

MZO-005

ASSIGNMENT BOOKLET

M.Sc. (Zoology) Programme

(MSCZOO)

GENOMICS AND PROTEOMICS

Valid from 1st January, 2025 to 31st December, 2025



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

(2025)

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:
.....
.....

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, 2025 to 31st December, 2025. 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

(Tutor Marked Assignment)

Course Code: MZO-005
Assignment Code: MZO-005/TMA/2025
Maximum Marks: 100

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

1. Give a broad overview of the organization of viral genomes. (10)
2. Describe the two repeat elements, LINE and SINE with proper diagrams. (10)
3. Describe the different methods for locating genes in a genome sequence. (10)
4. Discuss the principle, methodology and advantages of RNA Sequencing. (10)
5. Given an outline of the chemical sequencing method of DNA with proper illustrations. (10)
6. Discuss the different methods for the prediction of specific domains in proteins. (10)
7. Discuss the different types of ion detectors in mass spectrometry. (10)
8. Give a broad overview of Bacterial Artificial Chromosome and Yeast Artificial Chromosome. (10)
9. Highlight the different applications of RNA interference technology. (10)
10. Write short notes: (2½×4=10)
 - a) Yeast two-hybrid system
 - b) Suppression subtractive hybridization
 - c) Phage display for DNA binding proteins
 - d) Chemical ionization in mass spectrometry