



UNIVERSITY OF SWAZILAND

2nd SEM. 2016/2017

SUPPLEMENTARY EXAMINATION PAPER

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

COURSE CODE: 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

(a) Define the following terms commonly used in animal nutrition, with ONE example for each:

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|---|-----------|
| (i) None essential amino acids | (2 Marks) |
| (ii) Lipoproteins | (2 Marks) |
| (iii) Non-protein nitrogen compounds | (2 Marks) |
| (iv) Unsaturated fatty acids | (2 Marks) |
| (v) Volatile fatty acids | (2 Marks) |
| (vi) Protein supplements | (2 Marks) |
| (vii) Homofermentative lactic acid bacteria | (2 Marks) |
| (viii) Anti-nutritional factors | (2 Marks) |
| (ix) Antibiotics | (2 Marks) |
| (x) Probiotics | (2 Marks) |

(b) Briefly discuss oligosaccharides as feed additives in animal nutrition (5 Marks).
(25 Marks)

QUESTION 2

Discuss buffers, methane inhibitors and bloat-preventing substances as modifiers of rumen fermentation in ruminants.
(25 Marks)

QUESTION 3

Discuss non-protein nitrogen (NPN) compounds as sources of nitrogen for ruminant and non-ruminant animals
(25 Marks)

QUESTION 4

Discuss feed intake and its mechanisms of regulation in non-ruminants
(25 Marks)

75

QUESTION 5

Discuss measures of protein quality for non-ruminant animals

(25 Marks)