MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRIBUSINESS MANAGEMENT AND TRADE

FOURTH YEAR SPECIAL/ SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT

ASC433: ANIMAL NUTRITION AND FEEDING

DATE: 19/01/2021   **TIME: 2.00-4.00 PM**

INSTRUCTIONS;
Answer question one and any other two questions

SECTION A: COMPULSORY (40 MARKS)

QUESTION ONE (30 MARKS)

a)   With relevant examples, explain 3 approaches towards feed formulation   (6 marks)

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

d)   Define Neutral Detergent Fibre (NDF) in relation to feed analysis   (1 mark)

e)   Describe 3 ways of feed protein evaluation   (3 marks)

SECTION B: ANSWER ANY THREE QUESTIONS (60 MARKS)

QUESTION TWO (20 MARKS)

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

b)   Describe any five animal feed additives   (10 marks)

QUESTION THREE (20 MARKS)

a)   Using a diagram, 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 using pearson square   (10 marks)

QUESTION FOUR (20 MARKS)

a)   Define nutrients absorption   (1 mark)

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

c)   Explain three factors affecting nutrient absorption   (3 marks)

QUESTION FIVE (20 MARKS)

a)   Describe four routes of water loss which constitute the summary of any animal's water requirements   (8 marks)

b)   i)   Discuss four nutrient types   (8 marks)

        ii)   Expalin function of eaxh of the above (i) nutrient types   (8 marks)