

The second secon

Program Outcomes

Students graduating with the B.Sc. (Hons.) Agriculture degree should be able to

| PO1 | Critical Thinking: | Agriculture graduates will demonstrate the ability to critically analyze agricultural problems, assess evidence, evaluate alternative solutions, and make informed decisions to address complex agricultural challenges. |
|-----|---|--|
| PO2 | Effective Communication: | Agriculture graduates will be able to effectively communicate agricultural concepts, research findings, and practices to diverse audiences through clear, concise, and professional written, verbal, and digital communication skills. |
| PO3 | Social Interaction: | Agriculture graduates will be able to collaborate effectively with peers, professionals, and communities, demonstrating strong interpersonal skills and cultural competence to promote sustainable agricultural practices and community development. |
| PO4 | Effective Citizenship: | Agriculture graduates will demonstrate a commitment to ethical practices, social responsibility, and environmental stewardship, actively contributing to the well-being of their communities and the agricultural industry. |
| PO5 | Ethics: | Agriculture graduates will be able to apply ethical principles and standards in agricultural practices, decision-making, and research, ensuring integrity, sustainability, and responsibility in their professional conduct. |
| PO6 | Environment and Sustainability: | Agriculture graduates will demonstrate an understanding of ecological principles and sustainable agricultural practices, and will be able to implement strategies that promote environmental conservation and the sustainable use of natural resources in agricultural systems |
| PO7 | Self-directed and Life-long Learning: | Agriculture graduates will be equipped with the skills and motivation to engage in continuous self-improvement and professional development, staying updated with advancements in agricultural science and technology throughout their careers |



The second secon

Course Outcomes (COs): I SEMESTER A) Core Course

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---|--|-----------------|
| | AGRO 111 | Fundamentals of Agronomy-I | 2(1+1) |
| | CO1 | Students will get knowledge about Indian Agriculture and importance, preser scope and future prospect. | it status, |
| 1 | CO2 | Students will be aware of the different group of crops and different tillage implement with their uses. | |
| | CO3 | Students will be aware of different tillage operation to perform in field for cro | op production. |
| | CO4 | Students will be aware of different types of weeds and their control methods. | |
| | CO5 | Students will understand role of nutrient in plant growth and types of fertilize application in farm. | ers and its |
| | AGRO 112 | Introductory Agro-meteorology and Climate change | 2(1+1) |
| | CO1 | Students will understand roles of agro meteorology in agriculture and its relation to other areas of agriculture. | |
| 2 | CO2 | Students will get to know about atmosphere, its structure, different weather p | arameters. |
| | CO3 | Student will able to study measurements of different weather parameters essential for plant growth by using different meteorological instruments | |
| | CO4 | Students will be aware of concept of climate change and global warming. | |
| | CO5 | Students will be aware of concept of artificial rainmaking. | |
| | AHDS 111 | Livestock Production & Management | 2(1+1) |
| | CO1 | Students will be aware of the Identifications tools and equipment's for Live s | tocks |
| 3 | CO2 | Students will be aware of the Medications of Different Diseases of Animals | |
| | CO3 | Students will understand the concept of Reproduction System of Animals | |
| | CO4 | Students will understand the concept of Milking Methods | |
| | CO5 | Students will understand the basic concepts of Clean & Hygienic Milk Produ | iction |
| | EXTN 111 | Rural Sociology & Educational Psychology | 2(2+0) |
| | CO1 | Students should understand the characteristics of Rural Society | |
| 4 | CO2 | Students will be able to understand the cultural norms of farming community | |
| -T | CO3 | Student should understand the leadership pattern and role of leaders in rural | development |
| | CO4 Student should know the means of social control, dimension of social change, types personality, Role of teaching and learning process Educational psychology. | | , types of |



| | CO5 | Students will be able to understand Major social institutions in rural society a | nd their role |
|----------|---------------|--|-----------------|
| Sr No | Course No. | Course Title | Credit (T+P) |
| | HORT 111 | Fundamentals of Horticulture | 2(1+1) |
| | CO1 | Students will be aware of the garden tools and equipment. | |
| 5 | CO2 | Students will be aware of the preparation of seed bed / nursery bed | |
| 3 | CO3 | Students will understand the concept of sexual method of propagation | |
| | CO4 | Students will understand the concept of asexual method of propagation | |
| | CO5 | Students will understand the basic concepts of Training and Pruning in fruit c | rops |
| | LANG 111 | Comprehension & Communication Skills in English | 2(1+1) |
| | CO1 | Students will comprehend conversations and speeches. | |
| 6 | CO2 | Students will speak with clarity and confidence, thereby enhancing their empl skills. | oyability |
| | CO3 | Students will realize that selecting goal is a fundamental component to long-to | erm |
| | CO4 | Students will be more organized and disciplined. | |
| | CO5 | Students will identify his/her creative self, and express effectively the same in writing. | |
| | MIBO 111 | Introductory Microbiology | 2(1+1) |
| | CO1 | Student will understand the basic microbial structure, function. | |
| 7 | CO2 | Student will study the comparative characteristics of prokaryotes and eukaryotes. | |
| | CO3 | To know the various Physical and Chemical growth requirements of bacteria | |
| | CO4 | Impart knowledge about production of beneficial bacteria. | |
| | CO5 | Student will understand Gram staining of bacteria | |
| | SSAC 111 | Fundamentals of Soil Science | 3(2+1) |
| | CO1 | Demonstrate fundamental knowledge to identify problematic soils and problems. | associated |
| 8 | CO2 | Identify processes resulting in deterioration of soil physical and chemic properties | al |
| | CO3 | Students will study about soil forming minerals & rocks. | |
| | CO4 | Students will study about soil sampling tools, collection of representations sample, its processing and storage. | ve soil |
| | CO5 | Students will Study about soil profile in field. | |



