(6 pages) **Reg. No. : .....**

Code No. : 7429 **Sub. Code : HZOM 31**

M.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2015.

Third Semester

Zoology

IMMUNOLOGY

(For those who joined in July 2012 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Molecules directly involved in NK cells mediated killing include
   (a) Muramyl dipeptide (b) Granzyme A and B
   (c) Complement (d) Super oxide
2. Both mast cells and basophils
   (a) Are phagocytic
   (b) Circulate in the blood stream
   (c) Release histamine
   (d) Primarily in Lymph node
3. B-cells are distinguished from T-cells by the presence of ————————.
   (a) CD3 (b) CD4
   (c) CD8 (d) Surface Ig
4. T-cells in lymph nodes
   (a) Phagocytic
   (b) Absent in Di-George syndrome
   (c) Cytotoxic
   (d) Medullary region
5. Human IgM
   (a) Cross the placenta
   (b) Protects mucosal
   (c) Largely restricted to circulation
   (d) Plasma cells
6. Tumor necrosis factor ————————.
   (a) Decreases macrophage
   (b) Decreases blood flow
   (c) Increased expression of adhesion
   (d) Increases blood flow

7. B cells can express on its cell surface _____.

(a) Membrane IgM and IgD sametime

(b) Both light chain

(c) Secretary component

(d) IgG

8. T-cell antigen receptor

(a) Epitopes on linear peptides

(b) Ig light chain

(c) B2 microglobulin

(d) Conformational epitopes

9. B-cell surface receptors for antigen

(a) MHC class II molecules

(b) Ig α and Ig β

(c) MHC class I molecules

(d) Both (a) and (c)

10. Cytokines responsible for immunosuppression include _____.

(a) IL-1 (b) IL-2

(c) TNF α (d) IL-10

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 250 words.

11. (a) Explain the role of non-immunological surface protective mechanism in human beings.

Or

(b) Write down an innate immune response against blood group antigens.

12. (a) Describe different stages of development of B-cells and membrane receptor molecules.

Or

(b) Explain major pathways of BCR signaling.

13. (a) Define antigen and antigenicity. Write briefly on classification of antigen.

Or

(b) Explain schematically the cross-linkage of T-cells receptor and class II MHC molecules.

14. (a) Explain the factors controlling the long-term survival of memory cells.

Or

(b) Role of CD_4^+ cells in cell memory – Explain.

15. (a) Write notes on the role of B cells against Helminth infection.

Or

(b) Explain the mode of immune response against bacteria.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 600 words.

16. (a) Write notes on the role played by Antimicrobial peptides in innate immunity

Or

(b) Give an account on inflammatory response in innate immunity.

17. (a) Describe the process of B cell maturation with suitable diagrams.

Or

(b) Give schematic representation of BCR signalling mechanisms.

18. (a) Explain the salient features of Ag-aberration.

Or

(b) Illustrate on the theories of antibody synthesis.

19. (a) Describe and differentiate between primary and secondary humoral immune response.

Or

(b) Discuss on the cells involved in the cell mediated immune response.

20. (a) Explain auto-immune diseases with suitable examples.

Or

(b) Describe Western blot immunization and recombinant vector vaccine.

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