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H-2116

Reg. No. :

Name :

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

Complementary Course for Zoology, Home Science and Biotechnology

**BO 1131 : MICROTECHNIQUE, ANGIOSPERM ANATOMY AND
REPRODUCTIVE BOTANY**

(2019 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

I. Answer **ALL** questions. Each question carries **1** mark.

1. Name a fixative.
2. Give an example for a lateral meristem.
3. Who proposed the apical-cell theory?
4. Differentiate protoxylem and metaxylem.
5. What are root hairs? What is its function?
6. Given an example for a simple permanent tissue.
7. What is dendrochronology?
8. Differentiate open and closed vascular bundles.
9. What is the function of endosperm?
10. The plumule of the embryo develops into _____ (10 × 1 = 10 Marks)

P.T.O.

SECTION – B

II. Answer any **EIGHT** of the following. Each carries **2** marks.

11. What is meant by counter staining? Give one example.
12. Explain the structure of vascular bundle in monocot stem.
13. Describe the classification of meristem based on its position.
14. What is meant by concentric vascular bundles?
15. What are the functions of parenchyma?
16. Name the components of xylem.
17. Differentiate collateral and bi-collateral vascular bundles.
18. Differentiate heartwood and sapwood.
19. What is tapetum? What is its function?
20. Differentiate exine and intine.
21. What is triple fusion?
22. Describe pollinium. **(8 × 2 = 16 Marks)**

SECTION – C

III. Answer any **SIX** of the following not more than **120** words. Each question carries **4** marks.

23. What are the purposes of killing and fixation in microtechnique?
24. Discuss the characteristics of meristematic cells.
25. Describe the Korper-Kappe theory with a diagram.
26. Give a detailed account on the components of phloem.

27. Explain the anatomy of dicot leaf.
28. Compare and contrast the stelar structure of dicot and monocot root.
29. Draw a labeled cellular diagram of the primary structure of dicot stem.
30. Briefly describe the structure of dicot embryo.
31. Explain the classification of ovules. **(6 × 4 = 24 Marks)**

SECTION – D

- IV. Write an essay on any **TWO** of the following. Each carries **15** marks.
 32. Write an essay on anomalous secondary thickening in *Boerhaavia* with a labeled cellular diagram.
 33. Explain the theories of apical organization of shoot apex. Draw neat diagrams.
 34. Write an essay on structure, classification and functions of simple permanent tissues.
 35. Explain the structure of *Polygonum* type of embryo sac with a labeled diagram. **(2 × 15 = 30 Marks)**
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