

FACULTY OF AGRICULTURE

B.Sc. (Hons.) AGRICULTURE

AGR 110 PRINCIPLES OF AGRONOMY AND AGRICULTURAL HERITAGE (2 +1)

COURSE OUTCOMES:

- CO 1: To understand the basic principles and practices of crop production
- CO 2: To gain knowledge on various agricultural development from ancient to modern age
- CO 3: To critically assess the inter relationship between crop production and different factors affecting the production of crops
- CO 4: To construct skills on basic agricultural operations viz., seeds and sowing, after cultivation practices, irrigation and nutrient management
- CO 5: To understand about harvesting, cleaning and storage of agricultural products.

AGR 111 FUNDAMENTALS OF AGRICULTURAL METEOROLOGY (1+1)

COURSE OUTCOMES

- CO 1: To gain knowledge about role of weather elements in crop growth and how to record various weather elements
- CO 2: To construct information about effect of solar radiation, temperature and relative humidity on crop production
- CO 3: To comprehend knowledge with cyclones, EL Nino and La Nino
- CO 4: To create awareness on cloud types, precipitation, drought, flood and evapotranspiration.
- CO 5: To formulate cropping pattern for different Agro climatic zones of India and Tamil Nadu, importance of weather forecasting and remote sensing.

SAC 112 PRINCIPLES OF ANALYTICAL CHEMISTRY (1 +1)

COURSE OUTCOMES

- CO 1: Students gain knowledge on basic principles of analytical chemistry
- CO 2: Students learn the techniques of standard preparations and various methods of qualitative and quantitative analysis
- CO3: Students develop a conceptual understanding on the principles of different instrumental techniques followed for soil and plant analysis.

GPB 113 FUNDAMENTALS OF PLANT PHYSIOLOGY (2+1)

COURSE OUTCOMES:

- CO 1: Students will acquire basic knowledge on various functions and processes related to crop productivity
- CO 2: Will be able to identify the mineral nutrient deficiencies and their symptoms
- CO 3: Know about the various plant growth regulators and environmental stresses.
- CO 4: In addition, hands on exposure to preparation of solutions, analysis of pigment composition, estimation of growth analytical parameters.
- CO 5: Will be able to diagnose nutrient deficiencies in crops and ameliorate them and will be competent in enzyme assays and applications of plant growth regulators

ENG 114 DEVELOPMENT EDUCATION (0+1)

COURSE OUTCOME

The student will be able to

CO1: Understand the basic principles of learning

CO2: Have carrier development either in agriculture or allied sciences

CO3: Write edit and blog scientific articles

CO4: Have ideas to prepare project

CO5: Have a knowledge of Entrepreneurship and intrapreneurship

ENG 115 ENGLISH FOR EFFECTIVE COMMUNICATION (0+1)

COURSE OUTCOMES: At the end of the course the students will be able to

CO1: Understand the nuances of the language skills.

CO2: Read different texts with improved skill

CO3: Speak and write in English effectively and flawlessly

CO4: Take part in group discussion activities with confidence

CO5: Face the challenging interviews with confidence. Become competent with effective communication skills

PED116 PHYSICAL EDUCATION (0+1)

COURSE OUTCOMES

CO 1: Physical education encourage through games and sports sportsmanship, Co-operation loyalty, sociality, self-control, leadership, patriotism, friendship, kindness, sympathy, tolerance, forgiveness and other similar qualities.

CO 2: Physical Education helps to improve one's ability for work and self expression in the competitive condition of our modern life.

CO 3: Physical fitness is the combination of strength, flexibility, agility, power, speed, muscular endurance and cardio vascular endurance. It is the ability to enjoy our life and to achieve our goals without undue fatigue or stress. It is the production against the degenerative diseases and feeling of youthfulness, even when we are growing old.

PED 117 PRINCIPLES AND PRACTICES OF YOGA (0 + 1)

COURSE OUTCOMES

CO 1: Knowledge of Yoga Philosophy.

CO 2: Ability to establish the personal health and social health skills to apply.

CO 3: Appropriate application with practice of Asanas, Pranayama, Meditation and relaxation.

NSS/ NCC 118 NATIONAL SERVICE SCHEME / NATIONAL CADET CORPS (0+1)

COURSE OUTCOMES:

CO 1: To create knowledge on facts and information from different sources, pertaining to weed biology and management and be able to explain how they are interrelated; demonstrated through successful completion of assignments.

CO 2: To critically assess different weed management strategies

CO 3: To synthesise idea about various herbicides, formulations and adjuvants

CO 4: To understand about mechanism and action of herbicides, persistence of herbicides.

CO 5: To construct information regarding management of weeds of field crops, horticultural crops, aquatic and problematic weeds.

AGR 121 IRRIGATION MANAGEMENT (1+1)

COURSE OUTCOMES:

CO 1: To understand basic principles and practices of irrigation.

CO 2: To formulate ideas pertaining to soil water plant relationship.

CO 3: To evaluate water requirement for various field crops.

CO 4: To gain skill development on layout of different methods of irrigation and ways to improve irrigation efficiency.

CO 5: To analyse the quality of water for irrigation and formulate different drainage methods.

