



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FIRST YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR DEGREE OF
BACHELOR OF SCIENCE IN AGRICULTURAL EXTENSION AND EDUCATION**

2016/2017 ACADEMIC YEAR

REGULAR

COURSE CODE: AAS 3111

COURSE TITLE: ZOOLOGY

EXAM VENUE: STREAM: (BSc Agricultural Extension & Education)

DATE: EXAM SESSION:

TIME: 2 HOURS

Instructions

- 1. Answer ALL questions in Section A (compulsory) and ANY TWO questions in Section B**
 - 2. Candidates are advised not to write on the question paper**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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SECTION A [30 MARKS]

Answer ALL questions in this section

1. Define the following terms:
 - a. Vertebrate Zoology (1 mark)
 - b. Anatomy (1 mark)
 - c. Physiology (1 mark)
2. State three characteristics of mammals belonging to the order *Monotremata*. (3 marks)
3. Mammalian bodies are covered with hair. Outline four functions of mammalian hair. (4 marks)
4. Give four adaptations of birds for flight. (4 marks)
5. Explain how birds are able to receive a constant supply of fresh air during both inspiration and expiration. (4 marks)
6. Give three reasons why birds migrate. (3 marks)
7. Briefly explain the benefits of low resting metabolism in reptiles. (3 marks)
8. Outline any three characteristics of fish belonging to class *Chondrichthyes* (3 marks)
9. Briefly describe vocalization in frogs. (3 marks)

SECTION B [40 MARKS]

Answer ANY TWO questions from this section

10.
 - a. Explore the various mammalian adaptations that explain their success in the environment. (12 marks)
 - b. Evaluate the importance of shedding and regeneration of tails in reptiles such as geckos, skinks and lizards.. (8 marks)
11. Analyze the various features considered as unique in amphibians but are not seen in bony fish. (20 marks)
12. Giving examples, describe distinguishing characteristics of fishes belonging to the two groups; *Actinopterygii* and *Sarcopterygii*. (20 marks)
13. Describe birds under the following headings:
 - a. Feather care (10 marks)
 - b. Communication (10 marks)