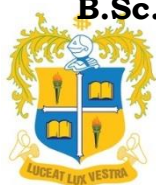


LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

FIRST SEMESTER – NOVEMBER 2024

UPB 1502 – PLANT ANATOMY AND EMBRYOLOGY



Date: 13-11-2024

Dept. No.

Max. : 100 Marks

Time: 09:00 am-12:00 pm

SECTION A - K1 (CO1)

Answer ALL the Questions

(10 x 1 = 10)

1. Fill in the blanks

- a) The special type of parenchyma seen in aquatic plants is _____.
- b) Bicollateral vascular bundles are seen in _____.
- c) The dark-coloured portion of the wood is called _____.
- d) The outer wall of pollen is called _____.
- e) Coconut is an example for _____ endosperm.

2. State whether the following statements are TRUE or FALSE

- a) Apical meristem is responsible for increase in girth.
- b) Tunica Corpus theory holds good for cryptogams.
- c) Anisocytic stomata is also known as cruciferous type of stomata.
- d) Tapetum is nutritive in function.
- e) Coleoptile develops into shoot system.

SECTION A - K2 (CO1)

Answer ALL the Questions

(10 x 1 = 10)

3. Choose the correct answer

- a) Bast fibers are obtained from
a. Phloem b. xylem c. cortex d. mesocarp
- b) Histogen theory was proposed by
a. Schmist b. Schneider c. Hanstein d. Golgi
- c) Dendrochronology is related to study of
a. leaf b. stomata c. roots d. stem
- d) Anemophily is pollination by
a. insects b. wind c. water d. bats
- e) Polyembryony is seen in
a. Citrus b. Pear c. Peas d. Bean

4. Answer the following, each in about 50 words

- a) List the features of sclereids.
- b) Define intercalary meristem.
- c) Distinguish between paracytic and diacytic stomata.

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|-----------------------------|--|
| d) | Expand NPC. |
| e) | Comment on triple fusion. |
| SECTION B - K3 (CO2) | |
| | Answer any TWO of the following in 500 words (2 x 10 = 20) Draw diagrams / flowcharts wherever necessary |
| 5. | Explain the features of parenchyma. Add a note on its types. |
| 6. | Explain the theories on organization of apical meristem. |
| 7. | Discuss the structure of pollen grain. |
| 8. | Write notes on the types of ovules. |
| SECTION C – K4 (CO3) | |
| | Answer any TWO of the following in 500 words (2 x 10 = 20) Draw diagrams / flowcharts wherever necessary |
| 9. | Write notes on the features of collenchyma. Add a note on its types. |
| 10. | Describe the types of vascular bundles. |
| 11. | Explain the anatomy of monocot root. |
| 12. | Enumerate the features that favour cross pollination. |
| SECTION D – K5 (CO4) | |
| | Answer any ONE of the following in 1000 words (1 x 20 = 20) Draw diagrams / flowcharts wherever necessary |
| 13. | Compare the anatomical features of dicot and monocot stem. |
| 14. | Describe the anatomy of dorsiventral and isobilateral leaf. |
| SECTION E – K6 (CO5) | |
| | Answer any ONE of the following in 1000 words (1 x 20 = 20) Draw diagrams / flowcharts wherever necessary |
| 15. | Elaborate on the structure of a mature anther. |
| 16. | Describe the endosperm, their types and functions. |

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