



UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF THE CERTIFICATE IN
ANIMAL SCIENCE AND TECHNOLOGY
SECOND SEMESTER 2024/2025
[SEPTEMBER - DECEMBER, 2024]**

ANSC 00240: HEALTH AND PRODUCTION

STREAM: Y1 S2

TIME: 2 HOURS

DAY: FRIDAY, 3:00 - 5:00 P.M.

DATE: 13/12/2024

INSTRUCTIONS:

- 1. Do not write anything on this question paper.**
- 2. Answer question ONE in section A (Compulsory) and any other TWO questions from section B.**

SECTION A

1. Define the following terms
 - a) Colonization (2 marks)
 - b) Assortative mating (2 marks)
 - c) Dominant traits (2 marks)
 - d) Evolution (2 marks)
 - e) Natural selection (2 marks)
2. Differentiate between :
 - a) Classical genetics and cytogenetic (2 marks)
 - b) Microbial genetics and molecular genetics (2 marks)
 - c) Population genetics and behavioral genetics (2 marks)
 - d) Human genetics developmental genetics (2 marks)
 - e) Positive assortative mating and negative assortative mating (2 marks)
3. State Mendel's 1st law/ The law of segregation (4 marks)
4. State the six consideration for choosing a plant or animal for genetic experiment. (6 marks)
5. a) State four roles of population genetics. (4 marks)
b) State the effects of inbreeding. (2 marks)

c) Differentiate between population and species. (2 marks)

d) Differentiate between a locus and allele. (2 marks)

SECTION B

6. If there is a breeding disease controlled by a recessive allele. How would inbreeding increase its prevalence. Explain. (15 marks)

7. Describe the Monohybrid crosses. (15 marks)

8. Describe a population structure as used in genetics and breeding. (15 marks)