PROGRAMME SPECIFIC OUTCOMES, PROGRAMME OUTCOMES AND COURSE OUTCOMES

PG DEPARTMENT OF BOTANY

B.Sc., BOTANY, EXTRA-CREDIT COURSES & VALUE-ADDED COURSES

PSO, PO & CO STATEMENTS / 2022 - 2025

PSOs	PROGRAMME SPECIFIC OUTCOMES
PSO1	Acquire good knowledge and understanding, to solve specific theoretical & practical problems in different area of Botany
PSO2	Understand, formulate, develop mathematical arguments, logically and use quantitative models to address issues arising in social sciences, business and other context /fields.
PSO3	To prepare the students who will demonstrate respectful engagement with other's ideas, behaviors, beliefs and apply diverse frames of references to decisions and actions. To create effective entrepreneurs by enhancing their critical thinking, problem solving, decision making and leadership skill that will facilitate startups and high potential organizations.
PSO4	Developing a research framework and presenting their independent ideas effectively.
PSO5	Equipping their employability skills to excel in professions like teaching and exposing them to various activities to empower them through communication skills.
PSO6	Enabling a holistic perspective towards the socio-political inequalities and environmental issues

B.Sc., BOTANY	
B.Sc., BOTANY / PROGRAMME OUTCOMES	
POs	**Description of POs**
PO1	Develop a broad fundamental knowledge of the plant diversity especially habit, habitat, morphology, adaptations and classification of plant kingdom.
PO2	Analyze the relationship between plants, animals, microbes and deal with the local national global environment issues by realizing the right of the individuals and also need to conserve our biosphere.
PO3	Understand how organisms function at the level of gene, genome, cell tissue, thallus, plant body drawing upon this knowledge, they are able to give specific examples of the physiological adaptations developed, reproduction and behavior of different forms of life.

PO4	Gain knowledge about the application of biological sciences in mushroom cultivation, azolla cultivation, nursery management, herbal garden management, pest management, there by impart skill as well a source of income and self employment.
PO5	Generate innovative ideas for performing experiments in the areas of biochemistry, physiology, genetics, microbiology, Developmental biology, anatomy, taxonomy, economic botany, and ecology.
PO6	Explain the recent developments in genetic engineering, biotechnology, microbiology, for research activities in the department or in collaboration with other research institutions.
PO7	Organize and deliver relevant applications of knowledge through effective written verbal, graphical/virtual communications and interact with people from diverse back ground.

B.Sc., BOTANY / COURSE OUTCOMES

	Description of COs	**Bloom's Taxonomy / Cognitive Domain**
	Algae and Bryophyte	
CO1	Understands about general characters, classification and economic importance of algae.	K1
CO2	Students are taught the detailed structure of some algal forms	K2
CO3	Imparts knowledge about various algal species	K2
CO4	Understands about morphology, structure, reproduction and life cycle of bryophytes.	K2
CO5	Students gain fundamental knowledge about evolution and economic importance of bryophytes.	K5
	Fungi, Lichenology and Plant Pathology	
CO1	To study, classify Fungi and also understand the economic importance of Fungi	K1
CO2	Understands the characteristic features of different groups of Fungi	K2
CO3	Imparts knowledge about the life cycle of various groups of Fungi	K2
CO4	Understands the types, lifecycle and benefits of Lichens	K2
CO5	Gain knowledge about the Causes, Symptoms and Control measures of Plant diseases.	K5

