

Program Name **Bachelor of Science (Hons) in Agriculture**

Course Name **Introductory Biology**

Course Code **AG3101**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be learning how life has originated and evolved.	2	Emp
CO2	Students will be learning on classification of living things.	2	Emp
CO3	Students will be gaining knowledge on how a cell looks like and how do they divide.	3	S
CO4	Students will be learning about seed germination and flowering plants.	3	Ent
CO5	Students will be learning about plant systematic and animals in agriculture..	2	Emp

Course Name **Elementary Mathematics**

Course Code **MA3103**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will able to use the binomial theorem to solve the algebraic problems	3	Emp
CO2	Students will able to use logarithm in mathematical calculations	3	S
CO3	Students will understand the concept of limits	2	Emp
CO4	Students will able to use basics rule of differentiation	2	Emp
CO5	Students will able to find derivative of implicit functions	2	Emp

Course Name **Agricultural Heritage**

Course Code **AG3102**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be introduced with the basic knowledge about the agricultural and its different components	2	Emp
CO2	Students will be able to know about plant protection and its managements	2	Emp
CO3	Students will be able to know about the concepts of modern agriculture	3	Emp
CO4	Student will gain knowledge about the current scenario of Indian agriculture	2	Emp

CO5	Students will be aware of indigenous traditional knowledge in agriculture	2	Emp
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Course Name **English Communication**
Course Code **EG3103**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to discuss the concept of communication skills	2	Emp
CO2	Students will be able to increase self awareness about English language.	2	Emp
CO3	Students will be able to develop public speaking abilities.	3	Emp
CO4	Students will be able to present each and everything in correct manner.	3	Emp
CO5	Students will be able to discuss the concept of barriers to communication.	3	Emp

Course Name **Introduction to Forestry**
Course Code **AG3104**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	To impart knowledge on concepts and principles Indian Forest and Indian Forest Policies	3	Emp, S
CO2	Students will learn different methods of forest regeneration	3	Emp, S, Ent
CO3	Students will gain Knowledge about different silvicultural practices and their effect on tree growth.	3	Emp
CO4	Students will learn the principles and working of tools and equipments used in forestry.	3	Emp, S, Ent
CO5	Students will learn about importance of Agroforestry and different agroforestry system.	3	Emp, S

Course Name **Fundamentals of Agronomy**
Course Code **AG3106**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will understand meaning and scope of Agronomy and classification of Crops.	2	Emp
CO2	Students will learn about general principles of crop production, crop density and geometry.	2	Emp

CO3	Students will gain knowledge about nutrient management, irrigation methods and management.	2	Emp
CO4	Students will able to understand weed and herbicide classification, weed management principles and methods.	2	Emp
CO5	Students will learn about growth and development of crops, ideotypes, crop rotation, adaptation and distribution of crops and crop management in problematic areas.	2	Emp

Course Name **Fundamentals of Soil Science**
Course Code **AG3107**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about pedological and edaphological concepts of soil; Soil genesis: soil forming rocks and minerals; weathering, soil Profile, components of soil	3	Emp, S
CO2	Students will learn soil physical properties & soil taxonomy classification, soil water retention, movement and availability	3	Emp, S, Ent
CO3	Students will learn about soil chemical properties & soil colloids, ion exchange, cation exchange capacity and base saturation	3	Emp
CO4	Students will learn about Soil organic matter, humic substances, soil organisms, macro and micro organisms, their beneficial and harmful effects	3	Emp, S, Ent
CO5	The students will gain knowledge on soil pollution, behaviour of pesticides and inorganic contaminants, prevention and mitigation of soil pollution	3	Emp, S

Course Name **Rural Sociology and Educational Psychology**
Course Code **AG3109**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain the skills required for entrepreneurship development among the students for self-employment	2	Emp,S
CO2	Imparting managerial training among the young students to build entrepreneurial skills	3	Emp,Ent
CO3	Imparting skills necessary to prepare a model village Plan	3	Emp, S
CO4	Students will be gaining knowledge on learning techniques for establishing and managing micro project for the upliftment of rural people	3	Emp, Ent

CO5	Students will gain knowledge on preparation of detailed project report (DPR) for availing loans and grants	3	Emp, Ent
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Course Name **Fundamentals of Horticulture**

Course Code **AG3110**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be introduced with the basic knowledge about the Horticultural and its different components	2	Emp, S
CO2	Students will be able to know about the management of Plant propagation and its managements	3	Emp, S, Ent
CO3	Students will be able to know about the concepts of micro irrigation and horticulture crops	3	Emp
CO4	Student will gain knowledge about the components of precision farming	3	Emp, S, Ent
CO5	Students will be aware of the remote sensing and Geographical Information System	3	Emp, S

Course Name **Fundamentals of Plant Biochemistry and Biotechnology**

Course Code **AG3111**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students would learn about buffer preparation, classification, structures and function of carbohydrates, lipids, fatty acids and importance of Biochemistry	2	Emp
CO2	Students would learn the classification of amino acids, proteins, enzymes, structural organization of proteins, mechanism of enzyme action and allosteric enzymes	2	Emp
CO3	Students will gain knowledge about DNA and RNA, carbohydrate metabolism, lipid metabolism, and CO ₂ fixation	2	Emp
CO4	Students will understand about the different culture method useful to understand the micropropagation, organogenesis, synthetic seed and its significance	3	Emp, S, Ent
CO5	Students will gain knowledge about cryo-preservation, rDNA technology, gene transfer methods, PCR, molecular markers, MAS and transgenics	3	Emp, S, Ent

Course Name **Introductory Biology Lab**
Course Code **AG3140**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Students will learn about morphology of flowering plants	2	Emp
CO2	Students will learn about the root, stem and leaf structures and their modifications.	2	Emp
CO3	Students will learn about Inflorescence, flower and fruits.	2	Emp
CO4	Students will learn about cell and tissues and cell division	2	Emp
CO5	Students will learn about preparation of slides	3	Emp

Course Name **Fundamentals of Agronomy Lab**
Course Code **AG3141**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Students will be able to identify seeds, crops, fertilizers, pesticides and weeds	3	Emp, S, Ent
CO2	Students would learn about fertilizer application, seed viability, yield contributing characters and yield estimation	3	Emp, S, Ent
CO3	Students will learn about tillage implements	3	Emp, S, Ent
CO4	Students will be able to learn about soil moisture measuring devices and process.	3	Emp, S, Ent
CO5	Students will learn to calculate fertilizer requirement, plant population, herbicides and water requirement.	3	Emp, S, Ent

Course Name **English communication Lab**
Course Code **EG3141**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Students will be able to develop public speaking abilities.	3	Emp, Ent
CO2	Students would learn Listening comprehension exercises	2	Emp
CO3	Students will be able to speak up over each & every topic.	3	Emp, Ent
CO4	Students will be able to increase self-awareness about English language.	2	Emp



CO5	Students will learn professional communication.	3	Emp, Ent
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Course Name **Fundamentals of Soil Science Lab**

Course Code **AG 3142**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will acquaint with different soil sampling tools and soil sampling method	3	Emp, S
CO2	Students will learn to study the soil profile, soil forming rocks and minerals	3	Emp, S, Ent
CO3	Students will learn to determine soil density, moisture content and porosity	3	Emp
CO4	Students will learn to determine soil texture, soil pH and EC	3	Emp, S, Ent
CO5	Students will learn to estimate the organic matter content of soil	3	Emp, S

Course Name **Introduction to Forestry Lab**

Course Code **AG3143**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain knowledge on the Forest and Forest Policies in India	3	Emp, S
CO2	It will provide Hands on training using tools and equipments in forestry	3	Emp, S, Ent
CO3	Students will exposed to various forest based industries	3	Emp
CO4	Students will learn about forest menstruation appropriate tools and techniques and its management objectives	3	Emp, S, Ent
CO5	Students will know, understand, and articulate essential principles of sustainable forestry	3	Emp, S