ENT 122 FUNDAMENTALS OF ENTOMOLOGY (2+1)

COURSE OUTCOMES:

CO1: Describe characters of Arthropoda and Insecta, and their relationship and reasons for insect dominance

CO2: Explain morphology of insects, its appendages, their modifications, growth and development (metamorphosis) and behavior

CO3: Describe anatomy and physiology of various systems of insects

CO4: Identify different orders of insects based on their diagnostic characters up to family level

CO5: Demonstrate different collection and preservation techniques of insects CO – PO mapping matrix

AGM 123 FUNDAMENTALS OF MICROBIOLOGY (2+1)

COURSE OUTCOMES:

CO 1: Students gained knowledge on the basic and applied aspects of understanding and exploitation of microorganisms for the welfare of human kind.

CO 2: Students gained knowledge on the historical developments and contributions of some scientist in the field of microbiology.

CO 3: Students exposed practical hands on experience in the basic skills employed in microbiological laboratories, which will equal them to carryout independent research in microbiological/ biotechnology in feature.

CO 4: Students thoroughly exposed to modern approaches in classification, nutrition, cytology, cultivation, purification and preservation of microorganisms.

CO 5: Students gained knowledge on biotechnological principle like genetic recombination, Immunological science and vaccines.

SAC 124 - FUNDAMENTALS OF BIOCHEMISTRY (2+1)

COURSE OUTCOMES:

CO 1: Students gain knowledge about the biochemistry of amino acids, proteins, sugars, carbohydrates, and lipids.

CO 2: Students develop a conceptual understanding of different biochemical processes and metabolic pathways specific to plants

CO 3: Students learn about the various quantitative aspects of biochemistry including enzyme kinetics, protein ligand binding, analytical techniques, and bioenergetics.

GPB 125 INTRODUCTION TO AGRICULTURAL BOTANY (1+1)

COURSE OUTCOMES:

CO 1: The student will be able to characterize crops based on its anatomical Characters such as root, shoot, leaf venation etc.

CO 2: Will be able to classify the plant species based on its economic importance

CO 3: The student will be able to identify the family to which a particular crop belongs to.

CO 4: Botanical features and economic importance of different crop plants belonging to 20 families will be exposed.

AEC 126 - PRINCIPLES OF ECONOMICS (1+1)

COURSE OUTCOMES:

At the end of the course students will be able to

CO 1: Understand the important concepts on micro and macro economics.

CO 2: To know the principles of economics, concepts like GDP, GNP inflection.

CO 3: To acquire the practical exposure on application of economic principles related to agriculture.

CO 4: To work out the measurement of Human Development Index, welfare indicators.

AEX 127 FUNDAMENTALS OF RURAL SOCIOLOGY AND EDUCATIONAL PSYCHOLOGY (1+1)

COURSE OUTCOMES: At the end of the course students will be able to

CO 1: Understand basics concepts related to rural sociology and educational psychology.

CO 2: Gain expertise on practical applications of sociological and psychological concepts.

CO 3: Gain expertise on application of various psychological tests.

CO 4: Develop Leadership skills

COM 128 FUNDAMENTALS OF INFORMATION TECHNOLOGY (1+1)

COURSE OUTCOMES: At the end of the course students will be able to

Co1: Know the basic components of the computer and working of each device

Co2: Understand the representation of data in computer.

Co3: Know the fundamentals of Computer Networking and Database.

Co4: Performing common basic functions like editing, formatting, printing, scanning etc using tools.

AGR 210 - AGRONOMY OF FIELD CROPS - I (2+1)

COURSE OUTCOMES:

CO 1: To understand the importance of food grain requirement and cultivation of major cereal crops

CO 2: To gain knowledge about importance of minor millets and its cultivation practices

CO 3: To formulate legume based cropping system and production technologies for various pulse crops

CO 4: To construct idea regarding knowledge on growing of legume and perennial fodders and its preservation

CO 5: To create awareness about role of green manures in soil fertility

ENT 211 ECONOMIC ENTOMOLOGY AND INTRODUCTORY NEMATOLOGY (2+1)

COURSE OUTCOMES:

CO 1: Discuss bee morphology, biology, behaviour and describe apiary selection, bee pasturage and management of bee colony (Apiculture)

CO 2: Explain silkworm types, voltinism, biology and define mulberry cultivation, rearing techniques of silkworms and cocoon harvesting and processing of silk (Sericulture).

CO 3: Describe biology, strains and cultivation of lac and depict minor productive insects and their uses

CO 4: Compare and contrast predators and parasitoids, express other helpful insects, their uses . Discuss insects injurious to humans, farm animals and other house hold insects and their menace

CO 5: Explain basic morphology and anatomy of nematodes and describe biology of major plant parasitic nematodes

PAT 212 FUNDAMENTALS OF PLANT PATHOLOGY (2+1)

COURSE OUTCOMES:

- CO 1: Aware of basic principles of Plant Pathology, causes and importance of crop diseases
- CO 2: Having knowledge of pathogenesis and plant defense mechanisms
- CO 3: Having in depth knowledge of fungal kingdom Protozoa
- CO 4: Having in depth knowledge of Phylum Ascomycota and Basidiomycota
- CO 5: Knowing the general characters of bacteria, virus, virusoids, algae

SAC 213 FUNDAMENTALS OF SOIL SCIENCE (2+1)

COURSE OUTCOMES:

- CO 1: Students gain the knowledge origin of earth, weathering of rocks and minerals
- CO 2: Students learn to explain soil formation and different soil forming processes.
- CO 3: Students develop individual skills and ability to analysis the soil for Physical and Chemical properties.

