



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

END OF SEMESTER EXAMINATION
SERIES: APRIL 2025
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 difference between hand demolition and mechanical demolition.
(4 Marks)
- (b) With the aid of a sketch, explain the procedure of setting out a building using a builder's square.
(10 Marks)
- (c) Define the following terms
- (i) dewatering
 - (ii) building line
 - (iii) backfilling
 - (iv) dead load
 - (v) live load
 - (vi) baseline
- (6 Marks)

QUESTION TWO (20 Marks)

(a) State FIVE functions of a wall. (5 Marks)

(b) Which are the main functions of a roof. (5 Marks)

(c) Draw a well-labeled cross section of a solid ground floor. (10 Marks)

QUESTION THREE (20 Marks)

(a) Draw the following types of doors

- (i) ledged, battened door
- (ii) framed, braced and battened door (10 Marks)

(b) Calculate the size of foundation given the following information

- Bearing capacity of the ground $75\text{KN}/\text{M}^2$
- Column load 4.36KN
- Roof load 7KN
- Column size 300×300mm (10 Marks)

QUESTION FOUR (20 Marks)

(a) Sketch the following types of joints used in carpentry workshop

- (i) butt joint
- (ii) miter joint
- (iii) tongue and groove
- (iv) mortise joint
- (v) dado joint (5 Marks)

(b) Outline FIVE characteristics of a hardwood (5 Marks)

(c) Draw a well labeled diagram of a pitched roof (10 Marks)

QUESTION FIVE (20 Marks)

(a) Sketch the diagram of a slab and beam formwork. (10 Marks)

(b) Draw the following tools used in the workshop

- (i) mason hammer
- (ii) mason trowel
- (iii) handsaw
- (iv) claw hammer
- (v) steel float (10 Marks)

