

(6 pages)

Reg. No. :

Code No. : 5544

Sub. Code : ZMBM 22

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2023

Second Semester

Microbiology-Core

IMMUNOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Non specific host defenses that exist prior to exposure to an antigen are called?
- (a) Acquired immunity
 - (b) Innate immunity
 - (c) Adaptive immunity
 - (d) All of the above

6. Which among the following radioactive isotope is commonly used in radio immunoassay?
- (a) Sulphur -35
 - (b) Iodine -125
 - (c) Phosphorus-32
 - (d) Nitrogen -14
7. Type III hypersensitivity is triggered by _____
- (a) Mast cells and IgE
 - (b) K cells and IgG
 - (c) Deposition of antigen antibody complexes
 - (d) The cells
8. Auto immune hemolytic anemia is (AHA) an example of _____?
- (a) Type I hypersensitivity
 - (b) Type II hypersensitivity
 - (c) Type III hypersensitivity
 - (d) Type IV hypersensitivity
9. Monoclonal antibodies are _____
- (a) Heterogeneous antibodies produced from single clone of plasma cells
 - (b) Homogenous antibodies produced from single clone of plasma cells
 - (c) Both (a) and (b)
 - (d) None of the above

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2. Primary lymphoid organs include _____
- (a) Thymus and spleen
 - (b) Thymus and bone marrow
 - (c) Thymus, bone marrow and spleen
 - (d) Thymus, bone marrow, spleen and lymph node
3. Classical pathway of complement system is activated by
- (a) Antigen-antibody complexes
 - (b) Antigen
 - (c) Antigenic peptides
 - (d) Antigen bound to MHC
4. Which of the following is site of T cell maturation?
- (a) Bone marrow
 - (b) Thymus
 - (c) Spleen
 - (d) Appendix
5. Western blotting is used for the detection of _____?
- (a) Special glycolipid in a sample
 - (b) Specific protein in a sample
 - (c) Specific DNA in a sample
 - (d) Specific RNA in sample

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10. Second generation vaccines are prepared by recombinant DNA technology. Which out of the following are the examples of such vaccines?
- (a) Herpes virus vaccine
 - (b) Hepatitis B vaccine
 - (c) Both (a) and (b)
 - (d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words

11. (a) Organize the milestones of immunology.
- Or
- (b) Define cytokines. Add note on properties of cytokines.
12. (a) Explain the functions of the following
- (i) isotypes
 - (ii) allotypes
 - (iii) idiotypes
- Or
- (b) Explain the alternative complement pathway.

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[P.T.O.]

13. (a) Determine the principle and applications of ODD.

Or

(b) Explain the clinical application of flow cytometry.

14. (a) Elaborate type II hypersensitivity with example.

Or

(b) Write a brief account on immunodeficiency diseases.

15. (a) Explain the aim and role of the scheme Indradanush in vaccination.

Or

(b) Write the classification of basic vaccines.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words

16. (a) Explain innate immunity and its importance in newborn.

Or

(b) Elaborate the characteristics of immune responses.

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17. (a) Write a detailed account on the functions of B cells.

Or

(b) Organize the classical pathway of complement and note on lectin lysis.

18. (a) Explain different types of forces that caused antigen antibody interaction with example.

Or

(b) State and explain RIEP and its applications.

19. (a) Define and classify hypersensitivity. Describe cell mediated hyper sensitivity.

Or

(b) Summarize the mechanism of autoimmune disease.

20. (a) Define vaccination. Explain its types, principle and applications.

Or

(b) Prepare the steps involved in the production of monoclonal antibodies and its applications.

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