

DETAILS OF COURSE OUTCOMES				
CRITERIA 1.1.1				
NAME OF THE SCHOOL - SCHOOL OF AGRICULTURAL SCIENCES				
S.NO	NAME OF THE PROGRAM	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
YEAR 2018-19				
On completion of all these courses, the students will be able to				
1	B.Sc. (Hons.) Agriculture	Fundamentals of Horticulture	AGR1051	<ol style="list-style-type: none"> 1. Define and describe the significance of horticulture to society. 2. Demonstrate a working knowledge of the fundamental principles and practices of growing horticultural crops 3. Apply and utilize the fundamentals of horticultural crops to economic production of fruits and vegetables and also in horticultural research
2	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Biochemistry and Biotechnology	AGR1052	<ol style="list-style-type: none"> 1. Recognize the structures and properties of the four major classes of biomolecules and catalytic properties of enzymes 2. Explain major metabolic pathways of carbohydrates, proteins, fats and lipids. 3. Describe the nature of genetic materials and their molecular processes 4. Explain concepts, principles and processes involved in plant biotechnology for modification of genetic material 5. Apply the acquired knowledge in biotechnological, pharmaceutical, medical and agricultural applications
3	B.Sc. (Hons.) Agriculture	Fundamental of Soil Science	AGR1053	<ol style="list-style-type: none"> 1. Gain basic knowledge of terms and concepts in soil science and apply this knowledge to new problems and situations 2. Learn the key physical, chemical, and biological aspects of soils 3. Learn field identification of important physical soil attributes
4	B.Sc. (Hons.) Agriculture	Introduction to Forestry	AGR1054	<ol style="list-style-type: none"> 1. Use environmental performance indicators to evaluate the sustainability of various silvicultural management options 2. Choose and employ appropriate concepts, models, and effective techniques to produce and analyze forest resource plans, from woodlots to landscapes, which consider multiple competing objectives 3. Identify complex factors which influence forest management decisions (economical, social, ecological and urban interface).
5	B.Sc. (Hons.) Agriculture	Comprehension and Communication Skills in English	COM100 8	<ol style="list-style-type: none"> 1. Achieve the intended purpose in the writing task, with awareness of audience. 2. Identify and fully develop ideas to a specific thesis 3. Organize ideas effectively 4. Adhere to proper mechanics and style. 5. Achieve clarity of expression in language, argument, rhetorical form, and idea.
6	B.Sc. (Hons.) Agriculture	Fundamentals of Agronomy	AGR1055	<ol style="list-style-type: none"> 1. Name and classify the major food crops and global leaders in their production 2. Explain the physiological processes involved in plant growth and development 3. Discuss the effects of environmental factors on crop growth and productivity

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
7	B.Sc. (Hons.) Agriculture	Introductory Biology*	BIO1001	<ol style="list-style-type: none"> 1. Acquire, integrate and synthesize core biological concepts across different levels of biological organization. 2. Engage in the practices of biological inquiry, including all its complexity and uncertainty. 3. Apply quantitative techniques to investigate biological systems. 4. Communicate science effectively and be critical consumers of scientific information. 5. Recognize the societal context and ethical implications of scientific knowledge.
8	B.Sc. (Hons.) Agriculture	Elementary Mathematics*	MAT190 4	<ol style="list-style-type: none"> 1. Know and demonstrate understanding of different concepts of mathematics i.e. number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics 2. Use mathematics to analyze and solve problems both agriculture and in real-life situations. 3. use appropriate mathematical language (notation, symbols, terminology) in both oral and written explanations
9	B.Sc. (Hons.) Agriculture	Agricultural Heritage*	AGR1751	<ol style="list-style-type: none"> 1. Understand ancient agricultural practices and be able to correlate their relevance in present days' agriculture 2. Apply his/her knowledge of agricultural heritage to solve agricultural problems which have cropped up with modern agriculture system 3. Prioritize and develop organic way of agriculture in terms of crop management
10	B.Sc. (Hons.) Agriculture	Rural Sociology & Educational Psychology	AGR1752	<ol style="list-style-type: none"> 1. Understand concept of rural sociology and its importance in agricultural extension 2. Discuss the characteristics of rural society, village institutions and social organizations 3. Understand how to support his/her own learning and how to help farmers by studying and practicing ideas of rural sociology and agricultural development 4. Explain the actions which an extension specialist can take to research and improve both their professional practice as well as farmer's participation in agricultural development programmes 5. Will be able to evaluate particular rural sociology and community development theories for solving real community problems

S.NO	NAME OF THE PROGRAM	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
11	B.Sc. (Hons.) Agriculture	Human Values & Ethics (Non gradial)	VAL1724	<ol style="list-style-type: none"> 1. Understand the significance of value inputs in a classroom and start applying them in their life and profession 2. Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc. 3. Understand the value of harmonious relationship based on trust and respect in their life and profession 4. Understand the role of a human being in ensuring harmony in society and nature. 5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.
12	B.Sc. (Hons.) Agriculture	NSS/NCC/Physical Education & Yoga Practices (Non- gradial)	AGR1551	<ol style="list-style-type: none"> 1. Utilise their knowledge in finding practical solution to individual and community problems 2. Utilize physical activity as a tool to manage stress. 3. Participate in active learning to stimulate continued inquiry about physical education, health and fitness. 4. Demonstrate basic skills associated with yoga activities including strength and flexibility, balance and coordination 5. Improve personal fitness through participation in yoga, muscular, strength, and muscular endurance activities
13	B.Sc. (Hons.) Agriculture	Fundamentals of Genetics	AGR1056	<ol style="list-style-type: none"> 1. Recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles 2. Describe the fundamental molecular principles of genetics and molecular breeding 3. Understand the relationship between phenotype and genotype in plant genetic traits. 4. Explain the way in which genes code for proteins and expression of quantitative and qualitative traits
14	B.Sc. (Hons.) Agriculture	Agricultural Microbiology	AGR1057	<ol style="list-style-type: none"> 1. Demonstrate theory and practical skills in microscopy and their handling techniques 2. Comprehend the microbial transport systems and mechanisms of energy conservation in microbial metabolism 3. be able to perform routine culture handling tasks and staining procedures safely and effectively 4. Describe different growth requirements of bacteria and get equipped with various methods of bacterial growth measurement.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
15	B.Sc. (Hons.) Agriculture	Soil and Water Conservation Engineering	AGR1058	<ol style="list-style-type: none"> 1. Describe the concept of soil, wind and water erosion and their conservation practices 2. Comprehend the concept of irrigation water measurement, micro irrigation, underground pipeline system along with their designs 3. Demonstrate various water harvesting techniques and their role in current climate change scenario,
16	B.Sc. (Hons.) Agriculture	Fundamentals of Crop Physiology	AGR1059	<ol style="list-style-type: none"> 1. Distinguish key physiological processes underlying the formation of seedlings from seed embryos; 2. Identify the physiological factors that regulate growth and developmental processes of crop plants, and clearly define their roles; 3. Evaluate the different strategies used by plants to acquire and utilize resources, and formulate a logical argument of their impact on crop productivity; 4. Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield
17	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Economics	AGR1753	<ol style="list-style-type: none"> 1. Explain the concept of economy, its functional characteristics and classification of goods and services. 2. Discuss market dynamics due to changes in demand and prices and explain basic features of perfectly competitive and imperfect competitive markets. 3. explain the role of banking in modern economy and discuss the role of planning commission of India and NITI Ayog.
18	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Pathology	AGR1060	<ol style="list-style-type: none"> 1. Examine the important diseases of plants caused by fungi, bacteria, viruses and nematodes 2. Describe the general characteristics of all the plant pathogens alongwith their symptoms on plants 3. Plan integrated management practices of important diseases 4. Demonstrate important rust diseases and their management measures
19	B.Sc. (Hons.) Agriculture	Fundamentals of Entomology	AGR1061	<ol style="list-style-type: none"> 1. Explain the economic importance class Insecta in agriculture 2. Demonstrate the morphological features of insect growth and development 3. Brief about various physiological processes taking place in inset system 4. Explain various modification of important appendages of insects and identify new species emerging as pests 5. Understand concept of ecosystem sustainability through integrated pest management

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20	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Extension Education	AGR1062	<ol style="list-style-type: none"> 1. Understand the need of agricultural extension in communicating agricultural products and technologies to the famers. 2. Demonstrate various methods and strategies required to promote adoption of advance technology and agricultural practice 3. plan extension programme of community/village development and monitor their evaluation.
21	B.Sc. (Hons.) Agriculture	Communication Skills and Personality Development	COM100 9	<ol style="list-style-type: none"> 1. Equipped with both written and spoken communication skills which will help him develop overall personality development 2. Communicate about research proposals, results and more reports effectively and in a scientific manner 3. Compile and write formal and scientific articles, research papers and reports and represent these in groups conferences
22	B.Sc. (Hons.) Agriculture	Educational Tour I (Non gradial)	AGR1552	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self- employment and plan, produce and market their own produce.
23	M.Sc. (Ag) Agronomy	Modern Concepts in Crop Production	AGR5701	<ol style="list-style-type: none"> 1. Describe agro biological principles and practices involved in modern crop production technology 2. Comprehend the ideas of integrated farming system and explain it in relation to modern agriculture. 3. Explain scientific principles of crop production and crop response production functions
24	M.Sc. (Ag) Agronomy	Principles and Practices of Water Management	AGR5001	<ol style="list-style-type: none"> 1. Recognise various practices related with efficient use management of available water and its conservation for future use. 2. Describe the actual water requirement of crops and concept of water use efficiency 3. Discuss the climate resilience practices to be followed in current climate change scenario
25	M.Sc. (Ag) Agronomy	Agronomy of Oilseed, Fibre and Sugar Crops	AGR5002	<ol style="list-style-type: none"> 1. Describe the agricultural practices required for oilseed crops, fibre crops and jute crops 2. Comprehend the idea of climate resilience in major oilseed and fibre crops. 3. Provide with a solution of pest or nutrient problems to the farmers or trainers

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26	M.Sc. (Ag) Agronomy	Statistical methods in Research	MAT5703	<ol style="list-style-type: none"> 1. Organize data into a statistically significant data and represent it in scientific manner 2. Define and compute each of measures of central tendency, measure of dispersion and how it effects overall experimental results. 3. Compute correlation and regression and understand the relationship between correlation and regression. 4. Understand the concepts of probability and probability distribution. 5. Analyse data using tests of significance.
27	M.Sc. (Ag) Agronomy	Agronomy of Fodder and Forage Crops	AGR5003	<ol style="list-style-type: none"> 1. Describe the good production of agricultural practices required for fodder and forage crops. 2. Comprehend the idea of climate resilience in major fodder and forage crops. 3. Provide with a solution of weed, pest or nutrient related issues pertaining to fodder and forage crops
28	M.Sc. (Ag) Agronomy	Cropping Systems and Organic Farming	AGR5702	<ol style="list-style-type: none"> 1. Discuss and assess cropping system in relation to resource sustainability 2. Demonstrate the complete package of practice of crop following organic system and discuss its importance in Indian and Global context. 3. Discuss the effect of artificial fertilizer and manures on plant health and ecosystem
29	M.Sc. (Ag) Agronomy	Principles and Practices of Weed Management	AGR5004	<ol style="list-style-type: none"> 1. Discuss the effect of weeds on plant health, nutrition and yield of a crop 2. Debate about different classes of herbicides with their mode of action and recommend weedicides for different weeds. 3. Demonstrate integrated practices of weed management considering current scenario of ecosystem disturbance.
30	M.Sc. (Ag) Agronomy	Agronomy of Major Cereals and Pulses	AGR5005	<ol style="list-style-type: none"> 1. Describe the agricultural practices required for cereals and pulses of rabi and Kharif season. 2. Cultivate and advise farmers about good agricultural practices to be followed for production of Rabi and Kharif cereals and pulses.
31	M.Sc. (Ag) Agronomy	Master's Research Part-1	AGR5501	<ol style="list-style-type: none"> 1. Plan and use adequate methods to conduct qualified tasks in given frameworks and to evaluate this work 2. Describe more in-depth knowledge of the major subject/field of study, including deeper insight into current research and development work 3. Contribute to research and development work related to suggested topic of research

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18	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Pathology	AGR1060	<ol style="list-style-type: none"> 1. Examine the important diseases of plants caused by fungi, bacteria, viruses and nematodes 2. Describe the general characteristics of all the plant pathogens alongwith their symptoms on plants 3. Plan integrated management practices of important diseases 4. Demonstrate important rust diseases and their management measures
19	B.Sc. (Hons.) Agriculture	Fundamentals of Entomology	AGR1061	<ol style="list-style-type: none"> 1. Explain the economic importance class Insecta in agriculture 2. Demonstrate the morphological features of insect growth and development 3. Brief about various physiological processes taking place in inset system 4. Explain various modification of important appendages of insects and identify new species emerging as pests 5. Understand concept of ecosystem sustainability through integrated pest management

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22	B.Sc. (Hons.) Agriculture	Educational Tour I (Non gradial)	AGR1552	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self- employment and plan, produce and market their own produce.
23	B.Sc. (Hons.) Agriculture	Crop Production Technology – I (Kharif Crops)	AGR2051	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of kharif crops 2. Handle the input and pest management issues in kharif crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
24	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Breeding	AGR2052	<ol style="list-style-type: none"> 1. Describe the hybridization techniques in self & cross pollinated crops and be able to Prepare Plant Breeder's kit for study of various germplasm 2. Handle segregation populations and comprehend the consequences of inbreeding on genetic structure of resulting populations. 3. Design plant breeding experiments which are statistically significant and yield precise results 4. Predict performance of single/double cross hybrids, Open pollinated varieties and lines

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25	B.Sc. (Hons.) Agriculture	Agricultural Finance and Cooperation	AGR2053	<ol style="list-style-type: none"> 1. Understand sources and pattern of agriculture credit in India and institutional framework of Indian agriculture credit 2. Describe the structure of agricultural lending from different sources and role of banks and cooperative societies in it 3. Suggest measures to improve agriculture credit and be aware about recent Government's initiatives.
26	B.Sc. (Hons.) Agriculture	Agri- Informatics	AGR2054	<ol style="list-style-type: none"> 1. Apply knowledge of computer in handling and managing the data of his/her experiments. 2. Will be able to consolidate data in scientific and analytical manner 3. Will be able to reproduce data for further information and interpret the information gained from the data to reach at results 4. Understand the farm decision system and crop planning using IT tools
27	B.Sc. (Hons.) Agriculture	Farm Machinery and Power	AGR2055	<ol style="list-style-type: none"> 1. Describe the use, calibration, adjustment, maintenance and repair of the equipment 2. Handle the primary and secondary tillage, planting, chemical application, and harvesting equipment. 3. Operate tractor mounted/manual driven farm equipments following safety instructions.
28	B.Sc. (Hons.) Agriculture	Production Technology for Vegetables and Spices	AGR2056	<ol style="list-style-type: none"> 1. Understand the basic requirement of climate, soil, improved varieties and cultivation practices for healthy production of vegetables and spices. 2. Describe the complete package of production of any of the vegetable or spices. 3. Plan and execute agricultural operations based on the knowledge gained.
29	B.Sc. (Hons.) Agriculture	Environmental Studies and Disaster Management	AGR2057	<ol style="list-style-type: none"> 1. Understand the natural environment and its relationships with human activities. 2. Characterize and analyze human impacts on the environment. 3. Integrate facts, concepts, and methods from multiple disciplines and apply to environmental problems. 4. Integrate knowledge and manage different public health aspects of disaster events at a local and global levels. 5. Obtain, analyse, and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios.

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30	B.Sc. (Hons.) Agriculture	Statistical Methods	MAT1003	<ol style="list-style-type: none"> 1. Calculate and apply statistical measures to grouped and ungrouped data cases and provide with the solution to various agricultural research problems 2. Suggest the tests of significance to be used under different situations and be able to interpret the data based on the results 3. perform correlation and regression for multifactorial data using computer software.
31	B.Sc. (Hons.) Agriculture	Livestock and Poultry Management	AGR2058	<ol style="list-style-type: none"> 1. Understand various farm animals and poultry birds along with their importance in Agricultural system 2. Describe the housing system for both livestock and poultry and to prepare the students to design these according to the requirement 3. Formulate rations and feeding for dairy cattle and buffaloes and feed for poultry 4. Suggest methods to improve productivity of dairy animals and poultry birds
32	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2001	<ol style="list-style-type: none"> 1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process
33	B.Sc. (Hons.) Agriculture	Crop Production Technology –II (Rabi Crops)	AGR2059	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of Rabi crops 2. Handle input and pest management issues in Rabi crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
34	B.Sc. (Hons.) Agriculture	Production Technology for Ornamental Crops, MAP and Landscaping	AGR2060	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of ornamental crops, aromatic plants and medicinal crops 2. Handle the pest management issues in ornamental crops 3. Describe extraction of essential oils and processing of medicinal and aromatic plants 4. Will be able to follow good agricultural practices and help sustain the agricultural system

