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University Examinations 2015/2016

SECOND YEAR, SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN AGRICULTURE

ANS 0232: ANIMAL BREEDING AND NUTRITION

DATE: NOVEMBER 2015 **TIME: $1^{1}/_{2}$ HOURS**

INSTRUCTIONS: *Answer question **one** and any other **two** questions*

QUESTION ONE (30 MARKS)

a) Define the following terms: (10 Marks)

i) Genetics in relation to animal breeding. (1 Mark)

ii) The gene (1 Mark)

iii) Genotype (1 Mark)

iv) Phenotype (1 Mark)

v) Feed ration (1 Mark)

vi) Metabolism (1 Mark)

vii) Allele (1 Mark)

viii) Locus (1 Mark)

ix) Mutation (1Mark)

x) Nutrition (1 Mark)

b) Define heritability and the importance of its estimates in Animal selection (5Marks)

c) Compare additive and non-additive genes effects, giving one example of each type. (5 Marks)

d) i) Compare Ruminants and Non-ruminants digestive systems (5 Marks)

ii) List down five common feed additives (5 Marks)

QUESTION TWO (15 MARKS)

a) Define the following:

i) Nutrients (1 Mark)

ii) Minerals (1 Mark)

iii) Simple and complex carbohydrates (1 Mark)

iv) Essential and Non-essential amino acids (1 Mark)

v) Nutrients absorption (1 Mark)

b) List five factors influencing water intake in Animals (5 Marks)

c) List five factors influencing nutritive value of fodder crops (5 Marks)

QUESTION THREE (15 MARKS)

a) Define Artificial Insemination. What are its advantages and disadvantages? (6 Marks)

b) What are the advantages and disadvantages of inbreeding? (3 Marks)

c) Define cross-breeding (2 Marks)

QUESTION FOUR (15 MARKS)

a) Define and list the differences between meiosis and mitosis in cell division. (5 Marks)

b) Diagrammatically illustrate the process spermatogenesis and oogenesis in gametes production. (3 Marks)

c) What is the difference between

i) Co-dominance and incomplete dominance (2 Marks)

ii) Heterozygous and homozygous gene pairs (2 Marks)

d) Define the following: (3 Marks)

i) gene linkage

ii) Epistasis

iii) Progeny testing