

2024

4th Semester Examination

BOTANY (Honours)

Paper : GE 4-T

[CBCS]

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

(Plant Anatomy and Embryology)

Group - A

Answer any **five** of the following : $2 \times 5 = 10$

1. What is cork cambium? Give example and where it is found?
2. Write the difference between fusiform cells and ray cells and where it is found?
3. Write the difference between heart wood and sap wood with example.
4. What is an ovule?
5. Define apomixis. Give an example.

P.T.O.

(2)

6. What is polyembryony? Give an example.
7. State the role of epidermis in plants.
8. Distinguish between meristematic and permanent tissues.

Group - B

Answer any *four* of the following : $5 \times 4 = 20$

9. Illustrate the secondary growth in root.
10. Describe the stomata structure and functions. $2+3$
11. Write a short note on double fertilization.
12. Describe the types of ovules with labelled drawings.
13. Mention the function of endosperm. Describe different types of it. $2+3$
14. What do you mean by seed dispersal? Give an account on seed dispersal by explosive mechanism. $2+3$

Group - C

Answer any *one* of the following : $10 \times 1 = 10$

15. Mention the adaptive features of xerophytic and hydrophytic plants.
16. What is an embryo sac in plants? Briefly explain the organization of mature embryo sac with labelled diagram. $2+8$

(5)

OR

(Plant Physiology and Metabolism)

Answer any *five* questions : $2 \times 5 = 10$

1. Define guttation.
2. What is facilitated diffusion?
3. What is P-protein?
4. What are day neutral plants? Give example.
5. What are the components of ETC?
6. What is competitive inhibition?
7. Write down the difference between active and passive transport.
8. Write the full form of TCA cycle and CAM.

Group - B

Answer any *four* questions : $5 \times 4 = 20$

9. Describe the mechanism of ascent of sap.
10. Which one among the Calcium and Zinc is micronutrient?
Discuss the functions of Calcium and Zinc in plants.
1+4
11. Give an account on transport of ions across cell membrane.

P.T.O.

(6)

12. What is substrate level phosphorylation? Mention the steps where substrate level phosphorylation occurs during breakdown of glucose. 2+3
13. Describe the C_2 cycle with suitable diagram.
14. Write a note on the role of red and farred light responses on photomorphogenesis.

Group - C

Answer any **one** question : 10×1=10

15. Explain the mechanism of opening and closing of stomata. Write down the differences between C_3 and C_4 cycle. 6+4
16. Describe briefly the process of non-cyclic photophosphorylation in photosynthesis. Briefly mention the physiological roles of auxin and gibberellins. 5+5

বঙ্গানুবাদ

বিভাগ - ক

যে কোনো পাঁচটি প্রশ্নের উত্তর দাও। ২×৫=১০

- ১। Guttation কি?
- ২। সহজতর প্রসারণ কি?
- ৩। পি-প্রোটিন কি?
- ৪। 'Day neutral' উদ্ভিদ কি? উদাহরণ দাও।
- ৫। প্রতিযোগিতামূলক বাধা কি?