



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 1

SPECIAL & SUPPLEMENTARY EXAMINATION

YEAR ONE SEMESTER TWO

SERIES: JULY 2025

TIME: 2 HOURS

DATE: July, 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) Define a metal alloy (1 mark)
- b) Differentiate between:
 - i. Ferrous metals and Non Ferrous metals (2 marks)
 - ii. Steel and Iron (2 marks)
- c) State FIVE properties of a good timber preservative. (5 marks)
- d) List 5 methods of protecting timber from deterioration (5 marks)
- e) A developer in Japan would like to consider flexible concrete in their construction project. Explain FIVE main differences between Normal Concrete and Flexible Concrete. (10 marks)
- f) List FIVE benefits of dressing stones used in construction. (5 marks)

QUESTION TWO (15 MARKS)

- a) Differentiate between Natural and Artificial defects on timber. Listing TWO examples of each. (5 marks)
- b) Explain FIVE methods of protecting metal from corrosion. (10 marks)

QUESTION THREE (15 MARKS)

- a) Glue Laminated timber is an advancement in timber technology. Describe 5 advantages of GluLam over traditional timber. (10 marks)
- b) List FIVE agents of building stone deterioration. (5 marks)

QUESTION FOUR (15 MARKS)

- a) Describe the structure of Laminated Timber. (3 marks)
- b) Describe SIX characteristics of Ferrous Metals. (12 marks)

QUESTION FOUR (15 MARKS)

- a) Your client would like to use clay products to construct his house. List FIVE clay products you can use in the project. (5 marks)
- b) Rammed earth construction dates back hundreds of years. Explain FIVE benefits of constructing using rammed earth. (10 marks)

QUESTION FIVE (15 MARKS)

Using sketches, describe FIVE methods of seasoning timber.