MZO-008

ASSIGNMENT BOOKLET

M.Sc. (Zoology) Programme

(MSCZOO)

Immunology

Valid from 1st January, 2026 to 31st December, 2026

School of Sciences
Indira Gandhi National Open University
Maidan Garhi
New Delhi-110068

(2026)

Dear Student,

Please read the Section on assignments in the Programme Guide for M.Sc. (Zoology). A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation, which would consist of one tutor-marked assignment for this course. The assignment is in this booklet. The total marks for this assignment is 100, of which 40 marks are needed to pass it.

Instructions for formatting your Assignments

Before attempting the assignment please read the following instructions carefully:

1) On top of the first page of your answer sheet, please write the details exactly in the following format:

ROLL NO.: ……

NAME: ……..

ADDRESS: ……

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COURSE CODE: …….

COURSE TITLE: …….

ASSIGNMENT NO.: ……..…

STUDY CENTRE: ……..…....

DATE: ……..……...

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.

2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
3) Leave 4 cm margin on the left, top and bottom of your answer sheet.
4) Your answers should be precise.
5) Solve this assignment, and **submit the complete assignment answer sheets within the due date.**
6) The assignment answer sheets are to be submitted to your Study Centre within the due date. **Answer sheets received after the due date shall not be accepted. We strongly suggest that you retain a copy of your answer sheets.**
7) This assignment is valid from 1st January, 2026 to 31st December, 2026. If you have failed in this assignment or fail to submit it till its validity, then you need to get the assignment for the next year and submit it as per the instructions given in the Programme Guide.
8) **You cannot fill the examination form for this course** until you have submitted this assignment.

We wish you good luck.

ASSIGNMENT

Course Code: MZO-008
Assignment Code: MZO-008/TMA/2026
Maximum Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it.

1. a) Describe the structure and function of thymus. (5)

   b) Explain the role of toll like receptor in innate immunity. (5)

2. Write short notes: (2 ½× 4= 10)

   a) Therapeutic vaccines

   b) Superantigens

   c) Natural Killer Cells.

   d) ELISA

3. a) How monoclonal antibodies are typically produced using hybridoma technology? (5)

   b) Write a note on the factors that influences immunogenicity. (5)

4. a) Illustrate structure and functions of primary lymphoid organs. (5)

   b) How do DNA vaccines work, and what are their potential advantages over traditional vaccines? (5)

5. a) Explain the classical pathway of complement system. (5)

   b) Explain in detail about endocytic pathways of antigen processing and presentation. (5)

6. a) Discuss the mechanism of immune response to viral infection. (5)

   b) Describe the steps involved in immunoelectrophoresis technique. (5)

7. a) Write a brief note on HLA tissue typing. (5)

   b) Discuss in detail about activation, maturation and differentiation of B-cells. (5)

8. a) Explain in detail about the mechanisms of antigen processing and presentation. (5)

   b) Explain in detail about different types of hypersensitivity reactions. (5)

9. a) Describe the structure and function of MHC molecules (5)

   b) Describe the properties and functions of cytokines. (5)

10. a) Discuss the causes of autoimmune disease in human. (5)

    b) Give a detailed account on the mechanism of phagocytosis. (5)