



Master of Science (Botany) Semester - I

Course Code	PS01CBOT54	Title of the Course	LAB-I
Total Credits of the Course	04	Hours per Week	08

Course Objectives:	<ol style="list-style-type: none">1. To observe various lifeforms of different groups of lower plants and seed plants as studied in theory papers.2. To realise the diversity in vegetative and reproductive structures of different groups of plants.
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PS01CBOT54 (Lab IA)
(Diversity of lower plants)

Sr.No.	Practical Exercises
1	Dissect out the different species of bryophytes.
2	Thallus organization of freshwater, marine and terrestrial algae
3	Reproductive structure of freshwater, marine and terrestrial algae
4	Observation of different species of algae from the fixed samples
5	Identification and observation of Algae and their diversity in the nearby water body
6	Collection and identification of bryophytic plants
7	Observation of different species of bryophyte from the fixed samples
8	Observation of different species of pteridophyte from the fixed samples
9	Observation of reproductive structures of bryophytes from permanent slides
10	Observation of anatomical structure of bryophytes from permanent slides
11	Observation of reproductive structures of pteridophytes from permanent slides
12	Observation of anatomical structure of from permanent slides





PS01CBOT54 (Lab IB)
(Diversity of seed plants)

Sr.No.	Practical Exercises
1	Comparative study of anatomy of vegetative and reproductive parts of <i>Cycas</i> , <i>Ginkgo</i> , <i>Cedrus</i> , <i>Abnies</i> , <i>Picea</i> , <i>Cupressus</i> , <i>Araucaria</i> , <i>Cryptomeria</i> , <i>Taxodium</i> , <i>Podocarpus</i> , <i>Agathis</i> , <i>Taxus</i> , <i>Ephedra</i> And <i>Gnetum</i> .
2	Study of important fossil gymnosperms and angiosperms from permanent slides/specimens/photos.
3	Morphological description of different angiosperms to record the diversity among those plants. (This will cover the locally available plant families through repeated lab exercises).
4	Comparative study of floral morphology and diversity of various groups of angiosperms to understand the evolutionary progress among them.
5	Field trips within and around the campus to be conducted for compilation of field notes and preparation of herbarium sheets of a few local plants, wild or cultivated.

Learning Methodology	<p>Practical exercises will be conducted by supplying live collections/fixed materials/ permanent slides of relevant materials.</p> <p>Students will be encouraged to make field surveys of local areas for collection of live materials relevant to their course.</p> <p>Students will be taken on Botanical tour to the forested area within or outside Gujarat state so as to observe and study the diversity among plants in the live condition, make plant collections for lab studies.</p> <p>Students will be required to make relevant plant materials-slides/herbarium or Botanical museum specimens.</p>
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	20%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce and Attendance (As per CBCS R.6.8.3)	10%





3.	University Examination	70%
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Course Outcomes: Having completed this course, students will be able to

1.	Identify and recognise various life forms of lower plants included in their course.
2.	Locate various life forms of lower plants in the field.
3.	Observe evolutionary trend in vegetative and reproductive organs over different groups of lower plants.

References:	
1.	Kumar, H. D. Introductory Phycology. Affiliated East - West Press Ltd., New Delhi.
2.	Parihar, N. S. Bryophyta. Central Book Depot, Allahabad.
3.	Smith, G. M. Cryptogamic Botany (Vol. II) Bryophytes and Pteridophytes. McGraw- Hill.
4.	Sporne, K. K. The Morphology of Pteridophytes. B. I. Publishing Pvt. Ltd., Bombay.
5	Coulter and Chamberlein J. M. 1978. Morphology of Gymnosperms.
6	Eames A J (1961). Morphology of Angiosperms, McGraw Hill Book Co.
7	Esau K. 1962. Plant Anatomy – Anatomy of Seed Plants.
8	Foster A. S. and Gifford E. M. 1959. Comparative Morphology of Vascular Plants.
9	Metcalf C. R. and L. Chalk. 1950. Anatomy of the Dicotyledons
10	Sporne, K. R. 1967. The Morphology of gymnosperms. B. I. Publishing Pvt. Ltd., Bombay.
11	Sporne K R (1974). Morphology of Angiosperms, Hutchinson University Library, London.
12	Vashistha P. C. 1976. Gymnosperms.