The second secon

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|--|-----------------|
| | AGH 111 | Agricultural Heritage ^{*1} | 1(1+0) |
| 9 | CO1 | Students will get to know the basics of the agriculture, tillage and evolu agriculture. | ution of |
| | CO2 | Students will get to know Ancient Agricultural Practices & Its relevant agriculture practices. | to modern |
| | CO3 | Students will get to know traditional technical knowledge. | |
| | BIO 111 | Introductory biology *2 | 2(1+1) |
| | CO1 | Demonstrate an understanding of the foundations of mathematics | |
| 10 | CO2 | Perform computations in higher mathematics. | |
| | CO3 | Use mathematical ideas to model real-world problems. | |
| | CO4 | Utilize technology to address mathematical ideas. | |
| | CO5 | Obtain a full-time position in a related field or placement. | |
| | MATH 111 | Elementary Mathematics *3 | 2(1+1) |
| | CO1 | Students will able to know matrices | |
| 11 | CO2 | Students will able to know determinants | |
| | CO3 | Students will able to know different forms of straight lines. | |
| | CO4 | Students will able to know derivatives and differentiation | |
| | CO5 | Students will able to know Integration | |

B) Remedial Courses (3 or 5credit)

C) Non-Gradial Courses (4 credits)

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | HVE 111 | Human Values & Ethics | 1(1+0) |
| 12 | CO1 | Students will understand and analyses the essentials of human values and skil exploration, happiness and prosperity | ls, self- |
| | CO2 | Students will evaluate coexistence of the "I" with the body. | |
| | CO3 | Students will identify and evaluate the role of harmony in family, society and universal order. | |



■:(0253)2555221, 2555224 ^P - <u>principal-bscagri@kkwagh.edu.in</u> thtps://agri-bsc.kkwagh.edu.in

| | CO4 Students will understand and associate the holistic perception of harmony at all existence. | | | |
|----------|---|---|-----------------|--|
| | CO5 | Students will develop appropriate technologies and management patterns to create harmony in professional and personal lives | | |
| Sr No | Course No. | Course Title | Credit (T+P) | |
| | DEG 111 | Democracy, Elections and Good Governance | 1(1+0) | |
| | CO1 | Students will be aware of importance of democracy | | |
| 13 | CO2 | Students will be aware of the Protection of Rights | | |
| | CO3 | Students will understand Accountability of leaders in democracy. | | |
| | CO4 | Students will understand Election process in India | | |
| | CO5 | Students will understand the concepts of Good Governance | | |
| | NSS 111 | NSS ** | 1(0+1) | |
| | CO1 | Students will be aware of basic components of NSS | | |
| 14 | CO2 | Students will be aware of Analyzing guiding financial patterns of scheme, yo programme/ schemes of GOI | outh | |
| | CO3 | Students will be aware of Role of youth in nation building, conflict resolution and peace building | | |
| | PHEY 111 | Physical Education and Yoga | 1(0+1) | |
| 15 | CO1 | Students will be aware of Meaning and importance of Physical Fitness and Wellness | | |
| | CO2 | Students will be aware of Physical fitness components | | |
| | CO3 | Students will be aware of History, Meaning and importance, Role of yoga in life. | | |

* Remedial Courses (3/5 credit)

** Non-Gradial Courses (4 Credits)

*1Compulsory to all students** NCC or NSS

*2 Students who have Biology in XII std are exempted

*³ Students who have MATH in XII std are exempted



arrincipal-bscagri@kkwagh.edu.in
 ⊕ https://agri-bsc.kkwagh.edu.in

Course Outcomes (COs): II SEMESTER A) Core Course

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|--|-----------------|
| | AGRO- 123 | Fundamentals of Agronomy-II | 2(1+1) |
| | CO1 | Students will get knowledge about role of water in plants, Water Resources of Maharashtra and its Development | India and |
| | CO2 | Students will get knowledge of Soil- water-plant Relationship, concept of SPA | AC |
| 1 | CO3 | Students will be able to estimate different methods of estimation of water requ | uirement |
| | CO4 | Students will be able to determine field capacity, infiltration rate and PWP. | |
| | CO5 | Students will learn installation of various measuring devices and Measurement Irrigation water. | t of |
| | CO6 | Students will get to know about different pressurized irrigation system along w installation. | vith their |
| | BOT 121 | Fundamentals of Crop Physiology | 2(1+1) |
| | CO1 | Student will understand basic principles of plant physiological form and functions as well as processes and its importance in crop production. | |
| | CO2 | Student will learn role of crop physiology in crop health. | |
| | CO3 | Student will be able for identification of deficiency symptoms of nutrients | |
| | CO4 | Student will understand the metabolic and synthetic pathway of biomolecules | |
| | CO5 | Student will know the difference between C3, C4 and CAM plant | |
| | ECON 121 | Fundamentals of Agricultural Economics | 2(2+0) |
| | CO1 | Student will understand propose methods of micro- and macroeconomic decision making in agriculture in different agro-ecological and agro-economic circumstances. | |
| 2 | CO2 | Student will understand Explain models of production, supply and demand of agricultural and food products on and international markets national | |
| | CO3 | Student will understand the concepts of consumer choice and how it affer farm / ranch level agriculture firm. | ects the |
| | CO4 | Student will understand the macroeconomics aspects of the economy as they affect the agricultural sector. | |
| | CO5 | Student will Understand the law of utility and market structure, differen market. | t types of |



| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|--|-----------------|
| | ENGG 121 | Soil and Water Conservation Engineering | 2(1+1) |
| | CO1 | Course will give understanding about the degradation of productive soil globa effect. | lly and its |
| | CO2 | This course will give knowledge about different types of surveying and levelling instruments. | |
| 3 | CO3 | Course will give the knowledge of soil loss equation and it can estimate annual soil loss | |
| | CO4 | Students will learn about agronomical and engineering measures to reduce so | l erosion. |
| | CO5 | By this course student get the knowledge about designing of Grassed waterwaterraces. | ays and |
| | ENTO- 121 | Fundamentals of Entomology | 2(1+1) |
| | CO1 | Students will be understand about the collection and preservation of insects | |
| | CO2 | Students will be aware of the General body organization of insect | |
| 4 | CO3 | Students will understand the dissection of different types of mouthparts. | |
| т | CO4 | Students will understand the Structure of antennae, leg, wings, and its modifications along with examples. | |
| | CO5 | Students will understand the distinguishing taxonomic characters of different families of agricultural importance | orders and |
| | CO6 | Students will understand the dissection of different systems of insects | |
| | EXTN 122 | Fundamentals of Agricultural Extension Education | 3(2+1) |
| | CO1 | Students will be able to operate and handle the Digital Camera | |
| 5 | CO2 | Students will be able to operate and handle the LCD projector. | |
| | CO3 | Students will be able to operate and handle the Public address system | |
| | CO4 | Students will be able to prepare leaflets, folders and pamphlets. | |
| | CO5 | Students will be able to prepare PowerPoint slides for a given subject | _ |
| | GPB 121 | Fundamentals of Genetics | 3(2+1) |
| | CO1 | Student will understand basic principles of Mendelian inheritance. | |
| | CO2 | Student will able to study cell division & chromosome segregation. | |
| 6 | CO3 | Student will explore the multifactorial inheritance. | |
| | CO4 | Student wills acquire the knowledge required to design, execute, and ar results of genetic experimentation in plant systems. | alyze the |
| | CO5 | Student will learn the concepts of Linkage concept of sex determination linked inheritance and molecular of DNA structure. | n and sex |



The second secon

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | PATH 121 | Fundamentals of Plant Pathology | 3(2+1) |
| | CO1 | Student will acquaint about concepts of plant pathogens, major disease c organisms and their etiology | ausing |
| 7 | CO2 | To provide specific knowledge about host pathogen interactions. | |
| | CO3 | Recognition of plant disease is the first step in doing something about th | em |
| | CO4 | To give specific knowledge about environment and disease development | t. |
| | CO5 | Student will understand Koch's postulates | |

B) Non-Gradial Courses (4 credits)

| Sr No | Course No. | Course Title | Credit (T+P) |
|---|---------------|--|-----------------|
| | FRST 121 | Introduction to Forestry | 2(1+1) |
| CO1 Student will be aware of Identification of tree-species and its classification uses | | Student will be aware of Identification of tree-species and its classification accuses | ording to |
| 8 | | | |
| | CO2 | Student will be understand the Measurements of diameter-girth and basal area | of trees |
| | CO3 | Student will be understand the Volume estimation of logs and standing trees | |
| | CO4 | students will study about planning and layout of forest plantations | |
| | CO5 | students will aware about tree nursery practice | |
| 9 | EDNT 121 | Educational Tour* | 1(0+1) |
| | CO1 | It help students broaden their knowledge and skills | |

C) Common Course

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | EXTN 123 | Communication Skills and personality Developments | 2(1+1) |
| 10 | CO1 | Students will be developing knowledge, skills, and judgment around human communication that facilitate their ability. | |
| 10 | CO2 | Students will understand different techniques of communication. | |
| | CO3 | Students will practice and adhere to the 7Cs of Communication | |
| | CO4 | Students will familiarize with different types of Communication. | |
| | CO5 | Students will understand and practice Interview Etiquettes. | |



The second secon

Course Outcomes (COs):III SEMESTER A) Core Course

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | AGRO 234 | Crop Production Technology-I (Kharif crops) | 2(1+1) |
| 1 | CO1 | Students will be able to know about origin, geographical distribution, and econ importance of Kharif crops | omic |
| | CO2 | Students will be able to know about Soil and climatic requirements, varieties, or practices and yield of Kharif crops. | cultural |
| - | CO3 | Students will get to know about nursery preparation for tranplanted rice. | |
| | CO4 | Students will study effect of sowing depth on germination of kharif crops | |
| | CO5 | Students will study about basic morphological characteristics of Kharif crops. | |
| | CO6 | Students will have practice of calculations of plant population, seed rate and fertilizers doses. | |
| | AGRO 235 | Rainfed Agriculture and Watershed Management | 2(1+1) |
| | CO1 | Student will able to understand about rainfed agriculture and its introduction, p and prospects in India | oroblem |
| | CO2 | Students will study the crop adaptation and mitigation strategies, crop planning management techniques. | g and crop |
| 2 | CO3 | Students will able to understand contingent crop planning for aberrant weather conditions | |
| | CO4 | Students will learn assure efficient utilization of water through soil, water and management. | crop |
| | CO5 | Students will be able to plan and implement integrated watershed development programmes to manage rainfed sustainability. drylands profitability and | |
| | BIOCHM 231 | Fundamentals of plant biochemistry and biotechnology | 3(2+1) |
| | CO1 | Students will study about Role of cell organelles and their functions | |
| 3 | CO2 | Student will be understand Preparation of solution, pH & buffers | |
| | CO3 | Student will be understand the Qualitative tests for carbohydrates and amino ad | cids |
| | CO4 | Students will study about Isolation of genomic DNA from plant. Purification, Quantification and quality determination | |
| | CO5 | students will study about Qualitative tests for oil | |



| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | ENGG 232 | Farm Machinery and Power | 2(1+1) |
| | CO1 | Various sources of farm power and their uses, about working of IC Engines. | |
| | CO2 | It helps the students with technical knowledge required for the operation of Til | lage. |
| 4 | CO3 | To help the students with mathematical and experimental skills for solving field problems. | |
| | CO4 | It will help the students to acquire the skills required to develop and modification machines. | on of farm |
| | CO5 | The student will acquire knowledge regarding different types of tractors and it maintenance. | 8 |
| | ENTO 232 | Insect Ecology and Integrated pest Management | 2(1+1) |
| | CO1 | Studies on behavior, distribution Pest surveillance patterns and Pest surveillance insects | ce of |
| 5 | CO2 | Students will understand about the different IPM practices | |
| | CO3 | Students will understand the Pesticide appliances, insecticide application techniques | |
| | CO4 | Students will understand the IPM case studies of different crops | |
| | CO5 | Students will understand the Vermiculture and Biopesticides used in IPM with mass multiplication of NPV and Entomopathogenic fungi. | |
| | GPB 232 | Fundamentals of Plant Breeding | 2(1+1) |
| | CO1 | Student will understand about plant breeding- introduction and historica concepts. | 1 |
| | CO2 | Student will learn about different plant breeding objectives. | |
| 6 | CO3 | Student wills able to establish the commercial plant breeding company t developed new superior crops varieties. | 0 |
| | CO4 | Student will learn the concept of self -incompatibility and male sterility. | |
| | CO5 | Student will understand about various plant breeding methods for self, cross an vegetative propagated crops. | nd |
| | CO6 | Student will study about the detail study of different farmer and plant breeder | rights. |
| | HORT 232 | Production Technology for Vegetables and Spices | 2(1+1) |
| | CO1 | Students will be aware of all season vegetables crops. | |
| 7 | CO2 | Students will be aware of spice crops | |
| | CO3 | Students will understand the preparation of vegetable seedlings in nursery. | |
| | CO4 | Students will understand the of morphological characters of vegetables and spi | ces |



The second secon

| | CO5 | Students will be aware of method of seed extraction in vegetable crops. | |
|----------|---------------|---|-----------------|
| Sr No | Course No. | Course Title | Credit (T+P) |
| | PATH 232 | Principles of Integrated Disease Management | 2(1+1) |
| | CO1 | Students will be aware about methods of diagnosis various plant diseases | |
| 8 | CO2 | Students will be aware about methods of detection of various plant diseases | |
| 0 | CO3 | Students will be aware about assessment of crop yield losses | |
| | CO4 | Students will be aware about mass multiplication of Trichoderma | |
| | CO5 | Students will be aware about mass multiplication of Pseudomona | |
| | STAT 231 | Statistical Methods | 2(1+1) |
| | CO1 | Students will be understand different types of averages which can be used as per conditions | |
| 9 | CO2 | Students will be understand different sampling surveys and classification types as per different data types | |
| | CO3 | Students will aware about forecasting methods of weather data and price issues in agriculture | |
| | CO4 | Students will analyses agricultural data related to crop growth and weather par | ameters |
| | CO5 | Students will aware understand about the research methods which are using in agriculture | |

B) Common Courses

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|--|-----------------|
| | COMP 231 | Agri- Informatics | 2(1+1) |
| 10 | CO1 | Students will understand the function and working of Computer Components, accessories. | |
| 10 | CO2 | Students will understand the working of Ms Word, Power point and Excel. | |
| | CO3 | Students will understand the working of Ms Acess (RDBMS Software). | |
| | CO4 | Students will understand the working of DOS Commands. | |



| | CO5Students will be aware of concept related to Crop Simulation Models(CSM). | | | |
|----------|--|---|-----------------|--|
| Sr No | Course No. | Course Title | Credit (T+P) | |
| | ESDM 231 | Environmental Studies and Disaster Management | 3(2+1) | |
| | CO1 | Students will be aware of concepts and methods from ecological and physical sciences and their application in environmental problem solving. Interdisciplinary branches of environment and their scopes. | | |
| 11 | CO2 | Students will study concepts of natural resources, Food resources, mineral resources, Concept of non-Conventional resources. Renewable resources and current potentials of energy resources, types and various applications of | | |
| | CO3 | Student will be understand ecosystem Links between environmental component their role and types of Ecosystems. | nts and | |
| | CO4 | Students will be aware of types of biodiversity, their values, and depletion and conservation methods. | | |
| | CO5 | Students will understand the concept of Urban problems related to energy, Water conservation, rain water harvesting, and watershed management. Environmental ethics: Issues and possible solutions, climate change, global warming, acid rain, ozone layer depletion. | | |



arrincipal-bscagri@kkwagh.edu.in
 ⊕ https://agri-bsc.kkwagh.edu.in

Course Outcomes (COs): IV SEMESTER A) Core Course

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|--|-----------------|
| | AGRO 246 | Crop Production Technology-II (Rabi crops) | 2(1+1) |
| | CO1 | Students will get knowledge on crop production technologies of different Rabi | crops. |
| 1 | CO2 | student will know the origin, geographical distribution, economic importance, soil and climatic requirements, and yield of rabi crops .varieties, cultural practices | |
| | CO3 | Students will learn to know about basic morphological characteristics of rabi c | rops. |
| | CO4 | Students will be able to know about the economic importance of medicinal and crops in present sphere and different oil extraction methods. | d Aromatic |
| | CO5 | Students will be able to study yield and juice quality analysis of sugarcane | |
| | AGRO 247 | Farming System and Sustainable Agriculture | 1(1+0) |
| | CO1 | Students will know different cropping and farming system like integrated farm (IFS). | ing system |
| 2 | CO2 | students will get knowledge on sustainable agricultural practices such as organ | ic farming |
| | CO3 | students will Interpret farming systems and its significance | |
| | CO4 | students will be able to design an efficient cropping system | |
| | CO5 | Students will able to determine the efficiency of system | |
| | AGRO 248 | Principles of Organic Farming | 2(1+1) |
| | CO1 | Students will get knowledge of principles, need and prospect of organic | c farming |
| 3 | CO2 | Students will get knowledge of Initiative taken by Government for organ produce. | nic |
| | CO3 | Students will learn selection of crops and varieties for organic produce | |
| | CO4 | Students will aware of different types of organic manures | |
| | CO5 | Students will be get knowledge of indigenous technology knowledge (I nutrient, insect, disease and weed management. | TK) for |
| | AHDS 242 | Livestock Breeding and Nutrition | 2(1+1) |
| , | CO1 | Student will be aware of Identification of Feeds and Fodder Seeds use f Fodder Production | for as |
| 4 | CO2 | Student will be understand the Determination of Fat ,Protein and Nitrogen in Feed of Animals | |
| | CO3 | Student will be understand the Estimation of gene and genotypic freque | ncy |
| | CO4 | students will study about the sire index | |



