

Total No. of Printed Pages—3

6 SEM TDC DSE ZOO (CBCS) 3 (H)

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(May)

ZOOLOGY

(Discipline Specific Elective)

(For Honours)

Paper : DSE-3

(**Immunology**)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Fill in the blanks :

1×5=5

(a) The primary lymphoid organs involved in immune cell maturation are _____ and _____.

(b) The process by which antibodies bind to pathogens, marking them for destruction, is called _____.

(2)

- (c) The specific region on an antigen where an antibody binds is known as ____.
- (d) Immunoglobulin responsible for mucosal immunity is ____.
- (e) The major histocompatibility complex (MHC) plays a crucial role in ____.
2. Write short notes on (any three) : $4 \times 3 = 12$
- (a) Epitopes
- (b) Cytokines
- (c) Rheumatoid arthritis
- (d) Clonal selection theory
3. Distinguish between (any three) : $4 \times 3 = 12$
- (a) Active immunity and Passive immunity
- (b) Adjuvants and Haptens
- (c) Antigenicity and Immunogenicity
- (d) Autoimmunity and Immunodeficiency
4. What is RIA? Describe the principle of RIA. Briefly describe the technique of RIA with suitable illustrations. $2+4+6=12$

(3)

Or

Describe the structure of MHC molecule with appropriate illustrations. Explain the different classes of MHC molecules and mention their functions. $6+2+4=12$

5. Describe the endogenous and exogenous pathways of antigen processing and presentation with appropriate illustrations. Highlight the differences between these two pathways in terms of the cellular mechanisms and antigen-presenting cells involved. $5+5+2=12$

Or

What is hybridoma technology? Describe the process involved in generating monoclonal antibodies by hybridoma technology. List the biomedical applications of monoclonal antibodies. $2+8+2=12$