GPB 214 PRINCIPLES OF GENETICS AND CYTOGENETICS (2+1)

COURSE OUTCOMES:

- CO 1: The student will have knowledge in the basic principles of inheritance
- CO 2: Will be able to understand the modern concepts of genetics
- CO 3: Will have the capacity to work out the various classical examples in genetics, crossing over and their interactions
- CO 4: The student will be able to carryout cytological analysis in breeding populations

HOR 215 BASIC HORTICULTURE AND PLANT PROPAGATION (2+ 1)

COURSE OUTCOMES

- CO 1: The student will be able to understand basis of plant propagation and nursery management techniques.
- CO 2: Can demonstrate advanced propagation methods of horticultural crops.

AEC 216 PRODUCTION ECONOMICS AND FARM MANAGEMENT (1+1)

COURSE OUTCOMES: At the end of the course students will be able to

- CO 1: Understand the concepts, nature and Scope of farm management
- CO 2: Know the importance of farm planning and budgeting.
- CO 3: Work out the cost of cultivation for different crops
- CO 4: Importance of farm records and accounts and farm business analysis

AEX 217 DIMENSIONS OF AGRICULTURAL EXTENSION (1+1)

COURSE OUTCOMES : At the end of the course students will be able to

- CO 1: Understand fundamentals of extension education.
- CO 2: Understand extension systems in India.
- CO 3: Gain expertise on various rural development programme.
- CO4: Expose on Extension activities of different organizations.

AHS 218 LIVESTOCK AND POULTRY MANAGEMENT (2+1)

COURSE OUTCOMES:

- CO 1: Basic managerial practices of different livestock enterprises such as cattle, sheep, goat, pig and poultry..
- CO 2: Clean milk production and its impact on the society.

CO 3: Modern rearing practices of sheep and goat for meat and milk production.
CO 4: Management practices of swine, broiler and layer farming for egg and meat production
CO 5: Integrated farming system (IFS) along with plantation and horticultural crops for income generation and entrepreneurship skill development.

AGR 220 AGRONOMY OF FIELD CROPS - II (2+1)

COURSE OUTCOMES:

CO1: To understand the importance of oil seed production and cultivation of major oil seed crops
CO2: To gain knowledge about importance of sugar crops and its cultivation practices
CO3: To formulate different cropping system and production technologies for various fibre crops
CO4: To construct idea regarding knowledge on growing of tuber crops
CO5: To create awareness about narcotics crops and its production technologies

AGR 221 – STUDY TOUR (0+1)

COURSE OUTCOMES :

CO 1: To gain knowledge about various soil types presented in different regions
CO 2: To formulate different cropping systems followed in various agro climatic regions
CO 3: To understand information pertaining to the different crops and their cultivation methods.
CO 4: To create awareness about different agro based industries
CO 5: To apply new post harvest management technologies and value addition of crops

ENT 222 INSECT ECOLOGY AND PRINCIPLES OF PEST MANAGEMENT (2+1)

COURSE OUTCOMES:

CO 1: Depict basic ecological concepts, understand the impact of ecology on the insect population and concepts of IPM, ETL and EIL. To employ AESA and pest survey as pest management decision making tools.
CO 2: Explain role of biological pest suppression and mass production of various biocontrol agents.
CO 3: Describe non chemical methods of pest management viz., bio rationals and other novel techniques like sterile insect method.
CO 4: Discuss classification and formulations of insecticides, their poisoning effects and antidotes.
CO 5: Describe ill effects of over use of insecticides and define various IPM modules for different crops.

AGM 223 SOIL AND APPLIED MICROBIOLOGY (2+1)

COURSE OUTCOMES

CO 1: The students would thoroughly understand about the role of microorganisms in soil and industries their influence on the plant growth and industrial production historical perspectives.
CO 2: The students exposed to soil microbial diversity, their functions in soil transformation of nutrient and humus formation.
CO 3: The students would expose to the beneficial and harmful relationships between soil microorganism and different parts of plants.
CO 4: The students gained hands on experience o production and quality control aspects of different microbial inoculants and to have self confidence to become successful entrepreneurship.
CO 5: Further, they would enriched on the industrial production of important products like fermentation products antibiotics, microbial foods, dairy products, etc.

SAC 224 SOIL RESOURCE INVENTORY AND PROBLEM SOILS (2+1)

COURSE OUTCOMES:

CO 1: Basic contents of soil survey and soil taxonomy would enhance competence and provide knowledge of soil present in all over the world.

CO 2: The modern tools (remote Sensing, GIS and GPS) used in soil survey in order to enhance in better understanding of land use planning of the soil.

CO 3: Understanding the physical, chemical constrains would enhance the knowledge of the soil and sustainable agriculture production.

CO 4: Sound knowledge about quality of irrigation and influence would increase the high land use to increase the agricultural production using poor quality irrigation water.

