



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

**FIRST YEAR SECOND SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATION FOR
CERTIFICATE IN GENERAL AGRICULTURE**

COURSE CODE: CAG 013

COURSE TITLE: CROP BREEDING AND SEED PRODUCTION

DATE: 20th, APRIL, 2022


TIME: 8-10AM

INSTRUCTIONS TO CANDIDATES

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

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This paper has 2 printed pages PLEASE turn over 

SECTION A (ANSWER ALL QUESTIONS 30 MRKS)

QUESTION ONE

1. Define the following terms as used in crop breeding:

- a. Plantbreeding (2 mks)
- b. Adaptation (2 mks)
- c. Breed (2 mks)
- d. Allele (2 mks)
- e. Breeding line (2 mks)
- f. Clone (2 mks)
- g. Backcross (2 mks)

2. State the five techniques used in hybridization (5mks)

3. List the reasons that can drive one to perform crop breeding (5mks)

4. Define synthetic varieties and briefly explain the two step used in production of synthetic varieties (6mks)

SECTION B (ANSWER ANY 2 QUESTIONS)

QUESTION 2

- i. There are two main types of hybridization. Name and briefly discuss giving an example in each. (8mks)
- ii. Discuss polyploidy in plants giving its definition, ways of artificial induction and characteristics of polyploidy (12 mks)

QUESTION 3

Discuss mutation in plants basing on the following subtopics:

- a) Definition (2mks)
- b) Physical mutagens with two examples (4mks)
- c) Chemical mutagens with two examples (4mks)
- d) Stages at which mutation occurs (4mks)
- e) Factors influencing mutations (6mks)

QUESTION 4

- i. What are the factors influencing seed quality (6mks)
- ii. Assume that you have been designated a Role of Seed Inspector by the government to control the use of Quality Declared Seed. Discuss some of the duties you will be expected to perform (10mks)
- iii. Name any four requirements of a good seed : (4mks)