

B. Sc. Part-I

BOTANY

Paper-III (Algae, Lichens and Bryophyta)

Multiple choice question

1. A motile flagellated asexual cell is:

- (a) Antherozoids
- (b) Zoospores
- (c) Aplanospore
- (d) Akinetes

2. A pigment that is absent in Phaeophyceae is:

- (a) Chlorophyll a
- (b) Chlorophyll b
- (c) β -carotene
- (d) Fucoxanthin

3. *Volvox* is a:

- (a) Colonial form
- (b) Filamentous form
- (c) Parenchymatous form
- (d) Siphonaceous form

4. Gongrosira stage is seen during asexual reproduction in:

- (a) *Batrachospermum*
- (b) *Coleochaete*
- (c) *Sargassum*
- (d) *Vaucheria*

5. Amylum stars are found in:

- (a) *Oedogonium*
- (b) *Chara*
- (c) *Ectocarpus*
- (d) *Polysiphonia*

6. In bryophytes embryonic development of the zygote takes place in the:

- (a) Antheridium
- (b) Sporogonium
- (c) Capsule
- (d) Archegonium

7. Calyptra develops from:

- (a) base of archegonium
- (b) wall of venter
- (c) tissue of the archegoniophore
- (d) none of the above

8. Name a bryophyte which shows *Nostoc* colonies in the thallus:

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

9. The development of sporophyte from gametophyte without gamete formation is called:

- (a) Apogamy
- (b) Apospory
- (c) Heterospory
- (d) Parthenogenesis

10. Bryophytes grow in habitats that are:

- (a) Dry
- (b) Moist
- (c) Salty
- (d) Marshy

11. In which of the following groups would you place a plant which produces spores and embryos but lacks seeds and vascular tissue?

- (a) Bryophytes
- (b) Pteridophytes
- (c) Gymnosperms
- (d) Algae

12. Elaters are not found in the capsule of:

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

13. Fusion between motile gametes of unequal sizes is:

- (a) isogamy
- (b) anisogamy
- (c) dichogamy
- (d) hologamy

14. Oil as reserved food material found in:

- (a) Chlorophyceae
- (b) Xanthophyceae
- (c) Rhodophyceae
- (d) Phaeophyceae

15. The number of tube cells covering the body of nucule in *Chara* is:

- (a) 2
- (b) 4
- (c) 6
- (d) 5

Short answer question

1. What is hormogonia? How are they formed?
2. Why is *Chara* known as stonewort?
3. Discuss pigmentation in algae.
4. Write a note on the economic importance of blue-green algae.
5. Describe the differences between unilocular and plurilocular sporangia of *Ectocarpus*.
6. Describe briefly the development of archegonia in *Riccia*.
7. Write the structure and function of gemma cup.
8. The air pores of *Marchantia* are not called stomata. Why?
9. Write a note on the systematic position of *Anthoceros*.
10. Who is called 'Father of Indian Bryology'?

Long answer question

1. Give an account of the range of thallus organization found in algae.
2. Describe the characteristic features of the different classes of algae as proposed by F.E. Fritsch.
3. Describe with the help of suitable diagrams the reproduction of *Vaucheria*.
4. Describe the development and structure of the sporophyte of *Marchantia*.
5. Give an illustrated account of the sporophyte of *Funaria*.