

(DBOT 04)

M.Sc. (Previous) DEGREE EXAMINATION, MAY 2008.

First Year

Botany

Paper IV — PLANT PHYSIOLOGY AND METABOLISM

Time : Three hours

Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE questions.

Each question carries 8 marks.

1. Components of water potential.
2. Membrane transport proteins.
3. Enzyme nomenclature.
4. Photo oxidation of water.
5. Classification of proteins.
6. Glyoxylate cycle.
7. Hormone receptors in plants.
8. Plant responses to water stress.

SECTION B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

9. (a) What are micronutrients? Explain the role of any two micronutrients in the life of higher plants.

Or

- (b) Write a detailed account on the regulation of stomatal movements.

10. (a) Describe C₄ cycle and add a note on its importance.

Or

- (b) Describe the mechanism of ATP synthesis using suitable experimental evidences.

11. (a) Write an essay on biological nitrogen fixation.

Or

- (b) Describe the structure and functions of membrane lipids.

12. (a) What are plant growth regulators? Describe the physiological effects of gibberellins and abscisic acid.

Or

(b) Give an account of phytochrome induced plant responses.