SBC - Bio-fertilizers and Biopesticides		
CO1	Enable the students to understand the scope, importance and applications of symbiotic bacteria.	K1
CO2	Gains knowledge about Non- symbiotic bacteria.	K2
CO3	Understands the mass cultivation and field applications of Blue green algae.	K2
CO4	Study the mass cultivation and field applications of VAM fungi.	K2
CO5	Develop an interest to study the role of Mycorrhizae in agriculture and also study the mechanism and uses of bacterial and viral biopesticides.	K3
Ancillary Botany Theory Paper - I		
CO1	Impart knowledge about classification, structures and lifecycle of different forms of algae	K1
CO2	Students gain fundamental knowledge of fungi and its various forms.	K2
CO3	Understands the classification and lifecycle of Bryophytes and Pteridophytes.	K2
CO4	Develop interest in understanding the classification of Gymnosperms.	K2
CO5	Study the anatomical structures of dicot and monocot plants.	K3
Pteridophytes, Gymnosperms and Paleobotany		
CO1	Impart knowledge about classification, structures and lifecycle of different forms of fossil Pteridophytes.	K1
CO2	Students gain fundamental knowledge of structure, reproduction and lifecycle of Pteridophytes.	K2
CO3	Understand the morphology and reproduction of *Equisetum* and *Marsilea*	K2
CO4	Classify the Gymnosperm, morphology and reproduction of *Williamsonia, Pinus, Cupressus* and *Gnetum*	K2
CO5	Comprehend the geological time scale, kinds of fossils and Radio carbon dating	K3
Core Practical Paper – I		
CO1	Impart knowledge about structures and different forms of Plant diversities through microscope.	K4
CO2	Students gain knowledge about the spotters and identify the specimens.	K4
CO3	Understand the morphology and taking sections.	K4
CO4	Develop skills to identify the different species.	K4
CO5	Develop drawing sketches of the structures of the specimens.	K5
Ancillary Botany Theory Paper - II		
CO1	Impart knowledge about structures and different forms of Plant diversities through microscope.	K1
CO2	Students gain knowledge about the spotters and identify the specimens.	K2
CO3	Understand the morphology and taking sections.	K2
CO4	Develop skills to identify the different species.	K2

CO5	Develop drawing sketches of the structures of the specimens.	K3
Ancillary Botany Practical Paper		
CO1	Impart knowledge about structures and different forms of Plant diversities through microscope.	K4
CO2	Students gain knowledge about the spotters and identify the specimens.	K4
CO3	Understand the morphology and taking sections.	K4
CO4	Develop skills to identify the different species.	K4
CO5	Develop drawing sketches of the structures of the specimens.	K5
SBC- Botany For Entrepreneurship Development		
CO1	Enable the students to understand the role of microorganism in Biogas production.	K1
CO2	Gains knowledge to prepare vermicompost and also assess the role of vermicompost in crop production.	K2
CO3	Understands the cultivation methods, spawn production techniques and harvesting of mushrooms.	K2
CO4	Analyse mulberry cultivation methods, the causes and symptoms of diseases in mulberry plants	K2
CO5	Demonstrate the feeding frequency of silkworm and to evaluate the optimum environmental conditions for rearing and spinning	K3
Biochemistry, Biophysics and Biotechniques		
CO1	Impart knowledge about atoms, bonds, pH, buffer and properties of water	K1
CO2	Students gain fundamental knowledge of structure, classification and properties of biomolecules.	K2
CO3	Understand the mechanism of enzyme action, and also study the structure, properties, nomenclature and classification of enzymes.	K2
CO4	Develop knowledge in concepts of biophysics.	K2
CO5	Develop skills in studying and using instruments of biotechniques.	K3
SBC- Computer applications and Basic Bioinformatics		
CO1	Enable the students to understand the components of computers	K1
CO2	Gains knowledge about computer languages, internet and email.	K2
CO3	Understands the windows, ms office, excel and powerpoint.	K2
CO4	Study the basics of bioinformatics and phylogenetic analysis.	K2
CO5	Develop an interest to study the biomolecular visualization and computer aided drug designing.	K3
NME- Floriculture and Landscaping		
CO1	Enable the students to understand the cultivation of economic flowers	K1
CO2	Gains knowledge about the techniques involved in flower arrangement and decoration	K2
CO3	Understands the methods of green house cultivation of cut flowers.	K2

