G-1/104/21 **Roll No.....**

M.Sc. I Semester Examination, April-2021

BIOCHEMISTRY

Paper IV

(Biology of Immune System)

Time : 3 Hours] [Maximum Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections.* **Section A** *is objective type/Multiple Choice questions with no internal choice.* **Section B** *is short answer type with internal choice.* **Section C** *is long answer type with internal choice.*

SECTION 'A' **1×8=8**

(Multiple Type Questions)

Choose the correct answer :

1. Which of the following cells has a high affinity receptor for IgE ?

(a) Dendritic cell (b) Mast cells

(c) Eosinophils (d) Basophils

2. Name the first cell which recruited at the place of infection :

(a) Nk cells (b) Basophils

(c) Nutrophils

(d) Macrophages

3. Which of these is NOT a characteristic feature of adaptive immunity ?

(a) Immunogenic memory

(b) Antigen no-specific

(c) Self/non-self recognition

(d) Diversity

4. Name the cell which receives antigen presented by MHC molecule :

(a) Nk Cells (b) B-cells

(c) T-cells (d) Macrophages

5. Which MHC molecule recognizes CD8 TC cells ?

(a) MHC I (b) MHC II

(c) MHC III (d) HLA-C

6. Which of these immunoglobulins is present in external secretion ?

(a) IgG (b) IgM

(c) IgA (d) IgE

7. Mark the correct role of cytosolic T-cells :

(a) Help in B-cell activation

(b) Produce cytotoxin

(c) Proliferate T-cell

(d) Kill the target cell

8. How does a person develop an autoimmune disease ?

(a) It may be triggered by a virus, such as mumps

(b) It may be a complication of an existing infection, such as strep throat

(c) It may be caused by exposure to an environmental agent

(d) Most do not have an obvious cause

(e) All of the above

SECTION 'B' **4×6=24**

(Short Answer Type Questions)

Note : *Answer the following questions in 250 words.*

1. Differentiate adoptive immune response with Innate immune response.

Or

Describe hematopoiesis.

2. Describe structure and function of immunoglobulin.

Or

Describe structure and function of MHC.

3. Describe factors effecting immunogenicity.

Or

Describe different types of interaction between antigen and antibody.

4. Describe functions of different types of cytokines.

Or

Explain generalized autoimmune disease with example.

SECTION 'C' **12×4=48**

(Long Answer Type Questions)

Note : *Answer the following questions in 500 words.*

1. Explain structure and functions of different types of immune cells.

Or

Explain Primary and Secondary lymphoid organs and tissues.

2. Explain mechanism of transplantation and rejection of grafts.

Or

Explain compliment system.

3. Explain antigen processing and presentation by APCs.

Or

Explain Role of MHC molecules in antigen presentation and co-stimulatory signals.

4. Explain different types of Hypersensitivity.

Or

Explain AIDS.

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