

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

SUBJECT CODE: 11BT/MC/AE44

B.Sc. DEGREE EXAMINATION, APRIL 2015
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. In which meristem do you see cell divisions occurring in all the planes?
a) Plate meristem b) Rib meristem c) Mass meristem d) Ground meristem.
2. Highly specialised parenchyma accompanying the sieve tube members in Angiosperms is
a) Companion cells b) Albuminous cells c) Aerenchyma d) All of them.
3. Which of the following can be seen in monocot root?
a) No pith b) Medullary ray c) Endarch xylem d) Large pith
4. In angiosperms, leaf gap is found in
a) Internode b) Node c) Shoot apex d) Petiole.
5. The nutritive layer in the anther is
a) Endothecium b) Tapetum c) Stomium d) Archegonium.

II. Fill in the blanks:

6. The lateral meristem forming the periderm is -----.
7. Determining the age of a tree is called -----.
8. An imperforate xylem element is a -----.
9. Shedding of plant organs such as leaves, flowers & Fruits is called -----.
10. The entry of the pollen tube into the ovule through the integuments is -----.

III. State True or False

11. Hanstein proposed the Tunica-Corpus theory.
12. The first formed element of primary xylem is protoxylem.
13. Numerous vascular bundles are scattered in the ground tissue of the monocot stem.
14. Occurrence of more than one embryo in a seed is parthenocarpy.

IV. Match the following

15. NPC system - (a) Phloem
16. Transfer cell - (b) Radial
17. Endarch - (c) Pollen grain
18. Root - (d) Xylem

V. ANSWER ANY SIX OF THE FOLLOWING QUESTIONS IN 50 WORDS EACH:**(6x3=18)**

19. Define meristem.
20. Explain sap wood and its uses.
21. Draw a neat labelled diagram of Lenticel.
22. Write any 2 properties of Phloem fibres.
23. Explain unilacunar node.
24. Draw a neat labelled diagram of T.S. of monocot leaf.
25. Draw a neat labelled diagram of young dicot root.
26. Define leaf abscission.
27. Define endosperm. Name the different types.

SECTION-B**ANSWER ANY FOUR OF THE FOLLOWING QUESTIONS IN ABOUT 200 WORDS EACH. DRAW DIAGRAMS WHEREVER NECESSARY.****(4x6=24)**

28. Explain the structure and development of vascular cambium.
29. Give a brief account on reaction wood.
30. Explain the anatomy of an old dicot stem.
31. Define stomata. Explain the different types studied by you.
32. Write a brief account on commercial bark.
33. Explain the development of monocot embryo.

SECTION-C**ANSWER ANY TWO OF THE FOLLOWING QUESTIONS IN ABOUT 1000 WORDS EACH. DRAW DIAGRAMS WHEREVER NECESSARY.****(2x20=40)**

34. Explain the organisation of shoot and root apex.
35. Describe the primary anomalous features in dicot stem.
36. Explain anomalous secondary thickening in Dracaena.
37. Explain the development of different types of female gametophyte.
