



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA**  
**FACULTY OF SCIENCE**  
**Department of Pure and Applied Sciences**  
**2023 2 EXAMINATIONS—**

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**BIO 414: Applied Entomology**

**Time: 2½ Hours**

**Credit Units: 3**

**Instruction: Answer question ONE (1) and any other FOUR (4) questions**

- 1a. Outline the advantages of Host Plant Resistance in Integrated pest Management. (8 marks)
- 1b. Outline the mechanism of metabolism of nicotine by mammalian livers (6 marks)
- 1c Differentiate between Economic Injury Level (EIL) and Economic Threshold Level (ETL) (4 marks)
- 1d State the factors that influence Economic Injury Level (EIL) and Economic Threshold Level (ETL) (4 marks)
  
2. Expatiate on the environmental impact of pesticides degradation process on soil (12 marks)
  
- 3.a Itemise the tools or components of Integrated Pest Management. (8 marks)
- 3 b. Outline the phases in crop protection leading to IPM. (4 marks)
  
- 4a. Define Resistance (2 marks).
- 4b. Describe the mechanisms by which insects become resistant to pesticides. (10 marks)
  
5. In tabular form, list the hosts, disease caused and one example each of the following families of parasitic mites (12 marks).
  - i. Leaf chewers
  - ii. Plant Miners
  - iii. Plant Bores
  
6. Expound on the duties of the worker bee (12 marks).