Course Name **Fundamentals of Horticulture Lab**

Course Code **AG3144**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain knowledge on the fundamentals of horticulture.	3	Emp, S
CO2	It will provide hands on training on various sexual and asexual methods of propagation	3	Emp, S, Ent



CO3	Students will learn about layout and planting of orchard	3	Emp
CO4	Students will learn about important cultural practices for major fruit and plantation crops.	3	Emp, S, Ent
CO5	Students will raise the nurseries of different vegetable crops for commercial purpose.	3	Emp, S

Fundamentals of Plant Biochemistry and Biotechnology

Course Name **Lab**
Course Code **AG3145**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about preparation of solutions, buffer, qualitative tests of carbohydrates and amino acids	2	Emp
CO2	Students will learn about quantitative estimation of glucose/proteins and titration methods for estimation of amino acids/lipids	3	Emp, S, Ent
CO3	Students would learn preparation of stock solutions for MS nutrient medium	3	Emp, S, Ent
CO4	Students would learn callus induction from various explants	3	Emp, S, Ent
CO5	Students would learn about basic steps of DNA isolation, gel electrophoresis techniques and DNA finger printing	3	Emp, S, Ent

Course Name **Human Values & Ethics**
Course Code **PS3101**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Identify and analyze an ethical issue in the Course matter under investigation or in a relevant field	2	Emp
CO2	Identify the multiple ethical interests at stake in a real-world situation or practice	2	Emp
CO3	Articulate what makes a particular course of action ethically defensible	3	Emp
CO4	Assess their own ethical values and the social context of problems	3	Emp
CO5	Identify ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human	3	Emp

Course Name **Fundamentals of Agricultural Economics**
Course Code **AG3203**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to understand the concepts, scope and importance of Agricultural economics	2	Emp,
CO2	Students will understand the framework about consumer behavior, producer behavior and analyzing consumer-producer decisions.	2	Emp, S
CO3	Students will understand the role-played by cost and revenue in long run and short run-in different market structure and thus direct firms and industries for minimization of cost and maximization of revenue.	3	Emp, S
CO4	Students will be able to understand macroeconomic concepts like National economy, population, money, inflation and deflation.	3	Emp, S
CO5	Students will understand the banking system and credit policies and practices	3	Emp, S

Course Name **Fundamentals of Plant Pathology**
Course Code **AG3204**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will get knowledge about different pathogenic organism and symptoms of disease caused by them	3	Emp, S
CO2	Fungi as a pathogen and diseases caused by them in plants	3	Emp, S, Ent
CO3	Bacteria as a pathogen and diseases caused by them in plants	3	Emp
CO4	Virus as a pathogen and diseases caused by them in plants	3	Emp, S, Ent
CO5	Nematode as a pathogen and diseases caused by them in plants	3	Emp, S

Course Name **Soil and Water Conservation Engineering**
Course Code **AG3205**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about Soil erosion - causes and types, agents, factors affecting soil erosion	2	Emp
CO2	Students will learn about parameters to measure soil erosion	2	Emp

CO3	Engineering structures to control soil erosion	3	Emp, S
CO4	Students would learn about principles of gully control - vegetative measures, temporary structures and diversion drains, Grassed waterways and design.	3	Emp, Ent
CO5	Students will learn the effect of wind on soil erosion.	2	Emp

Course Name **Agricultural Microbiology**

Course Code **AG3206**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain the knowledge on basics and importance of Microbiology, characterization of microbes along with microbial structure	2	Emp
CO2	Students will understand the structure and function of various organelles in microbes with their nature of gene transfer	3	Emp
CO3	Students will understand about the biogeochemical cycles of carbon, nitrogen, phosphorus, and Sulphur, and the influence of human activities	2	Emp
CO4	Students will be able to understand the beneficial effects of interactions of microbes and plants and mechanism of biological nitrogen fixation.	3	Emp, Ent
CO5	Students will be able to understand the applications of microbes in human welfare for sustainability	3	Emp, Ent

Course Name **Fundamentals of Agricultural Extension Education**

Course Code **AG3207**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will understand that how an extension personal acts as bridge between farmer and scientists	2	Emp
CO2	Students will gain Knowledge about different pre independence and post-independence programmes	2	Emp
CO3	Students will learn about evaluation and new trends in Agriculture extension	3	Emp, Ent
CO4	Students will understand about different steps taken by agricultural scientists to raise the agriculture sector	3	Emp, Ent
CO5	Students will learn about monitoring, evaluation of extension program, concept of transfer of technology and capacity building of extension personnel	3	Emp, Ent

Course Name **Fundamentals of Crop Physiology**

Course Code **AG3208**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	By the end of this course students will be able to learn about different cell organelles in plant	2	Emp
CO2	By the end of this course students will be able to enhance photosynthetic efficiency of their crops	3	Emp
CO3	By the end of this course students will be able to understand internal processes of plants.	2	Emp
CO4	By the end of this course students will be able to describe and distinguish role of hormones in plants	3	Emp
CO5	By the end of this course students will be able to distinguish different plants on the basis of their appearance & about their physiological activity	2	Emp

Course Name **Fundamentals of Entomology**

Course Code **AG3209**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to know about the background and history of entomology in India and will also be aware about the relationship of insects with other arthropods.	2	Emp
CO2	Students will be able to know about the external morphology, physiology and anatomy of insects	2	Emp
CO3	Students will gain knowledge about the different methods of pest control and use of chemicals in the prevention of insects.	3	Emp, S, Ent
CO4	Students will understand about the use of systematicin insect class and also learn some important order of insect class.	2	Emp
CO5	Students will learn about the practical methods of preservation of insects, sampling techniques and using of appliances in prevention of pests.	3	Emp, S, Ent

Course Name **Fundamentals of Genetics**

Course Code **AG3213**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
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CO1	Students will understand Pre and Post Mendelian theories, Mendel's law of heredity and calculation of Chi-Square test.	2	Emp
CO2	Students will gain the knowledge about chromosome structure, special types of chromosomes and different types of cell division.	2	Emp
CO3	Students will get knowledge about different gene interactions, sex determination, sex linkage, theory of linkage, crossing over and multiple alleles.	3	Emp
CO4	Student will get knowledge about qualitative and quantitative inheritance, cytoplasmic inheritance, chromosome aberrations, polyploidy & mutation.	3	Emp
CO5	Students will learn about the DNA structure, DNA replication, nature of genetic material, gene structure, gene regulation, gene expression & protein synthesis.	2	Emp

Course Name **Agricultural Microbiology Lab**
Course Code **AG3240**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to identify microbes from various sources	2	Emp,S
CO2	Students will be able to visualize and isolate microbes from various sources.	2	Emp,S
CO3	Students are exposed to various laboratory equipment's which might help them for its better applications in near future.	3	Emp, S
CO4	Student will learn plant microbe interactions	3	Emp, S
CO5	Student will study role of plants in antimicrobial activity	3	Emp, S, Ent

Course Name **Fundamentals of Agricultural Extension Education Lab**
Course Code **AG3241**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to apply new trends in agricultural extension like private extension, market led extension, expert systems, farmer led extension and cyber extension	2	Emp
CO2	Students will able to develop and prepare extension literature such as leaflets, booklets, etc.	3	Emp,S
CO3	Students will be developing their presentation skills exercise while visiting farmers field	3	Emp, S

CO4	Students will be able to learn about different organizational setup of DRDA and other departments at district level.	2	Emp
CO5	Students will be able to apply communication strategies using agricultural journalism for innovation, diffusion and adoption of agricultural technology.	3	Emp, S, Ent

