disease of rice.

Or

(b) Write an account on the biological control of plant diseases.

(DBOT 23)

M.Sc. (Final) DEGREE EXAMINATION,

DECEMBER 2007.

Second Year

Botany

Paper VII — CELL BIOLOGY AND MOLECULAR BIOLOGY

Time : Three hours Maximum : 100 marks

SECTION A — (5 × 8 = 40 marks)

Answer any FIVE of the following.

All questions carry equal marks.

1. Principle and design of electron microscopy.
2. Composite transposons.
3. Structure and functions of mitochondria.
4. Golgi complex.
5. Avery, Mccleod and Mccarthy's experiment.
6. Polyprotein genes.
7. DNA double helix model.
8. Salient features of genetic code.

SECTION B — (4 × 15 = 60 marks)

Answer ALL the following.

9. (a) Give an account on structure and components of cell wall and their synthesis.

Or

(b) Explain different models of plasma membrane.

10 (a) What is signal transduction? What are the factors involved in receptor-ligand interactions?

Or

(b) Give an account on origin and role of oncogenes in triggring cancer.

11. (a) Give details of Benzer's experiments that led to the discovery of fine structure of gene.

Or

(b) Give an account on methods of recombination in Bacteria.

12. (a) What are the major enzymes and proteins involved in DNA replication?

Or

(b) Give details of the structure and mechanism of gene regulation in prokaryotes.