



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES
UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN
AGRICULTURAL EDUCATION AND EXTENSION AND BACHELOR OF SCIENCE IN
ANIMAL SCIENCE
2019/2020 ACADEMIC YEAR
SPECIAL/RESIT

COURSE CODE: AAS 3213

COURSE TITLE: Animal Physiology

EXAM VENUE:

**STREAM: (BSc. Agricultural Education and Extension
BSc. Animal Science)**

DATE:

EXAM SESSION:

TIME: 2HOURS

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. Homeostasis is regarded as the central theme in physiological studies. Explain. (3 marks)
2. Explain, with examples, the concept of negative feedback mechanism. (3 marks)
3. Briefly describe synaptic transmission of nervous signals. (3 marks)
4. Explain the importance of taste reception in the animal kingdom. (3 marks)
5. Distinguish between motor unit summation and wave summation in muscle contraction. (4 marks)
6. Give the stimulus for the release of insulin and name three target tissues for this hormone. (4 marks)
7. Outline three functions of the uterus in mammals. (3 marks)
8. Give the name of the complex formed between the following:
 - a. Oxygen and hemoglobin
 - b. Carbon monoxide and hemoglobin
 - c. carbon dioxide and hemoglobinindicate which of the above complexes is stable. (4 marks)
9. Distinguish between membranous phase digestion and luminal phase digestion. Give examples. (3 marks)

SECTION B [40 MARKS]

Answer ANY TWO questions from this section

10. Explore basic carbohydrate metabolism in mammals and explain utilization of volatile fatty acids as energy source for ruminants. (20 marks)
12. Examine the physiology of egg formation and egg laying in birds. (20 marks)
13. Fully describe the anatomy and physiology of fish digestive system. (20 marks)
14. Evaluate mammalian respiratory system under the following headings:
 - a) Functional organization. (8 marks)
 - b) Gaseous exchange between alveolus and blood (6 marks)
 - c) Role of lungs in acid-base balance (6 marks)