

UNIVERSITY OF FORT HARE

AGA 323

DEGREE EXAMINATIONS

NOVEMBER 2018

Time: 3 HOURS

Module title: Ruminant Nutrition

Marks: 100

This paper consists of 2 pages including cover page

Internal Examiner: Mr. C.S. Gajana

Dr. C.T Mpendulo

External Examiner:

Instructions

- 1. Answer ALL questions**
- 2. It is in your best interest to write clearly and legibly.**

Question 1: [25 marks]

1. Describe the normal rumen environment [5 marks]
2. Discuss rumen development and factors affecting rumen development [20 marks]

Question 2: [25 marks]

1. Discuss factors influencing rate of passage of feed from the rumen [10 marks]
2. What are the methods used for determining digestion rates [3 marks]
3. Name TWO ways by which feed particles leave the rumen [2 marks]
4. Name any FIVE types of microorganisms in the rumen [5 marks]
5. Name any FIVE classes of rumen bacteria [5 marks]

Question 3: [25 marks]

1. Discuss the feeding of low energy and high energy diets towards maintenance and production for dairy cow. Where possible, give examples. [10 marks]
2. Describe the importance of amino acid balance and their impact on nitrogen utilization efficiency in dairy cows [15 marks]

Question 4: [25 marks]

1. Describe feed formulation and state factors to be considered when formulating rations. [10 marks]
2. Formulate 12% C.P diet using maize (8.8% C.P) and a protein supplement (35% C.P) 3% rye (11.9% C.P) and 7.5% Milo (11.9% C.P). [15 marks]