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UG/4th Sem/ZOO/19

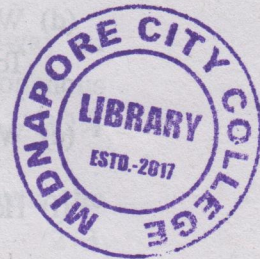
2019

B.Sc. (Hons)

4th Semester Examination

ZOOLOGY

Paper - C10T



Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

**Group A**

1. Answer any *five* questions of the following : 5×2
  - (a) Name two pattern recognition receptors which are located in the cytoplasm.
  - (b) Differentiate between Innate and Adaptive immunity.
  - (c) Which class of antibody is first formed during B-cell development. Write the full form of ELISA. 1+1=2

[ Turn Over ]



( 2 )

- (d) What is a Toxoid ? Give one example of a Toxoid vaccine. 1+1=2
- (e) What are autoimmune diseases ?
- (f) How does affinity differ from avidity ?
- (g) What is meant by adjuvant ? State the composition of Freund's complete adjuvant. 1+1
- (h) Highlight the immunological significance of MAC (Membrane Attack Complex)

**Group B**

2. Answer any *four* questions of the following : 4×5

- (a) Discuss the phenomena of antibody - dependent enhancement of dengue infection.
- (b) (i) What is opsonization ?
- (ii) Write the full form of ROS and PAMP. 3+2
- (c) What are CD markers ? What are their functions? Name two CD markers that are present on T-cell. 2+2+1

( 3 )

- (d) Schematically represent the pathway of presentation of exogenous and endogenous antigens by MHC molecules. 2½+2½
- (e) What is anaphylaxis ? Write down the mechanism involved in anaphylaxis. 2+3
- (f) What is meant by monoclonal antibody (mAb)? Name the technique employed for production of mAb. State the advantages of mAb over polyclonal antibody (pAb). 2+1+2

**Group C**

3. Answer any *one* question of the following : 1×10

- (a) (i) What are the differences between B-cell and T-cell epitopes ? 2
- (ii) State whether the following statement is true or false : "Each lymphocyte carries cell-surface receptors with multiple antigen specificity." 1
- (iii) Discuss how three signals are required for proper activation and effector function of T-cells. 7

[ Turn Over ]



(b) Briefly describe the basic structure of the immunoglobulin molecule along with a suitable diagram.

What do you understand by isotype, allotype and idiotype. Give suitable examples for each.

4+6

