

FIRST YEAR B.Sc. Botany
ALGAE, LICHENS AND BRYOPHYTES

Unit-1

General characters, thallus organisation, pigments and reserve food material in algae. Electron microscopic structure of *Chlamydomonas* and the Cyanophycean cell. Fritsch's Classification and modern trends in classification. Morphology, reproduction and evolutionary relationships in the following : Cyanophyta: *Oscillatoria*, *Nostoc*. Chlorophyta: *Chlamydomonas*, *Volvox*, *Hydrodictyon*

-10 hours

Unit-2

General characters of Xanthophyta, its relationship with Chlorophyta, Morphology and reproduction in Xanthophyta : *Vaucheria*; Chlorophyta : *Coleochaete*; Charophyta : *Chara*. General account of Bacillariophyceae.

-10 hours

Unit-3

Morphology and reproduction in Phaeophyta: *Ectocarpus* ; *Rhodophyta*: *Polysiphonia*. Economic importance of algae. Recent advances in genetics of *Chlamydomonas*.
Lichens: Important features, structure, habitat, importance as colonisers and indicators of environment types

-10 hours

Unit-4

General characters and classification of Bryophytes. The evolutionary trends in thallus structure and sporogonium. Morphology and life history of *Riccia*, *Marchantia* and *Anthoceros*.

-10 hours

Unit-5

Morphology, life history and relationships of *Sphagnum* and *Polytrichum*. Economic and Biological importance of Bryophytes. Recent Advances in Bryological research in India.

-10 hours

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark. All the questions in **Section A** are compulsory. In **Section B**, 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks.

In short, pattern of question paper and distribution of marks for UG classes will be as under:

- **Section A:** 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks : **05**
- **Section B:** 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**
- **Section C:** 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**