Lecture on Nutritional importance of baked products | COHS, CCS HAU, Hisar | 22.02.21 | SC/ST Women group | Department of EECM |
| Demonstration on Household processing of vegetables by drying | COHS, CCS HAU, Hisar | 23.02.21 | SC/ST Women group | Department of EECM |
| Lecture on 'Importance and methods of fruit and vegetable processing' | COHS, CCS HAU, Hisar | 23.02.21 | SC/ST Women group | Deptt. of EECM |

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| Demonstration on apple and guava jam | COHS, CCS HAU, Hisar | 24.02.21 | SC/ST Women group | Department of EECM |
| Demonstration on tomato chutney | COHS, CCS HAU, Hisar | 24.02.21 | SC/ST Women group | Department of EECM |
| Webinar on 'Optical Nano Biosensor for aflatoxin detection' | Online | 21.05.21 | University students | Department of FN |
| Slogan competition | Online | 14.06.21 | College Students | Department of FN on World Blood Donor day |
| Essay competition | online | 07.06.21 | School children | Department of FN on World Food Safety Day |
| Seminar & exhibition "*Aatmnirbhar haryana aur rojgar srijan*" | GJU, HISAR | 06.09.21 | University Students | GJU, HISAR |
| Exhibition stall during Krishi Mela (Rabi) | CCS HAU, Hisar | 08.09.21-09.09.21 | Rural and urban masses | CCS HAU, Hisar |
| Mahila Mela | Tokas Patan, Hisar | 09.12.21 | School children | Tokas Patan, Hisar |
| Exhibition Stall during Geeta Jayanti Mahotsavaa | Govt. PG College ground, Hisar | 12.12.21-14.12.21 | Rural and urban masses | Govt. PG College ground, Hisar |
| Lecture on Women Empowerment | COBS | 20.12.21 | University Students | COBS, CCS HAU, Hisar |
| Exhibition Stall during Chrysanthemum Flower Show | Botanical Garden | 21.12.21-23.12.21 | Rural and urban masses | CCS HAU, Hisar |
| Lecture on Nutrient importance and dietary uses of mushroom | KVK, Sadalpur, Hisar. | 22.12.21 | Farmers | KVK, Sadalpur, Hisar |
| Exhibition Stall during celebration of Kisan Diwas | I.G. Auditorium, | 23.12.21 | Rural and urban masses | CCS HAU, Hisar |
| Exhibition Stall during State level Livestock Show | Bhiwani | 25.02.22-27.02.22 | Rural and urban masses | Bhiwani |
| Exhibition Stall during Krishi Mela (Kharif) | CCS HAU, Hisar | 15.3.22-16.3.22 | Rural and urban masses | CCS HAU, Hisar |

**Radio/ TV Talk:**

1. Dr. Sangeeta C. Sindhu participated in Panel discussion on the topic '*Ek Bharat, Shresth Bharat*' at Doordarshan Kendra Hisar. (24.01.19)
2. Dr. Varsha Rani participated in Panel Discussion on 'How to improve nutritional status of community' at Prasar Bharti, Bhartiya Prasaran Nigam, Doordarshan Kendra, Hisar. (08.08.19)
3. Dr.Veenu Sangwan delivered talk on *Mahilao v Kishorio me poshan* at AIR Hisar. (13.09.19)
4. Dr. Sangeeta C. Sindhu delivered talk on *Corona kaal mein swachchta ka mahatva* at Community Radio Station. (5.5.20)

5. Dr. Varsha Rani delivered talk on '*Corona waishvik mahamari ke doran kaisa ho uchit khanpan'* at community radio station, CCS HAU, Hisar (7.5.20)
6. Dr. Urvashi delivered talk on *COVID-19 mahamari ke samay aahar prabandhan dwara rog pratirodhak shakti badhaye* at Community Radio Station, CCS HAU, Hisar (11.05.20)
7. Dr.Veenu Sangwan delivered talk on '*Mousami Fal Sabjiya Unka Swasthya me MahattavAuur COVID 19 ke Samay Me Istemal*' at Community Radio Station, CCS HAU, Hisar. (16.05.20)
8. Dr. Varsha Rani delivered talk on '*Safal stanpan ke sujhav'* at Community Radio Station, CCS HAU. (04.08.20)
9. Dr. Varsha delivered talk on *Maa ka dudh sarvottam ahar* (telephonic) at AIR, Akashvani, Hisar. (08.08.20)
10. Dr. Varsha Rani delivered talk on *Adhunik yug ke kaamkaji mahilayen va stanpan* at Community Radio Station, CCS HAU, Hisar. (14.08.20)
11. Dr. Varsha delivered talk on *Achi sehat ke liye rasayanrahit baghbani* at Community Radio Station, CCS HAU, Hisar (11.09.20)
12. Dr. Varsha Rani delivered talk on 'Bhavi Matao ke liye Ahar Sambandhi Disha-Nirdesh' at Community Radio Station, CCS HAU, Hisar. (14.09.20)
13. Dr. Varsha Rani delivered talk on 'Benefits of exclusive breast feeding' at Manav Rachna Community Radio Station, Faridabad. (02.08.21)
14. Dr. Varsha Rani delivered talk on *'Maa ka doodh shishu ke liye sarvotam aahar*' at AIR Community Radio Station, Palwal. (03.08.21)
15. Dr. Varsha Rani delivered talk on *'Grehvatika: Khadya sureksha mein aham kadi*' at Community Radio Station, CCS HAU, Hisar. (24.12.21)
16. Dr. Varsha Rani delivered talk on *'Swyamudhmita: Rozgar ke nye ayam'* at Community Radio Station, CCS HAU, Hisar. ( 24.12.21)
17. Dr. Varsha Rani delivered talk on 'How to conserve water at household level' at Community Radio Station, CCS HAU, Hisar. (15.07.22)
18. Dr. Varsha Rani delivered talk on *'Dalon ka ankurann: Poshan bedhane ka sarvshreshthe tarika*' at Community Radio Station, CCS HAU, Hisar. (15.07.22)
19. Dr. Varsha Rani delivered talk on *'Buzurgon avem mahilaon ke liye paushtik ahar'* at AIR, Rohtak. (22.09.22)



## *ANNEXURE IV - C*

## EXTENSION ACTIVITIES OF DEPARTMENT OF FAMILY RESOURCE MANAGEMENT

The Department offers, training and workshops for women in rural and urban areas on art and craft, jewellery making, yoga, personality development, and drudgery-reducing technologies. Every year, department celebrates Consumer Day (15th March), Earth Day (22th April), International Women's Week (1-8 March) and Environment Day (5th June). Lectures, workshops, demonstrations, and training are jointly organized throughout these weeks/days in various villages. The Hausian Consumer Club, a group for consumers established by the department, hosts weekly lectures on consumer awareness and education. Faculty members often provide lectures on national and international days, and they participate as subject matter experts in workshops and training sessions held by other departments and colleges. The Department sets up stall for the demonstration of technologies during the annual events of *Krishi Mela* and *Krishi Diwas* at CCSHAU. Besides, department also exhibit work and technologies under *Swadeshi Mela*.



| Sr. No. | Events/ Trainings organized | Date | Venue |
|---|---|---|---|
| 1. | Creation-2018 | 24.10.2018 | COHS, CCSHAU, Hisar |
| 2. | Event on Karwa Choth | 26.10.2018 | COHS, CCSHAU, Hisar |
| 3. | Event on Haryana Day | 02.11.2018 | COHS, CCSHAU, Hisar |
| 4. | Celebrated Inter State Harmony Day | 27.11.2018 | COHS, CCSHAU, Hisar |
| 5. | Five days training on Eco Friendly Utility Articles | 29.03.2019-03.04.2019 | Village Mangali |
| 6. | Best out of waste utility and decorative articles | 29.03.2019 | Village Mangali |
| 7. | Decorative mud diyas | 30.03.2019 | Village Mangali |
| 8. | Wooden bead ornaments | 01.4.2019 | Village Mangali |
| 9. | Decoration of earthern diyas & hand made paper envelops | 02.04.2019 | Village Mangali |
| 10. | Decorative glass bangles | 03.04.2019 | Village Mangali |
| 11. | Training on 'Rakhi Making' | 20.8.2018 | Village Mangali |
| 12. | Training on 'Bead Jewellery Making' | 16.10.2018 to 17.10.2018 | Village Mangali |
| 13. | Consumer Day | 15.03.2019 | Village Mangali |
| 14. | World Earth Day | 22.04.2019. | COHS, CCSHAU, Hisar |
| 15. | Exhibition on 'Rakhi Making' | 09.08.2019 | COHS, CCSHAU, Hisar |
| 16. | Event on Janamashtmi Utsav | 09.08.2019 | COHS, CCSHAU, Hisar |
| 17. | Exhibition-cum-sale of hand made rakhis and jewellery prepared by women of Mangali village | 09.08.2019 | CCSHAU, Hisar |
| 18. | Declamation Contest on Guru Nanak Dev Jee on occasion of Celebration of 550$^{th}$ Birth Anniversary of Sh. Guru Nanak Dev Jee". | 02.09.2019 | COHS, CCSHAU, Hisar |
| 19. | Event on Teacher's Day | 06.09.2019 | COHS, CCSHAU, Hisar |
| 20. | Exhibition-cum-sale in deptt stall of Kisan Mela (Rabi) of eco-friendly articles prepared by women of Mangali village | 12.09.2019 | CCSHAU, Hisar |
| 21. | Awareness campaign on "Harmful effects of plastic use on Environment and its management" | 13.09.2019 | Village Dahima. |
| 22. | Event on Karwa Chauth (applying mehandi and Nail Art) | 16.10.2019 | COHS, CCSHAU, Hisar |
| 23. | Exhibition-cum-sale in Creations 2019 of eco-friendly articles prepared by women of Mangali village | 24.10.2019 | COHS, CCSHAU, Hisar |
| 24. | Exhibition-cum-sale in deptt stall in 'Startup summit' of eco-friendly articles prepared by women of Mangali village | 02.02.2020. | CCSHAU, Hisar |
| 25. | Brain storming session on gender sensitization: issues and challenges under NASF project. | 03.12.20 | COHS, CCSHAU, Hisar |
| 26. | Training and demonstration on Drudgery Reducing Technologies in Agriculture | 14.02. 2020 | Mangali village |
| 27. | Essay writing competition on "Women and Health" in Tokas village | 04.03.2020 | Village Tokas |
| 28. | Speech competition on "Women and Health" at Senior Secondary School, Shahpur | 05.03.2020 | Village Shahpur |
| 29. | Awareness program on women empowerment and human rights | 03-03-2020. | Village Shahpur |
| 30. | Celebrated International Women's week Celebration in village Shahpur | 03.03.2020 to 07-03-2020. | Village Shahpur |

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| 31. | A documentary on women empowerment was shown to school students and then slogan writing competition was organized for students of Senior Secondary School, Shahpur. | 06.03.2020 | Village Shahpur |
| 32. | Quiz competition on "Women in India" was organized in Senior Secondary School, Shahpur. | 07.03.2020 | Village Shahpur |
| 33. | World Earth Day in department of Family Resource Management. PG students made digital posters for environment conservation | 22.04.2020 | COHS, CCSHAU, Hisar |
| 34. | Competition on celebration of Environment day on by organizing poster and slogan writing competition | 05.06.2020 | COHS, CCSHAU, Hisar |
| 35. | Celebrated World Nature Conservation Day by preparing and circulating the tips to conserve the environment through media | 28.07.2020 | COHS, CCSHAU, Hisar |
| 36. | Swachhata week on 150th birth anniversary of Mahatama Gandhi and concluding function. | 02.10.2020 | CCSHAU, Hisar |
| 37. | Virtual gosthi on role of women in agriculture on the occasion of women inagriculture day | 15.10 2020 | CCSHAU, Hisar |
| 38. | Training and demonstration on Drudgery Reducing Technologies in Agriculture | 15.11.2020 | Behbalpur village |
| 39. | State level Workshop on Women entrepreneurship: Challenges ahead under NASF project | 19.2.21 | COHS, CCSHAU, Hisar |
| 40. | Lecture cum Demonstration on kitchen waste management for sustainability | 24.02.2021 | Village Budak |
| 41. | Talk on Awareness on Breast Cancer in village Nyollikalan amongst rural women | 01.03.2021 | Village Nyolikalan |
| 42. | Talk on Waste Management in village Nyollikalan amongst rural women | 02.03.2021 | Village Nyolikalan |
| 43. | Training programme on vermi-composting at Budak | 16-03-2021 | Village Budak |
| 44. | Training programme on poultry farming and animal husbandry from at Budak | 24-03-2021 to 25-03-2021 | Village Budak |
| 45. | Online trainings and Demonstration on pom-pom making | 09.04.2021 | Village Budak |
| 46. | Online trainings on Gajra making | 10.04.2021 | Village Budak |
| 47. | Online trainings on Gota-patti/gota flowers making | 13.04.2021 | Village Budak |
| 48. | Online trainings on Tissues paper making for artificial jewellery | 14.04.2021 | Village Budak |
| 49. | Online trainings on different styles and designs of artificial jewellery | 21.04.2021 | Village Budak |
| 50. | Online trainings on different types of facemask | 09.05.2021 | Village Budak |
| 51. | Online trainings on Flowers jewellery | 07.05.2021 | Village Budak |
| 52. | Online Slogan Competition" on occasion of 'International Youth Day' | 12.08.2021 | CCSHAU, Hisar |
| 53. | Online poem writing on Hindidiwas. | 14.09.2021 | COHS, CCSHAU, Hisar |
| 54. | Online debate competition on the topic online E learning v/s classroom learning | 21.09.2021 | COHS, CCSHAU, Hisar |
| 55. | Online singing competition in honor of amarsaheedRavTulaon | 23.09.2021 | CCSHAU, Hisar |
| 56. | Yoga training camp | 28.9.21 to 30.9.21 | Village Budak |
| 57. | Training programme on Food safety and Adulteration was organized in Village-Muklan | 30.9.2021 | Village Muklan |
| 58. | Cyclothon to Promote Green Comsumerism | 30.9.2021 | CCSHAU, Hisar |
| 59. | Safai abhiyan | 03.10.2021 | CCSHAU, Hisar |
| 60. | Crazy arts competition on best out of waste (online) | 10.10.2021 | CCSHAU, Hisar |
| 61. | Frisky fashion show (online) | 15.10.2021 | CCSHAU, Hisar |
| 62. | Creativity Workshop | 27.10.2021-30.10.2021 | CCSHAU, Hisar |
| 63. | Charity Drive – Neeki ki Diwar was organized | 31.10.2021 | CCSHAU, Hisar |
| 64. | Celebrated constitution day and organized online speech competition | 26.11.2021 | CCSHAU, Hisar |
| 65. | Online lecture for rural women on the topic "Dengue Fever, Symptoms. Causes and treatments". | 26.11.2021 | CCSHAU, Hisar |

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| 66. | AIDS awareness campaign for college students and organized talk lecture of Dr Bhanu Pratap Sharma, General Surgeon Agroha Medical College, Hisar | 01.12. 2021 | CCSHAU, Hisar |
| 67. | Brain storming session on gender sensitization: issues and challenges under NASF project. | 03.12.21 | CCSHAU, Hisar |
| 68. | Mahila Mela | 09.12.2021 | Village Tokas Patan |
| 69. | National webinar on 'changes in perspectives of TRE (Teaching, Research and Extension) for preparing a post-covid future in Home science. | 13-15.12.2021. | CCSHAU, Hisar |
| 70. | Mini Mela on Drudgery Reduction Technologies used in Home and Farm was organized in Budak village | 18.12.2021. | Village Budak |
| 71. | Training on "Green Consumerism towards Sustainable Development" | 21.12.2021 to 22.12.2021. | CCSHAU, Hisar |
| 72. | Gosthi on kitchen gardening under expertise of Dr. Avtar Singh, Deptt of Vegetable Science, COA, CCS HAU Hisar | 23.01.2022 | CCSHAU, Hisar |
| 73. | Poster making competition on Girl Child Day. | 25.01.2022 | CCSHAU, Hisar |
| 74. | Talk on sanitary napkin and hygiene for rural women by Dr Alka jakhar | 27.01.2022 | CCSHAU, Hisar |
| 75. | Activity on Herbal mask making & Special Clothing for breast feeding & weaning, in Peeran ki Dhani | 06.04.22 | Village Peeran ki Dhani |
| 76. | Yoga training camp for UG students | 17.5.22 to 19.5.22 | CCSHAU, Hisar |
| 77. | Motivational talk on Drugs free India | 21.05.22 | Govt, School, HAU, Hisar |
| 78. | Motivational Talk on Nutrition and Health | 21.05.22 | Village Peerawali |
| 79. | Cleanliness Campaign - Nutri Thali & Food safety | 24.5.22 | Village Kumharan ke dhani |
| 80. | Swachhta Abhiyan | 24.5.22 to 26.5.22 | Village Muklan |
| 81. | Motivational talk on Communication skills for UG students | 30.05.2022 | CCSHAU, Hisar |
| 82. | Environment Day | 05-06-2022 | CCSHAU, Hisar |
| 83. | Lecture on Personal and environmental hygiene | 18.6.22 | Peerwali Dhani |
| 84. | World Cycling Day celebrated to promote Environmental Consciousness | 03.07.2022 | CCSHAU, Hisar |
| 85. | Plantation of 300 shady and fruit trees in adopted villages under AICRP | 16.7.2022 to 18.07.2022. | |
| 86. | Speech Competition on Pros and Cons of students on social media. | 18.07.2022. | CCSHAU, Hisar |
| 87. | Workshop on Gender Sensitization of Women Political Leaders at Grass-root Level | 27.07.2022. | CCSHAU, Hisar |
| 88. | Online Gosthi for rural women on "Farm to plate, Make food safe" | 12.10.2022 | CCSHAU, Hisar |
| 89. | Expert Lecture on Income Generation | 13.10.2022 to 15.10.2022 | KVK, Ambala |
| 90. | Expert Lecture on Income Generation | 17.10.2022 to 21.10.2022 | KVK, Ambala |
| 91. | Lecture on Digital Detox: A way to Healthy Life, Induction Training programme , DHRM, CCSHAU,Hisar | 17.02.2023 | CCSHAU, Hisar |
| 92. | Lecture on Consumer information' under HAUSIAN Consumer Club, FRM, CCSHAU Hisar | 20-02-2023 | CCSHAU, Hisar |
| 93. | Lecture on "Landscaping and Kitchen gardening" | 20.02.2023 to 24.02.2023. | KVK, Ambala. |
| 94. | Lecture on 'Standardization Marks' under Hausian Consumer Club, FRM, CCSHAU Hisar | 27-02-2023 | CCSHAU, Hisar |
| 95. | lecture on MDV Chulha, Improved Hara, Improved sickle and Head load manager | 02.03.2023 | KVK, Ambala. |
| 96. | Lecture on "Drudgery Reducing Technology for Women in Agriculture" in three days training programon International Women day at Siswal Village | 04.03.2023 | Village Siswal |
| 97. | Expert lecture on Drudgery reducing technologies at Kisan Mela(CCSHAU, Hisar) | 11.03.2023 | CCSHAU Hisar |
| 98. | Celebrated "Earth Day "and organized various activities like plantation, Bird's Nests and kept Earthen water pots for birds | 20.04.2023 | CCSHAU Hisar |

| Lectures under Hausian Consumer Club, FRM, CCSHAU Hisar | | | |
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| 99. | Consumer education | 23.01.2023 | CCSHAU, Hisar |
| 100. | Consumer Protection Act | 30-01-2023 | CCSHAU, Hisar |
| 101. | Redressal mechanism | 04-02-2023 | CCSHAU, Hisar |
| 102. | Consumer rights & responsibility | 06-02-2023 | CCSHAU, Hisar |
| 103. | Laws and Legislations for consumers | 13-02-2023 | CCSHAU, Hisar |
| 104. | Consumer Problems | 04-03-2023 | CCSHAU Hisar |
| 105. | Consumer & Environment | 06-03-2023 | CCSHAU Hisar |
| 106. | Consumer organizations | 13-03-2023 | CCSHAU Hisar |
| 107. | Slogan and logo making competition | 18-03-2023 | CCSHAU Hisar |

*ANNEXURE IV - D*

## EXTENSION ACTIVITIES OF DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

| S. No. | Title | Date | Location |
|---|---|---|---|
| **Lectures** | | | |
| 1. | Importance of breast feeding | 3.8.2018 | Ludas Village |
| 2. | Infant and child care and Nutrition for Mother and Child | 7.9.2018 | Tokas Village |
| 3. | Antenatal care and breast feeding | 7.9.2018 | Tokas Village |
| 4. | How positive thinking leads to success | 12.9.2018 | Dept. of HDFS |
| 5. | Anger management | 3.11. 2018 | Sindhvi Khera Village |
| 6. | Developmentally appropriate activities for children across domains and low cost play material | 29.1.2019 | Hisar |
| 7. | Powerful problem solving techniques | 1.3.2019 | HAU, Hisar |
| 8. | Impact of Psychological Stress on Physical Health of Women | 6.4.2019 | Mangali Village, Hisar |
| 9. | Impact of psychological stress on physical health of women | 6.4.2019 | Mangali Village, Hisar |
| 10. | Importance of breast feeding | 3.8. 2019 | Mangali Village, Hisar |
| 11. | Importance of water conservation | 6.9. 2019 | Dahima village, Hisar |
| 12. | Weaning foods for infants | 7.9. 2019 | Tokas Village, Hisar |
| 13. | Importance of balanced diet | 19.9. 2019 | Mangali Village, Hisar |
| 14. | Problem solving skills – A tool for happiness | 5.10. 2019 | CCSHAU, Hisar |
| 15. | Adolescence, peers and relationships | 5.11. 2019 | CCSHAU, Hisar |
| 16. | Techniques of stress management | 20.11. 2019 | Ludas village, Hisar |
| 17. | Save environment for healthy living | 21.11.2019 | Tokas village, Hisar |
| 18. | Life skills | 08.01.2020 | GGSSS, Sindhvi Khera , Jind |
| 19. | Importance of preservation | 29.01.2020 | KVK, Pandu-Pindara, Jind |
| 20. | Selection of children's garments | 29.01.2020 | KVK, Pandu-Pindara, Jind |
| 21. | Family relationships and wellbeing | 11.11.2020 | Tokas Village |
| 22. | Ways to reduce family conflict and stress | 12.11.2020 | Arya Nagar Village |
| 23. | Prenatal care during pregnancy | 18.11.2020 | Ludas Village |
| 24. | Income generating activities for rural women | 09. 02.2020 | Village Neoli Kalan |
| 25. | Personal and environmental hygiene for rural women | 24.02.2021 | Village Neoli Kalan |
| 26. | Method of breastfeeding | 07.08.2021 | Ludas village |
| 27. | Parenting school children during COVID | 30.09.2021 | Shahpur village |
| 28. | Importance of breast feeding for mother and the child | 28.09.2021 | GCW, Hisar |
| 29. | Government schemes for women empowerment | 14.10.2021 | Ludas village |
| 30. | Importance of hygiene and sanitation, Jind | 16.10.2021 | Ikkas village |
| 31. | How to deal with misbehaving children | 26.10.2021 | Ludas village |
| 32. | Tips to lead a stress free life | 25.11.2021 | Dhani Peer Wali, Hansi |
| 33. | Constitutional provisions for gender equality | 26.11.2021 | Kharar village |
| 34. | How to improve interpersonal relationships | 01.12.2021 | Dhani Peerwali, Hansi |
| 35. | How to keep children safe from Coronavirus | 02.12.2021 | Kumharon ki Dhani, Hansi |
| 36. | How to improve psychological wellbeing | 08.12.2021 | COHS, Hisar |

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| 37. | Effective parenting during COVID19 | 09.12.202 | Tokas village |
| 38. | How to promote psychological wellbeing | 07.04.2022 | Peerwali Dhani |
| 39. | Importance of nutria gardening for psychological wellbeing | 11.02.22 | Dhani Khushal |
| 40. | Income generating activities for economic empowerment | 11.01. 2022 | Neoli Kalan village |
| **Weeks, Rallies and Interactive Sessions** | | | |
| 41. | World Breast Feeding week | 04.08.2018 | Kaimri Village |
| 42. | Rally on cleanliness | 04. 09. 2018. | Senior Secondary School , Gawar |
| 43. | Interactive session between rural women, Home Science Faculty and Director of Research, CCSHAU Hisar | 21.09.2018 | Mangali Village |
| **Weeks and Pakhwadas** | | | |
| 44. | World Breast Feeding Week | 06 .08. 2019 | Kalirawan village, Agroha |
| 45. | Swachata Pakhwada | 02.09.2019 to 17.09.2019 | Dahima village |
| **Campaigns** | | | |
| 46. | Plastic Waste Free Campaign | 25.9.19 to 27.09.2019 | Ludas, Tokas, Gangwa Village, Hisar |
| 47. | Awareness campaign for rural women on Psychological Wellbeing | 01.06. 2020 to 31.07.2021 | Online |
| 48. | Awareness campaign for rural mothers on parenting during COVID-19 | 01.06. 2020 to 31.07.2021 | Online |
| 49. | Swachta Abhiyan | 21.09.2020 to 22.09.2020 | Village Tokas |
| **Competitions and Nukkad Nataks** | | | |
| 50. | Slogan writing competition on the topic ‘Mental Health of Rural Women’ | 15.10.2020 | Online |
| 51. | Nukkad Natak on Importance of gender equality | 23. 02. 2021 | Village Neoli Kalan |
| **Workshops** | | | |
| 52. | Management of Disability in Young Children | 15-16.12.2020 | Online |
| 53. | Psychological wellbeing and reproductive health of rural women | 18.01.2021 to 22.01.2021 | Tokas and Ludas villages |
| 54. | Udyam sheel Mahilayein- Sashakt Samaj | 19.02. 2021 | Village Burak, Hisar |

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| **Days, Weeks and Pakhwadas** | | | |
| 55. | World Breast Feeding week | 01.08.2021 to 07.08.2021 | Virtual mode with rural women |
| 56. | Mahila Kisan Divas | 14.10.2021 | Ludas village |
| 57. | Constitution day | 26.11.2021 | Government High School, Kharar |
| 58. | International Women's Day | 08.03.2022 | Shahpur village |
| **Nukkad Natak and Rallies** | | | |
| 59. | Nukkad Natak on gender related issue- Importance of gender equality and traffic rules | | Burak village |
| 60. | Rally on gender equality for stable future | 08.03.2022 | Shahpur village |
| **Workshops** | | | |
| 61. | Management of Disability in Young Children | 03.12. 2021 | Online |

*ANNEXURE IV - E*

## EXTENSION ACTIVITIES OF DEPARTMENT OF TEXTILE AND APPAREL DESIGNING

**All the faculty members actively participated in:**

Organizing Kisan Mela
Organizing Krishi Mela
Organizing Kisan Diwas
Imparting trainings to Rural/ Urban Women
Celebration of Swatchata Pakhwada under Swatch Bharat Abhiyaan
Delivering Radio talks

| S. No. | Title | Date | Location |
|---|---|---|---|
| **Lecture cum Demonstrations** | | | |
| 1. | UV Protective Clothing | October 15, 2019 | Gawar, Hisar |
| 2. | Cutting and Stitching of Plazoo | August 28, 2019 | Shamsukh, Hisar |
| 3. | Cutting and stitching of cotton picking bag | October 16, 2019 | Gawar, Hisar |
| 4. | Cutting and stitching of Apron using Paper Pattern Technique | October 16, 2019 | Gawar, Hisar |
| 5. | Cutting and Stitching of cotton picking bag using paper pattern technique | October 16, 2019 | Gawar,Hisar |
| 6. | Use of pick bag technology for drudgery reduction | October 18, 2019 | Gawar, Hisar |
| 7. | Clothes and wellness | October 04, 2019 | COHS, CCS HAU, Hisar |
| 8. | Drafting, cutting and stitching of *dhoti salwar* | July 24-25, 2019 | Fazilpur, Hisar |
| 9. | Sindhi embroidery | September 18-19, 2019 | Fauji Colony, Hisar |
| 10. | Designer sleeves women | September 26-27, 2019 | Jagdishpur, Sonipat |
| 11 | Alteration of readymade women wear | October 3-4, 2019 | Baiyanpur |
| | Fabric embellishment techniques | October 24-25, 2019 | Sevli |
| 12. | Cutting, Tailoring and soft toy making | December 2-6, 2019 | KVK Sonipat |
| 13. | Thumb socks | December 12-13, 2019 | Raipur, Hisar |
| 14. | Paper patterns: User friendly technology | September 16, 2019 | Jagdishpur, Sonipat |
| 15. | Care and maintenance of cotton clothes | July 19, 2019 | Asawarpur, Sonipat |
| 16. | Cutting and stitching of curtains with loops | August 16, 2019 | Kabirpur, Sonipat |
| 17. | Cutting and stitching of patch pockets | August 28, 2019 | Tara Nagar, Sonipat |
| 18. | Fabric defects detection at household level | September 11, 2019 | Lajpat Nagar, Sonipat |
| 19. | Cutting and stitching of laundry bag | September 11, 2019 | Lajpat Nagar, Hisar |
| 20. | Designer necklines | December 27, 2019 | Fazilpur, Hisar |
| 21. | Drudgery reducing functional clothing at household and field level | December 7, 2019 | Jiwan Nagar, Sonipat |
| 22. | Protective clothing for combating health hazards during pesticide application | October 18, 2019 | Gawar, Hisar |
| 23. | Drafting, cutting and stitching of protective clothing and accessories | October 19, 2019 | Gawar, Hisar |
| 24. | Cutting and Stitching of jute bags | December 13, 2019 | Department of EECM, CCS HAU, Hisar |
| 25. | Stencil printing | June 1, 2020 | Barwasni, Sonipat |
| 26. | Basic machine stitches | September 22, 2019 | Jiwan Nagar, Sonipat |
| 27. | Crochet knitting | January 3-4, 2020 | Jagdishpur, Sonipat |
| 28. | "U" pin knitting | January 20-21, 2020 | Tara Nagar, Sonipat |
| 29. | Face masks | May 21-22, 2020 | Lajpat Nagar, Sonipat |

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| 30. | Hand bags | June 15-16, 2020 | Sevli, Sonipat |
| 31. | Drafting of different designs of kurtas | January 18, 2020 | SNIATTE,CCS HAU, Hisar |
| 32. | Cutting of different designs of *kurta* | January 18, 2020 | SNIATTE, CCS HAU, Hisar |
| 33. | Drafting of different designs of *kurta* | February 12, 2020 | SNIATTE, CCS HAU, Hisar |
| 34. | Cutting of different designs of *kurta* | February 12, 2020 | SNIATTE, CCS HAU, Hisar |
| 35. | Drafting and cutting of different *salwar* | February 18, 2020 | SNIATTE, CCS HAU, Hisar |
| 36. | Drafting, cutting and stitching of blouse | February 18, 2020 | SNIATTE, CCS HAU, Hisar |
| 37. | Cutting and stitching of different designs of *Kurta* | January 01, 2020 | SNIATTE, CCS HAU, Hisar |
| 38. | Different type of embellishment technique | January 20, 2020 | SNIATTE, CCS HAU, Hisar |
| 39. | Cutting and stitching of different designs of *Kurta* | February 12, 2020 | SNIATTE, CCS HAU, Hisar |
| 40. | Different type of blouses | February 14, 2020 | SNIATTE, CCS HAU, Hisar |
| 41. | Drafting and cutting of tulip *salwar* | February 18, 2020 | SNIATTE, CCS HAU, Hisar |
| 42. | Different Embellishment techniques | February 21, 2020 | SNIATTE, CCS HAU, Hisar |
| 43. | Drafting and cutting of tulip and *dhoti salwar* | March 16, 2020 | SNIATTE, CCS HAU, Hisar |
| 44. | Drafting of baby garments | March 17, 2020 | SNIATTE, CCSHAU, Hisar |
| 45. | Stitching of baby garments | March 19, 2020 | SNIATTE, CCS HAU, Hisar |
| 46. | Preparation of face masks | August 29, 2020 | Shyamsukh, Hisar |
| 47. | Use of paper patterns for garment construction | February 09, 2020 | SNIATTE, CCS HAU, Hisar |
| 48. | Drudgery reducing functional clothing at household and field level | September 12, 2020 | Jiwan Nagar, Sonipat |
| 49. | Protective garments for mitigating health hazards | September 10, 2019 | Dahima, Hisar |
| 50. | Proper clothing for humid and rainy environment | September 3, 2019 | Dahima, Hisar |
| 51. | Replacing plastic bags with cotton/ jute bags | September 10, 2019 | Dahima, Hisar |
| 52. | Tie and Dye | January 28, 2021 | SNIATTE, CCS HAU, Hisar |
| 53. | Embroidery and surface enrichment techniques and demonstration of digital embroidery | February 08-12, 2021 | SSNIATTE, CCS HAU, Hisar |
| 54. | Tie and Dye | February 08-12, 2021 | SNIATTE, CCS HAU, Hisar |
| 55. | Embroidery and surface enrichment techniques and demonstration of digital embroidery | February 08-12, 2021 | SNIATTE, CCS HAU, Hisar |
| 56. | Detection of fabric defects | May 24, 2021 | Asawarpur, Sonipat |
| 57. | Cot bag cutting and stitching | March 8, 2021 | KVK, Sonipat |
| 58. | Special clothing for breast feeding and weaning | March 25, 2021 | Dhani Kumharan, Hisar |
| 59. | Psychological aspects of clothing | April 7, 2021 | Peerwali Dhani, Hisar |

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| 60. | Herbal finished garments for infants | October 14, 2021 | Ludas, Hisar |
| 61. | Herbal finished mask making | March 25, 2021 | Raju ki Dhani, Hisar |
| 26. | Herbal finished mask making | March 26, 2021 | Dhani Khushal, Hisar |
| 63. | Herbal finished mask making | April 7, 2021 | Peerwali Dhani, Hisar |
| 64. | Psychological aspects of clothing | March 26, 2021 | Raju ki Dhani, Hisar |
| 65. | Paper patterns– user friendly technology | July 23, 2021 | Jagdishpur, Sonipat |
| 66. | Care and maintenance of delicate clothes | July 28, 2021 | Asawarpur, Sonipat |
| 67. | Functional clothing | August 16, 2021 | KVK, Sonipat |
| 68. | Drudgery reducing cutting & stitching tools | September 15, 2021 | KVK, Sonipat |
| 69. | Care and maintenance of sewing machine | October 16, 2021 | KVK, Sonipat |
| 70. | Detection of fabric defects at household level | December 17, 2021 | Asawarpur, Sonipat |
| 71. | Cutting and stitching of pick bag | May 30, 2021 | Jagdishpur, Sonipat |
| 72. | Tie and Dye | January 28, 2021 | SNIATTE, CCS HAU, Hisar |
| 73. | Embroidery and surface enrichment techniques and demonstration of digital embroidery | February 08-12, 2021 | SSNIATTE, CCS HAU, Hisar |
| 74. | Tie and Dye | February 08-12, 2021 | SNIATTE, CCS HAU, Hisar |
| 75. | Embroidery and surface enrichment techniques and demonstration of digital embroidery | February 08-12, 2021 | SNIATTE, CCS HAU, Hisar |
| 76. | Detection of fabric defects | May 24, 2021 | Asawarpur, Sonipat |
| 77. | Cot bag cutting and stitching | March 8, 2021 | KVK |
| 78. | Hand embroidery techniques and appliqué work to Unemployed Women | July 29, 2021 | SNIATTE, CCS HAU, Hisar |
| 79. | Use of paper patterns for garment construction | November 17, 2021 | SNIATTE, CCS HAU, Hisar |
| 80. | Use of paper patterns for garment construction | November 17, 2021 | SNIATTE, CCS HAU, Hisar |
| 81. | Use of paper patterns for garment construction | November 24, 2021 | SNIATTE, CCS HAU, Hisar |
| 82. | Different aspects of blouse making | November 24, 2021 | SNIATTE, CCS HAU, Hisar |
| 83. | Use of paper patterns for garment construction | December 01, 2021 | SNIATTE, CCS HAU, Hisar |
| 84. | Different aspects of blouse making | December 01, 2021 | SNIATTE, CCS HAU, Hisar |
| 85. | Taking body measurements for cutting clothes | November 30 to December 04, 2021 | SNIATTE, CCS HAU |
| 86. | Embroidery and surface enrichment techniques. | November 30 to December 04, 2021 | SNIATTE, CCS HAU |
| 87. | Tie and Dye | November 30 to December 04, 2021 | SNIATTE, CCS HAU, Hisar |
| 88. | Taking body measurements for cutting clothes | November 16 to December 22, 2021 | SNIATTE, CCS HAU, Hisar |
| 89. | Embroidery and surface enrichment techniques. | November 16 to December 22, 2021 | SNIATTE, CCS HAU, Hisar |
| 90. | Tie and Dye | November 16 to December 22, 2021 | SNIATTE, CCS HAU, Hisar |
| 91. | Taking body measurements for cutting clothes | November 23-29, 2021 | SNIATTE, CCS HAU, Hisar |

