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University Examinations 2012/2013

SECOND YEAR, SECOND SEMESTER EXAMINATIONS FOR CERTIFICATE/DIPLOMA IN
AGRICULTURE

ANS 0232: ANIMAL BREEDING AND NUTRITION

DATE: AUGUST 2013

TIME: 1½HOURS

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

QUESTION ONE – (30 MARKS)

- a. Define the following terms: (5 Marks)
- i. Allele
 - ii. Mutation
 - iii. Animal trait
 - iv. Heritability
 - v. Heterosis
 - vi. Monogastictric
 - vii. Anabolism
 - viii. Heterogylcans
 - ix. Roughages
 - x. Ration
 - xi.
- b. Meiotic cell division is an important process in animal production. Outline any two functions of meiosis in animal reproduction. (5 Marks)
- c. Explain what you understand by “embryo transfer” in dairy farming. (5 Marks)
- d. Explain the process of roughage feed digestion in ruminants. (5 Marks)
- e. Explain what you understand by the term “protein”. Explain its functions and possible effect of its deficiency. (5 Marks)
- f. Feed additives are added to an animal’s feed for growth acceleration, increased feed efficiency, increased production of animal products or health maintenance improvement. Their continued use however, has been criticized resulting from some concerns. Cite any five of these concerns. (5 Marks)

QUESTION TWO – 15 MARKS

- a. Outline the difference between the following: (4 Marks)
 - i. Additive and non additive gene effects
 - ii. Homozygous and heterozygous gene pairs.
- b. Explain the significance of using upgrading of indigenous cattle with dairy cattle genetic materials in Kenya. (6 Marks)
- c. Explain what you understand by the term “cloning” in animal breeding. (5 Marks)

QUESTION THREE – 15 MARKS

- a. Define the term “anabolism”. (1 Mark)
- b. Name the two classes of essential minerals to livestock. (2 Marks)
- c. Outline any eight functions of minerals. (4 Marks)
- d. Farm animals require minerals for various functions in their bodies. Outline any five symptoms of animals suffering from mineral deficiency. (5 Marks)
- e. Name any three major sources of minerals for the animals. (3 Marks)

QUESTION FOUR – 15 MARKS

One of the methods used in animal feed ration balancing is Pearson’s square method. Using the information given below, determine the percentage inclusion of cotton seed cake (CSC) and maize in a ration, following the Pearson’s square method.

Available feed ingredient:

Cotton seed cake; 40% crude protein (CP)

Maize; 10% CP

Required: Crude protein levels in feed: 18%

Mineral content: 1%

(15 Marks)

QUESTION FIVE – 15 MARKS

- a. Explain what you understand by “feeding standards for maintenance”. (3 Marks)
- b. Outline any three factors that are considered when developing feeding standards. (3 Marks)
- c. Explain how the feed and animal factors affect digestibility. (3 Marks)
- d.
 - i. Define inbreeding
 - ii. Outline the disadvantages of inbreeding
 - iii. Explain any three ways by which breeders can use cross breeding to improve their stock. (6 Marks)