

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
MICROBIOLOGY, BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND
EXTENSION**

ZOOL 103: VERTEBRATE ZOOLOGY

STREAMS:

TIME:2 HOURS

DAY/DATE: THURSDAY 13/04/2023

8.30 A.M. –10.30 A.M.

INSTRUCTIONS

answer ALL questions in Section A and ANY TWO questions in Section B.

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. a. Outline three distinguishing characteristics of members of the phylum Chordata (3 marks)
- b. Name three classes of lower vertebrates and give an example of each (3 marks)

2. a. Explain why reptiles are more adapted to terrestrial existence than amphibians (3 marks)
- b. State three distinctive characteristic differences between Chondrichthyes and Osteichthyes (3 marks)

- 3.a. Describe reproduction in amphibians (4 marks)
- b. Discuss briefly respiration in lampreys (2 marks)

4. a. Describe any three challenges of the transition from water to land in vertebrates (3 marks)
- b. Describe the functions of the following in vertebrates (3 marks)
 - i. Vibrissae
 - ii. Rectal glands
 - iii. Tunic

5. a. Describe the structural differences between the heart of reptiles and amphibians (3 marks)
b. Give three theories of origin of chordates (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

6. Describe characteristics of different subclasses in the class Mammalia (20 marks)
7. Birds have the most efficient flight mechanisms. Discuss (20 marks)
8. Describe the anatomy of fish (20 marks)
-