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| 92. | Embroidery and surface enrichment techniques | November 23-29, 2021 | SNIATTE, CCS HAU, Hisar |
| 93. | Tie and Dye | November 23-29, 2021 | SNIATTE, CCS HAU, Hisar |
| 94. | Taking body measurements for cutting clothes, | November 23-25, 2021 | SNIATTE, CCS HAU, Hisar |
| 95. | Importance of surface enrichment techniques | July 26-30, 2021 | SNIATTE, CCS HAU, Hisar |
| 96. | Operation guidelines of sewing machine | July 26-30, 2021 | SNIATTE, CCS HAU, Hisar |
| 97. | Use of paper patterns for entrepreneurial activity | January 28, 2022 | SNIATTE, CCS HAU, Hisar |
| 98. | Protective clothing for farm workers and animal husbandry workers | February 04, 2022 | SNIATTE, CCS HAU, Hisar |
| 99. | Fabric embellishment techniques | May 20-21, 2022 | Department of TAD, COHS, CCS HAU, Hisar |
| 100. | Different fabric embellishment techniques | May 23-24, 2022 | Department of EECM, CCS HAU, Hisar |
| 101. | Different aspects of plazzo construction | August 16-22, 2021 | SNIATTE, CCS HAU, Hisar |
| 102. | Different aspects of plazzo construction | November 30 – December 16,2021 | SNIATTE, CCS HAU, Hisar |
| 103. | Different aspects of plazzo construction | November 23- 29, 2021 | SNIATTE, CCS HAU, Hisar |
| 104. | Different aspects of plazzo construction | November 23- 29, 2021 | SNIATTE, CCS HAU, Hisar |
| 105. | Drafting and cutting of suit and salwar | July 26-30,2021 | SNIATTE, CCS HAU, Hisar |
| 106. | Fabric defects detection at household level | August 18, 2021 | Jagdishpur, Sonipat |
| 107. | Shopping bags | September 13, 2021 | KVK, Sonipat |
| 108. | Paper-patterns – user friendly technology | May 20, 2021 | Jagdishpur, Sonipat |
| **Vocational Trainings** | | | |
| 1. | Canvas embroidery | July 15-17, 2020 | Tara Nagar, Sonipat |
| 2. | Sindhi embroidery salwar | July 24-26, 2020 | Kabirpur, Sonipat |
| 3. | Designer sleeves | July 22-24, 2020 | Fazilpur, Sonipat |
| 4. | Cutting and stitching of dhoti | September 08, 2020 | Fauji Colony, Hisar |
| 5. | Thumb socks | December 19-22, 2020 | Raipur, Hisar |
| 6. | "U" Pin Knitting | January 27-28, 2021 | Baiyanpur, Sonipat |
| 7. | Crochet knitting | January 29-30, 2021 | Jagdishpur, Sonipat |
| 8. | Fabric embellishment techniques | February 8-12, 2021 | KVK, Sonipat |
| 9. | Cutting, Tailoring and soft toy making | February 19-23, 2021 | KVK, Sonipat |
| 10. | Face mask | March 6-7, 2021 | Jiwan Nagar, Sonipat |
| 11. | Alterations of ready made garments | April 20-22, 2021 | Aadarsh Nagar, Sonipat |
| 12. | Shopping bags | May 5-7, 2021 | Fazilpur, Sonipat |
| 13. | Types of seams | June 3-5, 2021 | Baiyanpur, Sonipat |
| 14. | Collar necklines | June 11-14, 2021 | Jagdishpur, Sonipat |
| 15. | Plazzo pants | March 17, 2021 | Raipur, Hisar |
| 16. | Laundry bag | March 20, 2021 | Patel Nagar, Hisar |
| 17. | Designer necklines | March 22, 2021 | Barwasni, Sonipat |
| 18. | Washing of pure cottons | April 23, 2021 | Patel Nagar, Hisar |
| 19. | Cutting, Stitching and Fabric Embellishment | September 20-24, 2021 | KVK, Sonipat |

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| **Method Demonstrations** | | | |
| 1. | Care and maintenance of delicate clothes n | July 19, 2020 | Asawarpur, Sonipat |
| 2. | Cutting and stitching of curtains with loops | August 16, 2020 | Kabirpur, Sonipat |
| 3. | Cutting and stitching of patch pockets | August 28, 2020 | Tara Nagar, Sonipat |
| 4. | Fabric defects detection at household level | September 11, 2020 | Lajpat Nagar, Jind |
| 5. | Designer necklines | December 27, 2020 | Fazilpur, Sonipat |
| 6. | Basic machine stitches | January 22, 2020 | Jiwan Nagar, Sonipat |
| **Extension Lectures** | | | |
| 1. | *Dhatri maataon ke vastra* | August 07, 2021 | Ludas, Hisar |
| 2. | Benefits of herbal treatment of clothes | September 30, 2021 | Shahpur, Hisar |
| 3. | Special clothing for breastfeeding and weaning | April 6, 2021 | Dhani Peerwali, Hisar |
| 4. | Special clothing for breastfeeding and weaning | March 23, 2021 | Dhani Kumharan, Hisar |
| 5. | Special clothing for breastfeeding and weaning | March 26, 2021 | Raju ki Dhani, Hisar |
| 6. | Special clothing for breastfeeding and weaning | March 25, 2021 | Dhani Kumharan, Hisar |
| 7. | Psychological aspects of clothing | April 7, 2021 | Peerwali Dhani, Hisar |
| 8. | *Shishuon ke roganurodhak vastra* | October 14, 2021 | Ludas, Hisar |
| 9. | Herbal mask making | March 25, 2021 | Raju ki Dhani, Hisar |
| 10. | Herbal mask making | March 26, 2021 | Dhani Khushal, Hisar |
| 11. | Herbal mask making | April 7, 2021 | Peerwali Dhani, Hisar |
| 12. | Psychological aspects of clothing | March 26, 2021 | Raju ki Dhani, Hisar |
| 13. | Paper patterns– user friendly technology | July 23, 2021 | Jagdishpur, Sonipat |
| 14. | Care and maintenance of delicate clothes | July 28, 2021 | Asawarpur, Sonipat |
| 15. | Functional clothing | August 16, 2021 | KVK, Sonipat |
| 16. | Drudgery reducing cutting & stitching tools | September 15, 2021 | KVK, Sonipat |
| 17. | Care and maintenance of sewing machine | October 16, 2021 | KVK, Sonipat |
| 18. | Detection of fabric defects at household level | December 17, 2021 | Asawarpur, Sonipat |
| 19. | Cutting and stitching of pick bag | May 30, 2021 | Jagdishpur, sonipat |
| **Radio Talk** | | | |
| 1. | *Kaise hon stanpan karwane wali maataon ke vastra* | August 05, 2021 | Community Radio Station, CCSHAU, Hisar- 91.2 MHz. |
| **Skill Development Trainings** | | | |
| 1. | Layered face masks | July 03, 2021 | Asawarpur, Sonipat |
| 2. | Sindhi embroidery | July 15-17, 2021 | Jagdishpur, Sonipat |
| 3. | Sindhi and mirror work | August 4-6, 2021 | Khewra, Sonipat |
| 4. | Paper patterns of functional clothing | August17-19, 2021 | Majra, Sonipat |
| 5. | One piece *jhabla* | September 08-10, 2021 | KVK, Sonipat |
| 6. | Cutting and stitching of diapers | September 25-26, 2021 | KVK, Sonipat |
| 7. | Designer *durrie* | June 04-06, 2021 | Khewra, Sonipat |
| 8. | Dhoti salwar KVK | November 15-17, 2021 | KVK, Sonipat |
| 9. | Utilization of discarded leggings | November 22-24, 2021 | KVK, Sonipat |
| 10. | Trimmings and tassels | December 01-03, 2021 | KVK, Sonipat |

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**Trainings/ Demonstrations Organized**

# *ANNEXURE V-X*

# Self Study Report of the Programmes

*ANNEXURE V*

## COURSES OFFERED FOR B. SC. (HONS.) COMMUNITY SCIENCE

### *ANNEXURE V - A*

### COURSES OF EXTENSION EDUCATION AND COMMUNICATION MANAGEMENT

| Course No. | Course Title | Credits | Semester |
|---|---|---|---|
| **HECM 101** | Extension and Rural Development | 2 (2+0) | I |
| **HECM 102** | Women in Agriculture | 2 (2+0) | II |
| **HECM 103** | Diffusion and Adoption of Homestead Technologies | 3 (2+1) | II |
| **HECM 201/ HDFS 201** | Communication Skills and Personality Development (To be taught jointly by HDFS and EECM) | 3 (2+1) | III |
| **HECM 202** | Extension Training Management | 3 (2+1) | III |
| **HECM 203** | Communication and Instructional Technology | 4 (2+2) | IV |
| **HECM 301** | Programme Development for Rural Families | 3 (1+2) | V |
| **HECM 302** | Introduction to Mass Communication and Journalism | 3 (2+1) | VI |
| | **Total Credits** | **23 (15+8)** | |
| **MODULE IV** | Experiential Learning in Print and Electronic Media Production | 20 (0+20) | VII |
| | **Grand Total** | **43 (15+28)** | |

## *ANNEXURE V -B*

## COURSES OF FOODS AND NUTRITION

| Course No. | Course Title | Credits | Semester |
|---|---|---|---|
| **FN 101** | Principles of Human Nutrition | 3(3+0) | I |
| **FN 102** | Food Science and Processing | 3(2+1) | II |
| **FN 201** | Community Nutrition and Education | 3(2+1) | III |
| **FN 202** | Food Hygiene and Sanitation | 2(2+0) | III |
| **FN 203** | Normal and Therapeutic Nutrition | 3(2+1) | IV |
| **FN 301** | Food Standards and Quality Control | 3(2+1) | V |
| **FN 302** | Clinical Nutrition and Dietetics | 3(2+1) | VI |
| **FN 303** | Bakery and Confectionary | 3(2+1) | VI |
| | **Total Credits** | **23 (17+6)** | |
| **MODULE I** | Experiential Learning in Bakery and Confectionery | 20 (0+20) | VII |
| | **Total Credits** | **43 (17+26)** | |

## *ANNEXURE V - C*

## COURSES OF FAMILY RESOURCE MANAGEMENT

| Course No. | Course Title | Credits | Semester |
|---|---|---|---|
| **FRM 101** | Management of Family Resources | 2 (1+1) | I |
| **FRM 102** | Fundamentals of Interior Decoration | 3 (2+1) | II |
| **FRM 201** | Financial Management and Consumer Education | 2 (2+0) | III |
| **FRM 202** | Ergonomics and Appropriate Technologies | 2 (1+1) | III |
| **FRM 203** | Housing and Space Management | 3 (2+1) | IV |
| **FRM 204** | Tourism and Hospitality Management | 3 (2+1) | IV |
| **FRM 301** | Residential and Commercial Space Design | 3 (2+1) | V |
| **FRM 302** | Entrepreneurship Development and Business Management | 3 (2+1) | VI |
| | **Total Credits** | **21 (14+7)** | |
| **MODULE II** | Skill Development in Event Management | 20 (0+20) | VII |
| | **Grand Total** | **41 (14+27)** | |

## *ANNEXURE V - D*

## COURSES OF HUMAN DEVELOPMENT AND FAMILY STUDIES

| Course No. | Course Title | Credits | Semester |
|---|---|---|---|
| **HDFS 101** | Fundamentals of Human Development | 2 (2+0) | I |
| **HDFS 102** | Life-Span Development –I | 3 (2+1) | I |
| **HDFS 103** | Life-Span Development –II | 2 (1+1) | II |
| **HDFS 201/ HECM 201** | Communication Skills and Personality Development (To be taught jointly by HDFS and EECM) | 3 (2+1) | III |
| **HDFS 202** | Philosophy of Early Childhood Education | 3 (3+0) | IV |
| **HDFS 203** | Educational Psychology and Early Childhood Education | 3 (2+1) | IV |
| **HDFS 301** | Marriage and Family Dynamics | 3 (2+1) | V |
| **HDFS 302** | Developmental Challenges in Children | 3 (2+1) | V |
| **HDFS 303** | Family Counseling and Community Welfare | 3 (2+1) | VI |
| | **Total Credits** | **25 (18+7)** | |
| **MODULE III** | Skill Development in Early Childhood Education and Management | 20 (0+20) | VII |
| | **Grand Total** | **45 (18+27)** | |

## *ANNEXURE V - E*

## COURSES OF AND TEXTILE AND APPAREL DESIGNING

| Course No. | Course Title | Credits | Semester |
|---|---|---|---|
| **TAD 101** | Fundamentals of Clothing Construction | 3 (1+2) | I |
| **TAD 102** | Fundamentals of Fabric Construction | 3 (2+1) | II |
| **TAD 201** | Textile Science and Fabric Care | 3 (2+1) | III |
| **TAD 202** | Textile Finishes | 2 (1+1) | IV |
| **TAD 301** | Principles of Dyeing and Printing | 3 (2+1) | V |
| **TAD 302** | Computer Aided Textile and Apparel Designing | 3 (1+2) | V |
| **TAD 303** | Apparel and Accessory Designing | 3 (1+2) | VI |
| **TAD 304** | Traditional Textiles of India | 3 (2+1) | VI |
| | **Total Credits** | **23 (12+11)** | |
| **MODULE V** | Experiential Learning in Product Design: Digital Embroidered Home Furnishings | 20 (0+20) | VII |
| | **Grand Total** | **43 (12+31)** | |

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| **HECM 491/ FN 491/ FRM 491/ HDFS 491/ TAD 491** | Rural Agricultural Work Experience and Industrial Attachment in Community Science **(To be conducted jointly by EECM, FN, FRM, HDFS and TAD)** | 20 | SEM VIII |

*ANNEXURE VI*

## *ANNEXURE VI - A*

## COURSES OFFERED FOR M.SC. AND Ph. D. PROGRAMMES

| Course No. | Course Title | Credits | SEM |
|---|---|---|---|
| **M.Sc.** | | | |
| HECM 501 | Global Extension Systems | 3(3+0) | I |
| HECM 502 | Training and Human Resource Development | 3(2+1) | I |
| HECM 503 | Communication for Development | 3(2+1) | II |
| HECM 504 | Media Production and Management | 4(2+2) | I |
| HECM 505 | Participatory Programme Management | 3(1+2) | II |
| HECM 506 | Gender Sensitization for Empowerment | 2(2+0) | I |
| HECM 507 | Extension Management | 3(3+0) | I |
| HECM 508 | Research Methods in Home Science | 3(2+1) | II |
| HECM 509 | Scientific Writing and Reporting for Media | 3(1+2) | II |
| HECM 510 | Educational Technology | 3(2+1) | II |
| HECM 511 | ICT and Media | 2(0+2) | II |
| HECM 591 | Master's Seminar | 1(1+0) | I, II |
| HECM 599 | Master's Research | 20 | I, II |
| **Ph.D.** | | | |
| HECM 601 | Recent Trends in Extension and Communication | 3(3+0) | I |
| HECM 602 | Managerial Skills for Extension Professionals | 3(3+0) | II |
| HECM 603 | Advanced Media Management | 3(1+2) | II |
| HECM 604 | Research Project Management | 3(2+1) | I |
| HECM 605 | Advanced Research Techniques and Measurement | 4(2+2) | II |
| HECM 606 | Monitoring, Evaluation and Impact Assessment | 3(3+0) | II |
| HECM 607 | Advertising and Marketing Communication | 2(1+1) | I |
| HECM 691 | Doctoral Seminar I | 1(1+0) | I, II |
| HECM 692 | Doctoral Semianr II | 1(1+0) | I, II |
| HECM 699 | Doctoral Research | 45 | I, II |

## *ANNEXURE VI -B*

## DETAILS OF M.SC. STUDENTS

## FROM 2ND SEMESTER 2018-19 TO 1ST SEMESTER 2022-23

| Sr. No. | Name of student | Admn. No. | Title of thesis | Major advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| 1. | Ms. Meena Kumari | 2015HS06M | Impact of communication sources on purchase behavior of women for household products | Dr. Rita Goel |
| 2. | Ms. Monika Sharma | 2016HS01M | Knowledge, Participation and Attitude about Swachh Bharat Mission in Rural Hisar | Dr. Vandana Verma |
| 3. | Ms. Manisha Ohlan | 2016HS02M | Awareness and Utilization of Cash Less System in Hisar District | Dr. Ella Rani |
| 4. | Ms. Seema Chauhan | 2016HS03M | Inter Gender Study on Knowledge and Performance of Panchayat Members | Dr. Beena Yadav |
| 5. | Ms. Sushmita | 2016HS04M | Impact of Media in Promoting Organic Farming among Farm Families | Dr. Rita Goel |
| 6. | Ms. Naaz Bano | 2017HS01M | Awareness and Utilization Pattern of Information and Communication Technologies (Icts) by Teachers and Students of CCS HAU, Hisar | Dr. Seema Rani |
| 7. | Ms. Shatakshi | 2017HS02M | Impact Assessment of Goods and Services Tax (GST) on Shopkeepers | Dr. Ella Rani |
| 8. | Ms. Shikha | 2017HS03M | Impact of Beauty Culture Trainings on Beneficiaries under Pradhan Mantri Kaushal Vikas Yojna | Dr. Ella Rani |
| 9. | Ms. Diksha | 2017HS04M | Gender Differentials among Urban Households in Socio-Economic Perspective | Dr. Sushma Kaushik |
| 10. | Ms. Darshna | 2017HS05M | Knowledge and Attitude of Urban Consumers on Goods and Services Tax | Dr. Vandana Verma |
| 11. | Ms. Sanyogita | 2017HS06M | Perceived Impact of Social Media on Higher Secondary School Students | Dr. Poonam Kundu |
| 12. | Ms. Pooja Rani | 2017HS07M | Impact of Embroidery and Tailoring Trainings Under Pradhan Mantri Kaushal Vikas Yojana | Dr. Vandana Verma |
| 13. | Ms. Jyoti | 2017HS08M | Study on Menstrual Hygiene Practice among Rural Adolescent Girls | Dr. Manju Dahiya |
| 14. | Ms. Anju | 2017HS09M | Gender Differentials among Rural Households in Socio-Economic Perspective | Dr. Rajesh Dahiya |
| 15. | Ms. Anju | 2018HS01M | Impact of RKVY Project on Livelihood and Food Security of BPL Rural Families through Diversified Agriculture Activities. | Dr. Rajesh Dahiya |
| 16. | Ms. Bharti | 2018HS02M | Impact of RKVY Project on Empowerment of Rural Women through Value-Addition and Post Harvest Interventions | Dr. Rajesh Dahiya |

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| 17. | Ms. Ekta | 2018HS03M | Assessment of Livelihood Status and Social Mobility among Scheduled Caste Families in Hisar District. | Dr. Sushma Kaushik |
| 18. | Ms. Khushbu | 2018HS04M | Assessment of Integrated Farming System in Haryana | Dr. Kanta Sabharwal |
| 19. | Ms. Mini | 2018BS05M | Impact Assessment of Janani Surkasha Yojana among Slum Women of Hisar District | Dr. Poonam Kundu |
| 20. | Ms. Radha Kaushisk | 2018HS06M | Impact Assessment of Central Sector Scheme-Promotion of Agricultural Mechanization For in-Situ Management of Crop Residue in Haryana | Dr. Kanta Sabharwal |
| 21. | Ms. Chanchal Payal | 2019HS01M | Acceptability of Malted Sorghum (*Jowar*) Based Weaning Foods | Dr. Ella Rani |
| 22. | Ms. Monika Yadav | 2019HS02M | Inter Gender Knowledge and Voting Behaviour of Rural Youth for Gram Panchayat | Dr. Beena Yadav |
| 23. | Ms. Raveena | 2019HS03M | Entrepreneurship Competencies among Students of Project Based Learning in CCS HAU, Hisar | Dr. Seema Rani |
| 24. | Ms. Ritu Kohar | 2019HS04M | Assessment of Knowledge, Attitude and Practice on Single Plastic Usage among Rural Women | Dr. Poonam Kundu |
| 25. | Ms. Sangeeta Rani | 2019HS06M | Acceptability of Economically Viable Handicraft Enterprise among Youth | Dr. Vandana Verma |
| 26. | Ms. Shivani Chaudhary | 2019HS07M | Knowledge and Attitude of Farmers towards Commercialization of Agriculture | Dr. Manju Dahiya |
| 27. | Ms. Vaishali Sindhu | 2019HS08M | Participation and Problems of Women in Vegetable Cultivation | Dr. Beena Yadav |
| 28. | Ms. Vanita | 2019HS09M | Inter-gender Knowledge and Participation in Bt Cotton Production Technology | Dr. Rajesh Dahiya |
| 29. | Ms. Kapila | 2020HS 01M | Knowledge, Skill and Usage of Internet by Under Graduate Students of College of Home Science, CCS HAU, Hisar | Dr. Beena Yadav |
| 30. | Ms. Mansi | 2020HS 02M | Content Analysis and Readers Behavior on Pandemic Covid 19 | Dr. Ella Rani |
| 31. | Ms. Pooja | 2020HS 03M | Study on Career Choices of Senior Secondary School Students | Dr. Poonam Kundu |
| 32. | Ms. Preeti | 2020HS 04M | Knowledge and Stress of Anganwadi Workers During Pandemic COVID-19 | Dr. Vandana Verma |
| 33. | Ms. Priya | 2020HS 05M | Impact of Online Education on Students Learning at Secondary School Level in Haryana | Dr. Poonam Kundu |
| 34. | Ms. Priyanka Kardam | 2020HS 06M | Cognizance, Skill and Utilization of ICT Gadgets by Rural Children of Haryana | Dr. Manju Dahiya |
| 35. | Ms. Rajni | 2020HS 07M | Competency and Attitude of Postgraduate Students toward Online Education System during COVID-19 Era. | Dr. Santosh Rani |
| 36. | Ms. Suman Preet | 2020HS 08M | Student's Perception and Preference for Online Education during COVID-19 Pandemic | Dr. Seema Rani |

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| 37. | Ms. Yashvee | 2020HS 09M | Development and Standardization of Media on Hygiene Management Practices for Girls | Dr. Ella Rani |
| **On-roll** | | | | |
| 38. | Ms. Ankita | 2021HS01M | Knowledge and Adaptation Pattern Regarding Climate Change by Rural Women in Haryana | Dr. Santosh Rani |
| 39. | Ms. Heena | 2021HS02M | Communication and Leadership Effectiveness of Supervisors of ICDS Scheme in Hisar District | Dr. Seema Rani |
| 40. | Ms. Jagriti Bhandari | 2021HS03M | A Comparative Study on Hygiene Management Practices among Rural Women of Haryana and Uttrakhand | Dr.VandanaVerma |
| 41. | Ms. Jyoti | 2021HS04M | Usage of Information and Communication Technologies by Extension Personnel a KVKs in Haryana | Dr. Manju Dahiya |
| 42. | Ms. Meenu | 2021HS08M | Knowledge and Usage of Information and Communication Technologies (ICT) by Research Faculty in CCS HAU, Hisar | Dr.Vandana Verma |
| 43. | Ms. Ritu | 2021HS10M | Information and Communication Technologies (ICT) for Sustainable Livelihood in Farming Community | Dr. Ella Rani |
| 44. | Ms. Sakshi Malik | 2021HS11M | Knowledge and Usage Pattern of Digital Transactions among Working Women of CCS HAU, Hisar | Dr. Santosh Rani |
| 45. | Ms. Anjali | 2022HS01M | Knowledge and Utilization of Ayushman Bharat Yojana | Dr. Santosh Rani |
| 46. | Ms. Deeksha | 2022HS02M | Knowledge, Skill and Consumption of Value-Added Pearl Millet Products among Rural Women | Dr. Manju Dahiya |
| 47. | Ms. Kanika | 2022HS03M | Knowledge and Utilization of Violence Protection Schemes by Rural Women | Dr. Poonam Kundu |
| 48. | Ms. Monika | 2022HS04M | Knowledge, Attitude and Utilization Pattern of Pradhan Mantri Matru Vandana Yojana (PMMVY) | Dr. Santosh Rani |
| 49. | Ms. Rina | 2022HS05M | Content Analysis and Readership Behaviour on Women Related Issues in Newspaper | Dr. Ella Rani |
| 50. | Ms. Sahshi | 2022HS06M | Content Analysis and Readership Behaviour on Information and Communication Technology (ICT ) Related Issues in Newspaper | Dr. Ella Rani |
| 51. | Ms. Sanju | 2022HS07M | Exploring Options for Digital Delivery of Agriculture Extension Practices | Dr. Poonam Kundu |
| 52. | Ms. Sanju | 2022HS08M | Gender Analysis of Kisan Credit Card (KCC) Scheme among Farmers | Dr. Vandana Verma |
| 53. | Ms. Ekta | 2022HS30M | To be finalized in the first semester (2023-24) | Dr. Beena Yadav |
| 54. | Ms. Neha Yadav | 2022HS31M | To be finalized in the first semester (2023-24) | Dr. Beena Yadav |

## *ANNEXURE VI - C*

## LIST OF PUBLICATIONS FROM M.SC. STUDENTS' RESEARCH (2018-23)

| Sr. No. | Details |
|---|---|
| **Books** | |
| 1. | Ohlan, M. and Rani, E. (2019). *Cash Less System in India*. Scholars' Press, Mauritius. ISBN: 978-613-8-91647: pp101. |
| 2. | Bhukal, S., Rani, E. and Verma, V. (2023). *Impact of PMKVY: Impact of Beauty Culture Trainings on Beneficiaries under Pardhan Mantri Kausal Vikash Yojna*. Scholars' Press. Dodo Books Indian Ocean Ltd. ISBN: 978-620-5-52062-8: pp 92. |
| **Book Chapters** | |
| 1. | Ohlan, M. and Rani, E. (2019). Usage pattern of cash, mobile apps and internet banking for purchasing goods and services in *Socio-Economic and Cultural Sustainability*. Asha Prakashan, Kanpur, ISBN: 978-93-81022-06-1: 75-81. |
| 2. | Seema and Yadav, B. (2019). Profile of Preceding and Existing Grass Root Level Women Representatives. *Gender Sensitization: Issue and Challenges*. Avni Publications: 61-71. |
| 3. | Kumari, R., Malik, P., Khushbu, Kaushik, R. and Rani, S. (2022). Significance of educational counseling in *Research Trends in Multidisciplinary Research*. Akinik Publications, New Delhi, 36: 77-91. ISBN: 978-93-5570-280-287. |
| 4. | Meenu and Verma, V. (2022) Use of social media in uplifting traditional craft in *Research Trends in Multidisciplinary Research*. Akinik Publictions, Volume 34: 89-101. |
| **Research Papers** | |
| 1. | Ashma, Goel, R. and Khan, M. (2018). Content analysis coverage on Swachh Bharat Mission in Hindi Newspapers. *International Journal of Education and Management Studies*, **8**(1):42-47. |
| 2. | Ashma, Goel, R. and Khan M. (2018). Responses regarding sanitation plan 'Swachh Bharat Mission' in local hindi Newspapers. *Advances in Research*, **13**(6): 1-8. |
| 3. | Nisha and Rani, S. (2018). Constraints and factors association with food processing training as perceived by scheduled caste women. *Asian Journal of Agricultural Extension, Economics & Sociology*, **22**(3)1-8. |
| 4. | Nisha and Rani, S. (2018). Impact of training on processing of milk and milk products on rural schedule caste women. *International Journal of Education & Management Studies*, 2018, **8(**4) 424-427. |
| 5. | Nisha and Rani, S. (2018). Women empowerment schemes. *International Journal of Hindi Research*, **4**(5): 53-54. |
| 6. | Ohlan, M. and Rani, E. (2018). Awareness and opinion of respondents regarding cash less system. *International Journal of Chemical Studies*, **6**(4): 422-425. |
| 7. | Ohlan, M. and Rani, E (2018). Reasons and Satisfaction Level of Using Cashless Payment Methods by Respondents. *International Journal Pure and Applied Bioscience*. **6**(3): 447-455. |
| 8. | Preeti and Kaushik, S. (2018). Inter generation viewership pattern of television. *International Journal of Chemical Studies*, **6**(4): 603-606. |
| 9. | Preeti and Kaushik, S. (2018). Mobile and internet addiction among urban respondents. *Advances in Research*, **15** (5):1. |
| 10. | Punia, A. and Kaushik, S. (2018). Assessment of health and sanitation security of rural households in Haryana. *Annals of Agri-Bio Research*, **23**(1): 111-114. |
| 11. | Punia, A. and Kaushik, S. (2018). Development of VCD for improving water practices among rural people. *Research Journal of Agricultural Sciences*, **9**(Special): 299-302. |
| 12. | Punia, A. and Kaushik, S. (2018). Livelihood capital and security of farmers: A field study in Haryana. *Quarterly Journal in Science, Agriculture & Engineering*, **8** (25): 276-281. |
| 13. | Punia, A. and Kaushik, S. (2018). Possession of livelihood assets in rural households: An economic analysis. *Indian Journal of Extension Education*, **54**(2):140-147. |

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| 14. | Ohlan, M. and Rani, E. (2019). Communication pattern for attaining information regarding cashless system. *International Journal of Current Microbiology and Applied Sciences*, **8**(6): 2718-2724. |
| 15. | Ohlan, M. and Rani, E. (2019). Constraints perceived by respondents regarding cash less system. *International Journal of Chemical Studies*, **7**(3): 4450-4452. |
| 16. | Ohlan, M. and Rani, E. (2019). Possession and utilization pattern of cashless payment methods by respondents. *International Journal of Current Microbiology and Applied Sciences*, **8**(6): 3036-3040. |
| 17. | Ohlan, M. and Rani, E. and Autade, C.D. (2019). Awareness and utilization of cash less system in Hisar district: A review. *International Journal of Chemical Studies*, **7**(6): 501-504. |
| 18. | Ohlan, M. and Rani, E. (2019). Usage pattern of cash, mobile apps and internet banking for purchasing goods and services. *Environmental & Health Sustainability*. |
| 19. | Ohlan, M., Rani, E. and Autade, C.D. (2019). A Critical Study on Effects of Demonetization on Indian Economy. *International Journal of Chemical Studies*, **7**(6): 647-652. |
| 20. | Ohlan, M., Rani, E. and Autade, C.D. (2019). Impact of cash less transactions on purchasing behaviour of respondents. *International Journal of Current Microbiology and Applied Sciences*, **8** (11): 823-829. |
| 21. | Rani, J., Dahiya, M. and Yadav, B. (2019). Reasons and causes of female feticide in Haryana. *International Journal of Applied Home Science*, **6**(4&5): 203-205. |
| 22. | Rani, J., Dahiya, M. and Yadav, B. (2019). Awareness regarding beti bachao beti padhao scheme in Rewari District. I*nternational Journal of Current Microbiology and Applied Sciences*, **8**(7): 2299-2305. |
| 23. | Semwal, S. and Rani, E. (2019). Knowledge and attitude of shopkeepers regarding Goods and Services Tax (GST). *International Journal of Education & Management Studies*, **9**(4): 232-236. |
| 24. | Anju and Dahiya, R. (2020) Educational status and decision making pattern for education across land holding category. *International Journal of Education & Management Studies*, **10**(4): 434-440. |
| 25. | Anju and Dahiya, R. (2020) Perception of rural women towards RKVY training's on livelihood security. *International Journal of Education and Management Studies*, **10**(4): 393-399. |
| 26. | Anju and Dahiya, R. (2020). Sex ratio and health status across land holding category. *The Pharma Innovation Journal*, **9**(a): 477-481. |
| 27. | Bano, N. and Rani, S. (2020). Perception of teachers and students about the utilization pattern of information and communication technologies (ICTs). *Indian Jounalof Pure and Applied Bio sciences*, **8**(6): 535-540. |
| 28. | Devi, R., Rani, E. and Yadav, M. (2020). Awareness about healthy food habits among college going girls. *The Pharma Innovation Journal*, **9**(10): 584-586. |
| 29. | Rani, J., Yadav, B. and Dahiya, M. (2020). Perceived attributes of homestead technology among rural women. *Asian Journal of Home Science*, **15** (2): 303-309. |
| 30. | Semwal, S., Rani, E. and Verma, V. (2020). Impact assessment of goods and services tax (GST) on shopkeepers. *Advances in Research*, **21**(4). |
| 31. | Semwal, S., Rani, E., Verma, V. and Malik, J. S. (2020). Perceived communication and psychological factors by shopkeepers regarding Goods and Services Tax (GST). *Indian Journal of Extension Education*, **55**(2):70-76. |
| 32. | Bano, N. and Rani, S. (2021). Competencies of the teachers and students in application of information and communication technologies (ICTS). *Indian Journal of Extension Education*, **57**(2):228-232. |
| 33. | Bano, N. and Rani, S. (2021). Extent, purpose and preference of utilization of information and communication technologies (ICTs) by the teachers and students. *Journal of Community Mobilization and Community Development*, **16**(1):517-523. |
| 34. | Bhukal, S., Rani, E. and Verma, V. (2021). Effectiveness of beauty culture trainings towards sustainable livelihood. *Journal of Extension System*, **37**(1):28-34. |
| 35. | Sanyogita, Poonam and Aman (2021). Perceived impact of social media on higher secondary school students. *International Journal of Current Microbiology and Applied Science*, **10**(03): 20. |
| 36. | Semwal, S., Rani, E. and Verma, V. (2021). Suggestions and constraints perceived by shopkeepers towards Goods and Services Tax. *Journal of Extension System*, **36**(2):51-54. |

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| 37. | Bano, N. and Rani. S. (2022). Teachers' perspectives towards ICT integration in Classrooms. *Journal of Community Mobilization and sustainable development*, **17**(1): 1-6. |
| 38. | Bhandari, J., Verma, V. and Rani, E. (2022). Role of information communication technology in empowering women of india. *International Journal of Humanities, Social Science and Management*, **2**(5): 299-303. |
| 39. | Bhukal, S., Rani, E., Verma, V. and Rani. D. (2022). Satisfaction and constraints perceived by respondents of beauty culture trainings as under *Pradhan Mantri Kaushal Vikas Yojana* (PMKVY). *International Journal of Education & Management Studies*, **12**(4): 326-330. |
| 40. | Bhukal, S., Rani, E., Verma, V., Rani. D. and Manisha (2023). Assessment of impact of beauty culture trainings on beneficiaries under Pradhan Mantri Kaushal Vikas Yojana. *The Pharma Innovation Journal*, **12**(1): 2533-2537. |
| 41. | Kaushik, R. and Sabharwal. K. (2022) Constraints faced by farmers in adoption of agricultural mechanization for *insitu* management of crop residue. *The Pharma Innovation Journal*, SP-**11**(4):108-110. |
| 42. | Khushbu and Sabharwal. K. (2022) Farmer's perception regarding integrated farming system in Haryana. *The Pharma Innovation Journal*, SP-**11**(3):1203-1205. |
| 43. | Khushbu and Sabharwal, K. (2022) Management orientation of farmers for integrated farming system. *The Pharma Innovation Journal*, SP-**11**(4):1883-1888. |
| 44. | Meenu, Verma, V. and Rani, E. (2022). A critical review: participatory rural appraisal. *International Journal of Humanities, Social Science and Management*, **2**(5): 22-26. |
| 45. | Preeti and Verma, V. (2022). Motivation an approach for employees. *International Journal of Agricultural Science*, **18**(2): 877-880. |
| 46. | Ritu, Rani, E. and Verma, V. (2022). Review on Use of ICT among Rural Areas. *International Journal of Humanities, Social Science and Management*, **2**(4): 114-118. |
| 47. | Sangeeta, Verma, V. and Rani, E. (2022). Analysis of developmental programs for women and children. *International Journal of Humanities Social Science and Management*, **2**(3): 175-179. |
| 48. | Sharma, M., Rani, E and Vandana V. (2022). Reading behavior of the newspaper readers during pandemic COVID-19. *The Pharma Innovation Journal*, **11**(11): 137-140. |
| 49. | Meenu, Verma, V. and Rani, E. (2023). A critical review of gender analysis and framework. *International Journal of Humanities, Social Science and Management*, **3**(1): 208-216. |
| 50. | Bhukal, S., Rani, E., Verma, V., Rani, D. and Manisha (2023). Assessment of impact of beauty culture trainings on beneficiaries under Pradhan Mantri Kaushal Vikas Yojana. *The Pharma Innovation Journal*, **12**(1): 2533-2537. |
| 51. | Rani, P., Verma, V. and Rana, M.K. (2023). Effects of embroidery training on Pradhan Mantri Kaushal Vikas Yojana Beneficiaries. *International Journal of Humanities, Social Science and Management*, **3**(1): 158-169. |
| 52. | Sharma, M., Rani, E., Verma, V. and Malik, J. S. (2023). Content analysis and coverage of news on pandemic COVID-19 in elected newspapers. *Indian Journal of Extension Education*, **59**(1):117-121. |
| **Papers Presented and Abstracted in Conferences/ Seminars/Workshops** | |
| 1. | Ohlan, M. and Rani, E. (2018). Role of social media in cashless economy. International conference on Women work and Occupational Health-Emerging Issues and Challenges and Policy Measures in the Unorganised Sector, Department of Home Science, Arya PG College, Panipat, March 24- 25, 2018: 97. |
| 2. | Ohlan, M. and Rani, E. (2018). Reasons and satisfaction level of using cashless payment methods by respondents. 2nd International Conference on Advances in Agricultural, Biological and Applied Sciences for Sustainable Future, Swami Vivekanand Subharti University, Meerut (U.P.) India, October 20-22, 2018: 59. |
| 3. | Anju and Dahiya, R. (2019). Gender role and participation in agriculture operations. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture, Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019: 201 |
| 4. | Bano, N. and Rani, S. (2019). Gender equality and empowerment of women through ICT. National Seminar on Innovative Strategies for Gender Equalities, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 45. |