| | CO5 | CO5 students will aware about the evaluation of nutritive value of various feeds and fodders | |
|----------|---------------|--|-----------------|
| Sr No | Course No. | Course Title | Credit (T+P) |
| | ECON 242 | Agriculture Finance and Cooperation | 3(2+1) |
| | CO1 | Student will understand the different credit needs and its role in Indian a | griculture. |
| 5 | CO2 | Student will summarize how the commercial banks are working, function RRB's, KCC and lead bank scheme, | ning the |
| 5 | CO3 | Student will summarize the ability to understand the terminology and fa agriculture Finance and Cooperation. | cts about |
| | CO4 | Student will understand classification with the different cooperatives we India. | orking in |
| | CO5 | Student will understand the broad feature of Higher Financial institution instruments to control credit in the country | s with |
| | ENGG 243 | Renewable Energy and Green Technology | 2(1+1) |
| | CO1 | To understand the importance and role of renewable sources in agricultu | re sector. |
| | CO2 | To understand the bio fuel production and their applications in today's world. | |
| 6 | CO3 | This course will give the understanding about importance and uses of biomass to produce the fuel. | |
| | CO4 | Students will get the knowledge about various application of solar energ | y. |
| | CO5 | By this course student get the knowledge about different renewable ener | gy sources. |
| | ENTO 243 | Pest of Horticultural Crops and their Management | 2(1+1) |
| | CO1 | Students will get the knowledge about different pests fruits | |
| | CO2 | Students will get the knowledge about different pests of vegetables | |
| 7 | CO3 | Students will get the knowledge about different pests of spices, flowers and p crops | lantation |
| | CO4 | Students will understand the Extraction of nematodes from soil and plant samp | oles |
| | CO5 | Students will understand the characteristics and symptoms of different plant panematodes | rasitic |
| | GPB 243 | Principles of Seed Technology | 3(1+2) |
| 8 | CO1 | Students will able to get knowledge of seed production program. | |
| | CO2 | Students will be aware of storage the pure variety seed. | |
| | CO3 | Students will understand the how to supply the disease free seed in the market | |



The second secon

| | CO4 | Students will learn about seed treatments | | |
|----------|---------------|---|-----------------|--|
| | CO5 | Students will understand the production of hybrid seed of different crops to increase the farm income. | | |
| Sr No | Course No. | Course Title | Credit (T+P) | |
| | HORT 243 | Production Technology for Fruit and Plantation Crops | 2(1+1) | |
| | CO1 | Students will be aware of study of fruit crops. | | |
| 9 | CO2 | Students will be aware of study of plantation crops. | | |
| 9 | CO3 | Student will be understand the preparation of plant bio regulators and their use | S | |
| | CO4 | Students will be aware of Propagation methods for plantation crops including Micro- propagation | | |
| | CO5 | Students will understand the concept of Rejuvenation of old senile orchards | | |
| | SSAC 242 | Problematic Soils and their Management | 2(1+1) | |
| | CO1 | Demonstrate fundamental knowledge to identify problematic soils and associa problems. | ted | |
| 10 | CO2 | Introduce students to problematic soils, identify processes resulting in deterioration of soil physical and chemical properties | | |
| | CO3 | Students will understand the process of Determination of anions (CO3, HCO3, Cl and SO4) from irrigation water and RSC and SAR. | | |
| | CO4 | Students will understand the method of Collection of irrigation water and sewa | ige water. | |
| | CO5 | Students will understand the method of Determination of gypsum requirement soil. | of sodic | |

B)Elective courses

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|--------------------|---|-----------------|
| | ELE EXTN 244 | Agricultural Journalism | 3(2+1) |
| 11 | CO1 | Students will be able to prepare News on college activity | |
| 11 | CO2 | Students will be able to prepare Success Story | |
| | CO3 | Students will be able to prepare Radio and TV Script | |
| | CO4 | Students should understand proofreading symbols | |
| | CO5 | Students will be able to prepare a cover page for a bulletin on cultivation of crops | |
| 10 | ELE PATH 243 | Bio-fertilizers, Bio-control Agents and Bio-pesticides | 3(2+1) |
| 12 | CO1 | Students will be aware about classification of biofertilizers microorgani in biofertilizers production | sms used |
| | CO2 | Students will be aware about nitrogen cycle in Nature and its importance | e |



The second secon

| CO3 | Students will be aware about process of nodule formation ,Role of Nif and Nod gene in Biological Nitrogen fixation |
|-----|--|
| CO4 | Students will be aware about enzyme nitrogenase and its component |
| CO5 | Students will be aware about biochemistry of nitrogen fixation, |

C) Non-Gradial Courses (4 credits)

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| 13 | EDNT 242 | Study Tour* | 1(0+1) |
| | CO1 | It help students broaden their knowledge and skills | |



