

2012

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. What are DNA modifying enzymes? Discuss their mode of action and role in Gene Cloning. (15)
- II. a) Write about Cloning Vectors for E.coli.
b) What are YRp and YEp ? Discuss important features and application. (8,7)
- III. a) Discuss methods for introduction of Foreign DNA in host cells.
b) What are the steps involved in cDNA library construction. Discuss. (8,7)
- IV. Elaborate on methods for Screening genomic Library. (15)

UNIT - II

- V. a) Differentiate between Innate and Adaptive Immunity.
b) What are Lymphoid organs? Discuss their immunological role. (6,9)
- VI. Write notes on:-
a) Antibody Diversity
b) Antigen -Antibody Interactions (2x7½)
- VII. Deliberate on Mechanism of MHC restriction and regulation. (15)
- VIII. a) What is Antibody Dependent cell mediated cytotoxicity? Explain.
b) What do you know about Humoral immunity? Discuss. (7,8)

P.T.O.

(2)

UNIT - III

IX. Attempt the following:-

- a) What is Homopolymeric tailing? Name the enzyme activity involved. (3)
- b) What is Blue white screening? (3)
- c) What is Taq Polymerase? (2)
- d) What is the role of Adjuvant? (2)
- e) Define Agglutination. (2)
- f) What are T-Cell subsets? (3)

x-x-x