

TECHNICAL



UNIVERSITY OF

MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:

DIPLOMA IN CIVIL ENGINEERING

DCE 2103 WORKSHOP TECHNOLOGY (MASONRY AND CARPENTRY)

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2024

TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **five** questions. Attempt any **THREE** questions.

Do not write on the question paper.

QUESTION ONE (20 Marks)

- a. Explain the function of the following tools as used in masonry workshop
 - I. Steel float
 - II. spirit level,
 - III. plump bob,
 - IV. pointing rod,
 - V. straight edge 10 marks
- b. Draw a well labeled diagram of a corner profile board 10 marks

QUESTION TWO (20 Marks)

- a. Discuss the procedure of setting out a building using a builder's square. 10 marks
- b. Draw a diagram of a
 - I. Raking shore. 5marks
 - II. Dependent scaffolding 5marks

QUESTION THREE (20 Marks)

- a. Sketch the diagrams of the following foundations
 - i. Beam and slab foundation 5marks
 - ii. Wide strip foundation 5marks
- b. Calculate the size of a foundation given the following information
 - i. Roof load 7KN
 - ii. Column load 4.36KN/M²
 - iii. Concrete base 3.16KN
 - iv. Bearing capacity 64KN/M²
 - v. Column size 300×300 mm 10marks

QUESTION FOUR (20 Marks)

- a. Outline five functional requirements of a roof 5 marks
- b. Draw a detailed section of a solid ground floor 5 marks
- c. Explain the procedure used in construction of a bored piles 10 marks

QUESTION FIVE (20 Marks)

- a. Draw a diagram of a trussed roof 10mark
- b. Sketch FIVE common joints used in carpentry 5 marks
- c. State five characteristics of a hardwood 5 marks