

(DBOT 04)

M.Sc. DEGREE EXAMINATION, DECEMBER 2009.

First Year

Botany

Paper IV — PLANT PHYSIOLOGY AND METABOLISM

Time : Three hours

Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Write critical notes on any FIVE of the following.

1. Cohesion – tension theory.
2. Membrane transport proteins.
3. Water oxidation clock.
4. Enzyme nomenclature.
5. Synthesis of amino acids.
6. β -oxidation.
7. Photoperiodism.
8. Heat shock proteins.

SECTION B — (4 × 15 = 60 marks)

Answer ALL questions.

9. (a) Define water potential and explain its components in a plant cell.

Or

- (b) Discuss the role of micro nutrients in plants using suitable examples.

10. (a) Describe the molecular structure and function of thylakoids.

Or

- (b) Describe the structural and functional aspects of mitochondrial electron transport and ATPase.

11. (a) Write a detailed account on protein synthesis.

Or

- (b) Discuss the structure and function of membrane lipids.

12. (a) What is phytochrome? Describe its properties and role in plants.

Or

(b) Describe physiological effects and mode of action of auxins in plants.
