

B.Sc. DEGREE EXAMINATION, APRIL 2023
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. Marchantia belongs to the class
a) Anthocerotopsida b) Hepaticopsida c) Bryopsida d) None
2. The common name for Lycopodium is
a) Maiden hair fern b) Water fern c) Club moss d) Horse-tail
3. Whose classification followed for Gymnosperms
a) Proskauer b) Reimer c) Bierhorst d) Linnaeus
4. The example for the Gymnosperms -fossil is
a) *Lepidodendron* b) *Lepidocarpon* c) *Stigmaria* d) *Williamsonia*
5. Stellar evolution studied in
a) Bryophytes b) Pteridophytes c) Gymnosperms d) Angiosperms

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

6. The common name for Hepaticopsida is _____.
7. The common name for *Marsilea* is _____.
8. *Gnetum* species resemble characters of _____.
9. Coralloid root is found in _____.
10. _____ fossils are very common one and here the plant part gets covered up by sand or mud.

III State whether the following sentences are True or False (4x 1 = 4)

11. Vascular bundle is absent in *Marchantia*.
12. The other name for strobilus is cone.
13. In *Lycopodium*, the plant body is sporophytic.
14. *Pinus* are a long-lived variety of plants.

IV Match the following:**(4 x 1 = 4)**

15. *Polytrichum* - Coniferopsida
 16. *Marsilea* - Bryopsida
 17. *Marchantia* - Hepaticopsida
 18. *Pinus* - Pteropsida

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

19. What is protostele?
 20. Write notes on the types of leaves in *Cycas*.
 21. Write any three characteristic features of Coniferopsida.
 22. What is heterospory?
 23. Draw and label the structure of male and female cone of *Pinus*.
 24. What is compaction in fossils?
 25. Draw and label the plant body structure of *Marchantia* & *Polytrichum*.
 26. What is Geological time scale?
 27. Distinguish between Compression and Impression.

SECTION – B

**ANSWER ANY FOUR OF THE FOLLOWING IN NOT MORE THAN 200 WORDS.
 DRAW DIAGRAMS WHEREVER NECESSARY.**

(4 x 6 = 24)

28. Describe the structure of Gemma cup of *Marchantia*.
 29. Describe the structure of the sporocarp of *Marsilea*.
 30. Define plectostele and protostele.
 31. Write the characteristic features of Gnetopsida.
 32. Distinguish between the structure of male and female cone of *Pinus*.
 33. Write the economic importance of Bryophytes.

SECTION – C

**ANSWER ANY TWO OF THE FOLLOWING IN NOT MORE THAN 1000 WORDS.
 DRAW DIAGRAMS WHEREVER NECESSARY.**

(2 x 20 = 40)

34. Describe diagrammatic and graphical representation of life cycle of *Polytrichum*.
 35. Give a detailed account on the internal structure of young and old stem of *Gnetum*.
 36. Describe the structure of microsporophyll, megasporophyll and ovule of *Cycas*.
 37. Discuss the different fossil forms of Pteridophyta and Gymnosperms.
