



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

**MAIN CAMPUS
MAIN EXAMINATIONS**

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

**FOURTH YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF B.Sc. IN: AGRICULTURE & BIOTECHNOLOGY**

COURSE CODE: ACR 407

COURSE TITLE: SEED SCIENCE AND TECHNOLOGY

DATE: 25TH APRIL, 2022

TIME: 8-10 AM

INSTRUCTIONS TO CANDIDATES

Answer ALL questions in section A and ANY TWO questions in section B

TIME: 2 Hours

Total marks=70

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

Section A (40Marks)

1. Outline the characteristics of wind-pollinated flowers (2Marks)
2. Does apomixis require fertilization and pollination? Give reasons in support of your answer? (3 Marks)
3. Give **FOUR** reasons why knowledge of the chemical composition of seeds is essential (4Marks)
4. Highlight **FOUR** differences between a seed and a grain. (4 Marks)
5. State **SIX** general principles of seed storage (3Marks)
6. List **FOUR** Objectives of Seed Testing (2 Marks)
7. Explain the following systems of seed drying
 - i. Main and lateral duct system (2 Marks)
 - ii. Single central perforated duct (2 Marks)
 - iii. The perforated false floor system (2 Marks)
8. Outline the importance of seed dormancy in agriculture (4 Marks)
9. Explain plant breeder right. What are the benefits of PBR? (4 Marks)
10. Explain **TWO** types and methods of seed production in maize (4 Marks)
11. Outline methods used in the maintenance of genetic purity during seed production as suggested by Hartman and Kestar (1968) (4Marks)

Section B (30 Marks)

12. Discuss the components you will use to determine seed quality (15 Marks)
13. Discuss the Challenges facing the seed sector in Kenya (15 Marks)
14. Describe the structure of the embryo sac of a mature angiosperm. Explain the role of synergids in it (15 Marks)