GPB 225 PRINCIPLES AND METHODS OF PLANT BREEDING (2+1)

COURSE OUTCOMES:

CO 1: The student will have the gist of the various self and cross pollinated crops.

CO 2: Will be able to develop expertise in the various crossing and emasculation techniques in various crops

CO 3: Students will develop the capacity to carry out independent plant breeding experiments

CO 4: The students will be able to multiply and modify the vegetatively propagated crops.

AEC 226 AGRICULTURAL MARKETING, TRADE AND PRICES (1+1)

COURSE OUTCOMES: At the end of the course students will be able to

CO 1: To understand the marketing channels of different commodities.

CO 2: To gain the practical knowledge of price spread and its implications.

CO 3: To know the role of marketing institutions and trade in agricultural products like WTO and APEDA.

CO 4: Gain practical knowledge on FCI, CWC and regulated market activities.

CO 5: Role of CACP for price fixation, and price stabilization measures.

STA 227 AGRICULTURAL STATISTICS (1+1)

COURSE OUTCOME

CO1: Understand fundamental concept of statistical applications in biology

CO2: Application of statistical concepts

CO3: Acquire theoretical concept of descriptive statistics, testing of hypothesis, correlation, regression and basic design of experiments.

CO4: Practical exposure to concept of descriptive statistics, testing of hypothesis, correlation and regression

CO5: Practical exposure to basic design of experiments

ENG 228 SOFT SKILLS OF EMPLOYABILITY (0+1)

COURSE OUTCOMES:

At the end of the course the students will be able to.

CO1: Understand the values of soft skills

CO2: Acquire various soft skills necessary for being good citizens as well as successful employees

CO3: Understand the difference between emotional intelligence and intelligence quotient

CO4: Shine as effective communicators and successful leaders

CO5: Face various kinds of interviews with courage and confidence

AEG 229 FARM POWER, MACHINERY AND RENEWABLE ENERGY (2+1)

COURSE OUTCOME The student can

CO1: Gain knowledge on the various types of IC engines, types and selection of tractors.

CO2: Understand the construction and working of various farm implements like tillage implements, seed drills, transplanter, plant protection and harvesting equipments.

CO3: Gain knowledge on the various renewable energy sources like solar, wind ,biogas and biomass energy.

CO4: Understand the construction and working of various solar energy gadgets, wind mill, bio gas plants and production of bio diesel and ethanol from agricultural produce.

AGR 310 CLIMATE CHANGE AND DISASTER MANAGEMENT (1+0)

COURSE OUTCOMES:

CO 1: To gain knowledge about causes of climate change and ways to mitigate it

CO 2: To construct different resource conservation and remediation measures

CO 3: To understand natural and manmade disasters.

CO 4: To apply various mitigation strategies in emergencies

CO 5: To formulate various disaster rehabilitation measures.

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GR 311 CROP PRODUCTION - I (0+1)

COURSE OUTCOMES

CO 1: To gain knowledge about cultivation aspects of rice

CO 2: To understand the different nursery management practices

CO 3: To apply different seed treatment methods for rice

CO 4: To evaluate different methods of planting techniques

CO 5: To construct methodologies in harvesting and processing

ENT 312 PESTS OF CROPS, STORED PRODUCTS AND THEIR MANAGEMENT (2+1)

COURSE OUTCOMES:

CO 1: Define bionomics, symptoms of damage and integrated management strategies for pests of cereals, millets and pulses

CO 2: Discuss bionomics, symptoms of damage and integrated management strategies for pests of Oilseeds, Cotton, Sugarcane, Green Manures, Forage Crops and Tobacco

CO 3: Explain bionomics, symptoms of damage and integrated management strategies for pests of Vegetables, Tubers, Spices and Plantations

CO 4: Define bionomics, symptoms of damage and integrated management strategies for pests of Fruits, Ornamentals and Medicinal Plants

CO 5: Discuss bionomics, symptoms of damage and integrated management strategies for pests of Tree, Lawn, Stored Products, Mushroom and green house crops

PAT 313 PRINCIPLES OF PLANT DISEASE MANAGEMENT (1+1)

COURSE OUTCOMES:

CO 1: Having knowledge of classification, disease surveillance and Molecular detection of plant pathogens

CO 2: Having knowledge of general Principles and legislative method of plant disease management

CO 3: Trained in eradicating disease causing pathogen and Expertise in protection the host from disease causing pathogen

CO 4: Aware of Biotechnological approaches for crop disease management.

CO 5: Knowing about biological control of plant diseases

AGM 314 ENVIRONMENTAL SCIENCE (2+1)

COURSE OUTCOMES:

CO 1: The students gained basic understanding of different ecosystem concepts, energy flow, food web and interactions.

CO 2: The students gained knowledge on the natural resources like renewable and non-renewable, Biodiversity concept etc.

CO 3: The students would expose to different types of pollutions and their impact on environment and agriculture.

CO 4: The students gained knowledge o management of different types of solid wastes and waste waters.

CO 5: The students would be exposed to the laws ad acts in forest with respect to environment.

SAC 315 SOIL FERTILITY, FERTILIZERS AND MANURES (2+1)

COURSE OUTCOMES:

CO 1: Students gain a basic knowledge on essential nutrients.

