B.Sc Botany Programme

Programme Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes
PSO1	**Scope and importance of Botany**: Understand scope and importance of Botany in every field especially in dealing with societal and environmental issues, agriculture, ethics and healthcare.
PSO2	**Environmental concern**: Understand the and the role of plants in sustaining life on earth and the interrelationship between human beings and nature, create awareness on natural resources and their importance in sustainable development, analyze the importance of biodiversity conservation, estimate biodiversity loss and develop conservation strategies.
PSO3	**Scientific temper**: Develop scientific temper and undertake scientific projects.
PSO4	**Practical applications**: Identify and classify plants according to the principles of plant systematics, apply techniques like plant propagation methods, organic farming, mushroom cultivation, preparation of biofertilizers, biopesticides etc. in daily life.
PSO5	**Awareness on life processes**: Understand plant life processes, biomolecules, basic hereditary and evolutionary principles.

COURSE OUTCOMES (COS):

CORE COURSE OUTCOMES (COs)

CORE COURSE: 1
Code: BOT1B01T ANGIOSPERM ANATOMY, REPRODUCTIVE BOTANY AND PALYNOLOGY

Cos	Course Outcome Statements
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.

CORE COURSE: 2
Code: BOT2B02T MICROBIOLOGY, MYCOLOGY, LICHENOLOGY AND PLANT PATHOLOGY

Cos	Course Outcome Statements
CO1	Understand basics of microbial life and their economic importance
CO2	Develop general awareness on the diversity of microorganisms, fungi and lichens.

CO3	Analyze 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.

CORE COURSE: 3
Code: BOT3B03T PHYCOLOGY, BRYOLOGY AND PTERIDOLOGY

Cos	Course Outcome Statements
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.

CORE COURSE: 4
Code: BOT4B04T METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCE

Cos	Course Outcome Statements
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

CORE COURSE: 6
Code: BOT5 B06T GYMNOSPERMS, PALAEOBOTANY, PHYTOGEOGRAPHY AND EVOLUTION

Cos	Course Outcome Statements
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 phytoeographic zones of India.

CORE COURSE: 7
Code: BOT5B07T ANGIOSPERM MORPHOLOGY AND SYSTEMATICS

Cos	Course Outcome Statements
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.

CORE COURSE: 8
Code: BOT3B08T TISSUE CULTURE, HORTICULTURE, ECONOMIC BOTANY AND ETHNOBOTANY

Cos	Course Outcome Statements
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.

CORE COURSE: 9
Code: BOT4B09T METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCE

Cos	Course Outcome Statements
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.

CORE COURSE: 10
Code: BOT6 B10T METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCE

Cos	Course Outcome Statements
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 cr

CORE COURSE: 11
Code: BOT6 B012T PLANT PHYSIOLOGY AND METABOLISM

Cos	Course Outcome Statements
CO1	Identify the physiological responses of plants.
CO2	Analyze 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.

CORE COURSE: 12
Code: BOT6 B10T METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCE

Cos	Course Outcome Statements
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 cr

CORE COURSE: 13
Code: BOT6 B013T ENVIRONMENTAL SCIENCE

Cos	Course Outcome Statements
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.

BOTANY OPEN COURSE- CHOICE: 2

PAPER CODE : BOT5D 02T & APPLIED BOTANY

Cos	Course Outcome Statements
CO1	Develop general awareness on applied aspects of Plant science.
CO2	Realize the role of plants in everyday life.
CO3	Apply vegetative propagation methods in everyday life.
CO4	Realize the economic importance of plants

BOTANY ELECTIVE CORE COURSE- 14 (Theory)

Code: BOT 6B14 T (E1) – GENETIC ENGINEERING

ELECTIVE CORE COURSE- III (Theory) - - PAPER CODE & NAME

COs	Course Outcome Statements
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.

PRACTICAL

Code	Name of paper
BOT4B05P	CORE COURSE 5: Practical Paper – I Angiosperm Anatomy, Reproductive Botany, Palynology, Microbiology, Mycology, Lichenology, Plant Pathology, Phycology, Bryology & Pteridology, Methodology and perspectives in Plant Science
BOT6B15P	CORE COURSE 15: Practical Paper- II: Gymnosperms, Palaeobotany, Phytogeography, Angiosperm Morphology, Systematics, Tissue culture, Horticulture, Econ. Botany, Ethnobot. Cell Biol. & Biochemistry
BOT6B16P	CORE COURSE 16: Practical Paper- II: Genetics, Pl. Breeding, Biotechnology, Molecular Biology, Plant Physiology & Environmental Science

COMPLEMENTARY COURSE: 1

Code: BOT1 C01T ANGIOSPERM ANATOMY AND MICROTECHNIQUE

Cos	Course Outcome Statements
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.

COMPLEMENTARY COURSE: 2

Code: BOT2 C02T CRYPTOGAMS, GYMNOSPERMS AND PLANT PATHOLOGY

Cos	Course Outcome Statements
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.

COMPLEMENTARY COURSE: 3

Code: BOT3 C03T MORPHOLOGY, SYSTEMATIC BOTANY, ECONOMIC BOTANY, PLANT BREEDING AND HORTICULTURE

Cos	Course Outcome Statements
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.

COMPLEMENTARY COURSE: 4

Code: BOT4 C04T PLANT PHYSIOLOGY, ECOLOGY AND GENETICS

Cos	Course Outcome Statements
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
CO5	Solve problems related to classical genetics

COMPLEMENTARY COURSE PRACTICAL

Code	Name
BOT4C05P	Complementary Course Practical