

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2022  
(Regular/Improvement/Supplementary)

ZOOLOGY  
FZOL3C08 - IMMUNOLOGY & CYTOGENETICS

Time: 3 Hours

Maximum Weightage: 30

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

1. Distinguish between innate and adaptive immune responses.
2. Provide a brief account of NK cell mediated cytotoxicity.
3. Discuss about Toll-like receptors.
4. Provide an account of cellular distribution of MHC molecules.
5. Briefly discuss immunological basis of graft rejection.
6. Discuss the significance of Caspases.
7. Distinguish between Apoptosis and Necrosis.

(4 × 2 = 8 weightage)

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

8. Explain the principle and applications of RIA.
9. Discuss about T cell receptors.
10. Describe the mode of presentation of non-peptide bacterial antigens.
11. What are organ specific autoimmune diseases? Discuss with a suitable example.
12. Briefly explain the mechanism of precipitation reaction.
13. Explain cell signaling through cAMP.
14. What are RTKs? Explain any one of the cell signaling pathways associated with it.

(4 × 3 = 12 weightage)

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

15. Explain the mechanisms involved in the generation of antibody diversity.
16. Describe different pathways of complement activation. Add notes on the formation of MAC.
17. Explain different types of vaccines. Add notes on the advantages and challenges of each type of vaccine.
18. Discuss in detail different components of Extracellular matrix.

(2×5 = 10 weightage)