CO 2: Students familiarize with source, forms, mobility, transformation, fixation, losses and availability of macro and micro nutrients.

CO 3: Students acquire themselves with knowledge on manufacturing of fertilizers at industry level.

CO 4: Students acquired practical knowledge on precision farming and organic farming.

CO 5: Students may be visit fertilizer mixing unit.

GPB 316 PLANT BIOTECHNOLOGY (2+1)

COURSE OUTCOMES:

CO 1: The student will have knowledge in the basic biotechnological techniques

CO 2: The students will be able to do the various sterilization methods

CO 3: Will be able to dissect the mother plant or explants for initiation of tissue culture

CO 4: The students will be familiarised with the development of pathogen and virus free plants

CO 5: Will be able to do basic research involving DNA and marker based technology

HOR 317 PRODUCTION TECHNOLOGY OF FRUITS AND PLANTATION CROPS (2+1)

COURSE OUTCOMES:

CO 1: Can acquire knowledge on the cultivation aspects of plantation crops, spices and condiments.

CO 2: Can demonstrate important production techniques and diagnose problems in cultivation of plantation.

AEC 318 AGRIBUSINESS MANAGEMENT AND ENTREPRENEURSHIP (1+1)

COURSE OUTCOMES:

At the end of the course students will be able to

CO 1: To understand the opportunities in agribusiness sectors

CO 2: To understand the marketing mix, and supply chain management in agribusiness.

CO 3: To know the management functions and how to prepare agribusiness project.

AEG 319 FUNDAMENTALS OF SOIL AND WATER CONSERVATION ENGINEERING (2+1)

COURSE OUTCOME

CO1: Student can under gain understanding on basics of soil and water conservation engineering to the undergraduate students

CO2: Can able to define irrigation system and drainage facility for agricultural land

AGR 320: FARMING SYSTEM, ORGANIC AGRICULTURE, AGROFORESTRY AND DRY FARMING (3+1)

COURSE OUTCOMES:

CO 1: To gain the information and acquire practical knowledge on various types of cropping systems.

CO 2: To understand interaction between different farm enterprises and to gain the information about the impact of organic farming and indigenous practices

CO 3: To understand the procedure followed for organic certification as per NPOP guidelines and to evaluate different resource management techniques in conservation agriculture.

CO 4: To gain the information about forestry and their role on the environment and practicing silviculture.

CO 5: To know about integrated dry farming technologies and Watershed management.

AGR 321 CROP PRODUCTION- II (0+1)

COURSE OUTCOMES:

CO 1: To acquire skill in various agronomic practices that can bring improved crop yield.

CO 2: To gain hands on experience on cultivation of crops individually.

CO 3: To understand the different sowing methods for garden land crops

CO 4: To apply different seed treatment techniques

CO 5: To evaluate different harvesting methods and processing

AGR 322: POST HARVEST TECHNOLOGY AND VALUE ADDITION OF FIELD CROPS (2+0)

COURSE OUTCOMES

CO1: Understand the basics of post harvest losses in agriculture.

CO2: Understand the threshing, cleaning and grading of processing.

CO3: Understand Technologies for Shelling, drying and storage of processed foods.

CO 4: Acquire the knowledge on Cereals, pulses and oilseed processing

CO5: Understand the Value addition, byproducts and utilization of products

PAT 323 DISEASES OF FIELD AND HORTICULTURAL CROPS AND THEIR MANAGEMENT (3+1)

COURSE OUTCOMES:

CO 1: To acquire the knowledge on about new emerging diseases of Cereals and pulses

CO 2: Having expertise in identifying and managing diseases in Oil Seeds and Cash Crops

CO 3: Having expertise in identifying and managing diseases in fruits & flower crops

CO 4: Having expertise in identifying and managing diseases in vegetables crops

CO 5: Trained in identifying and managing disease of Plantation crops, spices and condiments & medicinal plants

SAC 324 CROPS AND PESTICIDE CHEMISTRY AND NANOTECHNOLOGY (2+1)

COURSE OUTCOMES

CO 1: Students thoroughly understand the chemistry of agricultural crops.

CO 2: Students gain a comprehensive knowledge of the chemistry of horticultural crops, alkaloids and essential oils.

CO 3: Students gain skills in handling of insecticides and their mode of action.

CO 4: Students have an insight on the fungicides, herbicides and their classification, properties and mode of action

CO5: Acquire information about synthesis of nonmaterial and applications of nanotechnology in agriculture

GPB 325 BREEDING OF FIELD AND HORTICULTURAL CROPS (2+1)

COURSE OUTCOMES:

CO 1: The students will be able to identify putative parents and wild relatives

CO 2: Will be able to differentiate the crops based on its floral biology

CO 3: The students will be in a position to identify and understand the methodologies employed for self, cross and vegetative propagated crops

CO 4: The students will have enchanted knowledge in the current trends in plant breeding

HOR 326 PRODUCTION TECHNOLOGY OF VEGETABLES, SPICES, FLOWERS AND LANDSCAPE GARDENING (3+1)

COURSE OUTCOMES:

CO 1: Students will be able to understand the protection technology of horticultural crops, its advances and precision horticulture.

CO 2: The student will gain skill in managing precision horticulture units.

CO 3: Acquire information about the gardening and landscaping in urban and semiurban areas.