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35	B.Sc. (Hons.) Agriculture	Renewable Energy and Green Technology	AGR2061	<ol style="list-style-type: none"> 1. Describe the environmental aspects of non-conventional energy resources in comparison with various conventional energy systems. 2. Know the need of renewable energy resources and latest developments in green energy technology 3. Compare Solar, Wind and bio energy systems and can discuss their prospects, advantages and limitations. 4. Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.
36	B.Sc. (Hons.) Agriculture	Problematic Soils and their Management	AGR2751	<ol style="list-style-type: none"> 1. Identify problematic soils, set up a plan for their reclamation and their post-reclamation management in a manner that is sustainable. 2. handle, reclaim and manage issues associated with problematic soils
37	B.Sc. (Hons.) Agriculture	Production Technology for Fruit and Plantation Crops	AGR2062	<ol style="list-style-type: none"> 1. Understand the importance of cultivation of fruit trees and plantation crops 2. Describe the production technology for major fruit crops of India 3. Will be able to manage physiological disorders occurring in fruit crops. 4. Explain the good agricultural practices followed for cultivating fruit crops and help sustain the agricultural system.
38	B.Sc. (Hons.) Agriculture	Principles of Seed Technology	AGR2063	<ol style="list-style-type: none"> 1. understand the protocols of seed production/ testing/processing 2. produce quality seed of major kharif and Rabi crops following advanced and scientific seed production practices 3. start his/her own seed production business after the completion of this course
39	B.Sc. (Hons.) Agriculture	Farming System & Sustainable Agriculture	AGR2752	<ol style="list-style-type: none"> 1. Understand farming system in India and major factors affecting cropping system and cropping pattern 2. Describe the indicators of sustainability like adaptation ,mitigation, conservation agriculture 3. Comprehend the problems faced by Indian farming system and provide with a sustainable integrated approach to handle these.
40	B.Sc. (Hons.) Agriculture	Agricultural Marketing Trade & Prices	AGR2064	<ol style="list-style-type: none"> 1. Describe the fundamentals of agricultural marketing with understanding of demand and supply of commodities 2. Will be able to discuss functions of agricultural market and role of different agencies in controlling the cost and price of inputs 3. Will gain sufficient knowledge about concepts of trade and tariffs related to agricultural commodities.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
41	B.Sc. (Hons.) Agriculture	Introductory Agro- meteorology & Climate Change	AGR2065	<ol style="list-style-type: none"> 1. Understand the role of agro-meteorology in sustaining the crop production 2. To monitor agricultural droughts on crop-wise for effective drought management. 3. To prepare crop weather diagrams and crop weather calendars. 4. To develop crop growth simulation models for assessing/obtaining potential yields under different climatic conditions 5. To develop weather based agro advisories to sustain crop production utilizing various types of weather forecast and seasonal climate forecast.
42	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR2068	<ol style="list-style-type: none"> 1. Develop varieties with higher yield potential, more durable pest and disease resistance, and market-relevant end-use quality 2. Demonstrate seed production technologies in major crops 3. Use tissue culture techniques and biotechnological tools for the improvement of desirable traits in crops
43	B.Sc. (Hons.) Agriculture	Protected Cultivation	AGR2072	<ol style="list-style-type: none"> 1. Apply his/her knowledge of cropping technique to control the micro climate surrounding the plant as per the requirement of crop 2. Demonstrate the green house technologies to farmers and entrepreneurs to enable them to start their own production and produce crop in off season using glasshouse technology. 3. Respond to new challenges of the market and of production in protected horticulture, both in their professional and their research dimensions.
	B.Sc. (Hons.) Agriculture	Hi-tech. Horticulture	AGR2074	<ol style="list-style-type: none"> 1. Produce quality planting material of fruit crops using modern techniques of protected cultivation, glass house technology and micro propagation methods 2. Acquire skill in nursery production of commercially important ornamentals and horticultural crops 3. Demonstrate several techniques to propagate and multiply horticultural crops and commercial nurseries to meet the demand of industry. 4. Use and apply precision tools in production of fruits, vegetables and ornamental crops
44	B.Sc. (Hons.) Agriculture	Agricultural Journalism	AGR2077	<ol style="list-style-type: none"> 1. Gather agricultural information and write stories about conventional and modern agricultural system 2. Examine communication and human dimension issues in relation to agriculture 3. Cover a wide range of areas, assessing and reporting all stages from agricultural research and production to processing, marketing, consumption, nutrition and health.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
45	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2002	<ol style="list-style-type: none"> 1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process
46	B.Sc. (Hons.) Agriculture	Educational Tour II (Non gradial)	AGR2551	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self- employment and plan, produce and market their own produce.
47	M.Sc. (Ag) Agronomy	Seminar	AGR6501	<ol style="list-style-type: none"> 1. To gather, analyze and apply information from various sources, specifically agricultural theories, to formulate convincing arguments, communicate academic ideas, produce conclusions and acquire academic writing skills. 2. Gain presentation as well as communication skills by presenting his/her research into any conference/workshop to heterogenous audience.
48	M.Sc. (Ag) Agronomy	Theory and Practice of Plant Breeding	AGR6002	<ol style="list-style-type: none"> 1. Discuss the role of plant genetic resources in plant breeding and crop improvement practices 2. Produce and handle breeding material independently and 3. Demonstrate different breeding strategies for biotic and abiotic stresses and their role in sustainable crop production
49	M.Sc. (Ag) Agronomy	Introduction to Breeding of Field Crops	AGR6701	<ol style="list-style-type: none"> 1. Demonstrate the conventional and modern biotechnological tools involved in improvement of field crops 2. Describe genetic principles underlying crop improvement 3. Discuss the problems and current scenario of crop improvement in relation to India and global context.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
50	M.Sc. (Ag) Agronomy	Soil Physical and Biological Environment	AGR6005	<ol style="list-style-type: none"> 1. Discuss the physical and biological environment of soil in relation to plant growth 2. Describe the interaction of soil micro fauna and its role in soil activities. 3. Explain microbial transformation of nitrogen and phosphorus in soil and then factors influencing this activity
51	M.Sc. (Ag) Agronomy	Master's Research Part- 2	AGR6502	<ol style="list-style-type: none"> 1. Plan and use adequate methods to conduct qualified tasks in given framework and timeline 2. Use a holistic view to critically, independently and creatively identify, formulate and deal with complex issues in real field situation. 3. Undertake research or project independently using different empirical methods and analytical approaches 4. Demonstrate knowledge of responsibilities and norms of agricultural research whether working as individual or in collaboration research
52	M.Sc. (Ag) Agronomy	Master's Research Part- 3	AGR6503	<ol style="list-style-type: none"> 1. Demonstrate the ability to analyse critically the relevant literature and to use it as a tool of analysis 2. Use scientific and statistical tools to examine and analyse a range of data to reach at a well-defined conclusion and suggest future course of studies 3. Comprehend and apply knowledge of agronomical principles and procedures to defined agricultural issues 4. Create, analyse and critically evaluate different scientific and technological issues of production system and suggest a viable solution 5. Demonstrate the ability to use research and research management skills and analytical methodologies appropriately to formulate future research philosophies

YEAR 2020-21

1	B.Sc. (Hons.) Agriculture	Fundamentals of Horticulture	AGR1051	<ol style="list-style-type: none"> 1. Define and describe the significance of horticulture to society. 2. Demonstrate a working knowledge of the fundamental principles and practices of growing horticultural crops 3. Apply and utilize the fundamentals of horticultural crops to economic production of fruits and vegetables and also in horticultural research
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S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
2	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Biochemistry and Biotechnology	AGR1052	<ol style="list-style-type: none"> 1. Recognize the structures and properties of the four major classes of biomolecules and catalytic properties of enzymes 2. Explain major metabolic pathways of carbohydrates, proteins, fats and lipids. 3. Describe the nature of genetic materials and their molecular processes 4. Explain concepts, principles and processes involved in plant biotechnology for modification of genetic material 5. Apply the acquired knowledge in biotechnological, pharmaceutical, medical and agricultural applications
3	B.Sc. (Hons.) Agriculture	Fundamental of Soil Science	AGR1053	<ol style="list-style-type: none"> 1. Gain basic knowledge of terms and concepts in soil science and apply this knowledge to new problems and situations 2. Learn the key physical, chemical, and biological aspects of soils 3. Learn field identification of important physical soil attributes
4	B.Sc. (Hons.) Agriculture	Introduction to Forestry	AGR1054	<ol style="list-style-type: none"> 1. Use environmental performance indicators to evaluate the sustainability of various silvicultural management options 2. Choose and employ appropriate concepts, models, and effective techniques to produce and analyze forest resource plans, from woodlots to landscapes, which consider multiple competing objectives 3. Identify complex factors which influence forest management decisions (economical, social, ecological and urban interface).
5	B.Sc. (Hons.) Agriculture	Comprehension and Communication Skills in English	COM1008	<ol style="list-style-type: none"> 1. Achieve the intended purpose in the writing task, with awareness of audience. 2. Identify and fully develop ideas to a specific thesis 3. Organize ideas effectively 4. Adhere to proper mechanics and style. 5. Achieve clarity of expression in language, argument, rhetorical form, and idea.
6	B.Sc. (Hons.) Agriculture	Fundamentals of Agronomy	AGR1055	<ol style="list-style-type: none"> 1. Name and classify the major food crops and global leaders in their production 2. Explain the physiological processes involved in plant growth and development 3. Discuss the effects of environmental factors on crop growth and productivity
7	B.Sc. (Hons.) Agriculture	Introductory Biology*	BIO1001	<ol style="list-style-type: none"> 1. Acquire, integrate and synthesize core biological concepts across different levels of biological organization. 2. Engage in the practices of biological inquiry, including all its complexity and uncertainty. 3. Apply quantitative techniques to investigate biological systems. 4. Communicate science effectively and be critical consumers of scientific information. 5. Recognize the societal context and ethical implications of scientific knowledge.
8	B.Sc. (Hons.) Agriculture	Elementary Mathematics*	MAT1904	<ol style="list-style-type: none"> 1. Know and demonstrate understanding of different concepts of mathematics i.e. number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics 2. Use mathematics to analyze and solve problems both agriculture and in real-life situations. 3. use appropriate mathematical language (notation, symbols, terminology) in both oral and written explanations

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
9	B.Sc. (Hons.) Agriculture	Agricultural Heritage*	AGR1751	<ol style="list-style-type: none"> 1. Understand ancient agricultural practices and be able to correlate their relevance in present days' agriculture 2. Apply his/her knowledge of agricultural heritage to solve agricultural problems which have cropped up with modern agriculture system 3. Prioritize and develop organic way of agriculture in terms of crop management
10	B.Sc. (Hons.) Agriculture	Rural Sociology & Educational Psychology	AGR1752	<ol style="list-style-type: none"> 1. Understand concept of rural sociology and its importance in agricultural extension 2. Discuss the characteristics of rural society, village institutions and social organizations 3. Understand how to support his/her own learning and how to help farmers by studying and practicing ideas of rural sociology and agricultural development 4. Explain the actions which an extension specialist can take to research and improve both their professional practice as well as famer's participation in agricultural development programmes 5. Will be able to evaluate particular rural sociology and community development theories for solving real community problems
11	B.Sc. (Hons.) Agriculture	Human Values & Ethics (Non gradial)	VAL1724	<ol style="list-style-type: none"> 1. Understand the significance of value inputs in a classroom and start applying them in their life and profession 2. Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc. 3. Understand the value of harmonious relationship based on trust and respect in their life and profession 4. Understand the role of a human being in ensuring harmony in society and nature. 5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.
12	B.Sc. (Hons.) Agriculture	NSS/NCC/Physical Education & Yoga Practices (Non-gradial)	AGR1551	<ol style="list-style-type: none"> 1. Utilise their knowledge in finding practical solution to individual and community problems 2. Utilize physical activity as a tool to manage stress. 3. Participate in active learning to stimulate continued inquiry about physical education, health and fitness. 4. Demonstrate basic skills associated with yoga activities including strength and flexibility, balance and coordination 5. Improve personal fitness through participation in yoga, muscular, strength, and muscular endurance activities
13	B.Sc. (Hons.) Agriculture	Fundamentals of Genetics	AGR1056	<ol style="list-style-type: none"> 1. Recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles 2. Describe the fundamental molecular principles of genetics and molecular breeding 3. Understand the relationship between phenotype and genotype in plant genetic traits. 4. Explain the way in which genes code for proteins and expression of quantitative and qualitative traits

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
14	B.Sc. (Hons.) Agriculture	Agricultural Microbiology	AGR1057	<ol style="list-style-type: none"> 1. Demonstrate theory and practical skills in microscopy and their handling techniques 2. Comprehend the microbial transport systems and mechanisms of energy conservation in microbial metabolism 3. be able to perform routine culture handling tasks and staining procedures safely and effectively 4. Describe different growth requirements of bacteria and get equipped with various methods of bacterial growth measurement.
15	B.Sc. (Hons.) Agriculture	Soil and Water Conservation Engineering	AGR1058	<ol style="list-style-type: none"> 1. Describe the concept of soil, wind and water erosion and their conservation practices 2. Comprehend the concept of irrigation water measurement, micro irrigation, underground pipeline system along with their designs 3. Demonstrate various water harvesting techniques and their role in current climate change scenario,
16	B.Sc. (Hons.) Agriculture	Fundamentals of Crop Physiology	AGR1059	<ol style="list-style-type: none"> 1. Distinguish key physiological processes underlying the formation of seedlings from seed embryos; 2. Identify the physiological factors that regulate growth and developmental processes of crop plants, and clearly define their roles; 3. Evaluate the different strategies used by plants to acquire and utilize resources, and formulate a logical argument of their impact on crop productivity; 4. Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield
17	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Economics	AGR1753	<ol style="list-style-type: none"> 1. Explain the concept of economy, its functional characteristics and classification of goods and services. 2. Discuss market dynamics due to changes in demand and prices and explain basic features of perfectly competitive and imperfect competitive markets. 3. explain the role of banking in modern economy and discuss the role of planning commission of India and NITI Ayog.
18	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Pathology	AGR1060	<ol style="list-style-type: none"> 1. Examine the important diseases of plants caused by fungi, bacteria, viruses and nematodes 2. Describe the general characteristics of all the plant pathogens alongwith their symptoms on plants 3. Plan integrated management practices of important diseases 4. Demonstrate important rust diseases and their management measures
19	B.Sc. (Hons.) Agriculture	Fundamentals of Entomology	AGR1061	<ol style="list-style-type: none"> 1. Explain the economic importance class Insecta in agriculture 2. Demonstrate the morphological features of insect growth and development 3. Brief about various physiological processes taking place in inset system 4. Explain various modification of important appendages of insects and identify new species emerging as pests 5. Understand concept of ecosystem sustainability through integrated pest management

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
20	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Extension Education	AGR1062	<ol style="list-style-type: none"> 1. Understand the need of agricultural extension in communicating agricultural products and technologies to the famers. 2. Demonstrate various methods and strategies required to promote adoption of advance technology and agricultural practice 3. plan extension programme of community/village development and monitor their evaluation.
21	B.Sc. (Hons.) Agriculture	Communication Skills and Personality Development	COM1009	<ol style="list-style-type: none"> 1. Equipped with both written and spoken communication skills which will help him develop overall personality development 2. Communicate about research proposals, results and more reports effectively and in a scientific manner 3. Compile and write formal and scientific articles, research papers and reports and represent these in groups conferences
22	B.Sc. (Hons.) Agriculture	Educational Tour I (Non gradial)	AGR1552	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.
23	B.Sc. (Hons.) Agriculture	Crop Production Technology – I (Kharif Crops)	AGR2051	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of kharif crops 2. Handle the input and pest management issues in kharif crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
24	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Breeding	AGR2052	<ol style="list-style-type: none"> 1. Describe the hybridization techniques in self & cross pollinated crops and be able to Prepare Plant Breeder's kit for study of various germplasm 2. Handle segregation populations and comprehend the consequences of inbreeding on genetic structure of resulting populations. 3. Design plant breeding experiments which are statistically significant and yield precise results 4. Predict performance of single/double cross hybrids, Open pollinated varieties and lines
25	B.Sc. (Hons.) Agriculture	Agricultural Finance and Cooperation	AGR2053	<ol style="list-style-type: none"> 1. Understand sources and pattern of agriculture credit in India and institutional framework of Indian agriculture credit 2. Describe the structure of agricultural lending from different sources and role of banks and cooperative societies in it 3. Suggest measures to improve agriculture credit and be aware about recent Government's initiatives.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
26	B.Sc. (Hons.) Agriculture	Agri- Informatics	AGR2054	<ol style="list-style-type: none"> 1. Apply knowledge of computer in handling and managing the data of his/her experiments. 2. Will be able to consolidate data in scientific and analytical manner 3. Will be able to reproduce data for further information and interpret the information gained from the data to reach at results 4. Understand the farm decision system and crop planning using IT tools
27	B.Sc. (Hons.) Agriculture	Farm Machinery and Power	AGR2055	<ol style="list-style-type: none"> 1. Describe the use, calibration, adjustment, maintenance and repair of the equipment 2. Handle the primary and secondary tillage, planting, chemical application, and harvesting equipment. 3. Operate tractor mounted/manual driven farm equipments following safety instructions.
28	B.Sc. (Hons.) Agriculture	Production Technology for Vegetables and Spices	AGR2056	<ol style="list-style-type: none"> 1. Understand the basic requirement of climate, soil, improved varieties and cultivation practices for healthy production of vegetables and spices. 2. Describe the complete package of production of any of the vegetable or spices. 3. Plan and execute agricultural operations based on the knowledge gained.
29	B.Sc. (Hons.) Agriculture	Environmental Studies and Disaster Management	AGR2057	<ol style="list-style-type: none"> 1. Understand the natural environment and its relationships with human activities. 2. Characterize and analyze human impacts on the environment. 3. Integrate facts, concepts, and methods from multiple disciplines and apply to environmental problems. 4. integrate knowledge and manage different public health aspects of disaster events at a local and global levels. 5. Obtain, analyse, and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios.
30	B.Sc. (Hons.) Agriculture	Statistical Methods	MAT1003	<ol style="list-style-type: none"> 1. Calculate and apply statistical measures to grouped and ungrouped data cases and provide with the solution to various agricultural research problems 2. Suggest the tests of significance to be used under different situations and be able to interpret the data based on the results 3. perform correlation and regression for multifactorial data using computer software.
31	B.Sc. (Hons.) Agriculture	Livestock and Poultry Management	AGR2058	<ol style="list-style-type: none"> 1. Understand various farm animals and poultry birds along with their importance in Agricultural system 2. Describe the housing system for both livestock and poultry and to prepare the students to design these according to the requirement 3. Formulate rations and feeding for dairy cattle and buffaloes and feed for poultry 4. Suggest methods to improve productivity of dairy animals and poultry birds
32	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2001	<ol style="list-style-type: none"> 1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
33	B.Sc. (Hons.) Agriculture	Crop Production Technology –II (Rabi Crops)	AGR2059	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of Rabi crops 2. Handle input and pest management issues in Rabi crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
34	B.Sc. (Hons.) Agriculture	Production Technology for Ornamental Crops, MAP and Landscaping	AGR2060	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of ornamental crops, aromatic plants and medicinal crops 2. Handle the pest management issues in ornamental crops 3. Describe extraction of essential oils and processing of medicinal and aromatic plants 4. Will be able to follow good agricultural practices and help sustain the agricultural system
35	B.Sc. (Hons.) Agriculture	Renewable Energy and Green Technology	AGR2061	<ol style="list-style-type: none"> 1. Describe the environmental aspects of non-conventional energy resources in comparison with various conventional energy systems. 2. Know the need of renewable energy resources and latest developments in green energy technology 3. Compare Solar, Wind and bio energy systems and can discuss their prospects, advantages and limitations. 4. Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.
36	B.Sc. (Hons.) Agriculture	Problematic Soils and their Management	AGR2751	<ol style="list-style-type: none"> 1. Identify problematic soils, set up a plan for their reclamation and their post- reclamation management in a manner that is sustainable. 2. handle, reclaim and manage issues associated with problematic soils
37	B.Sc. (Hons.) Agriculture	Production Technology for Fruit and Plantation Crops	AGR2062	<ol style="list-style-type: none"> 1. Understand the importance of cultivation of fruit trees and plantation crops 2. Describe the production technology for major fruit crops of India 3. Will be able to manage physiological disorders occurring in fruit crops. 4. Explain the good agricultural practices followed for cultivating fruit crops and help sustain the agricultural system.
38	B.Sc. (Hons.) Agriculture	Principles of Seed Technology	AGR2063	<ol style="list-style-type: none"> 1. understand the protocols of seed production/ testing/processing 2. produce quality seed of major kharif and Rabi crops following advanced and scientific seed production practices 3. start his/her own seed production business after the completion of this course
39	B.Sc. (Hons.) Agriculture	Farming System & Sustainable Agriculture	AGR2752	<ol style="list-style-type: none"> 1. Understand farming system in India and major factors affecting cropping system and cropping pattern 2. Describe the indicators of sustainability like adaptation ,mitigation, conservation agriculture 3. Comprehend the problems faced by Indian farming system and provide with a sustainable integrated approach to handle these.
40	B.Sc. (Hons.) Agriculture	Agricultural Marketing Trade & Prices	AGR2064	<ol style="list-style-type: none"> 1. Describe the fundamentals of agricultural marketing with understanding of demand and supply of commodities 2. Will be able to discuss functions of agricultural market and role of different agencies in controlling the cost and price of inputs 3. Will gain sufficient knowledge about concepts of trade and tariffs related to agricultural commodities.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
41	B.Sc. (Hons.) Agriculture	Introductory Agro- meteorology & Climate Change	AGR2065	<ol style="list-style-type: none"> 1. Understand the role of agro-meteorology in sustaining the crop production 2. To monitor agricultural droughts on crop-wise for effective drought management. 3. To prepare crop weather diagrams and crop weather calendars. 4. To develop crop growth simulation models for assessing/obtaining potential yields under different climatic conditions 5. To develop weather based agro advisories to sustain crop production utilizing various types of weather forecast and seasonal climate forecast.
42	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR2068	<ol style="list-style-type: none"> 1. Develop varieties with higher yield potential, more durable pest and disease resistance, and market-relevant end-use quality 2. Demonstrate seed production technologies in major crops 3. Use tissue culture techniques and biotechnological tools for the improvement of desirable traits in crops
43	B.Sc. (Hons.) Agriculture	Protected Cultivation	AGR2072	<ol style="list-style-type: none"> 1. Apply his/her knowledge of cropping technique to control the micro climate surrounding the plant as per the requirement of crop 2. Demonstrate the green house technologies to farmers and entrepreneurs to enable them to start their own production and produce crop in off season using glasshouse technology. 3. Respond to new challenges of the market and of production in protected horticulture, both in their professional and their research dimensions.
44	B.Sc. (Hons.) Agriculture	Agricultural Journalism	AGR2077	<ol style="list-style-type: none"> 1. Gather agricultural information and write stories about conventional and modern agricultural system 2. Examine communication and human dimension issues in relation to agriculture 3. Cover a wide range of areas, assessing and reporting all stages from agricultural research and production to processing, marketing, consumption, nutrition and health.
45	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2002	<ol style="list-style-type: none"> 1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process
46	B.Sc. (Hons.) Agriculture	Educational Tour II (Non gradial)	AGR2551	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
47	B.Sc. (Hons.) Agriculture	Principles of Integrated Pest and Disease Management	AGR3051	1.Comprehend different IPM concepts and apply these as and when required for sustaining the agricultural system 2.Apply knowledge gained to solve actual pest management problems in standing crop and recommend the management practices Plan and implement IPM programmes both at local and state level
48	B.Sc. (Hons.) Agriculture	Manures, Fertilizers and Soil Fertility Management	AGR3052	1. Students will gain knowledge about cosmetic excipients suited according to cosmetic application site 2 Students will learn principles of formulation and building blocks of skin and hair care products 3 Students will learn role of herbs and analytical methods for cosmetics 4 Students will gain knowledge about cosmetic evaluation 5 Students will learn to correct cosmetic problems associated with skin and hair
49	B.Sc. (Hons.) Agriculture	Pests of Crops and Stored Grain and their Management	AGR3053	1. To familiarize the students about nature of damage and seasonal incidence of insect pests which cause loss to major field crops and their effective management by different methods. 2. To make the students identify pests which attack on crops and in storage, methods and devices used in sampling, the overall value of sampling grain, preventive and responsive management techniques and proper use of grain protectant and fumigation. 3. To acquaint with different strategies for management of crop pests under field and storage conditions. 4. To teach the students the basic skills for handling and storing grain so as to enable them to make timely pest management decisions, while also protecting the quality of stored grains and the environment.
50	B.Sc. (Hons.) Agriculture	Diseases of Field and Horticultural Crops and their Management -I	AGR3054	1.Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2.Describe complete etiology of disease and be able to prepare disease forecasting models 3.Plan and evaluate integrated disease management programme at village or district level
51	B.Sc. (Hons.) Agriculture	Crop Improvement-I (Kharif Crop)	AGR3055	1.Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2.Provide a safer, more biologically sustainable way of managing insect pests, diseases and weeds etc. 3.Plan and execute the strategies of crop improvement in important food and fibre crops of India.
52	B.Sc. (Hons.) Agriculture	Geoinformatics and Nano-technology and Precision Farming	AGR3056	1.Apply the knowledge of precision tools and help in guiding and educating the farmers to get higher crop productivity through scientific farming. 2.Explain instrumentation and methodology of various tools used in precision farming and discuss the impact of precision techniques on soil fertility, nutrient dynamics and crop productivity. 3.Develop database of agriculture resources, which will act as decision support system at the farm
53	B.Sc. (Hons.) Agriculture	Rainfed Agriculture & Watershed Management	AGR3057	1.Apply principles of dry farming applicable to Indian conditions 2.Introduce improved soil and moisture conservation measures, better crop and rangeland management practices to increase production of crops, forage, fruits, fuel and timber in rainfed areas. 3.Develop practices for rainfed farming and suggest suitable measures for dry areas of India and plan future line of research and extension.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
54	B.Sc. (Hons.) Agriculture	Protected Cultivation and Secondary Agriculture	AGR3058	1.Explain the roe of greenhouse technology in increasing agricultural productivity and quality of the produce 2.Describe proper functioning of glass house and be able to produce his/her own off season produce with better utilization of available resources
55	B.Sc. (Hons.) Agriculture	Diseases of field and Horticulture Crops and their Management -II	AGR3059	1.Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2.Describe complete etiology of disease and be able to prepare disease forecasting models 3.Plan and evaluate integrated disease management programme at village or district level
56	B.Sc. (Hons.) Agriculture	Post-Harvest Management and Value Addition of Fruits and Vegetables	AGR3060	1.Understand post- harvest technology and value addition of horticultural crops 2.Acquire knowledge on novel packaging techniques of fruits and vegetables 3.Understand the work space, tool and equipment design for processing and packaging of horticultural crops 4.demonstrate various certification and accreditation processes of horticultural produce
57	B.Sc. (Hons.) Agriculture	Management of Beneficial Insects	AGR3061	1.Recognise various natural enemies of insect pests and identify their habitats 2.Demonstrate rearing technology of honey bees, silkworms and lac insects 3.Design and implement habitat improvements practices including site preparation, insectary strip plantings, hedgerows, beetle banks etc. 4.Explain conservation Programs and practices supporting pollinators, other beneficial insects, and wildlife conservation.
58	B.Sc. (Hons.) Agriculture	Crop Improvement –II(Rabi Crops)	AGR3062	1.Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2.Provide a safer, biologically sustainable way of managing insect pests, diseases and weeds by resaistance breeding 3.Plan and execute the strategies of crop improvement in important food and fibre crops of India.
59	B.Sc. (Hons.) Agriculture	Principles of Organic Farming	AGR3063	1.Summarise the aims and objectives of organic farming and identify the regulations governing organic farming 2.Identify and explain the key principles and practices involved in maintaining soil fertility and plant productivity and health in organic farming systems 3.Discuss the role of the market and other factors influencing the physical and financial performance of organic farming and their implications for the adoption of organic farming Discuss the contribution of organic farming to food quality, environmental and social policy objectives and outline the future policies
60	B.Sc. (Hons.) Agriculture	Farm Management, Production & Resource Economics	AGR3064	1.Interpret, analyse and evaluate the financial and economic performance of an agricultural business 2.Undertake risk analysis for agricultural businesses and agricultural investments 3.Identify appropriate strategies for agribusiness analysis by interpreting management objectives, resource implications, risk factors and applying optimisation techniques 4.Analyse profitability, cash flows and business structures

