



(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR (REGULAR)**

**FIRST YEAR SECOND SEMESTER MAIN EXAMINATIONS FOR
CERTIFICATE IN GENERAL AGRICULTURE**

COURSE CODE: CAG 018

COURSE TITLE: ANIMAL BREEDING WITH BIOTECHNOLOGY

DATE: 25TH APRIL, 2022

TIME: 12-2PM

INSTRUCTIONS TO STUDENTS

Answer all questions in section A and any TWO questions in section B

MMUST observes ZERO tolerance to examination cheating

SECTION A: ANSWER ALL QUESTIONS (30 Marks)

1. Define the following terms;
 - a) Close Breeding **(1 mark)**
 - b) Outcrossing **(1 mark)**
 - c) Grading-up **(1 mark)**
 - d) Inbreeding **(1 mark)**
 - e) Crossbreeding **(1 mark)**

2.
 - a) Define the term Animal Breeding **(2marks)**
 - b) State the importance of Animal breeding**(5marks)**

3.
 - a) Outline and explain the disadvantages of inbreeding **(5marks)**
 - b) Describe the signs of Heat in animals **(5marks)**

4. Describe the effects of Genetic Engineering on;
 - a) Environment **(3marks)**
 - b) Human and Animal Health **(5 marks)**

SECTION B: ANSWER TWO QUESTIONS (40marks)

5.
 - a) Define Animal Welfare **(2marks)**
 - b) Outline the benefits of Animal Welfare **(4marks)**
 - c) State and explain the advantages of Artificial Insemination **(14 marks)**

6.
 - a) Describe Artificial Insemination**(3marks)**
 - b) Outline the disadvantages of Artificial Insemination **(5 marks)**
 - c) Describe the five (5) freedoms of Animal welfare**(12 marks)**

7.
 - a) Define the term Cloning **(3marks)**
 - b) Outline the advantages of Cloning **(7 marks)**
 - c) State and explain the disadvantages of cloning **(10marks)**