



"Investing in Africa's future"

COLLEGE OF HEALTH AGRICULTURE AND NATURAL SCIENCES

NACP 403: ENTOMOLOGY

END OF FIRST SEMESTER EXAMINATION

NOVEMBER 2025

LECTURER: MR NATHAN BANALYA

DURATION: 3 HRS

INSTRUCTIONS

Answer all questions in Section A and any **three** from Section B

Section A carries **40 marks** and each question in Section B carries **20 marks**.

Materials: Calculator

SECTION A (Answer All Questions In this Section)

QUESTION ONE

a). Define the following terms:

- i. Entomology; (2 marks)
- ii. Hemimetabolous development; (2 marks)
- iii. Holometabolous development; and (2 marks)
- iv. Ametabolous. (2 marks)

b). Name the order of the following insect pests in crop production:

- i. Fall armyworm. (2 marks)
- ii. Cutworms. (2 marks)
- iii. Aphids. (2 marks)
- iv. Maize leafhopper. (2 marks)

c). i. Briefly describe the two major types of larvae. (6 marks)

ii. What is the function of compound eyes and how do they differ from ocelli. (4 marks)

d). Distinguish between the following:

- i. Apterygota and Pterygota insects. (2 marks)
- ii. Endopterygota and Exopterygota insect orders. (2 marks)

e). Briefly describe the three main parts of an insect that distinguishes it from other arthropods.

(10 marks)

SECTION B (Answer Any 3 Questions)

QUESTION TWO

Using Examples from African ecosystems, discuss how insect diversity support ecosystem services such as pollination, decomposition and biological control. (20 marks)

QUESTION THREE

Explain the principles of integrated pest management (IPM) and the role of entomological knowledge in designing sustainable control strategies. (20 marks)

QUESTION FOUR

Discuss the economic impact of insect pests on smallholder production of maize, beans, cotton, and groundnuts in Sub-Saharan Africa. (20 marks)

QUESTION FIVE

Describe insect feeding types based on dietary preferences. (20 marks)

QUESTION SIX

Critically analyze the factors that make insects the most successful animal group in terms of species richness, ecological roles, and evolutionary longevity. (20 marks)

END OF EXAMINATION PAPER