

**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. All questions carry equal marks.

1. Short answer type questions :

- (a) What is Plasmolysis ?
- (b) What is Symplast Movement ?
- (c) Exudation of sap from cut end is called.....
- (d) Name nitrogen fixing symbiotic bacteria.

- (e) What is meant by Sink ?
- (f) Define Phototropism.
- (g) Who coined the term 'Vernalization' ?

**Unit I**

2. Write short notes on the following :

- (a) Water Potential
- (b) Turgor Pressure and Wall Pressure
- (c) Principle of limiting factors.

3. Discuss active and passive absorption of water theories in plants in detail.

4. Describe Dixon's Theory of Ascent of Sap in detail.

5. (a) Discuss that transpiration is a 'necessary evil'.

- (b) Describe the various types of Transpiration found in Angiospermic plants.
- (c) Give brief account of latest theory of stomatal opening and closing.

### Unit II

- 6. What elements are essential in plants nutrition ? Explain the role of any three of them and show that deficiency effects on the plant growth.
- 7. Write a note on Munch's flow Hypothesis. Also describe factors affecting translocation.
- 8. Write notes on the following :
  - (a) Absorption and Active Spectra
  - (b) Non-cyclic photophosphorylation
  - (c) Significance of photorespiration.

- 9. Write short notes on the following :
  - (a) RQ and its significance
  - (b) Kreb's cycle
  - (c) Physiology of senescence
  - (d) Cyclosis.