Course Name **Fundamentals of Crop Physiology Lab**
Course Code **AG3242**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	At the end of the Course, student will collect the knowledge about the structure of cell and cell division.	2	Emp
CO2	At the end of the Course students will be able to know about the Photosynthesis process & learn to determine the rate of photosynthesis and respiration.	2	Emp
CO3	At the end of the Course students will learn about the metabolic process in plants i.e, osmosis, diffusion, transpiration.	2	Emp
CO4	By the end of this course students will be able to describe and distinguish role of hormones in plants	2	Emp
CO5	By the end of this course students will be able to distinguish different plants on the basis of their appearance & about their physiological activity.	3	Emp, S

Course Name **Fundamentals of Entomology Lab**
Course Code **AG3243**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students would learn about the insect collection and preservation, types of insect antennae, mouth parts and legs	2	Emp
CO2	Students would learn about the external features and digestive system of grass hopper	2	Emp
CO3	Students will learn about pesticide appliances and their maintenance	3	Emp, S, Ent
CO4	Students will learn sampling techniques for estimation of insect population and damage	2	Emp
CO5	Students will learn about characters of different orders i.e., Orthoptera, Dictyoptera, Odonata, Isoptera, Thysanoptera, Hemiptera, Lepidoptera, Neuroptera, Coleoptera, Hymenoptera, Diptera.	3	Emp, S

Course Name **Fundamentals of Plant Pathology Lab**
Course Code **AG3244**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students would learn about compound microscope and its different components & different laboratory equipment's and their principle and uses, isolation of the fungal plant pathogens from affected plant parts (leaf) and prove Koch' postulates	3	Emp, S
CO2	Students would learn about the different structures of fungi, symptoms of various plant diseases and also study phanerogamic plant parasites	3	Emp, S, Ent
CO3	Students would learn about fungicides and their formulations, preparation of fungicidal solutions, slurries and pastes and their applications along with precautions in their handling, sampling and extraction of nematodes from soil and plant material and preparation of nematode mounting	3	Emp
CO4	Students would learn about the staining of pathogenic bacteria.	3	Emp, S, Ent
CO5	Students would learn about the identification and transmission of plant virus	3	Emp, S

Course Name **Soil and Water Conservation Engineering Lab**
Course Code **AG3245**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students would learn about general status of soil conservation in India, estimation of soil loss and measurement of soil loss	3	Emp, S
CO2	Students would learn about preparation of contour maps	3	Emp, S
CO3	Students would learn about design of contour bunds	3	Emp, S
CO4	Students would learn about design of graded bunds	3	Emp, S
CO5	Students would learn about problem on wind erosion	3	Emp, S

Course Name **Fundamentals of Genetics Lab**
Course Code **AG3248**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will understand Pre and Post Mendelian Theories	2	Emp

CO2	Students will gain the knowledge about chromosome structure	2	Emp
CO3	Students will get knowledge about different gene interactions	3	Emp
CO4	Students will get knowledge about Qualitative and Quantitative inheritance	3	Emp
CO5	Students will learn about the DNA structure	2	Emp

Course Name **United Nations Development Programme**
Course Code **HU3202**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about the Structure, Mission, Vision and Goals of UNDP	2	S
CO2	Equip the students with the knowledge of sustainable livelihoods for inclusive economic growth.	2	S
CO3	Students will learn and explore about the Human Development index to promote well being at all ages.	2	S
CO4	To impart better education on SDGs goals focusing on Gender Equality and Provide Access to Justice to All and Build Effective.	3	N
CO5	Students will develop knowledge regarding environment sustainability.	3	N

Course Name **Environmental Studies and Disaster Management**
Course Code **CY3305**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will able to understand the scope and importance of ecosystem	3	Emp, S
CO2	Students will understand usage of renewable and nonrenewable resources	3	Emp, S, Ent
CO3	Students will understand about biodiversity and conservation	3	Emp
CO4	Students will be able to understand different types of pollution and their causes	3	Emp, S, Ent
CO5	Students will understand meaning and nature of natural disasters, their types and effects	3	Emp, S

Course Name **Crop Production Technology - I(Kharif crops)**
Course Code **AG3301**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain knowledge about important kharif crops of Uttarakhand	3	Emp, S
CO2	Students will understand about commercial cultivation of cereals; they will use their farming knowledge in field to get good yield	3	Emp, S, Ent
CO3	Students will understand about commercial cultivation of Pulses; they will use their farming knowledge in field to get good yield	3	Emp
CO4	Students will understand about commercial cultivation of OilSeed crops; they will use their farming knowledge in field to get good yield	3	Emp, S, Ent
CO5	Students will understand about commercial cultivation of fiber and forage crops; they will use their farming knowledge in field to get good yield	3	Emp, S

Course Name **Agriculture Finance & Cooperation**
Course Code **AG3302**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	This course aims at imparting knowledge on principles of finance, banking and co –operation and farm financial analyses	2	Emp, S
CO2	Students will learn about source of Agricultural Finance and the finance schemes run by Govt. of India	3	Emp, S, Ent
CO3	Student will learn about Higher financing institutions and their working model	3	Emp
CO4	Student will learn about SWOT analysis	3	Emp, S, Ent
CO5	: Student will learn principles of cooperation, significance of cooperatives in India na griculture	3	Emp, S

Course Name **Agri-Informatics**
Course Code **AG3303**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
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CO1	Students will be aware of the basics in computers, operating systems, data interpretation and statistical analysis along with database management concepts	2	Emp, S
CO2	Students will gain knowledge on concepts of Networks and basics of programming languages in computer	3	Emp, S
CO3	Students will learn about the applications of ICT in agriculture, smart phone apps in agriculture for farm advises and about computer models in agriculture	3	Emp, S,Ent
CO4	Students will gain keen knowledge on geospatial technology for agri-information and decision support system along with expert system	3	Emp, S
CO5	Students will be able to understand the soil information systems for supporting farm decisions and preparing crop planning using IT tools	3	Emp, S,Ent

Course Name **Production Technology for Vegetables and Spices**

Course Code **AG3304**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	To impart knowledge on the principles of horticulture, propagation and production techniques of tropical, sub tropical, temperate vegetable and spice crops.	3	Emp, S, Ent
CO2	Students will understand the current applications of vegetable principles and practices: propagation, pest management, production, maintenance, and business practices.	3	Emp, S, Ent
CO3	Students will be able to solve problems and think critically using new knowledge and technological developments in vegetable and spices.	3	Emp, S, Ent
CO4	Students will know about the characteristics of the environment and their influence on plant growth and development	3	Emp, S, Ent
CO5	Students will know about the demonstrate an awareness of diversity within the profession of horticulture and the interplay between horticulture and society in a diverse world through understanding the breadth of diversity (gender, race, culture, religion,etc.); understanding the value of diversity; and knowing how to successfully integrate diverse thought, etc. into the work environment.	3	Emp, S, Ent

Course Name **Farm Machinery and Power**

Course Code **AG3305**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	By the end of this course students will be able to learn various sources of farm power and their uses.	2	Emp, S
CO2	To impart knowledge about working of IC Engines and their uses in modern equipments.	2	Emp, S, Ent
CO3	To provide knowledge about various parts of tractors and their mechanism.	3	Emp
CO4	By the end of this course students will be able to understand the financial aspects of using farm power	3	Emp, S, Ent
CO5	By the end of this course students will be able to learn the various implements used in agriculture farm for various purposes.	3	Emp, S

