



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**  
**UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN**  
**ANIMAL SCIENCE**  
**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2018/2019 ACADEMIC YEAR**  
**REGULAR**

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**COURSE CODE: AAS 3217**

**COURSE TITLE: ANIMAL HOUSING, FARM STRUCTURES AND  
BIOCLIMATOLOGY**

**EXAM VENUE: STREAM: (BSc. Animal Science)**

**DATE: EXAM SESSION:**

**TIME: 2 HOURS**

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**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**

## **SECTION A [30 MARKS]**

### **Answer ALL questions in this section**

1. Discuss any three ways through which heat exchange between animals and its environment occurs. **(6 marks)**
2. Give reasons why insulation of farm buildings is essential. **(6 marks)**
3. List design factors that must be considered in planning of farm structures? **(7 marks)**
4. Discuss the following types of insulation:
  - a. Bulk insulation **(2 marks)**
  - b. Spray foam insulation **(2 marks)**
  - c. Reflective insulation **(2 marks)**
5. Citing relevant examples, state the functions of 5 types of farm buildings. **(5 marks)**

## **SECTION B [40 MARKS]**

### **Answer ANY TWO questions from this section**

6. a) . Define the following terminologies:
  - i. R-value **(3 marks)**
  - ii. Primary enclosures **(4 marks)**
  - iii. Bio climatic design **(3 marks)**
- b) . Discuss options for effective waste disposal in the farm. **(10 marks)**
7. Discuss five factors to consider when selecting an insulation. **(20 marks)**
8. Explain the importance of the following on farm structures.
  - a. Ventilation **(8 marks)**
  - b. Illumination **(5 marks)**
  - c. Noise control **(7 marks)**
9. a) Discuss the five factors that affect the animal's microenvironment. **(10 marks)**  
b) Discuss the approaches to the mechanical ventilation in dairy farming. **(10 marks)**