arrincipal-bscagri@kkwagh.edu.in
 ⊕ https://agri-bsc.kkwagh.edu.in

Course Outcomes (COs):V SEMESTER A) Core Course

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | AGRO 359 | Practical Crop Production-I (Kharif crops) | 1(0+1) |
| | CO1 | Students will be able to demonstrate practical cultivation of kharif crops | |
| | CO2 | Students will be able to identify problems in kharif cultivation and to offer solution | ons |
| 1 | CO3 | Students will be able to suggest marketing channels for products of cultivation | |
| | CO4 | Students will be able to operate modern farm equipment | |
| | CO5 | Students will be able to optimize resource utilization and recommend package of for Kharif crops | practices |
| | CO6 | Students will be able to construct a balance sheet showing cost of cultivation and income generated | net |
| | AHDS 353 | Technology of Milk and Milk Products. | 2(1+1) |
| | CO1 | Students will be Study of platform tests and sampling of milk and milk pro- | ducts |
| 2 | CO2 | Students will be aware of Determination | |
| | CO3 | Students will understand the preparation of different Milk Constituents of | Milk |
| | CO4 | Students will understand the Standardization of milk by Pearson's method | |
| | CO5 | Students will be aware of Determination of adulteration in milk and milk p | roducts |
| | BOT 353 | Intellectual Property Right | 1(1+0) |
| | CO1 | Students will learn Skill to understand the concept of intellectual property rights. | |
| 2 | CO2 | Students will understand to develop procedural knowledge to Legal System and solving the problem. | |
| 3 | CO3 | Students will aware of skill to pursue the professional programs in Company Secretary ship, Law, Business, International Affairs, Public Administration and Other fields. | |
| | CO4 | Students will understand the concept of various forms of intellectual property right | nts. |
| | CO5 | Students will aware of plant breeders rights, farmers rights and indigenous techn knowledge | ique |
| | ECON 353 | Agricultural Marketing Trade and Prices | 3(2+1) |
| | CO1 | Students will understand the agriculture marketing | |
| 4 | CO2 | Students will understand classification of the product life cycle and its diffe aspects | rent |
| | CO3 | Students will understand marketing process and functions: | |
| | CO4 | Students will understand the role of Govt. in agricultural marketing: Public institutions - CWC, SWC, FCI, CACP & DMI | sector |



| | CO5 | Students will understand the marketing efficiency obtained from different m channel | arketing |
|----------|---------------|---|-----------------|
| Sr No | Course No. | Course Title | Credit (T+P) |
| | ENTO 354 | Pests of Crops and Stored Grain and their Management- I | 2(1+1) |
| | CO1 | Students will understand the pests of cereals | |
| | CO2 | Students will understand the pests of oilseed and pulses | |
| 5 | CO3 | Students will understand the pests of stored grain | |
| | CO4 | Students will understand the Preventive and curative methods of stored grain pest Storage structure and methods of grain storage | s and |
| | CO5 | Students will understand Non insect pests, mites, rodents, birds and microorganis associated with stored grain and their management | ms |
| | GPB 355 | Crop Improvement – I (Kharif Crops) | 2(1+1) |
| | CO1 | Student will learn importance of wild relative to produce new varieties of kharif c | rop. |
| 6 | CO2 | Students will learn Gene preservation method for further use to improve kharif crops. | |
| 0 | CO3 | Students will learn to apply breeding method to improve kharif crops. | |
| | CO4 | Students will learns identification of resistance gene relate to kharif crop with high yield potential against Pest and pathogen and utilization genes. | |
| | CO5 | Students will learn new genetic approaches to achieve a definite ideotype of kharif crop. | |
| | HORT 354 | Production Technology for Ornamental Crops, MAP and Landscaping | 2(1+1) |
| | CO1 | Student will understand different types of packaging containers for fruits and veg | etables |
| 7 | CO2 | Students will understand the concept of chilling and freezing injury in fruits and v | vegetables |
| | CO3 | Students will be aware of Preparation of liqueur product. | |
| | CO4 | Students will be aware of Preparation of semi solid products | |
| | CO5 | Students will be aware of Most harvest Handling of fruits and vegetables | |
| | PATH 354 | Diseases of Field and Horticultural Crops and their Management | 3(2+1) |
| 8 | CO1 | Identification and histopathological studies of selected diseases of field and horticultural crops | 1 |
| | CO2 | Student will know the common pathogens of different diseases | |
| | CO3 | Student acquire the knowledge about etiology, and symptoms of these diseases which helps in diagnosis of the horticultural crops diseases of field and | |



The second secon

| | CO4 | Students will be aware about Eco-friendly and economically suitable management practices may be adopted. | |
|----------|---------------|--|---------|
| | CO5 | Students will be aware about collection and preservation of disease specimen | |
| Sr No | Course No. | Course Title | |
| | SSAC 353 | Manures, Fertilizers and Soil Fertility Management | 3(2+1) |
| | CO1 | Knowledge of different manure and fertilizers used in different crops accor soil condition | ding to |
| 9 | CO2 | Essentiality of plant nutrients and mechanism of nutrient transport to plant factor affecting nutrient availability | and |
| | CO3 | Students will be aware of Fertilizer adulteration test. | |
| | CO4 | Students will able to identify the adulteration in fertilizer | |
| | CO5 | Students will understand the Principle and application of spectro-photom Colorimetry , lame photometry and spectrophotometer (AAS).atomic absor | • |

B) Common Courses

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|--|-----------------|
| | EXTN 355 | Entrepreneurship Development and Business Communication | 2(1+1) |
| | CO1 | Students will be able to conduct market survey for an agro-based project. | |
| | CO2 | Students will be able to prepare Project Proposal for any agro-based project | |
| 10 | CO3 | student will be able to prepare an advertisement for agro-based product | |
| | CO4 | Students will practice and improve their interpersonal communication skills under t guidance of teacher. | the |
| | CO5 | Students shall participate in mock interviews and develop skills under the guidance teacher. | e of |

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|--------------------|--|-----------------|
| | ELE ECON 354 | Agribusiness Management | 3(2+1) |
| 11 | CO1 | Student will understand Agribusiness Management | |
| | CO2 | Students learn strategic planning and management skills, enabling them to make informed decisions in the dynamic and evolving agricultural industry. | |

C) Elective courses



☎::(0253)2555221, 2555224 ^(P) - principal-bscagri@kkwagh.edu.in
the https://agri-bsc.kkwagh.edu.in

| 05 | Student will understand Capital Management and Financial Management Course Outcomes (COs): VI SEMESTER |
|-----|---|
| CO5 | Stadaut will an denote a Conital Management and Einen sial Management |
| CO4 | Student will understand project cycle, Product Life Cycle, Market Segmentation. |
| CO3 | Student will be able to understand the SWOT and PEST Analysis of the project. |

