2024

(CBCS)

(5th Semester)

BOTANY

SIXTH PAPER

(Algae, Lichens, Bryophytes)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(*Marks* : 10)

Tick (✓) the correct answer in the brackets provided : 1×10=10

1. Sexual reproduction is absent in
   (a) blue-green algae ( )
   (b) green algae ( )
   (c) brown algae ( )
   (d) red algae ( )
2. Reserve food of the class Phaeophyceae is
   (a) starch and fat ( )
   (b) chrysose ( )
   (c) laminarin ( )
   (d) floridean starch ( )

3. Isomorphic diplohaplontic life cycle is found in

(a) Bacillariophyceae ( )

(b) Chlorophyceae ( )

(c) Rhodophyceae ( )

(d) Phaeophyceae ( )

4. Antibiotic *Chlorellin* is obtained from the member of

(a) Phaeophyceae ( )

(b) Xanthophyceae ( )

(c) Chlorophyceae ( )

(d) Bacillariophyceae ( )

5. A semi-parasite relationship between the algal and fungal components of a Lichen is termed as

(a) epiphytism ( )

(b) helotism ( )

(c) parasitism ( )

(d) predation ( )

6. One of the asexual reproductive structures of Lichen is

(a) spermogonium ( )

(b) apothecium ( )

(c) carpogonium ( )

(d) isidium ( )

7. Mode of reproduction in bryophytes is

(a) vegetative reproduction only ( )

(b) sexual and asexual reproduction ( )

(c) vegetative and sexual reproduction ( )

(d) asexual reproduction only ( )

8. In the life cycle of bryophytes

(a) the gametophytic phase is very short-lived and completely dependent upon the sporophytes ( )

(b) the sporophytic phase is very short-lived and completely dependent upon the gametophytes ( )

(c) the gametophytic phase is very short-lived and completely independent from the sporophytes ( )

(d) the sporophytic phase is very short-lived and completely independent from the gametophytes ( )

9. Which of the following supports the evidence that bryophytes have the algal ancestry?

(a) Presence of vascular bundle ( )

(b) Presence of thalloid gametophyte ( )

(c) Zygote does not found ( )

(d) Regressive evolution is found ( )

10. Antheridia of bryophyte is

(a) club-shaped ( )

(b) vase-shaped ( )

(c) flask-shaped ( )

(d) globose-shaped ( )

(SECTION : B—SHORT ANSWERS)

(*Marks* : 15)

Write notes on the following : 3×5=15

UNIT—I

1. Spores and resting spores

OR

2. Plurilocular sporangia

UNIT—II

3. Economic importance of algae

OR

4. Heterocyst

UNIT—III

5. Isidia and soredia

OR

6. Ascolichens

UNIT—IV

7. Bryopsida

OR

8. Innovation in *Sphagnum*

UNIT—V

9. Pteridophytes origin of bryophytes

OR

10. Progressive sporophyte evolution

(SECTION : C—DESCRIPTIVE)

(*Marks* : 50)

Answer the following questions : 10×5=50

UNIT—I

1. Give an outline of Fritsch's system of classification of algae. 10

OR

2. Write a brief note on the characteristic features of Cyanophyceae and Rhodophyceae.

UNIT—II

3. Describe the mode of reproduction found in Chlorophyceae with suitable diagram. 10

OR

4. Give an account on the alternation of generation in algae.

UNIT—III

5. Describe the distribution and general characteristic features of Lichens. 10

OR

6. Give an account of the structure and reproduction of Lichens.

UNIT—IV

7. What are bryophytes? Write a note on the classification of bryophytes with suitable examples. 2+8=10

OR

8. With the help of labelled diagram, compare the sporophyte of *Riccia* and *Sphagnum*. 5+5=10

UNIT—V

9. Write an essay on the evolution of sporophytes in bryophytes. 10

OR

10. Write short notes on the following : 5+5=10

(a) Archegonia of *Pellia*

(b) Antheridium of *Polytrichum*

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