WOMEN'S UNIVERSITY IN AFRICA

Addressing gender disparity and fostering equity in University Education

FACULTY OF AGRICULTURAL SCIENCES

BSc. Hons in ANIMAL SCIENCE

MAIN PAPER

MSc: AS317 APPLIED ANIMAL NUTRITION

INTAKE: **SECOND YEAR FIRST SEMESTER**

DATE: **TIME: 3 HOURS**

INSTRUCTIONS TO CANDIDATES

Answer any four questions.

1. Explain the following;

   a. Digestible energy. [6]

   b.Metabolisable energy. [6]

   c. Heat increment. [6]

   d. Net energy. [7]

2. a) Explain why protein digestion and supply differs strikingly between ruminants and monogastric species [10]

   b) With the aid of specific examples, describe the positive and negative effects of a named antinutritional factor of your choice in a named livestock species. [15]

3. Describe the following;

   a. The hay unit [6]

   b. The Scandinavian feed unit [6]

   c. Kellner system [6]

   d. The British system [7]

4. a) State the formulae for true and apparent biological value [10]

   a) Describe one method of evaluating protein quality that is regarded as being modern and most accurate. [15]

5. a. Outline any 4 factors that affect the nutrient requirements of livestock [4]

   b. Briefly describe the role of legislation in stockfeed manufacturing [6]

   c. Choose any ONE method of feed formulation and describe its merits and demerits [15]

6. Critique the use of comparative slaughter techniques in modern day animal nutrition studies [25]

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SPECIAL PAPER

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INTAKE: **SECOND YEAR FIRST SEMESTER**

DATE: **TIME: 3 HOURS**

INSTRUCTIONS TO CANDIDATES

Answer any four questions.

1. Write short notes on the following;

   a. The Pearson square method [13]

   b. The computer-based method. [6]

   c. The Simultaneous equation [6]

2. a) Describe and explain the effects of Maillardation on feed quality [13]

   b) How do the following processing techniques modify feed value?

   i. Drying [3]

   ii. Grinding [3]

   iv. Pelleting [3]

   v. Extrusion [3]

3. Describe the use of the following techniques in modifying feed value;

   i. Ammoniation [6]

   ii. NaOH treatment [6]

   iii. Hydration [6]

   iv. Microbial methods [7]

4. a. Discuss the significance of rumen microbes in the protein nutrition of grazing cattle [10]

   b. Compare and contrast undegradable dietary protein and rumen undegraded protein [15]

5. Discuss the reactions that take place during stockfeed manufacturing and their effects on feed quality [25]

6. Describe the various methods that can be used to analyse the energy value of feed for ruminants [25]