2023

(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. The Fritsch's classification of algae is based on

(a) morphology ( )

(b) the mode of reproduction ( )

(c) pigments, flagella, reserved food ( )

(d) their habitats ( )

2. Flagella are absent in

(a) Chlorophyceae and Xanthophyceae ( )

(b) Chrysophyceae and Bacillariophyceae ( )

(c) Dinophyceae and Chloromonadineae ( )

(d) Rhodophyceae and Cyanophyceae ( )

3. The mode of reproduction found in Cyanophyceae is

(a) sexual reproduction ( )

(b) asexual reproduction ( )

(c) sexual and asexual reproduction ( )

(d) vegetative and asexual reproduction ( )

4. The sporophytic generation is represented only by the zygote in case of

(a) haplontic life cycle ( )

(b) diplontic life cycle ( )

(c) diplohaplontic life cycle ( )

(d) Both (a) and (b) ( )

5. Based on their morphological structure of thalli, lichens are classified as

(a) Corticoles, Saxicoles, Terricoles ( )

(b) Crustose, Foliose, Fruticose ( )

(c) Ascolichens, Basidiolichens, Deuterolichens ( )

(d) Homoisomerous, Heteromerous, Cephalopodium ( )

6. Which of the following is a mean of asexual reproduction in lichens?

(a) Carpogonium ( )

(b) Soredium ( )

(c) Spermogonium ( )

(d) Spermatium ( )

7. Which of the following is known as 'peat moss'?

(a) Riccia ( )

(b) Pellia ( )

(c) Sphagnum ( )

(d) Polytrichum ( )

8. Which of the following is true for bryophyte?

(a) There is no alternation of generation ( )

(b) The sporophyte is independent of the gametophyte ( )

(c) The gametophyte is the dominant phase of the life cycle ( )

(d) It has a well-developed vascular system ( )

9. The spore mother cell in bryophytes is

(a) tetraploid ( )

(b) diploid ( )

(c) triploid ( )

(d) haploid ( )

10. Which one of the following supports the evidences that bryophytes have algal ancestry?

(a) The sporophytic phase is very short-lived ( )

(b) Presence of vascular bundle ( )

(c) Zygote does not formed ( )

(d) Amphibian nature ( )

(SECTION : B—SHORT ANSWERS)

(*Marks* : 15)

Write notes on the following in brief : 3×5=15

UNIT—I

1. Pigmentation in algae

OR

2. Flagellation in algae

UNIT—II

3. Reproduction in Chlorophyceae

OR

4. Akinetes

UNIT—III

5. Classification of Lichens

OR

6. Isidium

UNIT—IV

7. Vegetative reproduction in *Sphagnum*

OR

8. Protonema

UNIT—V

9. Archegonia of *Riccia*

OR

10. Various points of algal origin of bryophytes

(SECTION : C—DESCRIPTIVE)

(*Marks* : 50)

Answer the following questions : 10×5=50

UNIT—I

1. Write an account of general characteristics of Cyanophyceae and Xanthophyceae. 10

OR

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

(a) Types of storage products found in algae

(b) Spores and resting phases in algae

UNIT—II

3. Write an account of triphasic life cycle patterns of Rhodophyceae. 10

OR

4. Briefly describe the following : 5+5=10

(a) Economic importance of algae

(b) Haplontic life cycle of algae

UNIT—III

5. Give a detailed account of reproduction in lichen. 10

OR

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

(a) Lichen as an indicator of pollution

(b) Fruticose lichen

UNIT—IV

7. Describe Smith's system of classification of bryophyte with their characters. 10

OR

8. Give accounts on the following : 5+5=10

(a) Archegonia of *Polytrichum*

(b) Antheridia of *Pellia*

UNIT—V

9. Describe the evolution of sporophytes in bryophytes. 10

OR

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

(a) Pteridophyte origin of bryophytes

(b) Structural comparison of archegonia and antheridia in bryophytes

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