



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
IN ANIMAL PRODUCTION AND HEALTH MANAGEMENT AND AGRICULTURAL
RESOURCE MANAGEMENT**

KAP 204: ANIMAL NUTRITION AND FEEDS

DATE: THURSDAY, 5TH APRIL 2012

TIME: 4.30 P.M. – 6.30 P.M.

INSTRUCTIONS

- Answer question **one** and any other **three** questions.

1. a) Differentiate the following terminologies: (10 marks)
 - i. Nutrition and Nutrients
 - ii. Dietary essential nutrient and Dietary non-essential nutrient.
 - iii. Digestion and Metabolism
 - iv. Oesophagus and Oesophageal groove
 - v) Fibrous proteins and Globular proteins
- b) Briefly explain the following terms as used in animal feed analysis:
 - i. Neutral detergent fibre
 - ii. Acid detergent fibre
 - iii. Lignin(6 marks)
- c) What is feed dry matter and why is it important to measure the dry matter of feeds? (4 marks)
- d) The diet of ruminants may consist of more than 20% fibrous components. Why is fibrous feed necessary for the health of ruminants? (5 marks)

2. a) State any five nutrients in animal nutrition. (5 marks)
b) Give two functions of each of the nutrients named in (a) above. (10 marks)
3. Discuss digestion in ruminants under the following headings: (15 marks)
a) Rumination
b) Reticulo-Rumen
c) Omasum
d) Abomasum
e) Small intestine
f) Large intestine
4. a) Explain the procedure used for ration formulation. (5 marks)
b) Using Pearson square method, formulate a ration for dairy cattle with 160g/kg DM crude protein (CP) content, using Cotton seed cake (350g/kg DM CP) and maize germ (106 g/kg DM CP). (10 marks)
5. Describe the various classes of animal feedstuffs. (15 marks)
