

OR

- (a) Therapeutic uses of mab. 5
- (b) Role of tumor suppressor genes. 5
- (c) Various phages of tumour immuno-surveillance. 5
- (d) Example of ELISA based immunodiagnostics. 5



AQ - 858

First Semester M.Sc. (CBCS Scheme) Examination

**BIOTECHNOLOGY**

Paper - IV

Biology of Immune System

1BTB-4 / BT104

P. Pages : 4

Time : Three Hours ]

[Max. Marks : 100

- Note :** (1) All questions are compulsory and carry equal marks.  
(2) Draw well labelled diagrams whenever necessary.

1. Describe in detail the phylogeny of immune system. Write a note on each type of immunity with their specific role in life span.

OR

What are antibodies ? Write a detail note on their types, structure and functions of each. 20

2. Discuss the following :—

- (a) Characteristics of Polymorphonuclear (PMN) leucocytes. 5

- (b) Structure and function of dendritic cells. 5
- (c) Importance of immunological memory. 5
- (d) Lymphocyte trafficking. 5

**OR**

- (a) Types of major lymphoid organs. 5
- (b) T cell-receptors. 5
- (c) Importance of Antigen presenting cells (APC). 5
- (d) Consequences of Antigen and Antibody binding. 5

3. What is Complement System and the components associated with it ? Write in detail about Alternative complement pathway of complement system.

**OR**

What are major histocompatibility complex (MHC)? Write in detail the types of MHC molecules with their peptide interactions. 20

4. Discuss the following :—

- (a) Gell and Coomb's classification of hypersensitivity reaction. 5

- (b) Hyperacute rejection of organ transplantation. 5
- (c) Role of mast cell degranulation in allergy. 5
- (d) Specific and nonspecific immunity for helminthes. 5

**OR**

- (a) Skin testing method for allergens. 5
- (b) Types of organ transplants. 5
- (c) Characteristics of delayed type of hypersensitivity. 5
- (d) Types of immunosuppressive drugs used to treat transplant rejection. 5

5. Write notes on following.

- (a) Differentiate between benign and malignant tumor. 5
- (b) Applications of synthetic vaccines. 5
- (c) Structure of retrovirus HIV-I virion. 5
- (d) HAT selection of mab. 5