



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
SCHOOL OF BIOLOGICAL, PHYSICAL, MATHEMATICS AND ACTUARIAL
SCIENCES

UNIVERSITY EXAMINATIONS FOR THE AWARD OF A DEGREE OF MASTER OF
SCIENCE IN APPLIED INSECT SCIENCE

1ST YEAR 2ND SEMESTER 2023/2024 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: SBI 5124
COURSE TITLE: VECTOR BIOLOGY
EXAM VENUE: STREAM: (MSC)
DATE: EXAM SESSION:
TIME: 2 HOURS

Instructions:

- 1. Answer Question 1 and Any two questions from questions 2 to 6**
 - 2. Candidates are advised not to write on question paper**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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1. Describe the different types of vectors and their characteristics including their life cycles, feeding habits, and specific adaptations for transmitting pathogens. (15 marks)
2. Discuss the influence of human behavior in determination of disease transmission and the effect of animal reservoirs on vector populations. (15 marks)
3. a). Briefly describe the ecology of a breeding site of a named vector.
b). What are the factors that determine the biting behavior of vectors of disease?
c). What is the importance of tracking vectors and their populations? (15 marks)
4. Explain the holistic approach that combines various control methods like insecticides, habitat modification, and community engagement. (15 marks)
5. a). Which are the major vector-borne diseases? Include the causative organisms of each and their mode of transmission.
b). Outline the Global and Regional Vector Control Initiatives that have impacted research and development, and promoted the implementation of effective vector control strategies? (15 marks)
6. a). Discuss the increasing threat of emerging vector borne diseases. Use named specific example(s).
b). Explore the impact of climate change on vector distribution and disease transmission (15 marks)