



MACHAKOS UNIVERSITY

University Examinations 2022/2023 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION (SPECIAL NEEDS)

BACHELOR OF

SZL 201 : INVERTEBRATE ZOOLOGY

DATE:

TIME:

INSTRUCTIONS

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

SECTION A: (COMPULSORY)

QUESTION ONE (30 MARKS)

- a) Compare the complexity of protozoan and metazoan cells. (2 marks)
- b) Using appropriate examples, differentiate between:
 - (a) radial and bilateral symmetry. (2 marks)
 - (b) protostomes and deuterostomes (2 marks)
- c) Briefly describe three forms of pseudopodia in sarcodina (3 marks)
- d) Explain the importance of cephalization in evolution of arthropods. (3 marks)
- e) Outline three categories of appendages used by invertebrates. (3 marks)
- f) Distinguish between Micronucleus and macronucleus in ciliophora. (3 marks)
- g) Describe any three unique features of echinoderms. (3 marks)
- h) Compare the digestive tract in platyhelminths and nemerteans. (3 marks)
- i) Outline the dimorphic state of cnidarians. (3 marks)
- j) Outline three unique features of molluscs. (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 MARKS)

Discuss annelid body plans.

QUESTION THREE (20 MARKS)

Describe the life cycle of *Trypanosoma brucei*.

QUESTION FOUR (20 MARKS)

Discuss types of cells in sponges.

QUESTION FIVE (20 MARKS)

Discuss the success of arthropods.