

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

**FACULTY OF APPLIED SCIENCES
DEPARTMENT OF FOREST RESOURCES AND WILDLIFE MANAGEMENT
BACHELOR OF SCIENCE HONOURS DEGREE
MAIN EXAMINATION**

ENTOMOLOGY FOR FOREST AND WILDLIFE: EFW 4208

May 2014

Time Allowed: 3 HOURS

Total Marks: 100

INSTRUCTIONS TO CANDIDATES:

Answer **QUESTION ONE** and any other **THREE**. Each question carries **25 marks**.

1. A new outbreak of an unknown pest has been reported in your plantation forest. As a resident forest entomologist, describe the necessary logical steps you would take in attempting to bring a lasting solution to this pest problem.
2. Discuss the positive and negative impacts of termite activity in natural forests and tree plantations.
3. (a) Define the term Integrated Pest Management (IPM). **[5marks]**

(b) Discuss the merits and demerits of using biological control agents in the management of insect pests of trees in natural forests and plantations. **[20 marks]**
4. A scale insect belonging to the genus *Aspidoproctus* (Diaspididae) is a serious pest to the indigenous *Brachystegia* species in Zimbabwe.

(a) Describe the life cycle of *Aspidoproctus* sp. **[10 marks]**

(b) Using your knowledge on the biology, ecology and behaviour of this pest, discuss and comment on three management options of this pest **[15 marks]**
5. (a) Describe the traditional and new methods of controlling tsetse fly and show how the knowledge of the behaviour, biology and ecology of this pest have been important in the choice of such control strategies. **[20 marks]**

(b) Briefly discuss your opinion on the possible impact of tsetsefly eradication on wildlife and the forest habitats. **[5 marks]**
6. Describe and evaluate tick management strategies that can be employed in a combined livestock and wildlife animal production system.

***** END OF PAPER *****

