**(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2024 ONLY)**

**24UBY304**

**REG.NO. :**

**N.G.M. COLLEGE (AUTONOMOUS): POLLACHI**

**END-OF-SEMESTER EXAMINATIONS: NOVEMBER-2025**

**B.Sc.-BOTANY** **MAXIMUM MARKS: 75**

**SEMESTER: III** **TIME: 3 HOURS**

## PART – III

## PLANT ANATOMY AND EMBRYOLOGY

### SECTION – A (10 X 1 = 10 MARKS)

**ANSWER THE FOLLOWING QUESTIONS.**

**MULTIPLE CHOICE QUESTIONS. (K1)**

1. Histogen theory was proposed by_____.
   a) Nageli b) Schmidt c) Hanstein d) Clowes

2. Open vascular bundles seen in _____.
   a) Dicot stem b) Dicot root c) Monocot stem d) Monocot root

3. The space found above the leaf trace is _____.
   a) Leaf pit b) Lacuna c) Pit d) Pit membrane

4. The embryosac in ---------- is monosporic and eight nucleated.
   a) Polygonum b) Aralia c) Justicia d) Bombax

5. Double fertilization is a unique process for --------- groups of plants
   a) Algae b) Fungi c) Gymnosperms d) Angiosperms

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)**

6. Define redifferentiation.

7. What is guttation?

8. What are bulliform cells?

9. Define monoecious flower.

10. Explain triple fusion.

### SECTION – B (5 X 5 = 25 MARKS)

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)**

11. a) Explain tunica and corpus theory involved in the differentiation of meristem.

**(OR)**

b) How do you classify Vascular bundles?

12. a) Discuss the Primary structure of Dicot root.

**(OR)**

b) Explain dendrochronology with suitable sketch.

**(CONTD…….2)**

13.a) Describe epidermal tissue.

**(OR)**

b) Examine the structure of Isobilateral leaf.

14.a) Elaborate the structure of male reproductive organ in angiosperms.

**(OR)**

b) Concise the structure of Ovule.

15.a) Explain double Fertilization.

**(OR)**

b) Differentiate dicot and monocot embryo based on the development.

**SECTION – C (5 X 8 = 40 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K4 (Or) K5)**

16. a) Describe the structure and functions of simple tissues.

**(OR)**

b) Differentiate water conducting tissue with food conducting tissue.

17.a) Describe anomalous secondary growth in dicot stem.

**(OR)**

b) Compare primary structure of dicot and monocot stem.

18. a) Examine the classification of nodal anatomy.

**(OR)**

b) Illustrate the internal morphology of dorsiventral leaf.

19. a) Concise the structure and development of megasporogenesis.

**(OR)**

b) Highlights the stages of microsporogenesis.

20.a) Write an essay on polyembryony.

**(OR)**

b) Distinguish between the types and functions of endosperm with a neat sketch.

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