A) Core Course

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | AGRO 3611 | Practical Crop Production-II (Rabi crops) | 1(0+1) |
| | CO1 | Students will acquaint knowledge on Rabi season crops, | |
| | CO2 | Students will be able to understand weed management of Rabi crops | |
| | G Q Q | Student will develop the skills about the production techniques of Rabi crops in the | ; |
| 1 | CO3 | practical crop production field. | |
| | GO 4 | Students will be able to optimize resource utilization and recommend package of p | ractices |
| | CO4 | for Rabi crops | |
| | 005 | Students will be able to construct a balance sheet showing cost of cultivation and ne | et |
| | CO5 | income generated | |
| | AGRO 3612 | Geo-informatics and Nano-technology and Precision Farming | 2(1+1) |
| | CO1 | Students will know about applications of GIS in agriculture | |
| | CO2 | Students will gain a comprehensive understanding of nanotechnology in the | context |
| | | of precision farming. | |
| | CO3 | Students will develop practical skills in utilizing geoinformatics tools and | |
| 2 | | technologies in agriculture. | |
| | CO4 | Students will get know role of remote sensing in precision agriculture | |
| | CO5 | Students will be able to comprehend simulation models on precision agricul | ture |
| | CO6 | 206 Students will be able to know role of nanotechnology in improving agriculture application of geoinformatics and nanotechnology in precision farming project | |
| | AHDS 364 | Sheep Goat and Poultry Production | 2(1+1) |
| 3 | CO1 | Students will be aware Study of body parts of sheep and goat. | |
| | CO2 | Students will be aware of study of Selection and Identification Mark of She Goat | ep and |



| | CO3 | Student will be understand the preparation of Schedule of Feeding Practices Sheep and Goat | of | |
|----------|---------------|--|-----------------|--|
| | CO4 | D4 Students will be aware of Preparation of animal for slaughter and different method of slaughter | | |
| | CO5 | Students will understand the concept of System of rearing in sheep and goa | ıt | |
| Sr No | Course No. | Course Title | Credit (T+P) | |
| | ECON 365 | Farm Management, Production and Resource Economics | 2(1+1) | |
| | CO1 | Students will understand a comprehensive treatment of the traditional agricu production economics | ltural | |
| 4 | CO2 | Students will understand factor-product, factor-factor and product- product | models, | |
| | CO3 | Students will understand limited resources available in the economy. | | |
| | CO4 | Students will understand the problems of unemployment inequality shortage productions, poverty | of food | |
| | CO5 | Students will gain knowledge of the causes of regional variations in productivity and production, social and economic inequality, size of land holdings and lack of | | |
| | ENGG 364 | Protected Cultivation and secondary Agriculture | 2(1+1) | |
| | CO1 | To get knowledge about greenhouse technology, types of GH | | |
| | CO2 | Course will give the knowledge of Greenhouse equipment for low-cost green houses. | | |
| 5 | CO3 | This course will help the students to learn about Irrigation systems used in greenhouse. | | |
| | CO4 | By this course student get the knowledge of cleaning, grading and moisture measurement. | | |
| | CO5 | Students will be able to understand the material handling equipment, principle and | working. | |
| | ENTO 365 | Management of Beneficial Insects | 2(1+1) | |
| | CO1 | Students will understand the lifecycle of Beneficial insects, Bio-agents, pollinators | | |
| | 000 | Student will understand Commercial rearing of different beneficial insects like Silk | worm, | |
| 6 | CO2 | Honeybee, Lac insect | | |
| | CO3 | Students will understand the disease & pest of Beneficial insects like silkworms, H | oney bee | |
| | CO4 | Students will understand Mass production of Different bio-agents | | |
| | CO5 | Students will understand about the use of different pollinators and scavengers in agriculture | | |
| 7 | FST 362 | Principles of Food Science and Nutrition 2(2+0) | | |



| | CO1 | Students will understand the concept of Food Science | |
|----------|---------------|--|-----------------|
| | CO2 | Students will understand the concept of Food composition and chemistry | |
| | CO3 | Students will aware of the concept of Food microbiology | |
| | CO4 | Students will understand the concept of Principles and methods of food processing preservation | and |
| | CO5 | Students will aware of New trends in food science and nutrition | |
| Sr No | Course No. | Course Title | Credit (T+P) |
| | GPB 366 | Crop Improvement – II (Rabi crops) | 2(1+1) |
| | CO1 | Student will learn importance of wild relative to produce new varieties of rabi crop. | |
| 8 | CO2 | Students will learns Gene preservation method for further use to improve rabi crop | s. |
| Ũ | CO3 | Students will learns to applies breeding method to improve rabi crops. | |
| | | Students will learns identification of resistance gene relate to rabi crop with high y | eld |
| | CO4 | potential against Pest and pathogen and utilization genes. | |
| | CO5 | Students will learn new genetic approaches to achieve a definite ideotype of rabi cr | op. |
| | HORT 366 | Post-harvest Management and Value Addition of Fruits and Vegetables | 2(1+1) |
| | CO1 | Student will understand different types of packaging containers for fruits and vegetables | |
| 9 | CO2 | Students will understand the concept of chilling and freezing injury in fruits and vegetables | |
| | CO3 | Students will be aware of Preparation of liqueur product. | |
| | CO4 | Students will be aware of Preparation of semi-solid products | |
| | CO5 | Students will be aware of Most harvest Handling of fruits and vegetables | |
| | PATH 365 | Diseases of Field and Horticultural Crops and their Management-II | 3(2+1) |
| | | Identification and histopathological studies of selected diseases of field and | |
| | CO1 | horticultural crops | |
| 10 | CO2 | Student will know the common pathogens of different diseases. | |
| | | | |
| | | Students will be aware about dispersal of these diseases suitable manageme | nt |
| | CO3 | Students will be aware about dispersal of these diseases suitable management methods can be applied | nt |



