



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT
UNIVERSITY EXAMINATION FOR:
BACHELOR OF ARCHITECTURAL STUDIES
EAR 4208: BUILDING TECHNOLOGY III
END OF SEMESTER EXAMINATION
YEAR TWO SEMESTER II
SERIES: MAY 2025
TIME: 2 HOURS
DATE: Pick Date MAY 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)-COMPULSORY

- a) Describe the following construction terminologies.
 - i. Formwork. (2 marks)
 - ii. Falsework. (2 marks)
 - iii. Shoring. (2 marks)
- b) Scaffolds aid in providing vertical access and safety during construction. Outline SIX alternative methods of access from heights other than scaffolds during construction. (6 marks)
- c) Concrete as a construction material has become globally popular in the construction of framed structures. Explain SIX benefits of concrete framed buildings. (18 marks)

QUESTION TWO (20 MARKS)

- a) Define the following stair terminologies.
 - i. Balustrade. (2 marks)
 - ii. Newel Post. (2 marks)
 - iii. Winder. (2 marks)
 - iv. Landing. (2 marks)
 - v. Soffit. (2 marks)
- b) Explain FIVE key requirements for an emergency egress stairway. (10 marks)

QUESTION THREE (20 MARKS)

- a) Appropriate sheathing must be selected during formwork to not only obtain the specified finish required but also provide a mould for the desired shape. Describe FIVE options for sheathing. (10 marks)
- b) Explain FIVE factors to consider when selecting formwork for a construction project. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Mr. Owino intends to covert his existing office into a bedroom for his new born daughter. Describe the steps he needs to undertake to effectively paint the room. (10 marks)
- b) Explain the following paint defects.
 - i. Bleeding. (2 marks)
 - ii. Blistering. (2 marks)
 - iii. Efflorescence. (2 marks)
 - iv. Mildew. (2 marks)
 - v. Sagging. (2 marks)

QUESTION FIVE (20 MARKS)

Steel framed structures are gaining popularity due to their flexibility and high speed in construction.

- a) Describe FIVE classifications of steel framed structures. (10 marks)
- b) With the aid of well annotated sketches describe TWO key possible connecting mechanisms for steel framed structures. (10 marks)