AEC 327 AGRICULTURAL FINANCE, BANKING AND CO-OPERATION (1+1)

COURSE OUTCOMES:

CO1: To understand the functions of various institutions involved in farm financing.

CO 2: To know the principles of credit, 5c's, 3R's and time value of money.

CO 3: To gain on knowledge on microfinance, role of SHG's, NGO.

CO 4: To understand risk mitigating measures like agricultural insurance schemes available for the benefits of famers.

AEX 328 EXTENSION METHODOLOGIES AND TRANSFER OF AGRICULTURAL TECHNOLOGY (1+1)

COURSE OUTCOMES:

At the end of the course students will be able to

CO 1: Understand extension methods and approaches used for transfer of agricultural technology.

CO 2: Understand various models of communication and communication barriers.

CO 3: Gain expertise on e-Extension and Agricultural journalism

CO 4: Prepare and use of different extension teaching methods.

GPB 329 PRINCIPLES OF SEED PRODUCTION, SEED QUALITY REGULATION AND STORAGE (2+1)

COURSE OUTCOMES:

CO 1: Acquire knowledge on Seed quality characteristics, significance and Genetic and agronomic principles of seed production

CO 2: Understand the Seed production techniques of Agricultural and Horticultural crops Post harvest seed handling techniques

CO 3: Understand the Seed Legislation and certification procedures and Seed quality testing, Storage and Marketing

OPC AGR 001: INDIGENOUS TECHNOLOGY IN AGRICULTURAL PRODUCTION (1+1)

COURSE OUTCOMES

CO1: To execute the concepts, need and importance of indigenous knowledge in agriculture

CO2: To learn indigenous knowledge in predicting rainfall, crop production techniques, pest and disease management

CO3: To analyse situations to blend indigenous knowledge with modern technologies in farming

CO4: To develop sustainable indigenous farming practices with modern technologies

CO5: To improvise technology for seed treatment, storage of food grains recycling of agricultural wastes

OPC ENT 001: INDUSTRIAL ENTOMOLOGY (1+1)**COURSE OUTCOMES:**

- CO 1: Development of Apiary and practice bee keeping
- CO 2: Practice silk worm rearing and marketing
- CO 3: Formulate biopesticides and marketing
- CO 4: Importance of household pest control and using various related techniques
- CO 5: Understand various techniques for insect farming.

OPC PAT 001 EMERGING TRENDS IN PLANT DISEASE MANAGEMENT (1+1)**COURSE OUTCOMES**

- CO 1: Understand the conventional methods in Plant Disease Management
- CO 2: Practice the use of new molecules of fungicides and their action on diseases management.
- CO 3: Developed the skill on molecular techniques in plant disease management
- CO 4: Understand the biological and botanical methods and their utilization in plant disease management

OPC AGM 001 ADVANCED MICROBIAL BIOTECHNOLOGY (1+1)**COURSE OUTCOMES:**

- CO 1: Students gained knowledge on the basic and applied aspects of Fermentor design and operation
- CO 2: Students gained knowledge on the historical developments and microbial inoculants
- CO 3: Students exposed to practical hands on experience in the basic skills employed in microbiological laboratories, food and dairy products
- CO 4: Students thoroughly exposed to modern approaches in bioremediation
- CO 5: Students gained knowledge on biodegradable plastic and superbugs.

OPC SAC 001- FARM ADVISORY ON SOIL HEALTH, WATER QUALITY AND PLANT NUTRITION (1+1)**COURSE OUTCOMES:**

- CO 1: Understand the Physical, Chemical and Biological constraints in soil
- CO 2: Diagnosed the Irrigation water quality appraisal and its management
- CO 3: Practice the diagnostic techniques for nutrient disorders and nutrient recommendations for reclamation of soil
- CO 4: Identify the Soil and water pollution and its management

OPC GPB 001 PLANT TISSUE CULTURE (1+1)**COURSE OUTCOMES:**

- CO 1: The students will be able to prepare and sterilize growing medium
- CO 2: Will be able to handle sterile transfer chamber and equipment
- CO 3: Will be able to excise explants and transfer of plant material to tissue culture medium
- CO 4: The students will have the ability to do independent tissue culture experiments by testing different growth parameters invitro

OPC HOR 001 SUPPLY CHAIN MANAGEMENT, PROCESSING AND VALUE ADDITION IN HORTICULTURAL CROPS (1+1)**COURSE OUTCOMES**

- CO1: Students will able to understand the post harvest technology aspects, handling methods, storage methods, packaging and preservation.
- CO 2: Will gain skill in doing post harvest operations pertaining to Horticultural products.
- CO 3: Will become cable to work in post harvest industries

OPC AEC 001: AGRICULTURAL PROJECT MANAGEMENT (1+1)

COURSE OUTCOMES:

At the end of the course students will be able to

CO 1: Understand nature and scope of financial management in agribusiness.

CO 2: Identify the tools for credit, repayment and down payments.

CO 3: Do the appraisal of projects by measurement of costs benefits and sensitivity analysis.

OPC- AEX 001 ADVERTISING TECHNOLOGIES (1+1)

COURSE OUTCOMES:

At the end of the course students will be able to

CO1: Understand the concepts social, economic, ethical and legal issues in advertising.