Course Name **Livestock and poultry Management**

Course Code **AG3306**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn role of livestock in the national economy. Reproduction in farm animals and poultry, space requirements for different species of livestock and poultry.	3	Emp, S
CO2	Students will learn management of calves, growing heifers and milch animals. Management of sheep, goat and swine, Incubation, hatching and brooding and Management of growers and layers.	3	Emp, S, Ent
CO3	Students will learn about Important Indian and exotic breeds of cattle, buffalo, sheep, goat, swine and poultry and Improvement of farm animals and poultry.	3	Emp
CO4	Students will study digestion in livestock and poultry.	3	Emp, S, Ent
CO5	Students will study livestock and poultry diseases and their prevention and control.	3	Emp, S

Course Name **Fundamentals of Plant Breeding**

Course Code **AG3307**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
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CO1	Students will gain knowledge about concept, nature and role, major achievements of plant breeding, genetics & plant breeding relationship & modes of reproduction and apomixes	2	Emp
CO2	Students will understand the concepts of self-incompatibility, male sterility, introduction, centres of diversity, heritability and genetic advance	2	Emp
CO3	Students will gain knowledge about breeding methods, handling of segregating population & population improvement schemes	3	Emp, S
CO4	Students will understand heterosis and inbreeding depression, development of inbred lines, hybrids, composite and synthetic varieties, wide hybridization polyploidy application	3	Emp, S
CO5	Student will gain knowledge about mutation breeding, biotic and abiotic stresses, biotechnological tools, IPR, Plant Breeders & Farmer's Rights	3	Emp, S

Course Name **Statistical Methods**

Course Code **MA3303**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will display data graphically and interpret graphs: stem plots, histograms, and box plots.	2	Emp
CO2	Students will be able to determine whether two events are mutually exclusive and whether two events are independent. They can calculate probabilities using the Addition Rules and Multiplication Rules	2	Emp
CO3	Students will be able to discuss basic ideas of linear regression and correlation	3	Emp
CO4	Students will recognize, describe, and calculate the measures of the spread of data: variance, standard deviation, and range	2	Emp
CO5	Students will be able to determine application of sampling in agricultural analysis	2	Emp

Course Name **Environmental Studies and Disaster Management Lab**

Course Code **AG3355**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will have hands on experience and perform laboratory work in identifying and analyzing different environmental problems related with water pollution and environmental degradation.	3	Emp, S

CO2	Students will be trained to use common chemical and biological techniques for the analysis of environmental samples	3	Emp, S, Ent
CO3	Students will be able to examine the interdependence of ecosystems and how the impact of excessive use of fertilizer or nutrient in agriculture land causes surface as well as ground water pollution.	3	Emp
CO4	Students will be able to understand different types of pollution and their causes	3	Emp, S, Ent
CO5	Students will understand the environmental policies and practices	3	Emp, S

Course Name **Crop Production Technology - I(Kharif crops) Lab**

Course Code **AG3340**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Each student will be able to work on an allotted land area for field operations like field preparation to harvest and processing	3	Emp, S
CO2	They can raise wetland rice under exigencies like water scarcity with two irrigated dry crops	3	Emp, S, Ent
CO3	They can cultivate Irrigated puddled lowland rice	3	Emp
CO4	Student will learn cultivation practices of Kharif crops..	3	Emp, S, Ent
CO5	Student will learn identification of Kharif crops and its weeds	3	Emp, S

Course Name **Agricultural Finance and Co-operation Lab**

Course Code **AG3341**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	This course aims at imparting knowledge on principles of finance, banking and co-operation and farm financial analyses	3	Emp, S
CO2	Students will learn about source of Agricultural Finance and the finance schemes run by Govt. of India	3	Emp, S, Ent
CO3	Student will learn about Higher financing institutions and their working model	3	Emp
CO4	Student will learn about SWOT analysis	3	Emp, S, Ent
CO5	Student will learn principles of cooperation, significance of cooperatives in Indian agriculture	3	Emp, S

Course Name **Agri-Informatics Lab**




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Course Code **AG3342**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to learn about demonstration with DSSAT, CropSyst and Wofost crop simulation models	3	Emp, S,Ent
CO2	Students will be able to provide better agricultural services through ICT initiatives	3	Emp, S
CO3	Students will be able to compute water and nutrient requirements of crop using IT tools	3	Emp, S
CO4	Students will gain knowledge on geospatial technology for agri-information	3	Emp, S
CO5	Students will learn to Prepare contingent crop planning	3	Emp, S

Course Name **Farm Machinery and Power Lab**

Course Code **AG3343**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	At the end of the course student will be able to learn about the component of IC engine and cooling system	3	Emp, S
CO2	Students will get knowledge of fuel supply system of engine and power tiller	3	Emp, S, Ent
CO3	At the end of the course student will be able to learn about the primary and secondary tillage and Seed Cum Fertilizer	3	Emp
CO4	Students will expose to seed-cum-fertilizer drills their seed metering mechanism and calibration, planters and transplanter.	3	Emp, S, Ent
CO5	Students will exposed to different types of sprayers and dusters	3	Emp, S

Course Name **Production Technology for Vegetables and Spices Lab**

Course Code **AG3344**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to raise the nurseries of different vegetable crops for commercial use.	3	Emp, S, Ent
CO2	They will be able to impart knowledge on the principles of horticulture, propagation and production techniques of tropical, sub tropical, temperate vegetable and spice crops.	3	Emp, S, Ent

CO3	Students will study morphological characters of different vegetables & spices.	3	Emp, S, Ent
CO4	Students will be able to produce various vegetables under poly house as protected cultivation.	3	Emp, S, Ent
CO5	Student will learn to calculate the cost of cultivation in Potato, Tomato, Cauliflower and Okra	3	Emp, S, Ent

Course Name **Livestock and poultry Management Lab**

Course Code **AG3345**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about external body part of cattle, buffalo, sheep, goat, swine and poultry	3	Emp, S
CO2	Students will be able to understand handling and restraining of livestock and identification methods of farm animals and poultry	3	Emp, S, Ent
CO3	Students will learn about culling of livestock and poultry and planning and layout of housing for different types of livestock	3	Emp
CO4	Students will be able to understand clean milk production techniques and milking methods in farm animals	3	Emp, S, Ent
CO5	Students will be able to understand economics of cattle, buffalo, sheep, goat, swine and poultry production	3	Emp, S

Course Name **Fundamentals of Plant Breeding Lab**

Course Code **AG3346**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about Germplasm Collection, floral structure and emasculation & hybridization in self & cross pollinated crops.	3	Emp, S
CO2	Students will be able to handle segregation generation, different experimental designs and understand concept of male sterility.	3	Emp, S, Ent
CO3	Students would learn about basic statistical methods and concept of Inbreeding depression in plant breeding	3	Emp
CO4	Students will gain knowledge about breeding methods.	3	Emp, S, Ent
CO5	Student will gain knowledge about biotic and abiotic stresses.	3	Emp, S

Course Name **Statistical Methods Lab**
Course Code **MA3350**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will apply various sampling methods for data collection and display graphically with interpretation using graphs: stem plots, histograms and box plots.	3	Emp
CO2	Students will recognize, describe and calculate the measures of the spread of data: variance, standard deviation and range	3	Emp
CO3	Student will create and interpret a line of best fit and Calculate and interpret the correlation coefficient	2	Emp
CO4	Students will learn analysis of Test of Significance	3	Emp
CO5	Student will learn the calculation of One way and Two way analysis of variance	3	Emp

Course Name **Indian Knowledge System**
Course Code **HU3201**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	The students will be able to understand the Indian Knowledge System such as historical development, sources and scope.	2	S
CO2	The students will be able to understand the vocabulary system of Indian knowledge system.	2	S
CO3	The students will be able to understand and apply the philosophical foundations and methods of IKS.	3	N
CO4	The students will be able to execute the case studies based on the Indian knowledge system.	3	N
CO5	The students will be able to understand the influence of Indian Knowledge System on world.	2	S

