



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF ANIMAL SCIENCES AND FISHERIES
2023_2 EXAMINATIONS

Course Title: Elementary Topics in Animal Breeding

Course Code: ANP 307

Credit Unit: 2

Total Score: 70 Marks

Time Allowed: .2 Hours

INSTRUCTION:

Answer Compulsory Question 1 (30 marks) and any 2 questions (20 marks each).

1.
 - a) State two (2) application of the principle of genetics in agriculture (2 marks)
 - b) In national open university farm an industrial attachment student observed there were differences between animals of the same breed for the same trait. Give the name of this phenomena and differentiate the two types we have (12 marks)
 - c) Give reasons why Mendel's research work is different when compared to other early theories (4 marks)
 - d) Explain the following gene actions
 - i. Over Dominance
 - ii. Epistasis
 - iii. Pleiotropy (6 marks)
 - e) What are the contributions of Robert Bakewell to systematic animal breeding. (4 marks)
 - f) What were the limitations of Bakewell breeding programme? 2 marks
2.
 - a) Breeding for disease resistance is more economical than controlling disease with expensive drugs; Give three (3) benefits of this type of breeding (3 marks)
 - b) What are the basic approaches of breeding for disease resistance (4 marks)
 - c) What are the problems Mr Mensa may likely face in breeding animals that are resistant to mastitis (10 marks)
 - d) Give the meaning of complimentary genes (3 marks)
3.
 - a) Define the term sex determination (2 marks)
 - b) Differentiate between the X-Y and X-0 systems of sex determination (10 marks)
 - c) Mendel stated two laws of inheritance after a series of experiments; discuss the two basic "laws" (8 marks)
4.
 - a) Distinguish between lethal and semi lethal genes (6 marks)
 - b) What actions will you take as a technician when you discover lethal genes in your herd (10 marks)
 - c) Explain Genetic source of variation (4marks)