

G-4/443(B)/21

Roll No.

M.Sc. IV Semester Examination, 2021

ZOOLOGY

Paper III (B)

(Biology of Immune 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 Questions)

Choose the correct answer :

- 1.** A complement component which is strongly chemotactic for neutrophils is :
(a) C3a (b) C3b
(c) C5a (d) C5b
- 2.** Cd 28 is the ligand for :
(a) MHC class II (b) IL-1
(c) B7 and related molecules
(d) Exotoxins

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- 3.** An example of a type III immune complex disease is :
(a) Contact dermatitis
(b) Graft rejection
(c) Serum sickness (d) Atopy
- 4.** First line of defense include :
(a) Skin (b) Mucus
(c) Lysozyme secretion
(d) All of these
- 5.** The basic structure of antibodies are :
(a) Linear (b) Hyperbolic
(c) Y-shaped (d) X-shaped
- 6.** $\beta 2$ microglobulin present on :
(a) Class I MHC (b) Class II MHC
(c) Class III MHC (D) None of these
- 7.** A vaccine can be :
(a) An antigenic protein
(b) Weakened pathogen
(c) Live attenuated pathogen
(d) All of these

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8. A complete antigen is capable of :

- (a) Inducing an immune response
- (b) Can interact with antibody
- (c) Induces antibody production
- (d) All of these

SECTION B

4×6=24

(Short Answer Type Questions)

Note : Answer the following questions.

Unit-I

1. Discuss history and application of immunology.

Or

Write a note on hematopoiesis.

Unit-II

2. Describe B cell receptors with diagrams.

Or

What is adjuvant ? Discuss its importance in immune response.

Unit-III

3. Describe structure and function of MHC I molecule with diagram.

Or

Discuss briefly the classical pathway of complement activation.

Unit-IV

4. Discuss briefly the type IV hypersensitivity with examples.

Or

Write a note on Vaccination.

SECTION C

12×4=48

(Long Answer Type Questions)

Note : Answer the following questions.

Unit-I

1. Write structure and function of various types of cells involved in immune response with suitable diagrams.

Or

Write a note on Inflammation.

Unit-II

2. Write the maturation and activation of T-cells.

Or

Discuss briefly the activation and differentiation of B cells

Unit-III

- 3.** Write a comparative account of structure and function of different types of immunoglobulins with diagrams.

Or

Write an essay on Cytokines.

Unit-IV

- 4.** What are Vaccines ? Discuss various types of vaccines with examples and applications.

Or

Write an account on immediate type of hypersensitivity with examples.

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