

**B.Sc Botany**  
**(CORE, COMPLIMENTARY & OPEN COURSES)**

**COURSE OUTCOMES-CORE COURSES**

**SEMESTER 1**

**BOT1B01T: Angiosperm Anatomy, Reproductive Botany and Palynology**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Demonstrate the ability to differentiate plant organs by observing anatomical features.
CO2	Understand the non-living inclusions of plants and their significance.
CO3	Differentiate tissues and their functions.
CO4	Illustrate primary and secondary (normal and anomalous) structures of plant organs.
CO5	Explain various developmental details of angiosperms.
CO6	Realize the significance and applications of palynology.

**SEMESTER 2**

**BOT2B02T: Microbiology, Mycology, Lichenology and Plant Pathology**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Understand basics of microbial life and their economic importance.
CO2	Develop general awareness on the diversity of microorganisms, fungi and lichens.
CO3	Analyse the ecological role played by bacteria, fungi and lichens
CO4	Identify plant diseases and find out control measures.
CO5	Realize the significance of plant diseases as far as crop production is concerned.

**SEMESTER 3**

**BOT3B03T: Phycology, Bryology and Pteridology**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	Appreciate the diversity and evolutionary significance of lower plant groups.
CO2	Classify algae, bryophytes and pteridophytes.
CO3	Understand the economic and ecological importance of lower plant groups.

## SEMESTER 4

### **BOT4B04T: Methodology and Perspectives in Plant Science**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Develop scientific temper and problem-solving skills.
CO2	Undertake scientific projects and prepare project reports
CO3	Summarize, organize and display quantitative data and derive conclusions
CO4	Prepare permanent slides, applying the histochemical techniques

## SEMESTER 5

### **BOT5B06T: Gymnosperms, Palaeobotany, Phytogeography and Evolution**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Understand the role of gymnosperms as a connecting link between pteridophytes and angiosperms
CO2	Appreciate the process of organic evolution.
CO3	Realize the importance of fossil study.
CO4	Understand the climatic conditions of the past and realize the changes happened
CO5	Recognize the phytogeographic zones of India.

### **BOT5B07T: Angiosperm Morphology and Systematics**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Appreciate the diverse morphology of angiosperms.
CO2	Identify and classify plants based on taxonomic principles.
CO3	Make scientific illustrations of vegetative and reproductive structures of plants.
CO4	Develop the skill of scientific imaging of plants.
CO5	Realize the importance of field study.
CO6	Change their attitude towards over exploitation of rare/endemic plants.

### **BOT5B08T: Tissue Culture, Horticulture, Economic Botany and Ethnobotany**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to

CO1	Critically evaluate the advantages of tissue culture and horticulture over conventional methods of propagation.
CO2	Apply various horticultural practices in the field.
CO3	Experiment on the subject and try to become entrepreneurs.
CO4	Identify the economically important plants.

## **BOT5B09T: Cell Biology and Biochemistry**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	Appreciate the ultra-structure of a plant cell.
CO2	Enumerate the functions of each cell organelle.
CO3	Draw and explain the structure of biomolecules.

## **SEMESTER 6**

### **BOT6B10T: Genetics and Plant Breeding**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	Appreciate the facts behind heredity and variations.
CO2	Understand the basic principles of inheritance.
CO3	Solve problems related to classical genetics.
CO4	Predict the pattern of inheritance.
CO5	Understand various plant breeding techniques.
CO6	Realize the role of plant breeding in increasing crop productivity.

### **BOT6 B11T: Biotechnology, Molecular Biology and Bioinformatics**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	Analyse the role of biotechnology in daily life.
CO2	Understand the basic aspects of bioinformatics.
CO3	Explain the concepts in molecular biology.

### **BOT6B12T: Plant Physiology and Metabolism**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	Identify the physiological responses of plants.
CO2	Analyse the role of external factors in controlling the physiology of plants.
CO3	Explain the metabolic processes taking place in each cell.
CO4	Appreciate the energy fixing and energy releasing processes taking place in cells.

### **BOT6B13T: Environmental Science**

<b>COs</b>	<b>COURSE OUTCOMES</b>
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	By the end of the course, students are expected to
CO1	Realize the importance of ecological studies.
CO2	Develop environmental concern in all their actions and practise Reduce, Reuse and Recycle.

CO3	Try to reduce pollution and environmental hazards and change their attitude towards throwing away plastic wastes.
CO4	Spread awareness of the need of conservation of biodiversity and natural resources.
CO5	Analyze the reasons for climate change and find out ways to combat it.

## **CORE ELECTIVE COURSE**

### **BOT6 B14T (E1): Elective-1: Genetic Engineering**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Appreciate various techniques employed in genetic engineering.
CO2	Develop general awareness on genetically modified organisms.
CO3	Understand the ethical, social and legal issues associated with genetic engineering.

## **COURSE OUTCOMES-COMPLIMENTARY COURSES**

### **SEMESTER 1**

#### **BOT1C01T: ANGIOSPERM ANATOMY AND MICROTECHNIQUE**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Explain the types, structure and functions of plant tissues.
CO2	Explain primary and secondary (normal and anomalous) structures of plant organs.
CO3	Identify plant organs by observing anatomical features.
CO4	Illustrate primary and secondary (normal and anomalous) structures of plant organs.
CO5	Apply the histochemical techniques in laboratory works.

### **SEMESTER 2**

#### **BOT2C02T: CRYPTOGAMS, GYMNOSPERMS AND PLANT PATHOLOGY**

COs	COURSE OUTCOMES
	By the end of the course, students are expected to
CO1	Analyze the role of the lower plants in the process of evolution.
CO2	Explain the ecological significance of lower plants.

CO3	Identify plant diseases and take remedial measures to control them.
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## SEMESTER 3

### **BOT3C03T: MORPHOLOGY, SYSTEMATIC BOTANY, ECONOMIC BOTANY, PLANT BREEDING AND HORTICULTURE**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	Appreciate the diverse morphology of angiosperms.
CO2	Identify and classify plants based on taxonomic principles
CO3	Make scientific illustrations of vegetative and reproductive structures of plants
CO4	Identify the economically important plants
CO5	Understand the basic principles of plant breeding
CO6	Apply various horticultural practices in the field.

## SEMESTER 4

### **BOT3C03T: PLANT PHYSIOLOGY, ECOLOGY AND GENETICS**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	Explain the physiological processes in plants.
CO2	Understand the basic principles of heredity and variation.
CO3	Realize the importance of ecology.
CO4	Spread awareness of the necessity of conservation of biodiversity and natural resources
CO5	Solve problems related to classical genetics

## **COURSE OUTCOMES-OPEN** **COURSE**

## SEMESTER 5

### **BOT5D02T: APPLIED BOTANY**

<b>COs</b>	<b>COURSE OUTCOMES</b>
	By the end of the course, students are expected to
CO1	1.Develop general awareness on applied aspects of Plant science.
CO2	2.Realize the role of plants in everyday life.
CO3	3.Apply vegetative propagation methods in everyday life.
CO4	4.Realize the economic importance of plants

