

**2025/FYUG/ODD/SEM/
BOTDSM-201T/226**

FYUG Odd Semester Exam., 2025

BOTANY

(3rd Semester)

Course No. : BOTDSM-201T

(Plant Anatomy and Embryology)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

UNIT—I

Answer any *two* of the following questions :

2×2=4

- (a) Differentiate between leaf anatomy of monocots and dicots.
- (b) Write the features of meristematic tissue.
- (c) Define aerenchyma and chlorenchyma.

(2)

2. Answer any one of the following questions :
- (a) Give a detailed account of theories regarding shoot apical meristem.
 - (b) Give an elaborate account of complex tissues. Differentiate between tracheids and vessels.

UNIT—II

3. Answer any two of the following questions :
- (a) Write a note on ground tissue system.
 - (b) Differentiate between heartwood and sapwood.
 - (c) Write about seasonal activity of cambium.

4. Answer any one of the following questions :
- (a) Describe anatomical adaptations in xerophytes with necessary diagrams.
 - (b) Give a detailed account of various types of vascular bundles in plants with necessary diagrams.

(3)

UNIT—III

5. Answer any two of the following questions : $2 \times 2 = 4$
- (a) Draw and label structure of a typical flower.
 - (b) Write the functions of flower.
 - (c) Write a note on structure of pollen.
6. Answer any one of the following questions : 10

- (a) Describe organization and ultra-structure of a mature embryo sac with necessary diagrams. $8 + 2 = 10$
- (b) Give an account of various types of ovules with diagrams. $6 + 4 = 10$

UNIT—IV

7. Answer any two of the following questions : $2 \times 2 = 4$
- (a) Write a note on pollen-pistil interaction.
 - (b) What is double fertilization?
 - (c) Point out the advantages of self-pollination.

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(Turn Over)

8. Answer any *one* of the following questions :

- (a) Give an illustrated account of contrivances for cross pollination. Differentiate between self and cross pollination. 10
7+3=10
- (b) Describe various seed dispersal mechanisms. Draw structure of a monocot seed. 10
7+3=10

UNIT—V

9. Answer any *two* of the following questions :

- (a) Write a note on embryo-endosperm relationship. 4
2×2=4
- (b) Define polyembryony.
- (c) Draw and label mature dicot embryo.

10. Answer any *one* of the following questions : 10

- (a) Define apomixis. Describe causes and applications of apomixis. 10
2+4+4=10
- (b) What is endosperm? Describe various types of endosperm. Point out the functions of endosperm. 10
2+6+2=10