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 :

   (a) What is chelating agent? How do chelates benefit plants? 2+3

   (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 :

   (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. 2+2+1+5

   (b) What are phytochrome and cryptochromes? How does phytochrome regulates flowering in SDP and LDP? Discuss the role of phototropins in photomorphogenesis. 3+4+3

   (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 CO_2 and ABA in stomatal movement. Distinguish between senescence and ageing. 3+3+4
