



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:
CERTIFICATE IN BUILDING AND CIVIL ENGINEERING
ECV 1101: CIVIL ENGINEERING MATERIALS I
SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MARCH 2025

TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

Answer Booklet and student ID

This paper consists of five questions.

Attempt any THREE questions

Do not write on the question paper.

QUESTION ONE.

- a) Outline the use of **FOUR** different types of construction materials (4 marks)
- b) Explain **SIX** characteristics of materials that determine their suitability in construction works (6 marks)
- c) Explain **FIVE** factors that cause deterioration of construction materials.

d) Briefly explain the following terms

- Functionality
- Aesthetic value

(5marks)

(5 marks)

QUESTION TWO.

- a) Explain the geological classification of rocks
- b) State **FOUR** common uses of building stones
- c) Outline **SIX** defects of building stones

(10 marks)

(4 marks)

(6 marks)

QUESTION THREE.

- a) State any **FIVE** structural clay products
- b) List **FIVE** characteristic properties of good bricks
- c) State **FIVE** uses of bricks in construction works

(5 marks)

(10 marks)

(5 marks)

QUESTION FOUR.

- a) Briefly explain the following terms as applied in timber technology
 - Timber seasoning
 - Conversion
- b) Briefly contrast the **TWO** general classifications of timber
- c) In a neat sketch, draw the cellular structure of a tree

(6 marks)

(10 marks)

(4 marks)

QUESTION FIVE.

- a) State **THREE** types of ferrous metals
- a) State **SIX** properties of ferrous metals
- b) Define the term alloy
- c) Briefly explain the following terms as applied in metal technology
 - Hardening
 - Tempering
 - Annealing

(6 marks)

(6 marks)

(4 marks)

(4 marks)