



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE
AND TECHNOLOGY**

UNIVERSITY EXAMINATIONS 2012/2013

**SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR
THE DEGREE OF BACHELOR OF SCIENCE IN COMMUNITY
HEALTH AND DEVELOPMENT & BACHELOR OF SCIENCE
IN PUBLIC HEALTH**

(BUSIA LEARNING CENTRE)

COURSE CODE: HCD 3227

COURSE TITLE: INTRODUCTION TO MEDICAL ENTOMOLOGY.

DATE: 21/4/2013

TIME: 9.00-11.00AM

INSTRUCTIONS

1. This paper contains TWO sections.
2. Answer ALL questions in section A (Compulsory) and ANY other Two questions in section B.
3. Write all answers in the booklet provided.

Answer ALL questions in Section A and ANY TWO questions in Section B.

1. List the distinguishing features between the class Arachnida and Insecta in the phylum Arthropoda **(3 marks)**
2. Define the term “**metamorphosis**”. Name two genera in the class Insecta that undergo complete metamorphosis. **(3 marks)**
3. Define the difference between **spermathecae** and **spermatophore** in insects. **(3 marks)**
4. Define the following terms as applied in arthropod reproduction, **Parthenogenesis, Viviparity,** and **Polyembryony**. **(3 marks)**
5. List three importance of the pupae stage in insects. **(3 marks)**
6. With examples, list the two main differences that are used to distinguish **hard ticks** (Ixodidae) from **soft ticks** (Argasidae) **(3 marks)**
7. Define the term Arbovirus, Name one viral infection that is capable of being transmitted both transovarially and transstadially. **(3 marks)**
8. What is the causal agent of sleeping sickness in man. What is the name given to the same disease in animals? Name the species of the Diptera that commonly transmit this disease in East Africa. **(3 marks)**
9. Define **Myiasis**. Name one species of insect that is normally associated with this condition in man. **(3 marks)**
10. Name the main vectors of the following parasites *Leishmania donovani*, *Yersinia pestis* and *Rickettsia prowazeki* **(3 marks)**

SECTION 2. ANSWER ANY TWO QUESTIONS (30 marks)

1. **a.** Name the two major mosquito species that commonly transmit malaria parasites in Kenya, and explain why some vectors are more efficient in transmitting the malaria parasite than others.
b. Describe the advantages and disadvantages of malaria vector control using **chemical** and **biological** agents. **(20 marks)**
2. Describe the medical importance of the following arachnids *Amblyomma variegatum* and *Sarcoptes scabiei*. Name the specific disease conditions they cause their management. **(20 marks)**
3. Discuss the medical and social importance of the following domestic insects that are commonly found in human dwellings *Musca domestica* and *Blata orientalis*. **(20 marks)**
4. Write short notes on the following insects *Pthirus pupis*, *Tunga penetrans*, *Pediculus humanus capitis* and *Cimex lectularius*. **(20 marks)**