



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

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: JULY 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) State FIVE purposes of site clearance. (5 Marks)
- b) Discuss THREE methods used in mechanical demolition. (6 Marks)
- c) Draw a corner profile board. (9 Marks)

QUESTION TWO (20 Marks)

- a) Outline Kenya building code requirements on foundations. (3 Marks)
- b) Sketch a typical raft foundation. (3 Marks)

- c) Define the following terminologies used on foundations
- i) back filling
 - ii) made ground
 - iii) settlement
 - iv) bearing capacity
 - v) strip foundation
- (5 Marks)

- d) Calculate the size of a foundation given the following information
- Total load of the foundation 26kn
 - Bearing capacity of the soil 73kn/m²
 - Wall thickness 215mm
- (9 Marks)

QUESTION THREE (20 Marks)

- a) Sketch a section of a solid ground floor. (10 marks)
- b) Draw a typical six-panel door with a glazing. (5 Marks)
- c) Define the following terms
- i) boundary wall
 - ii) panel wall
 - iii) partition wall
 - iv) cross wall
 - v) separation wall
- (5 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 following diagram of a
- i) beam formwork

ii) Raking shore

(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)