(DBOT 04)

M.Sc. Botany (Previous) DEGREE EXAMINATION, MAY 2007.
Paper IV – PLANT PHYSIOLOGY AND METABOLISM

Time : Three hours **Maximum : 100 marks**

Answer any FIVE questions from Section A.
Each question carries 8 marks.
Also answer ALL questions from Section B.
Each question carries 15 marks.

SECTION A - (5 X 8 = 40 marks)

1. Components of water potential.
2. Channel proteins.
3. Enzyme inhibition.
4. Link reaction.
5. Transamination.
6. Properties of Fats.
7. Phytochrome.
8. Heat shock proteins.

SECTION B - (4 X 15 = 60 marks)

9. (a) Give an account of the various theories proposed for the 'Ascent of sap'.

Or

(b) How does active and passive absorption of salts differs? Explain the mechanism of salt absorption in plants.

10. (a) What is photophosphorylation? How does it differ from oxidative phosphorylation? Explain the mechanism of Photophosphorylation.

Or

(b) Give an account of Pentose phosphate pathway. How does it differ from glycolytic pathway? What is the metabolic significance of pentose phosphate pathway.

11. (a) What is nitrogen fixation? Explain the symbiotic nitrogen fixation in plants.

Or

(b) Give an account of α and β oxidation of fatty scids.

12. (a) Write an account of the application of growth regulators in horticulture and Agriculture.

Or

(b) Describe the various theories proposed to explain the flowering mechanism in higher plants.