

MZOE-006

ASSIGNMENT BOOKLET

**M.Sc. (Zoology) Programme
(MSCZOO)**

APPLIED ENTOMOLOGY

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: MZOE-006
Assignment Code: MZOE-006/TMA/2025
Maximum Marks: 100

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

1. Write short notes on the following: (10)
 - a) Concept of pest status.
 - b) Structural perfections exhibited by the insect pests.
 - c) Developmental characteristics exhibited by the insect pests.
 - d) Extent of damage caused by pests.
2.
 - i). Describe the evolutionary arms race between plants and herbivores. (2.5)
 - (2.5)
 - ii). What role do microbial symbionts play in insect-plant interactions? (2.5)
 - (2.5)
 - iii). Explain how host shifts in insects can lead to speciation.
 - iv). Evaluate the role of RNA interference (RNAi) in pest management.
3. Write short notes on the following: (10)
 - i) Gundhi Bug (*Leptocorisa varicornis*) adult
 - ii) Damage caused by *E. insulana*
 - iii) Damage caused by Sugarcane *Pyrilla*
 - iv) Management of Castor Semilooper
4.
 - a). Discuss the various stored grain insect pest management strategies. (5)
 - b). List the various functions of Locust Warning Organisation (LWO). (5)
Explain its role in International cooperation to manage the locusts in different countries.
5. Discuss the process of host plant resistance (HPR) in insects. (10)
6. Discuss the merits and demerits of chemical control methods. (10)
7.
 - a). How does the use of biotechnological methods in pest control contribute to Integrated Pest Management (IPM)? (5)
 - b). What are insect growth regulators (IGRs), and how do they help in pest management? (5)
8.
 - a). Write the objective of Integrated Vector Management (IVM). Describe the five key elements that have been identified by WHO for the successful implementation of IVM. (5)
 - b). Explain the life cycle of honey bees with the help of a suitable diagram. Describe the ways they communicate with each other to (5)

gather good quality of food for the colony.

9. a). Differentiate between Chawki and Old-age rearing. Explain in terms of feeding and spacing of silkworms. (4)
- b). What is coupe system in artificial inoculation of brood lac? (6)
 Differentiate between Kusumi and Rangeeni coupe. Name the crops for which they are practiced during cultivation.
10. Briefly describe the concept of entomotoxicology and the analysis processes involved. How do these analyses help in criminal investigations? (10)