(DBOT 04)

M.Sc. (Previous) DEGREE EXAMINATION,
JUNE 2010.

First Year

Botany

Paper IV — PLANT PHYSIOLOGY AND METABOLISM

Time : Three hours Maximum : 100 marks

SECTION A — ($5 \times 8 = 40$ marks)

Answer any FIVE questions.

Each question carries 8 marks.

1. Water potential.

2. Criteria of essentiality.

3. Mechanism of enzyme action.

4. Water oxidizing complex.

5. Synthesis of amino acids.

6. Glyoxylate cycle.

7. Hormone receptors.

8. Water stress.

SECTION B — ($4 \times 15 = 60$ marks)

Answer ALL questions.

9. (a) Describe the fine structure of Stomata and explain the mechanism of Stomata opening and closing.

Or

(b) Describe the mechanism of ion uptake in plants.

10. (a) Define photophosphorylation and describe the mechanism of photosynthetic electron transport.

Or

(b) Give an account of the mechanism involved in the Pyruvic acid oxidation in aerobic respiration.

11. (a) Explain the mechanism of protein synthesis in plants.

Or

(b) How are fats degraded in plant tissues? Briefly explain the β – oxidation pathway.

12. (a) Describe the physiological role of auxins and comment on their importance in Agriculture.

Or

(b) Write a critical essay on the physiology of Flowering process in plants.

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