

B.Sc. DEGREE EXAMINATION, APRIL 2022
BRANCH V(A) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SECOND SEMESTER

COURSE : MAJOR – CORE
PAPER : BRYOPHYTES, PTERIDOPHYTES AND GYMNOSPERMS
TIME : 3 HOURS MAX. MARKS: 100

SECTION –A

ANSWER ALL QUESTIONS:

I Choose the correct answer: (5 x 1 = 5)

1. The common name Hairy cap moss refers to
(a) *Marchantia* (b) *Polytrichum* (c) *Funaria* (d) *Porella*
2. The stele in which xylem is star shaped refers to
(a) Actinostele (b) Protostele (c) Plectostele (d) Solenostele
3. Sulphur shower observed in pine forest is due to
(a) Female cone (b) Pollen grains (c) Seed (d) Resin
4. The pollination in *Cycas* is
(a) zoophilous (b) entomophilous (c) anemophilous (d) hydrophilous
5. In *Marsilea* the antherozoids are _____ shaped.
(a) spherical (b) oval (c) corkscrew (d) top

II Fill in the blanks: (5 x 1 = 5)

6. The common name club moss refers to _____.
7. The study of fossils of plant life of the geologic past is called as _____.
8. Central core of vascular tissues in higher plants refers to _____.
9. Winged pollen grains is seen in _____.
10. An example for living fossil is _____.

III State whether the following sentences are True or False (3x 1 = 3)

11. *Marsilea* is homosporous.
12. *Gnetum ula* is a woody climber
13. *Lepidodendron* is a fossil Pteridophyte

IV Match the following: (5 x 1 = 5)

14. Bryophytes - Water fern
15. Bars of Sanio - Fossil
16. *Marsilea* - *Cycas*
17. *Stigmara* - Amphibians
18. Sago palm - *Pinus*

- V. Answer any SIX of the following. (6 x 3 = 18)
Each answer not to exceed 50 words:

19. Importance of Gemma cup.
20. Amphiphloic siphonostele.
21. Uses of sphagnum moss.
22. Coralloid root.
23. Importance of Resin canal.
24. Differentiate Urostachya and Rhopalostachya.
25. List any three economic importance of Pteridophytes.
26. *Williamsonia*.
27. Alternation of generation.

SECTION – B

ANSWER ANY FOUR OF THE FOLLOWING IN NOT MORE THAN 200 WORDS.
DRAW DIAGRAMS WHEREVER NECESSARY. (4 x 6 = 24)

28. Explain the internal structure of *Marchantia* thallus.
29. Draw and label the parts of *Polytrichum* L.S of capsule.
30. Classify Pteridophytes according to Reimer.
31. Differentiate male and female cone of *Gnetum*.
32. Discuss the economic importance of Gymnosperms.
33. Explain the importance of Heterospory.

SECTION – C

ANSWER ANY TWO OF THE FOLLOWING IN NOT MORE THAN 1000 WORDS.
DRAW DIAGRAMS WHEREVER NECESSARY. (2 x 20 = 40)

34. Enumerate the salient characteristic features of Bryophytes, and elaborate on the classification of Bryophyta by Proskauer.
35. Discuss in detail the life cycle of *Lycopodium*.
36. Explain in detail the life cycle of *Cycas*.
37. Summarise the Geological time scale table. Add a note on Types of fossilization.
