



TECHNICAL UNIVERSITY OF MOMBASA

School of Applied and Health Sciences
DEPARTMENT OF PURE AND APPLIED SCIENCES
UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN MOLECULAR BIOLOGY AND FORENSIC TECHNOLOGY

AFR 4403: FORENSIC ENTOMOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: JULY 2025 SERIES

TIME: 2 HOURS

DATE: JULY 2025

Instructions to Candidates

You should have the following for this examination

Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt **question ONE (Compulsory) and any other TWO questions.**

Do not write on the question paper.

Question One (25 Marks)

- a) Outline the contribution of the following in Forensic Entomology
- i) Jean Pierre Ménégnin (3 marks)
 - ii) Hermann Reinhard (2 marks)
- b) Explain the meaning of following terms as used in Forensic Entomology
- i) *Algor mortis* (1 mark).
 - ii) *Rigor mortis* (1 mark).
 - iii) *Livor mortis* (1 mark).
 - iv) *Tache noir* (1 mark)
- c) Explain FOUR (4) factors influencing arthropod infestation patterns on animal carrion (4 marks)
- d) Explain the role of Trogidae (Carcass beetles) in animal carcass decomposition (3 marks)
- e) Explain the influence of physical barriers on decomposition of animal carrion (4 marks)

- f) Highlight the activities of arthropod groups involved in Active Decay stage in human corpses (4 marks)
- g) Outline the role of Histeridae (Clown beetles) in carcass determination of PMI (3 marks)
- h) Discuss the behavior and application of the coprophages in Medico-legal Forensic investigations (3 marks)

Question Two (25 Marks)

- a) Give an account of the organisms involved in the decomposition of human carrion (14 marks)
- b) Explain the application of entomological information during criminal investigations (6 marks)

Question Three (25 Marks)

Discuss the factors influencing below ground decomposition in animal carrion (20 marks)

Question Four (25 Marks)

- a) Outline the sampling sites for entomological information in Forensic Entomology (5 marks)
- b) Explain how TEN types of equipment are used for the collection of insects and additional information at the scene during forensic investigations (10 marks)
- c) As soon as a specimen is collected it should be properly labeled. Give an account of the information that should be contained on a specimen label (5 marks)

Question Five (25 Marks)

Discuss the typical stages of animal decomposition after death (20 marks)