



# MACHAKOS UNIVERSITY

University Examinations 2019/2020 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN BIOLOGY

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF SCIENCE (AGRICULTURAL EDUCATION AND EXTENSION)

SZL 100: GENERAL ZOOLOGY

DATE: 22/1/2021

TIME: 8.30-10.30 AM

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## INSTRUCTIONS

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

## SECTION A

### QUESTION ONE (30 MARKS)

- a) State **three** theories that explain the origin of life. (3 marks)
- b) Giving examples, briefly explain the difference between a taxon and a taxonomic rank. (3 marks)
- c) Briefly explain **three** nutrition types utilized by protozoans. (3 marks)
- d) Enumerate **three** classes of phylum porifera. (3 marks)
- e) State the hypotheses that explain the origin of chordates. (3 marks)
- f) Briefly explain the differences between vertebrates and invertebrate chordates. (3 marks)
- g) State **three** characteristics of fishes. (3 marks)
- h) State the difference between prokaryotic and eukaryotic cells. (3 marks)
- i) Name **three** lophophorate phyla. (3 marks)
- j) Define the following:
  - i. Immunity (1 mark)
  - ii. Negative feedback (1 mark)
  - iii. Respiration (1 mark)

**SECTION B**

**QUESTION TWO (20 MARKS)**

Discuss the main characteristics of birds.

**QUESTION THREE (20 MARKS)**

Discuss the animal nervous system.

**QUESTION FOUR (20 MARKS)**

Discuss the structure and function of eukaryotic cell organelles.

**QUESTION FIVE (20 MARKS)**

- a) Discuss the Main features of members of the phylum Arthropoda. (14 marks)
- b) Compare the relationship of member's of the phylum Arthropoda with those of phylum Annelida. (6 marks)