

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2025 ONLY)

25PBY205

REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS : APRIL- 2026

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.
MULTIPLE CHOICE QUESTIONS.**

(K1)

- Which gives rise to the cork tissue?
a) Periblem b) Phellogen c) Phelloderm d) Periderm
- How many radial vascular bundles are found in dicot roots?
a) Four b) Six c) Two d) One
- Which of the following statements is correct?
a) Sporogenous tissue is haploid
b) The hard outer layer of pollen is called intine
c) Tapetum nourishes the developing pollen
d) Microspores are produced by endothecium
- Functional megaspore in a flowering plant develops into
a) Endosperm b) Ovule c) Embryo-sac d) Embryo
- Which of the following fruit is produced by parthenocarpy?
a) Brinjal b) Apple c) Banana d) Jackfruit

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

(K2)

- Discuss the main function of the cork cambium.
- Estimate the significance of secretory tissues in plant cell
- Indicate the types of tapetum.
- Why is megasporogenesis important?
- How does apomixis lead to polyembryony?

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a) Find out the various theories on shoot apex organization.

(OR)

- b) Elaborate the structure and functions of Periderm.

- 12.a) Determine the types of nodal anatomy encountered in angiosperms.

(OR)

- b) Compare and contrast anatomy of dicot and monocot leaves.

(CONTD 2)

- 13.a) Analyze the structure of microsporangium.
(OR)
b) Compute the applications of palynology in higher plants.
- 14.a) Write the structure and organization of mature embryo sac.
(OR)
b) Estimate the biological significance of double fertilization and triple fusion.
- 15.a) Organize types and applications of parthenocarpy.
(OR)
b) Determine the role of seed in fruit development. Add notes that it is important.

SECTION – C**(5 X 8 = 40 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.****(K4 (Or) K5)**

16. a) Illustrate the structure and functions of xylem elements.
(OR)
b) Examine the origin, structure and function of cambium in angiosperms.
- 17.a) Dissect the primary structure of dicot stem.
(OR)
b) Classify the types of stomata in higher plants
18. a) Organize methods and mechanism to overcome self-incompatibility in plants.
(OR)
b) Why is pollen-pistil interaction important?- Discuss in detail
- 19.a) Assess the structure and development of female gametophyte in flowering plants.
(OR)
b) Simplify the types and applications of endosperm.
- 20.a) Interpret the types and practical significance of apomixis.
(OR)
b) Predict the types and applications of polyembryony.
