



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES  
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF  
EDUCATION (SCIENCE)**

**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2013/2014 ACADEMIC YEAR**

**MAIN**

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**COURSE CODE: SBI 3112**

**COURSE TITLE: INVERTEBRATE ZOOLOGY**

**EXAM VENUE: LR 3**

**STREAM: (Biological Sciences)**

**DATE: 15/04/14**

**EXAM SESSION: 9.00 – 11.00 AM**

**TIME: 2.00 HOURS**

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**Instructions:**

- 1. Answer ALL Questions in Section A and ANY other 2 questions in Section B**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**SECTION A (40 marks)**

1. State three different ways by which a taxon may be related to a phylogenetic tree.  
(3 marks)
2. Giving examples of specific organisms where they occur, describe three different coelomic states.  
(3 marks)
3. Describe the three different types of canal systems found in Phylum Porifera.  
(3 marks)
4. List any three types of asexual multiplication in Phylum Protozoa. (3 marks)
5. State any three similarities and three differences between Phylum Cnidaria and Phylum Ctenophora. (3 marks)
6. Outline any six characteristics of Class Bivalva. (3 marks)
7. Describe osmoregulation and excretion in Phylum Platyhelminthes. (3 marks)
8. Outline the importance of segmentation in Phylum Annelida. (3 marks)
9. Describe feeding and digestion in Class Asterozoa. (3 marks)
10. Define the following terms. (3 marks)
  - a) Radula (1 mark)
  - b) Rhopalia (1 mark)
  - c) Nephridia (1 mark)

**SECTION B (40 marks)**

11. Discuss phylogenetic and biological concept of species. (20 marks)
12. Write an essay on Phylum Mollusca, with emphasis on their general body plan, internal structure and function. (20 marks)
13. Using specific examples, describe the different modes of feeding and digestion among invertebrates. (20 marks)
14. Discuss the economic importance of invertebrates. (20 marks)