

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 2015
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. Calyptra is seen in
a) Sporophyte b) gametophyte c) antheridium d) archegonium
2. Pseudo elaters are seen the sporophyte of
a) *Porella* b) *Anthoceros* c) *Polytrichum* d) *Gnetum*
3. Spores of Pteridophytes are
a) Diploid b) triploid c) haploid d) tetraploid
4. *Lycopodium* is commonly called as
a) Horse tail b) Quill wort c) Stone wort d) Club moss
5. Inverted omega shaped vascular bundle is seen in *Cycas*
a) Normal root b) rachis c) leaflet d) stem

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

6. In *Porella* the small leaves of the ventral row is known as -----.
7. The elaters are hygroscopic in nature and helps in the dispersal of -----.
8. *Equisetum* belongs to the class -----.
9. *Marsilea* is generally found in ----- habitat.
10. In *Cycas* ----- are aggregated to form Male cone.

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

11. *Porella* belongs to the class Hepaticopsida.
12. *Lycopodium* is heterosporous Pteridophyte.
13. *Stigmaria* is a fossil Gymnosperm.
14. *Gnetum ula* is a woody climber.

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

- | | |
|---------------------|----------------------|
| 15. Carinal canal | Leaf traces |
| 16. <i>Marsilea</i> | <i>Equisetum</i> |
| 17. Tapetum | circinnate vernation |
| 18. <i>Cycas</i> | Nutritive layer |

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

19. Two characteristics of Pteropsida.
20. *Porella* archegonium.
21. *Polytrichum* gametophyte.
22. Internal structure of *Marsilea* petiole.
23. What is Protocorm?
24. *Lycopodium* strobilus.
25. External morphology of *Williamsonia*
26. *Cycas* antherozoid.
27. Two angiosperm characters of *Gnetum*.

SECTION – B

(4 x 6 = 24)

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

28. Give the classification of Pteridophytes by Reimer.
29. Enumerate the salient features of the class Hepaticopsida.
30. Describe the internal structure of *Anthoceros* thallus.
31. Describe the salient features of *Lepidodendron*.
32. Give an illustrated account of *Marsilea* sporocarp.
33. Explain the anatomy of *Gnetum* young stem.

SECTION – C

(2 x 20 = 40)

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

34. Describe the structure of *Polytrichum* mature sporophyte.
35. Write an account on the different types of steles found in *Lycopodium*.
36. Enumerate the structure and reproduction of *Equisetum*.
37. Explain the internal structure of *Cycas* leaflet and coralloid root.
