



2005/2006

UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

**PROGRAMME: B. Sc. AGRICULTURE YEAR IV,
APH OPTION**

COURSE CODE: APH 406

TITLE OF PAPER: BIOCHEMISTRY AND NUTRITION

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY 5 QUESTIONS.

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

QUESTION 1

Explain and illustrate how carbamoyl phosphate initiates the urea cycle.
(20 Marks)

QUESTION 2

Explain and describe four stages in the Krebs cycle that are responsible for energy production.
(20 Marks)

QUESTION 3

Glucose catabolism may yield fatty acids and amino acids. Justify this statement.
(20 Marks)

QUESTION 4

- i. Define digestible crude protein (DCP). What are the limitations of DCP as a measure of protein quality in ruminants and how would you address them?
(10 Marks)
- ii. Give a detailed description of how the nylon bag technique is used to estimate protein quality in ruminant animals.
(10 Marks)

QUESTION 5

Compare and contrast the regulation of feed intake in ruminants and non-ruminants. Please give your answer in table format.
(20 Marks)

QUESTION 6

Give a detailed account of the production and metabolism of the THREE main volatile fatty acids in ruminant animals.
(20 Marks)