

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF CERTIFICATE IN ANIMAL  
HEALTH AND PRODUCTION

ANSC 00133: ANIMAL NUTRITION AND LIVESTOCK FEEDING

STREAMS: CERT ANHE Y1S1

TIME: 2 HOURS

DAY/DATE: THURSDAY 8/08/2019

8.30 A.M - 10.30 A.M.

INSTRUCTIONS:

- Answer ALL Questions in Section A and any TWO in Section B
- Do not write anything on the Question paper

SECTION A: [40 MARKS]

1. (a) Differentiate the following terms as used in nutrition;
  - (i) Dry matter and dry matter basis. [4 Marks]
  - (ii) Ingestion and Egestion [4 Marks]  
  - (b) List two classes of minerals. [2 Marks]
2. (a) Give reason for each of the following;
  - (i) Sheep in cobalt deficient regions must be supplemented with Vitamin B12 in their diet. [2 Marks]
  - (ii) Chicken fed on cereals based diet must be supplemented with niacin. [2 Marks]
  - (iii) Pigs must be supplemented with methionine in their diet. [2 Marks]  
  - (b) Differentiate between foregut fermenters and hindgut fermenters giving two examples in each case. [4 Marks]
3. (a) Corn contain 9.5% CP on dry matter basis. Given that the same corn contain 10% moisture, calculate:
  - (i) CP value of the corn on fresh basis. [4 Marks]

**ANSC 00133**

- (ii) Using the CP value of 9.5%, calculate the % Nitrogen value of the corn. [3 Marks]
- (iii) List three classes of feed stuffs fed to farm animals. [3 Marks]

4. (a) List,
- (i) Four functions of water in farm animals. [4 Marks]
  - (ii) Three diet based factors that affects water intake in farm animals. [3 Marks]
- (b) Give three qualities of minerals that qualify them to be essential to the wellbeing of farm animals. [3 Marks]

**SECTION B: [30 MARKS]**

5. Discuss various mechanisms by which voluntary feed intake is controlled in animal. [15 Marks]
6. As a laboratory technologist, you are approached by a livestock feed miller who requests you to analyze for him the moisture of calliandra as one of the ingredient he intends to incorporate in dairy meal. Describe the procedure you would follow to determine the moisture content indicating the apparatus and reagents (if any), needed. Clearly show mathematically how you would arrive at the moisture content of calliandra. [15 Marks]

7. (a) Irene is a dairy farmer who has four cows with the following weights;
- Stacy = 650 Kg
  - Swara = 675 Kg
  - Mwende = 600 Kg
- Given that she has 3 acres of Nandi seteria grass with the annual dry matter yied of 600 kg per acre, calculate:
- (i) Annual dry matter extra/deficit [5 Marks]
  - (ii) Daily water requirement for the entire dairy herd [5 Marks]

- (b) Describe mechanisms undergone by lipids during their metabolism in ruminants. [5 Marks]
- .....