

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2021 ONLY)

21UBY304

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS: DECEMBER-2022
COURSE NAME: B.Sc.-BOTANY **MAXIMUM MARKS: 70**
SEMESTER: III **TIME : 3 HOURS**

PART - III

ANATOMY AND EMBRYOLOGY

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS. (K1)

- Which of the following is not a permanent tissue?
a) xylem b) cambium c) phloem d) bark cells
- Choose a plant from the following which is a monocot that shows secondary growth like tissue.
a) *Zea* b) *Tridax* c) *Dracaena* d) *Boerhavia*
- Select the answer which is not related to nodal anatomy_____.
a) leaf gap b) leaf trace c) intercalary meristem d) petiole
- In angiosperms, the endosperm is product of _____.
a) polar cell b) fertilized polar nuclei c) degenerated polar nuclei d) sporophyte
- Which of the following is not essential for pollination?
a) CO₂ b) viable pollen c) receptive stigma d) viable egg

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

- What is differentiation of cells?
- Define the primary structure of plants.
- What are xerophytic plants?
- Which plays the role of male gametophyte in angiosperm?
- What is parthenocarpy?

SECTION – B (5 X 4 = 20 MARKS)

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

- a) Explain the typical structure of vascular bundles in dicots
(OR)
b) List down the characters of meristems.

- 12.a) Brief the secondary growth of dicots.
(OR)
b) How will you differentiate anomalous secondary growth from normal secondary growth?
- 13.a) Compare and contrast the anatomy of dicot and monocot leaves.
(OR)
b) Apply the xerophytic adaptations to *Casuarina*
- 14.a) Discuss the various types of ovules.
(OR)
b) Critically evaluate the development of typical female gametophytes.
- 15.a) List the advantages of double fertilization.
(OR)
b) Classify the types of endosperms.

SECTION - C**(4 X 10 = 40 MARKS)****ANSWER ANY FOUR OUT OF SIX QUESTIONS****(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS
(FROM Qn. No : 17 to 21) (K4 (Or) K5)**

16. Elaborate the mitosis cell division with suitable diagrams.
17. Apply the apical meristem theories to shoot apex.
18. Give a detailed account of secondary growth of dicot stem.
19. Elaborate the types of stomata.
20. Analyse the megasporogenesis in *Polygonum*
21. Explain the stages of embryo development in *Capsella*.