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| 5. | Bhukal, S. and Rani, E. (2019). Women empowerment through decision making. National Seminar on Innovative Strategies for Gender Equalities, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 134. |
| 6. | Darshna, Rani, E. and Trar, V. V. (2019). Women participation in indian agriculture. National Seminar on Innovative Strategies for Gender Equalities, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 132. |
| 7. | Rani, D. and Kaushik, S. (2019). Gender and educational attainment in india. National Seminar on Innovative Strategies for Gender Equalities, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 75. |
| 8. | Ekta and Kaushik, S. (2019). Gender differential in employment. National Seminar on Innovative Strategies for Gender Equalities, y I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 203. |
| 9. | Khushboo and Sabharwal, K. (2019). Integrated farming system: Doubling the income of farm women. National Seminar on Innovative Strategies for Gender Equality, organized by I. C. College of Home Science, CCS HAU Hisar, March 8, 2019: 205. |
| 10. | Ohlan, M. and Rani, E. (2019). Possession and utilization pattern of cashless payment methods by respondents. National Seminar on Innovative Strategies for Gender Equalities, I.C. College of Home Science, CCS Haryana Agricultural University, Hisar, March 8, 2019: 1. |
| 11. | Ohlan, M. and Rani, E. (2019). Communication pattern for attaining information regarding cash less system. National Seminar on Innovative Strategies for Gender Equalities, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 3. |
| 12. | Ohlan, M. and Rani, E. (2019). Usage pattern of cash, mobile append internet banking for purchasing goods and services. International Conference on Emerging Scenario in Agri Business, Indian Institute of Plantation Management, Banglore from 21-22 March, 2019: 67 |
| 13. | Ohlan, M. and Rani, E. (2019). A critical study on effects of demonetization on indian economy. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019: 276. |
| 14. | Ohlan, M. and Rani, E. (2019). Impact of using cashless payment methods by respondents. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture, Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019: 278. |
| 15. | Ohlan, M. and Rani, E. (2019). Awareness and utilization of cash less system in hisar district: A review. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture, Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019:277. |
| 16. | Ohlan, M. and Rani, E. (2019). Socio-economic and communication profile for using cashless system by respondents. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture, Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019: 272. |
| 17. | Ohlan, M. and Rani, E. (2019).Constraints perceived by respondents regarding cash less system. National Conference on Biodiversity & Environmental Sustainability in Modern Era: 40 |
| 18. | Preeti, Kaushik, S. and Dahiya, R. (2019). Role of Women in Agricultural Biodiversity. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture, Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019:77. |
| 19. | Preeti and Kaushik, S. (2019). Intergender and intergenerational radio listening habits of respondents. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 99. |
| 20. | Rani, M., Rani, E. and Verma, V. (2019): Role of rural women in agriculture in allied sector. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 156 |
| 21. | Sanyogita and Kundu, P. (2019). Female Work Participation in Indian Agriculture. National Seminar on Innovative Strategies for Gender Equality. I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 142. |

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| 22. | Sheoran S, Rani, E. and Kaushik, S. (2019). Elderly women in unorganized sector. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 34. |
| 23. | Suman, Amrita and Yadav, B. (2019). An Engineer who turned into agripreneur. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 209. |
| 24. | Sushmita and Goel, R. (2019). Knowledge of respondents regarding benefits of organic farming and organic food. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019:21. |
| 25. | Suthar, R. and Yadav, B. (2019). Asian fashion boutique: A case study. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 196. |
| 26. | Yadav, M, and Yadav, B. (2020). Empowering rural women through water literacy. National Conference on Innovation and Advancement in Different Streams of Higher Education, Mahtama Jyoti Rao Phule University, Jaipur. January 16-19, 2020: 182. |
| 27. | Yashvee, Verma, S., Trar, V.V. and Rani, E. (2021). Development and standardization of print media on COVID-19. National Level Conference on Boosting your Immune System against Corona Virus: How To Minimize the Risk of Infection, the Department of Home Science, I.B.(PG) College Panipat, Haryana, July 1, 2021.104. |
| 28. | Khushbu and Sabharwal. K. (2022). Impact of integrated farming system on farmer's household income. International Conference on Recent Advances and Innovation in Biological and Applied Sciences, Faculty of Agricultural Sciences, SGT University, Gurugram, February 14-16, 2022: 226. |
| 29. | Khushbu and Sabharwal, K. (2022). Constraints faced by farmers in integrated farming system. International Conference on Recent Advances and Innovation in Biological and Applied Sciences, Faculty of Agricultural Sciences, SGT University, Gurugram, February 14-16, 2022: 227. |
| 30. | Kaushik, R. and Sabharwal, K. (2022). Attitude of respondents regarding promotion of agricultural mechanization for insitu management of crop residue management scheme. International conference on Recent Advances and Innovation in Biological and Applied Sciences, Faculty of Agricultural Sciences, SGT University, Gurugram, February 14-16, 2022: 234. |
| 31. | Kaushik, R. and Sabharwal, K. (2022). Impact assessment of central sector scheme promotion of agricultural mechanization for in situ management of crop residue. International Conference on Recent Advances and Innovation in Biological and Applied Sciences, Faculty of Agricultural Sciences, SGT University, Gurugram, February 14-16, 2022: 236. |
| 32. | Anjali and Rani, S. (2023). Training of women farmers: A way to agriculture development. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS Haryana Agricultural University, Hisar, Haryana, February 17-19, 2023: 879-880. |
| **Leaflets Published as Part of Student Research:** | |
| 1. | Kohar, R. and Kundu, P. (2022). Single Use Plastic. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 2. | Yashvee, Rani, E. and Verma, V. (2022). Personal Hygiene Management (Eight leaflets), Dept. of Extension Education and Communication Management, I.C. COHS, CCSHAU, Hisar, Haryana. |

## *ANNEXURE VI - D*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY M.SC. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars/Trainings |
|---|---|
| All M.Sc. students of the Dept. | National Seminar on Innovative Strategies for Gender Equality, I .C. College of Home Sciences, COHS, CCSHAU, Hisar on March 8, 2019. |
| Ms. Chanchal Payal, Ms. Monika Yadav, Ms. Sangeeta Rani, Ms. Vaishali Sindhu, Ms. Shivani Chaudhary | ISEE National Seminar-2019 on Socio Digital Approaches for Transforming Indian Agriculture organized by CCSHAU, Hisar from Nov. 20-22, 2019. |
| Ms. Vaishali Sindhu<br>Ms. Shivani Chaudhary | National Incubators Colloquium organized by CCS HAU, Hisar from Jan. 15-16, 2020. |
| Ms. Monika Yadav | National Conference on Innovation and Advancement in Different Streams of Higher Education organized by Mahatma Jyoti Rao Phoole University, Jaipur from Jan.16-19, 2020. |
| Ms. Ritu Kuhar | Industry conclave on New Avenues in Agriculture organized by CCS HAU, Hisar from Feb. 13-14, 2020. |
| Ms. Preeti | National webinar on Enhanced Employability for Home Scientists in Current Scenario from June 22-23, 2020. |
| Ms. Rajni, | National webinar on A venues and Challenges for Agri- entrepreneurship for a Self-reliant Community organized by Department of EECM, College of Home Science, SKRAU, Bikaner on July 7, 2020. |
| Ms. Vaishali Sindhu | NAHEP International Webinar on International Funding For Young Researchers-An Opportunity organized by the Directorate of Research, CCS HAU, Hisar on July 10, 2020. |
| Ms. Rajni | Lecture on Future Perspectives in Agri. Edu. organized by NAHEP (ICAR)-CAAST, IARI New Delhi on September 5, 2020. |
| All M.Sc. students of the Department | Webinar on Role of Women in Agriculture, Department of EECM, COHS, CCS HAU, Hisar, December 4, 2020. |
| Ms. Monika Yadav | 19th Annual International Science Fiction Online Conference, Bangalore University & Indian Association for Science Fiction Studies from December 7-9, 2020. |
| All M.Sc. students of the Department | Webinar on Awareness and Effective Use of e-Resources through Mobile App organized by Nehru Library, CCS HAU, Hisar, December 18, 2020. |
| All M.Sc. students of the Department | Webinar on Digital Library Framework for Strengthening Agricultural Knowledge, Nehru Library, CCSHAU, Hisar, February 17, 2021. |
| Ms. Rajni | Training on Scaling Techniques and Data Analysis using Excel and SPSS CMS, JAIN (Deemed-to-be University), Bengaluru from April 26-30, 2021. |
| | Seminar on Reinventing and Integrating the New Era of Management and Media Practices, CMS, JAIN (Deemed-to-be University), Bengaluru on May 21, 2021. |
| Ms. Kapila,<br>Ms. Rajni ,<br>Ms. Monika Yadav | Expert Talk on Scope and Career Opportunities in Print Media and Mass Communication, College of Community and Applied Sciences, MPUA&T, Udaipur, Rajasthan on June 26, 2021. |

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| Ms. Priyanka Kardam | Conference on Channeling the Agriculture Market Potential of India Through PPP Mode, BHU and ISEE, IARI New Delhi from Oct. 4-6, 2021. |
| All M.Sc. Students of the Department | Lecture on Rising Youth Talk by Haryana Chief Minister on Jan 30, 2022. |
| Ms. Rajni | Training on Essentials of Excel Course Work, the Ministry of Labour and Employment and Microsoft from April 15-21, 2022. |
| | Workshop cum Training Programme of Data Analysis Using Python, NAHEP – CAAST AAU, Anand, Gujarat from May 23-27, 2022. |
| All M.Sc. Students of the Department | Training on Research Project Management, Deptt. of EECM in Collaboration with Directorate of Students Welfare, CCS HAU, Hisar from October 1-12, 2022. |
| All M.Sc. Students of the Department | Training on Communication Skills for Personality Development, Deptt. of EECM in Collaboration with Directorate of Students Welfare, CCS HAU, Hisar from Feb. 8-17, 2023. |

## *ANNEXURE VI - E*

## DETAILS OF Ph.D. STUDENTS

## FROM 2ND SEMESTER 2018-19 TO 1ST SEMESTER 2022-23

| Sr. No. | Name of student | Admn. No. | Title of thesis | Major advisor |
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| **Passed out** | | | | |
| 1. | Ms. Preeti Malik | 2014HS02D | Livelihood Security of Small and Marginal Farm Families in Hisar Division of Haryana State. | Dr. Sushma Kaushik |
| 2. | Ms. Anshu | 2015HS01D | Empowerment of Farm Women through Agricultural Technology Management Agency (ATMA) Project in Hisar Division of Haryana | Dr. Seema Rani |
| 3. | Ms. Reena | 2015HS02D | Empowerment of Farm Women through Agricultural Technology Management Agency (ATMA) Project in Gurugram Division of Haryana | Dr. Seema Rani |
| 4. | Ms. Jyoti Rani | 2016HS01D | Adoption and Diffusion of Homestead Technologies among Rural Women | Dr. Beena Yadav |
| 5. | Ms. Anju Kapri | 2017HS01D | Perception and Adaptation to Climate Change among Farm Families: Comparative Study of Haryana and Himachal Pradesh | Dr. Sushma Kaushik |
| 6. | Ms. Ashma | 2017HS02D | Cross-Cultural Impact of Old Age Pension on the Livelihood Chances of Geriatrics in Haryana | Dr. Manju Dahiya |
| 7. | Ms. Preeti | 2017HS03D | Impact of Old Age Samman Allowance on Quality of Life of Elderly Women | Dr. Beena Yadav |
| 8. | Ms. Nisha | 2017HS04D | Impact of Krishi Vigyan Kendra Activities on Rural Women of Haryana State | Dr. Seema Rani |
| 9. | Ms. Manisha Ohlan | 2018HS01D | Adoption and Acculturation of Digital Technology among Farmers of Haryana | Dr. Manju Dahiya |
| 10. | Ms. Sushmita | 2018HS02D | Impact of Media in Promoting Organic Products in Haryana: A Comparative Study | Dr. Vandana Verma |
| 11. | Ms. Naaz Bano | 2019HS4D | Comparative Study on Conventional and Integrated Farming Systems for Livelihood Security of Small and Marginal Families | Dr. Rajesh Dahiya |
| **On-roll** | | | | |
| 1. | Ms. Anju | 2019HS1D | Gender Wise Participation and Adoption of Recommended Technologies in Mustard and Pearl Millet Crops in Haryana | Dr. Poonam Kundu |
| 2. | Ms. Diksha Rani | 2019HS2D | Prevalence of Stress Related to Work And Family Among Farm Women | Dr.Vandana Verma |
| 3. | Ms. Jyoti | 2019HS3D | Study on Role of Agribusiness In The Development of Rural Youth | Dr. Seema Rani |
| 4. | Ms. Sanyogita | 2019HS5D | Socio-Economic Dimensions and Adoption of Science and Technology among Farm Women | Dr. Vandana Verma |

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| 5. | Ms. Shikha Bhukal | 2019HS6D | Diffusion Pathway and Adoption Dimensions of Newly Released Wheat Varieties | Dr. Ella Rani |
| 6. | Ms. Khushboo | 2020 HS 02 D | Unemployability among Youth Vs Entrepreneurship | Dr. Seema Rani |
| 7. | Ms. Madhu Priya | 2020 HS 03 D | Cross-Cultural Study on Status Quo of Mobile Internet use and Intervention for Digital Empowerment of Rural Women | Dr. Beena Yadav |
| 8. | Ms. Mini | 2020 HS 04 D | Impact of COVID-19 Outbreak on Health and Well Being of Rural People of Haryana | Dr. Manju Dahiya |
| 9. | Ms. Priyanka | 2020 HS 05 D | Knowledge and Utilization Pattern of Information and Communication Technology Tools by Paddy Grower Farmers in Haryana | Dr. Santosh Rani |
| 10. | Ms. Radha Kaushik | 2020 HS 06 D | Potential and Prospects of Organic Farming in Haryana | Dr. Poonam Kundu |
| 11. | Ms. Bharti | 2021HS01D | Performance Efficiency and Sustainability of Self-Help Groups under National Rural Livelihood Mission | Dr. Vandana Verma |
| 12. | Ms. Chanchal Payal | 2021HS02D | Analysis of Livelihood Security and Coping Strategies Adopted by Rural Youth | Dr. Ella Rani |
| 13. | Ms.Raveena | 2021HS03D | Unravelling the Empowerment of Small and Marginal Women Farmers by using Women's Empowerment in Agriculture Index | Dr. Beena Yadav |
| 14. | Ms.Santosh | 2021HS04D | Knowledge, Utilization and Impact of Post Matric Scholarship Scheme Among Students in Higher Education Institutes | Dr. Santosh Rani |
| 15. | Ms.Seema Chauhan | 2021HS05D | Inter Gender Knowledge and Participation of Ruralites in Dairy Farming of Haryana | Dr. Poonam Kundu |
| 16. | Ms.Vartika Srivastava | 2021HS06D | Digital Technology Addiction: A Meta-Analysis on Inter-Gender Perspective Among Youth | Dr. Manju Dahiya |
| 17. | Ms. Preeti | 2022HS01D | Analysis of Livelihood Security and Coping Strategies Adopted by Rural Youth | Dr. Ella Rani |
| 18. | Ms.Sangeeta Rani | 2022HS02D | Knowledge and Perception about Cyber Crime among University Students | Dr. Ella Rani |
| 19. | Ms. Yashvee | 2022HS03D | Impact of Internet Addiction and Academic Procrastination among Adolescents | Dr. Manju Dahiya |
| 20. | Ms.Suman | 2022HS14D | To be finalized in the first semester (2023-24) | Dr.Vandana Verma |

## *ANNEXURE VI - F*

## LIST OF PUBLICATIONS FROM Ph.D. STUDENTS' RESEARCH (2018-23)

| Sr. No. | Details |
|---|---|
| **Books** | |
| 1. | Jodha, R. and Dahiya, M. (2019). *Rural Livelihood Security*. Agrotech Publishing Academy, Udaipur, India. ISBN978-81-8321-505-3 |
| 2. | Ohlan, M. and Dahiya, M. (2022). *Adoption and Acculturation of Digital Technologies by Farmers*. Scholars' Press, Dodo Books Indian Ocean Ltd., ISBN: 978-3-330-65133-3: pp 168. |
| **Book Chapters** | |
| 1. | Ashma and Dahiya, M (2020). Assessment of Stress level Among College Going Post Graduate Girls Students in Positive Parenting-Joy of Raising Kids, Atharv Publication, New Delhi: 261-72. |
| 2. | Kohli, N. and Verma, V. (2022). Use of Social Media In Uplifting Traditional Craft in *Research Trends in Multidisciplinary Research*, **34**:1-15. |
| 3. | Priya and Verma, V. (2022). Distance Education in *Research Trends in Home Science and Extension*, Akinik Publications, **33**: 67-76. |
| 4. | Rani, J. and Yadav, B. (2021). ICT-A Powerful Tools for Women Empowerment in *Research Trends in Home Science and Extension*, Akinik Publications, Delhi, 6: 41-53 DOI: https://doi.org/10.22271 /ed.book.1249. |
| 5. | Ohlan, M. and Dahiya, M. (2021). Community Organization in *Social Science Language and literature*. VEDA Publications, Guntur, 223-231. ISBN:978-93-87844-40-7 |
| 6. | Priya, M. and Yadav, B. (2022). Mobile and Internet Intervention for Digital Empowerment of Women in Agriculture in Proceedings of International Conference on New Trends in Science, Technology, Management and Humanities organized by Jagannath University, Bahadurgarh, Haryana (INDIA) on March 29, 2022. ISBN: 978-93-5457-795-6: 10-16. |
| 7. | Yashvee, Malik, P., Sharma, S., Verma, S. and Verma, V. (2022). Role of Guidance and Counseling in Adolescents' Life in *Research Trends in Multidisciplinary Research*. Akinik Publications, **36**: 19-37. |
| 8. | Yashvee, Verma, V. Verma, S., and Rani, E. (2022). Entrepreneurship development innovation for income generation in *Entrepreneurship and Economic Development*. Swastik Publications: 58- 72. |
| 9. | Preeti, Yadav, B. and Sharma, S. (2023). Entrepreneurship and entrepreneurial skills in *Current Research in Economics*, Akinik Publications, 7:103-112. |
| **Research Papers** | |
| 1. | Arya, S., Batra, A. and Arya, A. (2018). Livelihood capabilities of farm families in Ambala division of Haryana state. *International Journal of Chemical Studies*, **6**(3): 2872-2875. |

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| 2. | Jodha, R. and Dahiya, M. (2018). Livelihood problems of small and marginal farm families in rural areas of Haryana State, India. *Indian Journal of Current Microbiology and Applied Science*, **7**(1): 1624-1629. |
| 3. | Malik, P. and Kaushik, S. (2018). Analysis of human capital of small and marginal farm families. *International Journal of Chemical Studies*, **6**(3): 3565-3568. |
| 4. | Preeti and Kaushik, S. (2018). Inter generation viewership pattern of television. *International Journal of Chemical Studies*, **6**(4): 603-606. |
| 5. | Preeti and Kaushik, S. (2018). Mobile and internet addiction among urban respondents. *Advances in Research*, **15** (5):15. |
| 6. | Punia, A. and Kaushik, S. (2018). Assessment of health and sanitation security of rural households in Haryana. *Annals of Agri-Bio Research*, **23**(1): 111-114. |
| 7. | Punia, A. and Kaushik, S. (2018). Development of VCD for improving water practices among rural people. *Research Journal of Agricultural Sciences*, **9** (Special): 299-302. |
| 8. | Punia, A. and Kaushik, S. (2018). Livelihood capital and security of farmers: a field study in Haryana. *Quarterly Journal in Science, Agriculture & Engineering*, **8**(25): 276-281. |
| 9. | Punia, A. and Kaushik, S. (2018). Possession of livelihood assets in rural households: An economic analysis. *Indian Journal of Extension Education*, **54**(2):140-147. |
| 10. | Rawal, R. and Rani, S. (2018). A study on knowledge and adoption level of improved animal husbandry practices by farm women of Haryana. *Current Journal of Applied Science and Technology*, **24**(4):1-8. |
| 11. | Yadav, R.D., Goel, R. and Yadav, B. (2018). Impact of media in knowledge gain about cotton cultivation. *International Journal of Current Microbiology and Applied Sciences*, **7**(7):719-723. |
| 12. | Arya, S., Batra, A. and Arya, A. (2019). Livelihood security of small and marginal farmers in ambala division of Haryana State, India. *International Journal of Current Microbiology and Applied Sciences*, **8**(10):501-11. |
| 13. | Jodha, R. and Dahiya, M. (2019). Livelihood Opportunities in Small and Marginal Farm Families of Haryana. *Asian Journal of Home Science*, **14**(2). |
| 14. | Jodha, R. and Dahiya, M. (2019). Nutritional security of small and marginal farm families. *Journal of Community Mobilization and Sustainable Development*, **14**(3): 586-590. |
| 15. | Yadav, R.D. and Goel, R. (2019). Problems of cotton farmers in Haryana. *International Journal of Current Microbiology and Applied Sciences*, **8**(3): 2139-2142. |
| 16. | Yadav, R.D., Goel, R. and Yadav, B. (2019). Communication behaviour pattern of farmers. *International Journal of Current Research*, **11**(08): 6336-6339. |
| 17. | Bano, N., Beg, A., Kumari, A. and Dahiya, R. (2020). A critical review: Role of self help groups (SHGs) in the empowerment of rural women. *International Journal of Current Microbiology and Applied Sciences*, **9**(11): 3828-3837. |
| 18. | Bano, N., Dahiya, R. and Kumari, A. (2020). A critical review: Impact assessment of *Janani Surkasha Yojna* (JSY) in terms of knowledge, attitude and service utilization pattern |

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| | of women beneficiaries. *International Journal of Current Microbiology and Applied Sciences*, **9**(12): 3553-3562. |
| 19. | Devi, R., Rani, E and Yadav, M. (2020). Awareness about healthy food habits among college going girls. *The Pharma Innovation Journal*, **9**(10): 584-586. |
| 20. | Rani, J., Yadav, B. and Dahiya, M. (2020). Perceived attributes of homestead technology among rural women. *Asian Journal of Home Science*, **15**(2): 303-309. |
| 21. | Preeti and Yadav, B. (2021). Awareness and utilization of schemes for welfare and well being of elderly among rural elderly women in Haryana. *The Pharma Innovation Journal*, SP-**10**(8): 228-232. |
| 22. | Rani, J., Yadav, B. and Dahiya, M. (2021). Extent of adoption of homestead technologies among rural women. *International Journal of Home Science*, **7**(1): 178-180. |
| 23. | Rani, J. and Yadav, B. (2021). Adoption status of improved mud stove by rural women. *The Pharma Innovation Journal*, **10**(11Special): 2621-2625. |
| 24. | Rani, J., Yadav, B. and Dahiya, M. (2021). Opinion of rural women towards IAHS programme. *International Journal of Archaeology, Applied Science and Technology*, **12** (2): 01-03. |
| 25. | Rani, J., Yadav, B. and Dahiya, M. (2021). Adoption status of pearl millet products by rural women. *International Journal of Agriculture Science and Research*, **11**(2): 55-58. |
| 26. | Sushmita, Verma, V. and Rani, E. (2021). Standardization of posters on organic food. *The Pharma Innovation Journal*, **10** (9):29-31. |
| 27. | Sushmita, Verma, V. and Rani, E. (2021). Standardization of charts on organic food. *The Pharma Innovation Journal*, **10** (7): 667-669. |
| 28. | Bano, N. and Dahiya, R. (2022).Constraints perceived by small and marginal farmers in practicing small and marginal farming system. Indian Journal of Extension Education, **58** (1): |
| 29. | Bhandari, J., Verma, V. and Rani, E. (2022). Role of information communication technology in empowering women of India. *International Journal of Humanities, Social Science and Management*, **2** (5): 299-303. |
| 30. | Borah, J. and Verma, V. (2022) ICT; A game changer in modern education. *International Journal of Home Science*, **8** (1): 242-244. |
| 31. | Khan, A. and Dahiya, M. (2022). Cognizance and utilization of old age pension by geriatrics. *The Pharma Innovation Journal*, **11** (2):1593-1601. |
| 32. | Ohlan, M. and Dahiya, M. (2022). A Study on Livelihood Security of respondents in adoption and acculturation of digital technologies in NCR region of Haryana state. *Agricultural Mechanization in Asia, Africa and Latin America*, **53** (1): 6689-6708. |
| 33. | Ohlan, M. and Dahiya, M. (2022). Socio-Economic and Communication profile of respondents on adoption and acculturation of digital technologies. *Agricultural Mechanization in Asia, Africa and Latin America*, **53** (01):6709-6723. |

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| 34. | Ohlan, M. and Dahiya, M. (2021). Role of technology in rural development.*UGC Care Group 1 Journal, Anvesak*, 51(1): 133-137. |
| 35. | Ohlan, M. and Dahiya, M. (2022).Construction of attitude scale to measure the attitude of farmers about digital technologies. *The Pharma Innovation Journal*, SP-**11**(4):338-341. |
| 36. | Ohlan, M. and Dahiya, M. (2022). Critical analysis on village profile of NCR Region. *Journal of Design Engineering* (Toronto), **7**:11986-12009. |
| 37. | Preeti and Yadav.B. (2022). Living arrangements of rural elderly women in Haryana, India. *Asian Journal of Agricultural Extension, Economics & Sociology*, **40** (7): 12-19. |
| 38. | Yashvee; Yadav, B. and Verma, V. (2023). Role of Communication skills in personality development. *International Journal of Humanities, Social Science and Management*, **3** (1): 217-220. |
| **Papers Presented and Abstracted in Conferences/ Seminars/Workshops** | |
| 1. | Suchitra and Kaushik, S. (2018). Challenges and strategies of various categories of farm families in Haryana. 9th NEE Congress on Climate Smart Agricultural Technologies: Innovations and Interventions, organized by Society of Extension Education at Imphal, Nov.15-17, 2018: 35. |
| 2. | Anshu and Rani, S. (2019). Attitude of beneficiaries towards agricultural technology management agency. National Conference on Emerging Trends in Technology, Science & Management, organized by School of Engineering & Technology, OM Sterling Global University, Hisar, February 28-29, 2019 :40 |
| 3. | Ashma and Dahiya, M. (2019). Problems encounter in media utilization by women farmers' for seeking information on farming activities. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 86. |
| 4. | Bano, N. and Dahiya, R. (2019). Entrepreneurship development in agriculture. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture, organized by Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019:187 |
| 5. | Bano, N. and Dahiya, R. (2019). New opportunities in digital marketing. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture organized by Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019:222. |
| 6. | Rani, D. and Kaushik, S. (2019). Gender and educational attainment in India. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 75. |
| 7. | Jodha, R. and Dahiya, M. (2019). Empowering rural women with improving livelihoods. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 181. |
| 8. | Jyoti and Yadav, B. (2019). Adoption of income generating technologies for financial sustainability of rural women. Golden Jubilee International Conference on New Millennia Agriculture: Novel Trend and Future Scenario, organized by CCSHAU, Hisar, November 6-8, 2019: 398. |

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| 9. | Jyoti and Yadav, B. (2019). Internship in Home Science: Participatory approach for communicating homestead technologies. Golden Jubilee International Conference on New Millennia Agriculture: Novel Trend and Future Scenario, organized by CCS HAU, Hisar, November 6-8, 2019: 399. |
| 10. | Kapri, A. and Kaushik, S. (2019). Climate change and smart agriculture. International Symposium on Innopreneurship: A Need of Sustainable Agriculture, organized by CCS HAU, Hisar, February 2-3, 2019: 209. |
| 11. | Kapri, A. and Kaushik, S. (2019). Role of participation in marketting among farm women. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 115. |
| 12. | Kumari, S., Sethi, N. and Ritu (2019). A Study on awareness regarding information input pattern by registered farmers. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 195. |
| 13. | Nisha and Rani, S. (2019). Women empowerment thought education. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 78. |
| 14. | Preeti and Yadav, B. (2022). Health and nutritional status of elderly women in Haryana after receiving Old Age Samman Allowance. 7$^{th}$ National Conference on Innovation, Science, Engineering and Technology, organized by Arya Post Graduate College, Panipat, Haryana, February 19, 2022:31. |
| 15. | Preeti and Yadav, B. (2019). Role of women in agriculture. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 98 . |
| 16. | Preeti and Yadav, B. (2019). Old age pension a mean to ensure livelihood security of elderly women. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 176. |
| 17. | Preeti and Yadav, B. (2019). Case study of a housewife and multi dimensional entrepreneur. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 202. |
| 18. | Preeti and Yadav, B. (2019). Impact of old age pension on health and financial status of elderly women. Golden Jubilee International Conference on New Millennia Agriculture: Novel Trend and Future Scenario, organized by CCS HAU, Hisar, November 6-8, 2019: 404. |
| 19. | Punia, A. and Kaushik, S. (2019). Food and nutritional security at household level: Indian perspective. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 164. |
| 20. | Punia, A. and Kaushik, S. (2019). Livelihood security in central zone of rural Haryana: Reflections from some selected indicators. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 162. |

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| 21. | Punia, A. and Kaushik, S. (2019). Effectiveness of media for improving water sanitation among rural families. Golden Jubilee International Conference on New Millennia Agriculture: Novel Trend and Future Scenario, organized by CCSHAU, Hisar, November 6-8, 2019: 466. |
| 22. | Punia, A. and Kaushik, S. (2019). Status of household food security in northern India in the changing agricultural scenario. Golden Jubilee International Conference on New Millennia Agriculture: Novel Trend and Future Scenario, organized by CCS HAU, Hisar, November 6-8, 2019: 435. |
| 23. | Rajni and Mehta, S. (2019). Capacity building of women entrepreneurs in Haryana. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 157. |
| 24. | Rawal, R. and Rani, S. (2019). Gender equality: Equal pay for equal work. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 163. |
| 25. | Rani, J. and Yadav, B. (2019). Adoption of homestead technologies for empowerment of rural women. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 182. |
| 26. | Rani, J. and Yadav, B. (2019). Adoption status of peral millet products among rural women. National Workshop on Production, Processing and Value Addition of Nutri Cereals (millets) in India, organized by Deptt.of Genetics and Plant Breeding, CCS HAU Hisar, September 16, 2019: 116. |
| 27. | Rani, J. and Yadav, B. (2019). Empowerment of rural women through adoption of non agro based enterprises. National Seminar on Socio- Digital Approaches for Transforming Indian Agriculture, organized by Indian Society of Extension Education, IARI, New Delhi at CCS HAU, Hisar, November 20-22, 2019: 80. |
| 28. | Ritu, Yadav, L. Kaushik, S. and Sunit. (2019). A study on role of women in diversified agricultural processing activities: Needs and constraints. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 7. |
| 29. | Suchitra and Kaushik, S. (2019). Determinants of gender and livelihood among various categories of households. National Seminar on Innovative Strategies for Gender Equality, organized by I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019: 35. |
| 30. | Santosh and Yadav, B. (2022). Agritourism: A review and reference analysis. International Conference on New Trends in Science, Technology, Management and Humanities, organized by Jagannath University, Bahadurgarh, Haryana *(INDIA),* March 29, 2022: 146. |
| 31. | Priya, M. and Yadav, B. (2023). Intervention on mobile and internet for capacity building of farm women. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, Haryana, February 17-19, 2023: 837. |
| 32. | Priyanka and Rani, S. (2023). Significant role of extension agents toward organic farming. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, Haryana, February 17-19, 2023:718-719. |

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| 33. | Raveena and Yadav, B. (2023). Capacity building of farm women for sustainable agriculture development. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, Haryana, February 17-19, 2023: 823. |
| **Popular Articles** | |
| 1. | Preeti, Yadav, B. and Twinkle (2020). *Vridhavastha mein hone wali aam samsyayen aur samaadhaan*. *Haryana Kheti*, **53**(11): 25. |
| 2. | Preeti, Rani, J and Yadav, B. (2021). *Satanpaan sarvottam aahar*. *Raashtriy Krishi Jagat*, **16**(2): 6. |
| 3. | Preeti, Rani, J. and Yadav, B. (2021). *Badlte mausam mein bachchon ki sehat kaa dhyan. Raashtriy Krishi Jagat*, **16**(2): 38. |
| 4. | Bhukal, S., Rani, E. and Rani, D. (2022). *Samudayik vikas mein greh vigyan vistar ka mahatva*. *Agri articles*, November- December, **2**(6): 30-31. |
| 5. | Bhukal, S., Rani, E., Sanyogita, Rani, D. and Manisha (2022). *MeraPani Meri Virasat Yojana*. *Agri articles*, November- December, **2**(6): 27-29. |
| 6. | Preeti and Yadav, B. (2022). Importance of old age pension in the life of elderly. *Vigyan Varta*, **3**(4): 30-32. |
| 7. | Bhukal, S., Rani, E. and Manisha (2022). Sustainable livelihood in agriculture through organic farming, *Agri articles*, July- August, **2**(4): 291-292. |
| 8. | Bhukal, S., Rani, E. and Rani, D. (2023). *Pradhan Mantri Fasal Bima Yojana* (PMFBY): *Kaushal Vikas*, *Sugathit Vikas*, *Agri articles*, March- April, **3**(2): 34-36. |
| **Leaflets** | |
| 1. | Sushmita, Verma, V., Rani, E. and Shivran, A. (2021). J*aivik Bhojan ke fayade*. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 2. | Sushmita, Verma, V., Rani, E. and Shivran, A (2021). '*Jaivik parmanikaran prakriya*. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 3. | Sushmita, Verma, V., Rani, E. and Shivran, A (2021). *Jaivik Bhojan*. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 4. | Sushmita, Verma, V., Rani, E. and Shivran, A (2021). Organic certification process. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 5. | Sushmita, Verma, V., Rani, E. and Shivran, A (2021). Organic food. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 6. | Sushmita, Verma, V., Rani, E. and Shivran, A. (2021). Organic food production and storage. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 7. | Sushmita, Verma, V., Rani, E. and Shivran, A. (2021). Benefits of organic foods. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |
| 8. | Sushmita, Verma, V., Rani, E. and Shivran, A. (2021). *Jaivik Bhojan ka utpadan aur bhandaran*. Dept. of Extension Education and Communication Management, I.C. COHS, CCS HAU, Hisar, Haryana. |

## *ANNEXURE VI - G*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY PH.D. STUDENTS (2018-23)

| Name | Title of Seminars/Conferences/ Trainings |
|---|---|
| Ms. Anju Kapri | International symposium on Innopreneurship: A Need for Sustainable Agriculture, organized by CCS HAU, Hisar, February 2-3, 2019. |
| Ms. Manisha Ohlan | National conference on Biodiversity & Environment Sustainability in the Modern Era, organized by Jat College, Hisar, February 16, 2019. |
| All Ph D Students of the Deptt. | National Seminar on Innovative Strategies for Gender Equality by I.C. College of Home Sciences, CCS HAU, Hisar, March 8, 2019. |
| Ms. Manisha Ohlan | International conference on Emerging Scenario in Agribusiness, organized by IIPM Bengaluru, March 21-22, 2019. |
| Ms. Manisha Ohlan | International conference on Emerging Paradigm in Social Science, organized by BPSMV, Khanpur, March 25-26, 2019. |
| | International conference on Contemporary Issues in Integrating Health and Nutrition With Emerging Areas of Food, Technology, Agriculture, Environment and Allied Science, organized by Shyma Prasad Mukherjee College for Women, University of Delhi, April 6, 2019. |
| Ms. Manisha Olhan<br>Ms. Naaz Bano<br>Ms. Shikha Bhukal | Golden Jubilee International Conference on New Millennia Agriculture- Novel Trends and Future Scenario, organized by CCS HAU, Hisar, November 6-8, 2019. |
| Ms. Manisha<br>Ms. Sushmita<br>Ms. Naaz Bano<br>Ms. Sanyogita<br>Ms. Shikha Bhukal<br>Ms. Diksha Rani | ISEE National Seminar-2019 on Socio Digital Approaches for Transforming Indian agriculture, organized by CCS HAU, Hisar, November 20 -22, 2019. |
| Ms. Naaz Bano | National Incubators Colloquium, organized by CCS HAU, Hisar, January 15-16, 2020. |
| Ms. Jyoti Rani | National Conference on Innovation and Advancement in Different Streams of Higher Education, organized by Mahatma Jyoti Rao Phoole University, Jaipur, January 16-19, 2020. |
| Ms. Jyoti Rani, Ms. Asma, Ms. Anju Kapri, Ms. Preeti, Ms. Anju, Ms. Diksha Rani, Ms. Naaz Bano, Ms. Sanyogita, Ms. Shikha Bhukkal | Industry conclave on New Avenues in Agriculture. Organized by CCS HAU, Hisar, February 13 -14, 2020. |
| Ms. Sanyogita<br>Ms. Shikha Bhukal | National Webinar on Avenues and Challenges for Agri-Entrepreneurship for a Self-Reliant Community, organized by Department of EECM, College of Home Science, SKRAU, Bikaner, July 7, 2020. |
| All Ph.D. Students of the Dept. | Webinar on Role of Women in Agriculture, organized by the Department of EECM, COHS, CCSHAU, Hisar, December 4, 2020. |

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|---|---|
| All Ph. D Students of the Dept. | Webinar on Awareness and Effective Use of e-Resources through Mobile App, organized by Nehru Library, CCS HAU, Hisar, December 18, 2020. |
| All Ph. D Students of the Dept. | Webinar on Digital Library Framework for Strengthening Agricultural Knowledge, organized by Nehru Library, CCS HAU, Hisar, February 17, 2021. |
| Ms. Madhu Priya | Online Interactive Sensitization Session on Understanding the World of Virus: Threats and Management Strategies in Reference to COVID-19, organized by G.B. PUA&T Pantnagar, May 10-11, 2021. |
| Ms. Madhu Priya | Reinventing and Integrating the New Era of Management and Media Practices, organized by CMS, JAIN (Deemed-to-be University), Bengaluru, May 21, 2021. |
| Ms. Mini | Expert Talk on Scope and Career Opportunities in Print Media and Mass Communication, organized by College of Community and Applied Sciences, MPUA&T, Udaipur, Rajasthan, June 26, 2021. |
| Ms. Madhu Priya | Webinar on Improving the Quality of Agricultural Research Landscape in India, organized by Nehru Library, CCS HAU, Hisar and Elsevier, June 30, 2021. |
| Ms. Santosh | National Webinar on Avenues and Challenges for Agri-Entrepreneurship for A Self-Reliant Community, organized by the Department of EECM, College of Home Science, SKRAU, Bikaner, July 7, 2021. |
| Ms. Mini | Expert Talk on Scope and Career Opportunities in Print Media and Mass Communication, organized by the College of Community and Applied Sciences, MPUA&T, Udaipur, Rajasthan, July 26, 2021. |
| Ms. Madhu Priya | One-day National Webinar on Job Opportunities in Rural Development-Agriculture Extension, organized by Xavier Institute of Development Action and Studies, March 12, 2022. |
| Ms. Madhu Priya<br>Ms. Santosh | International Conference on New Trends in Science, Technology, Management and Humanitie, organized by Jagannath University Bahadurgarh, Haryana (INDIA), March 29, 2022. |
| Ms. Madhu Priya | One-day National Webinar on Understanding Various Aspects of Intellectual Property Right. Organized by Bhim Rao Ambedkar Bihar University, Muzaffarpur, Bihar, May 25, 2022. |
| Ms. Khusboo | International Conference on Recent Advances and Innovation in Biological and Applied Sciences, organized by SGT University, Gurgaon, June 14-16, 2022. |
| All Ph.D. Students of the Department | Training on Research Project Management, organized by Dept. of EECM in Collaboration with Directorate of Students Welfare, CCS HAU, Hisar, October 1-12, 2022 |
| All Ph.D. Students of the Department | Training on Communication Skills for Personality Development, organized by Dept. of EECM in Collaboration with Directorate of Students Welfare, CCS HAU, Hisar, February 8-17, 2023. |

