

2022

## ZOOLOGY — HONOURS

Paper : CC-10

(Immunology)

Full Marks : 50

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*Answer *question no. 1* and *any four* questions from the rest.1. Answer *any five* questions :

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|---|-------------|
| (a) What is opsonization?   | 2           |
| (b) How many polypeptide chains make up MHC class I molecule?   | 2           |
| (c) What is hypervariable region of immunoglobulin? State its significance.   | 1+1         |
| (d) What are GALT and CALT?   | 1+1         |
| (e) Mention the biological functions of complements.  | 2           |
| (f) State two function of eosinophils.  | 2           |
| (g) Define lymphokines.   | 2           |
| (h) What are NK Cells?  | 2           |
| (i) What do you mean by passive immunization?   | 2           |
| 2. (a) What is complement system?   |             |
| (b) Describe the classical pathway of complement activation and MAC formation with diagram.                           |             |
| (c) What are interferons?   | 2+(3+2+1)+2 |
| 3. (a) What is monoclonal antibody?   |             |
| (b) How does HAT medium facilitate selection of B-cell hybridoma?   |             |
| (c) State the properties of IgM. Draw a labelled diagram of IgG.  | 2+3+(2+3)   |
| 4. (a) State the major steps involved in the development of inflammation.   |             |
| (b) Distinguish between T-Cell and B-Cell.  |             |
| (c) Briefly discuss Gell and Coomb's classification of hypersensitivity reactions.                                    | 3+3+4       |
| 5. (a) Enumerate the role of T <sub>H</sub> Cells in B-Cell activation.   |             |
| (b) What is prozone effect?   |             |
| (c) Cytokines control adaptive immune response by regulating T-Cell activation and functions.— Justify the statement. | 3+2+5       |

Please Turn Over

6. (a) Distinguish between Primary and Secondary Antigen-Antibody interaction.  
(b) Differentiate between live attenuated vaccine and subunit vaccine. Give examples.  
(c) Describe the structure of MHC-I molecule with diagram. 2+(2+2)+(3+1)
7. (a) What is the basic difference between RIA & ELISA?  
(b) Differentiate between humoral and cell mediated immunity mentioning the respective components.  
(c) Briefly discuss the events of T-Cell development. 2+4+4
8. Write short notes on (*any four*) : 2½×4
- (a) Hapten
  - (b) Adjuvant
  - (c) Affinity and avidity of antibody
  - (d) Structural organization of lymph node
  - (e) Chemokines
  - (f) Antibody-dependent cell mediated cytotoxicity (ADCC).
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