



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

(MMUST)

MAIN CAMPUS

MAIN EXAMINATIONS

2021 / 2022 ACADEMIC YEAR

**FOURTH YEAR SECOND SEMESTER
EXAMINATIONS**

MAIN EXAMINATIONS

FOR

**THE BACHELOR OF SCIENCE IN DISASTER PREPAREDNESS AND
ENVIRONMENTAL TECHNOLOGY**

COURSE CODE: DPE 407

**COURSE TITLE: BUILDING DESIGN TECHNOLOGY AND
SAFETY**

DATE: 19/04/2022

TIME: 12 - 2PM

INSTRUCTIONS TO CANDIDATES

Answer Question 1(ONE) and any other TWO Questions

MMUST observes ZERO tolerance to examination cheating

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

Question ONE COMPULSORY (30 MARKS)

- a) With the aid of diagrams, describe the following with respect to buildings.
- i. i) Tie rod (5 Marks)
 - ii. ii) Bar (5 Marks)
 - iii. iii) Beam (5 Marks)
 - iv. iv) Column (5 Marks)
- b) Outline the conventional classification of structural loads. (10 Marks)

Question TWO

- a) Describe the applied code of minimum standards for any building foundation. (10 Marks)
- b) What key properties should concrete demonstrate as an appropriate building material?
(10 Marks)

Question THREE

- a) Discuss the stipulated code of minimum standards for a building structural column. (10 Marks)
- b) Using diagrams, describe the safest location of a building on a river valley. (10 Marks)

Question FOUR

To ensure sound building design principles, demonstrate how you would attain a good house elevation, incorporating disaster preparedness and mitigation measures on a flood vulnerable area. (20 Marks)