

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086

(For candidates admitted from the academic year 2004-05 thereafter)

SUBJECT CODE: BT/MC/AA44

B.Sc. DEGREE EXAMINATION, APRIL 2009

**BRANCH V(a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FOURTH SEMESTER**

COURSE : MAJOR – CORE

PAPER : ANATOMY OF ANGIOSPERMS

TIME : 3 HOURS

MAX. MARKS: 100

SECTION –A

ANSWER ALL QUESTIONS

I. CHOOSE THE CORRECT ANSWER: (8 MARKS)

1. Quiescent center is seen in
a. Root apex b. Shoot apex c. Leaf apex d. in all of the above
2. Albuminous cells are associated with
a. Sieve cells b. Sieve tube c. xylem vessel d. Parenchyma
3. The thin walled cells opposite to the protoxylem of the root
a. Endodermis b. passage cell c. pericycle d. cortex
4. Amphivasal bundles are seen in
a. *Boerhaavia* b. *Dracaena* c. *Cucurbita* d. *Nyctanthus*
5. The guard cells of grass stomata are
a. dumbbell shaped b. kidney shaped c. circular d. elliptical
6. Apical cell theory was proposed by
a. Esau b. Nageli c. Popham d. Clowes
7. P – proteins are present in
a. Xylem b. Passage cell c. Pericycle d. Phloem
8. Fusiform initials gives rise to
a. parenchyma b. ray cell c. vascular tissues d. only xylem

II. MATCH THE FOLLOWING: (5 MARKS)

- | | | |
|----------------------------------|---|-------------------|
| 9. Calyptra | - | <i>Cucurbita</i> |
| 10. Trichosclereid | - | Root cap |
| 11. Bicollateral vascular bundle | - | <i>Eucalyptus</i> |
| 12. Scattered Vascular bundle | - | Aerenchyma |
| 13. Isobilateral leaf | - | Monocot stem |

III. FILL IN THE BLANKS: (5 MARKS)

14. The leaf of *Allium* is _____ in nature.
15. The leaf gets cut off at the _____ region
16. Sap wood is also known as _____.
17. Fibres grows by _____ growth.
18. Openings in the cork layers are known as _____.

IV. ANSWER ANY SIX IN 50 WORDS: (6 x 3 = 18)

19. Intercalary meristem
20. Totipotency
21. Radial bundle
22. Cortical bundle
23. Amphivasal bundle
24. Duramen
25. Osteosclerid
26. callose
27. Promeristem

SECTION – B**V. ANSWER ANY FOUR IN 200 WORDS EACH: (4 x 6 = 24)
DRAW DIAGRAMS WHEREVER NECESSARY**

28. Explain the theories connected with the shoot apex.
29. Write short account on the types of stomata.
30. Explain annual rings. Bring out the significance.
31. Explain the distribution of parenchyma in secondary xylem.
32. Write an account of quiescent center and korpper kappae theory.
33. Differentiate between dorsiventral and isobilateral leaf.

SECTION - C**VI. ANSWER ANY TWO IN 1000 WORDS EACH: (2 x 20 = 40)
DRAW DIAGRAMS WHEREVER NECESSARY**

34. Define tissues and bring out the structure, function of the simple tissues studied by you.
35. Write an account of the anomalous behaviour of the cambium in Bignonia and Beta root.
36. Write an account on the protective tissues of dicots and monocots add a note on commercial Cork.
37. Give an account of the abscission of leaf.
