



MACHAKOS UNIVERSITY

University Examinations for 2024/2025 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR FIRST SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF SCIENCE IN PUBLIC HEALTH

HPH206: MEDICAL ENTOMOLOGY, PEST AND PEST MANAGEMENT

DATE: 24TH JANUARY, 2025

TIME: 8.30 AM – 10.30 AM

INSTRUCTIONS:

Answer question **ONE** (*Compulsory*) and *any other TWO* questions.

QUESTION ONE (30 MARKS)

- a) Illustrate the structure of the mouthparts of a haematophagus. (3 marks)
- b) Distinguish between an insecticide and a pesticide (3 marks)
- c) Explain the concept of vector management as an integral component of disease management. (3 marks)
- d) Outline the use of biological control in managing insect pests. (3 marks)
- e) Describe the respiratory system of insects (3 marks)
- f) Outline three acts of safe insecticide use. (3 marks)
- g) With examples, outline the characteristics of the order Diptera (3 marks)
- h) Explain the economic importance of *Xenopsilla cheopis* (3 marks)
- i) Explain how use of insecticide treated bednets assist in managing malaria (3 marks)
- j) Outline three constraints to the management of a population of rodents in a rural village. (3 marks)

QUESTION TWO (20 MARKS)

Discuss why Malaria is still a killer today despite current advances in disease management.

QUESTION THREE (20 MARKS)

Discuss the classification of the phylum Arthropoda.

QUESTION FOUR (20 MARKS)

Discuss the arms of Government concerned with management of disease vectors in Kenya.

QUESTION FIVE (20 MARKS)

Discuss the transmission of protozoan infections of any four vector borne diseases in Kenya.