



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

SPECIAL/SUPPLEMENTARY EXAMINATION

YEAR ONE SEMESTER TWO

SERIES: MARCH 2025

TIME: 2 HOURS

DATE: MARCH, 2025

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) – COMPUSOLRY

a). Outline the difference between Natural Seasoning and Kiln Seasoning of timber. (10 marks)

b) State FIVE benefits of using EPS panels in construction. (5 marks)

c) Explain FIVE advantages of using timber in construction. (10 marks)

d) List FIVE uses of clay products in construction. (5 marks)

QUESTION TWO (15 MARKS)

a). List FIVE methods of protecting timber from deterioration. (5 marks)

b) Explain the properties of metals that make them ideal for construction. (10 marks)

QUESTION THREE (15 MARKS)

a) Using sketches where necessary, describe the process of constructing walls using rammed earth. (5 marks)

b) Explain FIVE main reasons why you would recommend clay products to a client who wants to construct an eco-lodge in Samburu. (10 marks)

QUESTION FOUR (15 MARKS)

a) Describe FIVE characteristics of quality building stones. (10 marks)

b) State FIVE properties of a good timber preservative. (5 marks)

QUESTION FIVE (15 MARKS)

a) Differentiate between:

i. Ferrous metals and Non-Ferrous metals. (2 marks)

ii. Steel and Iron. (2 marks)

b) Define a metal alloy. (1 mark)

c) State 5 ferrous metal products commonly used in construction. (5 marks)

d) Using illustrations where necessary, describe the procedure for conducting tensile strength tests on metal products. (5 marks)