CO4	Study the knowledge on landscape gardening.	K2
CO5	Develop an interest to study the cultivation of various types of gardens.	K3
Plant Anatomy and Plant Ecology		
CO1	Impart knowledge about meristems and its various theories.	K1
CO2	Students gain fundamental knowledge of structure and classification of simple and complex tissues.	K2
CO3	Understand the primary and secondary structure of Dicot and Monocot plants.	K2
CO4	Develop knowledge in studying nodal anatomy.	K2
CO5	Develop skills in identifying morphological, physiological and anatomical adaptations of plants.	K3
Cell Biology and Embryology		
CO1	Gain knowledge about prokaryotic and eukaryotic cell, different microscopes.	K1
CO2	Students understand the structure and functions of cell organelles like mitochondria, nucleus and chromosomes.	K2
CO3	Understand the structure and functions of golgi complex and cell division.	K2
CO4	Develop knowledge in studying the development of male and female gametophyte and types of ovule.	K2
CO5	Understand the types of endosperm, double fertilization and triple fusion.	K3
Core Practical Paper II		
CO1	Impart knowledge in doing biochemistry experiments	K4
CO2	Students gain knowledge about the spotters and identify the specimens.	K4
CO3	Understand the morphology and taking sections.	K4
CO4	Develop skills to identify the different species.	K4
CO5	Develop drawing sketches of the structures of the specimens.	K5
SBC - Forest Botany		
CO1	Gain knowledge about the types of forest & their importance and silvicultural practices.	K1
CO2	Students understand the forestry, silviculture and forest conservation.	K2
CO3	Understand the types of Indian forest, utilization and conservation of forest biodiversity by using silvicultural practice and forest policies	K2
CO4	Develop knowledge about the forest climate, impact of deforestation, silviculture management and forest resource**.**	K2
CO5	Inspect the recent scenario in forest biodiversity, wildlife wealth of India, silviculture practice and forest act of India	K3
Taxonomy of Angiosperms and Economic Botany		
CO1	Impart knowledge about the morphological structures of angiosperms	K1
CO2	Students understand the binomial nomenclature, herbarium technique and classification of angiosperms.	K2

CO3	Understand the morphology and economic importance of families.	K2
CO4	Develop knowledge in identifying different families.	K2
CO5	Understand the extraction, chemical constituents and uses of rubber and coffee.	K3
General Microbiology		
CO1	Acquire knowledge about the characteristics, multiplication and control of viruses.	K1
CO2	Students understand the food poisoning, industrial manufacture of ethanol, penicillin, etc.	K2
CO3	Understand the decomposition, functions of humus and microbial degradation of cellulose.	K2
CO4	Develop knowledge in sewage treatment and control of microorganisms.	K2
CO5	Understand the structure of antigen and antibody, their reaction and types of immune systems.	K3
Elective I - Plant Biotechnology		
CO1	Acquire knowledge about the techniques used in biotechnology.	K1
CO2	Students understand the recombinant DNA technology and human health care products.	K2
CO3	Understand the plant tissue culture techniques and its role in crop improvement.	K2
CO4	Develop knowledge in transgenic plants and biological control of pathogens..	K2
CO5	Understand the composition of biomass and intellectual property rights.	K3
Elective I - Habitat Ecology		
CO1	Impart knowledge about the uniqueness of the varying habitats in the biosphere.	K1
CO2	Students acquire knowledge about the structure and functions of different ecosystem.	K2
CO3	Understand the ecology of various habitats.	K2
CO4	Develop knowledge in understanding the environmental legislations.	K2
CO5	Understand the inventory of habitats.	K3
Elective II - Horticulture and Landscaping		
CO1	Enrich knowledge about the techniques of orchard cultivation, soil management practices and pruning techniques.	K1
CO2	Students understand the vegetative propagation methods and systems of irrigation.	K2
CO3	Understand the different methods of gardening and flower arrangement.	K2
CO4	Develop knowledge in cultivation of vegetables, fruits and flowers and extraction of jasmine.	K2
CO5	Understand the uses of kitchen garden and its necessity.	K3
Elective II - Plant Tissue Culture		
CO1	Impart knowledge about culture media and aseptic techniques.	K1
CO2	Students understand the micropropagation	K2

CO3	Understand the anther culture, pollen culture, ovary culture, etc.	K2
CO4	Develop knowledge in understanding the artificial seed production.	K2
CO5	Understand the secondary metabolites and cryopreservation.	K3
SBC - Value Added Crop Products		
CO1	Enrich knowledge in understanding the preparation of jelly and jam from fruits	K1
CO2	Students understand the preparation of different kinds of pickles and juices from vegetables	K2
CO3	Understand the extraction and uses of various edible and non-edible oils	K2
CO4	Develop knowledge in extraction and preparation of flowers.	K2
CO5	Understand the extraction and uses of various medicinal and aromatic plants	K3
Plant Physiology		
CO1	Impart knowledge about absorption of water, ascent of sap and transpiration.	K1
CO2	Students understand the importance of mineral nutrition and photosynthesis	K2
CO3	Understand the various aspects of respiration, photorespiration and mechanism of respiration.	K2
CO4	Develop knowledge in nitrogen metabolism.	K2
CO5	Understand the physiology of flowering, seed dormancy and biological clock.	K3
Classical Genetics and Molecular Biology		
CO1	Impart knowledge about gene interaction and multiple alleles	K1
CO2	Students understand the theories of crossing over and mutations	K2
CO3	Understand the mechanism of sex determination in plants.	K2
CO4	Develop knowledge in DNA and RNA structure, replication and types.	K2
CO5	Understand the gene regulation in prokaryotes and operon concepts.	K3
Elective III - Herbal Medicine and Human Welfare		
CO 1	Impart knowledge about different systems of medicines.	K1
CO 2	Students understand the systematic study of crude drugs.	K2
CO 3	Understand the drugs obtained from flowers, fruits, seeds and all parts of plants.	K2
CO 4	Develop knowledge in understanding cardio vascular drugs and anticancer drugs.	K2
CO 5	Understand the medicinal properties of Ricinus and Citrus.	K3
Elective III – Plant Breeding, Evolution, Seed Technology and Biostatistics		
CO 1	Impart knowledge about Hybridization.	K1
CO 2	Students understand the evolution.	K2
CO 3	Understand the Seed Technology.	K2

