B. Sc. (Agriculture) Hons.

PROGRAMME OUTCOMES (POs)

Students graduating with the B.Sc. Physical Science degree should be able to acquire

PO-1: To demonstrate the ability to analyze data and draw appropriate statistical conclusions. To demonstrate the ability to communicate effectively both orally and in writing.

PO-2: Understand the impact of the professional agricultural solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO-3: To demonstrate research based knowledge of the legal and ethical environment impacting agriculture organizations and exhibit an understanding and appreciation of the ethical implications of decisions.

PO-4: To demonstrate an understanding of and appreciation for the importance of the impact of globalization and diversity in modern agriculture organizations. Understanding of globalization, and NGO working.

PO-5: To demonstrate an ability to engage in critical thinking by analyzing situations and constructing and selecting viable solutions to solve problems. Ability to work effectively with others. To develops analytical ability and team work spirit.

PO-6: To understand and analyze the current events and issues that are occurring in agriculture and how they affect futuristic agriculture.

PO-7: Able to recognize and examine the relationships between inputs and outputs in their agricultural field to make effective and profitable decisions. To understand mechanics of agripreneurship.

PO-8: Understand how all aspects of agriculture combine and are used by scientists, marketers, producers and understand how employer characteristics and decision-making at various levels enhance the success of an agricultural enterprise. To understand components of agri business and economics of market.

PO-9: Able to demonstrate critical thinking and problem solving skills as they apply to a variety of animal and or plant production systems .To understand problem solving skills in crop production and animal husbandry.

PO-10: Knowledge of Weather codes and Symbols, Reading and Recording of weather and climatic data. To get trained for climatologically records, soil data and soil nutrition.

PO-11: To develop critical and self-critical opinion and approach aiming at solving the most important practical problems in the field of plant protection by applying gained competencies

and in accordance with high standards of academic integrity (ethics and moral) both in the profession and in society as a whole. To develop competence to work in Government, public and private sectors.

PO-12: Demonstrate knowledge and understanding in horticulture section: The breadth and depth of the profession of horticulture. Basic horticulture biology: taxonomy, anatomy, morphology, and physiology. The characteristics of the environment and their influence on plant growth and development. Current applications of horticultural principles and practices: propagation, pest management, production, maintenance, and business practices. Comprehensive knowledge of horticultural production.

PO-13: This programme will also help students to enhance their employability for jobs in different sectors.

HORT-111(Fundamentals of Horticulture)

Course Outcome:

CO1. - students will be able to identify plant vegetative structure

CO2.- stundents will understands basic principles, processes and plant propagation methods.

CO3.- students will understands how to propagate plant, manage and harvest a variety of plant.

CO4.-students will learn how horticulture relates to the economy and environments, both currently and in the future.

(**Fundamentals of Plant Biochemistry and Biotechnology)**

Course Outcome:

At the end of the course, a student will be able to understand –

CO1. Role of cell organelles and their functions

CO2. Functions of biomolecules and their utility in cell

CO3. Identify the deficiency symptoms of biomolecules

CO4. Synthesis pathways of biomolecules and regulations

CO5. Identification of biomolecules in given sample

CO.6 Application of plant tissue culture in crop improvement

CO.7 Tackled the problems in convention breeding

CO.8 Plant tissue culture is a area of entrepreneurship

Introduction to Forestry

Course outcome-

CO.1. Students will understand recognize various harvesting, transportation, and processing systems used in the management of forest resources and production of forest products

CO.2. Students will understand develop and evaluate management plans with multiple objectives and constraints.

CO.3. Students will learn how to develop and apply silvicultural prescriptions appropriate to management objectives.

CO.4. Students will understand analyze forest inventory information and project future forest, stand, and tree conditions.

Comprehension and Communication Skill in English Course Outcome (COs):

At the end of the course students will be able to understand:

CO1: Students will identify and explain their goals to the semester and also identify the needs of communication helps us meet .They will able to understand the common misconceptions about communication and the reasons, people use language.

CO2: Students can differentiate the action, interaction and transaction models of communication. They can define the process of both perception and listening .Students can recall the importance of listening effectively and can identify strategies for communicating the cultural awareness.