*ANNEXURE VII*

## *ANNEXURE VII - A*

## COURSES OFFERED FOR M. Sc. AND Ph. D. PROGRAMMES

| Course No. | Course Title | Credits | SEM |
|---|---|---|---|
| **M. Sc.** | | | |
| FN 501 | Food Science | 3(2+1) | I |
| FN 502 | Advanced Nutrition | 3(3+0) | I |
| FN 503 | Food Analysis | 4(1+3) | I |
| FN 504 | Advances in Community Nutrition | 3(2+1) | I |
| FN 505 | Food Processing Technology | 3(3+0) | I |
| FN 506 | Advances in Clinical Nutrition | 4(2+2) | II |
| FN 507 | Nutrition During Life Cycle | 3(3+0) | II |
| FN 508 | Nutrition and Physical Fitness | 3(2+1) | II |
| FN 509 | Advanced Diet Therapy | 3(2+1) | II |
| FN 510 | Food Toxicology | 2(2+0) | II |
| FN 511 | Advanced Human Physiology | 3(2+1) | I |
| FN 512 | Food Service Management | 3(1+2) | II |
| FN 513 | Food Product Development | 2(1+1) | II |
| FN 514 | Nutrition and Immunity | 2(2+0) | II |
| FN 591 | Master's Seminar | 1 | I, II |
| FN 599 | Master's Research | 20 | I, II |
| **Ph. D.** | | | |
| FN 601 | Advances in Carbohydrates, Proteins and Lipids | 4(4+0) | II |
| FN 602 | Advances in Vitamins and Hormones | 2(2+0) | I |
| FN 603 | Minerals in Human Nutrition | 3(2+1) | II |
| FN 604/ FST 609 | Current Topics in Food Sciences and Technology | 2(2+0) | II |
| FN 605 | Advances in Energy Metabolism | 2(2+0) | I |
| FN 606 | Nutrition and Agricultural Interface | 3(3+0) | II |
| FN 607 | Nutrition in Emergencies | 2(2+0) | II |
| FN 608 | Application of Biotechnology in Food Science and Nutrition | 2(2+0) | I, II |
| FN 609 | Global Nutritional Problems | 2(2+0) | I |
| FN 610 | Maternal and Child Nutrition | 3(2+1) | I |
| FN 691 | Doctoral Seminar I | 1 | I, II |
| FN 692 | Doctoral Seminar II | 1 | I, II |
| FN 699 | Doctoral Research | 45 | I, II |

## *ANNEXURE VII - B*

## DETAILS OF M.SC. STUDENTS

## FROM 2ND SEMESTER 2018-19 TO 1ST SEMESTER 2022-23

| Sr. No. | Name of student | Admn. No. | Title of thesis | Major advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| 1. | Ms. Anjali | 2014HS13M | Development of baked and extruded products using composite flour of wheat and black gram | Dr. Varsha Rani |
| 2. | Ms. Priyanka Rani | 2015HS04D | Development and popularization of value added products using shatavari (A*sparagus racemosus)* root powder | Dr. Varsha Rani |
| 3. | Ms. Bodhika Khare | 2015HS07M | Effect of sprouting on nutritional composition of flax seed and its utilization in development of value added products | Dr. Sudesh Jood |
| 4. | Ms. Savita | 2015HS08M | Development and Nutritional analyses of pearl millet based jamun *(Syzygium Cumini L.)* seeds incorporated value added products | Dr. Asha Kawatra |
| 5. | Ms. Amita Beniwal | 2015HS09M | Nutritional evaluation and utilization of pea shells for value addition | Dr. Darshan Poonia |
| 6. | Ms. Samta | 2015HS10M | Development and nutritional evaluation of nutrients rich pasta products | Dr. Sudesh Jood |
| 7. | Ms. Sapna | 2016HS05M | Comparative assessment of nutritional status of adolescents in government and private school of Hisar city | Dr. Sangeeta C. Sindhu |
| 8. | Ms. Lavanya A | 2016HS06M | Development and evaluation of food products from different rice varieties | Dr. Pinky Boora |
| 9. | Ms. Manisha | 2016HS07M | Nutritional evaluation of products prepared from wheat and dried water chestnut composite flour | Dr. Sangeeta C. Sindhu |
| 10. | Ms. Tanvi Bansal | 2016HS08M | Development of bio fortified pearl millet based value added products incorporating carrot and sesame seeds | Dr. Asha Kawatra |
| 11. | Ms. Preeti | 2016HS09M | A comparative study on nutritional status of elderly people from old age homes and family setup | Dr. Sangeeta C. Sindhu |
| 12. | Ms. Jyoti | 2016HS10M | Development and Nutritional evaluation of micro nutrient rich baked and traditional products | Dr. Sudesh Jood |
| 13. | Ms. Reema | 2017HS10M | Impact of germination on bio active compounds of legumes and their products | Dr. Darshan Poonia |
| 14. | Ms. Seema | 2017HS12M | Acceptability and nutritional evaluation of value added food products developed from *spirulina*-wheat- Bengal gram composite flour | Dr. Sudesh Jood |
| 15. | Ms. Rajni | 2017HS13M | Development and evaluation of pearl millet (Pennisetum Glaucum) based value added product incorporating carrot and cauliflower leaves | Dr. Asha Kawatra |
| 16. | Ms. Aditi Sharma | 2017HS14M | Nutritional status of pregnant women and its effect on education performance | Dr. Sangeeta C. Sindhu |

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| 17. | Ms. Reena | 2017HS15M | Development and Nutritional Evaluation of value added products supplemented with processed fenugreek seed powder | Dr. Varsha Rani |
| 18. | Ms. Neha | 2017HS16M | Development and nutritional evaluation of multi grain bakery products supplemented with pomegranate peel powder | Dr.Veenu Sangwan |
| 19. | Ms. Mwanamvua Zuberi | 2017HS37M | Development and nutritional evaluation of weaning foods based on processed bio fortified pearl millet | Dr. Veenu Sangwan |
| 20. | Ms. Josephine John | 2018HS12M | Development & Nutrition Evaluation of Value added products prepared using Garden Gress Seeds | Dr. Varsha Rani |
| 21. | Ms. Manju Bala | 2018HS13M | Effect of domestic processing and cooking on nutritional composition of quinoa ( *Chinopodium quinoa*) seeds | Dr. Varsha Rani |
| 22. | Ms. Mantavya | 2018HS14M | Assessment of Nutritional and health status of celiac disease patients | Dr. Veenu Sangwan |
| 23. | Ms. Partibha | 2018HS15M | Development and evaluation of value added products front composite flour of babool (*Acacia nilotica*) and Banana (*Musa Sp*.) | Dr. Sangeeta C. Sindhu |
| 24. | Ms.Priyanka | 2018HS16M | Development and evaluation of value added products incorporating khejri (*Prosopis cineraria*) Pod powder | Dr. Sangeeta C. Sindhu |
| 25. | Ms. Sonia | 2018HS17M | Development and nutritional evaluation of carotene rich products prepared using curry leaves. | Dr. Varsha Rani |
| 26. | Ms. Varsha Rani | 2018HS18M | Utilization orange peel powder for development of value added baked products | Dr. Veenu Sangwan |
| 27. | Ms. Aman Punia | 2019HS14M | Comparitive assessment of nutritional status of school going children (7-12 years) from government schools in Rural and Urban Hisar. | Dr. Sangeeta C. Sindhu |
| 28. | Ms. Anu Kaushal | 2019HS15M | Impact of nutrition education on consumer understanding of food labling | Dr. Varsha Rani |
| 29. | Ms. Diksha | 2019HS16M | Development of evaluation of protein fortified cereal fruit bar using karonda fruit | Dr. Sangeeta C. Sindhu |
| 30. | Ms. Gurpriya | 2019HS17M | Nutritional evaluation of foxtail millet (*Setaria italica (L.) Beauv.*) and its utilization in development of traditional products | Dr. Veenu Sangwan |
| 31. | Ms. Jyoti Verma | 2019HS18M | Nutritional evaluation and utilization purple wheat for product development | Dr.Varsha Rani |
| 32. | Ms. Karnika | 2019HS19M | Development and nutritional evaluation of value added products incorporative peanut, sessum and flex seed meals | Dr. Asha Kawatra |

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| 33. | Ms. Shalini | 2019HS20M | Development of gluten free composite flour based on sorghum, rice and okara and its neutralization in value added products | Dr. Urvashi Nandal |
| 34. | Ms. Vijay | 2019HS21M | Development and nutritional evaluation of value added food product using sorghum and Bengal gram. | Dr. Urvashi Nandal |
| 35. | Mr. Yashwant B.S. | 2019HS22M | Study the effect of house hold processing on pesticides residue in locally grown vegetables of Hisar | Dr. Urvashi Nandal |
| 36. | Ms. Deepika | 2020HS15M | Snack consumption pattern and its implications on nutritional status of adolescents of Hisar | Dr. Urvashi Nandal |
| 37. | Ms. Katheti Bhargavi Devi | 2020HS16M | Food consumption pattern of adults and its relationship with known communicable diseases. | Dr. Varsha Rani |
| 38. | Ms. Mahima Rani | 2020HS17M | Knowledge practices and awareness regarding soybean consumption in urbun households of Hisar | Dr. Urvashi Nandal |
| 39. | Ms. Raveena Rani | 2020HS19M | Assessment of nutritional and health status of young women and without polycystic ovary syndrome (PCOS) in Fatehabad District. | Dr. Veenu Sangwan |
| 40. | Ms. Shikha | 2020HS20M | Assessment of nutritional and health status of young women and without polycystic ovary syndrome (PCOS) in Hisar, Haryana | Dr.Veenu Sangwan |
| 41. | Ms. Swati Nautiyal | 2020HS21M | Impact of nutrition education on nutritional status adult in Kumaon region of Uttrakhand | Dr. Varsha Rani |
| 42. | Ms. Twinkle | 2020HS22M | Gender disparity in Nutritional Status of rural and urban adult population | Dr. Sangeeta C. Sindhu |
| **On-roll** | | | | |
| 1. | Ms. Bhavna | 2021HS18M | Development and evaluation of iron-fortified food products utilizing Kufri Neelkanth potato | Dr. Sangeeta C. Sindhu |
| 2. | Ms. Geeta | 2021HS19M | Development and nutritional evaluation of value-added products using Bio-fortified lentils | Dr. Sangeeta C. Sindhu |
| 3. | Ms. Kanti Ghimire | 2021HS20M | Development of multigrain baked products using Stevia for diabetic patients | Dr. Urvashi Nandal |
| 4. | Ms. Mansi | 2021HS21M | Value addition and nutritional evaluation of traditional food products using Okara | Dr. UrvashiNandal |
| 5. | Ms. Mukesh Kumari | 2021HS22M | Development and nutritional evaluation of value-added products using purple wheat-based composite flour | Dr. Sangeeta C. Sindhu |
| 6. | Ms. Neetu | 2021HS23M | Development and nutritional evaluation of value-added food products using Beetroot | Dr. Urvashi Nandal |

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| 7. | Ms. Nishtha | 2021HS24M | Assessment of nutritional status and food consumption pattern of rural and urban families from Jind district, Haryana | Dr. Sangeeta C. Sindhu |
| 8. | Ms. Simran Gupta | 2021HS25M | Effect of processing and storage on nutritional quality and shelf life of biofortified pearl millet | Dr. Veenu Sangwan |
| 9. | Ms. Yachana | 2021HS26M | Effect of sprouting on nutritional profile of products developed from black wheat | Dr. Urvashi Nandal |
| 10. | Ms. Anchal | 2022HS14M | Development and popularization of Multimillet traditional products | Dr. Veenu Sangwan |
| 11. | Ms. Barkha | 2022HS15M | Effect of processing on sorghum and its utilization in development of products | Dr. Urvashi Nandal |
| 12. | Ms. Kamna | 2022HS16M | Efficacy of millets incorporated muffins on blood glucose and appetite response in healthy young men | Dr. Jyoti Sihag |
| 13. | Ms. Monika | 2022HS17M | Effect of dietary fats/oils on satiety hormones and blood lipid profile in a healthy young population | Dr. Jyoti Sihag |
| 14. | Ms. Nancy | 2022HS18M | Evaluation of nutritional and organoleptic quality of different vegetables cultivated under diverse nutrient sources | Dr. Urvashi Nandal |
| 15. | Ms. Nitu | 2022HS19M | A study on dietary habits and lifestyle disorders as associated with stress in adult females of urban Hisar, Haryana | Dr.Sangeeta C. Sindhu |
| 16. | Ms. Simran Sheoran | 2022HS20M | Effect of drying methods on nutritional composition of black turmeric (*Curcuma caesia Roxb.)* and its utilization in product development | Dr.Varsha Rani |
| 17. | Ms. Shivangi Singh Chauhan | 2022HS32M | To be finalized in the first semester 2023-24 | Dr. Sangeeta C. Sindhu |
| 18. | Ms. Tanuja Mehra | 2022HS33M | To be finalized in the first semester 2023-24 | Dr. Urvashi Nandal |

## *ANNEXURE VII - C*

## LIST OF PUBLICATIONS FROM M.Sc. STUDENTS' RESEARCH (2018-23)

**Book Chapters:**

1. Bishnoi, M., Sangwan, V., Nandal, U., Kamboj, N. and Singh, S. 2020. Significance and implications of fibre in our diet, *In* Hasan *et al. (Eds.)* Extension Strategies for Doubling Farmer Income. Biotech Books, New Delhi. pp201-214

**Research Papers:**

1. Anjali and Rani, V. 2018. Nutritional Composition of Functional Extrudates Developed from Wheat and Black Gram. *International Journal of Current Microbiology and Applied Sciences*, 7(8): 375-381.
2. Kumari, V., Sindhu, S.C. and Singh, J. 2018. Digestibility of indigenously developed sorghum based composite flours. *International Journal of Chemical Studies*, 6(2): 3376-3379.
3. Singh, J., Sindhu, S.C. and Sindhu, A. 2018. Digestibility and antimicrobial activity of developed *Lentinus edodus* powder. *International Journal of Chemical Studies*, 6(1): 1848-1852.
4. Sirohi, M. and Sangwan, V. 2018. Impact of nutrition education on knowledge gain of rural post-menopausal women of Haryana. *Journal of Pharmacognosy and Phytochemistry,* 7(6): 1462-1464.
5. Tharshini, G., Sangwan, V. and Suman. 2018. Organoleptic and chemical characteristics of soybean and pomegranate peel powder supplemented cakes. *Journal of Pharmacognosy and Phytochemistry,* 7(2): 35-39.
6. Tharshini, G., Sangwan, V. and Suman. 2018. Formulation and chemical characterization of bread supplemented with pomegranate peel powder. *International Journal of Chemical Studies*, 6(2): 386-390.
7. Pandey, L., Sangwan, V. and Malik, K. 2018. Nutritional and Keeping Quality Characteristics of Value Added Composite Flour *Sev. International Journal of Current Microbiology and Applied Sciences*, 7(01): 3081-3087.
8. Tharshini, G., Sangwan, V. and Suman. 2018. Nutritional, Organoleptic and Keeping Quality of Wheat-Soybean Cookies Supplemented with Pomegranate Peel Powder. *International Journal of Current Microbiology and Applied Sciences*, 7(1): 803-810.
9. Kumari, V. and Sindhu, S.C. 2019. Malting of sorghum improves mineral and carbohydrate profile of indigenously developed sorghum-soybean weaning mix. *Multilogic in Science*, 9(29): 271-274.
10. Sirohi, M. and Sangwan, V. 2019. Physical and Psychological Changes Experienced by Women after Menopause. *International Journal of Current Microbiology and Applied Sciences*, 8(10): 2437-2441.
11. Rani, P. and Sangwan, V. 2019. Effect of family income and family composition on mean food intake of rural children (10-12 years) of Haryana. *Food Science Research Journal. Journal*, 10(2): 144-148.
12. Pandey, L. and Sangwan, V. 2019. Mineral characteristics and shelf life studies of cereal and legume based value added *Ladoos. International Journal of Chemical Studies*, 7(1): 14.
13. Rani, P. and Sangwan, V. 2019. Nutrient adequacy and clinical assessment of rural school children (10-12 years) of Haryana. *Journal of Pharmacognosy and Phytochemistry,* 8(1): 2284-2288.
14. Anjali, Rani, P. and Rani, V. 2019. Development and quality evaluation of bread and cake supplemented with black gram flour. *Annals of Agri-Bio Research*, 24(1): 119-122.

15. Reena, Rani, V., Jandu, R., John, J. and Sonia. 2020. Effect of processing on sensory and nutritional quality of fenugreek supplemented biscuits. *International Journal of Chemical Studies*, 8(3): 1900-1902.
16. John, J., Rani, V., Sangwan, V., Sonia and Reena. 2020. Garden Cress Seeds a Promising Alternative for the Development of Nutrient Dense Muffins. *European Journal of Nutrition and Food Safety*, 12(9): 138-146.
17. John, J., Rani, V., Sangwan, V. and Sonia. 2020. Garden cress seeds: A superior grain for the development of nutrient rich cutlets. *International Journal of Chemical Studies*, 8(4): 3946-3950.
18. Sonia, Rani, V., Sindhu, S.C. and John, J. 2020. Curry Leaves: A Promising Ingredient for the Development of β-Carotene Rich Upma. *International Journal of Current Microbiology and Applied Sciences*, 9(9): 1326-1332.
19. Sonia, Rani, V., Sindhu, S.C., Kumar, N. and John, J. 2021. Vitamin-A Enrichment in dhokla with Murrayakoenigi: An Underutilized Medicinal Plant in India. *Environment and Ecology*, 39(4): 791-796.
20. Dhami, S., Sindhu, S.C., Priti, Kumari, V. and Rani, V. 2021. Physical activity and Health status of adolescents from Government and Private School: A Comparative assessment. *Multilogic in Science*, 11(28).
21. Chaudhary, S., Sindhu, S.C., Kumari, N. and Kumari, V. 2021. Physico chemical and malting characteristics of pearl millet hybrids. *The Pharma Innovation Journal*, 10(4): 947-949
22. Kumari, V., Sindhu, S.C., Kumari, N. and Dhami, S. 2021. Malting Improves Nutritional Properties of Sorghum-Mungbean- Banana Composite Flour. *The Pharma Innovation Journal*, 10(5): 729-733.
23. Dhami, S., Sindhu, S.C., Priti, Kumari, V. and Kumari, N. 2021. Dietary intake by adolescents from government and private school: A comparative assessment. *International Journal of Home Science*, 7(1): 244-247.
24. Malik, P., Sindhu, S.C., Sangwan, V., Kumari, N. and Kumari, A. 2021. Composite flour of Babool (Acacia Nilotica) and Banana (Musa Sp.): Nutritional and antioxidant potential. *The Indian Journal of Nutrition and Dietetics*, 58(3): 378-389.
25. Manisha, Punia, D. and Sindhu, S.C. 2021. Chapati and Laddoo preparation by using composite flour of wheat and water chestnut and their sensory and nutritional evaluation. *Frontiers in Crop Management*, 9: 2223-2228.
26. Manisha, Punia, D. and Sindhu, S. C. 2021. Development of bakery products using composite flour of wheat and water chestnut and their sensory and nutritional evaluation. *The Pharma Innovation Journal*, 10(5): 1038-1042.
27. Khare, B., Sangwan, V. and Rani, V. 2021. Influence of sprouting on proximate composition, dietary fibre, nutrient availability, anti-nutrient and antioxidant activity of flaxseed varieties. *Journal of Food Processing and Preservation*.
28. Bajaj, A., Sangwan, V., Kawatra, A. and Rani, V. 2021. Non starch polysaccharides (dietary fibre) of bio-fortified pearl millet varieties as Influenced by malting. *The Indian Journal of Nutrition and Dietetics*, 58(1): 99-106.
29. Bajaj, A., Sangwan, V., Rani, V., Kawatra, A. and Suthar, R. 2021. Nutritional quality and storage stability of processed biofortified pearl millet varieties. *Asian Journal of Dairy and Food Research*.
30. Bansal, T., Kawatra, A. and Sangwan, V. 2021. Sensorial, nutritional and shelf life evaluation of bio-fortified millet based cookies supplemented with carrot powder and sesame. *Asian Journal of Dairy and Food Research*. Jyoti, Jood, S. and Sangwan, V. 2021. Nutritional composition and sensory characteristics of wheat based *Kulcha* and buns supplemented with spinach leaves powder. *Frontiers in Crop Improvement*, 9: 2165-2169 (Special Issue-V).

31. Jyoti, Sangwan, V. and Jood, S. 2021. Enrichment of traditional recipes with spinach leaves powder and their nutritional evaluation. *Chemical Engineering*, 2(4):77-82.
32. Rathi, B., Rani, V., Khetarpaul, N. and Sangwan, V. 2016. Anthropometric measurements of rural and urban adolescents of Gurgaon, Haryana. *HAU Journal of Research*, 46(1&2): 1-7. (Published in 2021)
33. Anjali, Rani, V., Punia, D. and Sangwan, V. 2016. Sensory and nutritional evaluation of biscuits developed using black gram flour. *HAU Journal of Research*, 46(1&2): 31-36. (Published in 2021)
34. Vinita, Rani, V., Punia, D. and Sangwan, V. 2016. Effect of cooking methods on total phenolic and flavonoid contents of selected cereals. *HAU Journal of Research*, 46(1&2): 43-46. (Published in 2021)
35. Nisha, Rani, V., Sangwan, V. and Sindhu, S.C. 2017. Trends of consumption and quantitative intake of individual food groups in the diets of adolescents of Fatehabad, Haryana. *HAU Journal of Research*, 46(1 & 2): 05-10. (Published in 2021)
36. Sonia, Rani, V., Sindhu, S.C. and Neha, 2022. Development and nutritional evaluation of curry leaves supplemented Idli. *The Pharma Innovation Journal*, 11(2): 620-623.
37. Kumari, P., Sindhu, S.C., Dhami, S. and Kumari, V. 2022. Elderly People from Old Age Homes have Higher Risk of Malnutrition and Depression as Compared to Family Setup. *The Indian Journal of Nutrition and Dietetics*, 59(1): 89-104.
38. Verma, J., Rani, V., Sangwan, V. and Karnika, 2022. Physical, sensory and nutritional quality of anthocyanins rich pasta prepared using biofortified purple wheat. *Annals of Phytomedicine*, 11(1): 78-85.

**Papers Presented and Abstracted in Conferences/ Seminars/Workshops**

1. Beniwal, A. and Sangwan, V. 2019. Health benefits of millet. National Workshop on Production, Processing and Value Addition of Nutri-Cereals (Millets) in India. Department of Genetics & Plant Breeding, CCS HAU, Hisar, September, 16:111.
2. Bishnoi, M., Sangwan, V. and Singh, D.P. 2019. Role of gluten free diet and value added products in celiac disease. Golden Jubilee International Conference on New Millenia Agriculture- Novel Trends and Future Scenario, November 6-8, 2019, CCS HAU, Hisar. 456.
3. Chaudhary, S. and Sindhu, S.C. 2019. Development and nutritional evaluation of biscuits from malted pearl millet. Golden Jubilee International Conference on New Millenia Agriculture- Novel Trends and Future Scenario, November 6-8, 2019, CCS HAU, Hisar: 447.
4. Jyoti and Sangwan, V. 2021. Nutritional Composition, Amino Acid Content and Storage Stability of Gluten Free Biscuits Supplemented with Quinoa Flour. International Conference on Food, Agriculture and Innovations, Jharkhand. 620.
5. Kamboj, N. and Sangwan, V. 2019. Innovative approach to utilise pomegranate peel powder in value added food products. Golden Jubilee International Conference on New Millenia Agriculture- Novel Trends and Future Scenario, November 6-8, 2019, CCS HAU, Hisar: 451.
6. Kumari, V., Sindhu, S.C. and Kumar, D. 2019. Development and quality evaluation of weaning food from malted sorghum incorporated with mungbean and raw banana. International Symposium on Innopreneurship: A need of Sustainable Agriculture, Directorate of Research, CCS HAU, Hisar, February 2-3, 2019: 367.
7. Pandey, L. and Sangwan, V. 2019. Effect of storage period on chemical properties of value added biscuits developed from sorghum and soybean flours. International Symposium on Innopreneurship: A need of Sustainable Agriculture, Directorate of Research, CCS HAU, Hisar, February 2-3, 2019: 379.
8. Sonia, Rani, V. and Sindhu, S.C. 2019. Potential of curry leaves for the development of carotene rich products. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCSHAU Hisar, March 8, 2019: 152.
9. Sonia, Rani, V. and Sindhu, S.C. 2019. Utilisation of curry leaves as a functional ingredient for the development of buns and *kulche*. Golden Jubilee International Conference on New Millenia Agriculture- Novel Trends and Future Scenario, CCS HAU, Hisar, November 6-8, 2019.
10. Tharshini, G., Sangwan, V. and Ambawat, S. 2018. Formulation, nutritional characterization and storage qualities of pomegranate peel powder supplemented *nankhatai*. 3rd Convention of Veterinary Biochemistry and Biotechnologists of India and National Symposium on Bridging Biochemical Interventions and Environmental Remediations for One Health Improvement, 2-3, November, 2018: 138.

**Leaflet**

1. Bishnoi, M. and Sangwan, V. (2020). Celiac *bimari ke laxan evam bachaav*. Department of Foods and Nutrition, CCS HAU, Hisar and CIWA, Bhubaneswar.

## *ANNEXURE VIII - D*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY M.Sc. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars/Trainings with dates and venue |
|---|---|
| **Ms. Neetu 2021HS23M** | VII International Conference on Global Research Initiatives for Sustainable Agriculture and Allied Science |
| **Ms. Neetu 2021HS23M** | 5$^{th}$ International Conference on Food and Nutrition |
| **Ms. Neetu 2021HS23M** | International Conference on Biotechnology and Human Welfare |

## *ANNEXURE VII E*

## DETAILS OF Ph.D. STUDENTS

## FROM 2ND SEMESTER 2018-19 TO 1ST SEMESTER 2022-23

| Sr. No. | Name of Student | Admn. No. | Title of thesis | Major advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| **1.** | Ms. Sarita Verma | 2012HS07D | Formulation and nutritional evaluation of sorghum based cereal bars | Dr. Neelam Khetarpaul |
| **2.** | Ms. Mamta | 2014HS05D | Assessment of nutritional status of geriatric population of Sirsa District, Haryana and development of value added food products. | Dr. Pinky Boora |
| **3.** | Ms. Vinita | 2014HS06D | Effect of cooking on antioxidant activity in commonly consumed foods. | Dr. Darshan Poonia |
| **4** | Ms. Meenu Sirohi | 2015HS03D | Assessment of nutritional and health status of post menopausal women of Hisar district, Haryana | Dr. Veenu Sangwan |
| **5.** | Ms. Neeta Kumari | 2015HS05D | Processing of pumpkin seeds and their utilization in product development | Dr. SangeetaC.Sindhu |
| **6.** | Ms. Mumtaz Begum | 2016HS02D | Development of value added products using lotus stem (*Nelumbo nucifera*) | Dr. Darshan Poonia |
| **7.** | Ms. Sonia Gulia | 2016HS03D | Development and evaluation of pearl millet *(Pennisetum Glaucum L)* based value added products incorporating chia seeds (*Salvia hispancia L.)* | Dr. Asha Kawatra |
| **8.** | Ms. Nisha Rani | 2016HS04D | Nutritional status assessment of adults suffering from non-insulin dependent diabetes millitus | Dr. Sangeeta C. Sindhu |
| **9.** | Ms. Renuka Jandu | 2017HS05D | Development and quality evaluation of betel leaves *(piper betle L*) incorporated products | Dr. Varsha Rani |
| **10.** | Ms. Pragati Godara | 2017HS06D | Development and nutritional evaluation and shelf life of value added products prepared from pearl millet (*pennisetum glaucum L.)* | Dr. Asha Kawatra |
| **11.** | Ms. Anisha Beniwal | 2018HS06D | Development and nutritional evaluation of value added food product using fresh and dried carrot pomace | Dr. Veenu Sangwan |

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| **12.** | Ms. Jyoti | 2018HS07D | Utilization of quinoa *(Chenopodium quinoa)* for preparation of gluten free products and their nutritional evaluation | Dr. Darshan Poonia |
| **13.** | Ms. Lavanya A | 2018HS08D | Effect of processing on nutritional quality of teff (*Eragrostis tef*) and its utilization for development of value added products | Dr. Varsha Rani |
| **14.** | Ms. Manisha | 2018HS09D | Development and evaluation of nutrient rich foods with low glycemic index using *kikar (Acacia nilotica*) PODS and *kundru(Coccinia Indica)* | Dr. Sangeeta C. Sindhu |
| **15.** | Ms. Tanvi Bansal | 2018HS10D | Development nutritional evaluation and entrepreneurial Potentional of pearl millet choco bars | Dr. Asha Kawatra |
| **16.** | Ms. Rajni | 2019HS13D | Efficacy of shatavari root powder in improving lactation performance | Dr. Varsha Rani |
| **17.** | Ms. Seema | 2019HS15D | A study on processing nutritional evaluation and produce development of sesbania bispinosa (*Dhaincha)* | Dr. Asha Kawatra |
| **On roll** | | | | |
| **1.** | Ms. Neha | 2019HS12D | Development and quality evaluation of psyllium husk value-added products and assessing the impact of their consumtion on Body Mass Index of over weight women | Dr. Veenu Sangwan |
| **2.** | Ms. Raveena | 2019HS14D | Development of dietary module and study its effect on nutritional status and knowledgeof cardiac patients | Dr Urvashi Nandal |
| **3.** | Ms. Aditi Sharma | 2020HS11D | Comparative Nutritional Status Assessment of Children (3-5 Years) from Rural and Urban Hisar | Dr. Monika Sharma, KVK Jhajjar |
| **4.** | Ms. Mantavya Bishnoi | 2020HS12D | Comparison of Indian and Australian Bee Honey Quality Parameters | Dr. Urvashi Nandal |
| **5.** | Ms. Manu Devi | 2020HS13D | Assessment of the infant feeding practices and its impact on nutritional status of infants in rural Haryana | Dr. Veenu Sangwan |

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| **6.** | Ms. Nisha Rani | 2020HS14D | Effect of processing on physical, functional and nutritional properties of bio-fortified grains | Dr. Varsha Rani, KVK Faridabad |
| **7.** | Ms. Santosh Sharma | 2020HS15D | Assessment of nutritional status and dietary pattern of working and non-working women of Hisar city | Dr. Monika Sharma, KVK Jhajjar |
| **8.** | Ms. Sheetal | 2020HS16D | Formulation and nutritional evaluation of processed soybean—based gluten free bar | Dr. Urvashi Nandal |
| **9.** | Ms. Sonia | 2020HS17D | Development of products using different fortification methods : Evaluation of iron bio-accessibility | Dr. Sangeeta C. Sindhu |
| **10.** | Ms. Jahnabi Borah | 2021HS10D | Study on dietary habits and lifestyle disorders as associated with stress in academic cohort | Dr. Sangeeta C. Sindhu |
| **11.** | Ms. Partibha | 2021HS11D | Assessment of food consumption pattern and energy balance of farm women | Dr. Sangeeta C. Sindhu |
| **12.** | Ms. Rekha Yadav | 2021HS13D | Assessment of greens consumption and dietary diversity in rural households | Dr. Urvashi Nandal |
| **13.** | Ms. Neha Bajal | 2022HS06D | Influence of biofortified food crops on nutrient adequacy in children: A linear programming analysis using Optifood | Dr. Varsha Rani, KVK Faridabad |
| **14.** | Ms. Priyanka | 2022HS07D | Impact of nutrition education on millet consumption pattern of women in Hisar, Haryana | Dr. Veenu Sangwan |
| **15.** | Ms. Raveena Rani | 2022HS08D | Impact of nutrition education on millet consumption pattern of women in Fatehabad, Haryana | Dr. Veenu Sangwan |
| **16.** | Ms. Sheeba Sharma-ICAR | 2022HS13D | Not decided yet | Dr. Urvashi Nandal |

## *ANNEXURE VII - F*

## LIST OF PUBLICATIONS FROM Ph.D. STUDENTS' RESEARCH (2018-23)

**Book Chapters**

1. Bansal, T., Kawatra, A. and Sangwan, V. 2021. Formulation, organoleptic and nutritionalevaluation of bio-fortified pearl millet based traditional Indian cuisine "*Khichri*" supplemented with carrot and sesame in *Multi-disciplinary Approaches for Development of Agriculture and Allied Sectors in Global scenario*. Vidya Kutir Publications, New Delhi. p: 224 to 231
2. Jyoti, Sangwan, V., and Jangra, A. 2022. Wood Apple: Its nutritive value and medicinal benefits in *Research Trends in Food Technology and Nutrition*. Vol. 20, Pgs. 143-152. Akinik Publications.
3. Jyoti, Sangwan, V. and Jangra, A. 2022. A Comprehensive Review of Nutritional, Health Aspects and Innovative uses of Pseudo-Cereal: Quinoa in *Food and Nutritional Security: An Indian Perspective*. Vol.3, pp 91-104.

**List of Publications from Ph.D. Students' Research (2018-23)**

1. Kumari, N. and Sindhu, S.C. 2019. Nutrient and mineral composition of developed value-added cookies incorporating germinated pumpkin seed powder. *International Journal of Chemical Studies*, 7(3): 4583-4586.
2. Rani, P., Rani, V., Punia, D. and Reena. 2019. Effect of shatavari root powder on sensory and nutritional composition of biscuits. *Journal of Pharmacognosy and Phytochemistry*, **8**(5): 523-526.
3. Rani, P., Rani, V., Jandu, R., Lavanya, A. R. and John, J. 2020. Effect of Storage on Sensory Acceptability and Oxidative Rancidity of Wheat Biscuits Fortified with Asparagus racemosus Root Powder. *European Journal of Nutrition & Food Safety*, 12(6): 13-22.
4. Kumari, N., Sindhu, S. C., Kumari, V. and Rani, V. 2020. Nutritional evaluation of developed value added biscuits incorporating germinated pumpkin seed flour. *Journal of Pharmacognosy and Phytochemistry*, 9(5): 2802-2806.
5. Kumari, N., Sindhu, S. C., Kumari, V. and Rani, V. 2020. Shelf life evaluation of biscuits and cookies incorporating germinated pumpkin seed flour. *International Journal of Current Microbiology and Appied Sciences*, 10 (1): 1436-1443.
6. Rani, P., Rani, V., Renuka and Gulia, S. 2020. Capacity Building of Rural Women through Value Addition of Traditional Products. *Annals of Biology*, 36(3): 476-478.
7. Jandu, R., Rani, V., Sangwan, V., Rani, P. and Pragati, 2021. Development and nutritional evaluation of sev prepared by incorporation of fresh betel leaves (Piper betle L.) slurry. *The Pharma Innovation Journal*, 11(1): 655-658.
8. Kumari, N., Sindhu, S. C., Rani, V. and Kumari, V. 2021. Development and Evaluation of Indian Traditional Sweet 'Laddoo' Supplemented with Germinated Pumpkin Seed Flour. *Asian Food Science Journal*, 20(2): 48-55.
9. Kumari, N., Sindhu, S. C., Rani, V., Kumari, A. and Kumari, V. 2021. Effect of Fermentation on Nutrient Composition of Pumpkin Seed Flour. *Annals of Agri-Bio Research*, 26(2): 234-237.
10. Vinita, Rani, V. and Ritu. 2022. Antioxidant profile of commonly consumed fruits and vegetables in India. *Bangladesh J. Bot*, 51(1): 45-50.
11. Lavanya, A., Rani, V. Sangwan, V. and Godara, P. 2022. Optimization for Incorporating Teff, Sorghum and Soybean Blends in Traditional Food Preparations. *IAHRW International Journal of Social Sciences Review*, 10(4): 422-426.

12. Manisha, Sindhu, S.C. and Nandal, U. 2022. Brown rice Idli: Development and evaluation of a low Glycemic index Indian breakfast food. *The Pharma Innovation Journal*, 11(1): 1255-1258.
13. Rani, N. and Sindhu, S. C. 2022. Physical activity pattern and life style habits among rural and urban diabetic subjects. *International Journal of Home Science*, 8(1): 16-20.
14. Rani, N., Sindhu, S.C., Rani, V. and Manisha. 2022. Food consumption pattern among rural and urban diabetic subjects. *The Pharma Innovation Journal*, 11(2): 1633-1638.

