

## **B.Sc. Botany**

### **Programme Outcomes**

- Take informed actions after identifying the assumptions that frame students' thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at their ideas and decisions from different perspectives.
- Understand and solve problems of relevance to society to meet the specified needs using the knowledge, skills and attitudes acquired.
- Understand the issues of environmental contexts and sustainable development.
- Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes

### **Programme Specific Outcomes**

- Understand 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.
- Develop scientific temper and undertake scientific projects.
- Identify and classify plants according to the principles of plant systematic,
- Apply techniques like plant propagation methods, organic farming, mushroom cultivation, preparation of biofertilizers, biopesticides etc. in daily life.

## Core Course Outcome

Sl No.	Name of the Paper	Course Outcome
1	<b>Angiosperm Anatomy, Reproductive Botany and Palynology</b>	Identify plant organs by observing anatomical features <ul style="list-style-type: none"><li>• Explain the types, structure and functions of plant tissues</li><li>• Understand the non-living inclusions of plants and their significance</li><li>• Explain primary and secondary (normal &amp; anomalous) structures of plant organs</li><li>• Understand various developmental details of Angiosperms</li><li>• Realize the significance and applications of Palynology</li></ul>
2	<b>Microbiology, Mycology, Lichenology and Plant Pathology</b>	Understand basics of microbial life and their economic importance <ul style="list-style-type: none"><li>• General awareness on the diversity of microorganisms, fungi and lichens</li><li>• Ecological significance of bacteria, fungi and lichens</li><li>• Identify plant diseases and take remedial measures to control them</li><li>• Analyze the relation between plant diseases and crop production</li></ul>
3	<b>Phycology, Bryology and Pteridology</b>	<ul style="list-style-type: none"><li>• Understand the diversity and evolutionary significance of lower plant groups</li><li>• Classification of Algae, Bryophytes and Pteridophytes</li><li>• Analyze the economic and ecological significance of lower plants</li></ul>
4	<b>Methodology and Perspectives in Plant Science</b>	<ul style="list-style-type: none"><li>• Develop scientific temper and problem solving skills</li><li>• Undertake scientific projects and prepare project reports</li><li>• Familiarize the technique of data representation</li><li>• Preparation of permanent slides by applying the histochemical techniques</li></ul>
5	<b>Gymnosperms, Palaeobotany, Phytogeography and Evolution</b>	<ul style="list-style-type: none"><li>• Evolutionary significance of gymnosperms as a connecting link between pteridophytes and angiosperms</li><li>• Realize the importance of fossil study</li><li>• Familiarize with the phytogeographic zones of India</li><li>• Understand the Origin of Earth and life and the process of Organic Evolution</li></ul>

6	<b>Angiosperm Morphology and Systematics</b>	<ul style="list-style-type: none"> <li>• Understand the diverse morphology of angiosperms</li> <li>• Identification and classification of plants based on taxonomic principles</li> <li>• Systematic illustrations of vegetative and reproductive structures of plants</li> <li>• Realize the importance of field study</li> <li>• Nurture an attitude to protect rare and endemic species</li> </ul>
7	<b>Tissue culture, Horticulture, Economic Botany and Ethnobotany</b>	<ul style="list-style-type: none"> <li>• Understand advantages of tissue culture and horticulture over conventional methods</li> <li>• Apply various horticultural practices in the field</li> <li>• Identification of economically important plants</li> <li>• Understand the importance of traditional botanical knowledge</li> </ul>
8	<b>Cell biology and Biochemistry</b>	<ul style="list-style-type: none"> <li>• Understand the ultrastructure and function of plant cell and cell organelles</li> <li>• Draw and explain the structure of biomolecules</li> </ul>
9	<b>Genetics and Plant Breeding</b>	<ul style="list-style-type: none"> <li>• Understand the facts behind heredity and variations</li> <li>• Understand the basic principles of inheritance</li> <li>• Solve problems related to classical genetics</li> <li>• Understand various plant breeding techniques</li> <li>• Realize the role of plant breeding in increasing crop productivity</li> </ul>
10	<b>Biotechnology, Molecular Biology and Bioinformatics</b>	<ul style="list-style-type: none"> <li>• Understand the role of biotechnology in daily life</li> <li>• Analyze the basic aspects of bioinformatics</li> <li>• Explain the concepts in molecular biology</li> </ul>
11	<b>Plant physiology and Metabolism</b>	<ul style="list-style-type: none"> <li>• Explain the physiological processes in plants</li> <li>• Analyze the role of external factors in controlling the physiology of plants</li> <li>• Explain the metabolic processes taking place in plant cell</li> <li>• Understand the energy fixing and energy releasing processes in plant cell</li> </ul>
12	<b>Environmental Science</b>	<ul style="list-style-type: none"> <li>• Realize the importance of ecological studies</li> <li>• Develop environmental concern and practice reduce, reuse, recycle</li> <li>• Develop awareness to reduce pollution and environmental hazards</li> <li>• Spread awareness about biodiversity</li> </ul>

		conservation
13	<b>ELECTIVE: Genetics and Crop Improvement</b>	<ul style="list-style-type: none"> <li>• Understand various techniques employed for increasing crop productivity</li> <li>• General awareness on various crop research stations of the country</li> <li>• Spread awareness about biodiversity conservation</li> <li>• Understand basic principles of heredity and variation</li> <li>• Solve problems related to classical genetics</li> </ul>
14	<b>OPEN COURSE: Applied Botany</b>	<ul style="list-style-type: none"> <li>• Develop general awareness on applied aspects of plant science</li> <li>• Understand the day-to-day role of plants</li> <li>• Application of vegetative propagation methods in everyday life</li> <li>• Analyze the economic importance of plants</li> </ul>

### Complementary Course Outcome

Sl No.	Name of Paper	Course Outcome
1	<b>Angiosperm Anatomy and Microtechnique</b>	<ul style="list-style-type: none"> <li>• Explain the anatomical features of plant organs</li> <li>• Understand the primary and secondary structure of plant organs</li> <li>• Application of histochemical techniques</li> </ul>
2	<b>Cryptogams, Gymnosperms and Plant Pathology</b>	<ul style="list-style-type: none"> <li>• Analyze the role of the lower plants in the process of evolution</li> <li>• Explain the ecological significance of lower plants</li> <li>• Identify plant diseases and take remedial measures to control</li> </ul>
3	<b>Morphology, Systematic Botany, Economic Botany, Plant Breeding and Horticulture</b>	<ul style="list-style-type: none"> <li>• Understand the morphological features of angiosperm</li> <li>• Identification and classification of plants based on taxonomic principles</li> <li>• Make scientific illustrations of vegetative and reproductive structure of plants</li> <li>• Identification of economically important plants</li> <li>• Understand various plant breeding techniques</li> <li>• Application of horticultural practices in the field</li> </ul>

4	<b>Plant physiology, Ecology and Genetics</b>	<ul style="list-style-type: none"><li>• Explain the physiological processes in plants</li><li>• Understand the importance of ecology</li><li>• Spread awareness about biodiversity conservation</li><li>• Understand basic principles of heredity and variation</li><li>• Solve problems related to classical genetics</li></ul>
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