GWANDA STATE UNIVERSITY

FACULTY OF LIFE SCIENCES

DEPARTMENT OF ANIMAL SCIENCE

BASIC ANIMAL NUTRITION AND FEEDING

LAS 2103

End of Semester Final Examination Paper

February 2022

This examination paper consists of **three** printed pages

Time Allowed:	**3 hours**
Total Marks:	**100**
Special Requirements:	**Calculator**
Examiner's Name:	**R. Ndlovu**

INSTRUCTIONS TO CANDIDATES

1. Answer **ALL** questions in Section A

2. Answer **ONLY TWO** questions in Section B

MARK ALLOCATION

QUESTION	MARKS
SECTION A	60
SECTION B	40
TOTAL ATTAINABLE MARKS	**100**

Copyright: Gwanda State University 2021/2022

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

Question 1

a) Define the following terms commonly used in animal nutrition:

   i.   Gross energy   **(2)**

   ii.   Feeding standards   **(2)**

   iii. Hypoglycemia   **(2)**

   iv. Metabolic water   **(2)**

   v.   Acidosis   **(2)**

   vi. Degradable ~~dieatary~~dietary protein.

           (2)

b) Distinguish between the following:

   i.   Haylage and silage   **(2)**

   ii.   Digestibility and degradability   **(2)**

   iii. Antibiotics and probiotics.   **(4)**

Question 2

a) Discuss the importance of feed analysis.   **(5)**

b) List the major constituents of acid detergent fibre (ADF) and neutral detergent fibre (NDF).

        (4)

c) What is the significance of ADF and NDF in ruminant nutrition?   **(6)**

d) Discuss the limitations of the proximate system of feed analysis.   **(5)**

Question 3

a) Discuss the structure and metabolic function of any FOUR organs peculiar only to the digestive system of a chicken.   **(12)**

b) Compare the post-gastric (horse) and pre-gastric (ruminant) fermentation.   **(8)**

SECTION B: ANSWER ONLY TWO QUESTIONS IN THIS SECTION

Question 4

a) Describe the feedstuffs that are available during the long dry season in Zimbabwe. **(5)**

b) Discuss any **ONE** method that can be used to improve the utilization of poor quality roughages. **(15)**

Question 5

a) Given that soybean meal (SBM) has 45 % crude protein and maize meal has 10 % crude protein, formulate 1000 kg of ration containing 16 % crude protein. You must show all your calculations and prove that you have the desired ration. **(15)**

b) Explain any **FIVE** symptoms and manifestations of carbohydrate deficiency in a ration.

   (5)

Question 6

Discuss how the following affect feed digestibility:

a) Feed composition **(5)**

b) Animal factors **(5)**

c) Feed processing **(5)**

d) Level of feeding. **(5)**

END OF QUESTION PAPER