



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN ARCHITECTURE

DIPLOMA IN QUANTITY SURVEY

EAR 2108: CONSTRUCTION MATERIALS I

END OF SEMESTER EXAMINATION

YEAR ONE SEMESTER II

SERIES: December 2024

TIME: 2 HOURS

DATE: Dec 2024

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.

QUESTION ONE (30 MARKS)-COMPULSORY

a) Describe THREE properties of the following metals and list TWO common applications for each in construction.

- i. Wrought Iron (5 marks)
- ii. Aluminium (5 marks)
- iii. Copper (5 marks)

b) Using sketches where necessary, describe FIVE techniques of seasoning timber. (15 marks)

QUESTION TWO (15 MARKS)

a) List FIVE main elements used in the manufacture of clay bricks. (5 marks)

b) Your client would like to use bricks to construct cottages in Baringo. Explain the properties of quality bricks for this project. (10 marks)

QUESTION THREE (15 MARKS)

a) Describe FIVE causes of deterioration often observed in building stones. (10 marks)

b) Mombasa county is planning to construct a recreational facility at Pirates Beach. List FIVE ways you can stone products in this project. (5 marks)

QUESTION FOUR (15 MARKS)

a) Explain FOUR techniques of protecting metals against corrosion. (12 marks)

b) Define “metal alloy” and list TWO examples used in construction. (3 marks)

QUESTION FIVE (15 MARKS)

Explain THREE properties of the following Advanced Building Materials and state TWO common uses of each in construction.

- a) Alucobond (5 marks)
- b) Rammed earth (5 marks)
- c) Cross-laminated timber (5 marks)