MACHAKOS UNIVERSITY

University Examinations 2019/2020 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN BIOLOGY

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATIONA ND EXTENSION

BACHELOR OF EDUCATION (SCIENCE)

SZL 201: INVERTEBRATE ZOOLOGY

DATE: 20/1/2021 **TIME: 8.30-10.30 AM**

INSTRUCTIONS

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

QUESTION ONE (30 MARKS) (COMPULSORY)

a) Briefly describe the three types of insect metamorphosis. (3 marks)

b) Differentiate between: (6 marks)

i. annelids and nematodes

ii. Insects and arachnids

c) Outline three general characteristics of the Phylum Echinodermata (3 marks)

d) Explain the concept of torsions (3 marks)

e) Differentiation between Metamerism and Metamorphosis (3 marks)

f) Explain the movement of water in sponges (3 marks)

g) Using an example, explain the term “Diploblastic metazoa” (3 marks)

h) Briefly explain the defense mechanisms exhibited within the Phylum Coelenterata (3 marks)

i) Illustrate the structure of a named haemoflagellate (3 marks)

SECTION B

QUESTION TWO (20 MARKS)

Discuss the economic importance of insects

QUESTION THREE (20 MARKS)

Classify and discuss the economic importance of phylum Platyhelminthes

QUESTION FOUR (20 MARKS)

Discuss the various forms of insect metamorphosis

QUESTION FIVE (20 MARKS)

Discuss the adaptive radiation of invertebrates.