

D5BBT2104

Reg.No.....

Name:

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

(Regular/Improvement/Supplementary)

BOTANY

GBOT5B09T: PLANT PHYSIOLOGY

Time: 2 Hours

Maximum Marks: 60

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 20 Marks)

1. Mention the impact of photorespiration in plants.
2. Discuss the role of guard cells in opening and closing of stomata.
3. What are the differences between simple diffusion and facilitated diffusion?
4. List out the difference between active and passive uptake of mineral ions.
5. What is meant by red drop in photosynthesis?
6. Enumerate the merits and demerits of transpiration.
7. What is photorespiration? Mention its significance.
8. What is impaction? Give examples.
9. Define water potential. Write its components.
10. Enlist the differences between chlorophyll a and chlorophyll b.
11. How does pant tolerate heavy metal stress?
12. List out the major functions of jasmonate.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 30 Marks)

13. According to Curtis (1926) "Transpiration is regarded as a necessary evil". Discuss.
14. "Water is considered as a universal solvent". Explain.
15. Differentiate between active and passive absorption of water.
16. Explain the ecological advantages of CAM plants.
17. What is Nitrogen fixation? Write a note on different types of nitrogen fixation.
18. Describe the structure of a seed.
19. Differentiate between epigeal germination and hypogeal germination.

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. Explain the mechanism of photosynthetic electron transport.
21. Define plant stress. Explain the effects of drought stress and its mechanism in plants. How does a plant overcome drought stress?

(1 x 10 = 10 Marks)