The second secon

CO5

Students will be aware about collection and preservation of disease specimen

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|--------------------|---|-----------------|
| | ELE SSAC 364 | Agrochemicals | 3(2+1) |
| | CO1 | Students will be aware of Preparation of Bordeaux mixture and paste | |
| 11 | CO2 | Students will be aware of Equipment used for herbicide application and calibration. | |
| | CO3 | Students will understand the Handling and storage of fungicides and Agrochemical | S |
| | CO4 | Students will understand the plant protection appliances | |
| | CO5 | Students will understand the method of fertilizer analysis | |

B) Elective courses



The second secon

Course Outcomes (COs): VII SEMESTER

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------|---|-----------------|
| | SRP-401 | Village attachment | 10(0+10) |
| | CO1 | Students will experience the daily Agricultural operations of Host farmer farm. | |
| 1 | CO2 | Farmer awareness by demonstration of innovative techniques of agriculture or by organizing <i>Shetakari Melavas</i> | |
| | CO3 | Students understand problem faces by farmers during practical adoption of techn | niques. |
| | CO4 | Students will experience the Indigenous Technical Knowledge. | |
| | CO5 | Extension and Transfer of Technology activities are main outcome. | |
| | SRP-402 | Unit Attachment | 4(0+4) |
| | CO1 | Students will experience work of Regional Agril. Research Station | |
| 2 | CO2 | Students will experience work of Krishi Vigyan Kendra. | |
| | CO3 | Students will experience functions of Agriculture college. | |
| | CO4 | Survey, Presentation, Report writing skill will improve. | |
| | CO5 | It help students broaden their knowledge and skills. | |
| | SRP-403 | Plant Clinic Attachment | 2(0+2) |
| | CO1 | Students experience about actual nutritional management, its role in plant growth, its deficiency and toxicity | |
| 3 | CO2 | Students will get experience to diagnose various plant diseases and its Integrated management | l diseases |
| | CO3 | Students will get experience to diagnose various pest and its Integrated pest management | |
| | CO4 | Report preparation and presentation knowledge will enhance. | |
| | CO5 | It will impart diagnostic and remedial knowledge of student relevant to real field | l situation. |
| | SRP-403 | Agro Industrial Attachment | 4(0+4) |
| 4 | CO1 | Student will be in Acquaintance with industry and staff | |
| | CO2 | Student will study of structure, functioning, objective and mandates of the | e industry |



The second secon

| | CO3 | Student will study of various processing units and hands-on trainings under supervision of industry staff |
|--|-----|---|
| | CO4 | Student will study Ethics of industry |
| | CO5 | Student will understand Employment generated by the industry |

Course Outcomes (COs):VIII SEMESTER

| Sr No | Course No. | Course Title | Credit (T+P) |
|----------|---------------------|---|-----------------|
| 110 | SRP EL | Nursery Management of Horticultural Crops | 10(0+10) |
| | HORT | Nursery Management of Horticultural Crops | 10(0+10) |
| | 4011 | | |
| | CO1 | Market Survey skill develop in students | |
| 1 | CO2 | Students experience the Project Planning of Nursery enterprise. | |
| | CO3 | Presentation skill of students will improve. | |
| | CO4 | Nursery Entrepreneurship Skill development is main outcome. | |
| | CO5 | Students understand the project whitening skill. | |
| | SRP-EL- BOT-407 | Seed production & technology | 10(0+10) |
| | CO1 | Students will practically learn and able to start a seed production program for requirement of quality seed in market and increase the income. | r fill full |
| | CO2 | Students will be aware of storage the pure variety seed to avoid the availabil of pure variety seed due to adverse environmental conditions. | ity crises |
| 2 | CO3 | Students will understand the how to supply the disease free seed in the mark the environment friendly cultivation of crops. | et to get |
| | CO4 | Students will learn to increase the farm income by producing high yielding of quality seed and decrease the cost of cultivation also. | lisease free |
| | CO5 | Students will get practical experience of the production of hybrid seed of dif crops to increase the farm income. | ferent |
| | SRP-EL- SSAC-405 | Soil, Water Plant and fertilizer analysis | 10(0+10) |
| | CO1 | Market Survey skill develop in students | |
| 3 | CO2 | Students experience the Water, Plant and Fertilizer Analysis | |
| | CO3 | Presentation skill of students will improve. | |
| | CO4 | Entrepreneurship Skill development is main outcome. | |
| | CO5 | Students understand the project whitening skill. | |
| | SRP-EL- AHDS-405 | Processing of Milk and Milk products | 10(0+10) |
| 4 | CO1 | Student will understand Analysis of Milk and its Quality Attributes | |
| | CO2 | Students will understand the concept of Determination SNF, TS, speci gravity and acidity of milk | fic |



| CO3 Students will be aware of Market Survey regarding Marketing of & Milk products | | | ous Milk |
|--|--|--|-----------------|
| | CO4 Students will be aware of Preparation of Various Milk and Milk | | ucts |
| | CO5 | Students will be aware of Determination of adulteration in milk and milk pro- | oducts |
| Sr No | Course No. | Course Title | Credit (T+P) |
| | SRP-EL- PATH-405 | Bio-fertilizer production technology | 10(0+10) |
| | CO1 | Students will be aware about production of Bio agents & Bio fertilizer | |
| 5 | CO2 | Students will be aware about cross inoculation groups amongst Rhizobium | |
| | CO3 | Students will be aware about quality standard for bio fertilizers | |
| | CO4 | Students will be aware about strategies of Mass multiplication and packing Registration of bio fertilizers | |
| | CO5 | Students will be aware about role of microorganisms in decomposition of or wastes | ganic farm |
| | SRP-EL- ENTO- 406 | Mass production of Bio-agents and Bio-pesticides | 10(0+10) |
| | CO1 | Market Survey & Production planning skill develop in students for Bio-Pes Business | |
| 6 | CO2 | Students experience about Mass production, formulations & packaging of B pesticides | io- |
| | CO3 | Business Networking skill development for Bio-pesticides business | |
| | CO4 | Students will understand about Project report preparation, Cost of production pesticides | n of Bio- |
| | CO5 | Entrepreneurship Skill development is main outcome. | |