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
61	B.Sc. (Hons.) Agriculture	Practical Crop Production –I (Kharif Crops)	AGR3551	1. Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field. 2. Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application. 3. Guide the farmers for handling, transporting and safe storage of their produce.
62	B.Sc. (Hons.) Agriculture	Practical Crop Production –II (Rabi crops)	AGR3552	1. Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field. 2. Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application. 3. Guide the farmers for handling, transporting and safe storage of their produce.
63	B.Sc. (Hons.) Agriculture	Principles of Food Science and Nutrition	AGR3751	1. Outline steps in the body processes of digestion and metabolism and relate them to the health and nutrition of the individual. 2. Explain the effects of common food preparation methods and food storage conditions on survival and growth of microbial contaminants. 3. Describe techniques that can be used to monitor quality of raw ingredients and final products.
64	M.Sc. (Ag) Agronomy	Modern Concepts in Crop Production	AGR5701	1. Describe agro biological principles and practices involved in modern crop production technology 2. Comprehend the ideas of integrated farming system and explain it in relation to modern agriculture. 3. Explain scientific principles of crop production and crop response production functions
65	M.Sc. (Ag) Agronomy	Principles and Practices of Water Management	AGR5001	1. Recognise various practices related with efficient use management of available water and its conservation for future use. 2. Describe the actual water requirement of crops and concept of water use efficiency 3. Discuss the climate resilience practices to be followed in current climate change scenario
66	M.Sc. (Ag) Agronomy	Agronomy of Oilseed, Fibre and Sugar Crops	AGR5002	1. Describe the agricultural practices required for oilseed crops, fibre crops and jute crops 2. Comprehend the idea of climate resilience in major oilseed and fibre crops. 3. Provide with a solution of pest or nutrient problems to the farmers or trainers
67	M.Sc. (Ag) Agronomy	Statistical methods in Research	MAT5703	1. Organize data into a statistically significant data and represent it in scientific manner 2. Define and compute each of measures of central tendency, measure of dispersion and how it effects overall experimental results. 3. Compute correlation and regression and understand the relationship between correlation and regression. 4. Understand the concepts of probability and probability distribution. 5. Analyse data using tests of significance.
68	M.Sc. (Ag) Agronomy	Agronomy of Fodder and Forage Crops	AGR5003	1. Describe the good production of agricultural practices required for fodder and forage crops. 2. Comprehend the idea of climate resilience in major fodder and forage crops. 3. Provide with a solution of weed, pest or nutrient related issues pertaining to fodder and forage crops

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
69	M.Sc. (Ag) Agronomy	Cropping Systems and Organic Farming	AGR5702	<ol style="list-style-type: none"> 1. Discuss and assess cropping system in relation to resource sustainability 2. Demonstrate the complete package of practice of crop following organic system and discuss its importance in Indian and Global context. 3. Discuss the effect of artificial fertilizer and manures on plant health and ecosystem
70	M.Sc. (Ag) Agronomy	Principles and Practices of Weed Management	AGR5004	<ol style="list-style-type: none"> 1. Discuss the effect of weeds on plant health, nutrition and yield of a crop 2. Debate about different classes of herbicides with their mode of action and recommend weedicides for different weeds. 3. Demonstrate integrated practices of weed management considering current scenario of ecosystem disturbance.
71	M.Sc. (Ag) Agronomy	Agronomy of Major Cereals and Pulses	AGR5005	<ol style="list-style-type: none"> 1. Describe the agricultural practices required for cereals and pulses of rabi and Kharif season. 2. Cultivate and advise farmers about good agricultural practices to be followed for production of Rabi and Kharif cereals and pulses.
72	M.Sc. (Ag) Agronomy	Master's Research Part- 1	AGR5501	<ol style="list-style-type: none"> 1. Plan and use adequate methods to conduct qualified tasks in given frameworks and to evaluate this work 2. Describe more in-depth knowledge of the major subject/field of study, including deeper insight into current research and development work 3. Contribute to research and development work related to suggested topic of research
73	M.Sc. (Ag) Agronomy	Seminar	AGR6501	<ol style="list-style-type: none"> 1. To gather, analyze and apply information from various sources, specifically agricultural theories, to formulate convincing arguments, communicate academic ideas, produce conclusions and acquire academic writing skills. 2. Gain presentation as well as communication skills by presenting his/her research into any conference/workshop to heterogenous audience.
74	M.Sc. (Ag) Agronomy	Theory and Practice of Plant Breeding	AGR6002	<ol style="list-style-type: none"> 1. Discuss the role of plant genetic resources in plant breeding and crop improvement practices 2. Produce and handle breeding material independently and 3. Demonstrate different breeding strategies for biotic and abiotic stresses and their role in sustainable crop production
75	M.Sc. (Ag) Agronomy	Introduction to Breeding of Field Crops	AGR6701	<ol style="list-style-type: none"> 1. Demonstrate the conventional and modern biotechnological tools involved in improvement of field crops 2. Describe genetic principles underlying crop improvement 3. Discuss the problems and current scenario of crop improvement in relation to India and global context.
76	M.Sc. (Ag) Agronomy	Soil Physical and Biological Environment	AGR6005	<ol style="list-style-type: none"> 1. Discuss the physical and biological environment of soil in relation to plant growth 2. Describe the interaction of soil micro fauna and its role in soil activities. 3. Explain microbial transformation of nitrogen and phosphorus in soil and then factors influencing this activity

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
77	M.Sc. (Ag) Agronomy	Master's Research Part- 2	AGR6502	<ol style="list-style-type: none"> 1. Plan and use adequate methods to conduct qualified tasks in given framework and timeline 2. Use a holistic view to critically, independently and creatively identify, formulate and deal with complex issues in real field situation. 3. Undertake research or project independently using different empirical methods and analytical approaches 4. Demonstrate knowledge of responsibilities and norms of agricultural research whether working as individual or in collaboration research
78	M.Sc. (Ag) Agronomy	Master's Research Part- 3	AGR6503	<ol style="list-style-type: none"> 1. Demonstrate the ability to analyse critically the relevant literature and to use it as a tool of analysis 2. Use scientific and statistical tools to examine and analyse a range of data to reach at a well-defined conclusion and suggest future course of studies 3. Comprehend and apply knowledge of agronomical principles and procedures to defined agricultural issues 4. Create, analyse and critically evaluate different scientific and technological issues of production system and suggest a viable solution 5. Demonstrate the ability to use research and research management skills and analytical methodologies appropriately to formulate future research philosophies
YEAR 2021-22				
1	B.Sc. (Hons.) Agriculture	Fundamentals of Horticulture	AGR1051	<ol style="list-style-type: none"> 1. Define and describe the significance of horticulture to society. 2. Demonstrate a working knowledge of the fundamental principles and practices of growing horticultural crops 3. Apply and utilize the fundamentals of horticultural crops to economic production of fruits and vegetables and also in horticultural research
2	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Biochemistry and Biotechnology	AGR1052	<ol style="list-style-type: none"> 1. Recognize the structures and properties of the four major classes of biomolecules and catalytic properties of enzymes 2. Explain major metabolic pathways of carbohydrates, proteins, fats and lipids. 3. Describe the nature of genetic materials and their molecular processes 4. Explain concepts, principles and processes involved in plant biotechnology for modification of genetic material 5. Apply the acquired knowledge in biotechnological, pharmaceutical, medical and agricultural applications
3	B.Sc. (Hons.) Agriculture	Fundamental of Soil Science	AGR1053	<ol style="list-style-type: none"> 1. Gain basic knowledge of terms and concepts in soil science and apply this knowledge to new problems and situations 2. Learn the key physical, chemical, and biological aspects of soils 3. Learn field identification of important physical soil attributes
4	B.Sc. (Hons.) Agriculture	Introduction to Forestry	AGR1054	<ol style="list-style-type: none"> 1. Use environmental performance indicators to evaluate the sustainability of various silvicultural management options 2. Choose and employ appropriate concepts, models, and effective techniques to produce and analyze forest resource plans, from woodlots to landscapes, which consider multiple competing objectives 3. Identify complex factors which influence forest management decisions (economical, social, ecological and urban interface).

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5	B.Sc. (Hons.) Agriculture	Comprehension and Communication Skills in English	COM1008	<ol style="list-style-type: none"> 1. Achieve the intended purpose in the writing task, with awareness of audience. 2. Identify and fully develop ideas to a specific thesis 3. Organize ideas effectively 4. Adhere to proper mechanics and style. 5. Achieve clarity of expression in language, argument, rhetorical form, and idea.
6	B.Sc. (Hons.) Agriculture	Fundamentals of Agronomy	AGR1055	<ol style="list-style-type: none"> 1. Name and classify the major food crops and global leaders in their production 2. Explain the physiological processes involved in plant growth and development 3. Discuss the effects of environmental factors on crop growth and productivity
7	B.Sc. (Hons.) Agriculture	Introductory Biology*	BIO1001	<ol style="list-style-type: none"> 1. Acquire, integrate and synthesize core biological concepts across different levels of biological organization. 2. Engage in the practices of biological inquiry, including all its complexity and uncertainty. 3. Apply quantitative techniques to investigate biological systems. 4. Communicate science effectively and be critical consumers of scientific information. 5. Recognize the societal context and ethical implications of scientific knowledge.
8	B.Sc. (Hons.) Agriculture	Elementary Mathematics*	MAT1904	<ol style="list-style-type: none"> 1. Know and demonstrate understanding of different concepts of mathematics i.e. number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics 2. Use mathematics to analyze and solve problems both agriculture and in real-life situations. 3. use appropriate mathematical language (notation, symbols, terminology) in both oral and written explanations
9	B.Sc. (Hons.) Agriculture	Agricultural Heritage*	AGR1751	<ol style="list-style-type: none"> 1. Understand ancient agricultural practices and be able to correlate their relevance in present days' agriculture 2. Apply his/her knowledge of agricultural heritage to solve agricultural problems which have cropped up with modern agriculture system 3. Prioritize and develop organic way of agriculture in terms of crop management
10	B.Sc. (Hons.) Agriculture	Rural Sociology & Educational Psychology	AGR1752	<ol style="list-style-type: none"> 1. Understand concept of rural sociology and its importance in agricultural extension 2. Discuss the characteristics of rural society, village institutions and social organizations 3. Understand how to support his/her own learning and how to help farmers by studying and practicing ideas of rural sociology and agricultural development 4. Explain the actions which an extension specialist can take to research and improve both their professional practice as well as farmer's participation in agricultural development programmes 5. Will be able to evaluate particular rural sociology and community development theories for solving real community problems

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
11	B.Sc. (Hons.) Agriculture	Human Values & Ethics (Non gradial)	VAL1724	<ol style="list-style-type: none"> 1. Understand the significance of value inputs in a classroom and start applying them in their life and profession 2. Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc. 3. Understand the value of harmonious relationship based on trust and respect in their life and profession 4. Understand the role of a human being in ensuring harmony in society and nature. 5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.
12	B.Sc. (Hons.) Agriculture	NSS/NCC/Physical Education & Yoga Practices (Non-gradial)	AGR1551	<ol style="list-style-type: none"> 1. Utilise their knowledge in finding practical solution to individual and community problems 2. Utilize physical activity as a tool to manage stress. 3. Participate in active learning to stimulate continued inquiry about physical education, health and fitness. 4. Demonstrate basic skills associated with yoga activities including strength and flexibility, balance and coordination 5. Improve personal fitness through participation in yoga, muscular, strength, and muscular endurance activities
13	B.Sc. (Hons.) Agriculture	Fundamentals of Genetics	AGR1056	<ol style="list-style-type: none"> 1. Recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles 2. Describe the fundamental molecular principles of genetics and molecular breeding 3. Understand the relationship between phenotype and genotype in plant genetic traits. 4. Explain the way in which genes code for proteins and expression of quantitative and qualitative traits
14	B.Sc. (Hons.) Agriculture	Agricultural Microbiology	AGR1057	<ol style="list-style-type: none"> 1. Demonstrate theory and practical skills in microscopy and their handling techniques 2. Comprehend the microbial transport systems and mechanisms of energy conservation in microbial metabolism 3. be able to perform routine culture handling tasks and staining procedures safely and effectively 4. Describe different growth requirements of bacteria and get equipped with various methods of bacterial growth measurement.
15	B.Sc. (Hons.) Agriculture	Soil and Water Conservation Engineering	AGR1058	<ol style="list-style-type: none"> 1. Describe the concept of soil, wind and water erosion and their conservation practices 2. Comprehend the concept of irrigation water measurement, micro irrigation, underground pipeline system along with their designs 3. Demonstrate various water harvesting techniques and their role in current climate change scenario,

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16	B.Sc. (Hons.) Agriculture	Fundamentals of Crop Physiology	AGR1059	<ol style="list-style-type: none"> 1. Distinguish key physiological processes underlying the formation of seedlings from seed embryos; 2. Identify the physiological factors that regulate growth and developmental processes of crop plants, and clearly define their roles; 3. Evaluate the different strategies used by plants to acquire and utilize resources, and formulate a logical argument of their impact on crop productivity; 4. Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield
17	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Economics	AGR1753	<ol style="list-style-type: none"> 1. Explain the concept of economy, its functional characteristics and classification of goods and services. 2. Discuss market dynamics due to changes in demand and prices and explain basic features of perfectly competitive and imperfect competitive markets. 3. explain the role of banking in modern economy and discuss the role of planning commission of India and NITI Ayog.
18	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Pathology	AGR1060	<ol style="list-style-type: none"> 1. Examine the important diseases of plants caused by fungi, bacteria, viruses and nematodes 2. Describe the general characteristics of all the plant pathogens alongwith their symptoms on plants 3. Plan integrated management practices of important diseases 4. Demonstrate important rust diseases and their management measures
19	B.Sc. (Hons.) Agriculture	Fundamentals of Entomology	AGR1061	<ol style="list-style-type: none"> 1. Explain the economic importance class Insecta in agriculture 2. Demonstrate the morphological features of insect growth and development 3. Brief about various physiological processes taking place in inset system 4. Explain various modification of important appendages of insects and identify new species emerging as pests 5. Understand concept of ecosystem sustainability through integrated pest management
20	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Extension Education	AGR1062	<ol style="list-style-type: none"> 1. Understand the need of agricultural extension in communicating agricultural products and technologies to the famers. 2. Demonstrate various methods and strategies required to promote adoption of advance technology and agricultural practice 3. plan extension programme of community/village development and monitor their evaluation.
21	B.Sc. (Hons.) Agriculture	Communication Skills and Personality Development	COM1009	<ol style="list-style-type: none"> 1. Equipped with both written and spoken communication skills which will help him develop overall personality development 2. Communicate about research proposals, results and more reports effectively and in a scientific manner 3. Compile and write formal and scientific articles, research papers and reports and represent these in groups conferences

