

22P314

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Name: .....

Reg.No: .....

**THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2023**

(CBCSS - PG)

(Regular/Supplementary/Improvement)

**CC19P ZOL3 C07 - IMMUNOLOGY AND CELL BIOLOGY**

(Zoology)

(2019 Admission onwards)

Time : 3 Hours

Maximum : 30 Weightage

**Part-A**

Answer any *four* questions. Each question carries 2 weightage.

1. Explain about innate immunity.
2. Explain P and N nucleotide addition.
3. Explain cross reactivity with suitable examples.
4. Explain different modes of cytokine actions.
5. What are Toll like receptors? Give examples.
6. What is SCID?
7. Explain the G protein coupled receptors.

**(4 × 2 = 8 Weightage)**

**Part-B**

Answer any *four* questions. Each question carries 3 weightage.

8. Differentiate between antigenicity and immunogenicity and the role of adjuvants.
9. Describe the properties of T cell epitopes.
10. Review the cellular distribution of MHC antigens.
11. Explain antigen processing and presentation by endogenous pathways.
12. Explain various types of vaccines.
13. Explain interactions of cells with extracellular matrix.
14. Describe the process of apoptosis and its regulations.

**(4 × 3 = 12 Weightage)**

### **Part-C**

Answer any *two* questions. Each question carries 5 weightage.

15. Cytologically differentiate T lymphocytes and B lymphocytes. Explain their development and differentiation.
16. Describe the principle, procedure and applications of Western blot.
17. Explain the life cycle of malarial parasite and the host immunity against parasitic invasion.
18. Explain in detail, the molecular organization and the electrical properties of cell membrane.

**(2 × 5 = 10 Weightage)**

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