

MZO-004

ASSIGNMENT BOOKLET

M.Sc. (Zoology) Programme

(MSCZOO)

Systematics, Biodiversity and Evolution

Valid from 1st January, 2024 to 31st December, 2024



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

(2024)

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, 2024 to 31st December, 2024. 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-004
Assignment Code: MZO-004/TMA/2024
Maximum Marks: 100

Note: Attempt all questions. The mark for each question is indicated against it.

1. What is evolution? Describe the Charles Darwin's theory of evolution. (10)
2. Describe any two theories associated with the origin of life. (10)
3. Describe the concept of speciation in bacteria. (10)
4. What is molecular divergence? Describe the proteins that are studied as an example of Molecular clock. (4+6=10)
5. Describe the divergence of Bacteria and Archaea in terms of replication and translation systems. (10)
6. Describe any two agents of Horizontal gene transfer with the help of suitable diagrams. (10)
7. Compare the cellular and molecular characteristics of Bacteria, Archaea and Eukaryotes. (10)
8. Discuss the origin of multicellularity and evolution of bilateral symmetry in animals. (10)
9. Describe the consequences of genome and gene duplications. (10)
10. Define the following: (2½×4=10)
 - a) Pseudogene
 - b) Genetic drift
 - c) Cladogenesis
 - d) Biosystematics