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
22	B.Sc. (Hons.) Agriculture	Educational Tour I (Non gradial)	AGR1552	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.
23	B.Sc. (Hons.) Agriculture	Crop Production Technology - I (Kharif Crops)	AGR2051	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of kharif crops 2. Handle the input and pest management issues in kharif crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
24	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Breeding	AGR2052	<ol style="list-style-type: none"> 1. Describe the hybridization techniques in self & cross pollinated crops and be able to Prepare Plant Breeder's kit for study of various germplasm 2. Handle segregation populations and comprehend the consequences of inbreeding on genetic structure of resulting populations. 3. Design plant breeding experiments which are statistically significant and yield precise results 4. Predict performance of single/double cross hybrids, Open pollinated varieties and lines
25	B.Sc. (Hons.) Agriculture	Agricultural Finance and Cooperation	AGR2053	<ol style="list-style-type: none"> 1. Understand sources and pattern of agriculture credit in India and institutional framework of Indian agriculture credit 2. Describe the structure of agricultural lending from different sources and role of banks and cooperative societies in it 3. Suggest measures to improve agriculture credit and be aware about recent Government's initiatives.
26	B.Sc. (Hons.) Agriculture	Agri- Informatics	AGR2054	<ol style="list-style-type: none"> 1. Apply knowledge of computer in handling and managing the data of his/her experiments. 2. Will be able to consolidate data in scientific and analytical manner 3. Will be able to reproduce data for further information and interpret the information gained from the data to reach at results 4. Understand the farm decision system and crop planning using IT tools
27	B.Sc. (Hons.) Agriculture	Farm Machinery and Power	AGR2055	<ol style="list-style-type: none"> 1. Describe the use, calibration, adjustment, maintenance and repair of the equipment 2. Handle the primary and secondary tillage, planting, chemical application, and harvesting equipment. 3. Operate tractor mounted/manual driven farm equipments following safety instructions.
28	B.Sc. (Hons.) Agriculture	Production Technology for Vegetables and Spices	AGR2056	<ol style="list-style-type: none"> 1. Understand the basic requirement of climate, soil, improved varieties and cultivation practices for healthy production of vegetables and spices. 2. Describe the complete package of production of any of the vegetable or spices. 3. Plan and execute agricultural operations based on the knowledge gained.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
29	B.Sc. (Hons.) Agriculture	Environmental Studies and Disaster Management	AGR2057	<ol style="list-style-type: none"> 1. Understand the natural environment and its relationships with human activities. 2. Characterize and analyze human impacts on the environment. 3. Integrate facts, concepts, and methods from multiple disciplines and apply to environmental problems. 4. Integrate knowledge and manage different public health aspects of disaster events at a local and global levels. 5. Obtain, analyse, and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios.
30	B.Sc. (Hons.) Agriculture	Statistical Methods	MAT1003	<ol style="list-style-type: none"> 1. Calculate and apply statistical measures to grouped and ungrouped data cases and provide with the solution to various agricultural research problems 2. Suggest the tests of significance to be used under different situations and be able to interpret the data based on the results 3. Perform correlation and regression for multifactorial data using computer software.
31	B.Sc. (Hons.) Agriculture	Livestock and Poultry Management	AGR2058	<ol style="list-style-type: none"> 1. Understand various farm animals and poultry birds along with their importance in Agricultural system 2. Describe the housing system for both livestock and poultry and to prepare the students to design these according to the requirement 3. Formulate rations and feeding for dairy cattle and buffaloes and feed for poultry 4. Suggest methods to improve productivity of dairy animals and poultry birds
32	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2001	<ol style="list-style-type: none"> 1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process
33	B.Sc. (Hons.) Agriculture	Crop Production Technology –II (Rabi Crops)	AGR2059	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of Rabi crops 2. Handle input and pest management issues in Rabi crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
34	B.Sc. (Hons.) Agriculture	Production Technology for Ornamental Crops, MAP and Landscaping	AGR2060	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of ornamental crops, aromatic plants and medicinal crops 2. Handle the pest management issues in ornamental crops 3. Describe extraction of essential oils and processing of medicinal and aromatic plants 4. Will be able to follow good agricultural practices and help sustain the agricultural system

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
35	B.Sc. (Hons.) Agriculture	Renewable Energy and Green Technology	AGR2061	<ol style="list-style-type: none"> 1. Describe the environmental aspects of non-conventional energy resources in comparison with various conventional energy systems. 2. Know the need of renewable energy resources and latest developments in green energy technology 3. Compare Solar, Wind and bio energy systems and can discuss their prospects, advantages and limitations. 4. Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.
36	B.Sc. (Hons.) Agriculture	Problematic Soils and their Management	AGR2751	<ol style="list-style-type: none"> 1. Identify problematic soils, set up a plan for their reclamation and their post- reclamation management in a manner that is sustainable. 2. handle, reclaim and manage issues associated with problematic soils
37	B.Sc. (Hons.) Agriculture	Production Technology for Fruit and Plantation Crops	AGR2062	<ol style="list-style-type: none"> 1. Understand the importance of cultivation of fruit trees and plantation crops 2. Describe the production technology for major fruit crops of India 3. Will be able to manage physiological disorders occurring in fruit crops. 4. Explain the good agricultural practices followed for cultivating fruit crops and help sustain the agricultural system.
38	B.Sc. (Hons.) Agriculture	Principles of Seed Technology	AGR2063	<ol style="list-style-type: none"> 1. understand the protocols of seed production/ testing/processing 2. produce quality seed of major kharif and Rabi crops following advanced and scientific seed production practices 3. start his/her own seed production business after the completion of this course
39	B.Sc. (Hons.) Agriculture	Farming System & Sustainable Agriculture	AGR2752	<ol style="list-style-type: none"> 1. Understand farming system in India and major factors affecting cropping system and cropping pattern 2. Describe the indicators of sustainability like adaptation ,mitigation, conservation agriculture 3. Comprehend the problems faced by Indian farming system and provide with a sustainable integrated approach to handle these.
40	B.Sc. (Hons.) Agriculture	Agricultural Marketing Trade & Prices	AGR2064	<ol style="list-style-type: none"> 1. Describe the fundamentals of agricultural marketing with understanding of demand and supply of commodities 2. Will be able to discuss functions of agricultural market and role of different agencies in controlling the cost and price of inputs 3. Will gain sufficient knowledge about concepts of trade and tariffs related to agricultural commodities.
41	B.Sc. (Hons.) Agriculture	Introductory Agro- meteorology & Climate Change	AGR2065	<ol style="list-style-type: none"> 1. Understand the role of agro-meteorology in sustaining the crop production 2. To monitor agricultural droughts on crop-wise for effective drought management. 3. To prepare crop weather diagrams and crop weather calendars. 4. To develop crop growth simulation models for assessing/obtaining potential yields under different climatic conditions 5. To develop weather based agro advisories to sustain crop production utilizing various types of weather forecast and seasonal climate forecast.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
42	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR2068	<ol style="list-style-type: none"> 1. Develop varieties with higher yield potential, more durable pest and disease resistance, and market-relevant end-use quality 2. Demonstrate seed production technologies in major crops 3. Use tissue culture techniques and biotechnological tools for the improvement of desirable traits in crops
43	B.Sc. (Hons.) Agriculture	Protected Cultivation	AGR2072	<ol style="list-style-type: none"> 1. Apply his/her knowledge of cropping technique to control the micro climate surrounding the plant as per the requirement of crop 2. Demonstrate the green house technologies to farmers and entrepreneurs to enable them to start their own production and produce crop in off season using glasshouse technology. 3. Respond to new challenges of the market and of production in protected horticulture, both in their professional and their research dimensions.
44	B.Sc. (Hons.) Agriculture	Agricultural Journalism	AGR2077	<ol style="list-style-type: none"> 1. Gather agricultural information and write stories about conventional and modern agricultural system 2. Examine communication and human dimension issues in relation to agriculture 3. Cover a wide range of areas, assessing and reporting all stages from agricultural research and production to processing, marketing, consumption, nutrition and health.
45	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2002	<ol style="list-style-type: none"> 1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process
46	B.Sc. (Hons.) Agriculture	Educational Tour II (Non gradial)	AGR2551	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.
47	B.Sc. (Hons.) Agriculture	Principles of Integrated Pest and Disease Management	AGR3051	<ol style="list-style-type: none"> 1. Comprehend different IPM concepts and apply these as and when required for sustaining the agricultural system 2. Apply knowledge gained to solve actual pest management problems in standing crop and recommend the management practices <p>Plan and implement IPM programmes both at local and state level</p>

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
48	B.Sc. (Hons.) Agriculture	Manures, Fertilizers and Soil Fertility Management	AGR3052	<ol style="list-style-type: none"> 1. Students will gain knowledge about cosmetic excipients suited according to cosmetic application site 2 Students will learn principles of formulation and building blocks of skin and hair care products 3 Students will learn role of herbs and analytical methods for cosmetics 4 Students will gain knowledge about cosmetic evaluation 5 Students will learn to correct cosmetic problems associated with skin and hair
49	B.Sc. (Hons.) Agriculture	Pests of Crops and Stored Grain and their Management	AGR3053	<ol style="list-style-type: none"> 1. To familiarize the students about nature of damage and seasonal incidence of insect pests which cause loss to major field crops and their effective management by different methods. 2. To make the students identify pests which attack on crops and in storage, methods and devices used in sampling, the overall value of sampling grain, preventive and responsive management techniques and proper use of grain protectant and fumigation. 3. To acquaint with different strategies for management of crop pests under field and storage conditions. 4. To teach the students the basic skills for handling and storing grain so as to enable them to make timely pest management decisions, while also protecting the quality of stored grains and the environment.
50	B.Sc. (Hons.) Agriculture	Diseases of Field and Horticultural Crops and their Management -I	AGR3054	<ol style="list-style-type: none"> 1. Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2. Describe complete etiology of disease and be able to prepare disease forecasting models 3. Plan and evaluate integrated disease management programme at village or district level
51	B.Sc. (Hons.) Agriculture	Crop Improvement-I (Kharif Crop)	AGR3055	<ol style="list-style-type: none"> 1. Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2. Provide a safer, more biologically sustainable way of managing insect pests, diseases and weeds etc. 3. Plan and execute the strategies of crop improvement in important food and fibre crops of India.
52	B.Sc. (Hons.) Agriculture	Geoinformatics and Nano-technology and Precision Farming	AGR3056	<ol style="list-style-type: none"> 1. Apply the knowledge of precision tools and help in guiding and educating the farmers to get higher crop productivity through scientific farming. 2. Explain instrumentation and methodology of various tools used in precision farming and discuss the impact of precision techniques on soil fertility, nutrient dynamics and crop productivity. 3. Develop database of agriculture resources, which will act as decision support system at the farm
53	B.Sc. (Hons.) Agriculture	Rainfed Agriculture & Watershed Manegement	AGR3057	<ol style="list-style-type: none"> 1. Apply principles of dry farming applicable to Indian conditions 2. Introduce improved soil and moisture conservation measures, better crop and rangeland management practices to increase production of crops, forage, fruits, fuel and timber in rainfed areas. 3. Develop practices for rainfed farming and suggest suitable measures for dry areas of India and plan future line of research and extension.
54	B.Sc. (Hons.) Agriculture	Protected Cultivation and Secondary Agriculture	AGR3058	<ol style="list-style-type: none"> 1. Explain the roe of greenhouse technology in increasing agricultural productivity and quality of the produce 2. Describe proper functioning of glass house and be able to produce his/her own off season produce with better utilization of available resources

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
55	B.Sc. (Hons.) Agriculture	Diseases of field and Horticulture Crops and their Management -II	AGR3059	1.Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2.Describe complete etiology of disease and be able to prepare disease forecasting models 3.Plan and evaluate integrated disease management programme at village or district level
56	B.Sc. (Hons.) Agriculture	Post-Harvest Management and Value Addition of Fruits and Vegetables	AGR3060	1.Understand post- harvest technology and value addition of horticultural crops 2.Acquire knowledge on novel packaging techniques of fruits and vegetables 3.Understand the work space, tool and equipment design for processing and packaging of horticultural crops 4.demonstrate various certification and accreditation processes of horticultural produce
57	B.Sc. (Hons.) Agriculture	Management of Beneficial Insects	AGR3061	1.Recognise various natural enemies of insect pests and identify their habitats 2.Demonstrate rearing technology of honey bees, silkworms and lac insects 3.Design and implement habitat improvements practices including site preparation, insectary strip plantings, hedgerows, beetle banks etc. 4.Explain conservation Programs and practices supporting pollinators, other beneficial insects, and wildlife conservation.
58	B.Sc. (Hons.) Agriculture	Crop Improvement –II(Rabi Crops)	AGR3062	1.Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2.Provide a safer, biologically sustainable way of managing insect pests, diseases and weeds by resistance breeding 3.Plan and execute the strategies of crop improvement in important food and fibre crops of India.
59	B.Sc. (Hons.) Agriculture	Principles of Organic Farming	AGR3063	1.Summarise the aims and objectives of organic farming and identify the regulations governing organic farming 2.Identify and explain the key principles and practices involved in maintaining soil fertility and plant productivity and health in organic farming systems 3.Discuss the role of the market and other factors influencing the physical and financial performance of organic farming and their implications for the adoption of organic farming Discuss the contribution of organic farming to food quality, environmental and social policy objectives and outline the future policies
60	B.Sc. (Hons.) Agriculture	Farm Management, Production & Resource Economics	AGR3064	1.Interpret, analyse and evaluate the financial and economic performance of an agricultural business 2.Undertake risk analysis for agricultural businesses and agricultural investments 3.Identify appropriate strategies for agribusiness analysis by interpreting management objectives, resource implications, risk factors and applying optimisation techniques 4.Analyse profitability, cash flows and business structures
61	B.Sc. (Hons.) Agriculture	Practical Crop Production –I (Kharif Crops)	AGR3551	1.Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field. 2.Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application. Guide the farmers for handling, transporting and safe storage of their produce.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
62	B.Sc. (Hons.) Agriculture	Practical Crop Production –II (Rabi crops)	AGR3552	1.Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field. 2.Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application. 3.Guide the farmers for handling, transporting and safe storage of their produce.
63	B.Sc. (Hons.) Agriculture	Principles of Food Science and Nutrition	AGR3751	1.Outline steps in the body processes of digestion and metabolism and relate them to the health and nutrition of the individual. 2.Explain the effects of common food preparation methods and food storage conditions on survival and growth of microbial contaminants. 3.Describe techniques that can be used to monitor quality of raw ingredients and final products.
64	B.Sc. (Hons.) Agriculture	RURAL AGRICULTURAL WORK EXPERIENCE AND AGRO INDUSTRIAL ATTACHEMENT (RAW & AIA)	AGR4551	1.impart diagnostic and remedial solution to the farmers relevant to real field situations after acquiring first hand field experience 2.demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce 3.Identify local problems and solve these at the first instance or bring those problems to consulting experts either from stations or headquarters 4.Will be able to prepare and focus on future research and extension strategies
65	B.Sc. (Hons.) Agriculture	Production Technology For Bioagents And Biofertilizer	AGR4552	1.Observe, think, analyse, synthesize, evaluate and apply the acquired knowledge. 2.Demonstrate the technology of production of bio fertilizers and bio pesticides 3.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of fertilizer and pesticide manufacturing
66	B.Sc. (Hons.) Agriculture	Seed Production And Technology	AGR4553	1.demonstrate the ways to maintain pure accessions like isolation distance, bagging technique, rouging etc. to farmers and young entrepreneurs 2.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of seed production 3.Can get into seed production ventures with multinational companies or start his/her own business.
67	B.Sc. (Hons.) Agriculture	Mushroom Cultivation Technology	AGR4554	1.Describe the complete package of production of mushroom and advise all mushroom protection technologies to farmers 2.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of mushroom production alongwith farming
68	B.Sc. (Hons.) Agriculture	Soil, Plant, Water and Seed Testing	AGR4555	1.Describe techniques of Soil and plant analysis for heavy metals and pollutant elements; plant analysis for nutrients and water testing for quality of irrigation water. 2.Advise management options for problematic soils, polluted water or nutrient deficiency for plants.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
69	B.Sc. (Hons.) Agriculture	Commercial Beekeeping	AGR4556	1.Acquire all the competencies to carry out beekeeping operations right from understanding bee biology and behaviour to harvesting and processing of products. 2.Either work independently or may work in a beekeeping farm. 3.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of honey production alongwith farming
70	B.Sc. (Hons.) Agriculture	Poultry Production Technology	AGR4557	1.Provide details about poultry farming; rearing of chicks to production of eggs and meat 2.Demonstrate the ways to maintain hygiene and disease free egg and chicken production 3.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of poultry alongwith farming
71	B.Sc. (Hons.) Agriculture	Commercial Horticulture	AGR4558	1.Explain importance of nursery management practices for producing elite, disease free planting material by different propagation methods 2.Share practical experience of several techniques in propagation of horticultural crops and commercial nurseries to meet the demand of industry. 3.Work in project mode and start his/her own business
72	B.Sc. (Hons.) Agriculture	Floriculture and Landscaping	AGR4559	1.Explain techniques of propagation of floricultural crops, their post- harvest techniques and marketing of these commodities 2.Share practical experience of several techniques in propagation of ornamental crops and to meet the demand of industry. 3.Work in project mode and prepare the students for future business in floriculture 4.Design a landscape or interior scape project.
73	B.Sc. (Hons.) Agriculture	Food Processing	AGR4560	1.Explain how to reduce wastage of perishable agricultural produce, enhance shelf life of food products, ensure value addition to agricultural produce 2.Create awareness on diversification and commercialization of agricultural produce 3.Share practical experience of several techniques of food processing to meet the demand of industry. 4.Encourage research and development in food processing for product and process development and improved packaging
74	B.Sc. (Hons.) Agriculture	Agriculture Waste Management	AGR4561	1.Describe the management, operation and maintenance of the waste from production to utilization 2.design a planned system which use by-products of agricultural production in a manner that sustains or enhances the quality of air, water, soil, plant, animal, and energy resources.
75	B.Sc. (Hons.) Agriculture	Organic Production Technology	AGR4562	1.Describe various methods of organic crop production, necessary equipment, supplies, and facilities required for organic production of crops 2.Handle the pest management issues in kharif crops and Rabi crops without the use of synthetic pesticides. 3.Will be able to deliver lectures on ill effects of pesticides and artificial manures and suggest organic method of crop production 4.build confidence and to work in project mode and prepare the students for future business in organic food production

