JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

Course Content for AAB- 1101 Zoology **42 Hours**

Course Lecturer: Dr Margaret Kababu

Department of Plant, Animal and Food Sciences

Course Content

Introduction to invertebrate and vertebrate zoology. Histology, embryology, physiology and anatomy of vertebrates, with emphasis on domestic animals. Basic functions of the human body as a primate. The body tissues, epithelial, connective, muscular, nervous, blood and lymph. Organs and systems: skeletal, muscular, respiratory, circulatory, digestive, excretory, endocrine, immune. Functional organization in the regulation of movement, body fluids, body heat and temperature, metabolism and excretion. Basic ecology: principles and concepts.

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SCHOOL OF AGRICULTURAL AND FOOD SCIENCES
DEPARTMENT OF PLANT, ANIMAL AND FOOD SCIENCES

UNIVERSITY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE EDUCATION AND EXTENSION & ANIMAL SCIENCE
1ST YEAR SEMESTER TWO 2024/2025 ACADEMIC YEAR
SIAYA CAMPUS-REGULAR

COURSE CODE: AAB 1101 **COURSE TITLE: ZOOLGY**
EXAM VENUE: SIAYA CAPUS
STREAM: BSC. AGRICULTURE EDUCATION AND EXTENSION & ANIMAL SCIENCE
DATE: April 2025 **EXAM SESSION:**
TIME: 2 HOURS

INSTRUCTIONS:

1. **Answer ALL questions in Section A and any Two (2) questions in Section B.**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must submit their answer booklets to the invigilator while in the examination room.**

SECTION A. ANSWER ALL QUESTIONS (30 MARKS)

1. Highlight three differences between the digestive system of a pig and a goat (3 marks)
2. List three types of body fluids found in animals and their functions (3 marks)
3. The plasma membrane allows for selective movement of substances in and out of the cell. Explain (3 marks)
4. Explain the following in signal transmission (3 marks)
    a. Refractory period
    b. Resting membrane potential
    c. Repolarization
5. Identify muscles types distinguished by the following characteristics in sheep (3 marks)
    a. Single centrally placed nucleus, short myofibrils and spindle shaped
    b. Have intercalated discs, myogenic and multinucleated
    c. Striated, long thin fibers, multinucleated and involved in voluntary movements
6. Outline the key features that distinguish arthropods from other invertebrates (3 marks)
7. State the hormones produced by these glands and their function in mammals (3 marks)
    a. Pancreas
    b. Pineal gland

    c. Testis
8. Giving examples, describe three modes of asexual reproduction that occur in animals (3 marks).
9. Highlight three respiratory structures found in different vertebrate groups (3 marks)
10. Explain the role of the following structures (3 marks)
    a. Glomerulus
    b. Proximal convoluted tubule
    c. Loop of henle

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

11. Describe the major stages of embryonic development in mammals (20 marks)
12. Discuss the structure and function of the epithelial tissue in sheep and goats (20 marks)
13. Give an account of the symbiotic associations that occur among animals in a game reserve (20 marks)
14. Undergraduate students pursuing Bachelor of Science degree in Agricultural Education and Extension & Animal science visited the Maasai Mara Game reserve. Describe the characteristics of the different vertebrate groups that they encountered (20 marks)