

Seat No. : _____

ND-140

November-2021

B.Sc., Sem.-V

**303 : Microbiology
(Principles of Immunology)**

Time : 2 Hours]

[Max. Marks : 50

- Instructions :**
- (1) All questions in Section –I carry equal marks.
 - (2) Attempt any **three** questions from Section – I.
 - (3) Questions in Section – II are compulsory.
 - (4) Illustrate your answers with neat diagrams wherever necessary.

Section – I

Answer the following questions :

1. (A) Describe the types of acquired immunity. 7
(B) Write a note on characteristics of immune response. 7
2. (A) Describe the production and functions of T and B cells. 7
(B) Write a brief note on innate immunity. 7
3. (A) Draw the labelled monomer structure of antibody and mention the role of different parts. 7
(B) Write the characteristics of immunogen. 7
4. (A) Write a brief account for the production and applications of monoclonal antibodies. 7
(B) Describe various types of antigens in brief. 7
5. (A) Describe the characteristics and applications of precipitation reactions. 7
(B) Write a brief note on ELISA. 7
6. (A) Briefly describe the technique of immunofluorescence used in immunology. 7
(B) Describe the characteristics and applications of agglutination reactions. 7

7. (A) What is autoimmunity ? Describe any one auto immune disease. 7
(B) Describe the concept of blood banking and its significance . 7

8. (A) Write a brief account for the transplantation immunity. 7
(B) Write a brief note on human blood group system. 7

Section – II

9. Write briefly in **one** or **two** lines : (Attempt any **eight**) 8
- (1) Enlist types of Agranulocyte white blood cells.
 - (2) Name one Peripheral lymphoid organ.
 - (3) Write one character of Serum sickness reaction.
 - (4) Write name of any one adjuvant.
 - (5) Name one immunosuppressive drug .
 - (6) Define : Agammaglobulinemia.
 - (7) Name one radioisotope used for immunoassay.
 - (8) Write one application of agglutination test.
 - (9) Name the precursor substance required for the formation of A and B blood group antigen.
 - (10) Write names of any two blood clotting agent.
 - (11) Name the blood group functioning as an universal recipient.
 - (12) Write one use of MHC antigens.
 - (13) Mention name of any one skin test and its use.
 - (14) Write one function of Neutrophil cells.
 - (15) Write names of two Iso antigens.
 - (16) Write one characteristic of complement.
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