

UG/5th Sem(H)/23/(CBCS)

2023

**BOTANY (Honours)**

**Paper Code : BOTH DC-11**

**[Plant Physiology]**

Full Marks : 25

Time : Two Hours

*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 of the following :  $1 \times 5 = 5$

- (i) Define water potential.
- (ii) What is the triple effect?
- (iii) Define symport. Give an example.
- (iv) Mention the role of Molybdenum (Mo) in plant nutrition.
- (v) Name one naturally occurring Cytokinin.
- (vi) What is the function of P-protein?
- (vii) What is radial micellation?
- (viii) What do you mean by Critical day (CD) length?

P.T.O.

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2. Answer any *four* questions of the following :  $3 \times 4 = 12$

- (i) Distinguish between antiport and uniport. Give an example of carrier protein.  $2+1$
  - (ii) Briefly describe structure of Phytochrome B with diagram. Which Phytochrome type is prevalent in angiosperms?  $2+1$
  - (iii) Briefly describe the mechanism of phloem loading in higher plants.
  - (iv) Distinguish between innate and induced dormancy of seeds with examples.
  - (v) Enumerate any three physiological role of Gibberellic acid (GA) in plant.  $2+1$
  - (vi) Discuss the role of ABA in controlling stomatal movement in plants.
  - (vii) Discuss the role of Phosphorus (P) and Manganese (Mn) in plant. Write one deficiency symptom of Boron (Bo).  $2+1$
3. Answer any *one* question of the following :  $8 \times 1 = 8$
- (i) Define transpiration. State the different factors that control the rate of transpiration. Outline the role of blue light in stomatal opening and closing.  $1+3+4$
  - (ii) Differentiate between active and passive absorption of ions. Describe, in brief, the mechanism of ion uptake by plant roots with suitable diagram.  $3+(3+2)$