APRIL 2025 **53107/236C4A**

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer any TEN questions each in 30 words.

1. What is passive immunization?

2. Define RIA.

3. What is APC?

4. What is the role of haptens in immunity?

5. What is meaning of vaccination schedule?

6. What is flow cytometry?

7. Define cell-mediated immunity.

8. What are secondary lymphoid organs?

9. What is role of B-cell receptor?

10. Define immunohematology.

11. What is precipitation reaction?

12. What is the significance of the thymus in immunity?

PART B — (5 × 5 = 25 marks)

Answer any FIVE questions each in 200 words.

13. Explain the principle and application of immunofluorescence techniques.

14. Describe the steps involved in raising monoclonal antibodies.

15. Write a short note on cancer immunotherapy and state the role of tumor-specific antigens in it.

16. Explain the difference between monoclonal and polyclonal antibodies.

17. Describe the process of tissue transplantation and the role of HLA typing in graft acceptance.

18. Explain the types and properties of antigens with examples.

19. Discuss the mechanism of innate immune response in humans.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions each in 500 words.

20. Explain the structure of MHC molecules and their function in antigen processing and presentation.

21. Discuss the different types of vaccines, their mechanisms, and other modern approaches to vaccine development.

22. Elaborate on the mechanisms and physiology of immune responses, highlighting the innate, humoral, and cell-mediated immunity.

23. Discuss in detail the structure, properties, and functions of antibodies, including their classes.

24. Discuss the role of antigen-antibody reactions in immunoassays, with emphasis on precipitation, agglutination, and ELISA.

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