**Papers Presented and Abstracted in Conferences/ Seminars/Workshops**

1. Lavanya. A and Reema Devi. 2018. Extensive Properties and utilization on tamarind seed powder in different food formulations. International conference on Sustainable Agriculture, Energy, Environment and technology (ICSAEET-2018).
2. Lavanya. A and Pinky Boora. 2018. Development of value-added food products from rice. 3rd Conventionand National Symposium on Bridging Biochemical Interventions and Environmental Remediations for one health improvement (SVBBI2018).
3. Sirohi, M., Sangwan, V. and Sirohi, C. 2018. Health benefits of Roselle (*Hibiscus sabdariffa*). 3rd Convention of Veterinary Biochemistry and Biotechnologists of India and National Symposium on Bridging biochemical interventions and environmental remediations for one health improvement, 2-3, November, 2018: 166.
4. Sirohi, M. and Sangwan, V. 2019. Assessment of nutritional knowledge of urban post menopausal women before and after imparting nutrition education. Golden Jubilee International Conference on New Millenia Agriculture- Novel Trends and Future Scenario CCS HAU, Hisar, November 6-8, 2019: 427.
5. Sirohi, M. and Sangwan, V. 2019. Role of pumpkin seeds in food security and health. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCSHAU Hisar, March 8, 2019: 37.
6. Sirohi, M. and Sangwan, V. 2019. Role of pumpkin seeds in food security and health. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCSHAU Hisar, March 8, 2019: 37.
7. Lavanya. A and Pinky Boora. 2019. Improved rice varieties for national nutritional intervention programmes. International Conference on Climate Change towards Health and Agricultural Sustainability (CCHAS-2019).
8. Kumari, N. and Sindhu, S.C. 2019. Entrepreneurial prospects of pumpkin seed products. International Symposium on Innopreneurship: A need of sustainable Agriculture, Directorate of Research, CCS HAU, Hisar, February 2-3, 2019: 392.
9. Kumari, N. and Sindhu, S.C. 2019. Nutrient and mineral composition of developed value-added biscuits incorporating germinated pumpkin seed flour. Golden Jubilee International Conference on New Millenia Agriculture- Novel Trends and Future Scenario CCS HAU, Hisar, November 6-8, 2019: 454.
10. Jyoti and Jood, S. 2019. Nutritional evaluation of biscuits supplemented with spinach leaves powder (*Spinacia oleracea* L.). National Seminar on Innovative Strategies for Gender Equality.
11. Jyoti and Jood, S. 2019. Characterization of minerals in biscuits supplemented with spinach leaves powder. International Conference on Contemporary Issues in Integrating Health and Nutrition with the Emerging Areas of Food Technology, Agriculture, Environment and Allied Sciences, New Delhi.
12. Jyoti, Jood. S. and Sangwan. V. 2021. Nutritional composition and Sensory characteristics of Wheat Based kulcha And buns supplemented with Spinach leaves Powder. International Web Conferenceon Global Research Initiatives for Sustainable Agriculture & Allied Sciences, SKRAU Bikaner, December 13-15, 2021.
13. Jyoti and Sangwan, V. 2021. Nutritional composition, amino acid content and storage stability of gluten free biscuits supplemented with Quinoa flour. 3rd International Conference on Food, Agriculture and Innovations, December 24-26, 2021.

14. Lavanya, A., Varsha Rani and Sunil, R. 2021. Nutritional composition of teff seeds. IAPEN Clinical nutrition Congress.
15. Lavanya, A. and Varsha Rani. 2021. Optimization of red teff, sorghum and Soyabean flour blending ratios for sensory acceptability of porridge. International Conference on Role of Micronutrients for Immunity & Health, 2021.
16. Rani, P., Rani, V., Sangwan, V., Sindhu, S. C., Dahiya, M. and Ritu. 2021. Effectiveness of blanching in removing bitter after taste, nutrients milieu and saponins of asparagus racemosus root powder: An immune booster, I.B. (PG) College, Panipat, July 01, 2021: 52.
17. Jyoti and Sangwan, V. 2022. Utilization of quinoa flour (*Chenopodium quinoa* Wild.) in gluten free pasta formulation: Effects on nutritional, dietary fibre, total minerals and sensory properties International Conference on Advancement of Science and Technology for Environment, Society and People, Kozhikode, 2022: 29.
18. Jyoti and Sangwan, V. 2022. Utilization of quinoa flour (*Chenopodium quinoa* Wild.) in gluten-free laddoo formulation: Effects on sensory properties, nutritional, amino acid and total mineral. International Conference on Recent Trends in Smart and Sustainable Agriculture for Food Security, Punjab.
19. Jyoti, Sangwan, V. and Rani, V 2022. Influence of Quinoa Supplementation in Maize Flour on Nutritional Properties of Chapati. International Conference on Recent Trends in Science, Technology, Management & Humanities, March 29, 2022.
20. Jyoti and Sangwan, V. 2022. Utilization of quinoa flour (*Chenopodium quinoa* Wild.) in gluten-free pasta formulation: Effects on nutritional, dietary fibre, total minerals and sensory properties. International Conference on Advancement of Science and Technology for Environment, Society and People, 28-29 January 2022.
21. Yadav, R. and Yadav, N. 2022. Nutraceutical Benefits of β-Glucans in Human Health Nutrition. 5$^{th}$ International Conference on Food and Nutrition, Universal Society of Food and Nutrition, Malaysia, November 16-17, 2022: 8.
22. Yadav, R. and Yadav, N. 2022. Osmotic Dehydration Processing Techniques of Fruits And Vegetables Combined With Drying Methods For Sustainable Food Production. 7$^{th}$ International Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences, Astha Foundation, Meerut (U.P.), India, November 21-23, 2022: 234.
23. Lavanya, A. and Varsha Rani. 2022. Evaluation on physical properties of teff seeds. National conference on Mathematical Sciences for Applied and Agricultural Research. CCS HAU, Hisar.
24. Yadav, R. and Yadav, R. 2023. Role of omega-3 PUFA for cardiovascular diseases. International Conference on Public Health and Dietary Lifestyle, Universal Society of Food and Nutrition, May 10-11, 2023:79.

**Popular Articles**

1. Rani, P. Rani, V. and Khetarpaul, N. 2018. *Shatavari prakrati ka ek vardan*. *Haryana kheti* 51(7): 20.
2. Sirohi, M. and Sangwan, V. 2018. Badhti umar ki mahilaon ke swasthya par khan pan ka prabhav. Haryana *Kheti*, 51(4): 21-22.
3. Sirohi, M. and Sangwan, V. 2018. Role of Fruits and Vegetables in Human Nutrition. *Haryana Kheti*, 51 (6): 28-31.
4. Sirohi, M. and Sangwan, V. 2018. Samaj keVibhinn Ayu Vargo me Pran ghatak Bimario ki Badhti Samasiae: Karan v Nivaran. Haryana Kheti, 51 (12): 26-27.
5. Sirohi, M. and Sangwan, V. 2019. *Swasthiya ki Drasti se Arjun ki Chal ka Mehatav*. Haryana *Kheti*, 52 (4): 22-26.
6. Rani, P. and Rani, V. 2019. *Subha ka nashta: manav swasthya main mehatva*. Haryana *kheti* 52(8): 20.
7. Sirohi, M. and Sangwan, V. 2019. *Garmi k mausam m swathya sambandhi sujhaav*. Haryana *Kheti*, 52 (7): 23-24.

8. Kumari, N., Sindhu, S.C. and Chahal, P. 2020. *Gehun ke jware (wheat grass) kelaabh*. *Haryana Kheti* (1):3
9. Kumari, N., Sindhu, S.C. and Chahal, P. 2020. *Tulsi ke laabh*. Haryana *Kheti* (3):28
10. Neeta Kumari and Sindhu, S.C. 2020. *Doodh pilane wali mataon ke liye paushtik aahar*. Haryana *Kheti*. 53 (7): 29
11. Neeta Kumari and Sindhu, S.C. 2020. *Garbhavastha ke daruan khan pan*. *Haryana Kheti*. 53 (8): 19-20
12. Sarita Verma and Sindhu, S.C. 2020. *Staanpaan: Shishu aur Maa keliye bahumulya aushdhi*. Haryana *Kheti*. 53 (11):28
13. Jyoti and Sangwan, V. 2022. *Sehat kaakhazaanahhpaalak. Krishi Pravahika*, 2(3): 22-232583-0430.
14. Jyoti and Sangwan, V. 2021. *Kinooaa: Aaj k yuug ka paushtik khadya*. Haryana *Kheti*. 54(10): 24.
15. Kumari, N. and Sindhu, S.C. 2021. *Alsi ke swasthya sambandit laabh*. Haryana *Kheti* 10:27
16. Jyoti and Sangwan, V. 2022. *Sehat kaa khazaana paalak. Krishi Pravahika*, 2(3): 22-23.
17. Jyoti, Sangwan, V. and Jangra, A. 2022. Fennel Seed with Unique Medicinal Properties. Agriculture & Food. 4(4): 735-737.
18. Jyoti, Sangwan, V. and Jangra, A. 2022. *Gur* and its Goodness. Agriculture & Food. 4(4):117-119.
19. Jyoti, Sangwan, V. and Rao, N. 2022. Mushroom ke *paushtik awaam aaushhdiyaa guun*. Haryana *Kheti*, 55(2):5-6.
20. Kumari, N. and Sindhu, S.C. 2022. *Jeevan kepahle 1000 din*. Haryana *Kheti* 2:30
21. Lavanya, A and Rani, V. 2022. Air frying- a new technology: Are air- fried foods healthy? Food & Beverages Processing 8(8): 12-13.
22. Rajni and Rani, V. (2022) Gajjer ke pette ke anokhe labh. Kheti Dunia, 6(50):2.
23. Rani, N. and Rani, V. 2022. Biofortification-kuposhan se ledne ki nai rannniti. Haryana Kheti, 55(11):21.
24. Rani, N. and Rani, V. 2022. Robotics in Food Industry: yay or nay? Food & Beverages Processing 9(2):12-13.
25. Rajni, Rani, V. and Sindhu, S.C. 2023. Shatavari: Mahilaon ke liye khas jedi booti. Kheti Dunia, 6(51):5.
26. Raveena and Nandal, Urvashi. 2023. *Weaning food keroopmei millets*, Haryana *Kheti*, 56(5): 27-28
27. Raveena, Nandal, Urvashi and Yadav, Rekha. 2023. *Jowar:Ek anoothaanaj*, *Haryana Kheti*, 56(5): 1-12.
28. Raveena, Nandal, Urvashi and Yadav, Rekha. 2023. *Kodo: Ek superfood*, *Haryana Kheti*, 56(5):21-22.
29. Neha, Sangwan, V. and Sonia. 2023. *Gajar ek gun anek*, *Haryana Kheti*, 56(4): 30.
30. Neha, Sangwan V. and Sonia. 2023 *Poshan Se Bharpur Ragi*, *Haryana Kheti*, 56(5): 25.

**Leflets/ Folders**

1. Rani, P. and Rani, V. 2019. *Shatavari ki jadke powder ka upyog kerke mulya sanwardhit khadya pdarath banana*. Department of Foods and Nutrition, COHS, CCS HAU, Hisar.
2. Rani, P. and Rani, V. 2019. *Shatavari ki jadke powder ka upyog kerke mulya sanwardhit biscuit va cake benana*. Department of Foods and Nutrition, COHS, CCS HAU, Hisar.
3. Rani, P. and Rani, V. (2019).*Shatavari ki jad se powder benane ki vidhi*. Department of Foods and Nutrition, COHS, CCS HAU, Hisar.

## *ANNEXURE VII - G*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY PH.D. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars/Trainings with dates and venue |
|---|---|
| Ms. Nisha Rani 2020HS14D | National conference on Himalayan Cereals for Food and Nutritional Security status and Opportunities. Dated: September 06, 2022. Organized by GBPUAT, Pantnagar, Uttrakhand. |
| | International Conference on Pulses: Smart Crops for Agricultural Sustainability and Nutirional Security. Dated: February 10-12, 2023. Organized by Indian Society of Pulses Research (ISPRD), Kanpur, IIPR and ICAR, New Delhi. |
| | International Conference on Climate Resilient Agriculture for Food Security and Sustainability. Dated: February 17-19, 2023. Organized by CCSHAU, Hisar. |
| Ms. Sonia (2020HS17D) | National Seminar on Innovative Strategies for Gender Equality March 8, 2019 |
| | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends & Future Scenario held at CCSHAU, Hisar. November 6-8, 2019 |
| | 3rd International Conference on "Global Initiative in Agricultural, Forestry and Applied Sciences for food Security, Environmental Safety and Sustainable Development (GIAFAS-2021) at Shri Guru Ram Rai University, Dehradun, Uttarakhand, India October 17-18, 2021 |
| | International Conference on 'Precision agriculture' Organized by ShriVaishnav Institute of Agriculture, Indore (M.P.), India September 26-27th, 2022. |
| | World Environment Summit-2022 Organized by Environment and Social Development Association (ESDA, India) October 15-16th, 2022. |
| | VIIth International Conference in Offline/Online on GRISAAS 2022, at Birsa Agricultural University, Ranchi, Jharkhand, India. 21-23 November-2022 |
| Ms. Neha | WORLD ENVIRONMENT SUMMIT 2022 held at Auditorium, V. P. Chest Institute, University of Delhi, (North Campus) Delhi (India) on15-16 October, 2022 |
| | International Conference on 'Science, Engineering & Technological Innovations' Date: 13 - 14 August, 2022. Bangkok, Thailand |
| | International conference on 'precision Agriculture' held at Vaishnav Vidyapeeth Vishwavidalaya, Indore (M.P) on September 26-27, 2022. |
| Ms. Tanvi Bansal 2018HS10D | National workshop on Production, Processing and Value Addition of Nutri-cereals (Millets) in India 2019. |
| | Golden Jublie International Conference on New Millenia Agriculture Novel Trends and Future Scenario (GINMA), CCS HAU, Hisar 2019. |
| | UGC sponsored National Conference on Food Safety, Nutritional Security and Sustainability, 2020. |
| | International Conference (Online) on Agriculture, Biological and Life Sciences (ICABLS-2021). |
| | International Conference on Recent Trends in Smart & Sustainable Agriculture for Food Security, 2022. |
| Ms. Manisha Sindhu 2018HS09D | National Seminar on Innovative Strategies for Gender Equality at I.C. College of Home Sciences, CCSHAU, Hisar, March 8, 2019. |
| | International conference on " Contemporary Issues in integrating Health and Nutrition with the emerging areas of Food Technology, Agriculture,Environment and Allied Sciences" at SPM College for Women, University of Delhi, Delhi on 6th April, 2019. |
| | International conference on "Emerging Paradigms in Social Science Research" held at BPS Mahila Vishwavidyalya, Khanpur Kalan, Sonipat, Haryana, India on march 25-26, 2019. |

| | |
|---|---|
| Ms. Lavanya. A | National conference on Mathematical Sciences for Applied and Agricultural Research, 2022. |
| | IAPEN Clinical nutrition Congress (ICNC-2021). |
| | International conference on "role of micronutrients immunity & health", 2021 (MICROCON 2021). |
| | International Conference on Climate Change towards Health and Agricultural Sustainability (CCHAS-2019). |
| | International conference on Sustainable Agriculture, Energy, Environment and technology (ICSAEET-2018). |
| | 3rd Conventionand National Symposium on Bridging Biochemical Interventions and Environmental Remediations for one health improvement (SVBBI2018). |
| Ms. Jyoti Rao 2018HS07D | International Conference on Recent Trends in Science, Technology, Management & Humanities 29 March, 2022. |
| | International Conference on Advancement of Science and Technology for Environment, Society and People (ICASTESP-2022), 28-29 January 2022. |
| | International Web Conferenceon Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021) 13-15 December 2021, SKRAU Bikaner. |
| | 3rd International Conference (Hybrid Mode) On Food, Agriculture and innovations' ICFAI-2021' 24-26 December 2021. |
| | International Conference on Contemporary Issues in Integrating Health and Nutrition with the Emerging Areas of Food Technology, Agriculture, Environment and Allied Sciences, New Delhi 2019. |
| | National Seminar on Innovative Strategies for Gender Equality, 8.03.2019. |
| Ms. Rajni | International Conference on Hybrid mode on Global Research Initiative for sustainable Agriculture & Allied sciences from 21.11.2022-23.11.2022. |
| Ms. Raveena | International conference on Public health and dietary lifestyle organized by Universal society of food and nutrition from 10.05.2023-11.05.2023. |
| Ms. Seema 2019HS15D | “2nd International Conference on Advances in Agricultural, Biological and Applied Science for sustainable Future (ABAS-2018)” organized at Swami Vivekanda Subharti University, Meerut. |
| | National Start up Summit organised at CCS Haryana Agricultural University, Hisar, Haryana from June 1-2, 2018. |
| Ms. Manu Devi 2020HS13D | International Conference on “Precision Agriculture” held at Indore from 26.09.2022-27.09.2022. |
| Ms. Partibha 2021HS11D | “International Conference on Food Processing (2018)” organized at IARI, New Delhi, India from 25.10.2018-27.10.2018 |
| | National Seminar on Innovative Strategies for Gender Equality at I.C. College of Home Sciences, CCSHAU, Hisar, March 8, 2019. |
| Ms. Rekha Yadav 2021HS13D | 5th international conference on Food and Nutrition organized by Universal Society of Food and Nutrition (USFN) Malaysia from 16th & 17th November 2022. |
| | 7th International Conference in Hybrid Mode on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2022S) Organized by Astha Foundation, Meerut (U.P.), India from 21-23 NOVEMBER 2022. |
| Ms. Sheeba Sharma 2022HS13D | International conference on climate resilience organized at CCSHAU, Jan 2023 |
| | International conference on Innovative approaches in Agriculture, Horticulture & Allied Sciences, SGT university and Just agriculture, Gurugram, March 2023. |
| Ms. Priyanka 2022HS07D | International conference on Innovative approaches in Agriculture, Horticulture & Allied Sciences, SGT university and Just agriculture, Gurugram, March 2023. |

*ANNEXURE VIII*

## *ANNEXURE VIII - A*

## COURSES OFFERED FOR M.Sc. AND Ph. D. PROGRAMMES

| Course No. | Course Title | Credits | Sem |
|---|---|---|---|
| **M. Sc.** | | | |
| FRM 501* | Approaches to Resource Management | 3+0 | I |
| FRM 502* | Fundamentals of Ergonomics | 2+1 | I |
| FRM 503* | Advanced Interior Space Management | 2+1 | II |
| FRM 504* | Advanced Housing | 2+1 | II |
| FRM 505 | Consumer Issues and Challenges | 2+1 | I |
| FRM 506 | Consumer Guidance and Counselling | 2+1 | I |
| FRM 507 | Consumer Communication Media | 1+2 | II |
| FRM 508 | Product Design, Testing and Evaluation | 1+2 | II |
| FRM 509 | Consumer Economics and Retail Management | 3+2 | I |
| FRM 510 | Work And Work Station Design | 1+2 | I |
| FRM 511 | Advanced Cad for Product Design | 0+4 | I |
| FRM 512 | Energy Conservation in Building Design | 2+1 | I |
| FRM 513 | Interior Design Business Management | 2+1 | II |
| FRM 514 | Furniture Design and Fabrication | 2+1 | II |
| FRM 515 | Colour and Lighting in Interiors | 2+1 | II |
| FRM 591 | Master's Seminar | 1 | I, II |
| FRM 599 | Master's Research | 20 | I, II |
| **Ph. D.** | | | |
| FRM 601** | Advances in Development of Resource Management | 3+0 | I |
| FRM 602** | Occupational Biomechanics | 2+1 | I |
| FRM 603** | Globalization and Consumer Economics | 2+1 | I |
| FRM 604** | Family Dynamics and Women Power | 2+1 | II |
| FRM 605 | Consumer Product Design | 1+2 | II |
| FRM 606 | Environmental Issues and Challenges | 3+0 | II |
| FRM 607 | Managerial Dimensions for Special Groups | 2+1 | II |
| FRM 691 | Doctoral Seminar I | 1 | I, II |
| FRM 692 | Doctoral Seminar II | 1 | I, II |
| FRM 699 | Doctoral Research | 45 | I, II |

*Compulsory for master programme, **Compulsory for doctoral programme

Courses open for PG students of other department FRM 501, 502, 505, 506, 507, and 510

## *ANNEXURE VIII - B*

## *DETAILS OF M.Sc. STUDENTS FROM 2ND SEMESTER 2018-19 TO 1ST SEMESTER 2022-23*

| Sr.No. | Name of student | Admission No. | Title of the Thesis/Research Work | Name of Major Advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| 1. | Ms. Sarita | 2015HS22M | Ergonomic Study on Biomechanical Stress in Dung Collection | Dr. Manju Mehta |
| 2. | Ms. Anju | 2015HS23M | Ergonomic Assessment of Old Age Homes in Haryana | Dr. Manju Mehta |
| 3. | Ms. Rekha Rani | 2016HS25M | Time and Financial Management Practices of Self-employed Rural Women | Dr. Binoo Sehgal |
| 4. | Ms. Twinkle | 2017HS30M | Effectiveness of Skill Based Vocational Trainings of Eco-friendly Articles for Rural Women | Dr. Kusum Rana |
| 5. | Ms. Monika | 2017HS31M | An Exploratory Study on Stress Level among Adolescents and Coping Mechanism | Dr. Manju Mehta |
| 6. | Ms. Ritu Bura | 2017HS32M | Indoor Climate Assessment of Kindergarten Schools | Dr. Kiran Singh |
| 7. | Ms. Rekha Kasana | 2017HS33M | Feasibility Study of Establishing Herbal Gardens in Hisar District | Dr. Binoo Sehgal |
| 8. | Ms. Santosh Kumari | 2017HS34M | Assessment of Air Quality of Indoor Space through Use of Different Indoor Plants | Dr. Manju Mehta |
| 9. | Ms. Ekta Melkani | 2017HS35M | Work and Work Place Interventions for Enhancing Comfort and Productivity of Workers for Making Bead Products | Dr. Manju Mehta |
| 10. | Ms. Adiel Chiba N. Sangma | 2017HS36M | ErgonomicAssessment on Workers Engaged in Ironing Activity | Dr. Binoo Sehgal |
| 11. | Ms. Deepika Sangwan | 2018HS8M | Study on Occupational Stress among Bank Employees of Rural and Urban Areas of Hisar District | Dr. Kavita Dua |
| 12. | Ms. Preeti | 2018HS10M | Comparative Assessment of Expenditure Pattern of Haryana Families | Dr. Kiran Singh |
| 13. | Ms. Aysha Be. | 2019HS10M | Accessing the Reachablity of Disabled People in University | Dr. Promila K. Chahal |
| 14. | Ms. Khushaboo | 2019HS11M | Extent of Participation and Biomechanical Stress of Women Involved in Cattle Feeding. | Dr. Manju Mehta |
| 15. | Ms. Meenu | 2019HS12M | Energy Conservation in Rural and Urban Houses | Dr. Binoo Sehgal |
| 16. | Ms. Reetu Rani | 2019HS13M | A Study on Work Life Balance of Rural and Urban Female Postgraduate Teachers of Haryana | Dr. Kavita Dua |

| **On Roll** | | | | |
|---|---|---|---|---|
| 1. | Ms. Preet Gill | 2020HS11M | Effect of Lifestyle on the Physical Fitness of College Girls of Rural and Urban Areas | Dr. M. Mehta |
| 2. | Ms. Renu | 2020HS13M | Sustainable Livelihood Status of rural women | Dr. Kiran Singh |
| 3. | Ms. Sonia | 2020HS14M | Impact of Online Study System on Students and Teachers | Mrs. Sunita Ahuja |
| 4. | Ms. Gargi Godara | 2020HS10M | Assessment and Refinement of Sickle for Skill Enhancement of Women Farmers. | Dr. Promila K. Chahal |
| 5. | Ms. Swati | 2021HS17M | Development of Utility Software for Cost Estimation of Building a House. | Dr. Kiran Singh |
| 6. | Ms. Pooja | 2021HS14M | Role of Consumer Club in Promoting Consumer Awareness and Knowledge among Students: An Evaluative Study. | Dr. Promila K. Chahal |
| 7. | Ms. Sandhya | 2021HS16M | Influence of Motherhood on Physical Fitness of Women: Prospective Analysis | Dr. Promila K. Chahal |
| 8. | Ms. Komal | 2021HS12M | Impact of Burnout on Quality of Life of Female Nurses. | Dr. Manju Mehta |
| 9. | Ms. MajjiChhayaPriya | 2021HS13M | Comparative Study on Workplace Relationship and Job Satisfaction among University Employees. | Dr. Kavita Dua |
| 10. | Ms. Ankita Choudhary | 2022HS09M | Assessment of Patient's Quality of Life during Active Cancer Treatment | Dr. Kavita Dua |
| 11. | Ms. Manisha Lather | 2022HS10M | Appraisal of Solar Water Pumping System in Rural Areas of Haryana | Dr. Kiran Singh |
| 12. | Ms. Renu | 2022HS11M | Mapping of Solid Waste Dumping Points of Hisar City Using GIS Techniques | Dr. Kiran Singh |
| 13. | Ms. Sonia | 2022HS12M | Study on the Issues and Challenges of Self Employed Women in Rural Area | Dr. Sunita Ahuja |
| 14. | Ms. Yanu Punia | 2022HS13M | Assessment of Mental Workload in terms of Heart Rate Variability: A Non-linear Dynamics study of rural women | Dr. Promila K. Chahal |

## *ANNEXURE VIII - C*

## LIST OF PUBLICATIONS FROM M.Sc. STUDENTS' RESEARCH (2018-23)

1. Gill, P. and Dua, K. 2021. Study on prevention on consumer from exploitation in market. *International Journal of Home Science*, 7(3):23-24
2. Godara G. and Dua, K. 2021. Study on factor influencing consumer behaviour in market. *International Journal of Home Science*, 7(3): 83-85.
3. Preeti and Dua, K. 2021. A review of behavioral disorder in school going children. *The Pharma Innovation*, 10(8S):207-209.
4. Preeti and Singh, K. 2021. Food consumption pattern in rural area. *The Pharma Innovation,* 10(8S):531-534.
5. Preeti, Singh, K. and Sindhu, V. 2021. My crop my right: The farmer's Act 2020. *The Pharma innovation,* 10(8S):236-237.
6. Renu and Dua, K. 2021. Study of changing shopping behavior of consumer due to e-commerce. *International Journal of Home Science*, 7(3):92-94.
7. Khatkar, S. and Chahal, P. 2022. A study of workstation: Hostel mess kitchen. *International Journal of Multidisciplinary Research and Growth Evaluation*, 3(4):160-164.
8. Khatkar, S. and Chahal, P. 2022. Analysis of different types of walking hand stick. *International Journal of Research Publication and review*, 3(7):1019- 1022.
9. Khatkar, S. and Chahal, P. 2022. Time and motion study of worker. *International Journal of Research Publication and review*, 3(7):2371-2378.
10. Komal and Chahal, P. 2022. Fitness evaluation of classroom benches. *International Journal of Research Publication and Reviews*, 3(7):2613-2615.
11. Komal and Chahal, P. 2022. Study on work and workstation design of computer lab a review. *International Journal of Research Publication and Reviews*, 3(7):1711-1716,
12. Preeti and Mehta, M. 2022. Ergonomic assessment of male street hawkers. *International journal of Agriculture Sciences,* 18(2):636.
13. Preeti and Mehta, M. 2022. Work related muscular disorder of housewives at home. *International Journal of Agriculture Sciences,* 18(2):843.
14. Preeti and Singh, K. 2022. Food consumption pattern in urban areas. *International journal of Agriculture Science,* 18(2):799.
15. Preeti and Verma, V. (2022). Motivational approach for employees. *International journal of Agriculture Sciences,* 18(2):877.
16. Preeti, Dua, K. and Yadav, P. 2022. The role and analysis of woman from ancient to modern time. *Biological Forum -An International Journal,* 14(2a).
17. Renu and Chahal, P. 2022. Study for work and workstation design of comfortable office, *International Journal of Home Science*, 8(2):207-209.
18. Renu and Chahal, P. 2022. Time and motion study for DCM mill worker. *International Journal of Research Publication and Reviews*, 3(7):3672-3680.

19. Saini, P. and Chahal, P. 2022. Analysis scissors of different brands. *International Journal of Research Publication and Reviews*, 3(7):2337-2339.
20. Saini, P. and Chahal, P. 2022. Micro motion study of worker (lap former & auto corner). *International Journal of Research Publication and Reviews*, 3(7):2466-2470.
21. Saini, P. and Chahal, P. 2022. To analyse the workplace (work, student and environment). *International Journal of Research Publication and Reviews*, 3(7):1558-1561.
22. Yadav, S. and Chahal, P. 2022. Analyzing different bikes height as per different users. *International Journal of Research Publication and Reviews*, 3(7):2942-2945.
23. Yadav, S. and Chahal, P. 2022. Micro motion study of worker. *International Journal of Research Publication and Reviews*, 3(7):3123- 3129.
24. Yadav, S. and Chahal, P. 2022. Study of kitchen design as per anthropometry of user. *International Journal of Research Publication and Reviews*, 3(7):1430-1434.

## *ANNEXURE VIII - D*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY M.Sc. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars/Trainings with dates and venue |
|---|---|
| **Ms. Anjali Gairola** | Golden jubilee International Conference on Gender Issues and Socio-Economic Perspectives for Sustainable Rural Development (GIRD-2017) CCSHAU, Hisar, 2017<br>International Conference- Multidisciplinary on Women's Work and Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector (WWOH-2018), Arya PG College, Panipat, 2018<br>International Conference on Positive Psychology for Health and Well Being, GJU, Hisar, 2018. |
| **Ms. Anjali Gairola** | Two days workshop on e-Content Designing at Pantnagar, March 28-29, 2019.<br>International Conference on 'Global Perspective in Agriculture and Applied Sciences for Food and Environmental Security (GAAFES 2019), UGC HRDC Hall, Kumaun University, Nainital, 2019.<br>International Conference on Sustainable Agricultural Development in Changing Global Scenario at BHU Varanasi, 2019.<br>National Seminar on Innovative Strategies for Gender Equality organized by I. C.Collegeof Home Science, CCS HAU, Hisar, 2019. |
| **Ms. Khushaboo and Ms. Meenu** | Webinar on Ergonomics and Psychological Issues and coping during COVID-19 Pandemic, June 20, 2020<br>Webinar on Exploring eResources Through CCS HAU eLibrary, June 23, 2020.<br>National webinar on Awareness and Use of CeRA Resources through J-Gate Discovery Platform, June 25, 2020.<br>International webinar on Process-driven Organic Contaminants In Food And Mitigation Strategies, September 7, 2020<br>Webinar on Participation with Simulation Games - Conflict and other conditions, November 7, -2020<br>Webinar on Role of Women In Agriculture, November 15, 2020<br>Webinar on Ergonomics and its Role in Product Design, "on 2-12-2020<br>Online lecture on Real Flowers Withers- Freeze Drying Reserves: An Entrepreneur's for Happy Emotions, December 11, 2020 |
| **Ms. Khushaboo** | One Day National E- Workshop On Consumer Protection Right Practices in Today's Era, July 17, 2020. |
| **Ms. Khushaboo and Ms. Meenu** | Webinar on Digital Library Framework for Strengthening Agricultural Knowledge, February 16, 2021.<br>Webinar on Ergonomics Applications for Higher Productivity, March 24-26, 2021.<br>National workshop on Air Pollution and Health hazards (APHH-2021), March 31, 2021.<br>Webinar on Dr Ambedkar's Role in Empowerment of Women in India, April 13, 2021.<br>Plant and adopt tree picture Competition on World Environment Day Organized by NIOH- ENVIS RP Ahmedabad, June 5-15, 2021.<br>Webinar on Mental Health among Workers during COVID 19 Pandemic, July 8, 2021.<br>Webinar on Technical Skills for Beginners in Cyber Security, July 10, 2021.<br>Webinar on Hepatitis can't wait, July 28, 2021.<br>National Webinar on Glamorizing the Farmer and Rural (izing) the Urban, July 28, 2021. |
| **Ms. Anjali Gairola** | Two days online training course on Simplifying literature review & methods to write a |

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| | review article, Voice of Environment, May 20-21, 2020.<br>National Web-Workshop on Building Resilience Against Emotional Contagion and Covid-19', Department of Resource Management and Consumer Sciences, College of Community and Applied Sciences, MPUAT, Udaipur, Rajasthan, June 19, 2020<br>Web-workshop on 'Innovation and Intellectual Property Rights Filling' organized by Dr. BR Ambedkar National Institute of Technology, Jalandhar, July 1, 2020.<br>Three days training on 'Training on Artificial Intelligence Concepts and Applications', IDP- National Agricultural Higher Education Project, Pantnagar.<br>International virtual conference on 'Role of Basic and Applied Sciences' at GBPUA&T Pantnagar in 2020. |
| **Ms. Preeti Dudi** | National Webinar on Glamorizing the Farmer and Rural the Urban, July 28, 2021. |
| **Ms. Anjali Gairola** | Online orientation Training on Infant and Young Child Nutrition (Skill based) National Institute of Public Cooperation and Child Development, June 27-29, 2022.<br>Online workshop on Empowering Women through Digital Marketing, V. V. Giri National Labour Institute, Noida. June 28, 2022.<br>Two-day national workshop cum hands-on training on Ergonomic Assessment Parameters using State-of-Art Equipment: Application in Biomedical Researches, ICMR-National Institute of Occupational Health, Ahmedabad, November 17-18 2022.<br>Workshop on 'Scientific Writing, e-Books and Publication Forum' organized at CCSHAU, Hisar. |

## *ANNEXURE –VIII E*

## DETAILS OF Ph.D. STUDENTS

## FROM 2ND SEMESTER 2018-19 TO 1ST SEMESTER 2022-23

| Sr. No. | Name of student | Admission No. | Title of the Thesis/Research Work | Name of Major Advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| **1.** | Ms. Kanchan Shilla | 2014HS13D | Occupational Health Hazards of Workers in Floriculture and Mitigating Measures | Dr. Binoo Sehgal |
| **2.** | Ms. Komal | 2015HS09D | Working Conditions and Economic Feasibility of Floriculture in Open Cultivation and Poly Houses : A Comparative Study | Dr. Binoo Sehgal |
| **3.** | Ms. Garima Yadav | 2015HS10D | Development and Evaluation of Head Load Manager for Construction Workers | Dr. Kusum Rana |
| **4.** | Ms. Ekta Kapri | 2017HS09D | Assessment of Physical Fatigue of Sports Persons | Dr. Manju Mehta |
| **5.** | Ms. Kavita Rani | 2017HS10D | Financial Literacy: Determinants and Implications in Financial Wellbeing of Elderly | Dr. Kiran Singh |
| **6.** | Ms. Sushmita | 2017HS11D | Management Practices of Junk and Work Related Problems of Junk Collected | Dr. Binoo Sehgal |
| **7.** | Ms. Suman | 2017HS12D | Low Budget Natural Farming in Haryana Perspective | Dr. Kiran Singh |
| **8.** | Ms. Ekta Rohilla | 2018HS03D | Knowledge and Proper Utilization of Paddy Residue by Farmers | Dr. Binoo Sehgal |
| **9.** | Ms. Manesh | 2018HS04D | Waste Food Management –Empirical Research | Dr. Kiran Singh |
| **10.** | Ms. Rupal Hooda | 2018HS05D | Appraisal of Carbon and Water Foot Prints in Rural and Urban Households of Haryana for Environment Security | Dr. Manju Mehta |
| **11.** | Ms. Ekta Melkani | 2019HS07D | Functional Improvement Along with Décor Crafts Training Intervention and Marketing among the Rural Women for Quality Life and Sustainable Development. | Dr. Kiran Singh |
| **12.** | Ms. Monika | 2019HS08D | Assessment of Occupational Stress in Female Engaged in Sweeping Activity | Dr. Kiran Singh |
| **13.** | Ms. Santosh Kumari | 2019HS09D | A Study on Green Consumerism Towards Sustainable Development | Dr. Kavita Dua |
| **14.** | Ms. Sarita | 2019HS10D | Occupational Stress among Load Carrying Workers of Grain Market. | Dr. Manju Mehta |
| **15.** | Ms. Twinkle | 2019HS11D | Handling and Management of Biomedical Waste in Hospitals of Haryana | Dr. Manju Mehta |
| **On Roll** | | | | |
| **1.** | Ms. Divyashree Mohapatra | 2020HS07D | Ergonomic Intervention through DMAIC Technique for Work-Related Musculo skeletal Disorders among Dentists | Dr. M. Mehta |

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| **2.** | Ms. Neelam | 2020HS08D | Mushroom Cultivation – Occupational Discomforts For Workers | Dr. K.Singh |
| **3.** | Ms. Preeti | 2020HS09D | Development of Polyhouse Farming Models for Agripreneurship | Dr. Promila K. Chahal |
| **4.** | Ms. Reena Solanki | 2020HS10D | Occupational Risk in Cauliflower Production System | Dr. M. Mehta |
| **5.** | Ms. Khushaboo | 2021HS07D | Design and Development of Mannequin based on Anthropometric Data Repository of Women in Haryana State | Dr. Promila K. Chahal |
| **6.** | Ms. Meenu | 2021HS09D | Promoting Digital Literacy in Rural Women through Need based Training Module | Dr. K.Dua |
| **7.** | Ms. Neelesh Kohli | 2021HS08D | Occupational Drudgery of Farmers in Sugarcane Cultivation: A Climate Change Perspective | Dr. K.Singh |
| **8.** | Ms. Aysha Be. | 2022HS04D | Study on Smartphone Addiction and its Associated Potential risks among universities students | Dr. K.Dua |
| **9.** | Ms. Reetu Rani | 2022HS04D | Development of a Measure on Financial Well-being of Rural Farm Families | Dr. Promila K. Chahal |

