

8. Write short notes on the following : 4×2=8

(a) Florigen concept

(b) Seed dormancy.

9. Define Vernalization. Discuss its physiology and mechanism of action in detail. 8



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B.Sc. EXAMINATION, 2025

(Fifth Semester)

BOTANY

Paper I

Plant Physiology

Time : 3 Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. **1** is compulsory.

(Compulsory Question)

1. Explain the following : 1×8=8

(i) Why does ice float on water surface and how is this property useful to plants ?

- (ii) Diffusion pressure deficit (DPD)
- (iii) Wilting
- (iv) Anti-transpirants
- (v) Hill reaction
- (vi) Why is Calvin cycle called C_3 pathway ?
- (vii) Name the end product of glycolysis.
- (viii) What are climacteric fruits ?

Unit I

- 2. What do you mean by water potential ? Discuss its various components. 8
- 3. Describe the mechanism of active and passive absorption of water by roots. 8

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- 4. Discuss the various theories to explain the mechanism of stomatal opening and closing.

8

- 5. Write short notes on the following : $4 \times 2 = 8$

- (a) Hydroponics
- (b) Role of nitrogen and potassium in plants.

Unit II

- 6. What are CAM plants ? Explain the metabolic pathway for fixation of CO_2 fixation in plants. 8
- 7. Give an account of Krebs' cycle and its significance. 8

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P.T.O.