

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086

(For candidates admitted from the academic year 2010 –11)

SUBJECT CODE: BT/MC/AE44

**B.Sc. DEGREE EXAMINATION, APRIL 2012
BRANCH V(a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FOURTH SEMESTER**

**COURSE : MAJOR – CORE
PAPER : ANATOMY AND EMBRYOLOGY OF ANGIOSPERMS
TIME : 3 HOURS MAX. MARKS: 100**

SECTION-A

A. ANSWER THE FOLLOWING (1x18=18)

I. Choose the correct Answer

1. The _____meristem lies at the apex of the stem & root of vascular plants.
(a) apical (b) Intercalary (c) Lateral.
2. Monocotyledonous stem vascular bundles are surrounded by _____sheath.
(a) Parenchymatous (b) sclerenchymatous (c) Collenchymatous.
3. Epidermal cells show some special structure like_____
(a) Bulliform cells (b) Bast fibre (c) Osteosclereids
4. In_____the megaspore mother cell undergoes meiotic division and form haploid embryosac.
(a) Adventive embryony (b) Non recurrent apomixis (c) Recurrent apomixis.
5. The _____is the first cell of male gametophyte.
(a) Pollen grain (b) Pollen Sac (c) Pollentube.

II. Fill in the blanks:

6. The _____ cambium is present in between two vascular bundles.
7. Cambial cells are composed of fusiform & _____ initials.
8. Tunica – Corpus theory was postulated by _____.
9. _____ is an example of anomalous primary growth showing cortical bundles.
10. An erect ovule is also known as an_____ ovule.

III. State true or false

11. The pith of dicot stem is parenchymatous.
12. Companion cell is specialized type of collenchyma cell.
13. The guard cells are responsible for opening and closing of stomata.
14. Double fertilization occurs in the embryosac.

IV. Match the following

- | | |
|-------------------|----------------------|
| 15. Passive cells | (a) Monocot leaves |
| 16. Isobilateral | (b) duramen |
| 17. Heart wood | (c) nutritive tissue |
| 18. Tapetum | (d) quiescent centre |

V. ANSWER ANY SIX FROM THE FOLLOWING :**(6x3=18)**

19. Phelloderm
20. Dendrochronology
21. Anomalous growth
22. Ruminant Endosperm
23. Xylem rays
24. Parthenocarpy
25. Intercalary Meristem
26. Obturator
27. Monocot embryo

SECTION-B

ANSWER ANY FOUR OF THE FOLLOWING IN ABOUT 200 WORDS. (4x6=24)
DRAW DIAGRAMS WHEREVER NECESSARY.

28. Explain the structure and various components of secondary Phloem.
29. Explain the secondary growth in dicot root.
30. Describe the anatomy of Isobilateral Monocot leaf.
31. Give a brief account on Leaf Abscission.
32. Define double fertilization with example.
33. Describe the structure and development of Dicot embryo – *Capsella*.

SECTION-C

ANSWER ANY TWO OF THE FOLLOWING IN ABOUT 1000 WORDS. (2x20=40)
DRAW DIAGRAMS WHEREVER NECESSARY.

34. Give an account of the structure, classification and role of Meristems.
35. Explain in detail anomalous secondary growth in Dicot.
36. Give an account of nodal anatomy in angiosperms. Describe the various epidermal appendages you have studied.
37. Give a detailed account of Microsporogenesis & Structure of male gametophyte.
