



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF COMMUNITY HEALTH
BACHELOR OF SCIENCE IN COMMUNITY HEALTH
END OF TERM EXAMINATION APRIL 2025

UNIT CODE: CHP 133 **UNIT NAME:** MEDICAL ENTOMOLOGY
DATE: APRIL, 2025
TIME: TWO Hours **Start:** **Finish**

INSTRUCTIONS

1. This exam is marked out of 70 marks.
2. This Examination comprises TWO Sections.

Section A: Compulsory Question (30 marks)

Section B: Long Answer Questions (40 marks)

SECTION A: COMPULSORY QUESTION (30 Marks), ANSWER ALL QUESTIONS

1. Define medical entomology (1 marks)
2. State the THREE (3) of importance medical Entomology in public health (3 marks)
3. Identify the basic anatomy of an insect, labeling the major body regions (4 marks).
4. State the any TWO (2) Importance of vector competence to disease transmission. (4 marks)
5. Outline the life cycle of *Dermatophagoides pteronyssinus* (house dust mite) (3 Marks)
6. State TWO (2) methods used for the identification of mosquito species (2 marks).
7. Outline the any THREE (3) kcharacteristics of black flies (*Simulium spp.*) (3 Marks)
8. Identify the life cycle of *Pulex irritans* (human flea) (4 Mark)
9. State any THREE (3) importance of insecticide resistance management in vector control programs. (3 Marks)
10. State the role of personal protective measures in preventing insect-borne diseases. (3 marks)

SECTION B: LONG ANSWER QUESTIONS (40 MARKS) , Answer ANY TWO questions, 20 marks each.

1. (a) Describe the process of blood feeding in ticks, highlighting the adaptations that enable them to successfully feed on their hosts. (8 marks)

(b) Discuss the public health impact of Rocky Mountain Spotted Fever, including its causative agent, the vector involved, and the clinical manifestations. (7 marks)

(c) As a researcher, propose a study design to investigate the effectiveness of a new tick repellent. (5 marks)
2. (a) Compare and contrast the characteristics of *Aedes aegypti* and *Aedes albopictus* mosquitoes, focusing on their breeding habits, biting behavior, and disease transmission potential. (8 marks)

(b) Explain the pathogenesis of dengue fever, including the causative agent, the vector involved, and the different clinical forms of the disease. (7 marks)

(c) Develop a community-based health promotion campaign to prevent dengue fever in an urban area. (5 marks)

3. **(a)** Describe the different types of vector control methods, providing examples of each and discussing their advantages and disadvantages. (8 marks)

(b) Discuss the principles of integrated pest management (IPM) and its application in the control of insect vectors. (7 marks)

(c) Evaluate the potential impact of climate change on the effectiveness of current vector control strategies. (5 marks)

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