

Programme Outcome - B.Sc.

1. Knowledge and understanding: The range of plant diversity in terms of structure, function and environmental relationships.
2. Practical skills: Students learn to carry out practical work, in the field and in the laboratory in Plant identification, Vegetation analysis and in Plant pathology
3. Transferable skills: 1. Use of IT (word-processing, use of internet, statistical packages and databases). 2. Communication of scientific ideas in writing and orally. 3. Ability to work as part of a team. 4. Ability to use library resources. 5. Time management. 6. Career planning.
4. Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using methods of nomenclature and classification in Botany.

Programme specific Outcomes of B.Sc. Plant Biology and Plant Biotechnology

1. Students will be able to present scientific hypotheses and data both orally and in writing.
2. Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.
3. Students will be able to compare and contrast the characteristics of plants, algae, and fungi that differentiate them from each other and from other forms of life.
4. Students will be able to explain how Plants function at the level of the gene, genome, cell, tissue, Flower development and drawing upon this knowledge.

Course Outcomes:

Paper-I: Algae and Fungi

On completion of the course, students are able to:

1. Understand the diversity among Algae.
2. Understand the life cycle pattern of Algae.
3. Understand the beneficial and harmful activities of Algae.
4. Understand the Biodiversity of Fungi
5. Know the Economic Importance of Fungi

Paper –II- General Microbiology

1. Understand the concept, principle and types of sterilization methods.
2. Know the concept and characteristics of antiseptic, disinfectant and their mode of action.

Paper III: Applied Microbiology

To equip the students with skills related to laboratory as well as industries based studies

Paper-IV: Lichens and Bryophytes

1. Understand the morphological diversity of Bryophytes.
2. Understand the economic importance of the Bryophytes.

Paper- V – Anatomy of angiosperms

1. Know various tissue systems.
2. Understand the normal and anomalous secondary growth in plants and their causes.

Paper VI – Plants and environment

1. Understand plant communities and ecological adaptations in plants.
2. Learn about conservation of biodiversity.
3. Discover botanical regions of India and vegetation types of Tamil Nadu

Paper VII- Embryology of angiosperms

1. Know the methods of pollination and fertilization.
2. Know the types and developmental stages of endosperm and embryogeny.

Paper VIII- Plant Pathology:

1. Know the prevention and control measures of plant diseases and its effect on economy of crops.

Paper IX: Cell Biology

1. The eukaryotic cell cycle and mitotic and meiotic cell division
2. Structure and organization of cell organelles
3. Understand the Biochemical nature of cell.

Paper X: Pteridophytes

Understand the morphological diversity and developmental pattern in Pteridophytes

Paper XI: Gymnosperms and Paleobotany

1. Learn about the Life cycle pattern in Gymnosperms
2. Learn the various types of fossil genera and geological time scale.

Paper XII: Systematic and economic botany

1. Know the vegetative characteristics of the plant.

2. Learn about the reproductive characteristics of the plant.
3. Understand the medicinal and economic importance of plants.

Paper XIII: Genetics and Biostatistics

1. Able to analyse Mendelian and Neo-mendelian genetics

Paper XIV- Instrumentation and Bioinformatics

1. Know the details of Microscopy- Principles of light microscopy, electron microscopy (TEM and SEM).
2. Understand & perform Chromatography and cultural techniques in Botany.
3. Principle, working and applications of instruments viz, pH meters, spectrophotometer, centrifuge

Paper – Plant Breeding and Horticulture

1. Become aware of applications of different means of vegetative propagation in higher plants.
2. To highlight the potential of these studies to become an entrepreneur.
3. Get the detail knowledge about modern strategies applied in Plant Breeding for crop improvement i.e. Mass selection, Pureline Selection and Clonal selection.

Paper XV: Plant Functions

1. Structure and general features of enzymes.
2. Learn about the movement of sap and absorption of water in plant body.
3. Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways.
4. Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.

Paper XVI- Microbial Genetics

1. Understand the biochemical nature of nucleic acids, their role in living systems, experimental evidences to prove DNA as a genetic material.
2. Understand the process of synthesis of proteins and role of genetic code in polypeptide formation.
3. The concept of operon and its structure and regulation.

Paper XVII- Recombinant DNA technology

1. Understand the Microbial Genetics and Recombination in Bacteria.
2. Understand the fundamentals of Recombinant DNA Technology.

Paper XVIII- Biotechnology

1. Know about the Genetic Engineering.
2. Understand the principle and basic protocols for Plant Tissue Culture.

Paper- Pharmacognosy

1. Understand the role plants in human welfare.
2. Gain knowledge about various plants of medicinal values.
3. Know importance of plants and the chemical contents of the plant products.
4. Know about the utility of plant resources.