

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2008 -09 & thereafter)

SUBJECT CODE: BT/MC/BP24

B.Sc. DEGREE EXAMINATION, APRIL 2009
BRANCH V(A) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SECOND SEMESTER

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

SECTION –A

ANSWER ALL QUESTIONS:

I Choose the correct answer: (5 MARKS)

1. Club moss is the common name for
a. *Lycopodium* b. *Equisetum* c. *Marsilea*
2. Pseudoelaters are seen in the sporophyte of
a. *Porella* b. *Polytrichum* c. *Anthoceros*
3. Inverted omega shaped ring of Vascular bundle are found in
a. *Cycas* leaflet b. *Cycas* stem c. *Cycas* rachis
4. *Gnetum ula* is a
a. parasite b. woody climber c. shrub
5. *Porella* belongs to the class
a. Hepaticopsida b. Anthocerotopsida c. Bryopsida

II Fill in the blanks: (5 MARKS)

6. *Nostoc* colonies are seen inside the thallus of _____.
7. In *Equisetum* carinal canals are formed by the disintegration of _____ elements.
8. *Marsilea* is generally found in _____ habitat.
9. The sterile upper portion of the megasporophyll of *cycas* is called _____.
10. The leaves of _____ resembles with dicotyledons.

III MATCH THE FOLLOWING: (4 x 1 = 4)

- | | | |
|------------------------|---|-------------|
| 11. Peristome | - | Gametophyte |
| 12. Equisetum | - | cycas stem |
| 13. Prothallus | - | horse tail |
| 14. Girdle leaf traces | - | capsule |
| | - | sporophyte |

IV STATE TRUE OR FALSE (4 x 1 = 4)

15. *Williamsonia* is a fossil Pteridophyte.
16. The antherozoids of *Equisetum* are multiciliate.
17. The secondary vascular tissue in *Gnetum* shows annual rings.
18. *Lycopodium* is a homosporous form.

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

19. What is amphigastria?
20. Give the structure of *Gnetum* seed.
21. Write notes on *Stigmaria*.
22. Mention any three characters of Lycopsidea.
23. What are tubers?
24. Write notes on antherozoids of *Cycas*.
25. Give an account of strobilus.
26. What is operculum?
27. Write about circinate vernation.

SECTION – B**ANSWER ANY FOUR OF THE FOLLOWING: (4 x 6 = 24)
Draw diagrams wherever necessary.**

28. Give an account on the external features of gametophyte of *Porella*.
29. Enumerate the general characters of Bryopsida.
30. Describe the structure of sporophyte of *Equisetum*.
31. Draw T.S. of *Marsilea* petiole and label the parts.
32. Write short notes on *Lepidocarpon*.
33. Describe the structure of *Cycas* male cone.

SECTION – C (2 x 20 = 40)**ANSWER ANY TWO OF THE FOLLOWING:
Draw diagrams wherever necessary.**

34. With the help of diagram explain the internal structure of sporophyte of *Anthoceros*.
35. Give an account on the types of stele in various species of *Lycopodium*.
36. Write an illustrated account on *Lepidodendron*.
Add a note on the internal structure of the stem.
37. Describe the anatomy of *Cycas* leaflet and coralloid root with suitable diagram.
