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 2014

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 Commercial cork is nothing but a dead tissue with thickened wall by the deposition of

a.Cuticle b.Cellulose

c.Lignin d. Suberin.

2. Tunica Corpus theory was proposed by

a. Hofminister b. Nageli

c. Strasburger . d. Schmidt.

3. The lateral root arises out of the

a. Epidermis b. Cortex.

c. Pericycle d. Phloem.

4. The stomata remain surrounded by two subsidiary cells which are parallel to the long axis of the pore and guard cells is called as

a. Paracytic b. Anisocytic

c. Diacytic d. Anomocytic

5. The product of second fertilization (fusion) will lead to the formation of

a. Embryo b. Endosperm

c. Perisperm d. Cotyledons.

II. Fill in the blanks:

6. Plerome gives rise to _____.

7. The walls of the xylem vessels produce balloon like outgrowths into the lumen of the vessels called as_____.

8. Amphivasal vascular bundles are present in _____.

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9. A node with several gaps and traces associated with single leaf is called as_____.

10. An embryo may sometimes develop from a cell of an embryo sac other than egg is called _____.

III. State True or False

11. Bicollateral vascular bundles are common in *Cucurbita* stem.

12. The youngest layer of secondary xylem in a woody stem is located just on the inner side of the cambium.

13. The living element found in xylem is the Vessel.

14. The epibasal octant gives rise to plumule and hypocotyl.

IV. Match the following

15. Casparian strips	a. hydathodes
16. Tapetum	b. annual ring
17. Water secreting glands	c. endodermis
18. Vascular cambium	d. anther

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

19. Quiescent centre
20. Vessels
21. Vascular bundles in monocot stem.
22. Unilacunar node.
23. Lenticels
24. Heart wood
25. Bundle cap
26. Cellular endosperm
27. Dendrochronology.

SECTION-B

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

28. Describe Histogen theory.
29. Explain the structure of Phloem tissue.
30. Describe the primary structure of monocot stem.
31. Explain the structure of stomata and its types.
32. Explain the various types of ovules.
33. Describe the types of endosperms.

SECTION-C

ANSWER ANY <u>TWO</u> OF THE FOLLOWING QUESTIONS IN ABOUT 1000 WORDS EACH. DRAW DIAGRAMS WHEREVER NECESSARY. (2x20=40)

34. Describe in detail the apical organization of shoot apex.
35. Explain the process of secondary growth in a typical dicot root.
36. Describe the internal structure of an isobilateral leaf.
37. Trace the development of a female gametophyte with reference to *Allium*.

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