



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT
UNIVERSITY EXAMINATION FOR:
BACHELOR OF ARCHITECTURE
EAR 4203: BUILDING TECHNOLOGY 11
SPECIAL / SUPPLEMENTARY EXAMINATION
YEAR TWO SEMESTER ONE
SERIES: JULY 2025
TIME: 2 HOURS
DATE: Pick 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)-COMPULSORY

- a) Describe the following door and window terminologies. (12 marks)
 - i. Door jamb (2 marks)
 - ii. Weatherstripping (2 marks)
 - iii. Window sill (2 marks)
 - iv. Door hinge (2 marks)
 - v. Window sash (2 marks)
 - vi. Window frame (2 marks)
- b) Describe THREE disadvantages of underpinning in construction. (6 marks)
- c) Explain FOUR key differences between masonry fireplaces and prefabricated fireplaces. (12 marks)

QUESTION TWO (20 MARKS)

- a) During the design stage and even construction, architects prepare window schedules and details of the windows selected for the project. Explain factors to consider during the selection of windows for any project. (10 marks)
- b) With the aid of well annotated sketches, explain the fixing and operation details of timber horizontal sliding sash windows. (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the following fireplace terminologies. (8 marks)
 - i. Chimney (2 marks)
 - ii. Flue (2 marks)
 - iii. Hearth (2 marks)
 - iv. Damper (2 marks)
- b) Fireplaces play a vital role in enhancing comfort in most houses and should therefore meet certain requirements. Explain FOUR functional requirements of fireplaces. (12 marks)

QUESTION FOUR (20 MARKS)

- a) Outline FIVE advantages of underpinning in construction. (5 marks).
- b) Other than Pile method, outline FIVE methods of underpinning in construction. (5 marks)
- c) With the aid of well annotated sketches, explain pile method of underpinning. (10 marks)

QUESTION FIVE (20 MARKS)

The use of thatch (makuti) is a common form of pitched roof in Mombasa and so are concrete flat roofs.

- a) Explain the advantage of using makuti as a roofing material in Mombasa. (5 marks)
- b) With the aid of a well annotated sketch provide a detail of a concrete flat roof, clearly indicating the appropriate drainage mechanisms. (15 marks)