



K25U 2910

Reg. No. :

Name :

III Semester B.Sc. Degree (C.B.C.S.S. – O.B.E. – Supplementary/
Improvement) Examination, November 2025
(2019 to 2023 Admissions)

CORE COURSE IN BOTANY/PLANT SCIENCE
3B03BOT/PLS – Plant Diversity I – Algae and Bryophytes

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams *wherever* specified.

PART – A
(Objective Type)

Answer **all** questions.

(4×1=4)

1. Laminarin is the reserve food material in which algae ?
 - a) Red algae
 - b) Green algae
 - c) Blue green algae
 - d) Brown algae
2. The type of flagella in Chlamydomonas :
 - a) Whiplash, isokont
 - b) Whiplash, heterokont
 - c) Tinsel, isokont
 - d) Tinsel, heterokont
3. Which of the following is a key nutrient in Walne's medium for culturing algae ?
 - a) Glucose
 - b) Sodium nitrate
 - c) Urea
 - d) Potassium sulfate
4. The primary mode of reproduction in *Marchantia* ?
 - a) Binary fission
 - b) Spore formation
 - c) Vegetative reproduction through gemmae cups
 - d) Fragmentation of the thallus

P.T.O.



PART – B
(Short Essay)

Answer **any 8** questions.

(8×2=16)

5. Enlist the characteristic features of diatoms.
6. List two staining techniques commonly used in algal studies.
7. Explain the colonial organization of *Volvox*.
8. Bryophytes are known as the amphibians of Plant kingdom. Substantiate.
9. Briefly describe the filamentous structure of *Oedogonium*.
10. Identify two distinct features of *Anthoceros*.
11. Explain the function of conceptacles in *Sargassum*.
12. Describe eutrophication and its effects.
13. Explain the origin of carrageenan and enlist its uses.
14. Discuss the methods of qualitative and quantitative estimation in bryophyte studies.
15. Illustrate and label the sporophyte of *Anthoceros*.
16. Briefly describe the gametophytic phase of *Marchantia*.

PART – C
(Essay)

Answer **any four** questions.

(4×3=12)

17. Discuss the affinities between algae and bryophytes, focusing on their evolutionary relationships.
18. Discuss the salient features used in the identification and classification of algae.
19. Compare the asexual reproduction methods in *Volvox* and *Ulothrix*.



20. Discuss the classification of bryophytes.
21. Illustrate and explain the anatomical features of the gametophyte of *Riccia*.
22. Discuss auxospore formation in Bacillariophyceae.

PART – D
(Long Essay)

Answer **any one** question.

(1×8=8)

23. Illustrate and explain the structure and reproductive process in *Vaucheria*.
 24. Enumerate the economic and ecological significance of bryophytes with examples.
 25. Explain the reproductive cycle of *Funaria* in detail, highlighting both asexual and sexual reproduction.
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