



**MAR IVANIOS COLLEGE (AUTONOMOUS)**  
**THIRUVANANTHAPURAM**

Reg. No.:.....

Name:.....

**First Semester B.Sc. Degree Examination, November 2015**

**First Degree Programme under CBCSS**

**Core Course: Botany – I**

**AUBO141: Angiosperm Anatomy, Reproductive Botany and Palynology**

*(for 2015 Admissions Only)*

Time: **3 Hours**

Max. Marks: **80**

**SECTION – A**

*Write short notes on ALL the following.*

1. Pollinium
2. Plasmodesmata
3. Paracytic stomata
4. Bicollateral vascular bundles
5. Chalazogamy
6. Lenticels
7. Pollen kitt
8. Double fertilization
9. Sclereids
10. Quiescent centre

**(10 × 1 = 10 Marks)**

**SECTION – B**

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

11. Define dendrochronology. How are annular rings formed ?
12. What are the components of periderm ?
13. Differentiate between lysigenous and schizogenous ducts.
14. Describe the anatomy of a dicot leaf.

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15. Distinguish between amphivasal and amphicribal vascular bundles.
16. Explain the formation of endosperm tissue in angiosperms. What is its function ?
17. Explain Korper – Kappe theory.
18. What are cystaliths and raphides ?
19. Describe laticifers.
20. Write a note on pollen grain germination.
21. What are bulliform cells ?
22. What are hydathodes ?

**(8 × 2 = 16 Marks)**

**SECTION – C**

*Short essay type : Answer any SIX questions.*

23. What is sclerenchyma ? What is its function ?
24. Describe Allium type of embryo sac development.
25. Why is xylem called a complex tissue ? What are its components ?
26. Explain any two theories relating to the organization of shoot apex in dicotyledons.
27. Give an account on the different types of tapetum.
28. With neat labelled diagrams, describe the structure of a mature embryo sac.
29. Write a short note on secondary thickening in Dracaena stem.
30. Write a note on the ultra – microscopic structure of the cell wall in plants.
31. What is palynology ? Describe its economic and taxonomic importance.

**(6 × 4 = 24 Marks)**

**SECTION – D**

*Long essay type : Answer any Two questions.*

32. With neat labelled diagrams, give an account on microsporogenesis and the structure of the mature anther in Angiosperms.
33. Give an illustrated account on the anomalous secondary thickening in *Bignonia* stem.
34. What are ergastic substances ? Describe in detail, with examples, the various types of ergastic substances in plants.
35. With illustrations, describe in detail the stages of secondary thickening in a normal dicot stem.

**(2 × 15 = 30 Marks)**

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