CO3: Students will able to introduce themselves to the class and begin getting to know one another and will apply communication strategies by preparing and participating in class discussion.

CO4: Students will prepare and present messages with the intent of persuading an audience. Students will able to analyze basic communication skills, intercultural communication skills, interpersonal communication skills and public- speaking skills.

CO5: Students can demonstrate critical and innovative thinking. Display competence in oral, written and visual communication. They can able to use current technology related to the communication field.

Fundamentals of Agronomy

Course Outcomes

CO.1: In modern terminology however the word has come to mean and denote a branch of science dealing with all aspects of crop cultivation and production.

CO.2: A study of agronomy often involves a summoning of resources from related disciplines such as Botany, Soil Science, Irrigation, plant protection, Plant Genetics and Breeding, Agro-meteorology etc.

CO.3: In a more fundamental sense it can be categorized as an applied Science, the object of which is crop cultivation and management for the purpose of producing food for humans, feed for animals as well as raw materials for the industry.

CO.4: Knowledge about Indian Agriculture and importance, present status, scope and future prospect.

CO.5 Cropping seasons of India. Soil formation, classification, physical, chemical properties.Identification of important crops and crop seeds.

Fundamentals of Soil ScienceCourse

Outcomes:

At the end of the course, Students will be able to understand :

CO1: To be able about physical and chemical properties of soil and their effect on plant's health.

CO2: To aware the students about causes, effects and remedies to prevention and mitigation of soil pollution.

CO3: Knowledge about soil forming rocks and minerals, their weathering and soil forming processes and climatic factors affect them.

Agricultural HeritageCourse

Outcomes:

CO1. Ancient Agricultural Practices & Its relevant to modern agriculture practices.

CO2 Traditional Technical Knowledge.

CO3 Our Journey (Developments) in Agriculture and Vision for the Future.

Rural Sociology & Educational PsychologyCourse

Outcomes :

CO1 Understand concept of rural sociology, its importance in agricultural extension, characteristics of Indian rural society .

CO2 Understand social groups, social stratification, culture, social values, social control and attitudes, leadership and training.

CO3 Understand concept of educational psychology, intelligence, personality, perceptions, emotions, frustration, motivation, teaching and learning

CO4 Acquaint with characteristics of rural society, village institutions and social organizations. Select lay leaders and train them.

CO5 Assess personality types, leadership types and emotions of human beings iv. Create a training situation under village conditions

Human Value and Ethics

Course Outcomes

At the end of the course, a student will be able to understand –

CO1 Understand the significance of value inputs in a classroom and start applying them in their life and profession.

CO2 Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.

CO3 Understand the value of harmonious relationship based on trust and respect in their lifeand profession.

CO4 Understand the role of a human being in ensuring harmony in society and nature.

CO5 Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

Fundamentals of GeneticsCourse

outcomes:-

CO-1: Comprehensive, detailed understanding of the chemical basis of heredity specially in crop plants to impove and develop the new varieties of plants.

CO-2: Understanding of how genetic concepts affect broad societal issues including health and disease, food and natural resources, environmental sustainability, etc.

CO-3: The knowledge required to to design, execute, and analyze the results of genetic experimentation in plant systems.

CO-4: Insight into the mathematical, statistical, and computational basis of genetic analyses that use genome-scale data sets in systems biology settings.

CO-5: Understanding the role of genetic technologies in industries related to biotechnology, pharmaceuticals, energy, and other fields.

Agricultural Microbiology

Course Outcome

CO1 Student will understand the basic microbial structure, function and study the comparative characteristics of prokaryotes and eukaryotes.

CO2 To know the various Physical and Chemical growth requirements of bacteria

CO3 Impart knowledge about production of beneficial bacteria.

Introductory Soil and Water Conservation EngineeringCourse

Outcome:

CO-1: various causes of soil erosion and forms of water erosion, classification of gully control measures or structures.

CO-2: Course will give the knowledge of soil loss equation and it can estimate long - term annual soil loss and guide conservationists on proper cropping, management, and conservation practices.

CO-3: This course will help the students to learn about Contour strip cropping designed to minimize soil erosion and Contour bunds which can save soils from erosion.