CO 4	Develop knowledge in understanding the seed processing and certification.	K2
CO 5	Understand the Biostatistics - mean, median and mode.	K3
	Core Practical Paper III	
CO 1	Impart knowledge in doing streaking and staining techniques.	K4
CO 2	Students gain knowledge about the spotters and identify the specimens.	K4
CO 3	Understand the morphology and taking sections.	K4
CO 4	Develop skills to identify the different species.	K4
CO 5	Develop drawing sketches of the structures of the specimens.	K5
	Core Practical Paper IV	
CO 1	Impart knowledge in doing physiology experiments.	K4
CO 2	Students gain knowledge about the spotters and identify the specimens.	K4
CO 3	Understand the morphology and taking sections.	K4
CO 4	Develop skills to identify the different species.	K4
CO 5	Develop drawing sketches of the structures of the specimens.	K5
	NME II - Mushroom Cultivation	
CO 1	Gain knowledge about the nutritional and medicinal value of mushrooms.	K1
CO 2	Students understand the structure and characteristics of edible mushrooms.	K2
CO 3	Understand the cultivation methods, spawn production techniques and harvesting of mushrooms.	K2
CO 4	Develop knowledge in studying the problems in mushroom cultivation.	K2
CO 5	Understand the preparation of mushroom recipes.	K3
	EVS - Environmental Studies	
CO 1	Impart knowledge about environment.	K1
CO 2	Students understand the natural resources.	K2
CO 3	Understand the ecosystem, ecological succession and ecological pyramids.	K2
CO 4	Develop knowledge in understanding biodiversity and its conservation.	K2
CO 5	Understand the environment, its pollution and the human population and environment.	K3
	Extra credit papers	
	Extra credit paper I - Dietary and Nutritional Value of Fruits and Vegetables	
CO 1	Impart knowledge about balanced diet.	K1
CO 2	Students understand the functions of food.	K2
CO 3	Understand the nutritional classification of foods.	K2

CO 4	Develop knowledge in understanding the diet for various deficiencies.	K2
CO 5	Understand the allergic and non allergic foods.	K3
Extra credit paper II - Commercial Plant Products		
CO1	Impart knowledge about balanced diet.	K1
CO2	Students understand the functions of food.	K2
CO3	Understand the nutritional classification of foods.	K2
CO4	Develop knowledge in understanding the diet for various deficiencies.	K2
CO5	Understand the allergic and non allergic foods.	K3
Extra Credit Paper III – Biodiversity Conservation and Management		
CO 1	Impart knowledge about environment.	K1
CO 2	Students understand the natural resources.	K2
CO 3	Understand the threats and natural calamities.	K2
CO 4	Develop knowledge in understanding biodiversity and its conservation.	K2
CO 5	Understand the environment, In situ and Ex situ Conservation.	K3
	Value added courses	
Value added course I - Organic Farming		
CO 1	Understands the merits of organic farming over conventional farming	K1
CO 2	Students learn the preparation of various organic manures and panchakavya	K2
CO 3	Imparts knowledge to analyse the water and weed management practices	K2
CO 4	Understands to prepare herbal pest repellents	K2
CO 5	Students gain knowledge by visiting organic farms	K5
Value added course II - Landscape Gardening		
CO 1	Understands the merits of garden designing	K1
CO 2	Students learn the various components of garden	K2
CO 3	Imparts knowledge about the soil, organic and inorganic fertilizers	K2
CO 4	Understands the propagation and plant protection	K2
CO 5	Students gain knowledge by visiting different landscapes	K5
Value added course III – Terrace Gardening		
CO 1	Understands the importance of terrace garden	K1

