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**University Examinations 2015/2016**

SECOND YEAR, SECOND SEMESTER EXAMINATION FOR CERTIFICATE/ DIPLOMA IN AGRICULTURE

**ANS 0232 : ANIMAL BREEDING AND NUTRITION**

**DATE: AUGUST , 2016 TIME: 1 ½ HOURS**

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

**QUESTION ONE – (30 MARKS)**

1. Define the following terms; (5 Marks)
2. Gene
3. Allele
4. Nutrition
5. Metabolism
6. Heritability
7. Differentiate between the following;
8. Heterozygote and homozygote (2 Marks)
9. Recessive and dominant genes (2 Marks)
10. Additive and non-additive gene effects (2 Marks)
11. Catabolism and anabolism (2 Marks)
12. Essential and non-essential amino acids (2 Marks)
13. Genotype and phenotype (2 Marks)
14. Briefly explain the following terms and state their importance; (8 Marks)
15. Artificial Insemination
16. Absorption
17. Metabolism
18. Crossbreeding
19. Describe how the nutrition of a pregnant animal and a young animal differs.(5 Marks)

**QUESTION TWO (15 MARKS)**

a) A plant has a colour gene and a height gene with the following phenotypes:

RR: red flower TT: Tall plant

Rr: pink flower Tt: medium height plant

rr: White flower tt: dwarf plant

 If a dihybrid is self-fertilized, give the resulting proportions of genotypes and phenotypes produced. (8 Marks)

b) Define the term feed intake and discuss the factors that influence feed intake. (7 Marks)

**QUESTION THREE (15 MARKS)**

1. Discuss five advantages of crossbreeding in livestock. (10 Marks)
2. Describe the process of digestion in Ruminants and state the end products. (5 Marks)

**QUESTION FOUR (15 MARKS)**

1. Define the term sex linked trait and differentiate between sex-linked and sex- influenced traits . (5 Marks)
2. Using an illustration, discuss how a plant’s nutritive value changes with maturity (10 Marks)