CO-4: By this course student get the knowledge about Grassed waterways designed to move surface water across farmland without causing soil erosion and various water harvesting techniques.

CO-5: Students will be able to understand the wind erosion, centrifugal pumps and various pressurized irrigation methods. So overall the importance of this technology in farm is given to students by teaching this course.

(Fundamentals of Crop Physiology).Course

Outcome:

CO-1: Role of crop physiology in crop health.

CO-2: Identification of deficiency symptoms of nutrients.

CO-3: To understand the metabolic and synthetic pathway of biomolecules.

CO-4: To know the difference between C_3, C_4 and CAM plant.

CO-5: Importance of growth Harmon in Agriculture.

(Fundamentals of Agricultural Economics)Course

Outcome:

CO-1: Identify elements of business success in agriculture and food-processing as well as elements that determine economic role of agriculture in national economy.

CO-2: Propose methods of micro- and macroeconomic decision making in agriculture in different agro-ecological and agro-economic circumstances.

CO-3: Describe and explain models of production, supply and demand of agricultural and food products on national and international markets

CO-4 : Undrer stand the concepts of cosumer choice and how it affect the farm / ranch level agriculture firm.

CO-5: understand the macroeconomics aspects of the economy as they affect the agricultural sector.

CO-6: apply economics principles to understand the conduct and performance of the agricultural industry.

Introductory agro meteorolgy & Climate changeOutcome

CO.1: To understand roles of agrometeorology in agriculture and its relation to other areas of agriculture to acquaint with recent developments in agrometeorology with historical development of climate change.

CO.2: Agrometeorology or Agricultural meteorology studies meteorological and hydrological factors in relation to agriculture.

CO.3: Agrometeorology studies the behavior of the weather elements that have direct relevance to agriculture and their effect on crop production.

CO.4: Weather and climate are the factors determining the success or failure of agriculture.

CO.5: To develop weather based agro advisories to sustain crop production utilizing various

Fundamentals of Plant PathologyCourse

outcome

CO1- Student will acquaint about concepts of plant pathogens, major disease causing organisms and their etiology

CO2 - To provide specific knowledge about host pathogen interactions.

CO3 -Recognition of plant disease is the first step in doing something about them.

CO4 - To give specific knowledge about environment and disease development.

(Fundamentals of Entomology)

Course Outcome:

CO 1: To be able to identify morphological characteristics, feeding habit and habitat of agriculturally important insect-pest.

CO 2: To be able to apply concepts and analytical approaches in evolutionary biology, genetics and other areas of insect biology of the student's choice.

CO 3: To be able to categorize insects based on basic ecological, behavioural, morphological, physiological, or developmental attributes.

CO 4: To be able to examine insects deeply within a biological level of analysis and make strategies for successful pest management strategy.

CO 5: To be able to understand about different families and orders of class Insecta which cause economic losses for human beings.

Fundamentals of Agricultural Extension EducationCourse outcomes-

At the end of the course, a student will be able to understand –

CO1 Education; Extension Programme planning Meaning, Process, Principles and Steps in Programme Development.

CO2 Extension systems in India: Extension efforts in Pre-independence era .

CO3 New trends in agriculture extension: privatization extension.

CO4 Monitoring and evaluation – concept and definition, monitoring, and evaluation of Extension programmes, Transfer of Technology- Concept and models

Communication Skills and Personality DevelopmentCourse Outcomes :

CO1	Students will analyze basic communication skills.
CO2	Students will analyze intercultural communication skills.
CO3	Students will analyze interpersonal communication skills.
CO4	Students will analyze public speaking communication skills.

Crop Production Technology – I (*Kharif* crops)Course Outcome

CO.1: In the course study the students will be able to know about origin, geographical distribution, and economic importance of Kharif crops

CO2: In the course study the students will be able to know about Soil and climatic requirements, varieties, cultural practices and yield of Kharif crops.

CO.3: Analysis ofcomparative benefits of the different kharif crops

CO.4: Constraints in production of oilseeds and pulses maybe identified through course content.
CO.5: Production technology of kharif cereals and millets fulfill the need of human consumption and milch cattle.

