

(6 pages)

Reg. No. : .....

Code No. : 7544

Sub. Code : ZMBM 22

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

Second Semester

Microbiology — Core

IMMUNOLOGY

(For those who joined in July 2021-2022 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Theory of opsonization was proposed by?  
(a) Emile Roux  
(b) Charles Richet  
(c) Wright Stewart Doughlaus  
(d) Von Behring

6. Which of the following is an immunodiffusion test?  
(a) Double diffusion  
(b) Gel-diffusion  
(c) Ouchterloney technique  
(d) All of the above
7. Which of the following has the maximum transplantation success rate?  
(a) auto graft (b) xeno graft  
(c) allograft (d) syngeneic graft
8. The major molecules responsible for rejection of transplant are?  
(a) B cells (b) T cells  
(c) MHC molecules (d) Antibodies
9. The technology used for the production of monoclonal antibodies is  
(a) Mass culture technology  
(b) Hybridoma technology  
(c) Suspension culture  
(d) None of the above
10. Which of the following Covid-19 vaccine is prepared by adenovirus vector?  
(a) Pfizer-BioN tech (b) Sinopharm  
(c) Sputnik (d) Covaxin

2. Which of the following immune mechanism is responsible for protecting us from disease of other species?  
(a) Active immunity (b) Passive immunity  
(c) Innate immunity (d) Adaptive immunity
3. Classical pathway of complement system is involved in \_\_\_\_\_  
(a) Specific defense  
(b) Adaptive immunity  
(c) Both (a) and (b)  
(d) Non-specific defense
4. MHC class I is a cell surface molecule present on  
(a) B cells  
(b) All nucleated cells  
(c) APCs  
(d) T cells
5. Which among the following technique makes use of immunofluorescence?  
(a) Confocal microscopy  
(b) RIA  
(c) ELISA  
(d) Electron microscopy

Page 2

Code No. : 7544

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Justify innate or natural immunity.  
Or  
(b) Organize the role of phagocytosis.
12. (a) Write about the properties of antigen.  
Or  
(b) Explain the basic functions of immunoglobulin and its types.
13. (a) Write about precipitation reactions and their clinical importance.  
Or  
(b) Explain immunofluorescence in antibody detection and types.
14. (a) Note on :  
(i) Immunological tolerance  
(ii) Immunosuppression  
Or  
(b) Elaborate the various proposed mechanisms of auto-immunity.

15. (a) Write about the applications of monoclonal antibodies.

Or

- (b) Note on corona vaccines.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write in brief about cell and organs of immune system.

Or

- (b) Define acquired immunity. Explain its types.

17. (a) Explain in brief about the complement pathway and its types.

Or

- (b) Write a detailed account on the functions of T-helper cells.

18. (a) Elaborate agglutination reactions and their clinical applications.

Or

- (b) State and explain the method of western blotting.

Page 5 Code No. : 7544

19. (a) Interpret the type I and type II hypersensitivity reactions.

Or

- (b) Discuss the mechanism of acceptance and rejection in transplantation.

20. (a) Elaborate the current basic immunization schedule and importance.

Or

- (b) Formulate the monoclonal antibodies. Explain their productions and applications.

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Page 6 Code No. : 7544