

DEPARTMENT OF Botany

B.Sc. Botany (Model 1)

Core - Theory

SEMESTER 1

BO1CRT01	Methodology of Science and an Introduction to Botany	Credits: 2
CO1	Understand the universal nature of science	
CO2	Demonstrate the use of scientific method	
CO3	Categorize different types of classifications in the living kingdom.	
CO4	Develop basic skills to study Botany in detail	

SEMESTER 2

BO2CRT02	Microbiology, Mycology and Plant Pathology	Credits: 2
CO1	Understand the world of microbes, fungi and lichens	
CO2	Elaborate the adaptive strategies of the microbes, fungi and lichens	
CO3	Comment on the economic and pathological importance of microorganisms	

SEMESTER 3

BO3CRT03	Phycology and Bryology	Credits: 3
CO1	Understand the the evolutionary importance of Algae as progenitors of land plants	
CO2	Classify the unique and general features Algae and Bryophytes	
CO3	Define the external morphology, internal structure and reproduction of different types of Algae and Bryophytes	
CO4	Discuss the application of Phycology in different fields	

SEMESTER 4

BO4CRT04	Pteridology, Gymnosperms and Paleobotany	Credits: 3
CO1	Identify the diversity in habits, habitats and organization of various groups of plants.	
CO2	Classify the lower forms of plants	
CO3	Recall the evolutionary trends in Pteridophytes and Gymnosperms.	
CO4	Discuss the anatomical variations in vascular plants.	
CO5	Elaborate on the significance of Paleobotany and its applications.	

SEMESTER 5

BO5CRT05	Anatomy, Reproductive Botany, Microtechnique	Credits: 3
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CO1	Illustrate the internal structure and reproduction of the most evolved group of plants, the Angiosperms
CO2	Explain the individual cells and tissues
CO3	Comment on the structural adaptations in plants growing in different environment.
CO4	Elaborate the morphology and development of reproductive parts.
CO5	Analyze the fruit and seed development.
CO6	Apply the techniques used to preserve and study plant materials.

BO5CRT06	Research methodology, Biophysics and Biostatistics	Credits: 3
CO1	Conduct independent research and prepare research reports.	
CO2	Compare different tools and techniques used in research work.	
CO3	Develop basic computer skills necessary for conducting research.	
CO4	Solve numerical research problems	

BO5CRT07	Plant Physiology and Biochemistry	Credits: 3
CO1	Explain basic plant functioning.	
CO2	Apply basic skills and techniques related to plant physiology.	
CO3	Describe the role, structure and importance of the bio molecules associated with plant life	

BO5CRT08	Environmental Sciences and Human Rights	Credits: 4
CO1	State the significance of Environmental Science.	
CO2	Comment on the extent of the total biodiversity and the importance of their conservation.	
CO3	Discuss the rights for women, children, minority in our society	
CO4	Design novel mechanisms for the sustainable utilization of natural resources.	
CO5	Apply various methods for waste management and create environmental healthy methods	
CO6	Identify the International, National and State acts prevailing for the protection of human rights	

BO5OPT01	Agri-based microenterprises – Open Course	Credits: 4
CO1	Analyze the business opportunities in plant sciences.	

CO2	Design sustainable agriculture and organic farming.
CO3	Explain ornamental gardening, nursery management and mushroom cultivation.

SEMESTER 6

BO6CRT09	Genetics, Plant Breeding and Horticulture	Credits: 3
CO1	Explain the principles of heredity	
CO2	Analyze the patterns of inheritance in different organisms	
CO3	Comment on the inheritance pattern of nuclear and extra nuclear genes	
CO4	Explain the methods of crop improvement	
CO5	Develop gardening technique	

BO6CRT10	Cell and Molecular Biology	Credits: 3
CO1	Explain the ultra structure and functioning of cell in the sub-microscopic and molecular level.	
CO2	Elaborate on the origin, concept of continuity and complexity of life activities.	
CO3	Explain life processes.	
CO4	Analyze the basic and scientific aspect of diversity.	
CO5	Comment on the cytological aspects of growth and development.	
CO5	Explain DNA as the basis of heredity and variation.	

BO6CRT11	Angiosperm morphology, Taxonomy and Economic Botany	Credits: 3
CO1	Explain the aims, objectives and significance of taxonomy.	
CO2	Identify the common species of plants growing in Kerala and their systematic position.	
CO3	Develop inductive and deductive reasoning ability.	
CO4	Construct a basic herbarium	
CO5	Identify the plants having immense economic importance.	

BO6CRT12	Biotechnology and Bioinformatics	Credits: 3
CO1	Comment on the current developments in the field of Biotechnology and Bioinformatics.	
CO2	Experiment on plant tissue culture	
CO3	Analyze the vast repositories of biological data knowledge.	
CO4	Analyze the data available in the databases	

BO6PET02	Plant Genetic Resources Management - Elective	Credits: 3
CO1	Explain the history and evolution of crop plants, and their diversity.	
CO2	List out the available plant genetic wealth and the measures adopted for the conservation of these resources.	
CO3	Identify the crop plants and their wild relatives.	
CO4	Identify the potentialities of various underutilized plants to project as the future food prospects.	
CO5	Understand modern technology to locate the distribution of endangered species	