10/12/19 M

This question paper contains **4** printed pages]

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

S. No. of Question Paper : **8122**

Unique Paper Code : **32237909** **J**

Name of the Paper : **Immunology**

Name of the Course : **B.Sc. (Honors) Zoology : DSE-2**

Semester : **V**

Duration : **3 Hours** Maximum Marks : **75**

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

Question No. **1** is compulsory.

Attempt *five* questions in all.

Draw neat labelled diagrams wherever necessary.

1. (*a*) Define : 5

(*i*) Superantigens

(*ii*) Abzymes

(*iii*) Arthus reactions

(*iv*) Variolation

(*v*) Immunogenicity.

P.T.O.

(*b*) Distinguish between : 5×2=10

(*i*) Neoantigenic and conformational epitopes

(*ii*) Autologous and allogenic antigens

(*iii*) Calnexin and calreticulin

(*iv*) Subunit and recombinant vaccines

(*v*) Plasma and memory cells.

(*c*) Expand the following : 3

(*i*) ISCOM

(*ii*) PRR

(*iii*) CLIP

(*iv*) HSP

(*v*) ARAM

(*vi*) GPCR.

(*d*) Write the contribution(s) of : 2

(*i*) S.A. Berson and R. Yalow

(*ii*) Wu and Kabat

(*e*) Give the immunological significance : 4

(*i*) Bence Jones proteins

(*ii*) C3b

(*iii*) Bioactive amines

(*iv*) Chemokines.

(*f*) Give reasons : 3

(*i*) Burn victims are immunologically compromised.

(*ii*) Bivalent nature of an antibody is important.

(*iii*) Multivalent vaccines are better than monovalent vaccines.

2 (*a*) Describe the initiation and activation of the alternative complement pathway. 8

(*b*) Discuss the factors influencing immunogenicity. 4

3. (*a*) Explain in detail the structure and functions of IgG. 6

(*b*) Illustrate and discuss the production of monoclonal antibody by hybridoma technology. 6

4. (*a*) Explain the processing and presentation of endogenous antigens in a cytosolic pathway. 6

(*b*) Write the general properties of cytokines and chemokines. 6

5. (*a*) Compare the structure and functions of class I and class II MHC molecules. 6

(*b*) Describe the role of various barriers involved in innate immune responses. 6

P.T.O.

6. (*a*) What are the effector cells of anaphylaxis and their biological responses in immediate type hypersensitivity ? 6

(*b*) Describe the structure and function of primary lymphoid organs. 6

7. Write short notes on any *three* : 3×4=12

(*i*) Clonal selection theory

(*ii*) Inflammatory response

(*iii*) Properties of antigen

(*iv*) Elucidate the structure of antibody.