

**2024/FYUG/ODD/SEM/
BOTDSM-201T/079**

FYUG Odd Semester Exam., 2024

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

1. Answer any *two* from the following : $2 \times 2 = 4$
 - (a) Write the characteristics of meristematic tissue.
 - (b) Distinguish between simple tissue and complex tissue.
 - (c) What is root cap? State its function.

2. Give an account of the classification of meristematic tissue based on origin, position and function. 10

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(Turn Over)

(2)

OR

3. Discuss the different types of complex tissues with diagram. 10

UNIT—II

4. Answer any two from the following : 2×2=4

- (a) Write a note on sapwood.
(b) Diagrammatically represent the types of vascular bundles found in stems.
(c) What is aerenchyma? State its function.

5. What is adaptation? Give an account of the anatomical adaptations found in hydrophytes with necessary diagrams. 1+(6+3)=10

OR

6. Write a detailed note on vascular cambium. State its function. 8+2=10

UNIT—III

7. Answer any two from the following : 2×2=4

- (a) Draw the typical structure of pollen with labelled diagram.
(b) Write the functions of tapetum.
(c) Write a note on orthotropous ovule.

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(Continued)

(3)

8. Describe the wall structure of a mature anther. 10

OR

9. Describe the different types of ovules with diagrams. 10

UNIT—IV

10. Answer any two from the following : 2×2=4

- (a) What are protandry and protogyny?
(b) State the advantages of self-pollination.
(c) Write a note on the parachute mechanism of seed dispersal.

11. What is cross-pollination? Describe the adaptive features of insect pollinated flowers. Explain the mechanism of pollination in *Salvia*. 1+4+5=10

OR

12. Define fertilization. Describe the process of pollen-pistil interaction. 2+8=10

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(4)

UNIT—V

13. Answer any *two* from the following : $2 \times 2 = 4$

(a) Draw a labelled diagram of mature dicotyledonous embryo.

(b) Write a note on adventive embryony.

(c) What is double fertilization?

14. Define polyembryony. Describe the different types of polyembryony. State the role of polyembryony in plant breeding and horticulture. $2+6+2=10$

OR

15. What are embryos? What are the different types of embryo development in dicotyledons? $2+8=10$

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