



## TECHNICAL UNIVERSITY OF MOMBASA

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

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING  
**TCV 4215 BUILDING TECHNOLOGY I**

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 question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

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### **QUESTION ONE (COMPULSORY) 20 Marks**

- a) With the aid of a sketch explain the procedure of transferring the wall width from a working drawing to the foundation trench (8 marks)
- b) Outline the roles of the following professionals
  - i) Quantity Surveyor
  - ii) Structural Engineer
  - iii) Clerk of works (6 marks)
- c) Sketch the following types of foundations
  - i) Strip foundation
  - ii) Wide strip foundations
  - iii) Stepped foundation
  - iv) Deep pile foundation (6 marks)

**ANSWER ANY TWO QUESTIONS FROM THIS SECTION**

### **QUESTION TWO (20 Marks)**

- a) Explain the procedure of concreting solid ground floor (10 marks)

- b) State four reasons under underpinning (4 marks)
- c) Explain the procedure of getting building plans approval starting from the client (6 marks)

### QUESTION THREE (20 Marks)

- a) Outline the following as used in building technology
  - i) Timbering
  - ii) Shoring
  - iii) Scaffolding
  - iv) Formwork (4 marks)
- b) Sketch and label the parts of solid ground floor (6 marks)
- c) With the aid of a sketch explain the procedure of plastering block wall (10 marks)

### QUESTION FOUR (20 Marks)

- a) Outline the following
  - i) Reinforced concrete
  - ii) Mortar
  - iii) Plastering (6 marks)
- b) Sketch the following shapes of bricks
  - i) Queen closer
  - ii) Half bat
  - iii) Standard brick
  - iv) King closer (6 marks)
- c) Sketch un bonded wall and state their disadvantages (4 marks)
- d) State the qualities of good formwork (4 marks)

### QUESTION FIVE (20 Marks)

- a) Sketch the following types of roofs
  - i) Lean to roof
  - ii) Couple
  - iii) Closed couple (6 marks)
- b) Sketch the following
  - i) Front view of block wall in stretcher bond
  - ii) Front view of rubble wall (4 marks)
- c) Outline the roles of building inspector (4 marks)
- d) Ketch the following
  - i) Rear elevation of ledged and battened
  - ii) Ledged and braced (6 marks)