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
76	B.Sc. (Hons.) Agriculture	Commercial Sericulture	AGR4563	<ol style="list-style-type: none"> 1.Acquire all the competencies to carry out sericulture operations right from understanding moth biology and behaviour to harvesting and processing of products. 2.Guide the farmers and train them for starting their sericulture business. 3.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of silk production
77	B.Sc. (Hons.) Agriculture	Agribusiness Management	AGR4566	<ol style="list-style-type: none"> 1. Apply strategic business principles to analyze and design effective management strategies tailored to the unique challenges of the agricultural industry, fostering sustainable and competitive agribusiness enterprises. 2. Demonstrate proficiency in financial analysis, resource allocation, and risk assessment within agricultural contexts, optimizing operational efficiency and maximizing returns for agribusiness ventures. 3. Develop skills in value chain management, fostering collaboration and innovation among stakeholders to enhance market access, product quality, and overall competitiveness in the agricultural sector.
78	B.Sc. (Hons.) Agriculture	Agrochemicals	AGR4567	<ol style="list-style-type: none"> 1. Apply comprehensive knowledge of agrochemical properties, application techniques, and regulations to make informed decisions in optimizing crop protection while minimizing environmental impact. 2. Demonstrate proficiency in evaluating, selecting, and responsibly using agrochemicals, integrating pest and disease management strategies within sustainable agricultural practices. 3. Communicate the implications of agrochemical usage on agricultural productivity, environmental sustainability, and human health, advocating for responsible and effective agrochemical stewardship in agricultural systems.
79	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR4568	<ol style="list-style-type: none"> 1. Apply advanced principles of genetics and breeding methodologies to develop improved crop varieties, demonstrating proficiency in selection, hybridization, and genetic enhancement techniques for specific agricultural needs. 2. Evaluate and implement commercial breeding strategies, integrating genetic diversity and technological advancements to enhance crop traits, yield, and adaptability, fostering innovation and sustainability in agricultural production systems. 3. Communicate the significance of commercial plant breeding in agriculture, articulating the economic, environmental, and social impact of improved crop varieties, while adhering to ethical and regulatory considerations.
80	B.Sc. (Hons.) Agriculture	Landscaping	AGR4569	<ol style="list-style-type: none"> 1. Apply principles of landscape design and management, demonstrating proficiency in planning, implementing, and maintaining aesthetically pleasing and ecologically sustainable outdoor spaces. 2. Evaluate diverse environmental factors and plant materials to create functional and visually appealing landscapes, integrating knowledge of horticulture, ecology, and design principles within agricultural contexts. 3. Communicate effectively the significance of landscaping in agriculture, advocating for sustainable practices and addressing environmental concerns, while considering the aesthetic and functional aspects of outdoor spaces.
81	B.Sc. (Hons.) Agriculture	Food Safety and Standards	AGR4570	<ol style="list-style-type: none"> 1. Apply comprehensive knowledge of food safety regulations and standards, demonstrating proficiency in identifying, mitigating, and preventing foodborne hazards throughout the food production chain. 2. Implement effective food safety management systems, incorporating principles of hygiene, quality control, and risk assessment to ensure the production of safe and high-quality agricultural products for consumers. 3. Communicate the importance of food safety in agriculture, advocating for compliance with standards, and addressing emerging issues to promote consumer health and confidence in food products.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
82	M.Sc. (Ag) Agronomy	Modern Concepts in Crop Production	AGR5701	<ol style="list-style-type: none"> 1. Describe agro biological principles and practices involved in modern crop production technology 2. Comprehend the ideas of integrated farming system and explain it in relation to modern agriculture. 3. Explain scientific principles of crop production and crop response production functions
83	M.Sc. (Ag) Agronomy	Principles and Practices of Water Management	AGR5001	<ol style="list-style-type: none"> 1. Recognise various practices related with efficient use management of available water and its conservation for future use. 2. Describe the actual water requirement of crops and concept of water use efficiency 3. Discuss the climate resilience practices to be followed in current climate change scenario
84	M.Sc. (Ag) Agronomy	Agronomy of Oilseed, Fibre and Sugar Crops	AGR5002	<ol style="list-style-type: none"> 1. Describe the agricultural practices required for oilseed crops, fibre crops and jute crops 2. Comprehend the idea of climate resilience in major oilseed and fibre crops. 3. Provide with a solution of pest or nutrient problems to the farmers or trainers
85	M.Sc. (Ag) Agronomy	Statistical methods in Research	MAT5703	<ol style="list-style-type: none"> 1. Organize data into a statistically significant data and represent it in scientific manner 2. Define and compute each of measures of central tendency, measure of dispersion and how it effects overall experimental results. 3. Compute correlation and regression and understand the relationship between correlation and regression. 4. Understand the concepts of probability and probability distribution. 5. Analyse data using tests of significance.
86	M.Sc. (Ag) Agronomy	Agronomy of Fodder and Forage Crops	AGR5003	<ol style="list-style-type: none"> 1. Describe the good production of agricultural practices required for fodder and forage crops. 2. Comprehend the idea of climate resilience in major fodder and forage crops. 3. Provide with a solution of weed, pest or nutrient related issues pertaining to fodder and forage crops
87	M.Sc. (Ag) Agronomy	Cropping Systems and Organic Farming	AGR5702	<ol style="list-style-type: none"> 1. Discuss and assess cropping system in relation to resource sustainability 2. Demonstrate the complete package of practice of crop following organic system and discuss its importance in Indian and Global context. 3. Discuss the effect of artificial fertilizer and manures on plant health and ecosystem
88	M.Sc. (Ag) Agronomy	Principles and Practices of Weed Management	AGR5004	<ol style="list-style-type: none"> 1. Discuss the effect of weeds on plant health, nutrition and yield of a crop 2. Debate about different classes of herbicides with their mode of action and recommend weedicides for different weeds. 3. Demonstrate integrated practices of weed management considering current scenario of ecosystem disturbance.
89	M.Sc. (Ag) Agronomy	Agronomy of Major Cereals and Pulses	AGR5005	<ol style="list-style-type: none"> 1. Describe the agricultural practices required for cereals and pulses of rabi and Kharif season. 2. Cultivate and advise farmers about good agricultural practices to be followed for production of Rabi and Kharif cereals and pulses.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
90	M.Sc. (Ag) Agronomy	Master's Research Part- 1	AGR5501	<ol style="list-style-type: none"> 1. Plan and use adequate methods to conduct qualified tasks in given frameworks and to evaluate this work 2. Describe more in-depth knowledge of the major subject/field of study, including deeper insight into current research and development work 3. Contribute to research and development work related to suggested topic of research
91	M.Sc. (Ag) Agronomy	Seminar	AGR6501	<ol style="list-style-type: none"> 1. To gather, analyze and apply information from various sources, specifically agricultural theories, to formulate convincing arguments, communicate academic ideas, produce conclusions and acquire academic writing skills. 2. Gain presentation as well as communication skills by presenting his/her research into any conference/workshop to heterogenous audience.
92	M.Sc. (Ag) Agronomy	Theory and Practice of Plant Breeding	AGR6002	<ol style="list-style-type: none"> 1. Discuss the role of plant genetic resources in plant breeding and crop improvement practices 2. Produce and handle breeding material independently and 3. Demonstrate different breeding strategies for biotic and abiotic stresses and their role in sustainable crop production
93	M.Sc. (Ag) Agronomy	Introduction to Breeding of Field Crops	AGR6701	<ol style="list-style-type: none"> 1. Demonstrate the conventional and modern biotechnological tools involved in improvement of field crops 2. Describe genetic principles underlying crop improvement 3. Discuss the problems and current scenario of crop improvement in relation to India and global context.
94	M.Sc. (Ag) Agronomy	Soil Physical and Biological Environment	AGR6005	<ol style="list-style-type: none"> 1. Discuss the physical and biological environment of soil in relation to plant growth 2. Describe the interaction of soil micro fauna and its role in soil activities. 3. Explain microbial transformation of nitrogen and phosphorus in soil and then factors influencing this activity
95	M.Sc. (Ag) Agronomy	Master's Research Part- 2	AGR6502	<ol style="list-style-type: none"> 1. Plan and use adequate methods to conduct qualified tasks in given framework and timeline 2. Use a holistic view to critically, independently and creatively identify, formulate and deal with complex issues in real field situation. 3. Undertake research or project independently using different empirical methods and analytical approaches 4. Demonstrate knowledge of responsibilities and norms of agricultural research whether working as individual or in collaboration research
96	M.Sc. (Ag) Agronomy	Master's Research Part- 3	AGR6503	<ol style="list-style-type: none"> 1. Demonstrate the ability to analyse critically the relevant literature and to use it as a tool of analysis 2. Use scientific and statistical tools to examine and analyse a range of data to reach at a well-defined conclusion and suggest future course of studies 3. Comprehend and apply knowledge of agronomical principles and procedures to defined agricultural issues 4. Create, analyse and critically evaluate different scientific and technological issues of production system and suggest a viable solution 5. Demonstrate the ability to use research and research management skills and analytical methodologies appropriately to formulate future research philosophies

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S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
1	B.Sc. (Hons.) Agriculture	Fundamentals of Horticulture	AGR1051	<ol style="list-style-type: none"> 1. Define and describe the significance of horticulture to society. 2. Demonstrate a working knowledge of the fundamental principles and practices of growing horticultural crops 3. Apply and utilize the fundamentals of horticultural crops to economic production of fruits and vegetables and also in horticultural research
2	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Biochemistry and Biotechnology	AGR1052	<ol style="list-style-type: none"> 1. Recognize the structures and properties of the four major classes of biomolecules and catalytic properties of enzymes 2. Explain major metabolic pathways of carbohydrates, proteins, fats and lipids. 3. Describe the nature of genetic materials and their molecular processes 4. Explain concepts, principles and processes involved in plant biotechnology for modification of genetic material 5. Apply the acquired knowledge in biotechnological, pharmaceutical, medical and agricultural applications
3	B.Sc. (Hons.) Agriculture	Fundamental of Soil Science	AGR1053	<ol style="list-style-type: none"> 1. Gain basic knowledge of terms and concepts in soil science and apply this knowledge to new problems and situations 2. Learn the key physical, chemical, and biological aspects of soils 3. Learn field identification of important physical soil attributes
4	B.Sc. (Hons.) Agriculture	Introduction to Forestry	AGR1054	<ol style="list-style-type: none"> 1. Use environmental performance indicators to evaluate the sustainability of various silvicultural management options 2. Choose and employ appropriate concepts, models, and effective techniques to produce and analyze forest resource plans, from woodlots to landscapes, which consider multiple competing objectives 3. Identify complex factors which influence forest management decisions (economical, social, ecological and urban interface).
5	B.Sc. (Hons.) Agriculture	Comprehension and Communication Skills in English	COM1008	<ol style="list-style-type: none"> 1. Achieve the intended purpose in the writing task, with awareness of audience. 2. Identify and fully develop ideas to a specific thesis 3. Organize ideas effectively 4. Adhere to proper mechanics and style. 5. Achieve clarity of expression in language, argument, rhetorical form, and idea.
6	B.Sc. (Hons.) Agriculture	Fundamentals of Agronomy	AGR1055	<ol style="list-style-type: none"> 1. Name and classify the major food crops and global leaders in their production 2. Explain the physiological processes involved in plant growth and development 3. Discuss the effects of environmental factors on crop growth and productivity
7	B.Sc. (Hons.) Agriculture	Introductory Biology*	BIO1001	<ol style="list-style-type: none"> 1. Acquire, integrate and synthesize core biological concepts across different levels of biological organization. 2. Engage in the practices of biological inquiry, including all its complexity and uncertainty. 3. Apply quantitative techniques to investigate biological systems. 4. Communicate science effectively and be critical consumers of scientific information. 5. Recognize the societal context and ethical implications of scientific knowledge.

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8	B.Sc. (Hons.) Agriculture	Elementary Mathematics*	MAT1904	<ol style="list-style-type: none"> 1. Know and demonstrate understanding of different concepts of mathematics i.e. number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics 2. Use mathematics to analyze and solve problems both agriculture and in real-life situations. 3. use appropriate mathematical language (notation, symbols, terminology) in both oral and written explanations
9	B.Sc. (Hons.) Agriculture	Agricultural Heritage*	AGR1751	<ol style="list-style-type: none"> 1. Understand ancient agricultural practices and be able to correlate their relevance in present days' agriculture 2. Apply his/her knowledge of agricultural heritage to solve agricultural problems which have cropped up with modern agriculture system 3. Prioritize and develop organic way of agriculture in terms of crop management
10	B.Sc. (Hons.) Agriculture	Rural Sociology & Educational Psychology	AGR1752	<ol style="list-style-type: none"> 1. Understand concept of rural sociology and its importance in agricultural extension 2. Discuss the characteristics of rural society, village institutions and social organizations 3. Understand how to support his/her own learning and how to help farmers by studying and practicing ideas of rural sociology and agricultural development 4. Explain the actions which an extension specialist can take to research and improve both their professional practice as well as farmer's participation in agricultural development programmes 5. Will be able to evaluate particular rural sociology and community development theories for solving real community problems
11	B.Sc. (Hons.) Agriculture	Human Values & Ethics (Non gradial)	VAL1724	<ol style="list-style-type: none"> 1. Understand the significance of value inputs in a classroom and start applying them in their life and profession 2. Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc. 3. Understand the value of harmonious relationship based on trust and respect in their life and profession 4. Understand the role of a human being in ensuring harmony in society and nature. 5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.
12	B.Sc. (Hons.) Agriculture	NSS/NCC/Physical Education & Yoga Practices (Non-gradial)	AGR1551	<ol style="list-style-type: none"> 1. Utilise their knowledge in finding practical solution to individual and community problems 2. Utilize physical activity as a tool to manage stress. 3. Participate in active learning to stimulate continued inquiry about physical education, health and fitness. 4. Demonstrate basic skills associated with yoga activities including strength and flexibility, balance and coordination 5. Improve personal fitness through participation in yoga, muscular, strength, and muscular endurance activities

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13	B.Sc. (Hons.) Agriculture	Fundamentals of Genetics	AGR1056	<ol style="list-style-type: none"> 1. Recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles 2. Describe the fundamental molecular principles of genetics and molecular breeding 3. Understand the relationship between phenotype and genotype in plant genetic traits. 4. Explain the way in which genes code for proteins and expression of quantitative and qualitative traits
14	B.Sc. (Hons.) Agriculture	Agricultural Microbiology	AGR1057	<ol style="list-style-type: none"> 1. Demonstrate theory and practical skills in microscopy and their handling techniques 2. Comprehend the microbial transport systems and mechanisms of energy conservation in microbial metabolism 3. be able to perform routine culture handling tasks and staining procedures safely and effectively 4. Describe different growth requirements of bacteria and get equipped with various methods of bacterial growth measurement.
15	B.Sc. (Hons.) Agriculture	Soil and Water Conservation Engineering	AGR1058	<ol style="list-style-type: none"> 1. Describe the concept of soil, wind and water erosion and their conservation practices 2. Comprehend the concept of irrigation water measurement, micro irrigation, underground pipeline system along with their designs 3. Demonstrate various water harvesting techniques and their role in current climate change scenario,
16	B.Sc. (Hons.) Agriculture	Fundamentals of Crop Physiology	AGR1059	<ol style="list-style-type: none"> 1. Distinguish key physiological processes underlying the formation of seedlings from seed embryos; 2. Identify the physiological factors that regulate growth and developmental processes of crop plants, and clearly define their roles; 3. Evaluate the different strategies used by plants to acquire and utilize resources, and formulate a logical argument of their impact on crop productivity; 4. Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield
17	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Economics	AGR1753	<ol style="list-style-type: none"> 1. Explain the concept of economy, its functional characteristics and classification of goods and services. 2. Discuss market dynamics due to changes in demand and prices and explain basic features of perfectly competitive and imperfect competitive markets. 3. explain the role of banking in modern economy and discuss the role of planning commission of India and NITI Ayog.
18	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Pathology	AGR1060	<ol style="list-style-type: none"> 1. Examine the important diseases of plants caused by fungi, bacteria, viruses and nematodes 2. Describe the general characteristics of all the plant pathogens alongwith their symptoms on plants 3. Plan integrated management practices of important diseases 4. Demonstrate important rust diseases and their management measures

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19	B.Sc. (Hons.) Agriculture	Fundamentals of Entomology	AGR1061	<ol style="list-style-type: none"> 1. Explain the economic importance class Insecta in agriculture 2. Demonstrate the morphological features of insect growth and development 3. Brief about various physiological processes taking place in inset system 4. Explain various modification of important appendages of insects and identify new species emerging as pests 5. Understand concept of ecosystem sustainability through integrated pest management
20	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Extension Education	AGR1062	<ol style="list-style-type: none"> 1. Understand the need of agricultural extension in communicating agricultural products and technologies to the famers. 2. Demonstrate various methods and strategies required to promote adoption of advance technology and agricultural practice 3. plan extension programme of community/village development and monitor their evaluation.
21	B.Sc. (Hons.) Agriculture	Communication Skills and Personality Development	COM1009	<ol style="list-style-type: none"> 1. Equipped with both written and spoken communication skills which will help him develop overall personality development 2. Communicate about research proposals, results and more reports effectively and in a scientific manner 3. Compile and write formal and scientific articles, research papers and reports and represent these in groups conferences
22	B.Sc. (Hons.) Agriculture	Educational Tour I (Non gradial)	AGR1552	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.
23	B.Sc. (Hons.) Agriculture	Crop Production Technology – I (Kharif Crops)	AGR2051	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of kharif crops 2. Handle the input and pest management issues in kharif crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
24	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Breeding	AGR2052	<ol style="list-style-type: none"> 1. Describe the hybridization techniques in self & cross pollinated crops and be able to Prepare Plant Breeder's kit for study of various germplasm 2. Handle segregation populations and comprehend the consequences of inbreeding on genetic structure of resulting populations. 3. Design plant breeding experiments which are statistically significant and yield precise results 4. Predict performance of single/double cross hybrids, Open pollinated varieties and lines

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
25	B.Sc. (Hons.) Agriculture	Agricultural Finance and Cooperation	AGR2053	<ol style="list-style-type: none"> 1. Understand sources and pattern of agriculture credit in India and institutional framework of Indian agriculture credit 2. Describe the structure of agricultural lending from different sources and role of banks and cooperative societies in it 3. Suggest measures to improve agriculture credit and be aware about recent Government's initiatives.
26	B.Sc. (Hons.) Agriculture	Agri- Informatics	AGR2054	<ol style="list-style-type: none"> 1. Apply knowledge of computer in handling and managing the data of his/her experiments. 2. Will be able to consolidate data in scientific and analytical manner 3. Will be able to reproduce data for further information and interpret the information gained from the data to reach at results 4. Understand the farm decision system and crop planning using IT tools
27	B.Sc. (Hons.) Agriculture	Farm Machinery and Power	AGR2055	<ol style="list-style-type: none"> 1. Describe the use, calibration, adjustment, maintenance and repair of the equipment 2. Handle the primary and secondary tillage, planting, chemical application, and harvesting equipment. 3. Operate tractor mounted/manual driven farm equipments following safety instructions.
28	B.Sc. (Hons.) Agriculture	Production Technology for Vegetables and Spices	AGR2056	<ol style="list-style-type: none"> 1. Understand the basic requirement of climate, soil, improved varieties and cultivation practices for healthy production of vegetables and spices. 2. Describe the complete package of production of any of the vegetable or spices. 3. Plan and execute agricultural operations based on the knowledge gained.
29	B.Sc. (Hons.) Agriculture	Environmental Studies and Disaster Management	AGR2057	<ol style="list-style-type: none"> 1. Understand the natural environment and its relationships with human activities. 2. Characterize and analyze human impacts on the environment. 3. Integrate facts, concepts, and methods from multiple disciplines and apply to environmental problems. 4. integrate knowledge and manage different public health aspects of disaster events at a local and global levels. 5. Obtain, analyse, and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios.
30	B.Sc. (Hons.) Agriculture	Statistical Methods	MAT1003	<ol style="list-style-type: none"> 1. Calculate and apply statistical measures to grouped and ungrouped data cases and provide with the solution to various agricultural research problems 2. Suggest the tests of significance to be used under different situations and be able to interpret the data based on the results 3. perform correlation and regression for multifactorial data using computer software.
31	B.Sc. (Hons.) Agriculture	Livestock and Poultry Management	AGR2058	<ol style="list-style-type: none"> 1. Understand various farm animals and poultry birds along with their importance in Agricultural system 2. Describe the housing system for both livestock and poultry and to prepare the students to design these according to the requirement 3. Formulate rations and feeding for dairy cattle and buffaloes and feed for poultry 4. Suggest methods to improve productivity of dairy animals and poultry birds

