This question paper contains **3** printed pages]

Roll No. | | | | | | | | | | |

S. No. of Question Paper : **5868**

Unique Paper Code : **2232523601**

Name of the Paper : **Basics of Immunology**

Name of the Course : **B.Sc. Life Sciences (NEP)**

Semester : **VI**

Duration : **2 Hours** Maximum Marks : **60**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt *four* questions including

Question No. **1** which is compulsory.

Draw well-labelled diagrams wherever necessary.

1. (*a*) Define the following (any *four*) : 4×1=4

   (*i*) Granuloma

   (*ii*) Hapten

   (*iii*) Passive immunity

   (*iv*) Anaphylaxis

   (*v*) Autoimmunity

   (*vi*) Opsonin.

P.T.O.

(*b*) Differentiate between the following (any *two*) : 2×2=4

(*i*) Cell-mediated and humoral immunity

(*ii*) T and B cell epitopes

(*iii*) T helper and T cytotoxic cell.

(*c*) Give the immunological significance of the following (any *three*) : 3×1=3

(*i*) Interferons

(*ii*) Calnexin

(*iii*) Lysozyme

(*iv*) NK cells.

(*d*) Justify the following : 4×1=4

(*i*) The secondary immune response is faster and stronger than the primary immune response.

(*ii*) IgM antibody is considered to be effective in agglutination and complement activation.

(*iii*) All antigens are not immunogens.

(*iv*) T cells are said to be self-MHC restricted.

2. (*a*) Define Immunogenicity. Discuss the various factors that influence the degree of immunogenicity. 7

(*b*) Discuss the general structure and biological function of antibody molecules. 8

3. (*a*) Describe the various types of barriers involved in innate immune responses. 7

(*b*) Briefly discuss the attributes of adaptive immunity. Differentiate between primary and secondary immune response. 8

4. (*a*) Differentiate between structure and function of Class I and Class II MHC molecules. 7

(*b*) What is antigen processing and presentation. Illustrate the processing and presentation of exogenous antigens. 8

5. (*a*) Discuss the properties and functions of cytokines. 7

(*b*) Describe types of hypersensitivities on the basis of Gell and Coomb's classification. 8

6. Write short notes on (any *three*) : 3×5=15

(*a*) Clonal selection theory

(*b*) Vaccines

(*c*) Immunodeficiency with suitable examples

(*d*) Alternate pathway of complement activation.