

M.Sc. (Botany) Semester - 3 (CBCS) Examination
OCT/NOV-2025 (AS PER SYLLABUS YEAR JUNE-2019)
Plant Physiology (Core (New))

Time: 2:30 Hours**Marks:70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

SECTION- I

- Que.1 Answer the following
- (A) Write a short note on phosphorus cycle with reference to plants. (07)
 - (B) Explain in detail the process of transpiration. (07)
- OR
- Que.1 Elaborate on the term 'Macronutrients'. Explain the major Macro nutrients in detail. (14)
- Que.2 Answer the following
- (A) C₄ cycle. (07)
 - (B) Photorespiration. (07)
- OR
- Que.2 Describe the Glycolysis process with labelled diagram in the plant cells. (14)
- Que.3 Answer the following (any seven) (07)
- 1) State the difference between adsorption and absorption.
 - 2) Explain – Water potential
 - 3) What is photorespiration?
 - 4) Explain the importance of lipid synthesis in Plants cells.
 - 5) State major factors affecting rate of photosynthesis
 - 6) Give any two examples of C₃ plants
 - 7) Define the term 'trace elements'
 - 8) What is the role of electron transport chain?

SECTION- II

- Que.1 Explain in detail the mechanism of breaking seed dormancy. (14)
- OR
- Que.1 Write short notes on
- (A) Ethylene (07)
 - (B) Jasmonic acid (07)
- Que.2 Describe the growth indices – RGR, LWR and NAR (14)
- OR
- Que.2 Write short note on:
- (A) Shoot apex modification (07)
 - (B) Photomorphogenesis (07)
- Que.3 Answer the following (any seven) (07)
- 1) What do you mean by climate resilience?
 - 2) What is heat stress physiology?
 - 3) Explain the importance of Brassinosteroides
 - 4) State the significance of auxin hormone in plants
 - 5) How can we observe 'Growth and development in plants?'
 - 6) What are growth regulators in plants?
 - 7) What is polyamines?
 - 8) Define the term vernalization.
