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(FOR THE CANDIDATES ADMITTED

DURING THE ACADEMIC YEAR 2022 ONLY)

24PBY205

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : MAY-2025
COURSE NAME: M.Sc.-BOTANY **MAXIMUM MARKS: 75**
SEMESTER: II **TIME : 3 HOURS**

PLANT ANATOMY AND EMBRYOLOGY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. **In which of the following plant groups does phloem tissue first appear?**

a) Mosses b) Ferns c) Gymnosperms d) Angiosperms

2. T**he following is a key factor in the initiation of lateral roots in plants?**

a) Increase in leaf size b) Presence of root hairs

c) Increased cell division in the pericycle d) Absence of root cap

3. **The vegetative cell in a pollen grain is responsible for**

a) Forming the sperm cells b) Developing into the pollen tube

c) Carrying out meiosis d) Fertilizing the egg cell

4. **In environmental science, palynology can help to**

a) Track the migration of birds

b) Assess the impact of deforestation on plant populations

c) Study soil erosion patterns

d) Monitor the health of aquatic ecosystems

5. **The seed coat develops from**

a) Ovary b) Integuments of the ovule c) Endosperm d) Pollen tube

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

6. Define cork cambium

7. What is the nature of vascular bundle in dicot leaf

8. Comment on stomium

9. Recall the process of double fertilization

10. Find the hormone responsible for shoot induction

SECTION – B (5 X 5 = 25 MARKS)

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

11. a) Interpret the organization of root apex

(OR)

b) Describe the formation of periderm

(CONTD……2)

12. a) Sketch the differentiation in vascular structure of primary root

(OR)

b) Find the anatomical characterization of petiole

13. a) Assess the stages in the development of microsporangium

(OR)

b) How do you classify the pollen

14. a) Show the organization of female gametophyte

(OR)

b) Examine the types of endosperms

15. a) Discover the causes inducing polyembryony

(OR)

b) Enlist the commercial importance of parthenocarpy

SECTION – C (5 X 8 = 40 MARKS)

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

16. a) Point out the theories proposed on Shoot apex

(OR)

b) Outline the phylogenetic trends in the differentiation of xylem

17. a) Prioritize the secondary growth in dicot stem

(OR)

b) Evaluate the types of glands and its significance

18. a) Investigate the morphology and ultrastructure of microspores

(OR)

b) Determine the mechanism to overcome incompatibility

19. a) Conclude the haustorial behavior of embryosac

(OR)

b) Discuss the various stages in the development of dicot embryo

20. a) Categorize the induction factors and importance of apomixis

(OR)

b) Justify the morphological and biochemical changes in fruit development

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