

BOT-502**Biology and Diversity of Algae, Bryophyta
and Pteridophyta**

M.Sc. Botany (MSCBOT-12/13/16/17)

First Year, Examination, 2018

Time : 3 Hours**Max. Marks : 80**

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B, C. Attempt the questions contained in these Sections according to the detailed instructions given therein.

Section-A**(Long Answer Type Questions)**

Note : Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Discuss the various methods of vegetative and asexual reproduction in algae with the help of suitable diagrams.
2. Write the general characteristics of Phaeophyta. Describe the life cycle of *Ectocarpus*.
3. Give an illustrated account of gametophyte and sporophyte of *Anthoceros*.
4. Describe the structure and life history of *Equisetum* by giving suitable diagrams.

Section–B**(Short Answer Type Questions)**

Note : Section ‘B’ contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. Write about the colonial or filamentous forms of algae.
2. Enumerate characteristic features of Rhodophyta.
3. Describe the archegoniophore of *Marchantia*.
4. Explain the external structure of *Sphagnum*.
5. How does heterospory lead to seed habit ?
6. Give an illustrated account of *Rhynia*.
7. Describe sexual reproduction in *Chlamydomonas* with the help of suitable diagrams.
8. Draw well labelled diagrams of any *two* of the following :
 - (i) V. T. S. of thallus of *Riccia*
 - (ii) L. S. of strobilus of *Lycopodium*
 - (iii) Ectophloic or Amphiphloic siphonostele
 - (iv) Structure of Nostoc thallus

Section–C**(Objective Type Questions)**

Note : Section ‘C’ contains ten (10) objective type questions of one (1) mark each. All the questions of this Section are compulsory.

Indicate whether the following are True *or* False :

1. *Spirulina* is a protein rich alga.

2. *Acetabularia*, a largest unicellular plant belongs to Cyanophyta.
3. Leafy gametophytes occur in moss.
4. Basal elaterophore is found in capsule of *Marchantia*.
5. The spores of *Rhynia* show typical triradiate markings.

Write correct answer alternative :

6. Father of Indian Phycology is :
 - (a) Prof. M. O. P. Iyenger
 - (b) Dr. Birbal Sahni
 - (c) Prof. S. R. Kashyap
 - (d) Dr. K. C. Mehta
7. Cap cells occur in :
 - (a) Diatoms
 - (b) Dinoflagellates
 - (c) *Euglena*
 - (d) *Oedogonium*
8. Barrel-shaped air pores are found in :
 - (a) *Riccia*
 - (b) *Marchantia*
 - (c) *Anthoceros*
 - (d) *Pellia*
9. In pteridophytes the spore germinates to form :
 - (a) Protonema

- (b) Prothallus
- (c) Sporophyte
- (d) Archegonium

10. The living example of near telome is :

- (a) *Lycopodium*
- (b) *Selaginella*
- (c) *Equisetum*
- (d) *Psilotum*