MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

ASC 433 ANIMAL NUTRITION AND FEEDING

DATE: 4/12/2019 **TIME:2.00-4.00 PM**

INSTRUCTIONS;

Answer question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

a) Define the following terms as applied in animal nutrition

i. Digestion (1 mark)

ii. Balanced diet (1 mark)

iii. Fodder (1 mark)

iv. Proximate analysis (1 mark)

v. Neutral Detergent Fibre (NDF) (1 mark)

b) Describe the following concepts as applied in animal nutrition;

i. Mechanical digestion (5 marks)

ii. Feed utilization (5 marks)

iii. Mineral deficiencies (5 marks)

c) With relevant example in each case, explain 3 approaches towards feed formulation (3 marks)

d) Explain five antinutritive factors in animal feeds (5 marks)

e) Describe 2 ways of feed protein evaluation (2 marks)

QUESTION TWO (20 MARKS)

a) Define nutrients absorption (2 marks)

b) Describe four mechanisms of nutrients absorption (16 marks)

c) Explain three factors affecting nutrient absorption (2 marks)

QUESTION THREE (20 MARKS)

a) Describe the partitioning of feed energy (10 marks)

b) Discuss five animal feed additives (10 marks)

QUESTION FOUR (20 MARKS)

a) Describe how pearson square works in feed formulation (10 marks)

b) Describe how to formulate a diet from cotton seed meal and maize, to contain 18 % crude protein per 100kg of feed using pearson square (10 marks)

QUESTION FIVE (20 MARKS)

a) Discuss four routes of water loss which constitute the summary of any animal's water requirements (4 marks)

b) Discuss four nutrient types and their functions (12 marks)

c) Describe proximate analysis as a method of diet evaluation (4 marks)