CO 2	Students learn the preparation of potting mixture	K2
CO 3	Imparts knowledge to grow bonsai plants	K2
CO 4	Understands to maintain the shade houses	K2
CO 5	Students gain knowledge by visiting many roof gardens	K5

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PG DEPARTMENT OF BOTANY

M.Sc., BOTANY

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PSOs	PROGRAMME SPECIFIC OUTCOMES
PSO1	To prepare the students who will demonstrate respectful engagement with others' ideas, behaviors, beliefs and apply diverse frames of reference to decisions and actions.
PSO2	To create effective entrepreneurs by enhancing their critical thinking, problem solving, decision making and leadership skill that will facilitate startups and high potential organizations.
PSO3	Design and implement HR systems and practices grounded in research that comply with employment laws, leading the organization towards growth and development.
PSO4	To produce employable, ethical and innovative professionals to sustain in the dynamic business world.
PSO 5	To contribute to the development of the society by collaborating with stakeholders for mutual benefit

M.Sc., BOTANY

M.Sc., BOTANY PROGRAMME OUTCOMES

POs	Description of COs
PO1	Apply knowledge of Management theories and Human Resource practices to solve business problems through research in Global context.
PO2	Foster analytical and critical thinking abilities for data-based decision-making.
PO3	Ability to incorporate quality, ethical and legal value-based perspectives to all organizational activities.
PO4	Ability to develop communication, managerial and interpersonal skills.
PO5	Capability to lead themselves and the team to achieve organizational goals.
PO6	Inculcate contemporary business practices to enhance employability skills in the competitive environment.
PO7	Equip with skills and competencies to become an entrepreneur.
PO8	Succeed in career endeavors and contribute significantly to society.
PO9	Possess knowledge of the values and beliefs of multiple cultures and a global perspective.

PO10	Ability to embrace moral/ethical values in conducting one's life.

M.Sc., BOTANY / COURSE OUTCOMES

	Description of COs	Bloom's Taxonomy / Cognitive Domain
	Semester I: CORE I: Plant Diversity - I	
CO1	Grasp the basic concepts of lower life forms	K1
CO2	Understand the diversity in habits, habitats and organization of various groups of lower plants K2 Apply their knowledge to culture and cultivate fresh water and marine water algae K4	K2
CO3	Inherit knowledge on the exploitation of useful products from lower forms for the betterment of human welfare	K3
CO4	Apply their acquired knowledge to improve the economic quality of the lower life forms.	K4
	CORE II- Plant Diversity – II	
CO1	Grasp the knowledge on phylogeny of Bryophytes, Pteridophytes and Gymnosperms.	K1
CO2	Assume the alternation of generations of Vascular Cryptogams and Phanerogams.	K2
CO3	Appeal the knowledge on identification of living fossils from the fossils and the role of fossils in oil exploration and coal excavation.	K3
CO4	Discriminate various kinds of fossilization process and Radio carbon dating.	K4
	CORE-III : Bioinstrumentation and Biotechniques	
CO1	To apply the concepts of bioanalytical techniques in biotechnology research	K1
CO2	To handle these bioanalytical techniques in industry	K2
CO3	To operate and optimize the experimental conditions of different analytic techniques	K3
CO4	To implement knowledge for the separation of bioentities.	K4
	ELECTIVE I - Ecology and Biodiversity	
CO1	To understand the methods used for the evaluation of biodiversity	K3
CO2	To apply their knowledge on different diversities in marine environment	K3
CO3	To create methods to prevent biodiversity from extinction	K6
CO4	To understand different conservation methods	K3

