



SGT UNIVERSITY

SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY
(UGC Approved)

Gurugram, Delhi-NCR

Budhera, Gurugram-Badli Road, Gurugram (Haryana) – 122505 Ph. : 0124-2278183, 2278184, 2278185

Faculty of Agricultural Sciences

Program Outcomes (POs)



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Program: B.Sc. (Hons.) Agriculture

Learning objectives:

1. To research, share and disseminate sustainable & eco- friendly agricultural production and farming systems to the students and farming community.
2. To create and develop trained human resource in agricultural and allied fields having knowledge of cutting edge technologies.
3. To prepare the graduates having the updated skills with business sense and entrepreneurial capabilities in the desired field.
4. To make graduates able to serve the farming community with a sense of social responsibility having clear comprehension of sustainability of agriculture in particular and ecosystem in general.
5. To impart modern Knowledge in agricultural and allied fields with most effective teaching aids and methodologies
6. To inculcate the habits of innovative thinking in students leading to evolving of viable techniques/ technologies
7. To practice the evolved technologies at the farming community level by outreach programs.
8. To strive for a sustainable agricultural system, strategic growth and resource allocation for adaptation to the changing needs and opportunities.

Program outcomes (POs):

At the end of the program students will be able to:

- PO.1**Determine impact of interaction of different fauna and flora between /and among themselves affecting qualitative and quantitative production of crops.
- PO.2**Apply eco-friendly modern techniques in agricultural production system.
- PO.3**Practice technologies for enhancing the production and productivity under the sustainable agricultural production system.
- PO.4**Integrate the organic farming system with the existing farming system vis-a-vis sustainability thereof.
- PO.5** Develop sustainable market / demand driven agriculture / farming system at farmers' field culminating in raising the standards of farming communities.
- PO.6**Adopt the skills of agri-business as an entrepreneur ultimately becoming 'job provider not job seeker'.



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Program Specific Outcomes (POs)



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Program specific outcomes (PSOs):

At the end of the program students will be able to:

POS.1 Correlate the concepts of different farming systems including allied fields with agriculture heritage.

POS.2 Interpret the role of different fauna and flora in the soil ecosystem and their impacts on crops production and productivity.

POS.3 Demonstrate eco-friendly techniques in different production systems of agriculture and allied fields.

POS.4 Evaluate and compare different technologies for sustainable agriculture production systems

POS.5 Identify various cropping sequences based upon the market forces impacting demand & supply of different commodities.

POS.6 Compare existing farming systems with natural organic farming system vis- a-vis sustainability of productivity as well as ecosystem.

POS.7 Visualize and evaluate different entrepreneurial skills for developing farming into a lucrative profession.

POS.8 Upgrade the agricultural produce into value added products for developing agriculture into a remunerative business.

POS.9 Translate the innovative agro-technologies farmer friendly for improving their lot.

POS.10 Adopt agro-business as an entrepreneur for attracting the young minds into agricultural profession.

POS.11 Improve agriculture productivity, manage products and pave way for future developments through research activities.

POS.12 Acquire skills in agriculture production, process and farming based on agricultural, natural, technical, and economical sciences in diverse areas of modern agriculture.

POS.13 Act as change agents, who are capable of spurring on sustainable growth and development of the agricultural, its allied sectors & community.



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Course Outcomes (COs)



The courses under the program are intended to have following outcomes/ learning:

- CO.1 An overview of history and development in agriculture and step wise understanding of steps regarding agricultural production systems.
- CO.2 Thorough knowledge on package of practices, identification, biology, insect, pest, fertilizer, weed management of important *Kharif* and *Rabi* crops.
- CO.3 A strong understanding of the principles of agronomy to derive, interpret and analyze the crop production factors.
- CO.4 Ability to critically evaluate options and formulate plans that will ensure the long term sustainability of production systems.
- CO.5 A clear understanding of current trends and drudgery of modern agricultural production systems.
- CO.6 An understanding on importance of natural resources and their efficient utilization.
- CO.7 Ability to sustain diversity by organic agriculture, alternate land use system, conservation agriculture, precision agriculture, direct seeded rice and integrated farming systems.
- CO.8 An understanding of production, management and marketing helps in appropriate decision making.
- CO.9 Basic understanding of importance of water, its efficient methods and techniques to tackle water scarcity problems.
- CO. 10 Skills to identify the different weeds and their management in a systematic way.
- CO.11 Understanding to effectively analyze agricultural problems from an agronomic perspective and reach appropriate solutions.
- CO.12 Learning and identification of the opportunities available in horticulture sector.
- CO.13 Prospects of new investment opportunities to add income and employment.
- CO.14 Attainment of hands-on work experience in area of horticulture.
- CO.15 Understanding of the factors influencing plant growth and yields, and ways to modify them to improve the cultivation and utilization of crops.
- CO.16 Ability to apply horticultural principles to the successful growth and production of horticultural plants.
- CO.17 Demonstration of knowledge, skills and attributes to be successful contributing members of the horticulture profession.
- CO.18 Recognition and application ethical professional practices to horticultural sectors.
- CO.19 Integration of information to solve horticultural problems at national and international level.
- CO.20 Student empowerment to gain technological advance knowledge by connecting disciplinary and interdisciplinary aspects of biotechnology.



