



1ST SEM. 2005/2006

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

**PROGRAMME: DIPLOMA IN AGRICULTURE AND
DIPLOMA IN AGRICULTURE
EDUCATION YEAR III**

COURSE CODE: APH 301

TITLE OF PAPER: NUTRITION, FEEDS AND FEEDING

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY 4 QUESTIONS.

**THIS PAPER MAY NOT BE OPENED UNTIL THE CHIEF
INVIGILATOR HAS GRANTED PERMISSION.**

QUESTION 1

- i. Give a detailed outline of the partition of food energy in an animal. All energy losses must be indicated. **(15 Marks)**
- ii. Compare and contrast digestion of carbohydrates in ruminants and non-ruminants. Answer must be in table format. **(10 Marks)**

QUESTION 2

- i. Identify the components of the proximate analysis system and briefly describe how each of the components is determined in the laboratory. **(18 Marks)**
- ii. Identify the three components of the detergent system for fibre analysis and briefly explain their determination in the laboratory. **(7 Marks)**

QUESTION 3

- i. What basic information does one require in order to formulate a ration for any given animal? How can this information be obtained? **(6 Marks)**
- ii. Outline the steps you would follow in the construction of a Pearson Square to blend two feedstuffs with different nutrient concentrations. **(9 Marks)**
- iii. Formulate a ration for laying birds containing 200 g CP kg⁻¹ using maize (100 g CP kg⁻¹) and soybean meal (360g CP kg⁻¹). **(10 Marks)**

QUESTION 4

Draw and label the digestive tract of a fowl and discuss the functions of the various parts. **(25 Marks)**

QUESTION 5

Identify and describe a laboratory procedure/method you would use to determine the total nitrogen content of a feedstuff. Highlight the role of the reagents used in this method. What are the limitations associated with the use of this method?

(25 Marks)