

## **BOT-502**

### **Biology and Diversity of Algae,, Bryophyta and Pteridophyta**

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

First Year, Examination, 2019

**Time: 3 Hours**

**Max. Marks: 80**

**Note:-** This paper is of Eighty (80) marks containing three (03) Section 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 Question)**

**Note:-** Section 'A' contains four (04) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.  
(2×19=38)

1. Write the diagnostic diagnostic features and cell structure of Rhodophyta. How is sexual reproduction in Rhodophyta different from other groups of algal? Give brief account of cystocarp development in Rhodophyta.
2. Give an illustrated account of thallus structure and sporophyte of Bryophyta Point out the important evolutionary tendencies.

3. Write an detailed account on any two of the following:
  - (a) General account of phaeophyceae.
  - (b) Range of Thallues organization in Algae.
  - (c) Asexual reproduction in Algae.
  
4. Describe the development of gametophyte in *selaginella* and compare it with that of *Lycopodium*.

**Section-B**  
**(Short Answer Type Question)**

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

(4×8=32)

1. General characters of Bacilloriophyceae.
2. Write in brief about 'Algal Bloom'
3. Give a brief account of classification of Bryophytes.
4. Describe various types of steles found in Pteuidophytes.
5. Write a concise note on Rhynia.
6. Differentiate the following:
  - (a) Gometophyte and sporophyte.
  - (b) Leptosporangiate and Eusporangiate development.
  - (c) Rhizoids and scales.
  - (d) Parasitic and Epiphytic Algae.

7. Discuss secondary growth in Pteridophytes.
8. Write a brief comment on Heterospory and seed Habit.

**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.

(10×1=10)

- (A) Indicate whether the following statements are true or false:
- (I) Atgal classification is mainly based on the presence or absence of nucleus, structure of motile calls flagella, kind of Pigments, cell wall structure and nature of reserue food material. (True/false)
  - (II) Phycocyanin is a pigment found in blue green algae. (True/false)
  - (III) The sporophyte of *Riccia* has foot seta and capsule. (True/False)
  - (IV) Pteridophytes are always homosporous where as many bryophytes show heterospory. (True/False)
  - (V) Plant body of *Rhynia* consists of roots stem and leanes. (True/False)

B. Choose the correct alternative:

(VI) Which of the following class of algae contains prokaryotic cells? (True/False)

- (a) Chlorophyceae      (c) xanthophyceae
- (b) Cyanophyceae      (d) Rhodophyceae

(VII) Agar-Agar is obtained from:

- (a) *Gracilaria*
- (b) *Chlorella*
- (c) *Chara*
- (d) *Sargassum*

(VIII) The nurse cell are present in the sporogonium of:

- (a) *Riccia*
- (b) *Marchantia*
- (c) *Anthoceros*
- (d) *Pellia*

(IX) Mixed Protostele is found in:

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

(X) Spike moss is the common name of:

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

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