## *ANNEXURE VIII - F*

## LIST OF PUBLICATIONS FROM Ph.D. STUDENTS' RESEARCH (2018-23)

### Book chapters

1. Gairola A., Singh, K. and Mehta, M. 2022. Barrier free housing: An illimitable environment for wheelchair users in Research Trends in Home Science and Extension. Akinik Publications. pp:105-115.
2. Pandey, P., Singh, R. and Be, A. (2022). Environmental Pollution: Its Effects and Remedies in Research Trends in Home Science and Extension. Akinik Publicatons. pp:13-32.
3. Be, A., Pandey, P. and Arya, N. (2022). Environmental Pollution: Its Effects and Remedies in Research Trends in Home Science and Extension. Akinik Publicatons. pp: 49-62.
4. Meenu and Verma, V. 2022. ICT Impact on Teaching and Learning: A Literature Review in Research Trends in Multidisciplinary Research, Akinik Publications. 34(89-101).
5. Gupta, N. and Dua. K. 2022. Architectural Dimensions-Flooring, Stairs, Storage, Workstations, Furniture, Fixtures & Equipment in Recent Advances in Home Science. Integrated Publications. 3:77-95.
6. Gupta, N. and Dua, K. 2022. Agreement on agriculture (AOA) & its impacts on consumers in Recent Advances in Home Science. Akinik Publicatons. (4)81-92.
7. Melkani, E. and Vatta, L. 2022. Impact review of COVID-19 over women: A global scenario in Women and Diversity in International Books and Periodical Supply Services. pp:531-550.
8. Rani, N. Komal and Kumari, P. 2021. Human Growth and development in Recent Advances in Home Science, 1:1-20
9. Komal and Rani, N and Singh, K. 2021. Human Growth and development in Recent Advances in Home Science, 1:45-54
10. Rani, N. Komal and Kumari, P. 2021. Environmental Changes and Human Health in Advances in Academic Research and Development, 5:75-87

### Research papers

1. Komal, Y. Garima, M. Manju and S. Kiran. 2018. Green building: energy efficient and environment friendly building. Environment Conservation Journal, 19(1& 2); 141-143.
2. Komal, S. Kanchan and G. Sudesh 2018. Health hazards among workers engaged in loading/lifting tasks in animal feed factory. The Pharma Innovation Journal, 7(7):1024-1027.
3. Komal and Singal, S. 2018. Benefits and constraints perceived by users of solar lighting systems in rural areas. International Journal of Chemical Studies, 6(4): 573-575.
4. Shilla K., Komal and Gandhi S. 2018. Physical discomfort faced by the school children while Carrying School Backpack. International Journal of Current Microbiology and Applied Sciences, 7(6): 3437-3441.
5. Shilla K., Komal and Binoo, S. 2018. Plastic pollution: A Global crisis. The Pharma Innovation Journal, 7(8): 298-300.
6. Melkani, E. and Dua, K. (2018) Transforming education to build humans- Redeveloping values for the upliftment of the society. Advancesin Economics and Business Management (AEBM), 5(5):314-318.
7. Komal and Binoo, S. 2019. Knowledge of farmers regarding polyhouses. Journal of Pharmacognosy and Phytochemistry, 8(3):3805-3808.
8. Komal and Binoo Sehgal 2019. Environmental conditions and quality of lilium flowers in Polyhouses. The Pharma Innovation Journal, 9(6): 458-460.
9. Ekta and Mehta, M. 2019. A study on work related musculoskeletal disorders among sewing machine operators. Indian journal of health and well being, 11(1-3):08-12

10. Ekta, Hooda, R. and Mehta, M. 2019. Prevalence of musculoskeletal disorders among garment industry, The Pharma Innovation Journal, 9(2): 01-04.
11. Rani, K and Singh, K. 2019. Impact of yoga on subjective well-beingness among senior citizens in Hisar district. The Pharma Innovation Journal. 8(4):905-908.
12. Rani, K. Kiran Singh and Manesh Rani. 2019. A descriptive study to assess the level of depression among the elderly people in Hisar district. The Pharma Innovation Journal, 8(5):311-313.
13. Rani, M., Metha, M. and Rani, K. 2019. Role of Rural Women in Agriculture: A Review. The Pharma Innovation Journal, 8(5): 205-207.
14. Rani, M. Singh, K. and Rani, K. 2019. Assessment of physical health problems and reasons among elderly people residing in old age home in Hisar. The Pharma Innovation Journal, 8(5):505-508.
15. Hooda, R., Gandhi, S and Mehta, M. 2019. Instrumental activity carried out by elderly in Haryana. Indian journal of positive psychology, 9(9): 230-234
16. Hooda, R Gandhi, S. and Mehta, M. 2019. Independent living status and health problems faced by elderly. Indian journal of health and wellbeing, 10(9): 281-285
17. Hooda, R., Bansal, T. and Singh, C. 2019. A study on psychological well-being of elderly of Hisar city. Indian Journal of Positive Psychology, 9(3): 51-54.
18. Gairola A and Singh K. 2020. Socio-economic status of Wheelchair users of Haryana. Social Science Journal for Advanced Research, 11(1):5-11.
19. Monika, Dua. K, 2020. Housing design and dimensions for disabled person. The Pharma Innovation Journal, 9(60)166-171.
20. Komal and Binoo, S. 2020. Benefits and constraints faced by the farmers while growing flowers in polyhouses. Journal of Pharmacognosy and Phytochemistry, 9(2): 870-874.
21. Sarita and Dua, K. 2020. Quality of indoor environment for aging people: a review based study. The Pharma Innovation Journal, 9(6):115-120.
22. Rani, K., Rani, M., Devi, S. and Mehta, M. 2020.Occupational health hazards assessment of grain collection workers in Hisar. The Pharma innovation journal, 9(1):108-111.
23. Yadav, G. Rana, Singh, K. and Yadav, B. 2020. Different body part discomfort of female construction workers while using ergo tools. International Journal of Home Science, 6(1):86-89.
24. Santosh and Dua, K. (2020) Elder abuse: A social problem faced by elders in old age home. The Pharma Innovation Journal, 9(6):324-326.
25. Melkani, E., Kapri, E. and Mehta, M. 2020. WRMSD related to manual material handling of Indian railway porters. International Journal of Current Microbiology and Applied Sciences, 9(4):2488-2493.
26. Melkani, E., Mehta, M. and Gandhi, S. 2020. Grip fatigue analysis in women making wood bead strings. The Pharma Innovation Journal, 9(4):149-151.
27. Melkani, E, Mehta, M and Gandhi, S. 2020. Capacity building of women of mangali village, Hisar through time management and entrepreneurial training for making bead crafts. Asian Journal of Home Science, 15(1):130-133.
28. Melkani, E. and Mehta, M. 2020. A review over the ergonomic assessment of the women in bead works for a healthy and productive work-style, Indian Journal of Health and Well-being. 11(1-3):129-131.
29. Melkani E, Mehta M, Gandhi S. 2020. Drudgery Reduction and Grip Fatigue Review of Indian Women Making Handicrafts. Asian Pacific Journal of Health Sciences, 7(2):1-4.
30. Melkani, E., Mehta, M. and Singh, K. 2020. A critical review and recommendations over product designing problems faced by new product designers in agriculture. Asian Journal of Home Science, 15(1):155-160.
31. Melkani, E., Singh, K., Bano, N. and Mehta, M. 2021. Work profile and hazards review of workers in small scale enterprises, Asian Pacific Journal of Health Sciences, 8(1):90-93.

32. Melkani, E., Singh, K., Bano, N. and Mehta, M. 2021. A review of occupational health hazards among the craftsmen in small scale industries, International Research Journal of Modernization in Engineering Technology and Science, 3(1):756-760.
33. Bano, N., Dahiya, R. and Melkani, E. 2021. A Critical Review: portrayal of Women in mass media. e- International Research Journal of Modernization in Engineering Technology and Science, 3(4): 1673-1676.
34. Melkani, E., Singh, K., and Mehta, M. (2021). Productivity of rural women through entrepreneurship intervention. International Journal of Education and Management Studies, 11(1), 7-12.
35. Melkani, E., Mehta, M., Singh, K. and Gandhi, S. 2021. Ergonomic health evaluation of bead products making women using discomfort ratings. The Pharma Innovation Journal, 10(1): 369-373.
36. Monika and Dua, K. 2021. Vegetable gardening in small spaces. International Journal Of Ecology and Environmental Sciences, 3(1):62-65.
37. Monika, Sarita, Singh. K. 2021.Consmer buying behavior towards online shopping: a empirical study on Hisar district. International Journal of Multidisciplinary Research and Development. 8(7):118-120.
38. Be, A. and Chahal, P. 2021. Satisfaction level of differently abled people in respect of building design of University. International Journal of Science, Environment and Technology, 10(3):395-104.
39. Solanki, R. and Dua, K. 2021. Geriatric age: An age to heal and care to hold their decline.The Pharma Innovation Journal, 10(8):497-501.
40. Solanki, R. and Singh, K. 2021. Covid 19 home confinement effects on consumer's food consumption and eating habits. The Pharma Innovation Journal, 10(8):457-460.
41. Preeti and Dua, K. 2021. A review of behavioral disorder in school going children. The Pharma Innovation, 10(8S):207-209.
42. Preeti, Singh, K and Sindhu, V. 2021. My crop my right: The farmer's Act 2020. The Pharma innovation, 10(8S):236-237.
43. Preeti and Singh, K. 2021 Food Consumption Pattern in Rural Area. The Pharma innovation, 10(8S). 531-534.
44. Sarita, Monika and Singh, K. 2021. Knowledge about consumer rights and responsibilities among rural people. International journal of multidisciplinary research and development, 8(7) 114-117.
45. Sarita and Mehta, M. 2021. Usage pattern and work profile in dung collection among rural women. International Journal of Advanced Educational Research, 6(4):7-13.
46. Sarita and Dua, K. 2021. Digital detox: Live in offline. International Journal of Ecology and Environmental Sciences, 3(1); 57-59.
47. Nigam, R., Krishna, D., Poonam K. and Komal 2021. Lockdown Impact: Domestic violence against women and girl. International Journal of Current Microbiology and Applied Sciences, 10(1): 259-263.
48. Komal, Singh, K. Rani, N. 2021, Assessment of improved chullah in rural settings Hisar. Indian Journal of Extension Education, 27(4):54-57.
49. Komal and Sehgal, B. 2021. Awareness and Use of Polyhouses for growing flowers by the farmers. Indian Journal of Agriculture and Allied Sciences, 7(2):42-48.
50. Komal and Sehgal, B. 2021. Quality of rose flowers in different types of cultivation. International Journal of Agriculture, Environment and Biotechnology, 14(03):411-416.
51. Singh, K, Komal and Chahal, P. 2021. Farmer's Practices in pesticide use. Indian Journal of Agriculture and Allied Sciences, 7(3):97-102.
52. Duhan, K., Rani, N., Malik P. and Komal, 2021, Gender sensitivity level among rural masses. Asian Journal of Agricultural Extension, Economics Sociology, 39(11): 210-214

53. Gairola A and Pant G. 2021. Computer users and postural issues amid COVID-19: A study of WFH. The Pharma Innovation, 10(1):512-522.
54. Chahal P, Singh K, Komal 2021. Vermicomposting for revenue and employment generation. International Journal of Scientific Research in Engineering and Management, 5(8):1-8.
55. Chahal, P. and Be, A. 2022. Assessment of doors of university's building as per standard norms. International journal of research and analytical reviews, 9(1), 295-300
56. Kohli, N. and Mehta, M. 2022. Occupational Stress: A case study among chefs and kitchen workers. International Journal of Advances in Engineering and Management, 4(3):970-977.
57. Kohli, N. and Mehta, M. 2022. Occupational stress among textile industry worker. IOSR Journal of Humanities and Social Science, 27(3):01-07.
58. Kohli, N. and Trar, V. V. 2022. Use of Social Media in Uplifting Traditional Craft. Research Trends in Multidisciplinary Research, 34:01-15.
59. Kohli, N. and Dua, K. 2022. Indoor Environment: Light, Noise, Humidity and Temperature. Integrated Publications. Recent Advances in Home Science, 3:57-75.
60. Khushaboo and Dua, K. 2022. Children with special needs. International Journal of Novel Research and Development, 7(7):694- 700.
61. Khushaboo and Dua, K. 2022. Case study on hearing impairment. International Journal of Scientific Research and Engineering Development, 5(4): 214-216.
62. Khushaboo and Mehta, M. 2022. A Literature review on occupational stress among security guards. The Pharma Innovation Journal, 11(4): 117-121.
63. Meenu and Mehta, M. 2022. Occupational stress among bus drivers: A literature review. The Pharma Innovation Journal, 11(4):175-179.
64. Meenu, Dua, K. and Yadav, P. 2022. Changing family structures and impact on the care of elderly in family: A review. International Journal of Advances in Engineering and Management, 4(7):806-813.
65. Meenu and Dua, K. 2022. Case study on blind. International Journal of Scientific Research and Engineering Development, 5(4):217-218.
66. Solanki, R. and Mehta, M. 2022. Postural problems faced by farmers in cole crop production. Environment and Ecology, 40(3):1179-1184.
67. Solanki, R. and Mehta, M. 2022. Occupational health and postural discomfort faced by bankers due to computer usage. The Pharma Innovation Journal, 11(3):150 –154.
68. Gupta, N. Mehta, M. and Singh, K. 2022. Benefits, challenges and opportunities in mushroom production: A review. The Pharma Innovation Journal, 11(3): 360-364.
69. Gupta, N. and Dua, K. 2022. Women land ownership: A review. The Pharma Innovation Journal, 11(7):3033-3037.
70. Gupta, N. and Dua, K. 2022. Case study. International Journal of Scientific Research and Engineering Development, 5(4) 2581-2589.
71. Preeti, Dua, K and Yadav, P. 2022. The Role and Analysis of woman from Ancient to modern time. Biological Forum -An international journal. 14(2a). ISSN NO-0975-1130.
72. Preeti and Singh, K 2022. Food consumption pattern in urban areas. International journal of Agriculture Science, 18(2):799.
73. Preeti and Mehta, M. 2022. Ergonomic assessment of male street hawkers. International journal of Agriculture Sciences, 18(2):636.
74. Preeti and Mehta, M. 2022. Work related muscular disorder of housewives at home. International Journal of Agriculture Sciences, 18(2):843.
75. Preeti and Verma, V. 2022. Motivational approach for employees, International journal of Agriculture Sciences, 18(2):877.
76. Monika and Mehta M. 2022. Ergonomic assessment and health problem faced by street sweepes. IAHRW International Journal of Social Sciences Review, 10:(112-114).

77. Monika, Kumari, S. and Sarita 2022. To study the problem and challenges faced by elderly people in old age homes. IAHRW International Journal of Social Sciences Review, 10(109-111).
78. Sarita, Monika, Singh, G. 2022. To study the health benefits of medicinal plants in Hisar. IAHRW International journal of social sciences review, 10(115-117).
79. Rani, K., Sungh, K. and Rani, M. 2022. Assessment of financial literacy level among elderly. International Journal of Education and Management Studies, 12(3):177-179.
80. Komal, Singh, K. and Mehta, M. 2022. GarhVighyan-samgarSifarishe. Booklet.
81. Bala A, Kiran, S., Komal and Manju, M. 2022. Assessing the indoor air pollution level as per energy ladder and its effect on respiratory health. Environment Conservation Journal, 23:8-14.
82. Meenu and Dua, K. 2022. Theoretical perspective on efficiency, comfort and safety physical environment. International Journal of Novel Research and Development, 7(7): 701-711.
83. Kapri, E., Melkani, E., Mehta, M. and Sharma, D.K. 2022. A Preliminary study on female runners and their body composition in Proceedings of HWWE Technology Enabled Ergonomic Design 2020. pp:1.

## *ANNEXURE VIII - G*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY Ph.D. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars / Trainings with dates and venue |
|---|---|
| **Ms. Komal Chauhan 2015HS10D** | International Conference on Sustainable Agriculture, Energy, Environment and Technology (Icsaeet- 2018), February 24-25, 2018.<br>International Conference on Positive Psychology for Health and Well Being, March 9-10, 2018).<br>International Conference On Women's Work & Occupational Health- Emerging Issues, Challenges Policy Measures in the Unorganized Sector (WWOH-2018), March, 2018. |
| **Ms. Ekta Melkani 2019HS07D** | International Conference- Multidesciplinary on ' Women's Work and Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector (WWOH-2018), Arya PG College, Panipat.<br>International Conference- Recent Trends in Agriculture, Food Science, Forestry, Horticulture, Aquaculture, Animal Sciences, Biodiversity and Climate Change (AFHABC-2018), JNU New Delhi. |
| **Ms. Sarita 2019HS10D** | National Seminar on Innovative Strategies for Gender Equality on 8 March, 2019, CCSHAU, HISAR<br>One Day Webinar on Food Processing and Value Addition: Innovations, Opportunities and Government Schemes" organized by Department of Processing and Food Engineering, CTAE, Udaipur (Rajasthan), 2019. |
| **Ms. Ekta Rohilla 2018HS3D** | International workshop on Biomass conversation technologies for crop residue management, CCS HAU, Hisar, November 19-28, 2019.<br>International conference on Global perspective in agricultural and applied sciences for food and environmental security (GAAFES-2019) organised by Agricultural & environmental technology development society (AETDS), U.S. Nagar, Uttarakhand, December 1-2, 2019 |
| **Ms. Ekta Kapri 2017HS9D** | 17$^{th}$ International Conference on Humanizing Work and Work Environment (HWWE 2019) under Indian Society of Ergonomic (ISE) International Ergonomics Association (IEA), Department of Industrial and Production Engineering,. Dr BR Ambedkhar National Institute of Technology, Jalandhar, India, November 8-10, 2019 |
| **Ms. Rupal Hooda 2018HS05D** | 17th International Conference on Humanizing Work and Work Environment (HWWE 2019). Dr BR Ambedkhar National Institute of Technology, Jalandhar, India<br>6$^{th}$ International and 8$^{th}$ Indian Psychological Science Congress, Chandigarh, 2019 |
| **Ms. Ekta Melkani 2019HS07D** | 17$^{th}$ International Conference on Humanizing Work and Work Environment (HWWE 2019), Jalandhar, November 8-10, 2019.<br>17$^{th}$ International Conference on Humanizing Work and Work Environment (HWWE 2019), Jalandhar, November 8-10, 2019. |
| **Ms. Ekta Melkani 2019HS07D** | National Youth Conclave *MANTHAN* on Youth of India 2047, Envisioning 100 Years of Independence, Vivekanand Swadhayay Mandal, Pantnagar, Uttarakhand, February 20-21, 2020.<br>National Youth Conclave MANTHAN on Youth of India 2047, Envisioning 100 Years of Independence, Vivekanand Swadhayay Mandal, Pantnagar, Uttarakhand, February 20-21, 2020.<br>Online International Conference on Education for Social Cohesion Organized by Bahai's Academy, July 11 – 12, 2020).<br>7 International Virtual Congress (IVC-2020) on Global Research: Innovation, Invention and industrializations and Workshop on Time Management by International |

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|---|---|
| | Science Community Association, August 5 - 10, 2020. |
| **Ms. Komal Chauhan 2015HS10D** | Online Webinar- Understanding research paper writing for cooperatives: From Research to publications, Vaikunth Mehta National Institute of Cooperative Management, Pune, June 8, 21.<br>National webinar on Carrier opportunities in Fashion Apparel and Life Style Product Sector, College of community and applied sciences, MPUA, Udaipur, Rajasthan. July 20, 2021.<br>International Workshop on Advance Statistical Data Analysis Using SPSS organised by Science Tech Institute, Lucknow, UP India, September 21-27, 2021. |
| **Ms. Meenu 2021HS09D** | Webinar on Issues and Challenges on Climate Change, November 25, 2021.<br>Webinar on Dr Ambedkar's Views on Education, October 25, 2021.<br>Online lectures on Challenges for crop improvement in times of global change, December 1, 2021. |
| **Ms. Meenu 2021HS09D** | Certificate of participation in State level Science workshop in Arya P.G. College, Panipat, February 19, 2022.<br>Workshop on Nutrition Security and Entrepreneurship through Urban Farming, February 24-25, 2022<br>Webinar on Job Opportunities in Rural Development - Agriculture Extension, March 12, 2022-<br>Indo- Israel Symposium on Women in STEM -2022, March 29-30, 2022.<br>Webinar on Reducing Carbon Emissions-simple Solutions to complex problems, June 3, 2022. |
| **Ms. Reena solanki 2020HS10D** | Webinar on Skill Development Training on Development of Processed Food by dept. of Processing and Food Engineering, March 2-7, 2022.<br>Indo-Israel Symposium On Women In Stem-2022 by Department of Applied Sciences, The North Cap University, India in collaboration with Department of Chemical Engineering, Ariel University, Israel. March 29-30, 2022. |
| **Ms. Monika 2019HS08D** | Webinar On Indo- Isarel Symposium On Women In Stem, March 29-30, 2022. |
| **Ms. Sarita 2019HS10D** | National conference on mathematical sciences for applied and agricultural research, COBS&H, CCSHAU, Hisar, 2022,<br>Indo-Israel Symposium on women in STEM, The Northcap University, Israel. March 28-30, 2022 |
| **Ms. Ekta Melkani 2019HS07D** | 4$^{th}$ International Conference on Impact of Current Events on the Future of Business Building Resilient Organizations, Vigyan Jyoti Institute of Management, Hyderabad. April 7-9, 2022.<br>International Conference on Multidisciplinary Research 2022, 22$^{nd}$ to 24$^{th}$ November 2022. Sharnbasva University, Kalaburagi. |
| **Ms. Khushaboo 2021HS07D** | International Webinar on Application of Differential Geometry, February 10, 2022.<br>Webinar on Job Opportunities in Rural Development -Agriculture Extension, February 22, 2022<br>Webinar on Reducing Carbon Emissions-simple Solutions to complex problems, June 3, 2022 |

*ANNEXURE IX*

## *ANNEXURE IX - A*

## COURSES OFFERED FOR M.Sc. AND Ph. D. PROGRAMMES

| Course No. | Course Title | Crdits | SEM |
|---|---|---|---|
| **M. Sc.** | | | |
| HDFS 501 | Theories of Human Development and Behaviour | 3+0 | I |
| HDFS 502 | Advances in Life Span Development | 2+1 | II |
| HDFS 503 | Gender Issues in Human Development and Family Relations | 2+1 | II |
| HDFS 504 | Early Childhood Education and Organisation | 2+1 | I |
| HDFS 505 | Innovative Programmes in Early Childhood Care and Education | 2+1 | I |
| HDFS 506 | Methods and Techniques of Assessment in Human Development | 2+1 | I |
| HDFS 507 | Guidance and Counseling | 1+2 | II |
| HDFS 508 | Adolescent Development and Challenges | 2+1 | II |
| HDFS 509 | Gerontology | 2+1 | II |
| HDFS 510 | Parent and Community Education | 1+2 | I |
| HDFS 511 | Appraisal of Child and Family Welfare Institutions | 1+1 | II |
| HDFS 512 | Development of Learning Material and Childeren's Literature | 1+2 | I |
| HDFS 513 | Family Therapy | 2+1 | II |
| HDFS 514 | Children with Developmental Challenges | 2+1 | II |
| HDFS 591 | Master's Seminar | 1+0 | I &II |
| HDFS 599 | Master's Research | 20 | |
| **Ph. D.** | | | |
| HDFS 601 | Adulthood Dynamics | 2+1 | I |
| HDFS 602 | Advances in Family Studies | 2+1 | II |
| HDFS 603 | Ecology and Human Development | 3+0 | I |
| HDFS 604 | Principles and Strategies in Developmental Intervention | 2+1 | I |
| HDFS 605 | Women Studies | 1+1 | II |
| HDFS 606 | Trends and Issues in Human Development | 3+0 | II |
| HDFS 607 | Qualitative Research Methods | 2+1 | II |
| HDFS 608 | Programme Development for VulnerableFamilies | 2+1 | II |
| HDFS 609 | Cross-Cultural Perspectives in Family Studies | 2+0 | I |
| HDFS 691 | Doctoral Seminar -I | 1+0 | I &II |
| HDFS 692 | Doctoral Seminar II | 1+0 | I &II |
| HDFS 699 | Doctoral Research | 45 | |

## *ANNEXURE IX - B*

## DETAILS OF M. Sc. STUDENTS

## FROM 2ND SEMESTER 2018-19 TO 1ST SEMESTER 2022-23

| S. No. | Name of student | Admn. No. | Title of Thesis | Major advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| 1. | Ms. Katara Nootan Shambhulal | 2016HS11M | Parental Encouragement and Educational Aspirations of High School Children in Hisar and Udaipur City | Dr. S. Balda |
| 2. | Ms. Priyanka | 2016HS12M | Self Esteem Achievement Motivation and Academic Performance of High School Children | Dr. S. Balda |
| 3. | Ms. Pinki | 2016HS13M | Parental Aspiration and Academic Stress among Adolescents | Dr. K. Duhan |
| 4. | Ms. Manju Bala | 2016HS14M | Family Environment and Psycho Social Problems among Adolescents | Dr. S. Balda |
| 5. | Ms. Basanti | 2016HS15M | Emotional Intelligence and Self Esteem of Adolescents | Dr. Santosh Sangwan |
| 6. | Ms. Renu | 2016HS16M | Achievement Motivation and Family Environment as Predictor of Self Concept among Adolescent Girls | Dr. C. K. Sigh |
| 7. | Ms. Usha | 2016HS17M | Dimensions of Attitude among Adolescents | Dr. B. Dhanda |
| 8. | Ms. Shourya Negi | 2017HS17M | Sibling Relationship During Middle Adulthood in Relation to Emotional Intelligence in Haryana and Uttarakhand | Dr. Sheela Sangwan |
| 9. | Ms. Beulah Ravirakula | 2017HS18M | Gender Stereotyping and its Influence on Career Choices among Adolescents | Dr. Shanti Balda |
| 10. | Ms. Annu | 2017HS19M | Genetic and Environmental Architecture of Twins Cognition | Dr. Bimla Dhanda |
| 11. | Ms. Diksha | 2017HS20M | Home Environment and Cognitive Abilities of Preschool Children | Dr. C. K. Singh |
| 12. | Ms. Vandana | 2017HS21M | Mental Health Status of Adolescents in Relation to Academic Stress and Family Environment | Dr. Krishna Duhan |
| 13. | Ms. Meenu Verma | 2017HS22M | Academic Performance of Adolescents in Relation to Parental Encouragement | Dr. Santosh Sangwan |
| 14. | Ms. Kiran | 2017HS23M | Moral Judgement in Relation to Emotional Stability of Children | Dr. Sheela Sangwan |
| 15. | Ms. Kritika | 2017HS24M | Parental Involvement in Study Habits of Higher Secondary Students | Dr. Shanti Balda |
| 16. | Ms. Arushi | 2018HS19M | Self-Efficacy and Social Phobia Among Adolescents | Dr. Sheela Sangwan |
| 17. | Ms. Deepika | 2018HS20M | Academic Achievement of Adolescents in Relation to Parental Encouragement and School Environment | Dr. C. K. Singh |
| 18. | Ms. Jyoti | 2018HS21M | Emotional Intelligence and Personality Development of Urban Adolescents | Dr. C. K. Singh |
| 19. | Ms. Muskan Vedi | 2018HS22M | Social Connectedness in Relation to Loneliness among Adolescents | Dr. Sheela Sangwan |
| 20. | Ms. Poonam Devi | 2018HS23M | Emotional Intelligence and Personality Development of Rural Adolescents | Dr. C. K. Singh |
| 21. | Ms. Santosh | 2018HA24M | Developmental Status of Rural Preschoolers in Relation to Food Intake | Dr. K. Duhan |
| 22. | Ms. Sonu Kumari | 2018HS25M | Developmental Status of Urban Preschoolers in Relation to Food Intake | Dr. K.Duhan |

| | | | | |
|---|---|---|---|---|
| 23. | Ms. Monika Yadav | 2019HS25M | Teacher's Occupational Aspiration and Job Satisfaction in Relation to Their Emotional Intelligence | Dr. K. Duhan |
| 24. | Ms. Kiranpreet | 2019HS24M | Life Satisfaction and Self- Perception among Differently Abled Adults | Dr. K. Duhan |
| 25. | Ms. Sunita | 2019HS32M | Study of Behavioural Disorders in Rural and Urban Children | Dr. Sheela Sangwan |
| 26. | Ms. Reenu | 2019HS30M | Educational Aspiration and Parental Encouragement among High School Children | Dr. C. K. Singh |
| 27. | Ms. Poonam Yadav | 2019HS28M | Development of App Content for Pregnant Women | Dr. Poonam Malik |
| 28. | Ms. Samanta | 2019HS31M | Development of App Content for Mothers of Infants | Dr. Poonam Malik |
| 29. | Ms. Pinki Rani | 2019HS27M | Impact of Menstruation Hygiene Management on Self-Esteem of Adolescent Girls | Dr. Poonam Yadav (DES) |
| 30. | Ms. Jyoti | 2019HS23M | Impact of Menstruation Hygiene Management on Self-Esteem of Adolescent Girls | Dr. Poonam Yadav (DES) |
| 31. | Ms. Bhawna Jindal | 2020HS23M | Intervention on Enhancing Self Esteem among Adolescents | Dr. S. Sangwan |
| 32. | Ms. Jyoti | 2020HS24M | Psychological Well Being and Social Support as Determinants of Life Satisfaction among University Teachers | Dr. Poonam Yadav (DES) |
| 33. | Ms. Mehak Walia | 2020HS25M | Mental Health Status of Underprivileged Children | Dr. S. Sangwan |
| 34. | Ms. Namrata Mamgai | 2020HS26M | Predictors of Happiness among Adults | Dr. C. K. Singh |
| 35. | Ms. Preeti | 2020HS27M | Study on Parental Stress among Working and Non-Working Mothers of Infants | Dr. Poonam Malik |
| 36. | Ms. Reema | 2020HS28M | Impact of Perceived Stress and Self Efficacy on Happiness among School Teachers During COVID 19 Pandemic | Dr. Poonam Yadav (DES) |
| 37. | Ms. Renu | 2020HS30M | Behavior Problems among Teenagers | Dr. Meena Siwach (DES) |
| 38. | Ms. Riya | 2020HS31M | Academic and Social Stress among Adolescents | Dr.Meena Siwach (DES) |
| 39. | Ms. Shakshi Sharma | 2020HS32M | Study on Parental Stress among Working and Non-Working Mothers of Preschoolers | Dr. Poonam Malik |
| **On roll** | | | | |
| 1. | Ms. Anshu Devi | 2021HS27M | Gender Discrimination and Career Choices of Adolescent Girls | Dr. Poonam Malik |
| 2. | Ms. Arju Saini | 2021HS28M | Problems and Adjustment of Professional Couples | Dr. Meena Siwach (DES) |
| 3. | Ms. Bharti | 2021HS29M | Quality of Life of Employed and Unemployed Adults | Dr. Poonam Malik |
| 4. | Ms. Sangeeta | 2021HS30M | Well Being, Stress Levels and Adopted Coping Mechanisms among Women Experiencing Infertility | Dr. Meena Siwach (DES) |
| 5. | Ms. Aarti | 2022HS21M | Knowledge of Infant Developmental Milestones among First Time Mothers Living in Rural Areas | Dr. Poonam Yadav (DES) |
| 6. | Ms. Sudiksha | 2022HS22M | Exploring Mother Perception of Play During Early Childhood | Dr. Poonam Yadav (DES) |
| 7. | Ms. Diksha Rawat | 2022HS29M | Yet to be decided | Dr. Poonam Yadav (DES) |

## *ANNEXURE IX - C*

## LIST OF PUBLICATIONS FROM M.Sc. STUDENTS' RESEARCH (2018-23)

**Book Chapters**

1. Bishnoi, S., Mailk, P. and Yadav, P. 2020. A review of effects of working mothers on children's development in *Research Trends in Home Science and Extension*, 4:41-56. Akinik Publications, Delhi.
2. Yadav, P., Mailk, P. and Bishnoi, S. 2020. Care During Pregnancy: A review in *Research Trends in Home Science and Extension*, 4:57-74. Akinik Publications, New Delhi.
3. Devi, A., Malik, P., Boora, M., Sharma, S. and Aarzoo. 2022. Review on the role of counseling in healthy parent-adolescent relationship in *Recent trends in Multidisciplinary Research* (v33, pp. 83-91). Akinik Publications, New Delhi. ISBN: 978-93-5570-019-3.
4. Jyoti, Malik, P., Lohan, S. and Anshu. 2022. Role of guidance and counseling in effective teaching and learning at school in *Recent trends in Multidisciplinary Research* (v33, pp. 35-48). Aki Nik Publications, New Delhi.ISBN: 978-93-5570-019-3
5. Mamgai, N., Malik, P.,Renu and Kaur, S. 2022. Traces of rehabilitation through history of Indian subcontinent in *Recent trends in Multidisciplinary Research* (v36, pp. 39-49). Aki Nik Publications, New Delhi. ISBN: 978-93-5570-280-7
6. Preeti, Mansi, Amita and Malik, P. 2022. A review of effect of guidance and counseling on old age problems in *Recent Trends in Humanities and Social Sciences* (v12, pp. 69-81). Akinik Publications, New Delhi. ISBN: 978-93-5570-120-6
7. Renu, Malik, P., Kaur, S. and Mamgai, N. 2022. A review of role of counselling in single parenting in *Recent trends in Multidisciplinary Research* (v33, pp. 105-113). Akinik Publications, New Delhi. ISBN: 978-93-5570-019-3
8. Saini, A., Malik, P., Lohan, S. and Anshu.2022. Role of counselling in marriage in *Recent trends in multidisciplinary research* (v33, pp. 49-59). Akinik Publications, New Delhi.
9. Sangeeta, Malik, P., Saini, A. & Dudi, J. 2022. Counselling for stress management: A review. in In *Recent trends in Multidisciplinary Research* (v33, pp. 17-33). Aki Nik Publications, New Delhi. ISBN: 978-93-5570-019-3
10. Sharma, R., Malik, P., Dudi, J. and Sharma, M. 2022. Early Childhood Intervention for Juvenile Delinquency Prevention: A Review in *Research Trends in Home Science and Extension* (V 8, pp. 51-68). Akinik Publications, New Delhi. ISBN: 978-93-5570-178-7
11. Sharma, S., Malik, P., Yashvee, Dudi, J. and Anshu. 2022. Psychotherapy's efficacy in the treatment of postpartum depression: A review in *Recent trends in Multidisciplinary Research* (v33, pp. 61-81). Aki Nik Publications, New Delhi. ISBN: 978-93-5570-019-3
12. Rawat, D. 2023. Moral Development: Lawrence Kohlberg in *Conjoined Theories to Understand Human Development in the Context of Modern Education* (pp. 18-23).Walnut Publication, Bhubneswar. ISBN: 978-93-5574-459-3
13. Saini, A. 2023. Psychosocial Development: Erik Erikson in *Conjoined Theories to Understand Human Development in the Context of Modern Education* (pp. 18-23).Walnut Publication, Bhuvneshwar. ISBN: 978-93-5574-459-3
14. Saini, A.2023. Unity in Diversity in *Imagining, Identifying and Innovating the Roadmap to Become the Vishvaguru: Harnessing Potential of Indian Youth* (18th ed. pp. 347-252). Vivekanand Swadhyay Mandal, Pantnagar. ISBN:978-81-958697-7-0

## Research Papers


1. Rana S. and Singh C. K. 2017. Impact of school and home environment on divergent production abilities of adolescents, *International Journal of Educational Science and Research* **7**(1) :93-104
2. Katara, Nootan, Balda, S and Sangwan, Santosh. 2018. Parental encouragement and educational aspirations of high school children. *International Journal of Education and Management Studies*, **9**(2): 266-268
3. Katara, Nootan, Balda, S. and Sangwan, Santosh. 2018. Parental encouragement and educational aspirations of high school children. *International Journal of Education and Management Studies*, **8**(2): 266
4. Rani, P. and Dhanda, B. 2018. Warmth and Affection: A Comparative Study on Soft Skills and Social skills among Children. *International Journal of current microbiology and Applied Sciences*, **7**(6):922-24.
5. Sidola, S. and Dhanda, B. 2018. Impact of Home Environment on Cognitive Devlopment of the Children- A Cross Cultural Study. *International Journal of Educational Science And Research*, **8** (2): 79-86
6. Sunita and Sangwan, Sheela. 2018. A comparative study on quality of life of urban and rural senior citizens. *Annals of Agri- Bio Research*, **23**(2): 195-197.
7. Sunita and Sangwan, Sheela. 2018. The impact of family type on quality of life of senior citizens. *Annals of Agri- Bio Research*, 23(2): 198-200.
8. Sunita and Sangwan, Sheela. 2018. The relationship between depression and adjustment pattern of senior citizens. *Annals of Biology*, **23**(3): 311-313
9. Sunita and Sangwan, Sheela. 2018. The relationship between quality of life and adjustment pattern of senior citizens. *Annals of Biology*, **23**(3): 314-316.
10. Basanti.,Sangwan, Santosh and Balda, S. 2019. Emotional intelligence of adolescents. *Indian Journal of Positive Psychology*, **10**(2): 62-66.
11. Beniwal P. and Singh C.K. 2020. A comparative study on psychological wellbeing of senior citizen across gender. IAAJST, **11** (4), 43
12. Diksha and Singh C.K. 2020. Cognitive abilities of preschool children as per gender. *The Pharma Innovation Journal*, **9**(1): 85-87
13. Diksha, and Singh C. K. 2020. Cognitive abilities of preschoolers as per gender. *The Pharma innovation Journal*, **9** (1) :81
14. Diksha and Singh C.K. 2020. Cognitive abilities of preschool children as per Age. *Bulletin of Environment, Pharmacology and Life Sciences*, **8** (1) :21-25
15. Monika, Malik, P. and Yadav, P.2020. Smartphone usage among college going students. *International Journal of Education and Management*, **10** (3).
16. Yadav,P., Malik, P., Monika and Pinki. 2020. Klinefelter syndrome. *International Journal of Education and Management*, **10** (3).
17. Jangra P. & Singh C.K. 2021. To study the influences of personal variables on stress issues among police personnel. *International Journal of Innovative science and Advance Technology*, **6** (5):997-1000.
18. Poonam, Singh C., and Sihag J. 2022. A Study of Impact of Emotional Intelligence and Family Environment on the Personality of Rural Adolescents. *Indian Journal of Positive Psychology*, **13**(3): 261-265.
19. Rani P., Yadav, P. and Sihag, J. 2022. Knowledge and Practices Regarding Menstruation Hygiene Management among School Going Adolescents, *Indian Research Journal of Extension Education*, **22**(5):63-65.
20. Rani P., Yadav, P. and Sihag, J. 2022. Impact of Menstruation Hygiene Management on self - esteem of adolescent girls, *Indian Journal of Positive Psychology*, **13**(4): 515-520.