Course Name **Problematic Soils and their Management**
Course Code **AG3401**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	By the end of this course students will gain knowledge on basics in soil and its properties with its problem	2	Emp

CO2	By the end of this course students will be able to learn about physical and chemical properties of soil	2	Emp
CO3	By the end of this course students will be able to illustrate the irrigation methods	3	Emp, S
CO4	By the end of this course students will be able to demonstrate the application of remote sensing	3	Emp, S
CO5	By the end of this course students will be able to learn about the soil problems in different agro ecosystem	3	Emp

Course Name **Introductory Agro-Meteorology & Climate Change**
Course Code **AG3402**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	By the end of this course students would have obtained knowledge on atmospheric gases and its layers.	2	Emp
CO2	Students would have gained knowledge on wind, cyclone, anticyclone and solar radiation.	2	Emp
CO3	Students would have gained knowledge on atmospheric temperature and concepts of saturation.	2	Emp
CO4	Students would have gained knowledge on cloud formation and artificial cloud making	2	Emp
CO5	Students would have gained knowledge on climate change	2	Emp

Course Name **Crop Production Technology– II (Rabi crops)**
Course Code **AG3403**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Origin, geographical distribution, economic importance, soil and climatic requirements, varieties, cultural practices and yield of important Rabi crops of Uttarakhand region.	3	Emp, S
CO2	To understand about Cultivation practices of Cereals – wheat and barley; Pulses-chickpea, lentil, peas.	3	Emp, S, Ent
CO3	To gain knowledge about cultivation practices of forage crops-berseem, lucerne and oat.	3	Emp
CO4	To gain knowledge about cultivation practices of oilseeds-rape seed, mustard and sunflower; sugar crops-sugarcane	3	Emp, S, Ent
CO5	To gain knowledge about cultivation practices of medicinal and aromatic crops-mentha, lemon grass and citronella.	3	Emp, S

Production Technology for Ornamental Crops, MAP and

Course Name **Landscaping**

Course Code **AG3404**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to learn about the ornamental crops, medicinal and aromatic plants and landscaping	3	Emp, S,Ent
CO2	Students will be aware of production technology of flowers like rose, marigold, poppy, primulas, gerbera, carnation, liliun, orchids and gladiolus, tuberose, chrysanthemum underopen condition	3	Emp, S,Ent
CO3	Students will be able to know about the package of practices for loose flowers like marigold and jasmine	3	Emp, S,Ent
CO4	Students will learn about production technology of important medicinal plants	3	Emp, S
CO5	Students will know about processing and value addition in ornamental crops and MAPs produce	3	Emp, S

Course Name **Production Technology for Fruit and Plantation Crops**

Course Code **AG3405**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain brief knowledge of importance and different career in fruit science	3	Emp, S
CO2	Students will be able to understand the farming system in different fruit crops	3	Emp, S, Ent
CO3	Students will be able to understand the different growing techniques of temperate fruit	3	Emp
CO4	Students will be able to understand the best growing techniques of minor fruit	3	Emp, S, Ent
CO5	Students will be able to understand the ideal farming system in different plantation crops	3	Emp, S

Course Name **Renewable Energy and Green Technology**

Course Code **AG3406**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
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CO1	To understand the role of renewable sources in agriculture Sector	2	Emp
CO2	To understand the bio fuel production and their applications in today's world	3	Emp, S
CO3	To understand and utilizing the solar energy in various aspects	3	Emp, S,Ent
CO4	Students will gain practical aspects of utilizing various renewable energy like solar energy, wind energy and other energy efficient technologies, etc	3	Emp, S,Ent
CO5	To gain the knowledge on climate change and disaster management	3	Emp, S

Course Name **Principles of Seed Technology**

Course Code **AG3407**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	By the end of this course students will be able to recognize and memorise the basic introduction of seed and quality seed parameters	2	Emp
CO2	By the end of this course students will be able to know about seed production methods in different crops.	3	Emp, S
CO3	By the end of this course students will be able to Know about the legislation system related to seed.	2	Emp
CO4	By the end of this course students will be able to know about the storage and processing methods of seed	3	Emp, Ent
CO5	By the end of this course students will be able to learn about marketing of seed.	3	Emp, Ent

Course Name **Agricultural Marketing Trade & Price**

Course Code **AG3408**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Identify elements of business success in agriculture and food-processing as well as elements that determine economic role of agriculture in national economy.	3	Emp, S
CO2	An efficient agricultural marketing system leads to the optimization of resource use and output management	3	Emp, S, Ent

CO3	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	3	Emp
CO4	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.	3	Emp, S, Ent
CO5	This course aims at imparting knowledge on principles of finance, banking and co –operation and farm financial analyses.	3	Emp, S

Course Name **Farming System and Sustainable Agriculture**
Course Code **AG3409**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will get knowledge about farming system types, components and its maintenance	2	Emp, S
CO2	Students will gain knowledge about different cropping system and cropping pattern and allied enterprises of farming system	3	Emp, S
CO3	Students will learn about meaning, problems, impact and different techniques of sustainable agriculture and their management	3	Emp, S
CO4	Student will learn about objectives, characteristics, components, advantages and site-specific model of Integrated Farming System	3	Emp, S,Ent
CO5	Students will gain knowledge about resource use efficiency, optimization techniques, Resource cycling and flow of energy in different farming system	3	Emp, S,Ent

Course Name **Introductory Agro-Meteorology & Climate Change Lab**
Course Code **AG3440**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn the basic concepts of Agro Meteorology	2	Emp
CO2	Students will be able to deal with the relationship between weather/climatic conditions and agricultural production.	3	Emp, S, Ent
CO3	Student will be able to determine the climatic features, air temperature, humidity etc.	3	Emp

CO4	Students would have gained knowledge on cloud formation and artificial cloud making.	3	Emp, Ent
CO5	Students would have gained knowledge on climate change	3	Emp

Course Name **Crop Production Technology– II (Rabi crops) Lab**

Course Code **AG3441**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Students would learn about the sowing methods of wheat and sugarcane	3	Emp, S
CO2	Students would learn to identify weeds in rabi season crops	3	Emp, S, Ent
CO3	Students would learn about yield contributing characters and morphological characters of rabi crops	3	Emp
CO4	Students would learn about estimation of heterosis, inbreeding depression and heritability and also learn handling of germplasm and segregating populations by different methods like pedigree, bulk and single seed decent methods	3	Emp, S, Ent
CO5	Students would learn about field techniques for seed production and hybrid seeds production in rabi crops	3	Emp, S

Production Technology for Ornamental Crops, MAP and

Course Name **LandscapingLab**

Course Code **AG3442**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Student will become aware about the ornamental plants	3	Emp, S,Ent
CO2	Student will learn about the medicinal and aromatic plants.	3	Emp, S,Ent
CO3	Student will be aware about the training and pruning of ornamental plants	3	Emp, S
CO4	Students will learn about production technology of important medicinal plants	3	Emp, S
CO5	Students will know about processing and value addition in ornamental crops and MAPs produce	3	Emp, S,Ent

Production Technology for Fruit and Plantation Crops

Course Name **Lab**

Course Code **AG3443**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to understand planting system and morphology of fruit and plantation crops and different forms and external structures of fruit	3	Emp, S
CO2	Students will be able to get Knowledge of the seed propagation & different methods of seed treatment & the various seed treatment methods for breaking dormancy	3	Emp, S, Ent
CO3	Students will be able to apply the sexual and asexual propagation techniques in horticulture plants	3	Emp
CO4	Students will be able to understand the role of different bio regulators	3	Emp, S, Ent
CO5	Students will be able to understand the different insect-pests of fruit and plantation crops and their management	3	Emp, S