Fundamentals of Plant BreedingCourse

Outcome:

CO-1: Establish the commercial plant breeding company to developed new superior crops varieties.

CO-2: Develop the insect and disease resistant varieties for environment friendly management of disease and insect.

CO-3: Serve the quality food in the market by developing high nutritive varieties.

CO-4: Increase the farm yield to get higher income on farm by developing higher yield crop varieties.

CO-5: start a consultant company to guide & supply the better varieties to the farmers.

Agricultural Finance and Co-Operation Course

Outcome:

CO-1: Explain the broad feature of Indian financial institutions with instruments to control credit in the country.

CO-2: Effectively narrate the kinds and components of money with its regulatory system .Be aware of the functions,objectives and limitations of commercial bank.

CO-3: Identify the existence and development of non- banking financial institutions, know the important role of mutual fund.LIC investment companies etc. Utilize and effectively participate in the development process.

CO-4: Understand the conditions of financial markets and its impact in the economy.

CO-5: Understand the macroeconomics aspects of the economy as they affect the agricultural sector.

CO-6: Apply economics principles to understand the conduct and performance of the agricultural industry.

Agricultural InformaticsCourse

Outcomes:

CO:1. Understand analogy of computer

CO:2. Basic knowledge of MS Office

CO:3. Some basic knowledge of Internet and WWW

CO:4. Use of IT application and different IT tools in Agriculture

CO: 5.Use of Decision support systems, Agriculture Expert System and Soil Information Systems in Agriculture

Farm Machinery and PowerCourse

Outcomes:

At the end of the course, a student will be able to understand

CO1: Various sources of farm power and their uses

CO2: about working of IC Engines and their uses in modern equipments

CO3: about various parts of tractors and their mechanism

CO4: the financial aspects of using farm power

CO5: the various implements used in agriculture farm for various purposes

Production Technology for Vegetables and SpicesCourse

outcome-

CO.1Students will understand practical knowledge on specialized production techniques of vegetables and spices.

CO.2-Students understand will Importance of vegetables & spices in human nutrition improved and national economy.

CO.3- Students will knowledge about quality requirement and production and techniques

CO.4-Managing skill for solving field problems.

Environmental Studies and Disaster Management

At the end of the course, the student will be able to:

CO1: Appreciate concepts and methods from ecological and physical sciences and their application in environmental problem solving. Interdisciplinary branches of environment and their scopes.

CO2: Concepts of natural resources, Food resources, mineral resources, Concept of non Conventional energy resources, types and various applications of renewable resources and current potentials of energy resources.

CO3: Ecosystem Links between environmental components and their role and types of ecosystems.

CO4: Types of biodiversity, their values, depletion and conservation methods.

CO5: Basic Structure of atmosphere and their functions Current problems related issues context in solving environmental issues such as environmental health, food and agriculture, energy, waste and pollution, climate change, management, Basic knowledge about water recourses, current problems related issues, water born diseases, technologies of water treatment.

CO6:Composition of solid waste, sources of generation, collection and disposal methods of solid waste, recycling, reuse of wastes.

CO7: Urban problems related to energy, Water conservation, rain water harvesting, watershed management. Environmental ethics: Issues and possible solutions, climate change, global warming, acid rain, ozone layer depletion.

CO8: Public awareness. Human Population and the Environment: population growth, variation among nations, population explosion, Family Welfare Programme. Environment and human health: Human Rights, Value Education, HIV/AIDS. Women and Child Welfare.Role of Information Technology in Environment and human health.

CO9: Meaning and nature of natural disasters, their types and effects and management.

Statistical MethodsCourse

Outcomes :

At the end of the course student will be able to know

CO1. Acquaintance with some basic concepts in statistics.

CO2. Making familiar with some elementary statistical methods of analysis of data viz. Measures of Central Tendency, Dispersion, Moments, Skewness, and Kurtosis and to interpret them.

CO3. Analysis of data pertaining to attributes and to interpret the results.

Livestock and Poultry Management

Course Outcome:

CO-1: Develop and evaluate animal production and management systems by integrating knowledge of animal genetics, nutrition, reproduction, and other relevant disciplines and applying scientific and quantitative reasoning to solve real-world challenges.

