

**24P314**

(Pages: 2)

Name: .....

Reg.No: .....

**THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2025**

(CBCSS - PG)

(Regular/Supplementary/Improvement)

**CC19PZOL3C07 - 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. What is germinal center?
2. Explain P and N nucleotide addition.
3. Distinguish between Class I and Class II MHCs.
4. Describe the antigen processing and presentation by MHC-II.
5. Explain any two examples of autoimmunity.
6. Differentiate between DNA vaccine and multivalent vaccine.
7. Explain the protein components of cell membrane

**(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. Differentiate between agglutination and precipitation reaction.
10. Review cytokine receptors.
11. Explain the process of inflammation.
12. Explain the general principles of cell communication and interactions of cells with other cells.
13. Explain cAMP pathway.
14. Explain the mechanism and regulation of apoptosis.

**(4 × 3 = 12 Weightage)**

**Part-C**

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

15. Review the various mechanisms involved in innate and adaptive immune response.

16. Describe the structure and signaling of TCR and BCR.
17. Describe the principle, procedure and applications of Western blot.
18. Explain the host immune actions against bacterial infection with emphasis on tuberculosis.

**(2 × 5 = 10 Weightage)**

\*\*\*\*\*