



(University of Choice)

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

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DIPLOMA

IN

CIVIL ENGINEERING AND BUILDING CONSTRUCTION

COURSE CODE: DCE / DBC 056

COURSE TITLE: ENVIRONMENTAL SCIENCE

DATE: FRIDAY 22ND APRIL 2022 TIME: 8.00AM – 10.00AM

INSTRUCTIONS:

- Answer Question **ONE** and any other **TWO** Questions
- Marks for each question are indicated in the parenthesis.
- Examination duration is **2 Hours**
- Use of Mobile phones is **NOT ALLOWED** in the examination room.

MMUST observes **ZERO** tolerance to examination cheating

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

QUESTION ONE - (30 MARKS)

- a) Define waste water treatment (2 Marks)
- b) Wind is a non-convectonal energy, explain the environmental impacts of wind power (8 Marks)
- c) Food chains transfer energy across the ecosystem, describe the two types of food chains (4 Marks)
- d) Define Sustainability and explain the pillars of sustainability (8 Marks)
- e) What are the engineering interventions to reduce environmental stresses (4 Marks)

QUESTION TWO

- a) Discuss the impact of human activities on land resource (8 Marks)
- b) Describe the sequence of water movement in the atmosphere (8 Marks)
- c) Explain the relationship between BOD and survival of fish population in a river (4 Marks)

QUESTION THREE

- a) Discuss the structure of the atmosphere (12 Marks)
- b) Define and explain the advantages and disadvantages of non-renewable energy (8 Marks)

QUESTION FOUR

- a) Using a diagram and an equation explain the Nitrogen cycle (10 Marks)
- b) Explain the hydraulic properties that should be considered before construction of a sewerage system (5 Marks)
- c) Discuss the relevance of environmental science in civil engineering (5 Marks)

QUESTION FIVE

- a) Explain the advantages and disadvantages of waste stabilization ponds (8 Marks)
- b) Describe the formation of the ozone layer above the earth surface (6 Marks)
- c) Erodibility refers to the resistance of soils to erosion, discuss thee factor that it depends on (6 Marks)