

Roll No.

(01/22-II)

5244

B.Sc. EXAMINATION

(Fifth Semester)

BOTANY

Paper I

Plant Physiology

Time : Three Hours

Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. 1 is compulsory and short answer type. All questions carry equal marks.

1. Define the following terms : $1 \times 8 = 8$

- (a) Imbibition
- (b) Hydathodes
- (c) Thylakoids

- (d) Necrosis
- (e) Expand RuBP
- (f) Hydrotropism
- (g) Phytochrome
- (h) Quiescence.

Unit I

2. Give mechanism of opening and closing of stomata. Explain various factors affecting stomatal movements. 8
3. Write notes on any *two* of the following : 4+4
 - (a) Plasmolysis
 - (b) Osmosis and its significance
 - (c) Physical properties of water. 4+4
4. Explain the following : 4+4
 - (a) Difference between Passive Absorption and Active Absorption of salts.
 - (b) Munch Mass Flow Hypothesis.

5. Define Micronutrients. Give their names, role and deficiency symptoms in plants. 8

Unit II

6. Compare C_3 and C_4 pathways of CO_2 fixation, during Photosynthesis. Give well labelled and schematic sketch of C_4 pathways. 8
7. Discuss and explain Krebs cycle. Give its significance. 8
8. Write notes on the following : 4+4
- (a) Photophosphorylation
 - (b) Seed dormancy.
9. Write notes on any *two* of the following : 4+4
- (a) Geotropism
 - (b) Fruit Ripening
 - (c) Florigen concept.