



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS**

**2022/2023 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE DEGREE**

**OF**

**BACHELOR OF SCIENCE IN DASTER MITIGATION AND  
SUSTAINABLE DEVELOPEMENT**

**COURSE CODE: DSM 207**

**COURSE TITLE: AGRICULTURE, FOOD AND ENVIRONMENT**

**DATE: 27/4/2023**

**TIME: 12-2 PM**

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**INSTRUCTIONS TO CANDIDATES**

Answer QUESTION ONE and any other TWO questions.

**TIME: 2 Hours**

MMUST observes ZERO tolerance to examination cheating.

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

**Question ONE**

- a) Using relevant examples, define the following terms:
- |       |                              |           |
|-------|------------------------------|-----------|
| i.    | Agricultural biotechnology   | (2 Marks) |
| ii.   | Sustainable food System      | (2 Marks) |
| iii.  | Food system                  | (2 Marks) |
| iv.   | Hunger                       | (2 Marks) |
| v.    | Eco-efficiency               | (2marks)  |
| vi.   | Externality                  | (2marks)  |
| vii.  | Wicked environmental problem | (2marks)  |
| viii. | Salinization                 | (2marks)  |
- b) Explain the term “Transgenic organism ” (4 Marks)

**Question TWO**

- a) Explain the term Precision Agriculture and its significance. (6 Marks)
- b) Discuss any four approaches to Sustainable Agriculture (14 Marks)

**Question THREE**

- a) Define and elaborate the potential role of Conservation Agriculture. (10Marks)
- b) Explain any five practices through which Sustainable Agriculture can be realised. (10 Marks)

**Question FOUR**

For some time, Kenya has been experiencing drought and famine. One of the potential solutions is to import **Genetically Modified Organisms (GMOs)** especially maize for human consumption. Though GMOs are said to be beneficial, strong opposition from environmental NGOs and the public have emerged. Suppose you are employed as a technical person by one of the NGOs opposing the importation of GMOs, outline and briefly explain some of the **key environmental and social concerns** that you are likely to focus on in your opposition to GMOs and your advocacy programme. (20 Marks).