



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

**SECOND YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR
THE DEGREE OF BACHELOR OF SCIENCE IN ANIMAL SCIENCE**

2017/2018 ACADEMIC YEAR

REGULAR

COURSE CODE: AAS 3217

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

**EXAM VENUE:
DATE:**

**STREAM: BSc. Animal Science
EXAM SESSION:**

TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in section A and ANY other 2 Questions in section B.**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A [30 MARKS]

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]

1. 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)
2. Discuss five factors to consider when selecting an insulation (20 marks)
3. Explain the importance of the following on farm structures (20 marks)
 - a. Ventilation (8 marks)
 - b. Illumination (5 marks)
 - c. Noise control (7 marks)
4. 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].