



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

UNIVERSITY EXAMINATION 2013/2014

**1ST YEAR, 1ST SEMESTER EXAMINATION FOR THE DEGREE
OF BACHELOR OF BIOLOGICAL SCIENCES AND
BACHELOR OF EDUCATION SCIENCE WITH IT**

COURSE CODE: SZL 101/SBI 3112

TITLE: INVERTEBRATE ZOOLOGY

DATE: 26/4/2013

TIME: 14.00-16.00PM

DURATION: 2 HOURS

INSTRUCTIONS:

- 1. This paper contains two sections (A and B)**
- 2. Answer ALL questions in Section A and any Two (2) questions in Section B**
- 3. Write ALL answers in the booklet provided**
- 4. You may use illustrations in your answers as you deem necessary**

SECTION A (30 marks)

1. Differentiate between the following: (2 marks)
 - a. Bilateria and Radiata
 - b. Acoelomates, Pseudocoelomates and Coelomates
2. List the ten (10) major Phyla of Metazoa (3 marks)
3. Describe the process of conjugation attributed to sexual reproduction in Protozoa using the example of *Paramecium aurelia*. (3 marks)
4. Define the following terms: (2 marks)
 - a. Archenteron
 - b. Encystment
 - c. Schizocoely
 - d. exoskeleton
5. List and describe the major organelles of Protozoans that are not generally found among Metazoans (3 marks)
6. How does Sponge architecture contribute to increased flow of water through the Sponge, and to increased feeding, reproduction and waste disposal efficiency? (2 marks)
7. How do nematocysts of the Phylum Cnidaria form and how do they discharge in search for food or defence? (3 marks)
8. (i) Describe the most conspicuous unifying feature of the Phylum Platyhelminthes.
(ii) Give at least one example of a parasitic Nematode including how it affects its host. (2 marks)
9. Sketch and describe the morphological features of a typical Mollusc (3 marks)
10. Outline the appendages located variously on the 3 tagmata of the insect body and state the functions of each one. (3 marks)
11. State the anatomical and/or functional features that Bryozoa have in common with the rest of the Lophophorates (2 marks)
12. How are individual echinoderm tube feet operated in locomotion and collection of food? (2 marks)

SECTION B (40 Marks)

1. Describe the Physical properties of water and air, as they reflect the diversity and different Lifestyles possible for Invertebrates in the aquatic and terrestrial environments. (20 marks)
2. What are the Locomotory mechanisms encountered within the Phylum Sarcomastigophora. Give their detailed form and function. (20 marks)
3. a. Compare the features encountered among the Phyla: Annelida, Echiura and Sipuncula
b. Differentiate between the nephridial structure and function among marine, freshwater and terrestrial annelids. (20 marks)
4. How does the structure of bivalves differ from that of other Molluscs. Give a detailed comparison. (20 marks)
5. Describe the Arthropod integument and discuss how it has made Arthropods successful on land. (20 marks)