



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
END-OF-SEMESTER EXAMINATION

YEAR 3 SEMESTER 1

SERIES: DEC 2024

TIME: 2 HOURS

DATE: DEC 2024

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) Explain the term “taking-off” as used in measurements. (2 marks)
- b) Distinguish between “SMM” and “CESMM.” (4 marks)
- c) Outline FOUR roles of a quantity surveyor in a construction project. (4 marks)
- d) Using Drawing No. 01 – 2303 and Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa, answer the following questions:
 - i. Prepare a take-off list for substructure works following the construction sequence. (8 marks)
 - ii. Take-off and square quantities for foundation footing, walling, Damp Proof Membrane (DPM), steel reinforcement (BRC), slab and formwork. (12 marks)

QUESTION TWO (15 marks)

- a) With reference to the Great Fire of London in 1666 and the reconstruction of London City after that, describe the origin of the practice of building measurements and quantity surveying. (8 marks)
- b) Highlight FOUR steps involved in the traditional process of preparing bills of quantities. (4 marks)
- c) List any THREE sections found in a bill of quantities. (3 marks)

QUESTION THREE (15 marks)

- a) Highlight FIVE reasons why the practice of measurements is critical in the construction industry. (5 marks)
- b) Describe THREE types of bills of quantities that can be found in a construction project. (6 marks)
- c) Distinguish between Descriptive and Performance Specifications. (4 marks)

QUESTION FOUR (15 marks)

Using Drawing No. 02 – 2303 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 steel casement window as shown.

(15 marks)

QUESTION FIVE

(15 marks)

- a) Explain FIVE reasons why a standard method of measurement is used in the measurement and description of building works. (10 marks)
- b) Highlight FIVE differences between the 'Standard Method of Measurement of Building and Associated Civil Works (SMM)' and the 'Civil Engineering Standard Method of Measurement (CESMM)'. (5 marks)