K24P 3325

Reg. No. : .....

Name : .....

**III Semester M.Sc. Degree (C.B.S.S. – Supple./Imp.)**
**Examination, October 2024**
**(2021 and 2022 Admissions)**
**BOTANY**
**BOT3C10 : Plant Physiology**

Time : 3 Hours Max. Marks : 60

***Instruction :*** *Draw diagrams* ***wherever*** *necessary.*

SECTION – A

1. a) Explain and differentiate photosynthesis in C3 and C4 plants.

   OR

   b) Describe the light and dark reaction.

2. a) Write an account on aerobic respiration and explain how it is efficient than anaerobic respiration.

   OR

   b) Explain physiological and biochemical changes during seed germination.

**(2×8=16)**

SECTION – B

Answer **any two**. **(2×6=12)**

3. a) Write about photoreceptors.
   b) Explain electron transport chain.
   c) Write about chemi osmotic mechanism of ATP formation. **(1+2+3)**

4. a) Explain Gibbs free energy concept.
   b) Write a note on Movement of water through soil.
   c) Write about types of soil. **(1+2+3)**

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5. a) Write about water stress.
   b) Explain stress resistance in plants.
   c) Write about stress resistant genes. **(1+2+3)**

SECTION – C

Answer **any six**. **(6×3=18)**

6. Explain role of minerals in plant growth.
7. Write about seed dormancy and mechanisms for breaking dormancy.
8. Explain movement of water within plant.
9. Write about a method for producing a saline stress tolerant transgenic plant.
10. Explain photorespiration and its significance.
11. Write a note on nitrogen cycling.
12. Explain types of phytohormones and its role.
13. Explain food reserve mobilization in seeds.

SECTION – D

Answer **any seven**. **(7×2=14)**

14. Write about signal transduction.
15. Explain cohesion tension theory.
16. Write a note on chemical properties of water.
17. Explain cold stress tolerance mechanism in plants.
18. Differentiate ripening and senescence.
19. Explain the factors affecting transpiration.
20. Write about calmodulin and aquaporins.
21. Write a note on cyanide resistant respiration.
22. Give an account of water absorption in halophytes.
23. Write about shoot root ratio.

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