



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT

UNIVERSITY EXAMINATION FOR:
DIPLOMA IN ARCHITECTURE
EAR 2303: MEASUREMENT AND SPECIFICATIONS
SPECIAL/SUPPLEMENTARY EXAMINATION

YEAR 3 SEMESTER 1

SERIES: JUL 2025

TIME: 2 HOURS

DATE: JUL 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 - COMPULSORY

(30 marks)

Using Drawing No. 01 – 2303B and Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa, answer the following questions:

- a) Calculate the centreline length of the trench [show your workings on the dimension paper]. (5 marks)
- b) Calculate the depth/height of the foundation walling [show your workings on the dimension paper]. (5 marks)
- c) Prepare a comprehensive take-off list for all the substructure work items. (5 marks)
- d) Take-off and square quantities for site clearance, oversite excavation, trench excavation, planking and strutting, and dewatering. (15 marks)

QUESTION TWO (15 marks)

- a) Highlight THREE purposes of the use of standard method of measurement (SMM) in the measurement of building works. (3 marks)
- b) The traditional method of preparing bills of quantities starts when the quantity surveyor receives drawings from the architect and the engineer and serialises them ready to start extracting building quantities from them. Describe this traditional method of preparing bills of quantities. (8 marks)
- c) A perimeter wall made of natural stone, is 15 metres long and 3 metres high. Assuming the substructure part has already been constructed, take-off and square quantities for the superstructure walling. (4 marks)

QUESTION THREE (15 marks)

Using drawing No. 02 – 2303B and Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa, prepare a comprehensive take-off list; take off and square all quantities for the mahogany timber panelled door. (15 marks)

QUESTION FOUR (15 marks)

- a) Describe the following concepts as used in measurements:
- i. 'Anding-on' (2 marks)
 - ii. 'Bracketing' (2 marks)
 - iii. 'Dotting on' (2 marks)
- b) Draw a neat diagram showing a dimension paper, label the four parts appropriately, and explain each part. (9 marks)

QUESTION FIVE**(15 marks)**

Explain SEVEN roles of a quantity surveyor in a construction project. (15 marks)