Course Name **Renewable Energy and Green Technology Lab**

Course Code **AG3444**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	To understand the role of renewable sources in agriculture sector	3	Emp, S
CO2	To understand the bio fuel production and their applications in today's world	3	Emp, S
CO3	To understand and utilizing the solar energy in various aspects	3	Emp, S
CO4	Students will have Basic Knowledge about biogas plants	3	Emp, S,Ent
CO5	Students will gain the knowledge about the process of bio-fuels	3	Emp, S

Course Name **Principles of Seed Technology Lab**

Course Code **AG3445**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about the quality parameters of seed	3	Emp, S
CO2	Students will learn about the seed production technology in different crops	3	Emp, S
CO3	Students will learn about the seed processing technology	3	Emp, S,

CO4	Students will be able to understand grow out test and electrophoresis techniques	3	Emp, S, Ent
CO5	Students will be able to understand seed production farms, seed testing laboratories and seed processing plant	3	Emp, S, Ent

Course Name **Agricultural Marketing Trade and Price Lab**

Course Code **AG3446**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	The course will give the exposure to the students on market concepts, marketing of agricultural commodities, intermediaries involved	3	Emp, S
CO2	It will impart knowledge on principles of finance, banking and co –operation and farm-financial analysis	3	Emp, S, Ent
CO3	This course will also help in understanding the functions of various institutions involved in farm financing and different crop insurance products	3	Emp
CO4	This course will also help in forecasting the price, demand and supply	3	Emp, S, Ent
CO5	Understand nature and scope of financial management in agribusiness	3	Emp, S

Course Name **Food Safety and Standards**

Course Code **AG3416**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	By the end of this course students will be able to learn about food safety	3	Emp, S
CO2	By the end of this course students will be able to keep food safely from different hazards	3	Emp, S, Ent
CO3	By the end of this course students will be able to understand food safety management system	3	Emp
CO4	By the end of this course students will be able to learn different rules and laws related to food safety	3	Emp, S, Ent
CO5	By the end of this course students will be able to learn about labeling of food	3	Emp, S

Course Name **Food Safety and Standards Lab**

Course Code **AG3445**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	At the end of the course students will be able to learn about the personal hygiene and the methods of sanitization	3	Emp, S
CO2	At the end of the course students will be able to learn about to determine the constituents and amount of alkalinity of the supplied water sample	3	Emp, S, Ent
CO3	At the end of the course students will be able to learn about the Preparation of plan for implementation of FSMS-HACCP	3	Emp
CO4	At the end of the course students will be able to learn about the microorganisms to degrade the amino acid tryptophan.	3	Emp, S, Ent
CO5	At the end of the course students will be able to learn about how to calculate the presence of coliform bacteria in water.	3	Emp, S

Course Name **Manures, Fertilizers and Soil Fertility Management**
Course Code **AG3501**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	To impart knowledge of fertilizers and manures as sources of plant nutrients	3	Emp, S
CO2	To provide knowledge and function of essential primary, secondary & micronutrients fertilizer on crop production	3	Emp, S, Ent
CO3	Students will know how the soil fertility and productivity can be maintained for better crop production	3	Emp
CO4	To provide knowledge chemistry of major, minor & micronutrients, which are available in soil in several forms	3	Emp, S, Ent
CO5	Students will know the requirements of fertilizers for various crops and their proper time of application and provide knowledge of rapid plant tissue tests and indicator plants	3	Emp, S

Course Name *Crop Improvement – I (Kharif)*
Course Code AG3502

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
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CO1	Students will learn importance of wild relative to produce new variety of kharif crop	3	Emp, S
CO2	Students will learn Gene preservation method for further use to improve kharif crops.	3	Emp, S, Ent
CO3	Students will learn to applies breeding methods to improve kharif crops	3	Emp
CO4	Students will learn to identification of resistance gene relate to kharif crop with high yield potential against pest and pathogen and utilization genes.	3	Emp, S, Ent
CO5	By the end of this course students learn new genetic approaches to achieve a definite ideotype of kharif crop	3	Emp, S

Course Name **Intellectual Property Rights**

Course Code **AG3503**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain knowledge on basics in IPR	2	Emp, S
CO2	Students will able to understand about patent and patent filling	3	Emp, S
CO3	Students will be able to illustrate the rights of farmers and researchers	3	Emp, S
CO4	Students will be able to know about different treaty over IPR	2	Emp, S
CO5	Students will be able to understand about UPOV and acts over biodiversity	3	Emp, S

Entrepreneurship Development and Business

Course Name **Communication**

Course Code **AG3504**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will understand the function of the entrepreneur in the successful, commercial application of innovations	3	Emp, S,Ent
CO2	Students will be aware of different opportunities and successful growth in Business and can improve communication and problem-solving skills, manage strong impulses and feelings	3	Emp, S
CO3	Students should learn organizational skill viz	3	Emp, S,Ent
CO4	Students will gain knowledge to develop and demonstrate competence in basic business and marketing planning and basic knowledge of international business	3	Emp, S,Ent

CO5	Students will gain knowledge on different concepts underlying corporate financial decision making and student also understand different opportunity in agri-business	3	Emp, S,Ent
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Geoinformatics and Nanotechnology and Precision

Course Name **Farming**

Course Code **AG3505**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Student would learn about precision agriculture and Geo-informatics- their uses in Precision Agriculture	3	Emp, S
CO2	Student would learn about crop discrimination and yield monitoring, soil mapping; fertilizer recommendation using geospatial technologies; Spatial data and their management in GIS; Remote sensing concepts and application in agriculture; Image processing and interpretation	3	Emp, S
CO3	Student would learn about Global positioning system (GPS), components and its functions; crop Simulation Models and their uses for optimization of Agricultural Inputs; STCR approach for precision agriculture	3	Emp, S,Ent
CO4	Student would learn about nanotechnology- definition, concepts and techniques, nano scale effects, nano-particles, nano-pesticides, nano-fertilizers, nano-sensors	3	Emp, S,Ent
CO5	Student would learn about use of nanotechnology in seed, water, fertilizer, plant protection for scaling-up farm productivity	3	Emp, S

Course Name **Principles of Integrated Pest and Disease Management**

Course Code **AG3506**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to understand, what is a pest and disease and categories of Pest and diseases.	2	Emp
CO2	Students will be able to understand, IPDM and tools of IPDM.	2	Emp
CO3	Students will be able to understand, cultural, mechanical, physical, biological, microbial and legislative methods of pest and disease management.	3	Emp, S, Ent
CO4	Students will be able to understand, chemical control of pests and diseases	3	Emp, S, Ent

CO5	Students will be able to calculate and applying insecticides and fungicides.	3	Emp, S, Ent
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Course Name **Pests of Crops and Stored Grains and their Management**

Course Code **AG3507**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be familiar in identification of different insect pest of field, horticulture, ornamentals, vegetables and stored grains at the field level	2	Emp
CO2	Students will 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	3	Emp, S
CO3	Students will be able about the biology, diversity, distribution of insects, and their relationships to crop and the environment condition of a particular area	3	Emp, S
CO4	Students will be able to identify nature of damage and symptoms caused by the pest so suitable technique of pest management can be apply for effective control	3	Emp, S, Ent
CO5	Management of crop pest through Integrated Pest Management approach without side effect on plant, animal and environment health	3	Emp, S, Ent

