

UNIVERSITY EXAMINATIONS

FIRST SEMESTER 2025/2026 ACADEMIC YEAR

**SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF BIOMEDICAL SCIENCE AND
TECHNOLOGY**

BMED 213: MEDICAL AND VETERINARY ENTOMOLOGY

STREAM: R

TIME: 2 HRS

DAY: TUESDAY [8.30 – 10.30 A.M]

DATE: 03/02/2026

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

Instruction

- i. Answer **ALL** questions in Section A and any **TWO** question in Section B
- ii. Illustrate your answers with diagrams where applicable

SECTION A: 40 MARKS**QUESTION ONE**

Distinguish between the following terms:

(4 Marks)

- a) Toxin and Venom
- b) Mechanical and direct contact transmission of disease

QUESTION TWO

a) State the **two** functions of the integument/exoskeleton in arthropods

(2 Marks)

b) Explain the success of insects in the ecosystem

(4 Marks)

QUESTION THREE

a) State health problems caused by the following arthropods

(4 Marks)

- (i) Lice
- (ii) House fly
- (iii) Sand fly
- (iv) Mites

b) Outline the medical importance of the family Heteroptera

(2 Marks)

QUESTION FOUR

a) Distinguish between one-host, two-host, and three-host ticks giving an example

(4 Marks)

b) Suggest ways in which tick borne disease can be controlled in livestock

(2 Marks)

QUESTION FIVE

Explain the following medical conditions related to arthropods.

(6 Marks)

- a) Exsanguination
- b) Nuisance
- c) Arthropobia

QUESTION SIX

- a) Outline the pathogenicity of myiasis (2 Marks)
- b) Explain how myiasis causing agents enter into animal tissues (2 Marks)
- c) Highlight debridement in wound care (2 Marks)

QUESTION SEVEN

- a) Elucidate on the mechanism of metamorphosis (2 Marks)
- b) Explain circulatory system of arthropods and explain how it is very different from that of vertebrates (4 Marks)

SECTION B: 30 MARKS: ANSWER ANY TWO QUESTIONS**QUESTION EIGHT**

- a) Describe on biological transmission in arthropods (6 Marks)
- b) Discuss the role of environmental factors in the transmission of infectious diseases (6 Marks)
- c) Elaborate on Integrated Vector Management and control (3 Marks)

QUESTION NINE

- a) Using illustration, discuss the morphology of order Hymenoptera (7 Marks)
- b) Describe three categories of venoms produced by this order and citing examples explain how some arthropod toxins have been used in managing medical conditions 8mks

QUESTION TEN

- a) Describe in detail the developmental cycle and ecology of the mosquitoes (7 Marks)
- b) Discuss the pathogens transmitted by mosquito and characteristic features that make the mosquitoes effective transmitter of pathogens (6 Marks)
- c) Explain methods of eliminating larvae as a way of controlling mosquitoes. (2 Marks)