D3AZL2402 **(1 Page)** **Name.....**

Reg.No.....

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

(Regular/Improvement/Supplementary)

ZOOLOGY

FZOL3C08 - IMMUNOLOGY & CYTOGENETICS

Time: 3 Hours **Maximum Weightage: 30**

Part A: Answer any *four* questions. Each carries *two* weightage.

1. Briefly discuss the characteristic features of adaptive immunity.
2. What are attenuated vaccines? Briefly discuss its advantages and disadvantages.
3. With suitable examples, briefly explain adjuvants.
4. Give a brief account on transplantation antigens.
5. Briefly discuss the role of cAMP as a cell signaling molecule.
6. Write short notes on Integrins.
7. Provide a brief account on adherens junctions.

(4 × 2 = 8 weightage)

Part B: Answer any *four* questions. Each carries *three* weightage.

8. Explain the role of Recombination Signal Sequences in immunoglobulin gene rearrangement.
9. Elaborate on the principle and applications of RIA.
10. Briefly discuss about CD_3 complex.
11. Discuss the properties and functions of cytokines.
12. Explain the mechanism of ADCC.
13. Discuss the process of monoclonal antibody production.
14. Briefly describe JAK-STAT signaling pathway.

(4 × 3 = 12 weightage)

Part C: Answer any *two* questions. Each carries *five* weightage.

15. With suitable diagrams, explain the structure and cellular distribution of Class II MHC molecules, and also discuss how they present antigens to T cells.
16. Describe different types of hypersensitivity reactions.
17. With suitable examples, explain autoimmune diseases.
18. Discuss the process of Apoptosis.

(2 × 5 = 10 weightage)