Diseases of Field & Horticultural Crops & their

Course Name **Management-I**

Course Code **AG3508**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will study about important taxonomic characters and symptoms produced by important microorganisms in order to manage them.	2	Emp
CO2	Students will gain knowledge on plant disease management by different methods.	3	Emp, S
CO3	Students will gain the knowledge on different diseases in field and horticultural crops	2	Emp
CO4	Students will gain the knowledge mass multiplication of biocontrol agents like Trichoderma viride, Pseudomons fluorescens and Bacillus subtilis and also learn about the method of applications	3	Emp, S, Ent
CO5	Students will learn diseases of various field crops and horticultural crops and to know their management practices.	3	Emp, S, Ent

Course Name **Manures, Fertilizers and Soil Fertility Management Lab**

Course Code **AG3540**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	The student will be able to understand the analytical instruments and their principles.	3	Emp, S
CO2	Students will learn to analyze the estimation of soil organic carbon and alkaline hydrolysable N in soils	3	Emp, S, Ent
CO3	Students will learn to analyze the estimation of soil extractable P and S in soils.	3	Emp
CO4	Students will learn to analyze estimation of DTPA extractable Zn in soils. Estimation of N and P in plants.	3	Emp, S, Ent
CO5	Students will learn to analyze estimation of K and S in plants.	3	Emp, S

Course Name **Crop Improvement – I (kharif crops) Lab**

Course Code **AG3541**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will get knowledge on crop improvement technologies of different kharif crops.	3	Emp, S
CO2	Students will learn to apply breeding methods to improve kharif crops	3	Emp, S, Ent
CO3	Students will learn to identify resistance genes related to kharif crop with high yield potential against pest and pathogen and utilization genes.	3	Emp
CO4	Students will learn techniques for seed production and hybrid seeds production in Kharif crops	3	Emp, S, Ent
CO5	Students will learn to develop seed production farm	3	Emp, S

Entrepreneurship Development and Business

Course Name **Communication Lab**

Course Code **AG3542**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn to assess entrepreneurial traits of an entrepreneur	3	Emp, S, Ent
CO2	It will develop student's problem solving skills, managerial skills and entrepreneurial motivation	3	Emp, S, Ent




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CO3	Student will learn about time audit through planning, monitoring and supervision which will develop creative skills, like problem-solving, communication and innovation through creative exercise	3	Emp, S
CO4	Students would learn about identification and selection of business idea	3	Emp, S
CO5	Students will be able to prepare a business plan and proposal writing	3	Emp, S,Ent

Geoinformatics and Nanotechnology and

Course Name **PrecisionFarming Lab**

Course Code **AG3543**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students would introduce to GIS software, spatial data creation and editing and image processing software	3	Emp, S,Ent
CO2	Students would learn about visual and digital interpretation of remote sensing images	3	Emp, S
CO3	Students would learn to generate spectral profiles of different objects	3	Emp, S
CO4	Students would learn about supervised and unsupervised classification and acreage estimation	3	Emp, S
CO5	Student would learn about fertilizers recommendations based on VRT and STCR techniques and also learn about formulation, characterization and applications of nanoparticles in agriculture	3	Emp, S

Principles of Integrated Pest and Disease Management

Course Name **Lab**

Course Code **AG3544**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Student will be able to know about the important taxonomic characters and symptoms produced by important microorganisms in order to manage them	2	Emp, S
CO2	They will gain the knowledge on different diseases in the field and horticultural crops	3	Emp, S
CO3	It imparts knowledge on plant disease management by different methods	3	Emp, S, Ent
CO4	Student will be able to know about the Plan & assess preventive strategies (IPM module) and decision-making crop monitoring attacked by insect, pests' and diseases.	3	Emp, S, Ent

CO5	The students will be able to understand, apply, analyze and evaluate different methods of pest management.	2	Emp, S, Ent
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Pests of Crops and Stored Grains and their Management

Course Name **Lab**
Course Code **AG3545**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will know about pest of crops and stored grains like cereals, pulses, oilseeds and their management	3	Emp, S
CO2	They will gain the knowledge on climate change and its management	3	Emp, S
CO3	It will make students to gain expertise in practical aspects of warehouse management	3	Emp, S, Ent
CO4	Students will able to know about the determination of insect infestation by different methods and assessment of losses due to insects.	3	Emp, S, Ent
CO5	Students will able to know about the identification of birds and bird control operations in godowns.	2	Emp, S, Ent

Diseases of Field & Horticultural Crops & their

Course Name **Management-I**
Course Code **AG3546**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn about diseases of various Field crops and Horticultural crops and to know their management practices	3	Emp, S
CO2	Students will gain the knowledge on different diseases of field and horticultural crops	3	Emp, S
CO3	Students will learn about the Mass multiplication of biocontrol agents like Trichoderma viride, Pseudomonas fluorescens and Bacillus subtilis and also learn about the method of applications	3	Emp, S,
CO4	Students will learn about about taxonomic characters and symptoms produced by various pathogens.	3	Emp, S,
CO5	Students would learn about fungicides and their doses to control various plant diseases.	3	Emp, S, Ent

Course Name **Agribusiness Management**
Course Code **AG3510**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to know about the background of agribusiness system and its importance along with the agricultural policy	3	Emp, S
CO2	Students will be aware with the structure of Agro-industries and Agri-value chain in India and at the global level	3	Emp, S, Ent
CO3	Students will be able to know about the Meaning, types, goals and procedures of business planning	3	Emp
CO4	Students will learn about the Capital Management and Financial Management of agribusiness structure	3	Emp, S, Ent
CO5	Students will know about the Consumer Behaviour and Project Management and the pricing policy of institution	3	Emp, S

Course Name **Agribusiness Management Lab**

Course Code **AG 3548**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to know about the background of agribusiness system and its importance along with the agricultural policy	3	Emp, S
CO2	Students will be aware with the structure of Agro-industries and Agri-value chain in India and at the global level	3	Emp, S, Ent
CO3	Students will be able to know about the Meaning, types, goals and procedures of business planning	3	Emp
CO4	Students will learn about the Capital Management and Financial Management of agribusiness structure	3	Emp, S, Ent
CO5	Students will know about the Consumer Behaviour and Project Management and the pricing policy of institution	3	Emp, S

Course Name **Rainfed Agriculture and Watershed Management**

Course Code **AG3601**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain knowledge about meaning, classifications, problems, management and historical background of rainfed farming	2	Emp

CO2	Students will understand soil types, climatic condition and crop management in rainfed farming	2	Emp
CO3	Students will gain knowledge drought, drought types, drought effects on biometrical and morphological characters on crops and drought management	3	Emp
CO4	Students will understand meaning, importance, application of water harvesting, crop management techniques and its utilization in rainfed area	3	Emp, Ent
CO5	Students will gain knowledge about concept, objectives, principles, components and factors of watershed management	2	Emp, Ent

Diseases of Field and Horticultural Crops and their

Course Name **Management-II**

Course Code **AG3603**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will gain knowledge on important taxonomic characters and symptoms produced by important microorganisms in order to manage them	3	Emp, S
CO2	Students will knowledge on plant disease management by different methods	3	Emp, S
CO3	Students will gain knowledge on different diseases in field and horticultural crops	2	Emp, S
CO4	Students will analyze plant health and provide management solutions to farmers	3	Emp, S
CO5	Students will gain knowledge on diseases of various Field crops and Horticultural crops and to know their management practices	2	Emp, S

Post-harvest Management and Value Addition of Fruits

Course Name **and Vegetables**

Course Code **AG3604**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to learn about the post harvest management of fruits and vegetables and its importance along with the causes of post harvest losses	3	Emp, S, Ent
CO2	Students will be aware with the respiration rate, harvesting and storage structure of fruits and vegetables along with its value addition	3	Emp, S, Ent
CO3	Students will be able to know about the preservation methods of post harvest products, jam, jelly, marmalade, beverages, pickles, etc	3	Emp, S, Ent