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
32	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2001	<ol style="list-style-type: none"> 1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process
33	B.Sc. (Hons.) Agriculture	Crop Production Technology –II (Rabi Crops)	AGR2059	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of Rabi crops 2. Handle input and pest management issues in Rabi crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
34	B.Sc. (Hons.) Agriculture	Production Technology for Ornamental Crops, MAP and Landscaping	AGR2060	<ol style="list-style-type: none"> 1. Describe necessary equipment, supplies, and facilities required for production of ornamental crops, aromatic plants and medicinal crops 2. Handle the pest management issues in ornamental crops 3. Describe extraction of essential oils and processing of medicinal and aromatic plants 4. Will be able to follow good agricultural practices and help sustain the agricultural system
35	B.Sc. (Hons.) Agriculture	Renewable Energy and Green Technology	AGR2061	<ol style="list-style-type: none"> 1. Describe the environmental aspects of non-conventional energy resources in comparison with various conventional energy systems. 2. Know the need of renewable energy resources and latest developments in green energy technology 3. Compare Solar, Wind and bio energy systems and can discuss their prospects, advantages and limitations. 4. Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.
36	B.Sc. (Hons.) Agriculture	Problematic Soils and their Management	AGR2751	<ol style="list-style-type: none"> 1. Identify problematic soils, set up a plan for their reclamation and their post- reclamation management in a manner that is sustainable. 2. handle, reclaim and manage issues associated with problematic soils
37	B.Sc. (Hons.) Agriculture	Production Technology for Fruit and Plantation Crops	AGR2062	<ol style="list-style-type: none"> 1. Understand the importance of cultivation of fruit trees and plantation crops 2. Describe the production technology for major fruit crops of India 3. Will be able to manage physiological disorders occurring in fruit crops. 4. Explain the good agricultural practices followed for cultivating fruit crops and help sustain the agricultural system.
38	B.Sc. (Hons.) Agriculture	Principles of Seed Technology	AGR2063	<ol style="list-style-type: none"> 1. understand the protocols of seed production/ testing/processing 2. produce quality seed of major kharif and Rabi crops following advanced and scientific seed production practices 3. start his/her own seed production business after the completion of this course

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
39	B.Sc. (Hons.) Agriculture	Farming System & Sustainable Agriculture	AGR2752	1. Understand farming system in India and major factors affecting cropping system and cropping pattern 2. Describe the indicators of sustainability like adaptation ,mitigation ,conservation agriculture 3. Comprehend the problems faced by Indian farming system and provide with a sustainable integrated approach to handle these.
40	B.Sc. (Hons.) Agriculture	Agricultural Marketing Trade & Prices	AGR2064	1. Describe the fundamentals of agricultural marketing with understanding of demand and supply of commodities 2. Will be able to discuss functions of agricultural market and role of different agencies in controlling the cost and price of inputs 3. Will gain sufficient knowledge about concepts of trade and tariffs related to agricultural commodities.
41	B.Sc. (Hons.) Agriculture	Introductory Agro- meteorology & Climate Change	AGR2065	1. Understand the role of agro-meteorology in sustaining the crop production 2. To monitor agricultural droughts on crop-wise for effective drought management. 3. To prepare crop weather diagrams and crop weather calendars. 4. To develop crop growth simulation models for assessing/obtaining potential yields under different climatic conditions 5. To develop weather based agro advisories to sustain crop production utilizing various types of weather forecast and seasonal climate forecast.
42	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR2068	1. Develop varieties with higher yield potential, more durable pest and disease resistance, and market-relevant end-use quality 2. Demonstrate seed production technologies in major crops 3. Use tissue culture techniques and biotechnological tools for the improvement of desirable traits in crops
43	B.Sc. (Hons.) Agriculture	Protected Cultivation	AGR2072	1. Apply his/her knowledge of cropping technique to control the micro climate surrounding the plant as per the requirement of crop 2. Demonstrate the green house technologies to farmers and entrepreneurs to enable them to start their own production and produce crop in off season using glasshouse technology. 3. Respond to new challenges of the market and of production in protected horticulture, both in their professional and their research dimensions.
44	B.Sc. (Hons.) Agriculture	Agricultural Journalism	AGR2077	1. Gather agricultural information and write stories about conventional and modern agricultural system 2. Examine communication and human dimension issues in relation to agriculture 3. Cover a wide range of areas, assessing and reporting all stages from agricultural research and production to processing, marketing, consumption, nutrition and health.
45	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2002	1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
46	B.Sc. (Hons.) Agriculture	Educational Tour II (Non gradial)	AGR2551	<ol style="list-style-type: none"> 1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.
47	B.Sc. (Hons.) Agriculture	Principles of Integrated Pest and Disease Management	AGR3051	<ol style="list-style-type: none"> 1. Comprehend different IPM concepts and apply these as and when required for sustaining the agricultural system 2. Apply knowledge gained to solve actual pest management problems in standing crop and recommend the management practices Plan and implement IPM programmes both at local and state level
48	B.Sc. (Hons.) Agriculture	Manures, Fertilizers and Soil Fertility Management	AGR3052	<ol style="list-style-type: none"> 1. Students will gain knowledge about cosmetic excipients suited according to cosmetic application site 2. Students will learn principles of formulation and building blocks of skin and hair care products 3. Students will learn role of herbs and analytical methods for cosmetics 4. Students will gain knowledge about cosmetic evaluation 5. Students will learn to correct cosmetic problems associated with skin and hair
49	B.Sc. (Hons.) Agriculture	Pests of Crops and Stored Grain and their Management	AGR3053	<ol style="list-style-type: none"> 1. To familiarize the students about nature of damage and seasonal incidence of insect pests which cause loss to major field crops and their effective management by different methods. 2. To make the students identify pests which attack on crops and in storage, methods and devices used in sampling, the overall value of sampling grain, preventive and responsive management techniques and proper use of grain protectant and fumigation. 3. To acquaint with different strategies for management of crop pests under field and storage conditions. 4. To teach the students the basic skills for handling and storing grain so as to enable them to make timely pest management decisions, while also protecting the quality of stored grains and the environment.
50	B.Sc. (Hons.) Agriculture	Diseases of Field and Horticultural Crops and their Management -I	AGR3054	<ol style="list-style-type: none"> 1. Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2. Describe complete etiology of disease and be able to prepare disease forecasting models 3. Plan and evaluate integrated disease management programme at village or district level
51	B.Sc. (Hons.) Agriculture	Crop Improvement-I (Kharif Crop)	AGR3055	<ol style="list-style-type: none"> 1. Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2. Provide a safer, more biologically sustainable way of managing insect pests, diseases and weeds etc. 3. Plan and execute the strategies of crop improvement in important food and fibre crops of India.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
52	B.Sc. (Hons.) Agriculture	Geoinformatics and Nano-technology and Precision Farming	AGR3056	1.Apply the knowledge of precision tools and help in guiding and educating the farmers to get higher crop productivity through scientific farming. 2.Explain instrumentation and methodology of various tools used in precision farming and discuss the impact of precision techniques on soil fertility, nutrient dynamics and crop productivity. 3.Develop database of agriculture resources, which will act as decision support system at the farm
53	B.Sc. (Hons.) Agriculture	Rainfed Agriculture & Watershed Manegement	AGR3057	1.Apply principles of dry farming applicable to Indian conditions 2.Introduce improved soil and moisture conservation measures, better crop and rangeland management practices to increase production of crops, forage, fruits, fuel and timber in rainfed areas. 3.Develop practices for rainfed farming and suggest suitable measures for dry areas of India and plan future line of research and extension.
54	B.Sc. (Hons.) Agriculture	Protected Cultivation and Secondary Agriculture	AGR3058	1.Explain the roe of greenhouse technology in increasing agricultural productivity and quality of the produce 2.Describe proper functioning of glass house and be able to produce his/her own off season produce with better utilization of available resources
55	B.Sc. (Hons.) Agriculture	Diseases of field and Horticulture Crops and their Management -II	AGR3059	1.Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2.Describe complete etiology of disease and be able to prepare disease forecasting models 3.Plan and evaluate integrated disease management programme at village or district level
56	B.Sc. (Hons.) Agriculture	Post-Harvest Management and Value Addition of Fruits and Vegetables	AGR3060	1.Understand post- harvest technology and value addition of horticultural crops 2.Acquire knowledge on novel packaging techniques of fruits and vegetables 3.Understand the work space, tool and equipment design for processing and packaging of horticultural crops 4.demonstrate various certification and accreditation processes of horticultural produce
57	B.Sc. (Hons.) Agriculture	Management of Beneficial Insects	AGR3061	1.Recognise various natural enemies of insect pests and identify their habitats 2.Demonstrate rearing technology of honey bees, silkworms and lac insects 3.Design and implement habitat improvements practices including site preparation, insectary strip plantings, hedgerows, beetle banks etc. 4.Explain conservation Programs and practices supporting pollinators, other beneficial insects, and wildlife conservation.
58	B.Sc. (Hons.) Agriculture	Crop Improvement –II(Rabi Crops)	AGR3062	1.Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2.Provide a safer, biologically sustainable way of managing insect pests, diseases and weeds by resaistance breeding 3.Plan and execute the strategies of crop improvement in important food and fibre crops of India.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
59	B.Sc. (Hons.) Agriculture	Principles of Organic Farming	AGR3063	<p>1.Summarise the aims and objectives of organic farming and identify the regulations governing organic farming</p> <p>2.Identify and explain the key principles and practices involved in maintaining soil fertility and plant productivity and health in organic farming systems</p> <p>3.Discuss the role of the market and other factors influencing the physical and financial performance of organic farming and their implications for the adoption of organic farming</p> <p>Discuss the contribution of organic farming to food quality, environmental and social policy objectives and outline the future policies</p>
60	B.Sc. (Hons.) Agriculture	Farm Management, Production & Resource Economics	AGR3064	<p>1.Interpret, analyse and evaluate the financial and economic performance of an agricultural business</p> <p>2.Undertake risk analysis for agricultural businesses and agricultural investments</p> <p>3.Identify appropriate strategies for agribusiness analysis by interpreting management objectives, resource implications, risk factors and applying optimisation techniques</p> <p>4.Analyse profitability, cash flows and business structures</p>
61	B.Sc. (Hons.) Agriculture	Practical Crop Production –I (Kharif Crops)	AGR3551	<p>1.Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field.</p> <p>2.Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application.</p> <p>Guide the farmers for handling, transporting and safe storage of their produce.</p>
62	B.Sc. (Hons.) Agriculture	Practical Crop Production –II (Rabi crops)	AGR3552	<p>1.Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field.</p> <p>2.Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application.</p> <p>3.Guide the farmers for handling, transporting and safe storage of their produce.</p>
63	B.Sc. (Hons.) Agriculture	Principles of Food Science and Nutrition	AGR3751	<p>1.Outline steps in the body processes of digestion and metabolism and relate them to the health and nutrition of the individual.</p> <p>2.Explain the effects of common food preparation methods and food storage conditions on survival and growth of microbial contaminants.</p> <p>3.Describe techniques that can be used to monitor quality of raw ingredients and final products.</p>
64	B.Sc. (Hons.) Agriculture	RURAL AGRICULTURAL WORK EXPERIENCE AND AGRO INDUSTRIAL ATTACHEMENT (RAWE & AIA)	AGR4551	<p>1.impart diagnostic and remedial solution to the farmers relevant to real field situations after acquiring first hand field experience</p> <p>2.demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce</p> <p>3.Identify local problems and solve these at the first instance or bring those problems to consulting experts either from stations or headquarters</p> <p>4.Will be able to prepare and focus on future research and extension strategies</p>

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
65	B.Sc. (Hons.) Agriculture	Production Technology For Bioagents And Biofertilizer	AGR4552	1.Observe, think, analyse, synthesise, evaluate and apply the acquired knowledge. 2.Demonstrate the technology of production of bio fertilizers and bio pesticides 3.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of fertilizer and pesticide manufacturing
66	B.Sc. (Hons.) Agriculture	Seed Production And Technology	AGR4553	1.demonstrate the ways to maintain pure accessions like isolation distance, bagging technique, rouging etc. to farmers and young entrepreneurs 2.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of seed production 3.Can get into seed production ventures with multinational companies or start his/her own business.
67	B.Sc. (Hons.) Agriculture	Mushroom Cultivation Technology	AGR4554	1.Describe the complete package of production of mushroom and advise all mushroom protection technologies to farmers 2.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of mushroom production alongwith farming
68	B.Sc. (Hons.) Agriculture	Soil, Plant, Water and Seed Testing	AGR4555	1.Describe techniques of Soil and plant analysis for heavy metals and pollutant elements; plant analysis for nutrients and water testing for quality of irrigation water. 2.Advise management options for problematic soils, polluted water or nutrient deficiency for plants.
69	B.Sc. (Hons.) Agriculture	Commercial Beekeeping	AGR4556	1.Acquire all the competencies to carry out beekeeping operations right from understanding bee biology and behaviour to harvesting and processing of products. 2.Either work independently or may work in a beekeeping farm. 3.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of honey production alongwith farming
70	B.Sc. (Hons.) Agriculture	Poultry Production Technology	AGR4557	1.Provide details about poultry farming; rearing of chicks to production of eggs and meat 2.Demonstrate the ways to maintain hygiene and disease free egg and chicken production 3.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of poultry alongwith farming
71	B.Sc. (Hons.) Agriculture	Commercial Horticulture	AGR4558	1.Explain importance of nursery management practices for producing elite, disease free planting material by different propagation methods 2.Share practical experience of several techniques in propagation of horticultural crops and commercial nurseries to meet the demand of industry. 3.Work in project mode and start his/her own business
72	B.Sc. (Hons.) Agriculture	Floriculture and Landscaping	AGR4559	1.Explain techniques of propagation of floricultural crops, their post- harvest techniques and marketing of these commodities 2.Share practical experience of several techniques in propagation of ornamental crops and to meet the demand of industry. 3.Work in project mode and prepare the students for future business in floriculture 4.Design a landscape or interior scape project.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
73	B.Sc. (Hons.) Agriculture	Food Processing	AGR4560	<ol style="list-style-type: none"> 1.Explain how to reduce wastage of perishable agricultural produce, enhance shelf life of food products, ensure value addition to agricultural produce 2.Create awareness on diversification and commercialization of agricultural produce 3.Share practical experience of several techniques of food processing to meet the demand of industry. 4.Encourage research and development in food processing for product and process development and improved packaging
74	B.Sc. (Hons.) Agriculture	Agriculture Waste Management	AGR4561	<ol style="list-style-type: none"> 1.Describe the management, operation and maintenance of the waste from production to utilization 2.design a planned system which use by-products of agricultural production in a manner that sustains or enhances the quality of air, water, soil, plant, animal, and energy resources.
75	B.Sc. (Hons.) Agriculture	Organic Production Technology	AGR4562	<ol style="list-style-type: none"> 1.Describe various methods of organic crop production, necessary equipment, supplies, and facilities required for organic production of crops 2.Handle the pest management issues in kharif crops and Rabi crops without the use of synthetic pesticides. 3.Will be able to deliver lectures on ill effects of pesticides and artificial manures and suggest organic method of crop production 4.build confidence and to work in project mode and prepare the students for future business in organic food production
76	B.Sc. (Hons.) Agriculture	Commercial Sericulture	AGR4563	<ol style="list-style-type: none"> 1.Acquire all the competencies to carry out sericulture operations right from understanding moth biology and behaviour to harvesting and processing of products. 2.Guide the farmers and train them for starting their sericulture business. 3.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of silk production
77	B.Sc. (Hons.) Agriculture	Agribusiness Management	AGR4566	<ol style="list-style-type: none"> 1. Apply strategic business principles to analyze and design effective management strategies tailored to the unique challenges of the agricultural industry, fostering sustainable and competitive agribusiness enterprises. 2. Demonstrate proficiency in financial analysis, resource allocation, and risk assessment within agricultural contexts, optimizing operational efficiency and maximizing returns for agribusiness ventures. 3. Develop skills in value chain management, fostering collaboration and innovation among stakeholders to enhance market access, product quality, and overall competitiveness in the agricultural sector.
78	B.Sc. (Hons.) Agriculture	Agrochemicals	AGR4567	<ol style="list-style-type: none"> 1. Apply comprehensive knowledge of agrochemical properties, application techniques, and regulations to make informed decisions in optimizing crop protection while minimizing environmental impact. 2. Demonstrate proficiency in evaluating, selecting, and responsibly using agrochemicals, integrating pest and disease management strategies within sustainable agricultural practices. 3. Communicate the implications of agrochemical usage on agricultural productivity, environmental sustainability, and human health, advocating for responsible and effective agrochemical stewardship in agricultural systems.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
79	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR4568	<ol style="list-style-type: none"> 1. Apply advanced principles of genetics and breeding methodologies to develop improved crop varieties, demonstrating proficiency in selection, hybridization, and genetic enhancement techniques for specific agricultural needs. 2. Evaluate and implement commercial breeding strategies, integrating genetic diversity and technological advancements to enhance crop traits, yield, and adaptability, fostering innovation and sustainability in agricultural production systems. 3. Communicate the significance of commercial plant breeding in agriculture, articulating the economic, environmental, and social impact of improved crop varieties, while adhering to ethical and regulatory considerations.
80	B.Sc. (Hons.) Agriculture	Landscaping	AGR4569	<ol style="list-style-type: none"> 1. Apply principles of landscape design and management, demonstrating proficiency in planning, implementing, and maintaining aesthetically pleasing and ecologically sustainable outdoor spaces. 2. Evaluate diverse environmental factors and plant materials to create functional and visually appealing landscapes, integrating knowledge of horticulture, ecology, and design principles within agricultural contexts. 3. Communicate effectively the significance of landscaping in agriculture, advocating for sustainable practices and addressing environmental concerns, while considering the aesthetic and functional aspects of outdoor spaces.
81	B.Sc. (Hons.) Agriculture	Food Safety and Standards	AGR4570	<ol style="list-style-type: none"> 1. Apply comprehensive knowledge of food safety regulations and standards, demonstrating proficiency in identifying, mitigating, and preventing foodborne hazards throughout the food production chain. 2. Implement effective food safety management systems, incorporating principles of hygiene, quality control, and risk assessment to ensure the production of safe and high-quality agricultural products for consumers. 3. Communicate the importance of food safety in agriculture, advocating for compliance with standards, and addressing emerging issues to promote consumer health and confidence in food products.
82	M.Sc. (Ag) Agronomy	Modern Concepts in Crop Production	AGR5701	<ol style="list-style-type: none"> 1. Describe agro biological principles and practices involved in modern crop production technology 2. Comprehend the ideas of integrated farming system and explain it in relation to modern agriculture. 3. Explain scientific principles of crop production and crop response production functions
83	M.Sc. (Ag) Agronomy	Principles and Practices of Water Management	AGR5001	<ol style="list-style-type: none"> 1. Recognise various practices related with efficient use management of available water and its conservation for future use. 2. Describe the actual water requirement of crops and concept of water use efficiency 3. Discuss the climate resilience practices to be followed in current climate change scenario
84	M.Sc. (Ag) Agronomy	Agronomy of Oilseed, Fibre and Sugar Crops	AGR5002	<ol style="list-style-type: none"> 1. Describe the agricultural practices required for oilseed crops, fibre crops and jute crops 2. Comprehend the idea of climate resilience in major oilseed and fibre crops. 3. Provide with a solution of pest or nutrient problems to the farmers or trainers

