

[This question paper contains 4 printed pages.]

Your Roll No. ....

Sr. No. of Question Paper : 1662

Unique Paper Code : 42237904

Name of the Paper : Immunology – (DSE 4)

Name of the Course : B.Sc. (P) Life Sciences  
(LOCF)

Semester : VI

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt FIVE QUESTIONS in all.
3. Question 1 is COMPULSORY.

1. (a) Define : (5)

- (i) Immunodeficiency
- (ii) Thymectomy
- (iii) Adjuvant
- (iv) Haematopoiesis
- (v) Diapedesis

P.T.O.

(b) Differentiate between the following : (10)

- (i) Chemokine and Lymphokine
- (ii) Primary immune response and Secondary immune response
- (iii) Macrophage and Monocyte
- (iv) Sabin vaccine and Salk vaccine
- (v) Affinity and Avidity

(c) Write the contribution/s of the following scientists : (2)

- (i) Gerald M Edelman and Rodney Porter
- (ii) Karl Landsteiner
- (iii) Robert Koch
- (iv) Milsten and Kohler

(d) Expand the following : (3)

- (i) BALM
- (ii) PALS
- (iii) TNF
- (iv) TLR
- (v) HIM
- (vi) IFN

(e) Write the immunological significance of the following : (4)

- (i) Invariant chain
- (ii) Neutrophils
- (iii) Lymph Nodes
- (iv) Memory B cells

(f) Explain why (3)

- (i) Certain sites of the human body are called immune privilege sites
- (ii) Passive immunization is transient
- (iii) Maternal IgG gets actively transported across the placenta while maternal IgM does not.

2. (a) What is the first line of defense? Briefly discuss the various barriers involved in innate immune response. (2,4)

(b) Give a brief account of different types of vaccines. (6)

3. (a) Discuss the general structure of an immunoglobulin. Briefly explain the various experiments conducted to deduce its structure. (4,3)



- (b) What are cytokines? Write a brief note on cytokines as therapeutic agents. (1,4)
4. (a) What is complement fixation? Discuss various steps involved in alternative pathway of complement system activation. Give suitable diagram. (6)
- (b) Explain the structure of class I MHC. Also draw a well labeled diagram. (6)
5. What is Gell and Coomb's classification of hypersensitivities? Discuss the various types of hypersensitivities. Give suitable diagrams. (12)
6. (a) What are primary lymphoid organs? Write a note on structure and function of Thymus. (2,4)
- (b) Distinguish between active and passive immunity. Give suitable examples. (6)
7. Write short notes : (Any Three) (4,4,4)
- (i) Clonal Selection Theory
  - (ii) Antigen Presenting Cell
  - (iii) Hybridoma technology of Mab production
  - (iv) Natural Killer Cells