CO4	Students will learn about drying and dehydration method of fruits and vegetables and will study different tomato products	3	Emp, S, Ent
CO5	Students will know about the canning process and conventional to modern packaging systems	3	Emp, S, Ent

Course Name **Management of Beneficial Insects**

Course Code **AG3605**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be introduced with the basic knowledge about the bee keeping and its different components	3	Emp, S
CO2	Students will be able to know about the management of bee diseases and its natural enemies	3	Emp, S, Ent
CO3	Students will be able to know about the concepts of silk farming and mulberry cultivation	3	Emp
CO4	Student will gain knowledge about the processing of silk and its different requirements	3	Emp, S, Ent
CO5	Students will be aware with the study of lac culture and its processing and management	3	Emp, S

Course Name **Farm Management, Production & Resource Economics**

Course Code **AG3606**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will understand the meaning of Farm management and its relationship with other sciences	2	Emp
CO2	Students will learn Principles and economics of farm management	3	Emp, S
CO3	Students will learn the importance of maintaining farm records and their analysis..	2	Emp
CO4	Students will learn the steps in farm planning and budgeting	3	Emp, Ent
CO5	By the end of this course students will be able to learn about role of economics in farm management	3	Emp, Ent

Course Name **Crop Improvement – II (Rabi crop)**

Course Code **AG3607**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
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CO1	CO-1: Students will learn importance of wild relative to produce new variety of Rabi crop	2	Emp
CO2	Students will learn Gene preservation method for further use to improve rabi crops.	3	Emp, S
CO3	Students will learn to applies breeding methods to improve rabi crops	2	Emp
CO4	Students will learn to identification of resistance gene relate to rabi crop with high yield potential against pest and pathogen and utilization genes	3	Emp, Ent
CO5	By the end of this course students learn new genetic approaches to achieve a definite ideotype of rabi crop	3	Emp, Ent

Course Name **Principles of Food Science and Nutrition**

Course Code **AG3608**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	By the end of this course students will be able to understand the basic information about food nutrition and composition of food	3	Emp, S
CO2	By the end of this course students will be able to understand microorganism role in food science	3	Emp, S, Ent
CO3	By the end of this course students will be able to illustrate the different methods of food preservation and processing	3	Emp
CO4	By the end of this course students will be able to understand the nutrition value and its disorders	3	Emp, S, Ent
CO5	By the end of this course students will be able to understand about the metabolism process of food components in human body	3	Emp, S

Course Name **Principles of Organic Farming**

Course Code **AG3609**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Initiative from Government for organic produce.	3	Emp, S
CO2	Role of NGOs in producing organic products	3	Emp, S, Ent
CO3	Selection of crops and varieties for organic produce	3	Emp
CO4	Certification of organic produce.	3	Emp, S, Ent
CO5	Students get to know about the organic farming practices.	3	Emp, S

Course Name **Rainfed Agriculture and Watershed Management Lab**

Course Code **AG3640**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will learn cropping pattern of different rainfed areas and cultural practices for mitigating moisture stress	3	Emp, S
CO2	Students will understand about different types of climate and rainfall pattern in rainfed areas and pattern of onset and withdrawal of monsoons	3	Emp, S
CO3	Students will learn about the construction of water harvesting structures and characterization and delineation of model watershed	3	Emp, S,
CO4	Students will gain knowledge about construction of water harvesting structures	3	Emp, S, Ent
CO5	Students will understand Characterization of model watershed	3	Emp, S, Ent

Course Name **Protected Cultivation and Secondary Agriculture Lab**
Course Code **AG3641**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	To get knowledge about green house technology, types of green houses and construction of green houses	3	Emp, S
CO2	Course will give the knowledge of Green house equipments, materials of construction for traditional and low cost green houses	3	Emp, S
CO3	This course will help the students to learn about Irrigation systems used in greenhouses, shade net house in protected cultivation	3	Emp, S, Ent
CO4	Students will learn to determine moisture content of various grains by oven drying methods	3	Emp, S
CO5	Students would gain knowledge about various equipments/ instruments used in Post Harvest Laboratories	3	Emp, S

Diseases of Field and Horticultural Crops and their

Course Name **Management-II Lab**
Course Code **AG3642**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students would learn about the identification, diagnosis and study of different diseases of wheat	3	Emp, S

CO2	Students would learn about the identification, diagnosis and study of different diseases of sugarcane	3	Emp, S
CO3	Students would learn about the identification, diagnosis and study of different diseases of mustard and potato	3	Emp, S
CO4	Students would learn about the identification, diagnosis and study of different diseases of chilies and apple	3	Emp, S
CO5	Students will learn about the diagnosis of field problems during field visits	3	Emp, S

Post-harvest Management and Value Addition of

Course Name **Fruits and Vegetables Lab**

Course Code **AG3643**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Students learn about the effect of temperature on quality of produce after harvest	3	Emp, S
CO2	Students will have knowledge about post harvest injuries of fruits and vegetables	2	Emp
CO3	Student will learn the procedure of extracting and preserving pulps and juices and estimation of physico chemical properties of products.	3	Emp, S, Ent
CO4	Students will learn about preparation of jam, jelly, nectar, squash etc.	3	Emp, S, Ent
CO5	Students will become aware about the modern packaging materials and their effects on product.	2	Emp, S, Ent

Course Name **Management of Beneficial Insects Lab**

Course Code **AG3644**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Students would learn the impart knowledge on the economically important insects and principles of insect pest management, including concept and components of IPM	3	Emp, S
CO2	Student will be able to know about honey bee species, castes of bees	3	Emp, S, Ent
CO3	Student will be able to know about mulberry cultivation, mulberry varieties and methods of harvesting and preservation of leaves	3	Emp
CO4	Students would learn about types of silkworm, voltinism and biology of silkworm	3	Emp, S, Ent

CO5	Students will visit to research and training institutions devoted to beekeeping, sericulture, lac culture and natural enemies	3	Emp, S
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Farm Management, Production & Resource

Course Name **EconomicsLab**

Course Code **AG3645**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	To understand the role of renewable sources in agriculture sector	3	Emp, S
CO2	To understand the bio fuel production and their applications in today's world	3	Emp, S
CO3	To understand and utilizing the solar energy in various aspects	3	Emp, S
CO4	Students will have Basic Knowledge about biogas plants	3	Emp, S,Ent
CO5	Students will gain the knowledge about the process of bio-fuels	3	Emp, S

Course Name **Crop Improvement – II (Rabi crops) Lab**

Course Code **AG3646**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will get knowledge on crop improvement technologies of different Rabi crops.	3	Emp, S
CO2	Students will learn to apply breeding methods to improve rabi crops	3	Emp, S
CO3	Students will learn to identification of resistance gene relate to rabi crop with high yield potential against pest and pathogen and utilization genes.	3	Emp, S
CO4	Student will learn techniques of seed production in Rabi Crops	3	Emp, S,Ent
CO5	Students will gain the develop seed production farm	3	Emp, S

Course Name **Principles of Organic Farming Lab**

Course Code **AG 3647**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Initiative from Government for organic produce.	3	Emp, S
CO2	Role of NGOs in producing organic products.	3	Emp, S, Ent

CO3	Selection of crops and varieties for organic produce	3	Emp
CO4	Students will gain the knowledge about the methods of propagation	3	Emp, S, Ent
CO5	Students will be aware about layout and planting of orchard.	3	Emp, S

Course Name **Agricultural waste management**

Course Code AG3613

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
CO1	Initiative from Government for organic produce.	3	Emp, S
CO2	Role of NGOs in producing organic products.	3	Emp, S, Ent
CO3	Selection of crops and varieties for organic produce	3	Emp
CO4	Students will gain the knowledge about the methods of propagation	3	Emp, S, Ent
CO5	Students will be aware about layout and planting of orchard.	3	Emp, S