(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

MAIN EXAMINATIONS

2023/2024 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER EXAMINATIONS

FOR THE DEGREE
OF
MSc IN CCA, DPEM AND DMSD

COURSE CODE: DPE 802

COURSE TITLE: GIS AND ICT IN DISASATER MANAGEMENT

DATE: 14/12/2023   **TIME: 8-11 AM**

INSTRUCTIONS TO CANDIDATES

- ☐ This paper contains **five (5) questions**
- ☐ Question **one (1) is compulsory** {total = 20 Marks}
- ☐ Attempt **any other three (3)** {total = 60 Marks} from the remaining questions

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

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

SECTION 1: COMPULSORY {20 MARKS}

Question ONE

a) Discuss the application of remote sensing process in data acquisition in disaster management

(10 Marks)

b) Using your own country as an example, elucidate the importance of Geospatial data in Disaster Management

(10 Marks)

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

Question Two

a) During data gathering on rainfall of a given area, a researcher discovered that one rain gauge station was missing recorded data, discuss how this researcher overcame this problem so that the data could be used for assessment of flooding within the same area

(12 Marks)

b) Discuss the application of weather forecasting in disaster management in your own country

(8 Marks)

Question THREE

a) Discuss how remote sensing and GIS are applied in modern technology in assessing water resources of a given catchment

(14 Marks)

b) Apply normal ratio method in a catchment to compute missing precipitation of any storm (6 Marks)

Question FOUR

During research in a given catchment, data on areal precipitation was required by the research team. Discuss how this data was computed.

(20 Marks)

Question FIVE

a) Discuss the application of GIS as a tool for data processing in disaster management giving examples

(8 Marks)

b) Discuss the importance of aerial photography in disaster management

(12 Marks)