



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

**SUPPLEMENTARY / SPECIAL EXAMINATIONS**

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**THIRD YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE DEGREE**

**OF**

**BACHELOR OF SCIENCE IN DISASTER MITIGATION AND SUSTAINABLE  
DEVELOPMENT (DMSD)  
AND  
BACHELOR SCIENCE IN DISASTER PREPAREDNESS AND ENVIRONMENTAL  
TECHNOLOGY (DPET)**

**CODE : DSM 305**

**COURSE TITLE : ENVIRONMENTAL TECHNOLOGY AND SUSTAINABLE  
DEVELOPMENT**

**DATE: Thursday 28<sup>th</sup> July 2022**

**TIME: 8 am – 10 am**

---

**INSTRUCTIONS TO CANDIDATES**

1. This paper consists of **FOUR** questions
2. Question **ONE** is Compulsory
3. Attempt **QUESTION ONE** and **ANY OTHER TWO (2)** questions

**TIME: 2 Hours**

**MMUST observes ZERO tolerance in examination cheating**

**This Paper consists of 2 printed pages, Please Turn Over →**

### QUESTION ONE

Explain clearly what is meant by the following terms. Illustrate your answers by giving relevant examples

- (i) Environmental Technology
- (ii) Sustainable Development
- (iii) Precautionary Principle
- (iv) Renewable Energy
- (v) Polluter pays principle

**(30 Marks)**

### QUESTION TWO

Discuss briefly the merits and demerits of agricultural mechanization on sustainable development

**(20 Marks)**

### QUESTION THREE

- a) Distinguish between Renewable energy and Non- renewable energy. Give examples in each of the two energy types. **(10 Marks)**
- b) Discuss briefly the advantages and disadvantages of renewable energies **(10 Marks)**

### QUESTION FOUR

- (a) Using the second law of thermodynamics, show that environmental impacts of Renewable energy generation is inherently unavoidable. **(10 Marks)**
- (b) Discuss briefly the significant negative impacts to the environment which that could result from large scale capture and conversion of solar energy, especially if they are employed on such a large scale **(10 Marks)**