

TB245312L

Reg. No : .....

Name : .....

BACHELOR'S DEGREE (C.B.C.S.) EXAMINATION, February 2024  
2021 ADMISSIONS SUPPLEMENTARY (SAY)  
SEMESTER V - CORE COURSE (BOTANY)  
BO5B07B18 - Plant Physiology and Biochemistry

Time : 3 Hours

Maximum Marks : 60

Part A

I. Answer any Ten questions. Each question carries 1 mark

(10x1=10)

1. What are hydathodes? What is its significance?
2. How do the concentration of substrates affect respiration?
3. What is phloem loading and unloading?
4. 'Anaerobic respiration is less efficient than aerobic respiration'. Substantiate.
5. Define RQ. What is its significance?
6. What is thigmonasty? Give an example.
7. Expand ABA. What is its significance?
8. Why are some plants called short day plants? Give an example for a short day plant.
9. What is meant by buffer capacity?
10. Write the structure of maltose.
11. What are the general features of lipids?
12. What are natural fats? Write its general structure.

Part B

II. Answer any Six questions. Each question carries 5 marks

(6x5=30)

13. 'Transpiration is a necessary evil'. Analyze this statement.
14. State the differences between cyclic and non-cyclic photophosphorylation.
15. What is Munch's mass flow hypothesis? Explain the theory with respect to translocation of organic solutes.
16. Discuss Blackman's law of limiting factors.
17. What is allelopathy? How is it significant as a plant defense mechanism?
18. With the help of suitable diagrams explain the electrodes of a pH meter.
19. Write notes on classes of lipids.
20. Describe active site of enzymes.
21. Explain enzyme action with the help of induced fit theory.

Part C

III. Answer any Two questions. Each question carries 10 marks

(2x10=20)

22. Write an essay on the theories that explain water transport in plants.
23. Write an essay on the carbon reduction cycle in C3 plants.
24. What is stress physiology? Write an essay on the plant responses to abiotic stress and its coping mechanisms.
25. Describe with examples the various classes of carbohydrates.