CO-2: Locate, critically evaluate, and apply information from scholarly animal science literature and other sources to expand personal understanding and knowledge of animal sciences, providing a foundation for lifelong learning.

CO-3: Create and interpret graphs, tables and diagrams illustrating scientific data and concepts, and understand basic concepts relating to the design and analysis of research in the animal sciences.

CO-4: Communicate effectively about animal sciences to a range of audiences, both orally and in writing, using appropriate traditional and emerging media.

CO-5: Engage actively and effectively in discussion of complex issues relevant to the animal sciences by understanding and appreciating:

a. the importance of animals to the health and well-being of society;
b. economic, environmental, animal welfare, and societal impacts of animal production and management systems at the global and local level;
c. varied ethical perspectives on animal practices;
d. the role of science in informing debates.

CO-6: Appreciate the breadth and depth of professional opportunities in animal sciences relating to:The keeping of animals for food and fiber production and other purposes (e.g., companionship, research and teaching, biotechnology, sports, species conservation);The application of scientific principles to animal breeding, reproduction, feeding, growth and development, health management, housing, handling, and end – product safety and quality.

Crop Production Technology – II (*Rabi* crops)Course Outcomes

CO.1: To know the Origin, geographical distribution, economic importance, soil and climatic requirements, varieties, cultural practices and yield of rabi crops .

CO.2: Identify weeds in rabi season crops, Pulses-chickpea, lentil, peas; oilseeds-rapeseed, mustard and sunflower; sugar crops-sugarcane, Medicinal and aromatic crops-mentha, lemon grass and citronella, Forage crops-berseem, lucerne and oat.

CO.3: Through proper knowledge of irrigation scheduling in rabi crops, additional area can be increased of low water requiring crops.

CO.4: Students will be able to know about the economic importance of medicinal and Aromatic crops in present sphere.

CO.5: It will be helpful to know about basic morphological characteristics of *rabi* crops.

Production Technology for Ornamental Crops, MAP and Landscaping

Course Outcomes-

CO**.**1- To evaluate natural herbal products from an economic perspective.

Co.2-To use medicinal and aromatic herbs sustainably.

CO.3-To set up business related to medicinal, aromatic and landscaping.

CO.4-To develop effective ideas related to collecting, processing and marketing herbal natural sources.

Renewable Energy and Green TechnologyCourse

Outcomes-

CO1**:** To understand the roleof renewable sources in agriculture sector.

CO2: To understand the bio fuel production and their applications in today's world.

CO3: To understand and utilizing the solar energy in various aspects.

Problematic soils and their Management

Course Outcomes:

CO1: To provide knowledge about waste land and problematic soils in India and management of the soils.

CO2: Knowledge of different reclamation and management practices for the development of the soils.

CO3: To Understand different factors responsible for saline , sodic and acidic soils and their properties.

Production Technology for Fruit and Plantation Crops

Course outcome-

CO.1 -To know importance of different fruit crops and plantation crops.

CO.2- Students will understand canopy architecture for higher productivity in mango and grapes**.**

CO.3- Students will understand package of practices for the major crops like mango, banana, guava, lemon, pineapple, coffee, coconut and rubber.

CO.4- To understanding the concept of high density planting in different fruit crops.

Principles of Seed TechnologyCourse

Outcomes:-

CO-1: Start a seed production program for fill full the requirement of quality seed in market and increase the income.

CO-2: Storage the pure variety seed to avoid the availability crises of pure variety seed due to adverse environmental conditions.

CO-3:To supply the disease free seed in the market to get the environmentfriendly cultivation of crops.

CO-4: To increase the farm income by producing high yielding disease free quality seed and decrease the cost of cultivation also.

CO-5:Production of hybrid seed of different crops to increase the farm income.

Farming System & Sustainable Agriculture

Course Outcomes:-

CO1	The student will be able to explain the major aspects of agricultural practices and traditions through time and throughout the world.
CO2	The student will be able to explain in general the relationships among culture, economics, politics, science, and agricultural development.
CO3	A solid understanding of the cross-cultural interactions and exchange that linked the world's people and facilitated agricultural development is also expected.
CO4	The student will study and analyze the refereed-journal articles, texts, and practices that represent the perspectives of different societies and agricultural traditions.
CO5	To show how agricultural scientists are attempting to minimize agricultural pollution and sustain food production adequate for the world's population.