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- CO.21 A working knowledge of advanced biological sciences.
- CO.22 Critical thinking skills and will be able to develop problem solving skills.
- CO.23 Basic knowledge in biochemistry, molecular biology, microbiology, plant biotechnology, recombinant DNA technology to qualify for upper divisional study.
- CO. 24 Understanding of the importance of bioethics, IPR, entrepreneurship and management skills.
- CO.25 Basic laboratory skills necessary to perform experiments and interpret data in cutting-edge research area.
- CO.26 Decision and application of appropriate tools and techniques in biotechnological manipulation.
- CO.27 Knowledge of biotechnology concepts to solve problems related to field of agriculture and enabling their applications in industry and research.
- CO.28 Ability to pursue careers in academia and industry in multidisciplinary areas of biosciences.
- CO.29 Identification of characteristics of self- and cross-pollinated plants.
- CO.30 Identification of sources of genetic variation to conduct breeding program.
- CO.31 Understanding about variation in plants and the major sources of variations.
- CO. 32 Determination of breeding methodology appropriate for plants with different mating systems.
- CO.33 Knowledge of basic statistical analysis related to plant breeding.
- CO.34 Communication regarding background information and original ideas related to breeding a specific crop.
- CO.35 Comprehensive, detailed understanding of the basis of heredity and role of genetic mechanisms in evolution.
- CO.36 Ability to apply knowledge of variety development, evolution and release of varieties, seed production, seed processing, seedcertification and storage.
- CO.37 Depth and breadth understanding of economics in the context of agricultural production systems.
- CO.38 An ability to derive, interpret and analyze ecological, biological, social, technical or economic information from primary sources.
- CO.39 A strong understanding of the principles of agricultural economics and enterprise management.



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CO.40 Ability to critically evaluate options, and formulate plans that will ensure the long term financial and economic sustainability of production systems.

CO.41 An understanding of current issues facing agricultural production systems.

CO.42 An understanding of efficient utilization of scarce resources for farm management.

CO. 43 Ability to communicate and discuss industry and economic information with relevant stakeholders.

CO. 44 Ability to analyze and interpret agricultural financial data for appropriate decision making.

CO.45 Basic understanding of nature and scope of financial management.

CO.46 Skills to effectively analyze agricultural problems from an economic perspective and reach appropriate solutions.

CO.47 Demonstration of the foundational concepts of biology, including cellular, organismic, ecological, and evolutionary biology.

CO.48 Rigorous and ethical application of the scientific methods to questions in biology by formulating testable hypothesis, and gathering and analyzing data to assess the degree to which they support the hypothesis.

CO.49 Employment of quantitative reasoning skills to present results and explain their significance.

CO.50 Development of a strong foundation in fundamental concepts of biology.

CO.51 Understanding of principles of plant protection.

CO.52 Understanding of the infectious and environmental plant diseases, different factors disease spread, favorable environmental conditions and control of plant diseases.

CO.53 Knowledge of principles and concepts of plant pathology and plant-pathogen interactions.

CO.54 Assessment of role of host, pathogen, environment, time and human in plant diseases occurrence and outbreaks.



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- CO.55 Application of concepts of plant pathology to formulate integrated disease management strategies based on the sustainable agriculture practices.
- CO. 56 Diagnosis of most economical plant diseases of region.
- CO.57 Conduction of basic and problem-solving research that results in new knowledge to minimize crop losses, ensure sustainable agricultural productivity and enhance the stewardship of our natural resources and environment.
- CO.58 Techniques of improving soil conditions for agricultural management and the conservation of nature a resources.
- CO.59 Ability to investigate soil properties and problems.
- CO.60 Knowledge of sustainable nutrient management.
- CO.61 Skills for soil resource mapping, interpretation and soil conservation.
- CO.62 Learning of irrigation, drainage, water foot-printing methods.
- CO.63 Knowledge of water quantity and quality, nutrient cycling in crop and pasture systems in locality and country.
- CO.64 An overview of practices, history and development of rearing and management techniques of farm animals.
- CO.65 Thorough knowledge on identification, biology, branding, recordkeeping of livestock.
- CO.66 A strong understanding of the techniques and practices of poultry production.
- CO.67 Ability to critically evaluate options, and formulate plans that will ensure the long term sustainability of dairy entrepreneurs.
- CO. 68 A clear understanding of recent advances of modern livestock farming systems.
- CO.69 Ability to sustain the agro-climatic conditions for the various livestock breeds.
- CO.70 An understanding of production, management and marketing for getting higher benefits at market level.
- CO.71 Skills to identify the different diseases and their management in a systematic way.