# TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT

**UNIVERSITY EXAMINATION FOR:**

BACHELOR OF ARCHITECTURAL STUDIES/BACHELOR OF ARCHITECTURE

**EAR 4203**: **BUILDING TECHNOLOGY II**

END OF SEMESTER EXAMINATION

YEAR TWO SEMESTER I

SERIES: APRIL 2022

**TIME:** 2 HOURS

**DATE:** April 2022

**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.

Start every question on a new page

**Do not write on the question paper.**

**QUESTION ONE (COMPULSORY) (30 MARKS)**

a) The primary function of window openings is to admit daylight. In order to perform this function, windows have to satisfy Building Code requirements. Describe TWO of these requirements. (4 marks)
b) Explain the avoidance of down draught in chimneys (6 marks)
c) Using appropriate illustrations, describe the following forms of pitched roof construction
    i. Couple roof (5 marks)
    ii. Close couple roof (5 marks)
d) You have been commissioned to provide water proofing details for a concrete flat roof.
    i. Describe the procedure of water proofing using asphalt (5 marks)
    ii. Illustrate a typical detail for (i) above. (5 marks)

**QUESTION TWO (20 MARKS)**

With the help of sketches explain the construction of upper timber floors in line with the following

a) Framing (5 marks)
b) Strutting (5 marks)
c) Stability (5 marks)
d) Floor boards (5 marks)

**QUESTION THREE (20 MARKS)**

a) Describe underpinning (4 marks)
b) Outline some FOUR situations in which underpinning will be required (4 marks)
c) Explain the Procedure of the Traditional Wall Underpinning Method (12 marks)

**QUESTION FOUR (20 MARKS)**

a) Explain the construction of a Panelled and Glazed Timber Door (12 marks)
b) Distinguish between door frames and door linings (8 Marks)

**QUESTION FIVE (20 MARKS)**

Describe the construction of a Precast 'T' Beam and Infill Block Floor (20 marks)