Agricultural Marketing, Trade and Prices

Course Outcomes:

CO-1: **Optimization of Resource use and Output Management:** An efficient agriculturalmarketing system leads to the optimization of resource use and output management. An efficient marketing system can also contribute to an increase in the marketable surplus by scaling down the losses arising out of inefficient processing, storage and transportation. A well-designed system of marketing can effectively distribute the available stock of modern inputs, and thereby sustain a faster rate of growth in the agricultural sector.

CO-2: **Increase in Farm Income:** An efficient marketing system ensures higher levels of income for the farmers by reducing the number of middlemen or by restricting the commission on marketing services and the malpractices adopted by them in the marketing of farm products.

CO-3: **Growth of Agro-based Industries:** An improved and efficient system of agricultural marketing helps in the growth of agrobased industries and stimulates the overall development process of the economy. Many industries depend on agriculture for the supply of raw materials.

CO-4: **Adoption and Spread of New Technology:** The marketing system helps the farmers in the adoption of new scientific and technical knowledge. New technology requires higher investment and farmers would invest only if they are assured of market clearance.

CO-5: **Addition to National Income:** Marketing activities add value to the product thereby increasing the nation's gross national product and net national product.

CO-6: **Price Signals:** An efficient marketing system helps the farmers in planning their production in accordance with the needs of the economy. This work is carried out through price signals.

CO-7:Better Living: The marketing system is essential for the success of the development programmes which are designed to uplift the population as a whole. Any plan of economic

Insect Ecology and Principles of Integrated Pest Management

Course Outcome:

CO 1: Students knowledgeable about the effects of biotic and abiotic factors on insect development, population growth, species interactions, physiological requirements and insect behaviour.

CO 2: Studentsare skilled in determining pest levels and impact on plant and animal hosts and the management of these pests by Integrated Pest Management approach.

CO 3: To be able to address complex problems facing entomology or toxicology professionals taking into account related ethical, social, legal, economic, and environmental issues.

CO 4: To be able to surveillance and forecasting of insect pests and assessment of insect pest population and recent pest outbreaks and manage them by using different tools and recent methods pest management.

CO 5: To Understands about different classes of insecticides, their formulation, toxicity, poisoning, first aid and antidotes and their effect on plants, animals and environment.

Weed Management

Course Outcome

CO.1: Students will be acquainted about why to undertake environmental weed control.

CO.2: Students will be acquainted about different approaches of weed management.

CO.3: Students will be acquainted about harmful and beneficial effects of weeds in Agriculture.

CO.4: Students will be acquainted planning for weed management and weed management processes.

Epidemiology and Integrated Disease Management

Course Outcome

CO.1 Student will know importance of sign and symptoms for detection of pathogens and disease

CO2. Student acquire the knowledge of Integrated methods of disease management.

CO3. Learn about biological and chemicals in disease management.

CO4. Gain the knowledge about IDM modules of wheat, rice, groundnut, mustard potato,cumin,citrus and chickpea diseases.

Manures, Fertilizers and Soil Fertility Management

Course Outcome:

CO1: Knowledge of different manure and fertilizers used in different crops according to soil condition

CO2: To understand essentiality of plant nutrients and mechanism of nutrient transport to plant and factor affecting nutrient availability.

CO3: To be able about procedure of soil testing and establish soil testing laboratory in future as a entrepreneur.

Pests of Crops and Stored Grains and Their Management

Course Outcome:

CO1: Familiarized with identification of different insect pest of field, horticulture, ornamentals, vegetables and stored grains at the field level.

CO 2: Understand how insects affect animal and Plant health and agricultural production, and be able to safely manipulate populations of beneficial and destructive species in habitats and in production agro-ecosystems with minimal environmental impact.

CO 3: To be able about the biology, diversity, distribution of insects, and their relationships to crop and the environment condition of a particular area.

CO 4: To understand identification of nature of damage and symptoms caused by the pest so suitable technique of pest management can be apply for effective control.

