



MASINDE MULIRO UNIVERSITY OF SCIENCE & TECHNOLOGY (MMUST)

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FOURTH YEAR SPECIAL/SUPPLEMENTARY EXAMINATIONS FOR
THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION
AND EXTENSION AND RELATED OPTIONS

UNIT CODE: AAP 405

UNIT TITLE: ANIMAL BREEDING AND BIOTECHNOLOGY

DATE: 25/7/2022

TIME 11-1PM

INSTRUCTIONS TO CANDIDATES

- i) Answer ALL questions in Section A and any TWO Questions in Section B
- ii) Write answers to questions clearly and logically

TIME: TWO Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Pages. Please Turn Over>

SECTION A: ANSWER ALL QUESTIONS (40 Marks)

QUESTION ONE

Explain the intralocus and interloci interaction of genes (10 Marks)

QUESTION TWO

List and briefly discuss the applications of biotechnology in animal breeding programs (16 Marks)

QUESTION THREE

Outline the merits and demerits of inbreeding and cross breeding in animal populations. (14 Marks)

SECTION B ANSWER ANY TWO QUESTIONS (30 Marks)

QUESTION FOUR

Discuss effects of the following in a population of animals.

- a) Rotational crossbreeding (8 Marks)
- b) Random mating (7 Marks)

QUESTION FIVE

Using breeder's equation, explain how an animal breeder could help increase rate of genetic improvement of a trait in an animal population (15Marks)

QUESTION SIX

Describe the circumstances under which a breeder would prefer to use transgenesis instead of selective breeding (15 Marks)