

MAR IVANIOS COLLEGE (AUTONOMOUS) THIRUVANANTHAPURAM

Reg. No. :....

Name :....

Max. Marks: 80

First Semester Career Related B.Sc. Degree Examination, November 2015

First Degree Programme under CBCSS

Core Course – I: (for Botany and Biotechnology)

AUBB141: Angiosperm Anatomy and Reproductive Botany

(for 2015 Admissions Only)

Time: 3 Hours

SECTION – A

Answer ALL the following each in a word or as short notes.

- Study of pollen grains present in honey is denoted by which term ? 1.
- 2. What is 'pollen kitt'?
- 3. Name the soft tissue in the angiosperm ovary to which the ovules are attached.
- 4. What is the ploidy level of angiosperm nucellus ?
- What is spongy parenchyma? 5.
- Define dendrochronology? 6.
- 7. How the xylem and phloem are arranged in an amphicribral vascular bundle?
- Grittiness of the pear and sapota fruit pulp is due to the presence of which type of 8. cells?
- What are plasmodesmata? 9.
- 10. Calcium and magnesium pectate are mainly present in which region of the plant cell wall?

 $(10 \times 1 = 10 \text{ Marks})$

SECTION – B

Answer any **EIGHT** questions, not exceeding one paragraph.

- 11. Differentiate between simple and bordered pits.
- i). cystolith and ii). raphid 12. Write notes on
- 13. Differentiate between primary and secondary meristems.

1203

- 14. What is a complex tissue ? Mention two examples.
- 15. Draw a labeled diagram of stomata and list out the functions of stomata.
- 16. What are the major differences between heart wood and sap wood ?
- 17. What are annular rings ?
- 18. Write a note on the different types of tapetum seen in angiosperm anthers.
- 19. 'The endosperm of angiosperms is triploid.' Why?
- 20. What are pollinia ? Mention any one angiosperm family in which plants producing pollinia are included.
- 21. Differentiate between porogamy and chalazogamy.
- 22. With the help of a labeled diagram illustrate the structure of a typical dicot embryo.

 $(8 \times 2 = 16 \text{ Marks})$

SECTION - C

Short essay type : Answer any SIX questions.

- 23. Write a note on the structure of pollen wall.
- 24. Explain the process of male gametogenesis in angiosperms.
- 25. Differentiate between the primary structure of monocot and dicot stems.
- 26. With the help of suitable diagrams explain the various types of simple tissues seen in plants.
- 27. Elaborate on 'Histogen theory'.
- 28. What are tyloses ? How they are formed ?
- 29. How the meristems are classified on the basis of their position ? Add a note on the different types.
- 30. What is polyembryony ? Explain the causes of polyembryony.
- 31. With the help of a labeled diagram explain the structure of a dorsiventral leaf.

(6 × 4 = 24 Marks)

SECTION – D

Long essay type : Answer any **TWO** questions.

- 32. With the help of a labeled diagram explain the primary structure of a typical dicot root. How it differs from that of a monocot root ?
- 33. Explain the process of secondary thickening in *Dracaena* stem.
- 34. Describe the Allium type of embryosac development.
- 35. List out the various components of xylem tissue. With the help of suitable diagrams explain the different types of thickenings seen on the walls of xylem vessels.

 $(2 \times 15 = 30 \text{ Marks})$