CO 5: Management of crop pest through Integrated Pest Management approach without side effect on plant, animal and environment health.

Diseases of Field and Horticultural Crops and their Management-I

Course Outcome

CO-1. Student will know the common pathogens of different diseases.

CO-2. Student acquire the knowledge about etiology, and symptoms of thesediseases which helps in diagnosis of the diseases of field and horticultural crops

CO-3. By knowing means of dispersal of these diseases suitable management methods can be applied.

CO-4. Eco-friendly and economically suitable management practices may be adopted.

Crop Improvement-I (*Kharif* crops)

Course Outcomes

CO-1: In this course Students learn importance of wild relative to produce new varieties of kharif crop.

CO-2: Learner learns Gene preservation method for further use to improve kharif crops.

CO-3: Learner learns to applies breeding method to improve kharif crops.

CO-4: Learner learns identification of resistance gene relate to kharif crop with high yield potential against Pest and pathogen and utilization genes.

CO-5: Learner learns new genetic approaches to achieve a definite ideotype of khaif crop.

Entrepreneurship Development and Business Communication

Course Outcomes:

CO1 Define basic terms,

CO2 Analyse the business environment in order to identify business opportunities,

CO3 Identify the elements of success of entrepreneurial ventures,

CO4 Consider the legal and financial conditions for starting a business venture,

CO5 Evaluate the effectiveness of different entrepreneurial strategies,

CO6 Specify the basic performance indicators of entrepreneurial activity,

CO7 Explain the importance of marketing and management in small businesses venture,

CO8 Interpret their own business plan

Geoinformatics and Nanotechnology and Precision Farming Course Outcomes

CO.1: The concept of "doing the right thing in the right place at the right time" has a strong intuitive appeal which gives farmers the ability to use all operations and crop inputs more effectively.

CO.2: More effective use of inputs results in greater crop yield and/or quality, without polluting the environment.

CO.3: Precision agriculture can address both economic and environmental issues that surround production agriculture today.

CO.4: Encourage the farmers to study of spatial and temporal variability of the input parameters using primary data at field level.

CO.5: Creating awareness amongst farmers about consequences of applying imbalanced doses of farm inputs like irrigation, fertilizers, insecticides and pesticides.

Practical Crop Production – I (*Kharif* crops)

Course Outcome

CO.1: In the course study students will be acquainted with the knowledge of profitable crop production technology.

CO.2: Course content will help to students/farmers about ruminative crop production techniques.

CO.3. It helps to adopt diversified farming system according to available farming situation.

CO.4. It will assist to encourage the sustainable agriculture system.

CO.5. Profitable based farming system can we adopted with the help of course content

Intellectual Property RightsCourse Outcomes:

1. Skill to understand the concept of intellectual property rights.

2. Develops procedural knowledge to Legal System and solving the problem relating to intellectual property rights.

3. Skill to pursue the professional programs in Company Secretaryship, Law, Business, Agriculture, International Affairs, Public Administration and Other fields.
4. Employability as the Compliance Officer, Public Relation Officer and Liaison Officer.
5. Establishment of Legal Consultancy and service provider.

Bio-pesticides and Bio-FertilizersCourse

outcome :

At the end of the course , Students will be able to understand :

CO1: To aquiant with the importance of bio-pesticides in present scenario.

CO2: To educate about concept and classification of bio-concepts.

CO3: Role of bio-fertilizers in quality parameters of various agricultural products and key role of bio-fertilizer in maintain soil health.

Rainfed Agriculture & Watershed Management

Course Outcomes

CO.1.The term **Rain fed agriculture** is used to describe farming practices that rely on rainfall for water.

CO.2. A major study into water use by agriculture, known as the Comprehensive Assessment of Water Management in Agriculture, coordinated by the International Water Management Institute, noted a close correlation between hunger, poverty and water. However, it concluded that there was much opportunity to raise productivity from rainfed farming.

CO.3 Rainfall water can be use for a larger area by suitable watershed management techniques

CO.4. Conservation of soil by adopting latest soil conservation techniques will help in obtaining higher production of Rainfed crops

Protected Cultivation and Secondary Agriculture-

Course Outcome:

CO-1: To get knowledge about green house technology, types of green houses and construction of green houses.