CO5	To apply knowledge on intellectual property rights	K4
ELECTIVE I: Ethanobotany and Bio-Resources		
CO1	To understand the role of Ethnobotany in conservation and sustainable development	K3
CO2	To apply their knowledge on documentation of herbal medicine	K3
CO3	To apply their knowledge to describe the plants which used as traditionally	K3
CO4	To analyze the role of ethnopharmacology in drug development	K5
CO5	To create the knowledge for biological screening of herbal drugs	K6
Core Paper - IV Cell and Molecular Biology		
CO1	Understand the structure and function of basic components of prokaryotic and eukaryotic cells, especially its membrane organization and organelles	K1
CO2	Examine the DNA damage and mechanism	K2
CO3	Basic organization of genetic material and the realms of events associated with replication and gene expression will be examined	K3
CO4	Acquire the knowledge of protein synthesis and regulation of gene expression	K4
Genetics and Evolution		
CO1	Understand Mendelian genetics and expression of alleles	K2
CO2	Evaluate the cytological basis for crossing over in corn	K5
CO3	Create knowledge on determination of sex and abnormalities of chromosomes	K6
CO4	Acquire the knowledge population genetics	K4
CO5	Analyze natural selection and speciation in evolution process	K4
Plant Anatomy and Embryology of Angiosperms		
CO1	Understand the intricacies involved in the reproduction of plants.	K1
CO2	Gain awareness about the various process of compatibility involved in plant reproduction	K2
CO3	To explain the importance of secondary growth and to state the location of tissues involved in secondary growth in dicot and monocot plants	K3
CO4	To state the types of growth and to compare their structure and functions and processes of florisitic growth	K4
Fermentation Biotechnology		

CO1	Understand the screening industrially important microorganisms	K2
CO2	Evaluate the design of various fermentors	K5
CO3	Understand various processing in fermentation	K2
CO4	Acquire the knowledge on biogas production	K4
CO5	Apply the knowledge for the production of various fermented products	K3
Biofertilizers		
CO1	Apply knowledge on mass cultivation of biofertilizers	K3
CO2	Understand the mechanism of nitrogen fixation	K3
CO3	Create ideas for mass cultivation of Azolla	K6
CO4	Analyze the biochemistry of phosphate solubilization and mobilization	K4
CO5	Evaluate the isolation and method of inoculation of AM fungi	K5
Taxonomy of Angiosperms		
CO1	Remember the different systems of classification	K1
CO2	Evaluate effective and valid publications	K5
CO3	Apply the modern concepts and trends in plant taxonomy	K3
CO4	Analyze the characteristics of different plant families	K4
Microbiology and Plant Pathology		
CO1	Analyze the isolation and purification of plant viruses	K4
CO2	Remember the preparations of different media	K1
CO3	Understand the role of microbes in dairy industry	K3
CO4	Create knowledge on biological control of plant diseases	K6
CO5	Understand the causative agents and transmission of various plant diseases	K2
Biochemistry		
CO1	Understand the mechanism of enzyme action	K2
CO2	Evaluate the properties of proteins	K5
CO3	Remember the derivatives of monosaccharide	K3

CO4	Create knowledge on the importance of cholesterol and plant lipids	K6
Herbal technology		
CO1	Create knowledge on cultivation and harvesting of medicinal plants	K6
CO2	Apply the isolation and purification of various phytocompounds	K3
CO3	Remember natural plant products with various biological activities	K1
CO4	Create knowledge on different solvent extraction methods	K6
CO5	Evaluate the isolation of volatile oils from various plant parts	K5
Home gardening		
CO1	Create design for vegetable garden	K6
CO2	Remember the choice of plants for gardening	K1
CO3	Analyze the storing and processing of the vegetables	K5
CO4	Understand the establishment of terrace garden and it uses	K6
CO5	Apply the Process and management of kitchen waste for home garden	K3
Plant physiology		
CO1	Remember the mechanism of transpiration	K1
CO2	Understand the mechanism of Nitrogen fixation	K2
CO3	Remember pathways in photosynthesis	K1
CO4	Analyze aerobic and anaerobic respiration in plants	K4
CO5	Evaluate different stress condition in plants	K5
Research methodology and Bioinformatics		
CO1	Remember the types of diagrams and graphs	K1
CO2	Evaluate the interpretation of statistical data	K5
CO3	Apply the preparation for oral and poster presentation	K3
CO4	Analyze application of Bioinformatics	K4
CO5	Understand about submission of sequences	K2
Plant biotechnology		

CO1	Remember the characteristics of restriction enzymes	K1
CO2	Evaluate genetic engineering in plants	K5
CO3	Analyze the expression of cloned genes	K4
CO4	Understand about transgenic plants	K2
Herbal Cosmetics		
CO1	Remember the advantage of herbal cosmetics	K1
CO2	Evaluate the preparation of face pack	K5
CO3	Understand the preparation of Herbal Bathing powder and soaps	K2
CO4	Apply the preparation of Herbal Shampoo and Hair dyes	K2
CO5	Remember megandi decoration on feet	K1