*21.* Sihag, J. and Yadav, P. 2022. Menstrual Hygiene Management Facilities at home affect the Academic Performance of Adolescent Girls. *Biological Forum- An International Journal,* **14**(3): 746-752.

22. Sihag, J. and Yadav, P. 2022. Comparison of Menstrual Distress in Adolescent Girls Across Residential Area, *Indian Research Journal of Extension Education*, **22**(5):67-71.

23. Sihag, J. and Yadav, P. 2022. Impact of menstrual distress on academic performance of adolescent girls. *The Pharma Innovation Journal*, **11**(4): 684-689.

24. Sunita, Sangwan Sheela and Kadwashra, D. 2022. Comparison of behavioural disorder of children across area in haryana state. The Pharma Innovation Journal, **11**(3):1724-1727

25. Sunita, Singh, C. K. and Sihag, J. 2022. The effects of parenting style on children's behavior: Asystematic literature review. *The Pharma Innovation Journal*, **11**(11): 1695-1702.

## Abstracts

1. Basanti, Sangwan, Santosh., & Balda, Shanti. 2019. Emotional intelligence of male and female adolescents. In National Seminar on Innovative Strategies for Gender Equality. Organized by I.C. College of Home Science, CCS HAU, Hisar, on 8.3.2019

2. Sunita, Sheela Sangwan, Sangwan, S. and Ritu. 2019 A Study on Adjustment Pattern among Senior Citizens in Relation to Gender. National Seminar on Innovative Strategies for Gender Equality. Organized by I. C. College of Home Sciences, Chaudhary Charan Singh Haryana Agricultural University in Collaboration with Vision India NGO Hisar. March 8, 2019 pp77

3. Vandana and Duhan, K. 2019. Comparative study on academic stress among adolescents as per gender. Poster presented in 3rd International Conference Global Initiatives in Agricultural and Applied Sciences for Eco Friendly Environment (GIASE- 2019) at Tribhuvan University, Kathmandu, Nepal, PP: 459

4. Sunita and Sangwan S. 2021. A study of behavioural disorder among rural and urban children Hisar, Haryana. Organized by : Astha Foundation, Meerut in Collaboration with CSAUAT, Kanpur; IGKV, Raipur; 327 UAHS, Shivamogga; BAU Ranchi; SKRAU, Bikaner & SSDAT, Meerut (UP) India. ISBN- 978-93-91057-54-1. p 327

5. Aarti. 2023.Community capacity building for sustainable development: A review. International conference on Climate resilient agriculture for food security and sustainability, February, 2023. Organised by ChaudharyCharan Singh Haryana Agriculture University

6. Sangeeta. 2023. Significance of life skills in achieving sustainable future for adolescents: A review.International conference on life skills education, November 4-6, 2022. Organized by Rajdhani College, Delhi University, New Delhi- p 88-89. ISSN: 2394-630X

## Popular Articles

1. Yadav, P., Malik, P. and Bishnoi, S. 2020. Online padhai: Eknyaanubhav. *Haryana Kheti*, **9**:7.

2. Bishnoi, S., Malik, P. and Yadav, P. 2020. Tikakaran ke samay dhyan rakhne yogya baatein. *Haryana Kheti*, **9**:3.

## *ANNEXURE IX - D*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY M.Sc. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars/Trainings with dates and venue |
|---|---|
| Ms. Diksha<br>Ms. Vandana<br>Ms. Kiran | 3rd International Conference Global Initiatives in Agricultural and Applied Sciences for Eco Friendly Environment ,Tribhuvan University , Kathmandu, Nepal |
| Ms. RenuBala | National Conference on Biodiversity and Environmental Sustainability in Modern Era, Department of Zoology, Chhaju Ram Memorial Jat College, Hisar, February, 16, 2019. |
| Ms. Diksha<br>Ms. Basanti<br>Ms. Renu | National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCSHAU, March 8, 2019. |
| Ms. Meera Rani | Golden Jubilee international conference, I.C. College of Home Science. CCS Haryana Agricultural University, Hisar, November6-9, 2019. |
| Ms. Poonam Yadav | National conference on Innovation and Advancement in different Streams of Higher Education. Mahatma Jyoti Rao Phoole University, Jaipur, Rajasthan, January16-19, 2020. |
| Ms. Bhawana Jindal | Webinar on Improving the Quality of Agricultural Research Landscape in India by Nehru Library, CCS Haryana Agricultural University, Hisar, June 30, 2021. |
| Ms. Shakshi Sharma | Training on Empowering Young Researchers of Agricultural Sector for Nation Building- Opportunities for Outstanding Performance, IVRI, Pune, July26-31, 2021. |
| Ms. Bhawana Jindal | National Seminar on Holistic health of Adolescents: Issues and Challenges. DAV College for Girls, Yamuna Nagar, March26,2022. |
| Ms. Bhawana Jindal | 4thOnline International Conference on Impact of Current Events on the Future of Bussines: Building Resilient Organisations, April7-9,2022. |
| Ms. Shakshi Sharma | Training Programme on Academic Writing for Publishing Research Articles in Hindi Impact Factor Journals IVRI, Pune ,April26-30, 2022. |
| Ms. Aarti | International Conference on Climate Resilient Agriculture for Food Security And Sustainability, CCS HAU Hisar, February 17-19, 2023. |
| Ms. Sangeeta | International Conference on life skills education. Rajdhani College, New Delhi, November 2022. |
| Ms. Arju Saini | National Conference on Imagining, Identifying and Innovating the Roadmap to become the Vishvaguru: Harnessing Potential of the Indian Youth, Vivekanand Swadhyay Mandal, Pantnagar, January 2023. |

## *ANNEXURE IX - E*

## DETAILS OF Ph.D.STUDENTS

## FROM 2nd SEMESTER 2018-19 TO 1st SEMESTER 2022-23

| S. No. | Name | Admn. No. | Title of Thesis | Major advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| 1. | Ms. Parminderjeet | 2014HS7D | Adjustment among college youth in relation to intelligence and socio-emotional maturity | Dr. Krishna Duhan |
| 2. | Ms. Sunita | 2014HS8D | Quality of life and adjustment pattern among senior citizens | Dr. Sheela Sangwan |
| 3. | Ms. Varsha Saini | 2014HS9D | Ecological perspectives of bullying and victimization in school children | Dr. Shanti Balda |
| 4. | Ms. Rupika Chopra | 2014HS10D | Intervention programme for depression management among adolescents | Dr. Sheela Sangwan |
| 5. | Ms. Reetu | 2014HS11D | Genetic and environmental basis of temperament and fluid intelligence among twins | Dr.B.Dhanda |
| 6. | Ms. Tanya Arya | 2014HS12D | Quality of life an adjustment pattern among senior citizens | Dr. Sheela Sangwan |
| 7. | Ms. Pinki Rani | 2015HS6D | Parenting stress among parents of normal and disabled children in Haryana State | Dr.C.K.Singh |
| 8. | Ms. Pinki | 2015HS7D | Social adjustment and psycho-social problems among rural female geriatric population | Dr. Santosh Sangwan |
| 9. | Ms. Reena | 2015HS8D | Cross cultural copying strategies for loneliness and social isolation in elderly women | Dr.B.Dhanda |
| 10. | Ms. Kavita Kumari | 2016HS6D | Marital stress among women | Dr. B. Dhanda |
| 11. | Ms. Meera Rani | 2016HS7D | Detriments of meta cognition among adolescents | Dr.K.Duhan |
| 12. | Ms. Priyanka Beniwal | 2016HS8D | Psychological well being, loneliness and social | Dr.C.K.Singh |
| 13. | Ms. Arti Kumari | 2017HS7D | Early childhood and long term development | Dr. Sheela Sangwan |
| 14. | Ms. Sumit Sheoran | 2017HS8D | Emotional strength and emotional experiences | Dr. Bimla Dhanda |
| 15. | Ms. Pavithra | 2018HS11D | Development of screening tool for behavioral addiction in adolescents | Dr.C.K.Singh |
| 16. | Ms. Pinki | 2018HS12D | Occupational stress among teachers of State universities | Dr.K.Duhan |
| 17. | Ms. Priyanka | 2018HS13D | Work stress and well being among police personals | Dr.C.K.Singh |
| 18. | Ms. Annu | 2019HS16D | Twin Study on Imperial Intervention to Unravel Nature and Nurture of Intelligence | Dr. B. Dhanda |
| 19. | Ms. Diksha | 2019HS17D | Knowledge and Attitude about Reproductive Health and Family life education among rural females in Haryana State: An Intervention study | Dr.C.K.Singh |

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|---|---|---|---|---|
| 20. | Ms. Priyanka | 2019HS19D | Social Isolation and Cognitive Functioning in Later Life | Dr. Sheela Sangwan |
| **On roll** | | | | |
| 1. | Ms. Renu Joshi | 2019HS20D | Development of Personality Assessment tool for Juvenile Delinquents | Dr. Krishna Duhan |
| 2. | Ms. Kritika | 2020HS18D | Occupational Stress and Coping Strategies among Healthcare Workers in Haryana | Dr. Poonam Malik |
| 3. | Ms. Rajni | 2020HS19D | Correlates of Academic Stress and Self-Esteem among adolescents | Dr. Poonam Malik |
| 4. | Ms. Shatakshi Singh | 2020HS20D | Impact of School Readiness Intervention on knowledge of Preschool Teachers | Dr. S. Sangwan |
| 5. | Ms. Simran Rani | 2020HS21D | Impact of Work Family Conflict on Psychological Wellbeing of Married Couples | Dr. Meena Siwach (DES) |
| 6. | Ms. Jyoti | 2021HS14D | Impact of intervention on menopausal awareness and related quality of life of rural women | Dr. Poonam Yadav (DES) |
| 7. | Ms. Neelam Kumari | 2021HS16D | Study on family functionality and fertility health behaviourof infertilerural women | Dr. Poonam Yadav (DES) |
| 8. | Ms. Samantha | 2021HS17D | Development of app for mothers of infant | Dr. Poonam Malik |
| 9. | Ms. Sunita | 2021HS18D | Development of parenting app content for mothers of toddlers | Dr. Poonam Malik |
| 10. | Ms. Amita | 2022HS09D | Psychological hardness among adolescents and its relationship with mental health | Dr. Meena Siwach (DES) |
| 11. | Ms. Jyoti | 2022HS10D | A study of personality, locus of control and mental health of athletic and non athletic university students | Dr. Meena Siwach (DES) |
| 12. | Ms. Reenu | 2022HS11D | Career decision making among adolescents in relation to self concept and parental encouragement | Dr. Meena Siwach (DES) |
| 13. | Ms. Priyanka | 2022HS12D | To be finalized | Dr. Poonam Malik |

## *ANNEXURE IX - F*

## LIST OF PUBLICATIONS FROM Ph.D. STUDENTS' RESEARCH (2018-23)

**Books:**

1. Pinki and Duhan K. 2022. Occupational stress and strategies to overcome stress. AkiNik Publications, New Delhi. ISBN: 978-93-5570-381-1. Book DOI: http://doi.org/10.22271/ed.book.1914.
2. Kumari, N., Bala, R.andSunita (Eds.).2023.Conjoined theories to understand human development in the context of modern education (pp. 36-43).Walnut Publication, Bhuvneshwar. ISBN: 978-93-5574-459-3

**Book Chapters**

3. Annu and Dhanda, B. 2020. Integration of Effective STEM Education in Early Childhood in *Research Trends in Home Science and Extension* (Volume-3). Akinik Publications, New Delhi. ISBN: 978-93-90420-92-6.
4. Annu and Dhanda, B. 2020. A Review of Contribution of Genetic and Environment across the Development of Cognition in *Research Trends in Home Science and Extension* (Volume-4). Akinik Publications, New Delhi. ISBN: 978-93-90420-10-0.
5. Pinki and Duhan K. 2020. Senior citizen and technology in *Recent Trends in Multidisciplinary Research* (v20, pp. 63-81). Akinik Publications, New Delhi. ISBN: 978-93-90322-93-0
6. Pavithra, N., Malik, P., Sangwan, S. &Pinki. 2021. Internet addiction in youth: The dark side of digital technology. In Jayakumar, R. and Duvvuru, R.R. (Eds.), Recent trends in multidisciplinary research (v31, pp. 29-47). AkiNik Publications, New Delhi.ISBN: 978-93-5570-025-4
7. Kumari, N., Bala, R., & Chauhan, S. 2022. Entrepreneurship Development in Haryana. In Khetarpal, A., Singh, P. &Sheoran, S. (Eds.), Entrepreneurship Development (v1, pp. 124-130). Swastik Publications, Delhi, India. ISBN: 978-93-91382-03-2
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10. Aarti. 2023. Cognitive theories: Jean Piaget & Jerome Bruner. In Kumari, N., Bala, R., & Sunita (Eds.), Conjoined theories to understand human development in the context of modern education (pp. 36-43).Walnut Publication, Bhuvneshwar. ISBN: 978-93-5574-459-3
11. Kumari, N. 2023. Origin & history of human development theories. In Kumari, N.,Bala, R., &Sunita (Eds.), Conjoined Theories to Understand Human Development in the Context ofModern Education (v1, pp. 1-4).Walnut Publication, Bhubaneswar, India. ISBN: 978-93-5574-459-3
12. Sangeeta. 2023. Socio-cultural development: Lev Vygotsky &JaanValsiner. In Kumari, N., Bala, R., &Sunita (Eds.), Conjoined theories to understand human development in the context of modern education (pp. 36-43). Walnut Publication, Bhuvneshwar. ISBN: 978-93-5574-459-3

13. Sihag, J. Sunita and Pindar, R. 2023. Learning Theories: Ivan Pavlov, B.F. Skinner& Albert Bandura.Kumari, N., Bala R. and Sunita (Eds.), Conjoined Theories to understand Human Development in the Context of Modern Education (pp.65-75).walnutpublication.com. ISBN: 978-93-5574-459-3.
14. Sunita, P, Reenu and Sihag, J. 2023. Behavior theories: J. B. Watson, Edward Thorndrike, Clark Hull and Edward Tolman (pp. 121-137). Conjoined theories to understand human development in the context of modern education. Walnut Publications, New Delhi. ISBN: 978-93-5574-459-3.

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16. Ninaniya,P., Sangwan, Santosh., Reena, &Balda, S. 2017.Attitude of adolescents towards modernization: A Comparative study. *International Journal of Educational Science and Research*, **7**(3): 27-34.
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35. Arya, T. and Sangwan, Sheela. 2019. Factors affecting psychological well- being of adolescents, *Annals of Biology*, **35**(1): 127-132.
36. Bala, R. SangwanSheela and Rani P. 2019. Significance of social skills among adolescents, International Journal of Current Microbiology and Applied Sciences, **8**(3):2470-2474.
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38. Chopra, R, and Sangwan, Sheela. 2019. Impact of age on depression levels among higher and senior secondary school students, *Indian Journal of Health and Wellbeing*. **10**(1-3): 51-53.
39. Kumari, A. SangwanSheela and Sheoran, S. 2019 Early childhood and long term development: Asystematic review, *Indian Journal of Health & Wellbeing*, **10**(1-3): 48-50
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69. Pinki and Duhan, Krishna. 2020. Academic stress and academic resilience among government and private school students across stream. *International Journal of Education & Management studies*, **10** (2) : 169-176
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**Abstracts**

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18. Rani, M., Sheoran, S and Sheela Sangwan. 2019. Influences of peer relationship of adolescents in relation to their gender. National Seminar on Innovative Strategies for Gender Equality, organized by I. C. College of Home Sciences, CCS HAU, Hisar, March 8, 2019. pp 24
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32. Sunita, Malik P. and Sihag J. 2023. Across sectional study on menstrual knowledge and hygiene practices among rural adolescent girls in Fatehabad district, Haryana. International conference on climate resilient agriculture for food security and sustainability. Organized by Chaudhary Charan Singh Haryana Agricultural University, Hisar. ISBN- 978-93-5786-023-9. p 854.
33. Rani. S and Rana R.2023. Impact of Digital Education on Academic performance of children. International Conference on India 2.0, Vision For India @2047. Organized by Department of Economics, Kurukshetra University, Kurukshetra. 14-15 February, 2023. p 184.
34. RanaR.and Rani S. 2023. Impact of skill development programme on Rural Youth. International Conference on India 2.0, Vision For India @2047. Organized by Department of Economics, Kurukshetra University, Kurukshetra. 14-15 February, 2023-. p 190.
35. Rani.S and Sharma.T. 2023. Psychological wellbeing in context to gender. 7th International conference on Innovative approaches in basic and Applied Sciences for Societal Development organised by SERS, Meerut and CBHS Pantnagar, 2023. P AB/TH 10/ 9.
36. Sharma.T. and Rani.S .2023. Problems of aged women in context to locality. 7th International conference on Innovative approaches in basic and Applied Sciences for Societal Development organised by SERS, Meerut and CBHS Pantnagar, 2023. P AB/TH 10/7.

37. Rani. S and Rana .R. 2023. Impact of drudgery reducing technology on farm women. International conference on Climate Resilient Agriculture for food security and sustainability. Organised by College of Agriculture, CCS HAU Hisar, 17-19 Feb, 2023.
38. Rana .R. and Rani. S. 2023. Impact of women empowerment in agriculture. International conference on Climate Resilient Agriculture for food security and sustainability. Organised by College of Agriculture, CCS HAU Hisar, 17-19 Feb, 2023.

**Popular Articles**

1. Samanta, Malik, P. and Annu. 2022. *Laingikutpeedan se bachchon ka sanrakshan adhiniyam*, Haryana *Kheti*, CCS Haryana Agricultural University, Hisar, Haryana. 2022 (7): 32.
2. Sihag, J. and Yadav, P. 2022. *Navjat sishu ki dekhbal*, Haryana *Kheti*, CCSHAU, Hisar 2022 (7):31.
3. Sihag, J. 2022. Importance of Vermicomposting in Modern Agriculture, *Just Agriculture*, 2(12):1-5.
4. Sihag, J. and Yadav, P. 2022. Role of Modern Farming Technology in Agriculture, *The Agriculture Magazine* 1(9):147-149.
5. Sihag, J.2022. Contribution of women in agriculture, *Krishi sewa*, 3:1-4.
6. Pinki and Duhan K.2022.Attitude towards death, bereavement and mourning in different religions. Agriculture and E-newsletter, 4(3): 432-434.
7. Pinki and Duhan K.2022.Family therapy for psychologically unhappy families. Agriculture and E-newsletter, **4**(4): 179-180.
8. Pinki and Duhan K.2022.Multilevel nature of development. Agriculture and E-newsletter, 4(5): 412-414.
9. Pinki 2022. Importance of guidance in educational process. Agriculture and E-newsletter, 4(6): 32-33.
10. Pinki and Duhan K.2022.Socio-cultural differences effect over development. Agriculture and E-newsletter,4(7): 101-103.
11. Pinki and Duhan K. 2022.Marital roles and relationship in family.Agriculture and E-newsletter,4(8): 107-108.
12. Kumari, N., Malik, P., Gill, P. and Rani, S. 2023. *Bachchon ki achchhisehat ka raaz*: Motaanaaj, Madhya Bharat Krishak Bharti, Gwalior. 2023 (1):97.
13. Kumari, N., Yadav, P. & Singh, S., 2023. Social Media: *Bachcho par Nakaratmak Prabhav*, Haryana *Kheti*, CCS HAU, Hisar 2023 (3):28.

*ANNEXURE IX - G*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY Ph.D. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars/Trainings with dates and venue |
|---|---|
| Ms. Sumit Sheoran<br>Ms. Pinki<br>Ms. Priyanka<br>Ms. N. Pavithra<br>Ms. Arti | 5th International and 7th Indian Psychological Science Congress, Panjab University, Chandigarh, October 26-28, 2018. |
| Ms. Sumit Sheoran | International Conference on Global Research Initiatives for Sustainable Agriculture and Allied Sciences Rajasthan Agricultural Research Institute, Durgapura, Jaipur, October 28-30, 2018. |
| | International Conference on Positive Psychology for Health and Well Being Guru Jambheshwar University of Science and Technology, Hisar, March 9-10, 2018. |
| | International Symposium on Innopreurship: A need of sustainable Agriculture Directorate of Research, CCSHAU Hisar, February 2-3, 2019. |
| | International Conference on Climate Change towards Health and Agricultural Sustainability, Guru Jambheshwar University of Science and Technology, Hisar, February 18-20, 2019. |
| Ms. Pinki<br>Ms. N. Pavithra | International Conference on Emerging Paradigms in social science research, Bhagat Phool SinghMahillaVishvidhyalaya, Sonepat, 25-26 March, 2019. |
| Ms. Arti<br>Ms. Parminder<br>Ms. Pinki<br>Ms. Pinki Ninaniya<br>Ms. Priyanka<br>Ms. Priyanka Beniwal<br>Ms. SumitSheoran<br>Ms. Sunita<br>Ms. Tanya | National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, March 8, 2019. |
| Ms. Annu<br>Ms. Priyanka Beniwal | Golden Jubilee International Conference on New Millennia Agriculture Novel Trends & Future Scenario CCS Haryana Agricultural University, Hisar, November6-8, 2019. |
| Ms. Annu<br>Ms. Priyanka Beniwal | International Conference on Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES 2019)Kamaun University, Nainital, Uttarakhand, December1-2, 2019. |
| Ms. Renu Joshi | Carrying Capacity Based Planning For Sustainable Development. World Environment Summit: Conference Paintal Memorial Auditorium, Vallabhbhai Patel Chest Institute, University of Delhi, Delhi, January 18-19, 2020. |

| | |
|---|---|
| Ms. Annu | Webinar on Navigating Challenges in Post COVID world: The role of Technology in Education, University School of Open Learning, Punjab University, Chandigarh, May 25 , 2020. |
| | National Webinar on Gender Sensitization: Need of the Hour, Institute of Home Science & IQAC, Dr. B.R. Ambedkar University, Agra, May 26, 2020. |
| | Webinar on Emerging Technologies in Education and Research for College Teachers and Research Scholar Faculty Development Programme. SDPS, Women's College, Indore, July 22-28, 2020. |
| | Webinar on How to Write Research article and Review article Ansal University, Gurgaon, July 30, 2020. |
| Ms. Pavitra N | Online International Neurology Conference, Reignite Innovative Conferences Allwyn Hyderabad- 500049, India, December17-18, 2020. |
| Ms. Rajni | International webinar on Post COVID Complications &Management‖ MPUAT, Udaipur, Rajasthan, May 3, 2021. |
| | International webinar on Let's Win Over Covid Pandemic With Collaborative Approach‖ Baba Mast Nath University, Rohtak, June2, 2021. |
| | National webinar on Managing Health and Stress during COVID-19, Baba Mast Nath University, Rohtak, June 9, 2021. |
| | e- Refresher Program (REFPRO-2021) on Research and Publication Ethics, Baba Mast Nath University, Rohtak, June 22- July 5, 2021. |
| Ms. Priyanka | Global Initiatives in Agricultural, Forestry and Applied Sciences (GIAFAS-2021) Shri Guru Ram Rai University, Dehradun, Uttrakhand, India, October 17-18, 2021. |
| Ms. Paavithra N. | Online International conference on Recent advances and innovations in Biological and applied sciences (RAIBAS 2022), June 14-16, 2022. |
| | Online International conference on Recent trends in Science and Technology, Willingdon College, Sangli, June 29, 2022. |
| Ms. Neelam Kumari | International Multidisciplinary E- Conference on 75 Years of Independence of India: Opportunities and Challenges, organised by the Arts and Science College, Shivajinagar, Gadhi, May 24, 2022. |
| | National Seminar on Role and Responsibilities of HEIs in Effective Implementation of NEP-2020, organised by SSD Girl's College, November 19, 2022. |
| Ms. Sunita Suthar | International web conference on global research initiatives for sustainable agriculture and allied sciences. Organized by Astha Foundation, Meerut (U. P.), India. Dec 2021. |
| Ms. Neelam Kumari<br>Ms. Sunita Suthar | International Conference on Climate Resilient Agriculture for Food Security And Sustainability, CCS HAU Hisar, February 17-19, 2023. |

*ANNEXURE X*

*ANNEXURE X- A*

## COURSES OFFERED FOR M.Sc. AND Ph.D. PROGRAMMES

| Course No. | Course Title | Credits | Sem. |
|---|---|---|---|
| **M.Sc.** | | | |
| TAD 501 | Textile Chemistry and Quality Analysis | 2+2 | II |
| TAD 502 | Advanced Textile Designing | 1+2 | I |
| TAD 503 | Advanced Pattern Making and Draping | 1+3 | II |
| TAD 504 | Historic Costumes and Socio-Psychological Aspects of Clothing | 1+2 | II |
| TAD 505 | Textiles and Apparel Industrial Management | 3+0 | I |
| TAD 506 | Advanced Dyeing, Printing and Finishing of Textiles | 2+1 | I |
| TAD 507 | Apparel Quality Analysis | 1+1 | II |
| TAD 508 | Textile Auxiliaries and their Applications | 2+1 | II |
| TAD 509 | Advanced Computer Aided Textiles and Apparel Designing | 1+2 | I |
| TAD 510 | Home Textiles | 1+2 | II |
| TAD 511 | Knitting Technology | 1+1 | I |
| TAD 512 | Consumer Behaviour- Textiles and Apparel | 1+1 | I |
| TAD 591 | Master's Seminar | 1 | I, II |
| TAD 599 | Master's Research | 20 | I, II |
| **Ph.D.** | | | |
| TAD 601 | Functional Clothing | 2+1 | I |
| TAD 602 | Technical Textiles | 3+0 | I |
| TAD 603 | Textile Ecology | 3+0 | II |
| TAD 604 | Sourcing and Globalization | 3+0 | I |
| TAD 605 | Product Development | 1+2 | II |
| TAD 606 | Textile Conservation | 1+1 | II |
| TAD 607 | Colour Application in Textiles | 1+1 | II |
| TAD 608 | Recent Advances in Textile and Apparel | 2+0 | I |
| TAD 691 | Doctoral Seminar I | 1 | I, II |
| TAD 692 | Doctoral Seminar II | 1 | I, II |
| TAD 699 | Doctoral Research | 45 | I, II |

## *ANNEXURE X- B*

## DETAILS OF M.Sc. STUDENTS FROM 2nd SEMESTER 2018-19 to 1st Semester 2022-23

| S. No. | Name of student | Admn. No. | Title of Thesis | Major advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| **1.** | Ms. Parmila | 2015HS19M | Development of Ready-to-use Yokes through Digital Embroidery | Dr. Nirmal Yadav |
| **2.** | Ms. Lata Samant | 2016HS18M | Effect of Enzymatic Treatment on Dyeing of Cotton Fabric with Natural Dye | Dr. Neelam M. Rose |
| **3.** | Ms. Neenu Poonia | 2016HS19M | Efficacy of *Kinnow* Peel Extract for Microbial Resistance on Cotton Fabric | Dr. Vivek Singh |
| **4.** | Ms. Sushila | 2016HS20M | Efficacy of Lemon Peel Extract for Microbial Resistance on Cotton Fabric | Dr. Nisha Arya |
| **5.** | Ms. Pooja Rani | 2016HS21M | Adaptation of Madhubani Motifs for Screen Printing and Hand Embroidery | Dr. Saroj Yadav |
| **6.** | Ms. Kumari Medha | 2017HS25M | Antibacterial Finish on Cotton using *Giloy* Extract | Dr. Nisha Arya |
| **7.** | Ms. Sharmila | 2017HS26M | Antibacterial Finish for Cotton Fabric using Herbal Extract | Dr. Neelam M. Rose |
| **8.** | Ms. Rajni | 2017HS27M | Application of Plant Extract on Cotton Fabric for Bacterial Resistance | Dr. Saroj Yadav |
| **9.** | Ms. Rubi Sharma | 2017HS28M | Effect of Enzymatic Treatment on Dyeing of Woollen Fabric with Natural Dye | Dr. Neelam M. Rose |
| **10.** | Ms. Ritika Bamal | 2017HS29M | Antibacterial Finish on Cotton using *Amaltas* Leaves Extract | Dr. Nisha Arya |
| **11.** | Ms. Anita | 2018HS27M | Micro encapsulation of Thyme Oil for Developing Aroma Wool Fabric | Dr. Neelam M. Rose |
| **12.** | Ms. Shalini Rukhaya | 2018HS29M | Micro encapsulation of Vetiver Oil for Development of Aroma Wool fabric | Dr. Neelam M. Rose |
| **13.** | Ms. Bindu Kumari | 2019HS33M | Utilization of Snake Plant for Fibre Extraction | Dr. Lalita Rani |
| **14.** | Ms. Dimple Chahar | 2019HS34M | Development of Baby Wipes using Herbal Combination | Dr. Parul Gill |
| **15.** | Ms. Kiranjot Kaur | 2019HS35M | Development of Innovative Products using Hosiery Waste | Dr. Saroj Yadav |
| **16.** | Ms. Raveena | 2019HS36M | Application of Bio-polymer Nano Particles for Improving the Dye Uptake of Cotton Fabric | Dr. Mona Verma |
| **17.** | Ms. Divya | 2020HS33M | Effect of Eco-friendly Mordant on Dyeability of Cotton fabric with Anionic Dye | Dr. Mona Verma |
| **18.** | Ms. Neeta | 2020HS34M | Effect of Biomordants on Dyeability of Cotton Fabric with Natural Dye | Dr. Nisha Arya |
| **19.** | Ms. Savita | 2020HS37M | Effect of Biomordants on Dyeability of Cotton Fabric with *Ashoka* Bark Dye | Dr. Lalita Rani |
| **On roll** | | | | |
| **1.** | Ms. Ritika | 2020HS35M | Utilization of Biopolymer for Screen Printing of Silk with Natural Dyes | Dr. Saroj Yadav |
| **2.** | Ms. Vemagiri Divya Krupa | 2020HS38M | Development of Designer Uppada Silk Saris using Nature-Inspired Designs | Dr. Neelam M. Rose |

| | | | | |
|---|---|---|---|---|
| **3.** | Ms. Annu | 2021HS31M | Micro encapsulation of Essential oil for Fragrance Finshing of Cotton Fabric | Dr. Mona Verma |
| **4.** | Ms. Harmandeep Kaur Toor | 2021HS32M | Functionalization of Cotton Fabric using Eggshell Biowaste | Dr. Neelam M. Rose |
| **5.** | Ms. Minakshi Sharma | 2021HS33M | Development of Embroidered Wall Panels using Traditional Designs of Haryana | Dr. Parul Gill |
| **6.** | Ms. Namrata Khushwah | 2021HS35M | Application of Natural Dye With Biomordant to Enhance the Dyeability of Cotton Fabric | Dr. Nisha Arya |
| **7.** | Ms. Pramila | 2021HS36M | Adaption of Animal and Bird Motifs of Haryana on Sari through Transfer Printing | Dr. Neelam M. Rose |
| **8.** | Ms. Soniya | 2021HS37M | Development of Stoles through Transfer Printing using Religious Motifs of Haryana | Dr. Neelam M. Rose |
| **9.** | Ms. Anjali Lohan | 2022HS23M | Application of Traditional Motifs of Haryana on Denim through Block Printing | Dr. Parul Gill |
| **10.** | Ms. Gunjan | 2022HS24M | Effect of Biosynthesized *Cymbopogon Citratus* Silver Nanoparticles on Microbial Resistance of Cotton Fabric | Dr. Nisha Arya |
| **11.** | Ms. Pratibha | 2022HS26M | Natural Dyeing of Silk Fabric using Inorganic Nanoparticles | Dr. Saroj Yadav |
| **12.** | Ms. Santosh | 2022HS28M | Application of Coir-Based Agro-Textile in Vegetable Crops Activities | Dr. Saroj Devi |

## *ANNEXURE X- C*

## LIST OF PUBLICATIONS FROM M.Sc. STUDENTS' RESEARCH (2018-23)

### Research Papers

1. Bhandari, B. Singh, S.S.J. and Rose, N.M. 2018. Effect of sericin treatment conditions on dye ability of cotton fabric. *Journal of Applied and Natural Science*s, **10**(1):102-106.
2. Devi, S., Singh, V., Punia, P. and Arya, N. 2018. Existing trends of trimmings for apparels. *Asian Journal of Home Science*, **13**(1):402-407.
3. Renu, Arya, N. and Sodhi, S. 2018. Transformation of kasuti embroidery motifs for hand painting. *International Journal of Current Microbiology and Applied Science*s, **7**(4):1010-1017.
4. Priyanka, Yadav, N., Khambra, K. and Arya, N. 2018. Preferences for designing techniques and features to make innovative articles. *International Journal of Advance Research and Development*, **3**(7):83-85.
5. Renu, Arya, N., Singh, V. and Chauhan, N. 2019. Preferences of experts for selection of color ways for hand painting. *International Journal of Current Microbiology and Applied Sciences*, **8**(3):701-706.
6. Rani, B., Yadav, S. and Rose, N.M. 2019. Designing and development of partition curtains through macramé technique. *International Journal of Education and Management Studies*, **9**(1):33-37.
7. Rani, B., Yadav, S. and Rose, N.M. 2019. Development of innovative knot combinations designs using macramé technique. *International Journal of Home Science*, **5**(1):193-196.
8. Pooja, Singh, V. and Arya, N. 2019. Development of contemporary *Kathiawar* embroidery designs for Jacket. *International Journal of Current Microbiology and Applied Science*s, **8**(2):1-8
9. Rani, P., Yadav, S., Rose, N.M. and Bhandari, V. 2019. Acceptability and marketability of screen-printed stoles. *International Journal of Education and Management Studies*, **9**(4):282-286.
10. Rani, P., Yadav, S., Rose, N.M. and Bhandari, V. 2019. Madhubani painting motifs: A source of design inspiration from traditional to contemporary. *International Journal of Current Microbiology and Applied Science*s, **8**(11):863-873.
11. Rani, P., Yadav, S., Rose, N.M. and Bhandari, V. 2019. Acceptability and marketability of screen printed stoles. *International Journal of Education and Management Studies*, **9**(4):282-286.
12. Jamal, Z and Singh, V. 2019. Effect of guava leaves treatment on physical properties of cotton. *Journal of Cotton Research Development*, **33**(1):173-179.
13. Samant, L., Jose, S., Rose, N.M. and Shakyawar, D.B. 2020. Antimicrobial and UV protection properties of cotton fabric using enzymatic pretreatment and dyeing with *Acacia catechu*. *Journal of Natural Fibers*, 1-11.
14. Poonia, N., Arya, N. and Singh, V. 2020. Banana fiber: A review. *International Journal of Education and Management*, **10**(2):144-146.
15. Devi, S., Singh, V. and Sushila. 2020. Training imparted to rural women on use of underutilized textile materials for making trimmings. *International Archive of Applied Sciences and Technology*, **11**(4): 68-72.
16. Rulhania, R., Arya, N., Medha and Rani, L. 2021. Antibacterial potency of weed plants. *Journal of Pharmacognosy and Phytochemistry*, **10**(6):343-346.
17. Rulhania, R., Arya, N., Sushila and Gill, P. 2021. Effect of preparatory processes on physical properties of cotton fabric. *Journal of Pharmacognosy and Phytochemistry*, **10**(1):2720-2724.

18. Medha, K., Arya, N., Malik, K., Ahlawat, S. and Chauhan, N. 2021. Antibacterial and qualitative phytochemical analysis of *Giloy* extract for application of herbal finish on cotton fabric. *Indian Journal of Traditional Knowledge*, **20**(4):944-950.
19. Rukhaya, S., Rose, N.M. and Yadav, S. 2021. Durable aroma finishing of wool fabric with micro encapsulated vetiver essential oil and assessment of its properties. *Journal of Polymer Materials*, **38**(3-4):179-190.
20. Rukhaya, S., Rose, N.M. and Yadav, S. 2021. Aroma treatment of wool fabric with microencapsulated vetiver essential oil. *Chemical Engineering*, **2**(4):105-117.
21. Rajani, Yadav, S. and Rose, N.M. 2022. Cotton fabric functionalized with banyan leaves extract for developing antimicrobial textiles. *Journal of Cotton Research and Development*, **36**(1):124-128.
22. Rulhania, R., Arya, N., Hooda, S., Rani, S., Malik, K., Singh, V. and Rani, L. 2022. Antibacterial and qualitative phytochemical analysis of *Ghamra* (*Tridax Procumbens Linn*) and *Apamarga* (*Achyranthes Aspera*) weeds extract. *Journal of Agricultural Mechanization in Asia, Africa and Latin America*, **53**(02): 6279 - 6289.
23. Rukhaya, S., Rose, N.M. and Yadav, S. 2022. Microencapsulation of vetiver essential oil using complex coacervation technique. *Ecology, Environment and Conservation,* 22(August Suppl. Issue): S114-S120.
24. Kaur, K., Yadav, S., Rose, N.M. and Bisht, D. 2022. Designing home textiles, utility articles and fashion accessories through CAD. *International Journal of Home Science,* **8**(3): 277-287.
25. Renu, Arya N., Bhambu, S., Sodhi, S. and Saini, N. 2022. Cost acceptability of hand painted textile articles developed using *Kasuti* embroidery motifs. *International Journal of Home Science,* **8**(3): 303-305.

