



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
2020_2 Examination...

BIO 414: Applied Entomology

Time: 2½ Hours

Credit Units: 3

Instruction: Answer FIVE questions only. QUESTION 1 is compulsory.

- 1a. Discuss the objectives of classification in entomology (6 marks)
- 1b. Give a classification of pesticides based on the organisms against which they are used (8 marks)
- 1c.i Explain the relationship that exists between *Pseudomyrmex* Ants and *Acacia*. (4 marks)
- ii. What benefits do they derive from each other? (4 marks)
2. Attempt a classification of the given organisms according to the major categories used in animal classification: **Kingdom, Phylum, Class, Order, Family, Genus, and Species.** (*No marks will be given for misspelt words*)
 - a. Western Honey Bee (6 marks)
 - b. Itch Mite (6 marks)
3. Discuss the role of the following in the entry of pesticides into Ground water
 - i. Surface runoff (6 marks)
 - ii. Leaching (6 marks)
4. List and explain four mechanisms through which insects can become resistant to insecticides (12 marks)
- 5a. Explain the term 'Pseudo resistance' (4 marks)
- 5b. Give a brief description of the following categories of Pseudo resistance.
 - i. Host Evasion (4 marks)
 - ii. Host Escape (4 marks)
- 6a i. Define the term 'semio-chemicals' (1 mark)
- ii. List 2 goals of using semio-chemicals (2 marks)
- iii. Enumerate 3 advantages of using semio-chemicals (3 marks)
- 6b. Explain the role of the following Pheromones in insects
 - i. Alarm Pheromones
 - ii. Aggregation Pheromones
 - iii. Epideictic Pheromones (6marks)