

1129

**B.A./B.Sc. (General) Third Semester
Bio-Technology**

BIOT-Elect-Sem-III-T: Introduction to Genetic Engineering and Immunotechnology

Time allowed: 3 Hours**Max. Marks: 75**

NOTE: Attempt five questions in all, including Question No. IX (Unit-III) which is compulsory and selecting two questions each from Unit I - II.

x-x-x

UNIT - I

- I. a) What are Restriction enzymes? Discuss their properties and application.
b) List steps in purification of DNA from bacteria (8,7)
- II. a) Discuss Important Cloning vectors for yeast.
b) Write a note on Cosmids. (9,6)
- III. a) Explain Colony Hybridization as a method for screening genomic library.
b) List steps in construction of genomic library. (8,7)
- IV. Write notes on:-
a) Strategies for Clone Selection
b) PCR (2x7½)

UNIT - II

- V. a) Write about Tissues involved in immune system.
b) Differentiate between Innate and Acquired immunity. (8,7)
- VI. a) Write the basis of Antibody Diversity.
b) Write a note on Immunoelectrophoresis. (7,8)
- VII. a) What do you know about MHC restriction?
b) Discuss the process of Antigen Processing. (8,7)
- VIII. a) Explain the mechanism of Cell mediated Immunity?
b) Write a note on T cell subsets and their functions. (8,7)

(2)

UNIT – III

IX. Answer the following:-

- a) Define Immunoprecipitation. (2)
- b) Define Immunogenicity. (2)
- c) What are NK cells? (2)
- d) What are Topoisomerases? (2)
- e) What is Adjuvant? (2)
- f) Define Humoral immunity. (2)
- g) List types of Antibodies (3)

x-x-x