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
85	M.Sc. (Ag) Agronomy	Statistical methods in Research	MAT5703	<ol style="list-style-type: none"> 1. Organize data into a statistically significant data and represent it in scientific manner 2. Define and compute each of measures of central tendency, measure of dispersion and how it effects overall experimental results. 3. Compute correlation and regression and understand the relationship between correlation and regression. 4. Understand the concepts of probability and probability distribution. 5. Analyse data using tests of significance.
86	M.Sc. (Ag) Agronomy	Agronomy of Fodder and Forage Crops	AGR5003	<ol style="list-style-type: none"> 1. Describe the good production of agricultural practices required for fodder and forage crops. 2. Comprehend the idea of climate resilience in major fodder and forage crops. 3. Provide with a solution of weed, pest or nutrient related issues pertaining to fodder and forage crops
87	M.Sc. (Ag) Agronomy	Cropping Systems and Organic Farming	AGR5702	<ol style="list-style-type: none"> 1. Discuss and assess cropping system in relation to resource sustainability 2. Demonstrate the complete package of practice of crop following organic system and discuss its importance in Indian and Global context. 3. Discuss the effect of artificial fertilizer and manures on plant health and ecosystem
88	M.Sc. (Ag) Agronomy	Principles and Practices of Weed Management	AGR5004	<ol style="list-style-type: none"> 1. Discuss the effect of weeds on plant health, nutrition and yield of a crop 2. Debate about different classes of herbicides with their mode of action and recommend weedicides for different weeds. 3. Demonstrate integrated practices of weed management considering current scenario of ecosystem disturbance.
89	M.Sc. (Ag) Agronomy	Agronomy of Major Cereals and Pulses	AGR5005	<ol style="list-style-type: none"> 1. Describe the agricultural practices required for cereals and pulses of rabi and Kharif season. 2. Cultivate and advise farmers about good agricultural practices to be followed for production of Rabi and Kharif cereals and pulses.
90	M.Sc. (Ag) Agronomy	Master's Research Part- 1	AGR5501	<ol style="list-style-type: none"> 1. Plan and use adequate methods to conduct qualified tasks in given frameworks and to evaluate this work 2. Describe more in-depth knowledge of the major subject/field of study, including deeper insight into current research and development work 3. Contribute to research and development work related to suggested topic of research
91	M.Sc. (Ag) Agronomy	Seminar	AGR6501	<ol style="list-style-type: none"> 1. To gather, analyze and apply information from various sources, specifically agricultural theories, to formulate convincing arguments, communicate academic ideas, produce conclusions and acquire academic writing skills. 2. Gain presentation as well as communication skills by presenting his/her research into any conference/workshop to heterogenous audience.
92	M.Sc. (Ag) Agronomy	Theory and Practice of Plant Breeding	AGR6002	<ol style="list-style-type: none"> 1. Discuss the role of plant genetic resources in plant breeding and crop improvement practices 2. Produce and handle breeding material independently and 3. Demonstrate different breeding strategies for biotic and abiotic stresses and their role in sustainable crop production

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
93	M.Sc. (Ag) Agronomy	Introduction to Breeding of Field Crops	AGR6701	1. Demonstrate the conventional and modern biotechnological tools involved in improvement of field crops 2. Describe genetic principles underlying crop improvement 3. Discuss the problems and current scenario of crop improvement in relation to India and global context.
94	M.Sc. (Ag) Agronomy	Soil Physical and Biological Environment	AGR6005	1. Discuss the physical and biological environment of soil in relation to plant growth 2. Describe the interaction of soil micro fauna and its role in soil activities. 3. Explain microbial transformation of nitrogen and phosphorus in soil and then factors influencing this activity
95	M.Sc. (Ag) Agronomy	Master's Research Part- 2	AGR6502	1. Plan and use adequate methods to conduct qualified tasks in given framework and timeline 2. Use a holistic view to critically, independently and creatively identify, formulate and deal with complex issues in real field situation. 3. Undertake research or project independently using different empirical methods and analytical approaches 4. Demonstrate knowledge of responsibilities and norms of agricultural research whether working as individual or in collaboration research
96	M.Sc. (Ag) Agronomy	Master's Research Part- 3	AGR6503	1. Demonstrate the ability to analyse critically the relevant literature and to use it as a tool of analysis 2. Use scientific and statistical tools to examine and analyse a range of data to reach at a well-defined conclusion and suggest future course of studies 3. Comprehend and apply knowledge of agronomical principles and procedures to defined agricultural issues 4. Create, analyse and critically evaluate different scientific and technological issues of production system and suggest a viable solution 5. Demonstrate the ability to use research and research management skills and analytical methodologies appropriately to formulate future research philosophies

YEAR 2023-24

1	B.Sc. (Hons.) Agriculture	Fundamentals of Horticulture	AGR1051	1. Define and describe the significance of horticulture to society. 2. Demonstrate a working knowledge of the fundamental principles and practices of growing horticultural crops 3. Apply and utilize the fundamentals of horticultural crops to economic production of fruits and vegetables and also in horticultural research
2	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Biochemistry and Biotechnology	AGR1052	1. Recognize the structures and properties of the four major classes of biomolecules and catalytic properties of enzymes 2. Explain major metabolic pathways of carbohydrates, proteins, fats and lipids. 3. Describe the nature of genetic materials and their molecular processes 4. Explain concepts, principles and processes involved in plant biotechnology for modification of genetic material 5. Apply the acquired knowledge in biotechnological, pharmaceutical, medical and agricultural applications
3	B.Sc. (Hons.) Agriculture	Fundamental of Soil Science	AGR1053	1. Gain basic knowledge of terms and concepts in soil science and apply this knowledge to new problems and situations 2. Learn the key physical, chemical, and biological aspects of soils 3. Learn field identification of important physical soil attributes
4	B.Sc. (Hons.) Agriculture	Introduction to Forestry	AGR1054	1. Use environmental performance indicators to evaluate the sustainability of various silvicultural management options 2. Choose and employ appropriate concepts, models, and effective techniques to produce and analyze forest resource plans, from woodlots to landscapes, which consider multiple competing objectives 3. Identify complex factors which influence forest management decisions (economical, social, ecological and urban interface).
5	B.Sc. (Hons.) Agriculture	Comprehension and Communication Skills in English	COM1008	1. Achieve the intended purpose in the writing task, with awareness of audience. 2. Identify and fully develop ideas to a specific thesis 3. Organize ideas effectively 4. Adhere to proper mechanics and style. 5. Achieve clarity of expression in language, argument, rhetorical form, and idea.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
6	B.Sc. (Hons.) Agriculture	Fundamentals of Agronomy	AGR1055	1. Name and classify the major food crops and global leaders in their production 2. Explain the physiological processes involved in plant growth and development 3. Discuss the effects of environmental factors on crop growth and productivity
7	B.Sc. (Hons.) Agriculture	Introductory Biology*	BIO1001	1. Acquire, integrate and synthesize core biological concepts across different levels of biological organization. 2. Engage in the practices of biological inquiry, including all its complexity and uncertainty. 3. Apply quantitative techniques to investigate biological systems. 4. Communicate science effectively and be critical consumers of scientific information. 5. Recognize the societal context and ethical implications of scientific knowledge.
8	B.Sc. (Hons.) Agriculture	Elementary Mathematics*	MAT1904	1. Know and demonstrate understanding of different concepts of mathematics i.e. number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics 2. Use mathematics to analyze and solve problems both agriculture and in real-life situations. 3. use appropriate mathematical language (notation, symbols, terminology) in both oral and written explanations
9	B.Sc. (Hons.) Agriculture	Agricultural Heritage*	AGR1751	1. Understand ancient agricultural practices and be able to correlate their relevance in present days' agriculture 2. Apply his/her knowledge of agricultural heritage to solve agricultural problems which have cropped up with modern agriculture system 3. Prioritize and develop organic way of agriculture in terms of crop management
10	B.Sc. (Hons.) Agriculture	Rural Sociology & Educational Psychology	AGR1752	1. Understand concept of rural sociology and its importance in agricultural extension 2. Discuss the characteristics of rural society, village institutions and social organizations 3. Understand how to support his/her own learning and how to help farmers by studying and practicing ideas of rural sociology and agricultural development 4. Explain the actions which an extension specialist can take to research and improve both their professional practice as well as famer's participation in agricultural development programmes 5. Will be able to evaluate particular rural sociology and community development theories for solving real community problems
11	B.Sc. (Hons.) Agriculture	Human Values & Ethics (Non gradial)	VAL1724	1. Understand the significance of value inputs in a classroom and start applying them in their life and profession 2. Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc. 3. Understand the value of harmonious relationship based on trust and respect in their life and profession 4. Understand the role of a human being in ensuring harmony in society and nature. 5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work
12	B.Sc. (Hons.) Agriculture	NSS/NCC/Physical Education & Yoga Practices (Non-gradial)	AGR1551	1. Utilise their knowledge in finding practical solution to individual and community problems 2. Utilize physical activity as a tool to manage stress. 3. Participate in active learning to stimulate continued inquiry about physical education, health and fitness. 4. Demonstrate basic skills associated with yoga activities including strength and flexibility, balance and coordination 5. Improve personal fitness through participation in yoga, muscular strength and muscular endurance activities
13	B.Sc. (Hons.) Agriculture	Fundamentals of Genetics	AGR1056	1. Recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles 2. Describe the fundamental molecular principles of genetics and molecular breeding 3. Understand the relationship between phenotype and genotype in plant genetic traits. 4. Explain the way in which genes code for proteins and expression of quantitative and qualitative traits
14	B.Sc. (Hons.) Agriculture	Agricultural Microbiology	AGR1057	1. Demonstrate theory and practical skills in microscopy and their handling techniques 2. Comprehend the microbial transport systems and mechanisms of energy conservation in microbial metabolism 3. be able to perform routine culture handling tasks and staining procedures safely and effectively 4. Describe different growth requirements of bacteria and get equipped with various methods of bacterial growth measurement
15	B.Sc. (Hons.) Agriculture	Soil and Water Conservation Engineering	AGR1058	1. Describe the concept of soil, wind and water erosion and their conservation practices 2. Comprehend the concept of irrigation water measurement, micro irrigation, underground pipeline system along with their designs 3. Demonstrate various water harvesting techniques and their role in current climate change scenario.
16	B.Sc. (Hons.) Agriculture	Fundamentals of Crop Physiology	AGR1059	1. Distinguish key physiological processes underlying the formation of seedlings from seed embryos; 2. Identify the physiological factors that regulate growth and developmental processes of crop plants, and clearly define their roles; 3. Evaluate the different strategies used by plants to acquire and utilize resources, and formulate a logical argument of their impact on crop productivity; 4. Demonstrate clear understanding of crop-environment interaction and its implication on crop growth and yield
17	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Economics	AGR1753	1. Explain the concept of economy, its functional characteristics and classification of goods and services. 2. Discuss market dynamics due to changes in demand and prices and explain basic features of perfectly competitive and imperfect competitive markets. 3. explain the role of banking in modern economy and discuss the role of planning commission of India and NITI Avog.

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18	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Pathology	AGR1060	1. Examine the important diseases of plants caused by fungi, bacteria, viruses and nematodes 2. Describe the general characteristics of all the plant pathogens alongwith their symptoms on plants 3. Plan integrated management practices of important diseases 4. Demonstrate important rust diseases and their management measures
19	B.Sc. (Hons.) Agriculture	Fundamentals of Entomology	AGR1061	1. Explain the economic importance class Insecta in agriculture 2. Demonstrate the morphological features of insect growth and development 3. Brief about various physiological processes taking place in inset system 4. Explain various modification of important appendages of insects and identify new species emerging as pests 5. Understand concept of ecosystem sustainability through integrated pest management
20	B.Sc. (Hons.) Agriculture	Fundamentals of Agricultural Extension Education	AGR1062	1. Understand the need of agricultural extension in communicating agricultural products and technologies to the famers. 2. Demonstrate various methods and strategies required to promote adoption of advance technology and agricultural practice 3. plan extension programme of community/village development and monitor their evaluation.
21	B.Sc. (Hons.) Agriculture	Communication Skills and Personality Development	COM1009	1. Equipped with both written and spoken communication skills which will help him develop overall personality development 2. Communicate about research proposals, results and more reports effectively and in a scientific manner 3. Compile and write formal and scientific articles, research papers and reports and represent these in groups conferences
22	B.Sc. (Hons.) Agriculture	Educational Tour I (Non gradial)	AGR1552	1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.
23	B.Sc. (Hons.) Agriculture	Crop Production Technology – I (Kharif Crops)	AGR2051	1. Describe necessary equipment, supplies, and facilities required for production of kharif crops 2. Handle the input and pest management issues in kharif crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
24	B.Sc. (Hons.) Agriculture	Fundamentals of Plant Breeding	AGR2052	1. Describe the hybridization techniques in self & cross pollinated crops and be able to Prepare Plant Breeder's kit for study of various germplasm 2. Handle segregation populations and comprehend the consequences of inbreeding on genetic structure of resulting populations. 3. Design plant breeding experiments which are statistically significant and yield precise results 4. Predict performance of single/double cross hybrids. Open pollinated varieties and lines
25	B.Sc. (Hons.) Agriculture	Agricultural Finance and Cooperation	AGR2053	1. Understand sources and pattern of agriculture credit in India and institutional framework of Indian agriculture credit 2. Describe the structure of agricultural lending from different sources and role of banks and cooperative societies in it 3. Suggest measures to improve agriculture credit and be aware about recent Government's initiatives.
26	B.Sc. (Hons.) Agriculture	Agri- Informatics	AGR2054	1. Apply knowledge of computer in handling and managing the data of his/her experiments. 2. Will be able to consolidate data in scientific and analytical manner 3. Will be able to reproduce data for further information and interpret the information gained from the data to reach at results 4. Understand the farm decision system and crop planning using IT tools
27	B.Sc. (Hons.) Agriculture	Farm Machinery and Power	AGR2055	1. Describe the use, calibration, adjustment, maintenance and repair of the equipment 2. Handle the primary and secondary tillage, planting, chemical application, and harvesting equipment. 3. Operate tractor mounted/manual driven farm equipments following safety instructions.
28	B.Sc. (Hons.) Agriculture	Production Technology for Vegetables and Spices	AGR2056	1. Understand the basic requirement of climate, soil, improved varieties and cultivation practices for healthy production of vegetables and spices. 2. Describe the complete package of production of any of the vegetable or spices. 3. Plan and execute agricultural operations based on the knowledge gained.
29	B.Sc. (Hons.) Agriculture	Environmental Studies and Disaster Management	AGR2057	1. Understand the natural environment and its relationships with human activities. 2. Characterize and analyze human impacts on the environment. 3. Integrate facts, concepts, and methods from multiple disciplines and apply to environmental problems. 4. integrate knowledge and manage different public health aspects of disaster events at a local and global levels. 5. Obtain, analyse, and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios
30	B.Sc. (Hons.) Agriculture	Statistical Methods	MAT1003	1. Calculate and apply statistical measures to grouped and ungrouped data cases and provide with the solution to various agricultural research problems 2. Suggest the tests of significance to be used under different situations and be able to interpret the data based on the results 3. perform correlation and regression for multifactorial data using computer software.
31	B.Sc. (Hons.) Agriculture	Livestock and Poultry Management	AGR2058	1. Understand various farm animals and poultry birds along with their importance in Agricultural system 2. Describe the housing system for both livestock and poultry and to prepare the students to design these according to the requirement 3. Formulate rations and feeding for dairy cattle and buffaloes and feed for poultry 4. Suggest methods to improve productivity of dairy animals and noultry birds

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
32	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2001	1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process
33	B.Sc. (Hons.) Agriculture	Crop Production Technology –II (Rabi Crops)	AGR2059	1. Describe necessary equipment, supplies, and facilities required for production of Rabi crops 2. Handle input and pest management issues in Rabi crops 3. Will be able to follow good agricultural practices and help in sustaining the agricultural system
34	B.Sc. (Hons.) Agriculture	Production Technology for Ornamental Crops, MAP and Landscaping	AGR2060	1. Describe necessary equipment, supplies, and facilities required for production of ornamental crops, aromatic plants and medicinal crops 2. Handle the pest management issues in ornamental crops 3. Describe extraction of essential oils and processing of medicinal and aromatic plants 4. Will be able to follow good agricultural practices and help sustain the agricultural system
35	B.Sc. (Hons.) Agriculture	Renewable Energy and Green Technology	AGR2061	1. Describe the environmental aspects of non-conventional energy resources in comparison with various conventional energy systems. 2. Know the need of renewable energy resources and latest developments in green energy technology 3. Compare Solar, Wind and bio energy systems and can discuss their prospects, advantages and limitations. 4. Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.
36	B.Sc. (Hons.) Agriculture	Problematic Soils and their Management	AGR2751	1. Identify problematic soils, set up a plan for their reclamation and their post- reclamation management in a manner that is sustainable. 2. handle, reclaim and manage issues associated with problematic soils
37	B.Sc. (Hons.) Agriculture	Production Technology for Fruit and Plantation Crops	AGR2062	1. Understand the importance of cultivation of fruit trees and plantation crops 2. Describe the production technology for major fruit crops of India 3. Will be able to manage physiological disorders occurring in fruit crops. 4. Explain the good agricultural practices followed for cultivating fruit crops and help sustain the agricultural system.
38	B.Sc. (Hons.) Agriculture	Principles of Seed Technology	AGR2063	1. understand the protocols of seed production/ testing/processing 2. produce quality seed of major kharif and Rabi crops following advanced and scientific seed production practices 3. start his/her own seed production business after the completion of this course
39	B.Sc. (Hons.) Agriculture	Farming System & Sustainable Agriculture	AGR2752	1. Understand farming system in India and major factors affecting cropping system and cropping pattern 2. Describe the indicators of sustainability like adaptation ,mitigation, conservation agriculture 3. Comprehend the problems faced by Indian farming system and provide with a sustainable integrated approach to handle these.
40	B.Sc. (Hons.) Agriculture	Agricultural Marketing Trade & Prices	AGR2064	1. Describe the fundamentals of agricultural marketing with understanding of demand and supply of commodities 2. Will be able to discuss functions of agricultural market and role of different agencies in controlling the cost and price of inputs 3. Will gain sufficient knowledge about concepts of trade and tariffs related to agricultural commodities.
41	B.Sc. (Hons.) Agriculture	Introductory Agro- meteorology & Climate Change	AGR2065	1. Understand the role of agro-meteorology in sustaining the crop production 2. To monitor agricultural droughts on crop-wise for effective drought management. 3. To prepare crop weather diagrams and crop weather calendars. 4. To develop crop growth simulation models for assessing/obtaining potential yields under different climatic conditions 5. To develop weather based agro advisories to sustain crop production utilizing various types of weather forecast and seasonal climate forecast
42	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR2068	1. Develop varieties with higher yield potential, more durable pest and disease resistance, and market-relevant end-use quality 2. Demonstrate seed production technologies in major crops 3. Use tissue culture techniques and biotechnological tools for the improvement of desirable traits in crops
43	B.Sc. (Hons.) Agriculture	Protected Cultivation	AGR2072	1. Apply his/her knowledge of cropping technique to control the micro climate surrounding the plant as per the requirement of crop 2. Demonstrate the green house technologies to farmers and entrepreneurs to enable them to start their own production and produce crop in off season using glasshouse technology. 3. Respond to new challenges of the market and of production in protected horticulture, both in their professional and their research dimensions.
44	B.Sc. (Hons.) Agriculture	Agricultural Journalism	AGR2077	1. Gather agricultural information and write stories about conventional and modern agricultural system 2. Examine communication and human dimension issues in relation to agriculture 3. Cover a wide range of areas, assessing and reporting all stages from agricultural research and production to processing, marketing, consumption, nutrition and health.
45	B.Sc. (Hons.) Agriculture	Inter Disciplinary Project	IPT2002	1. Consolidate learning by synthesizing ideas from many perspectives and consider an alternative way of acquiring knowledge. 2. Address his/her individual differences across subject areas and help to develop important transferable skills such as critical thinking, communication and analysis which will be applicable to future learning experiences 3. Apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. 4. Realize the importance of ethics in research process

