

**H-4/34(B)/22**

Roll No. ....

**IV Semester Examination, 2022****M.Sc.****ZOOLOGY****Paper III****(Biology of Immune of System)**

Time : 3 Hours ]

[ Max. 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****(Objective Type/Multiple Choice Questions)***Choose the correct answer :*

- 1.** Bursa of Fabricius is an organ of birds. This organ is associated with :
  - (a) Generation of Basophils
  - (b) Production of Uric acid
  - (c) Metabolism of fatty acid
  - (d) Generation of B cells

P.T.O.

- 2.** The most important peptide chain involved in signal transduction through  $CO_3$  is :
  - (a)  $\gamma$  (Gamma) chain (b)  $\delta$  (Delta) chain
  - (c)  $\zeta$  (Zeta) chain (d)  $\eta$  (Eta) chain
- 3.** Any agents that may stimulate the immune system and enhance the response without having any specific antigenic effect by itself :
  - (a) Allergens (b) Adjuvants
  - (c) Antigens (d) Carrier
- 4.** Type II hypersensitivity is due to :
  - (a) Mis matched blood group in transfusion
  - (b) IgE
  - (c) Pollens
  - (d) Activation of cytotoxic T cells
- 5.** Which type of cell actually secretes antibodies ?
  - (a) T cell (b) Macrophages
  - (c) Dendritic cells (d) Plasma cells
- 6.** Which of these are improfessional antigen presenting cells ?
  - (a) Fibroblast cell (b) B-lymphocytes
  - (c) Dendritic cell (d) Macrophages

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7. What is the major ligand for CRI ?

- (a)  $C_1$  (b)  $C_2$   
(c)  $C_3b$  (d)  $C_5$

8. A suitable organism for use in recombinant vaccines is :

- (a) Influenza virus (b) Vaccinia virus  
(c) Small pox virus (d) Rabies virus

### SECTION B

6×4=24

#### (Short Answer Type Questions)

**Note :** Attempt *one* question from each unit.

#### Unit-I

1. Write a short note on inflammation.

*Or*

Discuss briefly the acquired immune system.

#### Unit-II

2. Describe structure and function of  $TCR-CO_3$  complex with diagram.

*Or*

What is immunogenicity ? Discuss the factors influencing immunogenicity.

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### Unit-III

3. Write a notes on membranous antibodies.

*Or*

Discuss briefly various categories of epitopes or antigenic determinants on antibodies.

### Unit-IV

4. Write a note on humoral immune response.

*Or*

Discuss briefly DNA vaccines.

### SECTION C

12×4=48

#### (Long Answer Type Questions)

**Note :** Attempt *one* question from each unit.

#### Unit-I

1. Describe in detail the structure and function of primary and secondary lymphoid organs with suitable diagrams.

*Or*

Write an essay on innate immune system.

#### Unit-II

2. Describe processing and presentation of Antigen molecule.

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*Or*

Discuss briefly maturation of *B* and *T* cells.

### **Unit-III**

- 3.** Write a detail note on ‘complements’.

*Or*

Discuss structure and function of MHC I & II with suitable diagrams.

### **Unit-IV**

- 4.** Write a detail note on cell mediated immune response.

*Or*

Discuss briefly the delayed type of hypersensitivity with examples.

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