

2056  
B.Sc. (Hons) Bio-Informatics  
Sixth Semester  
BIN-6003: Immunology

Time allowed: 3 Hours

Max. Marks: 60

**NOTE:** Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer the following briefly:-

- a) Cytotoxic T cells
- b) Immunologic memory
- c) Cytokines
- d) Allotypes
- e) Affinity maturation
- f) MHC I antigen

(6x2)

**UNIT - I**

- II. a) Discuss the process of class switching in antibody molecule.  
b) Describe the molecular structure of Immunoglobulin. (2x6)
- III. a) Explain the clonal selection theory.  
b) Elaborate on the assembly of T cell receptor genes by somatic recombination. (2x6)
- IV. Discuss the generation of antibody diversity. (12)

**UNIT - II**

- V. a) What is the principle of ELISA? Discuss its applications.  
b) Discuss the role of adjuvants in vaccines. (2x6)
- VI. a) Differentiate between passive and active immunization.  
b) Explain any one organ specific autoimmune disorder. (2x6)
- VII. Write notes on:
  - a) Bacterial vaccines
  - b) RIA (2x6)

x-x-x