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46	B.Sc. (Hons.) Agriculture	Educational Tour II (Non gradial)	AGR2551	1. Develop confidence and competence to solve agricultural problems after acquiring first hand field experience 2. Enhance knowledge of students about rules/protocols/ethics of industries through exposure to industrial visits 3. Improve students/s knowledge about various functioning of agricultural industries Seed/Sapling production, Pesticides-insecticides, Post-harvest processing-value addition, Agri-finance institutions etc. 4. Demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce.
47	B.Sc. (Hons.) Agriculture	Principles of Integrated Pest and Disease Management	AGR3051	1. Comprehend different IPM concepts and apply these as and when required for sustaining the agricultural system 2. Apply knowledge gained to solve actual pest management problems in standing crop and recommend the management practices Plan and implement IPM programmes both at local and state level
48	B.Sc. (Hons.) Agriculture	Manures, Fertilizers and Soil Fertility Management	AGR3052	1. Students will gain knowledge about cosmetic excipients suited according to cosmetic application site 2. Students will learn principles of formulation and building blocks of skin and hair care products 3. Students will learn role of herbs and analytical methods for cosmetics 4. Students will gain knowledge about cosmetic evaluation 5. Students will learn to correct cosmetic problems associated with skin and hair
49	B.Sc. (Hons.) Agriculture	Pests of Crops and Stored Grain and their Management	AGR3053	1. To familiarize the students about nature of damage and seasonal incidence of insect pests which cause loss to major field crops and their effective management by different methods. 2. To make the students identify pests which attack on crops and in storage, methods and devices used in sampling, the overall value of sampling grain, preventive and responsive management techniques and proper use of grain protectant and fumigation. 3. To acquaint with different strategies for management of crop pests under field and storage conditions. 4. To teach the students the basic skills for handling and storing grain so as to enable them to make timely pest management decisions, while also protecting the quality of stored grains and the environment
50	B.Sc. (Hons.) Agriculture	Diseases of Field and Horticultural Crops and their Management –I	AGR3054	1. Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2. Describe complete etiology of disease and be able to prepare disease forecasting models 3. Plan and evaluate integrated disease management programme at village or district level
51	B.Sc. (Hons.) Agriculture	Crop Improvement-I (Kharif Crop)	AGR3055	1. Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2. Provide a safer, more biologically sustainable way of managing insect pests, diseases and weeds etc. 3. Plan and execute the strategies of crop improvement in important food and fibre crops of India.
52	B.Sc. (Hons.) Agriculture	Geoinformatics and Nano-technology and Precision Farming	AGR3056	1. Apply the knowledge of precision tools and help in guiding and educating the farmers to get higher crop productivity through scientific farming. 2. Explain instrumentation and methodology of various tools used in precision farming and discuss the impact of precision techniques on soil fertility, nutrient dynamics and crop productivity. 3. Develop database of agriculture resources, which will act as decision support system at the farm
53	B.Sc. (Hons.) Agriculture	Rainfed Agriculture & Watershed Management	AGR3057	1. Apply principles of dry farming applicable to Indian conditions 2. Introduce improved soil and moisture conservation measures, better crop and rangeland management practices to increase production of crops, forage, fruits, fuel and timber in rainfed areas. 3. Develop practices for rainfed farming and suggest suitable measures for dry areas of India and plan future line of research and extension.
54	B.Sc. (Hons.) Agriculture	Protected Cultivation and Secondary Agriculture	AGR3058	1. Explain the role of greenhouse technology in increasing agricultural productivity and quality of the produce 2. Describe proper functioning of glass house and be able to produce his/her own off season produce with better utilization of available resources
55	B.Sc. (Hons.) Agriculture	Diseases of field and Horticulture Crops and their Management -II	AGR3059	1. Identify and explain important diseases of fruits, vegetables and ornamental crops and provide with their solution. 2. Describe complete etiology of disease and be able to prepare disease forecasting models 3. Plan and evaluate integrated disease management programme at village or district level
56	B.Sc. (Hons.) Agriculture	Post-Harvest Management and Value Addition of Fruits and Vegetables	AGR3060	1. Understand post-harvest technology and value addition of horticultural crops 2. Acquire knowledge on novel packaging techniques of fruits and vegetables 3. Understand the work space, tool and equipment design for processing and packaging of horticultural crops 4. demonstrate various certification and accreditation processes of horticultural produce
57	B.Sc. (Hons.) Agriculture	Management of Beneficial Insects	AGR3061	1. Recognise various natural enemies of insect pests and identify their habitats 2. Demonstrate rearing technology of honey bees, silkworms and lac insects 3. Design and implement habitat improvements practices including site preparation, insectary strip plantings, hedgerows, beetle banks etc. 4. Explain conservation Programs and practices supporting pollinators, other beneficial insects, and wildlife conservation.
58	B.Sc. (Hons.) Agriculture	Crop Improvement –II(Rabi Crops)	AGR3062	1. Discuss the need of crop improvement in maintaining the sustainability of agriculture in current climate change scenario 2. Provide a safer, biologically sustainable way of managing insect pests, diseases and weeds by resistance breeding 3. Plan and execute the strategies of crop improvement in important food and fibre crops of India.

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
59	B.Sc. (Hons.) Agriculture	Principles of Organic Farming	AGR3063	1.Summarise the aims and objectives of organic farming and identify the regulations governing organic farming 2.Identify and explain the key principles and practices involved in maintaining soil fertility and plant productivity and health in organic farming systems 3.Discuss the role of the market and other factors influencing the physical and financial performance of organic farming and their implications for the adoption of organic farming Discuss the contribution of organic farming to food quality, environmental and social policy objectives and outline the future policies
60	B.Sc. (Hons.) Agriculture	Farm Management, Production & Resource Economics	AGR3064	1.Interpret, analyse and evaluate the financial and economic performance of an agricultural business 2.Undertake risk analysis for agricultural businesses and agricultural investments 3.Identify appropriate strategies for agribusiness analysis by interpreting management objectives, resource implications, risk factors and applying optimisation techniques 4.Analyse profitability, cash flows and business structures
61	B.Sc. (Hons.) Agriculture	Practical Crop Production -I (Kharif Crops)	AGR3551	1.Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field. 2.Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application. Guide the farmers for handling, transporting and safe storage of their produce.
62	B.Sc. (Hons.) Agriculture	Practical Crop Production -II (Rabi crops)	AGR3552	1.Define key concepts and describe theory and principles related to inputs, operations and procedures required for raising a crop in the field. 2.Plan and design field lay out, can decide on timing and amount of fertilizer, pesticide and irrigation application. 3.Guide the farmers for handling, transporting and safe storage of their produce.
63	B.Sc. (Hons.) Agriculture	Principles of Food Science and Nutrition	AGR3751	1.Outline steps in the body processes of digestion and metabolism and relate them to the health and nutrition of the individual. 2.Explain the effects of common food preparation methods and food storage conditions on survival and growth of microbial contaminants. 3.Describe techniques that can be used to monitor quality of raw ingredients and final products.
64	B.Sc. (Hons.) Agriculture	RURAL AGRICULTURAL WORK EXPERIENCE AND AGRO INDUSTRIAL ATTACHEMENT (RAW & AIA)	AGR4551	1.impart diagnostic and remedial solution to the farmers relevant to real field situations after acquiring first hand field experience 2.demonstrate entrepreneurial and managerial skills for self-employment and plan, produce and market their own produce 3.Identify local problems and solve these at the first instance or bring those problems to consulting experts either from stations or headquarters 4.Will be able to prepare and focus on future research and extension strategies
65	B.Sc. (Hons.) Agriculture	Production Technology For Bioagents And Biofertilizer	AGR4552	1.Observe, think, analyse, synthesize, evaluate and apply the acquired knowledge. 2.Demonstrate the technology of production of bio fertilizers and bio pesticides 3.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of fertilizer and pesticide manufacturing
66	B.Sc. (Hons.) Agriculture	Seed Production And Technology	AGR4553	1.demonstrate the ways to maintain pure accessions like isolation distance, bagging technique, rouging etc. to farmers and young entrepreneurs 2.develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of seed production 3.Can get into seed production ventures with multinational companies or start his/her own business.
67	B.Sc. (Hons.) Agriculture	Mushroom Cultivation Technology	AGR4554	1.Describe the complete package of production of mushroom and advise all mushroom protection technologies to farmers 2.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of mushroom production alongwith farming
68	B.Sc. (Hons.) Agriculture	Soil, Plant, Water and Seed Testing	AGR4555	1.Describe techniques of Soil and plant analysis for heavy metals and pollutant elements; plant analysis for nutrients and water testing for quality of irrigation water. 2.Advise management options for problematic soils, polluted water or nutrient deficiency for plants.
69	B.Sc. (Hons.) Agriculture	Commercial Beekeeping	AGR4556	1.Acquire all the competencies to carry out beekeeping operations right from understanding bee biology and behaviour to harvesting and processing of products. 2.Either work independently or may work in a beekeeping farm. 3.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of honey production alongwith farming
70	B.Sc. (Hons.) Agriculture	Poultry Production Technology	AGR4557	1.Provide details about poultry farming; rearing of chicks to production of eggs and meat 2.Demonstrate the ways to maintain hygiene and disease free egg and chicken production 3.Develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of poultry alongwith farming
71	B.Sc. (Hons.) Agriculture	Commercial Horticulture	AGR4558	1.Explain importance of nursery management practices for producing elite, disease free planting material by different propagation methods 2.Share practical experience of several techniques in propagation of horticultural crops and commercial nurseries to meet the demand of industry. 3.Work in project mode and start his/her own business
72	B.Sc. (Hons.) Agriculture	Floriculture and Landscaping	AGR4559	1.Explain techniques of propagation of floricultural crops, their post- harvest techniques and marketing of these commodities 2.Share practical experience of several techniques in propagation of ornamental crops and to meet the demand of industry. 3.Work in project mode and prepare the students for future business in floriculture 4.Design a landscape or interior scape project.

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73	B.Sc. (Hons.) Agriculture	Food Processing	AGR4560	1.Explain how to reduce wastage of perishable agricultural produce, enhance shelf life of food products, ensure value addition to agricultural produce 2.Create awareness on diversification and commercialization of agricultural produce 3.Share practical experience of several techniques of food processing to meet the demand of industry. 4.Encourage research and development in food processing for product and process development and improved packaging
74	B.Sc. (Hons.) Agriculture	Agriculture Waste Management	AGR4561	1.Describe the management, operation and maintenance of the waste from production to utilization 2.design a planned system which use by-products of agricultural production in a manner that sustains or enhances the quality of air, water, soil, plant, animal, and energy resources.
75	B.Sc. (Hons.) Agriculture	Organic Production Technology	AGR4562	1.Describe various methods of organic crop production, necessary equipment, supplies, and facilities required for organic production of crops 2.Handle the pest management issues in kharif crops and Rabi crops without the use of synthetic pesticides. 3.Will be able to deliver lectures on ill effects of pesticides and artificial manures and suggest organic method of crop production 4.build confidence and to work in project mode and prepare the students for future business in organic food production
76	B.Sc. (Hons.) Agriculture	Commercial Sericulture	AGR4563	1.Acquire all the competencies to carry out sericulture operations right from understanding moth biology and behaviour to harvesting and processing of products. 2.Guide the farmers and train them for starting their sericulture business. 3. develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start business of silk production
77	B.Sc. (Hons.) Agriculture	Agribusiness Management	AGR4566	1. Apply strategic business principles to analyze and design effective management strategies tailored to the unique challenges of the agricultural industry, fostering sustainable and competitive agribusiness enterprises. 2. Demonstrate proficiency in financial analysis, resource allocation, and risk assessment within agricultural contexts, optimizing operational efficiency and maximizing returns for agribusiness ventures. 3. Develop skills in value chain management, fostering collaboration and innovation among stakeholders to enhance market access, product quality, and overall competitiveness in the agricultural sector.
78	B.Sc. (Hons.) Agriculture	Agrochemicals	AGR4567	1. Apply comprehensive knowledge of agrochemical properties, application techniques, and regulations to make informed decisions in optimizing crop protection while minimizing environmental impact. 2. Demonstrate proficiency in evaluating, selecting, and responsibly using agrochemicals, integrating pest and disease management strategies within sustainable agricultural practices. 3. Communicate the implications of agrochemical usage on agricultural productivity, environmental sustainability, and human health, advocating for responsible and effective agrochemical stewardship in agricultural systems
79	B.Sc. (Hons.) Agriculture	Commercial Plant Breeding	AGR4568	1. Apply advanced principles of genetics and breeding methodologies to develop improved crop varieties, demonstrating proficiency in selection, hybridization, and genetic enhancement techniques for specific agricultural needs. 2. Evaluate and implement commercial breeding strategies, integrating genetic diversity and technological advancements to enhance crop traits, yield, and adaptability, fostering innovation and sustainability in agricultural production systems. 3. Communicate the significance of commercial plant breeding in agriculture, articulating the economic, environmental, and social impact of improved crop varieties, while adhering to ethical and regulatory considerations.
80	B.Sc. (Hons.) Agriculture	Landscaping	AGR4569	1. Apply principles of landscape design and management, demonstrating proficiency in planning, implementing, and maintaining aesthetically pleasing and ecologically sustainable outdoor spaces. 2. Evaluate diverse environmental factors and plant materials to create functional and visually appealing landscapes, integrating knowledge of horticulture, ecology, and design principles within agricultural contexts. 3. Communicate effectively the significance of landscaping in agriculture, advocating for sustainable practices and addressing environmental concerns, while considering the aesthetic and functional aspects of outdoor spaces.
81	B.Sc. (Hons.) Agriculture	Food Safety and Standards	AGR4570	1. Apply comprehensive knowledge of food safety regulations and standards, demonstrating proficiency in identifying, mitigating, and preventing foodborne hazards throughout the food production chain. 2. Implement effective food safety management systems, incorporating principles of hygiene, quality control, and risk assessment to ensure the production of safe and high-quality agricultural products for consumers. 3. Communicate the importance of food safety in agriculture, advocating for compliance with standards, and addressing emerging issues to promote consumer health and confidence in food products.
82	M.Sc. (Ag) Agronomy	Modern Concepts in Crop Production	AGR5701	1. Describe agro biological principles and practices involved in modern crop production technology 2. Comprehend the ideas of integrated farming system and explain it in relation to modern agriculture. 3. Explain scientific principles of crop production and crop response production functions

S.N O	NAME OF THE PROGRAM ME	NAME OF THE COURSE	COURSE CODE	COURSE OUTCOMES
83	M.Sc. (Ag) Agronomy	Principles and Practices of Water Management	AGR5001	1. Recognise various practices related with efficient use management of available water and its conservation for future use. 2. Describe the actual water requirement of crops and concept of water use efficiency 3. Discuss the climate resilience practices to be followed in current climate change scenario
84	M.Sc. (Ag) Agronomy	Agronomy of Oilseed, Fibre and Sugar Crops	AGR5002	1. Describe the agricultural practices required for oilseed crops, fibre crops and jute crops 2. Comprehend the idea of climate resilience in major oilseed and fibre crops. 3. Provide with a solution of pest or nutrient problems to the farmers or trainers
85	M.Sc. (Ag) Agronomy	Statistical methods in Research	MAT5703	1. Organize data into a statistically significant data and represent it in scientific manner 2. Define and compute each of measures of central tendency, measure of dispersion and how it effects overall experimental results. 3. Compute correlation and regression and understand the relationship between correlation and regression. 4. Understand the concepts of probability and probability distribution. 5. Analyse data using tests of significance.
86	M.Sc. (Ag) Agronomy	Agronomy of Fodder and Forage Crops	AGR5003	1. Describe the good production of agricultural practices required for fodder and forage crops. 2. Comprehend the idea of climate resilience in major fodder and forage crops. 3. Provide with a solution of weed, pest or nutrient related issues pertaining to fodder and forage crops
87	M.Sc. (Ag) Agronomy	Cropping Systems and Organic Farming	AGR5702	1. Discuss and assess cropping system in relation to resource sustainability 2. Demonstrate the complete package of practice of crop following organic system and discuss its importance in Indian and Global context. 3. Discuss the effect of artificial fertilizer and manures on plant health and ecosystem
88	M.Sc. (Ag) Agronomy	Principles and Practices of Weed Management	AGR5004	1. Discuss the effect of weeds on plant health, nutrition and yield of a crop 2. Debate about different classes of herbicides with their mode of action and recommend weedicides for different weeds. 3. Demonstrate integrated practices of weed management considering current scenario of ecosystem disturbance.
89	M.Sc. (Ag) Agronomy	Agronomy of Major Cereals and Pulses	AGR5005	1. Describe the agricultural practices required for cereals and pulses of rabi and Kharif season. 2. Cultivate and advise farmers about good agricultural practices to be followed for production of Rabi and Kharif cereals and pulses.
90	M.Sc. (Ag) Agronomy	Master's Research Part- 1	AGR5501	1. Plan and use adequate methods to conduct qualified tasks in given frameworks and to evaluate this work 2. Describe more in-depth knowledge of the major subject/field of study, including deeper insight into current research and development work 3. Contribute to research and development work related to suggested topic of research
91	M.Sc. (Ag) Agronomy	Seminar	AGR6501	1. To gather, analyze and apply information from various sources, specifically agricultural theories, to formulate convincing arguments, communicate academic ideas, produce conclusions and acquire academic writing skills. 2. Gain presentation as well as communication skills by presenting his/her research into any conference/workshop to heterogenous audience.
92	M.Sc. (Ag) Agronomy	Theory and Practice of Plant Breeding	AGR6002	1. Discuss the role of plant genetic resources in plant breeding and crop improvement practices 2. Produce and handle breeding material independently and 3. Demonstrate different breeding strategies for biotic and abiotic stresses and their role in sustainable crop production
93	M.Sc. (Ag) Agronomy	Introduction to Breeding of Field Crops	AGR6701	1. Demonstrate the conventional and modern biotechnological tools involved in improvement of field crops 2. Describe genetic principles underlying crop improvement 3. Discuss the problems and current scenario of crop improvement in relation to India and global context.
94	M.Sc. (Ag) Agronomy	Soil Physical and Biological Environment	AGR6005	1. Discuss the physical and biological environment of soil in relation to plant growth 2. Describe the interaction of soil micro fauna and its role in soil activities. 3. Explain microbial transformation of nitrogen and phosphorus in soil and then factors influencing this activity
95	M.Sc. (Ag) Agronomy	Master's Research Part- 2	AGR6502	1. Plan and use adequate methods to conduct qualified tasks in given framework and timeline 2. Use a holistic view to critically, independently and creatively identify, formulate and deal with complex issues in real field situation. 3. Undertake research or project independently using different empirical methods and analytical approaches 4. Demonstrate knowledge of responsibilities and norms of agricultural research whether working as individual or in collaboration research
96	M.Sc. (Ag) Agronomy	Master's Research Part- 3	AGR6503	1. Demonstrate the ability to analyse critically the relevant literature and to use it as a tool of analysis 2. Use scientific and statistical tools to examine and analyse a range of data to reach at a well-defined conclusion and suggest future course of studies 3. Comprehend and apply knowledge of agronomical principles and procedures to defined agricultural issues 4. Create, analyse and critically evaluate different scientific and technological issues of production system and suggest a viable solution 5. Demonstrate the ability to use research and research management skills and analytical methodologies appropriately to formulate future research philosophies