

H-4/04(A)/22

Roll No.

IV Semester Examination, 2022**M.Sc.****BIOCHEMISTRY**

Paper IV(A)

(Advanced Immunology, Diagnostics and Prophylaxis)

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. Which of the following scientist experimentally confirmed 2 heavy and 2 light chains ?
 - (a) E Benemin and Co-workers
 - (b) Smith E and Co-workers
 - (c) M Mcfarlane and his Co-workers
 - (d) None of the above

P.T.O.

2. The recombination of immunoglobulin DNA segments causes :
 - (a) Promotes changes in coding mechanism
 - (b) Assembly of complete Ig coding sequences
 - (c) Kappa coding
 - (d) None of the above
3. The antigen peptide fragments are transported to the peptide cleft of MHC class I or class II molecules by which of the following proteins :
 - (a) TAP proteins
 - (b) Src Kinase cascade
 - (c) MHC class I with 1000 Da
 - (d) All of the above
4. Which of the following is an important surface molecule to initiate respiratory burst ?
 - (a) Superoxide dismutase
 - (b) NADPH oxidase
 - (c) Interferon killing
 - (d) All of the above
5. Which of the following is antiglobulin ?
 - (a) Complement fixing immunoglobulin's
 - (b) Fixed bed reaction methods

H-4/04(A)/22

[3]

- (c) Antibodies against immunoglobulin's
(d) None of the above
6. A radial immunodiffusion technique is used to quantify for the following antibodies ?
(a) IgA (b) IgE
(c) IgM (d) None of these
7. Disadvantage of passive immunization is :
(a) Expensive nature
(b) Its causes serum sickness
(c) Causes short lived immunity
(d) None of the above
8. Which one of the following virus has DNA genomes ?
(a) Epstein-Barr virus
(b) Rhabdovirus
(c) Both (a) and (b)
(d) None of the above

SECTION B

6×4=24

(Short Answer Type Questions)

Note : Answer one question from each unit.

Unit-I

1. Write short note on Class Switching.

H-4/04(A)/22

P.T.O.

[4]

Or

Write short note on Heavy chain constant region chain.

Unit-II

2. Write short note on Secreted immunoglobulin.

Or

Write short note on Cytokines.

Unit-III

3. Write short note on Precipitation reaction.

Or

Write short note on Cytotoxicity assay.

Unit-IV

4. Write short note on Principle of vaccination.

Or

Write short note on Antibacterial agents.

SECTION C

12×4=48

(Long Answer Type Questions)

Note : Attempt one question from each unit.

Unit-I

1. Describe the mechanism of antibody diversity generation.

Or

Explain the mechanism of T cell receptor diversity.

H-4/04(A)/22

Unit-II

- 2.** Describe the antibody engineering in detail.

Or

What is MHC ? Describe the structure and function of MHC concerning the regulation of immunological response.

Unit-III

- 3.** Discuss the antigen-antibody interaction by describing a relevant assay procedure.

Or

What is an immunological assay method ? Describe in detail radio immune and enzyme immune assay methods.

Unit-IV

- 4.** Discuss on role of vaccines in the prevention of disease by describing protozoans and parasitic disease.

Or

Write a details explanatory note on immunization practices.

★ ★ ★ ★ ★ c ★ ★ ★ ★ ★