



UNIVERSITY OF SWAZILAND

2nd SEM. 2014/2015

FINAL EXAMINATION PAPER

**PROGRAMME: B.Sc. ANIMAL SCIENCE YEAR 3, B.Sc. ANIMAL SCIENCE (DAIRY
OPTION) YEAR 3, B.Sc. AGRIC EDUCATION YEAR 3**

COURSE CODE: AS 304

TITLE OF PAPER: NUTRITION, FEEDS AND FEEDING

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER THREE

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CHIEF INVIGILATOR**

QUESTION 1

- a. By means of definitions only distinguish between ‘antibiotics’ and ‘probiotics’
(4 Marks)
- b. Stepwisely discuss the various steps involved in using Pearson square for ration formulation.
(8 Marks)
- c. Formulate a 16% crude protein (CP) cockerel ration using corn and cotton seed cake as major ingredients, assuming that laboratory analysis showed 10% and 45% crude protein contents for corn and cotton seed cake respectively.
(8 Marks)
- d. What will be the proportion of each of these ingredients in one tonne mixture? (5 Marks)

QUESTION 2

- a. Discuss the structure and metabolic function of any **FOUR** organs peculiar only to the digestive system of a chicken
(12 Marks)
- b. Explain the roles played by each of the pancreatic enzymes in protein digestion (10 Marks)
- c. What is the major role of bile salts secreted by the liver through the gall bladder into the small intestine?
(3 Marks)

QUESTION 3

- a. Explain the major cause of rumen acidosis?
(5 Marks)
- b. For proper nutrient digestion in ruminant animals, a balanced supply of rumen degradable protein (RDP) and undegradable dietary protein (UDP) is necessary.
How can you justify this statement?
(10 Marks)
- c. Discuss any **FIVE** factors affecting the efficiency of microbial protein synthesis in the rumen.
(10 Marks)

QUESTION 4

- a. What do you understand by the word digestibility?
(4 Marks)
- b. Discuss the detailed procedures involved in any three methods normally used in measuring nutrients digestibility in livestock
(15 Marks)
- c. Mention one major advantage and one disadvantage for each of the 3 methods you described in “b” above.
(6 Marks)

QUESTION 5

With the aid of mathematical formula where necessary, discuss the nutritional significance of each the following:

- a. Protein efficiency ratio **(5 Marks)**
- b. Biological value of proteins **(5 Marks)**
- c. Nitrogen free extracts **(5 Marks)**
- d. Defaunation **(5 Marks)**
- e. Coprophagy **(5 Marks)**