NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, Nnamdi Azikiwe Expressway, Plot 91, Cadastral Zone, Jabi, Abuja
Faculty of Agricultural Sciences
POP Exam Question l 2021_2

Course Title: Elementary Topics in Animal Breeding
Course Code: ANP 307
Credit Unit: 2
Time Allowed: .2 Hours

INSTRUCTION:
Answer Compulsory question 1 (25 marks) and any 3 questions (15 marks each)

Question One

a)Define the following terms:

i. Gene
ii. Allele
iii. Genotype
iv. Phenotype
v. Dominant
vi. Recessive
vii. Hybrid.
viii. Homozygote
ix. Heterozygote **9 marks**

b)Highlight three(3) reasons why Robert Bakewell is considered the founder of systematic modern breeding **3 marks**

c)Outline five (5) challenges in breeding animals for disease resistance **10 marks**

d)State three (3) advantages of breeding animals for disease resistance **3 marks**

Question Two

a)Define Genetics and Punnet squares **2 marks**

b)State three (3) reasons why Mendel's research work is unique compared to the other early theories **3 marks**

c)State four (4) the implications of Mendel's work **4 marks**

d)Outline three (3) differences between Monohybrid and Dihybrid crosses **6 marks**

Question Three
a)Mention five (5) differences between the X-Y and X-0 systems of sex determination? **10 marks**
b)Briefly explain five (5) ways to manage lethal genes in a dairy herd **5 marks**

Question Four
a)Give six (6) differences between quantitative and qualitative traits **12 marks**
b)Define the following terms mean, variance and standard deviation **3 marks**

Question Five
a)Define segregation. **1 mark**
b)Give the meaning of penetrance and expressivity. **4 marks**
c)Explain the two (2) methods of estimating heritability. **6 marks**
d)State two (2) properties of heritability. **4 marks**

Question Six
a)What is the implication of high and low repeatability in animal breeding? **4 marks**
b)State the explanation of inheritance by
i. Hippocrates
ii. Aeschylus,
iii. Microscopist Anton van Leeuwenhoek **6 marks**
c)Explain Genetic Source of Variation **5 marks**