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NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF ANIMAL SCIENCE & FISHERIES
EXAMINATION QUESTION: January, 2018

COURSE CODE: **ANP 307**
COURSE TITLE: **ELEMENTARY TOPICS IN ANIMAL BREEDING (2 Units)**
INSRUCTIONS: Answer question one (compulsory) and any other three. Please note that question one carries 25 marks (Total: 70 marks)
Time Allowed: 2 Hours

1. (a) With the provision of appropriate formulae, explain the importance and components involved in genetic gain from selection (15 marks)
   (b) With relevant examples, explain the application of the two Medellian laws of heredity to animal breeding (10 marks)

2. (a) Define the following terms in animal breeding (10 marks)
   (i) Gene
   (ii) Alleles
   (iii) Dominance
   (iv) Hybrid
   (v) Segregation

   (b) State five implications of Mendel's work on heredity (5 marks)

3. (a) In tabular form, give five contrast between quantitative and qualitative traits (10 marks)
   (b) Highlight five ways of controlling lethal genes (5 marks)

4. (a) State six basic objectives of animal breeding (6 marks)
   (b) Bakewell is considered the founder of modern systematic animal breeding, give four reasons for his exploit (4 marks)
   (c) Distinguish between heritability and repeatability (5 marks)

5. (a) Discuss the following approaches in relation to disease resistance (10 marks)
   i. Phenotypic selection approach
   ii. Genomic approach

   (b) State five characteristics of quantitative inheritance (5 marks)

6. (a) Identify five challenges in breeding animals for disease resistance (10 marks)
   (b) Distinguish between additive gene and complimentary gene (5 marks)