



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

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.

- a) State **FOUR** different types of construction materials (4 marks)
- b) List **SIX** characteristics of materials that determine their suitability in construction works (6 marks)

- c) State **FIVE** factors that cause deterioration of construction materials. (5marks)
- d) Briefly explain the following terms as applied in Civil Engineering materials
- Functionality
 - Aesthetic value (5 marks)

QUESTION TWO

- a) Explain the **THREE** geological classifications of rocks (6 marks)
- b) List **SEVEN** characteristics of good building stones (7 marks)
- c) State **SEVEN** common uses of building stones (7 marks)

QUESTION THREE

- a) State any **FIVE** structural clay products (5 marks)
- b) List **FIVE** characteristic properties of good bricks (10marks)
- c) State **FIVE** uses of bricks in construction works (5 marks)

QUESTION FOUR

- a) Briefly explain the following terms as applied in timber technology
- Timber seasoning
 - Conversion (6 marks)
- b) Briefly contrast the **TWO** general classifications of timber (10 marks)
- c) In a neat sketch, draw the cellular structure of a tree (4 marks)

QUESTION FIVE

- a) State **THREE** types of ferrous metals (6 marks)
- b) Define the term alloy (4 marks)
- c) State the constituent metals of the following
1. Brass
 2. Bronze
- d) Define the following terms as applied in metal technology
- Hardening
 - Tempering
 - Annealing (6marks)