



MACHAKOS UNIVERSITY

Examinations for 2022/2023 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SUPPLEMENTARY/SPECIAL EXAMINATION

SZL 201: INVERTEBRATE ZOOLOGY

DATE: 9/3/2023

TIME: 8.30 – 10.30 AM

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions
2. Use clean well labelled diagrams wherever appropriate.

QUESTION ONE (30 MARKS)

- a) Briefly describe three phyla of protozoan organisms (3 marks)
- b) Using appropriate examples, define the term sessile (3 marks)
- c) Classify invertebrates into three categories based on symmetry (3 marks)
- d) Distinguish between the two forms of cnidarians (2 marks)
- e) Describe three features which make annelids more advanced than other worms (3 marks)
- f) Explain the importance of cephalization in evolution of arthropods. (3 marks)
- g) Differentiate between coelomates and acoelomates. (2 marks)
- h) Differentiate between superficial and metameric segmentation. (2 marks)
- i) Outline three body plans of sponges. (3 marks)
- j) Outline any three features of acoelomates (3 marks)
- k) Explain the importance of extracellular digestion in cnidarians compared to intracellular digestion in sponges. (3 marks)

QUESTIONS TWO (20 MARKS)

- a) Compare Ctenophores and Cnidarians. (10 marks)
- b) Describe mutualisms in sea anemones citing relevant examples where applicable. (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the characteristics and economic importance of Platyhelminthes. (10 marks)
- b) Discuss the importance of sponges in the ecosystem. (10 marks)

QUESTION FOUR (20 MARKS)

Discuss five major evolutionary trends in invertebrates. (20 marks)

QUESTION FIVE (20 MARKS)

Describe the unique features of the mollusc body. (20 marks)