



MACHAKOS UNIVERSITY

University Examinations for 2024/2025 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR FIRST SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF SCIENCE (AGRICULTURAL EDUCATION & EXTENSION)

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF EDUCATION (SNE)

SZL 201: INVERTEBRATE ZOOLOGY

DATE: 23RD JANUARY, 2025

TIME: 11.00 AM – 1.00 PM

INSTRUCTIONS:

- Answer question **ONE (Compulsory)** and any other **TWO** questions
- Use clean well labelled diagrams wherever appropriate

QUESTION ONE (30 MARKS)

- Describe three germ layers found in embryonic metazoans. (3 marks)
- Outline the dimorphic state of cnidarians. (3 marks)
- Describe any three unique features of echinoderms. (3 marks)
- Outline the significance of metamorphosis in arthropods. (3 marks)
- Distinguish between Linnaean and cladistics system of classification. (3 marks)
- Explain the significance of metamerism. (3 marks)
- Outline any three features of apicomplexa. (3 marks)
- Distinguish between Micronucleus and macronucleus in ciliophora. (3 marks)
- Compare the digestive tract in platyhelminthes and nemerteans. (3 marks)
- Describe three types of body cavities in multicellular organisms. (3marks)

QUESTION TWO (20 MARKS)

Discuss the types of cells in sponges.

QUESTION THREE (20 MARKS)

- a) Using relevant examples, discuss the ecological roles of invertebrates. (10 marks)
- b) Compare Ctenophores and Cnidarians. (10 marks)

QUESTION FOUR (20 MARKS)

Discuss the major evolutionary trends in invertebrates.

QUESTION FIVE (20 MARKS)

Describe the life cycle of *Trypanosoma brucei*.