



## MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY

P.O. Box 972-60200 Meru - Kenya. Tel: 020-2092048, 020 2069349  
Fax: 020-8027449

University Examinations 2011/2012

SECOND YEAR, FIRST SEMESTER EXAMINATIONS FOR DIPLOMA IN  
AGRICULTURE AND AGRICULTURE EDUCATION

**ANS 0232: ANIMAL BREEDING AND NUTRITION**

**DATE: APRIL 2012**

**TIME: 1½ HOURS**

**INSTRUCTIONS:** Answer question *one* and any other *two* questions

### QUESTION ONE (30 MARKS)

- a. Through examples outline the importance of livestock farming in Kenya (10 Marks)
- b. Briefly discuss five ways of improving livestock feed intake (5 Marks)
- c. Define the following terms (5 Marks)
  - i. Gene
  - ii. Allele
  - iii. Dominance
  - iv. Sex linked traits
  - v. Heritability
- d. Briefly discuss five factors that affect roughage digestibility (5 Marks)
- e. Name three advantages of artificial insemination (AI) (3 Marks)
- f. Discuss importance of meiosis (2 Marks)

### QUESTION TWO (15 MARKS)

- a. Discuss the factors which influence the water requirements of animals (10 Marks)
- b. Name three disadvantages of inbreeding (3 Marks)
- c. What is an intersexual animal and suggest one cause of this condition (2 Marks)

### QUESTION THREE (15 MARKS)

- a. Explain two factors which influence the rate at which selection can improve a livestock population (4 Marks)
- b. Name two ways of expressing energy value of a concentrate (2 Marks)
- c. Comment on the energy value of lipids compared with carbohydrates (2 Marks)

- d. Discuss five considerations made when preparing feeding standards for different types of livestock (5 Marks)
- e. What is a diploid number (2 Marks)

**QUESTION FOUR (15 MARKS)**

- a. Explain the following terms (6 Marks)
  - i. Artificial insemination
  - ii. Progeny testing
  - iii. Embryo transfer.
- b. What is hybrid vigour and give an example of commercial application in livestock (4 Marks)
- c. Name two examples of plant protein sources and two animal protein sources when preparing animal concentrates (4 Marks)
- d. Name one difference between roughages and concentrates (1 Mark)

**QUESTION FIVE (15 MARKS)**

- a. Explain the following (6 Marks)
  - i. Mutation
  - ii. Recessive gene
  - iii. Genotype
- b. Why are Genes important in animal breeding (2 Marks)
- c. Name which gender controls sex of offspring in birds (1 Mark)
- d. Explain two uses of fibre to animal digestion of feeds (2 Marks)
- e. Name four fat soluble vitamins (4 Marks)