

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN NATURAL RESOURCES MANAGEMENT**

**NARE 111: INVERTEBRATES AND NATURAL RESOURCES**

**STREAMS: NARE Y1S2**

**TIME: 2 HOURS**

**DAY/DATE: MONDAY 08/04/2024**

**11.30 A.M – 1.30 P.M.**

**INSTRUCTIONS:**

- Answer ALL questions in SECTION A and any TWO in SECTION B.
- Do NOT write anything on the question paper.

**SECTION A: 30 MARKS**

1. Differentiate between the following concepts used in invertebrates biology.
  - (a) Homology and divergence (2 marks)
  - (b) Coelom and Osculum (2 marks)
2. Briefly explain three methods used in tracing phylogeny while using morphology. (6 marks)
3. Outline three roles played by the Phylum Annelida in forestry and agricultural production. (3 marks)
4. Highlight four mechanisms employed by corals to protect themselves from predation. (4 marks)
5. Using relevant examples, describe two types of metamorphosis in the Class Insecta. (4 marks)
6. Briefly describe torsion in Class Gastropoda. (3 marks)
7. Using an illustration describe three body plans in the Phylum Mollusca. (6 marks)

**SECTION B (40 MARKS)**

8. (a) Discuss the functions of coelom in an animal's body. (10 marks)

- (b) Using relevant examples, describe invertebrates which are important to man as disease causing agents. (10 marks)
9. Discuss the threats facing invertebrates communities globally. (20 marks)
10. Discuss the factors enabling insects to be most successful class of arthropods compared to other invertebrates. (20 marks)
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