CO2: Evaluate the types and trends in advertising

CO3: Understand the media planning and copy righting.

CO4: Practice the designing techniques in advertising

OPC- AHS 001 - GOAT REARING AND MANAGEMENT (1+1)

COURSE OUTCOMES:

At the end of the course students will be able to

CO 1: Understand the importance of goat farming.

CO 2: Identify the different types of goat breeds and its breeding management

CO 3: Understand the Housing management- and caring of goats

CO 4: Acquire knowledge on nutritional requirements and disease management in goats.

STUDENT READY COMPONENT 1 - RURAL AGRICULTURAL WORK EXPERIENCE (0+20)

COURSE OUTCOMES:

At the end of the course students will be able to

CO 1: Understand rural situation, institutions and organizations.

CO 2: Understand customs and value systems of the villagers.

CO 3: Familiarize with cropping pattern and extend of adoption agricultural practices

CO 4: Undertake field visits and agricultural demonstrations.

RAWE AGR 411 Agronomical Interventions (0 + 3)

COURSE OUTCOMES:

CO 1: To gain knowledge on the crop growth and yield of the crops grown by the contact farmer

CO 2: To formulate different cropping systems according to the various agro eco system.

CO 3: To understand information pertaining to the different crops and their cultivation methods.

CO 4: To formulate recommendation practices for the major crops grown in their village.

CO 5: To analyse the various indigenous technologies practiced by farmers

RAWE HOR-412 Horticultural Interventions (0 + 2)

COURSE OUTCOMES:

CO1: Student will learn basic field knowledge and practical problems in production of horticultural crops

CO2: Can know to prepare calender of operation for all horticultural crops

CO3: Can elgible manage horticultural farm

RAWE CPT-413 Crop Protection Interventions (Entomology and Plant Pathology) (0 + 4)

COURSE OUTCOMES:

CO 1: Illustrate identification of pest problems in farmers' fields

CO 2: Analyse various pest management practices practiced by farmers

CO 3: Demonstrate practical applications of pest management techniques learnt

CO 4: Manage real field situations in pest management scenarios

AEX 414 -ALL INDIA TOUR (0+1)**COURSE OUTCOMES:**

At the end of the course students will be able to

CO 1: Understand the functioning of important national institutes related to agriculture

CO 2: Understand the functioning of important national institutes related to allied fields.

CO 3: Get exposure on various agro climatic zones and their features.

STUDENT READY COMPONENT 2 – AIA AEC 415 Agro Industrial Attachment (0 + 6)**COURSE OUTCOMES:**

At the end of the course students will be able to

CO 1: Have practical knowledge on different agro-based industries situated in and around the neighboring districts

CO 2: Start own business and become an entrepreneur

CO 3: Prepare project report

STUDENT READY COMPONENT 3 – EXPERIENTIAL LEARNING/SKILL DEVELOPMENT (0+20)**COURSE OUTCOMES:**

CO1: Student can gain basic knowledge on preparation of certain liquid organic formulations

CO2: Can gain skills on scientific procedures

CO3: Will become capable of doing marketing of products.

EXP AGR 422 SEED PRODUCTION OF LEGUMES / GREEN MANURE / FODDER (0+10)**COURSE OUTCOMES**

CO1: Acquire knowledge on production of seeds of legumes and fodders

CO2: Develop skills on scientific principles of seed production

CO3: Trained to marketing of produced seeds.

EXP ENT 421 BIO PESTICIDES AND BIOCONTROL AGENTS PRODUCTION TECHNOLOGY (0+10)**COURSE OUTCOMES**

CO1: Acquire knowledge on production of biopesticides

CO2: Develop skills on bioagents production

CO3: Trained to market of produced biopesticides and biocontrol agents.

EXP ENT 422 COMMERCIAL APICULTURE (0+10)**COURSE OUTCOMES**

CO1: Acquire knowledge on bee keeping

CO2: Practice bee keeping and handling of bees at Apiary.

CO3: Packing and Marketing of honey

EXP ENT 423 COMMERCIAL SERICULTURE (0+10)

COURSE OUTCOMES

CO1: Acquire knowledge on rearing of chawki and late age worms and also mulberry cultivation

CO2: Develop skills on silkworm rearing techniques

CO3: Practice training to market the cocoons.

EXP PAT 421 MUSHROOM CULTURE (0+10)**COURSE OUTCOMES**

CO1: Practice the production of mushrooms

CO2: Develop skills on handling and creation of infrastructure

CO3: Trained to plan mushroom business and marketing

EXP PAT 422 BIOLOGICAL CONTROL OF PLANT DISEASES (0+10)**COURSE OUTCOMES**

CO1: Practice the production of *Trichoderma*

CO2: Improve the skills on development of formulations

CO3: Trained to sale the produced material commercially

EXP AGM 421 MICROBIAL INOCULANTS PRODUCTION AND QUALITY CONTROL (0+10)**COURSE OUTCOMES**

CO1: Understand the Isolation and screening of inoculants.

CO2: Enhancing the skills on development of mass production of Bacterial inoculants, Mycorrhizal and algal inoculants

CO3: Trained identify the quality and to sale the inoculants.

