



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF SCIENCE (AGRICULTURAL EDUCATION AND EXTENSION)

BACHELOR OF SCIENCE (BIOLOGY)

SZL 201: INVERTEBRATE ZOOLOGY

DATE: 16/12/2021

TIME: 2.00-4.00 PM

INSTRUCTIONS

Answer Question 1 and Any two other questions in section B

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Describe the major sub-phylum of the phylum Arthropoda. (3 marks)
- b) Distinguish metazoans from protozoans (3 marks)
- c) Describe choanoflagellates with emphasis to evolutionary pathway (3 marks)
- d) Evaluate the importance of Hox genes (3 marks)
- e) Draw a diagram describing coelom development directly from mesodermal tissue (3 marks)
- f) Describe the 3 key characteristics of Chitons (3 marks)
- g) Outline the larval stages of trematoda (3 marks)
- h) Describe functions of Setae in Annelids (3 marks)
- i) Describe the following terminologies
 - a) Pygidium (1 mark)
 - b) Opisthogoneate (1 mark)
 - c) Gnathochilarium (1 mark)
- j) Outline the Cephalic appendages in Crustacea (3 marks)

SECTION B

QUESTION TWO (20 MARKS)

- a) Discuss the feeding and digestions in the phylum Cnidarians. Use diagrams where possible (10 marks)
- b) Describe the morphology of proglottids. (10 marks)

QUESTION THREE (20 MARKS)

- a) Compare and contrast Demospongia and Hexactinellida (8 marks)
- b) Classify and discuss the major groups of the lophotrochozoa (12 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss the internal morphology of any known Bryozoa (5 marks)
- b) Using principal cell types draw the structure of a known poriferan. (15 marks)

QUESTION FIVE (20 MARKS)

Discuss Cephalopods.