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1ST SEM. 2018/2019

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UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER

PROGRAMME: BSC. ANIMAL SCIENCE (DAIRY OPTION) III
BSC. ANIMAL SCIENCE IV
BSC. AGRICULTURAL EDUCATION III

COURSE CODE: ASC 303/AS 304

TITLE OF PAPER: NUTRITION, FEEDS AND FEEDING

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS

DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE CHIEF INVIGILATOR.

Question 1

Discuss the anatomy and physiology of the digestive system of fowls.

(25Marks)

Question 2

Discuss the factors affecting feed digestibility.

(25 Marks)

Question 3

Discuss feed intake and its mechanism of regulation in ruminants.

(25 Marks)

Question 4

- a) With an aid of a diagram explain the partitioning of ration energy and losses in a lactating cow. **(15 Marks)**
- b) A Holstein cow consumes 25kg DM/day of feed with energy concentration of 18MJ/Kg DM. Of the total energy intake, 15 MJ and 10 MJ are lost in methane and urine, respectively. Forty (40) MJ is lost in faeces and the heat increment of digestion is 15 MJ. Calculate the following:
- (i) Gross Energy Intake. **(2 Marks)**
 - (ii) Digestible Energy Intake. **(2 Marks)**
 - (iii) Metabolisable Energy Intake. **(3 Marks)**
 - (iv) Net Energy Intake. **(3 Marks)**

Question 5

- (a) The Farm manager at UNESWA purchased bales of grass hay for the beef herd after pastures at Dalcrue were burned by wild fires. The farm manager decided to determine crude protein content of the grass hay and obtained the data indicated in the table below:

Table 1: Data duplicate analysis of crude protein content of the grass hay using Kjeldal method.

| | Sample ID | Weight of sample (g) | Volume of titre (ml) |
|-----------|-----------|----------------------|----------------------|
| Grass Hay | A1 | 0.99 | 5.0 |
| | A2 | 1.00 | 5.2 |
| Blank | B | | 0.5 |

Acid Normality = 0.1N

- (i) Calculate the crude protein content of the grass hay **(5 Marks)**
- (ii) Give your comments and recommendations based on this analysis **(5 Marks)**
- (b) Formulate a diet of 22% Crude protein for broilers starter feed with Yellow maize Meal (10.2% CP), Wheat bran (8.2% CP), SBM (44% CP) and Fish Meal (52.7% CP) and what will be the proportion of each of these ingredients in a one tonne mixture? **(10 Marks)**
- (c) What will be the implication of feeding this type of ration to ruminant animals? **(5 Marks)**