

Reg. No. :

Name :

Second Semester M.Sc. Degree (C.B.C.S.S. – O.B.E. – Reg./Supple./Imp.)
Examination, April 2026
(2023 Admissions Onwards)

ZOOLOGY/ZOOLOGY (Structure, Physiology, Development and
Classification of Animals)

MSZNG02C11/MSZGY02C11 : Immunology

Time : 3 Hours

Max. Marks : 60

PART – A

Answer any five of the following. Each question carries 3 marks.

(5×3=15)

1. Define clonal selection theory and state its significance.
2. Differentiate between active and passive immunity with examples.
3. What are haptens? How do they become immunogenic?
4. Briefly explain the structure of MHC Class I molecules.
5. Define delayed type hypersensitivity (DTH).
6. List different types of vaccines and mention one advantage of recombinant vaccines.

PART – B

Answer any three of the following. Each question carries 6 marks.

(3×6=18)

7. Discuss the roles of neutrophils, macrophages, NK cells and T lymphocytes in immune defense.
8. Evaluate the molecular mechanism of V(D)J recombination and its importance in antibody diversity.
9. Examine the complement cascade and critically evaluate its role in inflammation.

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10. Discuss the immunological basis of hypersensitivity reactions and correlate them with clinical disorders.
11. Analyze the principles of antigen-antibody interactions and compare agglutination and precipitation reactions.

PART – C

Answer any three of the following. Each question carries 9 marks.

(3×9=27)

12. Analyze lymphocyte activation and differentiation in B and T cells, emphasizing co-stimulatory signals and cytokine influence.
13. Critically evaluate immunoglobulin gene organization, somatic recombination and class switching mechanisms.
14. Assess the role of cytokines in immune regulation and analyze cytokine-related pathologies with therapeutic approaches.
15. Analyze mechanisms of graft rejection and evaluate current immunosuppressive strategies used in transplantation.
16. Evaluate modern vaccination strategies including live attenuated, inactivated, recombinant and DNA vaccines and analyze their immunological basis.