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MAR IVANIOS COLLEGE (AUTONOMOUS) THIRUVANANTHAPURAM

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First Semester Career Related B.Sc. Deg	ree Examination, November 2016
First Degree Programn	ne under CBCSS
Core Course – I: (for Botan	y and Biotechnology)
AUBB141: Angiosperm Anatomy	and Reproductive Botany
(Common for Regular – 2016 Admn. an	nd Improvement – 2015 Admn.)
Time: 3 Hours	Max. Marks : 80

SECTION - A

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

- 1. Bulliform cells.
- 2. Duramen

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- 3. Annular rings.
- 4. Lenticels
- 5. NPC system.
- 6. Medullary ray.
- 7. Casparian strips.
- 8. Dimorphic tapetum.
- 9. Calyptrogen
- 10. Primary pit fields.

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

SECTION - B

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

- 11. Differentiate endothecium from endothelium.
- 12. Comment on intussusception and apposition.
- 13. What is companion cell? Discuss about its functions.
- 14. Explain the methods of entry of pollen tubes in to the ovule.

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- 15. What are cystoliths? Draw diagram.
- 16. Differentiate between monocot and dicot stomata.
- 17. What are alkaloids? Cite two examples.
- 18. Describe the structure of a mature pollen grain.
- 19. Explain palynology in relation to taxonomy.
- 20. Explain about tyloses.
- 21. Describe the vascular bundle of Dracaena.
- 22. How meristems were classified based on the plane of division?

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

SECTION - C

Short essay type: Answer any SIX questions.

- 23. Describe the pattern of cell wall thickening in tracheary elements.
- 24. Describe the types of stomata with examples and diagrams.
- 25. Elaborate on "Histogen theory".
- 26. Give a brief account on microsporogenesis.
- 27. Write an account on periderm formation.
- 28. Describe the types of sclereids with illustrations.
- 29. Describe the types of ovules.
- 30. With diagram, explain dorsiventral leaf.
- 31. Describe a method for testing the viability of pollen grains.

 $(6 \times 4 = 24 \text{ Marks})$

SECTION - D

Long essay type: Answer any TWO questions.

- 32. Discuss the various theories concerned with the organization of the shoot apex.
- 33. Compare and contrast between the primary structure of dicot and monocot stem.
- 34. Describe the anomalous secondary thickening in Bignonia stem.
- 35. Describe the structure of a mature embryosac. Add a note on Adoxa type embryosac development.

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