



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

SECOND YEAR FIRST SEMESTR EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN MEDICAL
BIOTECHNOLOGY, BACHELOR OF SCIENCE IN
PHARMACEUTICAL SCIENCE AND BACHELOR OF SCIENCE IN
MEDICAL LABORATORY SCIENCE WITH INFORMATION
TECHNOLOGY
(MAIN CAMPUS)

**PMT 225: MEDICAL ENTOMOLOGY AND VECTOR
SCIENCES**

Date: 21st November, 2013

Time: 2.30 - 4.30 p.m.

PMT 225: Medical Entomology and Vector Sciences

BSC MEDICAL BIOTECHNOLOGY, BSC PHARMACEUTICAL SCIENCE AND BSC
MEDICAL LABORATORY SCIENCE

2 Hrs

SECTION A (40 Marks)

Answer ALL Questions from this section.

- Q1. Differentiate an adult female anopheline mosquito from an adult male culicine mosquito (5 marks).
- Q2. Write down ten (10) morphological features which differentiate Arachnids from Insects (5 marks).
- Q3. Mention five (5) diseases got from human faeces and three main mechanical fly-routes for transmission of disease-causing organisms to human (6 marks).
- Q4. Outline and briefly explain three entomological factors affecting malaria transmission by adult vectors (6 marks).
- Q5. Contrast the resting position and feeding behavior of larvae of *Culex* species and those of *Anopheles* species (3 marks).
- Q6. State the seven main (compulsory or necessary) titles used in the classification of arthropods of medical importance (3 marks).
- Q7. Describe four (4) arboviral infections of humans, and for each one, mention the most effective method of vector and disease control (4 marks).
- Q8. By use of diagrams, describe the typical eggs of *Anopheles*, *Culex* and *Aedes* species (3 Marks).
- Q9. Distinguish between environmental modification and environmental manipulation as used in vector control (3 Marks)

SECTION B (30 Marks)

Answer ANY THREE QUESTIONS from this section

- Q 10. Contrast the biology and control of tse tse fly and triatomine bugs (10 marks)
- Q11. Discuss the importance of collection and counting of vectors (10 marks)
- Q12. Describe one (1) arboviral zoonotic and two (2) protozoal vector-borne zoonotic infections of man and for each one, mention the vector involved and state how to control it (10 marks)
- Q13. What is cryptic species? Describe how knowledge of the concept may be applied in the control of members of *Anopheles gambiae* s.l. (10 marks)