CO-2: Course will give the knowledge of Green house equipments, materials of construction for traditional and low cost green houses.

CO-3: This course will help the students to learn about Irrigation systems used in greenhouses, shade net house in protected cultivation.

CO-4: By this course student get the ofconcepts of cleaning and gradingMoisture measurement.
CO-5: Students will be able to understand the Material handling equipment, principle and working.

Diseases of Field and Horticultural Crops and their Management-II

Course Outcome

CO1.Student will know the common pathogens of different diseases.

CO2.Student acquire the knowledge about etiology, and symptoms of these diseases which helps in diagnosis of the diseases of field and horticultural crops.

CO3.By knowing means of dispersal of these diseases suitable management methods can be applied.

CO4. Eco-friendly and economically suitable management practices may be adupted.

Post-harvest Management and Value Addition of Fruits and Vegetables

Course outcome-

Co**.**1- Understand the post harvest technology of horticultural crops.

Co.2- Understand the value addition of horticulture crops.

Co.3-U the work space, tool and equipment design for PHT and value addition.

Co.4- study the various certification and accreditation i.e. FPO, ISO and other leveling.

Management of Beneficial Insects

Course Outcomes:

CO 1: Students can adopt apiculture, sericulture and lac culture as an entrepreneur according to agro climatic zone.

CO 2: To understand commercial methods of rearing, equipment, seasonal management, insect-pest and disease and important species for commercial use of honey bee, silkworm and lac insect.

CO 3: Identification of different bio control agents (Predator, Parasite and Parasitoids) and their use for sustainable pest management.

CO 4: Learn about mass multiplication technique of biological control agents and established a bio control lab in future as an entrepreneur.

Crop Improvement-II *(Rabi crops)*

Course Outcomes:

CO-1: In this course Students learn importance of wild relative to produce new varieties of *Rabi* crop.

CO-2: Learner learns Gene preservation method for further use to improve Rabi varieties.

CO-3: Learner learns to applies breeding method to improve Rabi crops.

CO-4: Learner learns identification of resistance gene relate to Rabi crop with high yield potential against Pest and pathogen and utilization genes.

CO-5: Learner learns new genetic approaches to achieve a definite ideotype of Rabi crop.

Practical Crop Production – II (Rabi crops)

Course Outcome

CO.1: In the course study students will be acquainted with the knowledge of profitable crop production technology.

CO.2: Course content will help to students/farmers about ruminative crop production techniques.

CO.3. It helps to adopt diversified farming system according to available farming situation.

CO.4. It will assist to encourage the sustainable agriculture system.

CO.5. Profitable based farming system can we adopted with the help of course content

Principles of Organic FarmingCourse

Outcomes

CO.1. Initiative from Government for organic produce.

CO.2. Role of NGOs in producing organic products.

CO.3 Selection of crops and varieties for organic produce

CO.4. Certification of organic produce.

(Farm Management, Production & Resource Economics)

Course Outcome:

CO-1: The course contains a comprehensive treatment of the traditional agricultural production economics topics employing both detailed graphics and differential calculus.

CO-2: Focus on the neoclassical factor-product, factor-factor and product- product models, and is suitable for an advanced undergraduate or a beginning graduate –level course in static production economics.

CO-3: Understand limited resources available in the economy**.** Realize the need to exploit and utilize through development and improvement of production techniques.

CO-4: Make them aware of the availability of rich natural endowments to achieve sustainable agricultural development with this knowledge they can challenge the problems of unemployment inequality shortage of food productions , poverty and be useful to compete advanced agricultural economies.

CO-5: Gain knowledge of the causes of regional variations in productivity and production, social and economic inequality, size of land holdings and lack of quality inputs ets. And suggest appropriate measures for the whole economy.

Principles of Food Science & Nutrition

Course outcome-

CO.1- Critically evaluates information on food science and nutrition issues appearing in the popular press.

CO.2- Discuss the important pathogen and spoilage microorganism in foods.

CO.3- Discuss basic principles and practices of cleaning and sanitation in food preparation operation.

CO.4- Identity and explain nutrients in foods and the specific functions in maintaining health.