

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11BT/MC/BP24

B.Sc. DEGREE EXAMINATION, APRIL 2014
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 dominant phase in Bryophyte is
a) Sporophytic b) Gametophytic c) Protonema
2. Peristome is present in
a) Polytrichum b) Anthoceros c) Porella
3. The different type of stele is present in the genus of
a) Marsilea b) Equisetum c) Lycopodium
4. Cones of *Lepidostrobus* varies from
a) 5-40 cm b) 5-60 cm c) 5-90 cm
5. In *Cycas* transfusion tissue is seen in
a) Leaflet b) Root c) Petiole

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

6. _____ are called non-vascular cryptogams.
7. _____ are present on capsule wall of the *Anthoceros*.
8. _____ is commonly known as horse tail.
9. *Lepidodendron* appeared during the _____ period.
10. _____ are seed plants that do not produce flowers.

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

11. Sexual reproduction in Bryophytes is oogamous.
12. Circinate vernation is seen in *Porella*.
13. Prothallus is absent in Pteridophytes.
14. The wood of *Cycas* is Manoxylic.

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

- | | |
|-------------------|---------------------------|
| 15. <i>Nostoc</i> | <i>Marsilea</i> |
| 16. Cupule | <i>Equisetum</i> |
| 17. Heterospory | <i>Anthoceros</i> thallus |
| 18. Carinal canal | <i>Gnetum</i> |

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

19. Alternation of generation
20. Amphigastria
21. Prothallus
22. Sporophyll
23. *Williamsonia*
24. Coralloid root of *Cycas*.
25. Protonema.
26. Ovule of *Gnetum*.
27. Sporocarp of *Marsilea*.

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

28. Give the outline of Reimer's classification.
29. Explain the capsule of *Porella* with a labelled diagram
30. Describe the vegetative structure of *Equisetum*
31. Describe the structure of *Lepidocarpon* with a diagram.
32. Explain the male strobilus of *Gnetum*.
33. Give the characteristic features of Hepaticopsida.

SECTION – C

(2 x 20 = 40)

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

34. With the help of labelled diagrams describe the structure of sporocarp of *Marsilea* and add a note on the mode of dispersal of its spores.
35. Give a comparative account of the structure of sporophyte of *Anthoceros* and *Polytrichum*.
36. Write critical notes on *Lepidodendron* and *Stigmaria* with suitable illustrations.
37. Explain the Life cycle of *Cycas*.
