

**Programme Outcomes, Programme Specific Outcomes (PSO) & Course Outcomes (CO)  
of B.Sc.Botany: (Department of Botany)**

<b>Programme Outcome</b>
<p>PO 1. Students can able to have Knowledge and understanding of the range of plant diversity in terms of structure, function and environmental relationships.</p> <p>PO 2. The evaluation of plant diversity and plant classification.</p> <ul style="list-style-type: none"><li>• The role of plants in the functioning of the global ecosystem.</li><li>• Gain Knowledge about Microbes, Algae, Fungi and Archegoniate and how they impact our world.</li><li>• Identification classification and nomenclature of plants</li><li>• Loss of Biodiversity , threats to biodiversity and conservation methods</li><li>• Understand the plant structure by learning the basic features of plant cells, tissues, organs and development of reproductive structures in plants.</li><li>• Students are also exposed to understand plant physiology and metabolism</li><li>• Gain Knowledge about the basics in cytology and genetics and molecular biology.</li><li>• Students are also have basic understanding in plant pathology and advances in plant biotechnology.</li></ul>
<b>Programme Specific Outcome</b>
<p><b>Semester- I:</b></p> <p><b>CCBOT-1: Biodiversity: Microbes, Algae, Fungi and Archegoniate</b></p> <p>On completion of the course, students are able to:</p> <ul style="list-style-type: none"><li>• Have basic knowledge about virus, bacteria, algae, fungi, bryophytes, Pteridophytes and gymnosperms.</li><li>• Students are also exposed understand about economic importance of some important groups of microbes, algae, fungi and archegoniate and are capable work in these areas on joining for advance courses.</li></ul> <p><b>Semester-II:</b></p> <p><b>CCBOT-II: Plant Ecology and Taxonomy</b></p>

- Students will learn about soil formation, adaptation of plants to different climatic conditions, energy flow, biogeochemical cycles and Phytogeography.
- Students will have an exposure to several basic aspects such as, plant classification, nomenclature, herbarium, botanical gardens and Taxonomic evidences from palynology, cytology, phytochemistry and molecular data.

**CCBot- III: Plant Anatomy and Embryology**

- Students will learn about different aspects of plant anatomy such as, tissue system, organs, secondary growth, adaptive and protective systems.
- This exposure will make the students to understand the anatomical structures, Structural organization of flower and development of reproductive structures in plants.

**Semester-IV:**

**CCBOT- IV: Plant Physiology and Metabolism**

- Students will learn about Plant-water relations, Mineral nutrition Photosynthesis Enzymes Respiration, Translocation in phloem Nitrogen metabolism Plant growth regulators Plant response to light and temperature.
- This exposure will make the students to understand the major chapters in plant physiology and metabolism.

**Semester-V:**

**DSE-1: Cytology, Genetics and Molecular Biology**

- Students are able to understand the eukaryotic cell, cell cycle and mitotic and meiotic cell division
- Structure and organization of cell membrane and cell organelles.
- DNA replication, structure and functions of RNA, genetic code and protein synthesis.
- Students able to know about basics in cytology and genetics.

**DSE-2:Plant pathology, Biotechnology and Plant breeding**

- Students are exposed know the application of Biotechnology, Transgenic plants,Geneticengineering, PCR technique, Recombinant DNA technology, DNA Fingerprinting, Plant tissue culture,Methods of crop improvement,
- Course exposes students to the basic understanding in plant pathology and advances in plant biotechnology. The students will also exposed to some basics of plant breeding.

**• Course Outcome**

- To identify the role of algae, fungi, bacteria and viruses in critical environmental issues, such as eutrophication, human health and global climate change
- Understand the basic applications of algae in biotechnology, such as the production of food, chemicals, and biofuels
- Students will learn to collect relevant information about the plants and recognize the position of plant in the broad classification and Phylogenetic level.
- Students are exposed to study the flora of different regions, understand Plant migration, Preparation of Herbarium, maintenance and importance of Herbaria
- Students will be able to understand the management, importance and richness of biodiversity and also study the role of Biodiversity in the sustenance of life.
- Students will be able to explain the ecological interconnectedness of life on earth by tracing energy and nutrient flow through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities, and ecosystems.
- Students understand the anatomical structures, Structural organization of flower and development of reproductive structures in plants.
- This course also covers the basics in cytology and genetics and introduces the students to little advances in molecular biology
- Course exposes the students know plant pathology, advances in plant biotechnology and to some basics of plant breeding.