K23U 3410

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, November 2023
(2019 to 2022 Admissions)
CORE COURSE IN BOTANY/PLANT SCIENCE
3B03BOT/PLS : Plant Diversity I – Algae and Bryophytes

Time : 3 Hours Max. Marks : 40

***Instruction** : Draw diagram **whenever** specified.*

PART – A

(Objective Type Questions)

Answer **all** : **(4×1=4)**

1. Which among the following is a colonial form of algae ?
   a) *Chlamydomonas* b) *Volvox*
   c) *Cladophora* d) *Polysiphonia*

2. Floridian starch is found as a reserve food material in
   a) Phaeophyceae b) Chlorophyceae
   c) Bacillariophyceae d) Rhodophyceae

3. The presence of pyrenoids in algae is an adaptation to enhance
   a) Reproduction b) Photosynthetic efficiency
   c) Mobility d) Water storage

4. What are rhizoids in *Riccia* ?
   a) Reproductive organs
   b) Spore-producing organs
   c) Anchoring and absorbing organs
   d) Photosynthetic organs

P.T.O.

PART – B

(Short essay questions)

Answer **any eight** : **(8×2=16)**

5. Describe the special features of *Oedogonium* filament.
6. Describe the structure of female sex organ in *Chara*.
7. Explain the significance of Walne's medium in the cultivation of algae. List out its main components.
8. What are the distinctive features of *Pinnularia* diatoms that contribute to their ecological importance in aquatic ecosystems ?
9. Describe the thallus structure of *Ulothrix*.
10. Describe the relationship between algae and bryophytes.
11. What is algal bloom ? Discuss its causes.
12. Describe some common methods for preserving phytoplankton and macroalgae.
13. Describe the salient features of liverworts.
14. Describe the unique reproductive structures found in *Marchantia*.
15. Describe the ecological significance of Bryophytes.
16. Describe various techniques used for the collection and perseveration of Bryophytes.

PART – C

(Essay questions)

Answer **any four** : **(4×3=12)**

17. Explain the cell structure of *Chlamydomonas*. Describe a prominent structural feature that distinguishes them from other unicellular organisms.
18. Describe the process of conjugation in *Zygnema*.

19. Explain the various modes of reproduction in algae.

20. Describe the classification of algae by Fritsch and provide a brief overview of the characteristics that define each group.

21. Explain the economic importance of algae, highlighting their beneficial aspects.

22. Explain the structure of sporophyte in *Anthoceros*.

PART – D

(Long essay questions)

Answer **any one** : **(1×8=8)**

23. Discuss the life cycle, ecological significance and adaptive features of *Sargassum*.

24. Explain the life cycle of *Polysiphonia* with suitable diagrams.

25. Describe the life cycle and ecological significance of *Funaria*.