EXP AGM 422 COMPOSTING TECHNOLOGIES FOR SUSTAINABLE AGRICULTURE (0+10)**COURSE OUTCOMES**

CO1: Understand the Aerobic and Anaerobic method of composting

CO2: Enhancing the skills on estimation of microbial load and assessment of maturity of compost by physical and chemical tests.

CO3: Acquire skills on value addition of compost.

EXP SAC 421 HANDS ON TRAINING FOR SOIL, WATER AND PLANT ANALYSIS (0+10)**COURSE OUTCOMES:**

CO1: Improve the knowledge on the recent methods adopted in the analysis of soil, water and plants

CO2: Able to interpret the soil and plant analysis data and to give suitable fertilizer recommendation to the farmers.

EXP SAC 422 HANDS ON TRAINING ON SOIL CONSTRAINTS AND ITS MANAGEMENT FOR SUSTAINABLE CROP PRODUCTIVITY (0+10)**COURSE OUTCOMES:**

CO1: Understand the physical and chemical constraint in soil.

CO2: Improve the skills on the use of field (visual) and laboratory (soil test) and modern tools like satellite imageries and aerial photograph

CO3: Acquire skills on agronomic and integrated soil fertility management for higher crop productivity.

EXP GPB 421 COMMERCIAL SEED PRODUCTION IN VEGETABLE CROPS (0+10)**COURSE OUTCOMES**

CO1: Able to produce vegetable seeds on their own.

CO2: Improve the skills on the use latest techniques in seed production.

CO3: Acquire skills on packing and marketing to farmers and other needy people.

EXP GPB 422 SEED PRODUCTION TECHNIQUES IN FIELD CROPS (0+10)

COURSE OUTCOMES

CO1: Learnt about Hybrid seed production in rice, maize and other field crops.

CO2: Develop the skills on the problems in hybrid seed production and their commercial marketability.

CO-PO MAPPING MATRIX

EXP HOR 421 ORGANIC VEGETABLE PRODUCTION (0+10)

COURSE OUTCOMES

CO1: Student can gain basic knowledge on organic farming techniques

CO2: Can gain skills required to manage organic farms

CO3: Will become capable of managing organic farming and certification process.

EXP HOR 422 COMMERCIAL HORTICULTURAL NURSERY (0+10)

COURSE OUTCOMES

CO1: Students can gain knowledge on establishment and management of a commercial nursery

CO2: Can practice skills in various propagation methods and care of nursery plants and skillful in managing nursery business

EXP HOR 423 COMMERCIAL LANDSCAPING (0+10)

COURSE OUTCOMES

CO1: Student can gain hands experience in landscape designing and execution

CO2: Can gain entrepreneurial skills required to do landscape projects

CO3: will become capable of managing landscape projects and company

EXP HOR 424 PROCESSING AND VALUE ADDITION OF HORTICULTURAL CROPS (0+10)

COURSE OUTCOMES

CO1: Student can gain basic knowledge on value added products

CO2: Can gain skills required to manage processing units

CO3: Will become capable of doing value addition works in horticultural products.

EXP AEC 421 MARKETING SKILLS FOR AGRI PROFESSIONALS (0+10)

COURSE OUTCOMES

CO1: Students can design and forecast the market strategy

CO2: Acquire skills on distribution network and market planning process

CO3: Develop the capacity to new product development and marketing.

EXP AEC 422 MANAGERIAL SKILLS FOR AGRIPRENEURS (0+10)

COURSE OUTCOMES

CO1: Improve skills on supply chain management

CO2: Knowledge development on marketing mix and brand management

CO3: Develop the customer relationship management.

EXP AEX 421 EXTENSION AND COMMUNICATION SKILLS (0+10)

COURSE OUTCOMES

CO 1: Students can gain knowledge on 'transfer of technologies skills'

CO 2: Develop 'media skills' with mass media

CO 3: Improve programme planning and execution skills' with the NGOs, and 'marketing skills' with input dealers

CO 4: Acquaint with 'agricultural finance skills' with credit institutions.

EXP AEX 422 TRANSFORMATION THROUGH EXTENSION PROGRAMME PLANNING (0+10)

COURSE OUTCOMES

CO 1: Practicing various techniques of Participatory Rural Appraisal

CO 2: Develop programme objectives and selection of problems

CO 3: Developing plan of work and calendar of operations, executing the plan of work

EXP AHS 421 BROILER PRODUCTION (0+10)

COURSE OUTCOMES

CO 1: Practicing various techniques of scientific rearing of the broiler

CO 2: Develop management of brood, litter and feeding etc.,

CO 3: Understand the farm economics and marketing of broiler

EXP AHS 422 JAPANESE QUAIL PRODUCTION (0+10)

COURSE OUTCOMES

CO 1: Practicing various techniques of scientific rearing of Japanese quail

CO 2: Develop management of brood, litter and feeding etc.,

CO 3: Understand the farm economics and marketing of Quil

EXP AHS 423 TECHNOLOGY OF VALUE-ADDED MILK PRODUCTS (0+10)

COURSE OUTCOMES

CO 1: Understand the various existing technologies in Dairy Products

CO 2: Acquire the techniques in the Preparation of fat rich Dairy products

CO 3: Preparation of Ice cream- Marketing of Dairy products.