



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF SCIENCE IN BIOLOGY

SZL 201: INVERTEBRATE ZOOLOGY

DATE: 25/9/2019

TIME: 11.00-1.00 PM

INSTRUCTIONS

1. Answer question 1 in section A and any two questions in Section B.
2. Illustrate your answers with well labeled diagrams wherever appropriate.

SECTION A

QUESTION ONE COMPULSORY

- | | | |
|----|--|---------|
| a) | Outline three key characteristic features of the phylum Porifera. | 3 marks |
| b) | Describe the significance of the intermediate host of the parasite <i>Taenia solium</i> . | 4 marks |
| c) | Use an annotated diagram to illustrate the structure of a named Ciliophora | 4 marks |
| d) | Describes four types of nematocytes found in coelenterates | 4 marks |
| e) | State three adaptative features of cestodes to a parasitic mode of life | 3 marks |
| f) | Outline four negative economic importance of insects | 4 marks |
| g) | Illustrate diagrammatically the structures observed on a cross –section of an arm of starfish. | 5 marks |
| h) | Outline three differences between insects and arachnids | 3 marks |

SECTION B. Answer any two questions

QUESTION TWO

- a) Outline the classification of Phylum Annelida 10 marks
- b) Discuss why insects are very successful in surviving on earth. 10 marks

QUESTION THREE

- a) Explain alternation of generations in coelenterates 8 marks
- b) Use an annotated diagram to describe the life cycle of *Taenia solium*. 12 marks

QUESTION FOUR

- a. Using examples, identify the osmoregulatory structures in invertebrates. 6 marks
- b. Describe the phenomenon of torsion in molluscs 14 marks.

QUESTION FIVE

- a. Based on the coelomic space, briefly outline the evolution of invertebrates 8 marks
- b. Explain the diversity of species in the Phylum Arthropoda 12 marks