

BOT–502**Biology and Diversity of Algae, Bryophyta and Pteridophyta****M. Sc. BOTANY (MSCBOT–12/13/16)****First Year, Examination, 2017****Time : 3 Hours****Max. Marks : 80**

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to 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. Give an illustrated account of thallus organisation in Algae.
2. Write the diagnostic features and cell structure of Cyanophyta. Describe the life cycle of *Nostoc* with the help of suitable diagrams.
3. Describe the development and structure of the sporophyte of *Marchantia* and compare it with that of *Pellia*.
4. Describe any *two* fossil Pteridophytes with well labelled 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. Describe the neuromotor apparatus of *Chlamydomonas*.
2. Discuss about the Diplohaplontic life cycle with suitable sketches.
3. Describe sexual reproduction in *Oedogonium*.
4. Explain the development of sporophyte of *Anthoceros*.
5. Describe retrogressive evolution of gametophyte in Bryophytes.
6. Write a note on affinities of Pteridophytes.
7. Mention the different types of steles found in stem of *Lycopodium* with the help of suitable diagrams.
8. Draw neat well labelled diagrams of longitudinal section of strobilii of *Selaginella* and *Equisetum*.

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

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

Indicate whether the following statements are True *or* False :

1. Zoodiogamous type of fertilization is found in bryophytes. (True/False)

2. A Pyrenoid consists of core of fatty acid covered by starch. (True/False)
3. Apical growth in *Psilotum* takes place by the activity of a group of apical cells. (True/False)
4. Agar-agar is obtained from *Gracilaria*. (True/False)
5. Siphonostele is present in the roots of *Equisetum*. (True/False)

Choose the correct alternative :

6. Stonewort is common name of :
 - (a) *Chara*
 - (b) *Nitella*
 - (c) *Oedogonium*
 - (d) *Polysiphonia*
7. Red algae is red due to the presence of :
 - (a) R-Phycocyanin
 - (b) C-Phycocerythrin
 - (c) R-Phycocerythrin
 - (d) C-Phycocyanin
8. Fossilised fuel obtained from *Sphagnum* is :
 - (a) Jar
 - (b) Peat
 - (c) Biogas
 - (d) Petrol
9. Which bryophyte indicates algal ancestry of bryophytes ?
 - (a) *Riccia*

- (b) *Riella*
 - (c) *Anthoceros*
 - (d) Mosses
10. Trabeculated endodermis with casparian strip is found in :
- (a) *Lycopodium*
 - (b) *Selaginella*
 - (c) *Equisetum*
 - (d) *Marsilea*