

2023

## 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
- What is 'antitranspirant'? Give one example.
  - What do you mean by 'Richmond and Lang effect'?
  - What is 'Biological Clock'?
  - What are the components of water potential in plant system?
  - Write down the chemical structure of a naturally occurring auxin.
  - What is P-Protein?
  - What is critical day length for flowering?
  - Give the chemical structure of kinetin.
2. Answer **any two** questions :
- Mention the roles of Molybdenum and Nickel in plant metabolism. 2½+2½
  - Briefly discuss cavitation and embolism in plants. 5
  - Discuss the role of low-temperature in flowering. 5
3. Answer **any three** questions :
- 'The Pressure flow model is a passive transport mechanism.'— Comment critically. Describe the mechanism of phloem loading in plants. 6+4
  - Describe the integrative role of light, CO<sub>2</sub> and ABA in stomatal movement. 4+3+3
  - Write short notes on :
    - Role of Brassinosteroids in cell expansion and cell division in shoots of plants.
    - Role of Cytokinin and Ethylene in Senescence. 5+5
  - Describe the chemical nature of Cryptochrome and Phototropins. Discuss their role in photomorphogenesis. 5+5
  - Discuss different methods of breaking seed dormancy. Briefly describe the biochemical changes associated with the process of seed germination. 4+6
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