



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

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2022/2023 ACADEMIC YEAR**

**THIRD YEAR SECOND SEMESTER EXAMINATIONS**

**MAIN EXAMINATION**

**FOR THE DEGREE OF**

BSc DISASTER PREPAREDNESS AND ENVIRONMENTAL TECHNOLOGY  
BSc DISASTER MITIGATION AND SUSTAINABLE DEVELOPMENT  
BSc GEOSPATIAL INFORMATION SCIENCE  
BSc EMERGENCY MANAGEMENT & HUMANITARIAN ASSISTANCE  
BACHELOR OF CONFLICT RESOLUTION AND HUMANITARIAN ASSISTANCE

**COURSE CODE:** DPE 312

**COURSE TITLE:** RESEARCH METHODS AND SEMINAR

**DATE:** 20/4/2023

**TIME:** 12-2 PM

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**INSTRUCTIONS TO CANDIDATES**

- This paper contains **four (4)** questions
- Question **one (1)** is compulsory
- Attempt **any other two (2)** questions

**TIME:** 2 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) After an outbreak of diarrhoeal diseases in Lurambi Sub-County in Kakamega, a MMUST student decides to research on whether they could be linked to availability of safe water in the area.

- i) Design an appropriate research title which the student can use for his study (3 marks)
- ii) Give at least three (3) research questions, and three (3) objectives that can be used to operationalise this study (4 marks)
- iii) What research design would you adopt for this study and why? (3 marks)
- iv) Explain at least 3 methods of data collection that can be employed in this study (6 marks)

(b) i) Discuss the differences between hypotheses and research questions, explaining the circumstances under which they are normally be used (3 marks)

ii) Compare and contrast between quantitative and qualitative types of research (6 marks)

(c) A survey among 15 different Faculties in one university shows the following statistics on students who drank alcohol more than three (3) times a week: 31, 27, 21, 21, 23, 21, 22, 21, 22, 20, 25, 26, 25, 24, 24. Using this information,

- i) Compute the respective (three) measures of central tendency (2 marks)
- ii) Calculate the variance and standard deviation (3 marks)

## SECTION II: ATTEMPT ANY OTHER TWO (2) QUESTIONS {40 MARKS}

### Question TWO

- (a) Explain the main features of scientific research (6 marks)
- (b) Of what importance are research skills to us (4 marks)
- (c) In a nutshell, highlight the steps followed in conducting academic research (6 marks)
- (d) In selecting a research problem, what key issues should be considered? (4 marks)

### Question THREE

(a) Explain the following terminologies:

- i) Independent variable (2 marks)
- ii) Dependent variable (2 marks)
- iii) Intervening variable (2 marks)

(b) A researcher wishes to study why drought disasters are becoming common and severe in Kenya:

- i) Design a suitable refined study title and explain what your dependent and independent variables would be, and probable intervening variables. (8 marks)
- ii) Explain the likely sources of his *primary* and *secondary* data for this study (6 marks)

### Question FOUR

Researchers want to conduct a study investigating the correlation between how well-educated a person is and their personal hygiene.

- a) Using your knowledge on research designs, briefly explain how best you would carry out this study, justifying your decisions as part of your explanation. (4 marks)
- b) Sketch a suitable raw data recording table the researchers could use to collect their data (3 marks)
- c) Briefly discuss two (2) ethical issues in relation to this study. (3 marks)
- d) Suggest ways to best measure the dependent variable in this study. (3 marks)
- e) Which *inferential* test would you use to analyse the data in this study, giving reasons for your choice (3 marks)
- f) Suggest a form of secondary data the researcher could utilise to support their own data collection. (2 marks)
- f) What is the purpose of literature review in research? (2 marks)