**Papers presented and abstracted in Conferences/ Seminars/Workshops**

1. Rani, R., Rose, N.M. and Pooja. 2018. Income generating through digital embroidery using traditional cutwork motifs. International Conference on Women's Work & Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector, Arya P.G College, Panipat, Haryana, March 24-25, 2018, pp:178.
2. Rani, R., Rose, N.M. and Yadav, S. 2018. Income generating through digital embroidery using traditional cutwork motifs. National Seminar on Trends and Advances in Wool and Specialty Hair, GBPUA&T, Pantnagar, Uttarakhand, March16-17, 2018, pp: 56.
3. Rani, B. and Yadav, S. 2018. Designing of innovative macramé partition curtains using CorelDRAW. XXXII Biennial Conference of the Home Science Association of India on Family and Community Science: A Catalyst for Sustainable Development Goals, MPUA&T, Udaipur, Rajasthan, February1-3, 2018, pp: 393.
4. Sushila, Arya, N., Poonia, N., Malik, K. and Devi, S. 2018. Lemon peel: An efficient antimicrobial finish on cotton fabric. National Seminar on Environmental Issues: Impact, Control and Challenges, Manohar Memorial (P.G) College, Fatehabad, Haryana, March 9-10, 2018.
5. Poonia, N., Singh, V., Sushila, Malik, K. and Arya, N. 2018. Antimicrobial activity of *kinnow* peel extract. International Conference on Current Challenges and Future Perspective of Science, Technology and Social Humanities, Dr. B.R. Ambedkar University, Agra, UP, February 26-28, 2018.
6. Sushila, Arya, N., Poonia, N., Malik, K. and Devi, S. 2018. Antimicrobial activity of lemon peel extract against *Bacillus Spp.* International Conference on Current Challenges and Future Perspective of Science, Technology and Social Humanities, Dr. B.R. Ambedkar University, Agra, UP, February 26-28, 2018.
7. Poonia, N., Singh, V., Sushila, Arya, N., and Malik, K. 2018. Eco-efficiency: Way to sustainable development. International Conference on Sustainable Agriculture, Energy,

Environment and Technology, Maharishi Dayanand University, Rohtak, Haryana, February 24-25, 2018.

8. Sushila, Arya, N., Poonia, N., Malik, K. and Devi, S. 2018. Environmentally friendly antibacterial cotton textile finished with lemon peel extract. International Conference on Sustainable Agriculture, Energy, Environment and Technology, Maharishi Dayanand University, Rohtak, Haryana, February 24-25, 2018.
9. Sushila, Arya, N., Poonia, N. and Devi, S. 2018. Development of antimicrobial finish using lemon peels extract. 2nd International Conference on Advances in Agricultural, Biological and Applied Sciences for Sustainable Future, Swami Vivekanand Subharti University, Meerut, UP, India. October 20-22, 2018, pp: 117.
10. Poonia, N., Singh, V., Arya, N., Sushila, Malik, K. and Shikha, 2019. Waste management to environment security. International Symposium on Innopreneurship: A Need of Sustainable Agriculture, CCS HAU, Hisar, Haryana, February 2-3, 2019, pp: 257.
11. Rani, B., Yadav, S. and Rose, N.M. 2019. Development of macramé partition curtains- An Entrepreneurial activity. International Symposium on Innopreneurship: A Need of Sustainable Agriculture, CCS HAU, Hisar, Haryana, February 2-3, 2019, pp: 407-408.
12. Rani, D., Rose, N.M. and Yadav, S. 2019. Empowering women economically through innovative nozzle printing. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019, pp:168.
13. Sushila, Yadav, S. and Rose, N.M. 2019. Skill development in fabric painting: A key to women empowerment. National Seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019, p:175.
14. Rani, B., Yadav, S., Rose, N.M. and Bhandari, V. 2019. Revival of macramé art through product diversification. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber 6-8, 2019, pp:414.
15. Rani, P., Yadav, S., Rose, N.M. and Bhandari, V. 2019. Innovative use of Madhubani designs for stoles. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, November 6-8, 2019, pp: 415.
16. Rani, R., Rose, N.M., Yadav, S. and Singh, V. 2019. Development of innovative multipurpose borders through digital cutwork embroidery. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber 6-8, 2019, pp: 419.
17. Rajni, Yadav, S. and Rose, N.M. 2021. Utilization of banyan leaves extract for herbal finishing of cotton. International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns. Agriculture Letters, Raichur, Karnataka, February 26-28, pp: 36.
18. Dogra, D. and Verma, M. 2021. Applications of nanotechnology in textiles: An overview. International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns (NPAFSC-2021), Agriculture Letters, Raichur, Karnataka, February 26-28, 2021.
19. Yadav, R. and Verma, M. 2021. Use of nanotechnology in textile colouration: An overview. International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns (NPAFSC-2021), Agriculture Letters, Raichur, Karnataka, February 26-28, 2021.
20. Sharma, M. and Gill, P. 2023. Development of embroidered wall panels using traditional desigins of Haryana. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, February 17-19, 2023, pp: 809.
21. Kaur, K., Yadav, S., Rose, N.M. and Rukhaya, S. 2023. Utilization of Hosiery waste: A step towards green consumerism. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, February 17-19, 2023, pp: 831.
22. Khushwah, N. and Arya, N. 2023. Application of eco-friendly natural dyes with biomardants on cotton fabric. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, February 17-19, 2023, pp: 833.

23. Annu and Verma, M. 2023. Microencapsulation of eco-friendly biopolymer (Chitosan) and essential oil for fragrance finish. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, February 17-19, 2023, pp: 846-847.

**Book Chapter**

1. Devi, S., Singh, V. and Hooda, S. 2019. Trims: Design with waste textile materials. Lambert Acadamic Publishings, New Delhi.

**Design Catalogues**

1. Parmila, Yadav, N. and Arya, N. 2018. Development of ready-to-use yokes through digital embroidery. Department of Textile and Apparel Designing, I.C. College of Home Sciences, CCS HAU, Hisar.

2.

## *ANNEXURE X- D*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY M.Sc. STUDENTS (2018-23)

| Name of Student | Title of Conferences/ Seminars/Trainings with dates and venue |
|---|---|
| Ms. Ritu Rani | International Conference on Women's Work & Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector. Arya P.G College, Panipat, Haryana, March 24-25, 2018. |
| | National Seminar on Trends and Advances in Wool and Specialty Hair. GBPUA&T, Pantnagar, Uttarakhand, March 16-17, 2018. |
| Ms. Bharti Rani | XXXII Biennial Conference of the Home Science Association of India on Family and Community Science: A Catalyst for Sustainable Development Goals. MPUA&T, Udaipur, Rajasthan, February 1-3, 2018. |
| Ms. Sushila | National Seminar on Environmental Issues: Impact, Control and Challenges. Manohar Memorial (P.G) College, Fatehabad, Haryana, March 9-10, 2018. |
| Ms. Sushila<br>Ms. NeenuPoonia | International Conference on Current Challenges and Future Perspective of Science. Technology and Social Humanities, Dr. B.R. Ambedkar University, Agra, UP, February 26-28, 2018. |
| Ms. Sushila<br>Ms. NeenuPoonia | International Conference on Sustainable Agriculture, Energy, Environment and Technology. Maharishi Dayanand University, Rohtak, Haryana, February 24-25, 2018. |
| Ms. Sushila | International Conference on Advances in Agricultural, Biological and Applied Sciences for Sustainable Future. Swami Vivekanand Subharti University, Meerut, UP, India. October 20-22, 2018. |
| Ms. Bharti Rani<br>Ms. Neenu Poonia | International Symposium on Innopreneurship: A Need of Sustainable Agriculture. CCS Haryana Agricultural University, Hisar, Haryana, February 2-3, 2019. |
| Ms. Sushila<br>Ms. Diksha Rani | National seminar on Innovative Strategies for Gender Equality. I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019. |
| Ms. Rajni<br>Ms. Divya Dogra<br>Ms. Ravita Yadav | International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns (NPAFSC-2021). Agriculture Letters, Raichur, Karnataka, February 26-28, 2021. |
| Ms. Minakshi Ms. Sharma<br>Ms. Kiranjot Kaur<br>Ms. Namrata Kushwah<br>Ms. Annu | International Conference on Climate Resilient Agriculture for Food Security and Sustainability. CCS HAU, Hisar, February 17-19, 2023. |

## *ANNEXURE X- E*

## DETAILS OF Ph.D. STUDENTS

## FROM 2nd SEMESTER 2018-19 TO 1st SEMESTER 2022-23

| S. No. | Name | Admn. No. | Title of Thesis | Major advisor |
|---|---|---|---|---|
| **Passed out** | | | | |
| **1.** | Ms. Neelam Saini | 2013HS8D | Diversified use of Recycled Woollen Blended Yarn | Dr. Saroj Yadav |
| **2.** | Ms. Bharti Sharma | 2013HS9D | Diversified use of Cotton Blended Shoddy Yarn | Dr. Nirmala Yadav |
| **3.** | Ms. Sarita Devi | 2015HS11D | Development of Home Furnishing Textile Articles using Digital Embroidery | Dr. Nisha Arya |
| **4.** | Ms. Neha Chauhan | 2015HS12D | Effects of Softening Agents on Drapability of Cotton *Khadi* Fabric | Dr. Nisha Arya |
| **5.** | Ms. Suman Sodhi | 2015HS13D | Up-Cycling of Pre and Post Apparel Waste | Dr. Vivek Singh |
| **6.** | Ms. Zeba Jamal | 2016HS09D | Effect of Enzyamtic Treatment on Softening of Jute Fabric | Dr. Nisha Arya |
| **7.** | Ms. Sangeeta Tomer | 2016HS10D | Upcycling of Discarded Denim | Dr. Vivek Singh |
| **8.** | Ms. Sushma Rani | 2016HS11D | Development of Anti-felting Wool Fabric | Dr. Neelam M. Rose |
| **9.** | Ms. Vandana Bhandari | 2017HS14D | Effect of Metallic Nanoparticles on Dyeability of Cotton and Wool with Natural Dyes | Dr. Saroj Yadav |
| **10.** | Ms. Neenu Poonia | 2018HS14D | Development of Bio-composites using Rice Straw and Wool Waste | Dr. Neelam M. Rose |
| **11.** | Ms. Sushila | 2018HS16D | Application of Silver Nanoparticles for Finishing of Cotton Fabric | Dr. Nisha Arya |
| **On roll** | | | | |
| **1.** | Ms. Pratishtha Verma | 2019HS21D | Fibre Extraction from Bagasse for Development of Blend Fabric | Dr. Neelam M. Rose |
| **2.** | Ms. Arpita Grover | 2020HS23D | Effect of Biopolymer Treatment on Antimicrobial Efficacy of Nano Finished Cotton Fabric | Dr. Nisha Arya |
| **3.** | Ms. Diksha Bisht | 2020HS24D | Adaptation of Indian Floor Painting Designs on Stoles through Digital Technology | Dr. Saroj Yadav |
| **4.** | Ms. Shalini Rukhaya | 2020HS25D | Fabrication of *Dhaincha* Fibre Reinforced Hybrid Bio-composites | Dr. Neelam M. Rose |
| **5.** | Ms. Madhusmita Tarai | 2021HS19D | Develoment of Mosquito Repellent Cotton Fabric using Peppermint and Tea Tree Oil | Dr. Parul Gill |

## *ANNEXURE X- F*

## LIST OF PUBLICATIONS FROM Ph.D STUDENTS' RESEARCH (2018-23)

### Research Papers

1. Chauhan, N., Yadav, N. and Arya, N. 2018. Applications of artificial neural network in textiles. *International Journal of Current Microbiology and Applied Science*s, **7**(4):3134-3143.
2. Sharma, B., Yadav, N. and Yadav, S. 2018. Usage pattern of cotton blended shoddy yarn for product development in industry. *International Journal of Chemical Studies*, **6**(2):3353-3355.
3. Chauhan, N., Arya, N. and Sodhi, S. 2018. Fiber from milk byproducts- A new dimension. *International Journal of Current Microbiology and Applied Science*s, **7**(4):1257-1264.
4. Chauhan, N., Arya, N. and Yadav, N. 2018. Applications of cyclodextrins in textiles. *International Journal of Chemical Studies*, **6**(3):2314-2320.
5. Chauhan, N., Arya, N. and Yadav, N. 2018. Applications of cyclodextrins in textiles, International Journal of Chemical Studies, **6**(3):2314-2320.
6. Devi, S., Yadav, N., Arya, N. and Sushila. 2019. Digital embroidery: An imagination. *Bulletin of Environment, Pharmacology and Life Sciences*, **8**(2): 17-20.
7. Devi, S., Yadav, N., Arya, N. and Sushila. 2019. Purchasing behavior of consumers for home furnishing textile products. *International Journal of Pure and Applied Bioscience*, **7**(1):140-145.
8. Sushila and Arya, N. 2019. Recycling and upcycling of agricultural waste. *International Journal of Chemical Studies*, **7**(2): 882-884.
9. Sharma, A., Singh, S.S.J., Rose, N.M. and Massey, S. 2020. Simulation of applique designs using CAD. *International Journal of Current Microbiology and Applied Science*s, **9**(2): 2214-2227.
10. Jamal, Z. and Arya, N. 2020. Creation of designs using CAD and their selection. *The Pharma Innovation Journal*, **9**(4):217-219.
11. Jamal, Z., Arya, N., Rani, L. and Kumari, M. 2020. Golden Fibre: Jute. *The Pharma Innovation Journal*, **9**(4):215-216.
12. Devi, S., Arya, N., Yadav, N., Rani, L. and Sushila. 2020. Creation of innovative designs using traditional Kashidakari embroidery motifs for home furnishings. *Advances in Research*, **21**(5):35-40.
13. Rani, S., Kadam, V., Rose, N.M., Jose, S., Yadav, S. and Shakyawar, D.B. 2020. Wheat starch, gum arabic and chitosan biopolymer treatment of wool. *International Journal of Biological Macromolecules*, 163:1044–1052.
14. Chauhan, N. and Arya, N. 2020. Study on modification of properties of cotton *khadi* fabric by enzymatic treatment. *International Journal of Chemical Studies*, **8**(6):2833-2835.
15. Rani, S., Kadam, V., Rose, N.M., Jose, S., Shakyawar, D.B. and Yadav, S. 2021. Effect of enzyme treatment on wool fabric properties and dimensional stability. *Indian Journal of Fibre and Textile Research*, **46**(3):83-90.
16. Chauhan, N. and Arya, N., Gill, P. and Rani, L. 2021. Study on modification of properties of cotton *khadi* fabric by softener treatment. *The Pharma Innovation Journal*, **10**(7):89-91.
17. Sushila, Arya, N., Singh, V., Devi, S. and Reena. 2021. Effect of pretreatment on physical properties of cotton fabric. *International Journal of Ecology and Environmental Sciences*, **3**(1):472-476.
18. Poonia, N., Kadam, V., Rose, N.M. and Yadav, S. 2021. Rice straw reinforced biocomposite: A sustainable development. *International Journal of Innovations in Engineering and Science*, **6**(10):139-14

19. Chauhan, N., Arya, N., Gill, P. and Rani, L. 2021 Study on modification of properties of cotton *Khadi* fabric by commercial softener treatment. *The Pharma Innovation Journal,*SP-**10**(7):89-91
20. Sushila, Arya, N., Devi, S. and Malik, K. 2021. Evaluation of antibacterial activity of lemon plant extract. *Environment and Ecology*, **39**(4A):1207-12115.
21. Bhandari, V., Yadav, S. and Rose, N.M. 2021. Optimization of nanoparticle treatments for cotton fabric and dyeing with eco-friendly natural dyes. *The Pharma Innovation Journal*, **10**(12):95-104.
22. Chauhan, N., Arya, N., Gill, P. and Rani, L. 2021. Study on modification of properties of cotton *khadi* fabric by commercial softener treatment. *The Pharma Innovation Journal*, SP-**10**(7):89-91.
23. Bhandari, V., Yadav, S., Rose, N.M. and Singh S.S.J. 2021. Nano technology: A boon for textile finishing. *The Pharma Innovation Journal*, **10**(9):220-225.
24. Rukhaya, S., Yadav, S., Rose, N.M., Grover, A. and Bisht, D. 2021. Sustainable approach to counter the environmental impact of fast fashion. *The Pharma Innovation Journal*, **10**(8):517-523.
25. Rukhaya, S., Arya, N., Grover, A., Bisht, D. and Arya, P. 2021. Ecological textiles to promote sustainability. *The Pharma Innovation Journal*, SP-**10**(11):2644-2649.
26. Grover, A., Yadav, S., Rose, N.M., Rukhaya, S. and Bisht, D. 2021. Recycling: A cornerstone of long-term sustainability. *The Pharma Innovation Journal*, **10**(9):642-645.
27. Bisht, D., Yadav, S., Rose, N.M., Grover, A. and Rukhaya, S. 2021. Sustainable textile finishes: A boon for reducing toxic disposal to the environment. *The Pharma Innovation Journal*, **10**(11):861-867.
28. Bisht, D., Arya, N., Rukhaya, S. and Grover, A. 2021. Treatment and disposal of textile effluents. *The Pharma Innovation Journal*, SP-**10**(11):105-112.
29. Bisht, D., Verma, M., Singh, S.S.J. and Rukhaya, S. 2021. Breathability: An important feature for water proof apparel. *Chemical Engineering*, **2**(04):186 -197.
30. Rukhaya, S., Verma, M., Bisht, D. and Singh, S.S.J. 2021. Applications of nano fibres in textile industry. *Chemical Engineering*, **2**(04): 13-23.
31. Jamal, Z. and Arya, N. 2021. Selection of softener combination for softening of jute fabric. *Journal of Krishi Vigyan*, **10**(1): 263-267.
32. Rani, S., Rose, N.M., Yadav, S. and Kadam, V. 2021. Process optimization of shrink proof treatment of wool using enzymes. *Green Farming*, **12**(5&6):248-253.
33. Tomer, S., Singh, V., Arya, N. and Singh, K. 2021. Existing upcycling practices for discarded denim in Haryana. *Technofame: A Journal of Multidisciplinary Advance Research*, **10**(2):1-9.
34. Sushila, Arya, N., Devi, S., Malik, K. and Singh, V. 2021. Antimicrobial treatment on cellulosic fibre using agro waste (lemon peel). *Journal of Agricultural Mechanization in Asia, Africa and Latin America*, **52**(1):3175-3192.
35. Jamal, Z., Arya, N., Sodhi, S. and Dahiya, M. 2021. Ecofriendly approach to improve drapability and process optimization of aminosilicone treatment on jute fabric. *Journal of Agricultural Mechanization in Asia, Africa and Latin America*, **52**(2):3591-3610.
36. Jamal, Z., Arya, N., Rani, L., Sodhi, S. and Singh, V. 2021. Chemical modification of jute substrate for improving its physical and functional properties. *Journal of Agricultural Mechanization in Asia, Africa and Latin America*, **52**(2):3401-3413.
37. Poonia, N., Kadam, V., Rose, N.M., Yadav, S. and Shanmugam, N. 2022. Effect of fiber chemical treatments on rice straw fiber reinforced composite properties. *Journal of Natural Fibers*, **19**(16):14044-14054.
38. Poonia, N., Rose, N.M., Yadav, S. and Rukhaya, S. 2022. Natural fibre based biocomposites for sustainability: A comprehensive review. *The Pharma Innovation Journal*, **11**(12):4564-4567.

## Papers Presented and Abstracted in Conferences/ Seminars/Workshops

1. Sharma, B., Yadav, N. and Yadav, S. 2018. Employment generating through cotton blended shoddy yarn. International Conference on Women's Work & Occupational Health-Emerging Issues, Challenges & Policy Measures in the Unorganized Sector, Arya P.G College, Panipat, Haryana, March 24-25, 2018, pp: 135-136.
2. Sharma, B., Yadav, N. and Yadav, S. 2018. Reduce the environment pollution through cotton blended shoddy yarn. National Seminar on Trends and Advances in Wool and Specialty Hair, GBPUA&T, Pantnagar, Uttarakhand, March16-17, 2018, pp:34
3. Devi, S., Yadav, N., Arya, N. and Sushila. 2018. Reduction of fabric waste by digital softwares in textile designing. National Seminar on Environmental Issues: Impact, Control and Challenges, Manohar Memorial (P.G) College, Fatehabad, Haryana, March 9-10, 2018.
4. Sharma, B., Yadav, N. and Yadav, S. 2018. Sustainable development through recycling of old rags. National Seminar on Environmental Issues: Impact, Control and Challenges, Manohar Memorial (P.G) College, Fatehabad, Haryana, March 9-10, 2018.
5. Devi, S., Yadav, N., Arya, N., Sushila and Tomer, S. 2018. Digital Embroidery: A new territory for the artist. International Conference on Current Challenges and Future Perspective of Science, Technology and Social Humanities, Dr. B.R. Ambedkar University, Agra, UP, February 26-28, 2018.
6. Tomer, S., Singh, V., Arya, N., Devi, S. and Sushila. 2018. Digital printing: An incredible invention of science and technology. International Conference on Current Challenges and Future Perspective of Science, Technology and Social Humanities, Dr. B.R. Ambedkar University, Agra, UP, February 26-28, 2018.
7. Devi, S., Yadav, N., Arya, N. and Sushila. 2018. Conversion of embroidery: Traditional to digital. International Conference on Sustainable Agriculture, Energy, Environment and Technology, Maharishi Dayanand University, Rohtak, Haryana, February 24-25, 2018.
8. Sharma, B., Yadav, N. and Yadav, S. 2018. Reduce the environment pollution through shoddy cotton. International Conference on Sustainable Agriculture, Energy, Environment and Technology, Maharishi Dayanand University, Rohtak, Haryana, February 24-25, 2018.
9. Sharma, B., Yadav, N. and Yadav, S. 2018. Occupational health problems of workers in shoddy industry. National Seminar on Healthy Life Style and Psychology, College for Women, Sirsa, Hisar, Haryana, February 10, 2018.
10. Sharma, B., Yadav, N. and Yadav, S. 2018. Positive impact of shoddy industry on environment. International Conference on Bio & Nano Technologies for Sustainable Agriculture, Food, Health, Energy & Industry, Guru Jambheshwer University of Sciences and Technology, Hisar, Haryana, February 21-23, 2018.
11. Sharma, B., Yadav, N. and Yadav, S. 2018. Stress in the workplace. International Conference on Bio & Nano Technologies for Sustainable Agriculture, Food, Health, Energy & Industry. Guru Jambheshwer University of Sciences and Technology, Hisar, Haryana, February 21-23, 2018.
12. Gupta, V. and Yadav, N. 2018. Value addition of cotton fabric by using plant extract. International Congress on Cotton and other Fibre Crops, ICAR Research Complex for NEH Region, Umiam (Barapani) Meghalaya, February 20-23, 2018, pp: 301-306.
13. Devi, S., Yadav, N., Arya, N.and Sushila. 2018. Digital embroidery: An imagination. 2nd International Conference on Advances in Agricultural, Biological and Applied Sciences for Sustainable Future, Swami Vivekanand Subharti University, Meerut, UP, India, October 20-22, 2018, pp: 107.
14. Tomer, S., Singh, V. and Arya, N. 2018. Upcycling: The management and conservation of discarded denim. 2nd International Conference on Advances in Agricultural, Biological and Applied Sciences for Sustainable Future, Swami Vivekanand Subharti University, Meerut, UP, India, October 20-22, 2018, pp: 117.

15. Bhandari, V. and Yadav, S. 2019. A new approach for women empowerment through product development using remnant clothes. National seminar on Innovative Strategies for Gender Equality, I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019, pp:102.
16. Kumari, P., Rose, N.M. and Singh, S.S.J. 2019. Value addition of knitted cotton fabric by microencapsulated peppermint oil. I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019, pp: 82.
17. Pushpa, Punia, P. and Singh, V. 2019. Value addition through *Karanj* extract treatment on fabric. Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario, CCS HAU, Hisar, Novmeber 6-8, 2019, pp: 420.
18. Tomer, S., Singh, V. and Arya, N. 2019. Biopolymer in textile as natural resources management. International Conference on Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES-2019), Kamaun University, Nanital, Uttrakhand, India, December 1-2, 2019, pp:338.
19. Tomer, S., Singh, V. and Arya, N. 2019. Up-cycling discarded denim: Wave from waste. International Conference on Global perspective in Agricultural and Applied Sciences for Food and Environmental Security, Kamaun University, Nanital, Uttrakhand, India, December 1-2, 2019, pp:248
20. Tomer, S., Singh, V. and Arya, N. 2020. Up-cycling: Way to innovate new products by using discarded denim. National Conference on Sustainable Growth, Uttar Pradesh Textile Technology Institute, Kanpur, UP, August 12-14, 2020, pp: 35.
21. Rani, S., Rose, N.M., Kadam, V., Yadav, S. and Jose, S. 2020. Shrink resistance to wool fabric using protease enzymes. National Conference on Sustainable Growth, Uttar Pradesh Textile Technology Institute, Kanpur, UP, August 12-14, 2020, pp: 34.
22. Rukhaya, S. and Yadav, S. 2021. Nanofibres and their potential application in textile sector. 4th International Conference on Global Approaches in Natural Resource Management for Climate Smart Agriculture during Pandemic Era of COVID-19, Shobhit Institute of Engineering and Technology, Meerut, UP, India, February 26-28, 2021, pp:248.
23. Grover, A., Verma, M. and Singh, S.S.J. 2021. Carbon credit: A boon for the environment. 3rd International Conference on Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development, Dehradun, Uttarakhand, India, October 17-18, 2021, pp: 470.
24. Bisht, D., Verma, M. and Singh, S.S.J. 2021. Bio-based faux leather: Animal and eco-friendly alternative. 3rd International Conference on Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development, Dehradun, Uttarakhand, India, October 17-18, 2021. pp: 463.
25. Rukhaya, S., Verma, M. and Singh, S.S.J. 2021. Fish leather: A valuable resource for textile and fashion industry. 3rd International Conference on Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development, Dehradun, Uttarakhand, India, October 17-18, 2021, pp: 462.
26. Sushila, Arya, N., Devi, S. and Malik, K. 2021. Green synthesis and characterization of silver nanoparticles using leaves extract of lemon plant. International Conference on Advances in Food Science and Technology (AFSTECH-2021), North-Eastern Hill University, Tura Campus, Meghalaya, India & Swedish South Asian Network on Fermented Foods (SASNET-FF), Anand, Gujarat, India, October 26-28, pp:71.
27. Sushila, Arya, N., Devi, S., Malik, K. and Singh, V. 2021. Antimicrobial treatment on cellulosic fibre using Agro waste (lemon peel). 3rd International Conference on Global Initiatives in Agricultural, Forestry and Applied Sciences (GIAFAS-2021), Shri Guru Ram Rai University, Dehradun, Uttarakhand, India, October 17-18, 2020, pp: 368.

28. Jamal, Z. and Arya, N. 2021. Development of diversified products for upsurge in farmers' income. 3rd International Conference on Global Initiatives in Agricultural, Forestry and Applied Sciences, Shri Guru Ram Rai University, Dehradun, Uttarakhand, India, October 17-18, 2020, pp: 202.
29. Grover, A. and Arya, N. 2021. Eco-Friendly textiles: Fostering sustainability and accountability. 3rd International Conference on Global Initiatives in Agricultural, Forestry and Applied Sciences, Shri Guru Ram Rai University, Dehradun, Uttarakhand, India, October 17-18, 2020, pp: 138.
30. Devi, S., Sushila and Arya, N. 2021. Digitization of traditional Kutch and Kathiawar embroidery motifs and access their marketability. 3rd International Conference on Global Initiatives in Agricultural, Forestry and Applied Sciences, Shri Guru Ram Rai University, Dehradun, Uttarakhand, India, October 17-18, 2020, pp: 244.
31. Sunita, Rose, N.M., Singh, S.S.J. and Yadav, S. 2021. Simulation and digitization process for computerized embroidery designs. International Web Conference on Global Research Initiatives for Sustainable Agriculture and Allied Sciences. Ashtha Foundation, Meerut, UP, December 13-15, 2021, pp: 85.
32. Poonia, N., Kadam, V., Rose, N.M. Yadav, S. and Shanmugam, N. 2021. Standardization of compressive force for fabrication of bio-composite. International Web Conference on Innovative and Current Advances in Agriculture and Allied Sciences. Society for Scientific Development in Agriculture and Technology, Meerut, UP, July 19-21, 2021, pp: 128.
33. Bhandari. V., Yadav, S. and Rose, N.M. 2021. Application of zinc oxide nanoparticles for dyeing and multifunctional properties of wool fabric with natural dyes. International Web Conference on Innovative and Current Advances in Agriculture and Allied Sciences. Society for Scientific Development in Agriculture and Technology, Meerut, UP, July 19-21, 2021, pp: 185.
34. Rukhaya, S., Rose, N.M., Yadav, S. and Grover, A. 2022. Development of vetiver oil microcapsules for aroma finishing. 5th International Conference on Smart Agriculture and Biodiversity Conservation for Sustainable Development, Jaipur National University, Jaipur, Rajasthan in collaboration with Shobhit Institute of Engineering and Technology, Meerut, UP, March 4-6, 2022, pp:176.
35. Rukhaya, S., Rose, N.M., Yadav, S. and Poonia, N. 2022. Natural fibre reinforced bio-composites. 5th International Conference on Smart Agriculture and Biodiversity Conservation for Sustainable Development, Jaipur National University, Jaipur, Rajasthan in collaboration with Shobhit Institute of Engineering and Technology, Meerut, UP, March 4-6, 2022, pp:177.
36. Grover, A., Arya, N. and Rukhaya, S. 2022. Carbon footprint: A carbon profile of the environment. 5th International Conference on Smart Agriculture and Biodiversity Conservation for Sustainable Development, Jaipur National University, Jaipur, Rajasthan in collaboration with Shobhit Institute of Engineering and Technology, Meerut, UP, March 4-6, 2022, pp:27.
37. Rukhaya, S., Rose, N.M., Yadav, S., Poonia, N. and Grover, A. 2022. Utilization of agricultural waste: A step towards entrepreneurship. National Seminar on Entrepreneurship Development: Innovation for Income Generation, Yamuna Nagar, Haryana, September 07, 2022, pp: 33.
38. Grover, A., Arya, N., Rukhaya, S. and Saini, H. 2022. Radiant baffle: A Way to Modern Day Start ups. National Seminar on Entrepreneurship Development: Innovation for Income Generation, Yamuna Nagar, Haryana, September 07, 2022, pp: 34.
39. Sushila, Arya, N., Malik, K., Devi, S., and Rani, L. 2021. Biosynthesis and characterization of silver nanoparticles using lemon leaves extract. International Seminar on Loss of Biodiversity: Global Environment & Health Challenges, Institute of Engineering and Technology, Meerut, India, June 5-7, 2021, pp:99.

40. Bhandari, V., Yadav, S. and Rose, N.M. 2021. Natural dyes: An approach for greener production of textiles. International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns. Agriculture Letters, Raichur, Karnataka, February 26-28, pp: 60.
41. Kumari, P., Rose, N.M. and Yadav, S. 2022. Use of peppermint oil for aroma finishing of woven cotton fabric. National Conference on Mathematical Sciences for Applied and Agricultural Research, COBS&H, CCS HAU, Hisar, February 22, 2022, pp: 97-98.
42. Rukhaya, S., Rose, N.M. and Yadav, S. 2023. Artificial intelligence: Redefining and innovating the textile and apparel industry. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, February 17-19, 2023, pp: 469-470.
43. Grover, A. and Arya, N. 2023. Synthesis and evaluation of silver nanoparticles using *Catharanthous roseus*: A green and sustainable method. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, February 17-19, 2023, pp: 830.
44. Tarai, M., Gill, P. and Arya, N. 2023. Herbal textile finishing: A step towards sustainable development. International Conference on Climate Resilient Agriculture for Food Security and Sustainability, CCS HAU, Hisar, February 17-19, 2023, pp: 869.

**Design Catalogues**

1. Devi, S., Arya, N. and Yadav, N. 2019. Innovative designs for home furnishing textile articles usingtraditional motifs of Indian embroideries. Department of Textile and Apparel Designing, I.C. College of Home Sciences, CCS HAU, Hisar.
2. Tomer, S., Singh, V. and Arya, N. 2020 Up-cycled apparel waste articles developed by using discarded denim. Department of Textile and Apparel Designing, CCS HAU, Hisar.
3. Sodhi, S., Singh, V. and Arya, N. 2020. Up-cycled apparel waste articles developed by using pre and post apparel waste. Department of Textile and Apparel Designing, CCS HAU, Hisar.

## *ANNEXURE X- G*

## CONFERENCES/ SEMINARS/TRAININGS ATTENDED BY Ph.D. STUDENTS (2018-23)

| Name | Title of Conferences/ Seminars/Trainings with dates and venue |
|---|---|
| Ms. Bharti Sharma | International Conference on Women's Work & Occupational Health- Emerging Issues, Challenges & Policy Measures in the Unorganized Sector. Arya P.G College, Panipat, Haryana, March 24-25, 2018. |
| | National Seminar on Trends and Advances in Wool and Specialty Hair. GBPUA&T, Pantnagar, Uttarakhand, March16-17, 2018. |
| Ms. Bharti Sharma<br>Ms. Sarita Devi | National Seminar on Environmental Issues: Impact, Control and Challenges. Manohar Memorial (P.G) College, Fatehabad, Haryana, March 9-10, 2018. |
| Ms. Sangeeta Tomer<br>Ms. Sarita Devi | International Conference on Current Challenges and Future Perspective of Science, Technology and Social Humanities. Dr. B.R. Ambedkar University, Agra, UP, February 26-28, 2018. |
| Ms. Sarita Devi<br>Ms. Bharti Sharma | International Conference on Sustainable Agriculture, Energy, Environment and Technology. Maharishi Dayanand University, Rohtak, Haryana, February 24-25, 2018. |
| Ms. Bharti Sharma | National Seminar on Healthy Life Style and Psychology. College for Women, Sirsa, Haryana, February 10, 2018. |
| | International Conference on Bio & Nano Technologies for Sustainable Agriculture, Food, Health, Energy & Industry. Guru Jambheshwer University of Sciences and Technology, Hisar, Haryana, February 21-23, 2018. |
| Ms. Vandana Gupta | International Congress on Cotton and Other Fibre Crops. ICAR Research Complex for NEH Region, Umiam (Barapani) Meghalaya, February 20-23, 2018. |
| Ms. Sarita Devi | Conference on Advances in Agricultural, Biological and Applied Sciences for Sustainable Future. Swami Vivekanand Subharti University, Meerut, UP, India, October 20-22, 2018. |
| Ms. Sangeeta Tomer | 2nd International Conference on Advances in Agricultural, Biological and Applied Sciences for Sustainable Future. Swami Vivekanand Subharti University, Meerut, UP, India, October 20-22, 2018. |
| Ms. Poonam Kumari<br>Ms. Vandana Bhandari | National seminar on Innovative Strategies for Gender Equality. I.C. College of Home Science, CCS HAU, Hisar, Haryana, March 8, 2019. |
| Ms. Pushpa | Golden Jubilee International Conference on New Millennia Agriculture-Novel Trends & Future Scenario. CCS HAU, Hisar, Novmeber 6-8, 2019. |
| Ms. Sangeeta Tomer | International Conference on Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES-2019). Kamaun University, Nanital, Uttrakhand, India, December 1-2, 2019. |
| Ms. Sushma Rani<br>Ms. Sangeeta Tomer | National Conference on Sustainable Growth. Kanpur, UP, August 12-14, 2020. |
| Ms. Sarita Devi<br>Ms. ZebaZamal Sushila<br>Ms. Arpita Grover<br>Ms. Diksha Bisht<br>Ms. Shalini Rukhaya | 3rd International Conference on Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development. Dehradun, Uttarakhand, India, October 17-18, 2021. |

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| Ms. Sunita<br>Ms. NeenuPoonia<br>Ms. Vandana Bhandari | International Web Conference on Global Research Initiatives for Sustainable Agriculture and Allied Sciences. Ashtha Foundation. Meerut, UP, December 13-15, 2021. |
| Ms. Shalini Rukhaya | 4th International Conference on Global Approaches in Natural Resource Management for Climate Smart Agriculture (GNRSA-2020) during Pandemic Era of COVID-19. Shobhit Institute of Engineering and Technology, Meerut, UP, India, February 26-28, 2021. |
| Ms. Sushila | International Seminar on Loss of Biodiversity: Global Environment & Health Challenges. Institute of Engineering and Technology, Meerut, UP, India, June 5-7, 2021. |
| Ms. Vandana Bhandari | International Conference on New Paradigms for Agriculture, Food and Sustainability Concerns. Agriculture Letters, Raichur, Karnataka, February 26-28, 2021. |
| Ms. Shalini Rukhaya<br>Ms. Arpita Grover | 5th International Conference on Smart Agriculture and Biodiversity Conservation for Sustainable Development (SABCD-2022). Jaipur National University, Jaipur, Rajasthan in collaboration with Shobhit Institute of Engineering and Technology, Meerut, UP, March 4-6, 2022. |
| Ms. Shalini Rukhaya<br>Ms. Arpita Grover | National Seminar on Entrepreneurship Development: Innovation for Income Generation. Yamunanagar, Haryana, September 07, 2022. |
| Ms. Poonam Kumari | National Conference on Mathematical Sciences for Applied and Agricultural Research, COBS&H, CCS HAU, Hisar, February 22, 2022. |
| Ms. Shalini Rukhaya<br>Ms. Arpita Grover<br>Ms. Madhusmita Tarai | International Conference on Climate Resilient Agriculture for Food Security and Sustainability. CCS HAU, Hisar, February 17-19, 2023. |

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| 2. | OSD to Vice-Chancellor | Member |
| 3. | Registrar | Member |
| 4. | Dean, College of Agriculture | Member |
| 5. | Dean, College of Agril. Engg. & Tech. | Member |
| 6. | Dean, College of Basic Sci. & Hum. | Member |
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| 12. | Director Extension Education | Member |
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| 14. | Principal, COA, Kaul | Member |
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