

Please check whether you have got the right question paper.

- N.B:**
- 1. All questions are compulsory. Choice is internal.**
In Q. 5, attempt A or B, C or D, E or F and G or H.
 - 2. Figures to the right indicate full marks**
 - 3. Draw figures/diagrams/flowcharts wherever required**

- Q.1. A Attempt any one** **02**
- i. Write in brief on the role of Peyer's patches.
 - ii. What are Natural killer cells?
- B. Answer any one** **04**
- i. Explain maturation, activation and differentiation of T cells.
 - ii. Describe the cross sectional structure of lymph node. Add a note on its function.
- C. Answer any one** **06**
- i. Explain the structure and function of B cell receptor.
 - ii. What are primary lymphoid organs? Add a note on their function.
- Q.2. A Attempt any one** **02**
- i. Define/ explain 'monoclonal antibody'.
 - ii. Define / explain 'Hapten'
- B. Answer any one** **04**
- i. Comment on the theories proposed to explain antibody diversity.
 - ii. Write on the structural and functional characteristics of IgM.
- C. Answer any one** **06**
- i. Explain the VDJ gene rearrangements in heavy chain DNA.
 - ii. Explain in detail, the general structure of an immunoglobulin.
- Q.3. A Attempt any one** **02**
- i. What is SCID mice?
 - ii. Define agglutination reaction.
- B. Answer any one** **04**
- i. Write a note on immunofluorescence.
 - ii. Explain: Adoptive transfer systems enable immunoglobulins to study isolated cell populations in vivo.
- C. Answer any one** **06**
- i. What is ELISA? Add a note on its types.
 - ii. Write an informative note on precipitation reactions.

- Q.4. A Attempt any one** **02**
- i. Define exogenous antigen.
 - ii. State the role of an APC. List the cells that serve as APC.
- B. Answer any one** **04**
- i. Explain : MHC is polymorphic.
 - ii. Schematically (only) explain the classical pathway of complement activation.
- C. Answer any one** **06**
- i. What are the biological consequences of complement activation.
 - ii. Write in brief on the cellular distribution of MHC molecules. Add a note on the structure of class II MHC molecule.
- Q.5. Answer the following** **12**
- A. Write in brief on dendritic cells.
Or
 - B. Write a brief note on phagocytes.
 - C. What is 'class switching'?
Or
 - D. What are pattern recognition receptors?
 - E. Write in brief on adoptive transfer system.
Or
 - F. Write in brief on applications of flow Cytometry.
 - G. Explain: Cleavage products of complement system act as anaphylatoxins.
Or
 - H. Explain the role of MHC in disease susceptibility.
