

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 2013
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)

- The main plant body of Bryophytes are
a. Gametophyte b. Sporophyte c. Gametophyte & Sporophyte d. All the above.
- In Polytrichum spore liberation is regulated by
a. Operculum b. Peristome c. Columella d. Annulus
- Protocorm formation occurs in
a. Marsilea b. Equisetum c. Lycopodium d. All the above.
- The root fossils of lycopods is described under the generic name
a. Lepidostrobus b. Lepidodendron c. Lepidocarpon d. Stigmaria
- Gnetum when not in flowering can be mistaken for a
a. Dicot plant b. Tree Fern c. Monocot d. None of the above

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

- _____ are also called as vascular cryptogams.
- The smaller leaves of the ventral row in *Porella* are called _____.
- Sporangium developing from a group of initials is said to be _____.
- Cycas* rachis has _____ shaped vascular bundle.
- The Branch of botany that deals with fossil Plants is called _____.

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

- Porella* is a dioecious plant .
- Water is needed for the fertilization of Pteridophytes .
- Fossils are those plants which are now extinct.
- Presence of vessel is a characteristic feature of *Gnetum*.

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

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|----------------------|---|-----------------|
| 15. Hepaticopsida | - | Megaspore. |
| 16. Vallecular canal | - | Coralloid root. |
| 17. Lepidocarpon | - | Liver worts. |
| 18. Algal zone | - | Equisetum. |

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

19. Alternation of generation
20. Prothallus
21. Protonema
22. Sporocarp
23. Circinate vernation
24. Pycnoxylic Wood
25. Lepidostrobus
26. Williamsonia
27. Male cone 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. Describe the internal structure of *Anthoceros* sporophyte.
29. Describe the structure of Sporogonium in *Porella*.
30. With neat diagram describe the internal structure of *Marsilea* rhizome.
31. Compare the cone structure of *Lycopodium* and *Equisetum*.
32. Write short notes on *Stigmaraia*.
33. Elucidate the internal structure of ovule 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. Bring out the classification of Pteridophytes.
35. Write an essay on the stelar structures found in *Lycopodium*.
36. Write a critical note on *Lepidodendron*.
37. Discuss the male and female gametophytes of *Gnetum*.
