



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
Department of BUILDING & Civil engineering
UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN CIVIL ENGINEERING
EBC 4451 : BUILDING PATHOLOGY

END OF SEMESTER EXAMINATION

SERIES: APRIL 2025

TIME: 2 HOURS

PAPER A

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 (COMPULSORY) 30 marks

- a) State six precautions(care) to observe in site to prevent accident (6 marks)
- b) Explain the importance of Workers Compensation Act in buildings construction (10 marks)
- c) Explain the process of producing fresh concrete for building construction (10 marks)
- d) State the effects of leaking drainage system in a building (4 marks)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO (20 Marks)

- a) Explain maintenance of buildings and highlight the two main types (6 marks)
- b) Sketch the following shapes of bricks
 - i) Half bat
 - ii) Queen closer
 - iii) King closer
 - iv) Full brick (6 marks)
- c) Explain the term building pathology (8 marks)

QUESTION THREE (20 Marks)

- a) With the aid of a sketch explain the setting out of rectangular buildings using 3 : 4 : 5 method (8 marks)
- b) Explain the use of the following types of cement
 - i) Pozzolana
 - ii) Low heat
 - iii) Rapid hardening (6 marks)
- c) Use a sketch to show the distribution of load on a stretcher bonded wall (6 marks)

QUESTION FOUR (20 Marks)

- a) Explain the following defects in buildings
 - i) Rusting
 - ii) Cracks
 - iii) Leakage (9 marks)
- b) Explain the roles of an environmental officer in building pathology (6 marks)
- c) Outline the preliminaries of constructing (5 marks)

QUESTION FIVE (20 Marks)

- a) Explain the preliminary stages of building a house in urban setting (6 marks)
- b) Outline the roles of the following in building construction
 - i) Architect
 - ii) Structural engineer
 - iii) Quantity survey (6 marks)
- c) State eight qualities of scaffoldings (8 marks)

