

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

SUBJECT CODE: 11BT/MC/BP24

B.Sc. DEGREE EXAMINATION, APRIL 2012
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. Bryophyta are classified in to
a) 3 classes b) 4 classes c) 5 classes
2. Common name of *Anthoceros* is
a) Liverworts b) hornworts c) bladderworts
3. In *Lycopodium*, actinostele is found in
a) *Lycopodium clavatum* b) *Lycopodium cernuum* c) *Lycopodium serratum*
4. Stigmaria represents the
a) shoot b) root c) stem
5. In *Cycas*, the type of ovule is
a) anatropous b) orthotropous c) campylotropous

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

6. Hygroscopic sterile structures present in the sporangium are called _____ .
7. In *Polytrichum*, spore liberation is regulated by _____ .
8. The cavities in the cortex of *Equisetum* stem are called _____ .
9. In *Marsilea*, the stele of the rhizome is _____ .
10. In *Cycas*, algal zone is present in _____ .

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

11. Capsule of *Anthoceros* is not fully dependent on the thallus.
12. *Equisetum* is known as maiden hair fern.
13. *Williamsonia* belongs to the Devonian period.
14. *Gnetum* stem has vessels.

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

- | | | |
|-----|-------------------|--------------------|
| 15. | <i>Porella</i> | Carinal canal |
| 16. | <i>Anthoceros</i> | Transfusion tissue |
| 17. | <i>Equisetum</i> | Nostoc |
| 18. | <i>Cycas</i> | amphigastria |

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

19. Antherozoids.
20. Morphology of gametophyte of *Porella*.
21. Apogamy
22. Cone of *Lycopodium*.
23. Terrestrial characters of *Marsilea*.
24. Structure of *Lepidostrobos*.
25. Perichaetium.
26. Economic importance of *Cycas*.
27. Structure of female flower of *Gnetum*.

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

28. Summarise the characteristic features of Gnetopsida.
29. Describe the structure of Capsule of *Anthoceros*.
30. Give the structure of *Equisetum* cone.
31. Describe the structure of *Lepidodendron*.
32. Describe the capsule of *Polytrichum*.
33. Give an account of the morphology of female and male cone of *Cycas*.

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

34. Give a detailed account on the classification of Bryophytes.
35. Describe reproduction in *Lycopodium*.
36. Describe the structure of *Marsilea* sporocarp.
37. Explain the life cycle of *Gnetum*.
