CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF CERTIFICATE IN ANIMAL HEALTH AND PRODUCTION

ANSC 00133: ANIMAL NUTRITION AND LIVESTOCK FEEDING

STREAMS: DTHM Y1S1 **TIME: 2 HOURS**

DAY/DATE: THURSDAY 7/12/2017 **8.30 A.M - 10.30 A.M.**

INSTRUCTIONS:

- **Answer all questions in SECTION A and any TWO question in SECTION B**
- **Do not write on the question paper**

SECTION A: [40 MARKS]

QUESTION ONE

Define the following terms;

(a) Ration [2 Marks]
(b) Gross energy [2 Marks]
(c) Dry matter basis [2 Marks]
(d) Nutrition [2 Marks]
(e) Digestion [2 Marks]

QUESTION TWO

(a) Feedstuffs are classified into eight classes based on their nutrient content. List any five such classes. [5 Marks]

(b) List any five reasons why a farmer should engage in onfarm ration formulation. [5 Marks]

QUESTION THREE

Give any

(a) Five functions of proteins in animals. [5 Marks]

(b) Five reasons why lipids inclusions in ruminant and non-ruminant diet should not exceed 5% and 10% respectively. [5 Marks]

QUESTION FOUR

Briefly explain how the following disciplines relate to animal nutrition

(a) Chemistry [2 Marks]
(b) Computer Science [2 Marks]
(c) Biochemistry [2 Marks]
(d) Statistics [2 Marks]
(e) Microbiology [2 Marks]

SECTION B: [30 MARKS]

QUESTION FIVE

(a) Musyoka analyzed a feed sample and found that the sample contained 16% CP on dry matter basis. Given that the sample had dry matter value of 90%, calculate:
   (i) Crude protein content of the sample on fresh basis [4 Marks]
   (ii) Percentage nitrogen of the sample. [2 Marks]

(b) A farmer approaches you with a feed sample and requests you to determine the total mineral content of the sample. Describe the procedure you would follow and clearly show mathematically how you would arrive at the mineral content of the sample. [9 Marks]

QUESTION SIX

Discuss calcium under the following

(a) Functions [4 Marks]
(b) Deficiency symptoms [6 Marks]
(c) Toxicity [2 Marks]
(d) Factors affecting rate of absorption. [3 Marks]

QUESTION SEVEN

(a) Differentiate between foregut fermenters and hindgut fermenters giving one example in each case. [6 Marks]

(b) Animal nutrition is both an art and a science. Justify the validity of this statement with relevant examples. [9 Marks]

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