



## **GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2017/2018 ACADEMIC YEAR TWO  
SECOND SEMESTER EXAMINATION**

**SCHOOL OF BIOLOGY AND BIOLOGICAL SCIENCES**

**FOR THE DEGREE OF BACHELOR OF EDUCATION (SCIENCE)**

**COURSE CODE: ZOO 212/112e**

**COURSE TITLE: VERTEBRATE ZOOLOGY**

**EXAMINATION DURATION: 3 HOURS**

**DATE: 17/04/18**

**TIME: 2.00-5.00 PM**

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### **INSTRUCTION TO CANDIDATES**

- The examination has SIX (6) questions
- Question ONE (1) is COMPULSORY
- Choose any other THREE (3) questions from the remaining FIVE (5) questions
- Use sketch diagrams to illustrate your answer whenever necessary
- Do not carry mobile phones or any other written materials in examination room
- Do not write on this paper

**This paper consists of TWO (2) printed pages**

***please turn over***



### QUESTION ONE (COMPULSORY)

- (a) State three major identifying characteristics of the phylum chordata [3 marks]
- (b) Explain three structural differences between members of class chondrichthyes and Osteichthyes [6 marks]
- (c) Discuss the differences between heart in fish and in mammals [4 marks]
- (d) Differentiate between agnatha and gnathostomata chordates with two examples of each group [6 marks]
- (e) Give two reasons why phylum chordata is said to have evolved from phylum echinodermata [4 marks]
- (f) State three economic importances of members of class aves to man [3 marks]

### QUESTION TWO

- (a) Highlight six challenges that faced the first terrestrial animals [6 marks]
- (b) Using examples discuss the presence of teeth in subphylum Craniata and its significance to scientists [9 marks]

### QUESTION THREE

- (a) Highlight observable differences between salamanders and frogs [6 marks]
- (b) Explain why mammals are considered to be the most successful group of vertebrates [9 marks]

### QUESTION FOUR

Write an essay on characteristics that have been used to classify vertebrates to classes [15 marks]

### QUESTION FIVE

- (a) Explain three adaptations of amphibian skin to gaseous exchange [6 marks]
- (b) Discuss the features in reptiles that made them better adapted to terrestrial life than amphibians [9 marks]

### QUESTION SIX

- (a) Discuss distinguishing features among the three subphyla of phylum chordata [3 marks]
- (b) Discuss adaptations of birds to flight [9 marks]

