



(University of Choice)

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

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR**

FIRST YEAR SECOND SEMESTER EXAMINATIONS

MAIN EXAMINATION

**FOR THE DEGREE OF
MASTER OF SCIENCE IN CLIMATE CHANGE**

COURSE CODE: DPM 803

COURSE TITLE: CLIMATE CHANGE AND WATER RESOURCES

DATE: 19/4/2023

TIME: 2-5 PM

INSTRUCTIONS TO CANDIDATES

This paper contains **five (5)** questions

Question one (1) is compulsory {total = 30 Marks}

Attempt any other three (3) {total = 60 Marks} from the remaining questions

Be brief and to the point

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

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

SECTION I: COMPULSORY {30 MARKS}

Question ONE

- a) Discuss how climate change affects water-energy-food nexus and consequently the attainment of sustainable development goals [15 marks]
- b) Drought indices are important in assessing the impacts of climate change on water resources. Outline the importance of drought indices and describe any three commonly used indices. [15 marks]

SECTION II: ATTEMPT ANY OTHER THREE (3) QUESTIONS {60 MARKS}

Question TWO

Discuss why global air pollution problems such as climate change are difficult to remedy. [20 marks]

Question THREE

- a) Climate change refugees are diverse. Discuss [10 Marks]
- b) Describe how climate smart agricultural water management practices help in mitigating against climate change [10 marks]

Question FOUR

- a) Describe flash floods [10 marks]
- b) Describe techniques/models for flood forecasting [10 marks]

Question FIVE

- a) Describe briefly how climate change affects the hydrological response in a catchment [10 marks]
- b) Describe the legal and institutional framework governing climate change mitigation and adaptation in Kenya [10 marks]