

2025

BOTANY — HONOURS

Paper : CC-13

(Plant Physiology)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer **any five** questions : 2×5
 - (a) Why root pressure is not considered as a mechanism for ascent of water to the top of a tree?
 - (b) What is triple response of Ethylene?
 - (c) What is apoptosis?
 - (d) What is photoperiodic induction?
 - (e) What do you mean by 'P' Protein?
 - (f) Mention the role of critical day length in flowering.
 - (g) Mention the deficiency symptoms caused by potassium and magnesium.
 - (h) What is soil-plant Atmosphere continuum concept?
2. Answer **any two** questions : 2+3
 - (a) What is chelating agent? How do chelates benefit plants? 5
 - (b) Write down the roles of Brassinosteroids as plant growth regulator. 5
 - (c) Describe in brief the mechanism of phloem loading and unloading. 5
3. Answer **any three** questions : 2+2+1+5
 - (a) Name the disease and causal organism from which Gibberellins were discovered. What are bioactive GA? Give one example. Write down the role of Gibberellin in seed germination. 3+4+3
 - (b) What are phytochrome and cryptochromes? How does phytochrome regulates flowering in SDP and LDP? Discuss the role of phototropins in photomorphogenesis. 2+4+4
 - (c) Write down the differences between dormancy and quiescence. Discuss about the causes of dormancy and methods of breaking dormancy. 2+4+4

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- (d) Enumerate the composition of phloem sap. Discuss the mass flow hypothesis. What are the drawbacks of this hypothesis? 3+5+2
- (e) Discuss the role of CO₂ and ABA in stomatal movement. Distinguish between senescence and ageing. 3+3+4
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