



**INTERNATIONAL
UNIVERSITY
OF EAST AFRICA**
'Learning to Succeed'

DEPARTMENT OF CIVIL ENGINEERING AND ARCHITECTURE

**PROGRAMME: DIPLOMA IN CIVIL ENGINEERING AND
ARCHITECTURE**

COURSE UNIT: DCE1204-QUANTITY SURVEYING 1

PROGRAMME : Bachelor of Civil Engineering

YEAR/SEM : One (1), Semester II

COURSE CODE : DCE1204

NAME : QUANTITY SURVEYING 1

DATE: 25/04/2025

TIME: 02:00 pm – 05:00 Pm

INSTRUCTIONS TO CANDIDATES:

1. THIS EXAMINATION CONSISTS OF TWO SECTIONS; SECTION A AND SECTION B.
2. ALL QUESTIONS CARRY EQUAL MARKS
3. ATTEMPT ANY THREE (3) QUESTIONS FROM SECTION A AND TWO (2) QUESTIONS FROM SECTION B. YOU SHALL HAVE FIVE QUESTIONS IN TOTAL
4. DO NOT OPEN THIS EXAMINATION UNTIL YOU ARE TOLD TO DO SO
5. ALL ROUGH WORK SHOULD BE IN YOUR ANSWER BOOKLET
6. THE TIME ALLOWED FOR THIS EXAMINATION IS STRICTLY THREE HOURS
7. ON THE FIRST PAGE OF YOUR ANSWER BOOKLET
 - WRITE YOUR REGISTRATION NUMBER PROPERLY
 - WRITE THE COURSE NAME AND COURSE CODE
 - WRITE EXAMINATION VENUE
 - DO NOT WRITE, DRAW OR SCRATCH ANYTHING ELSE ON THE FIRST PAGE
 - WRITING UNNECESSARY INFORMATION LIKE PHONE NUMBERS IN THE FIRST PAGE SHALL ANNUL YOUR EXAM
 - ANSWER BOOKLETS THAT DO NOT CARRY THE REQUIRED INFORMATION, OR THAT HAVE UNNECESSARY WRITING IN THE FIRST PAGE SHALL NOT BE MARKED

SECTION A

QUESTION ONE

- a) With examples, explain the following terminology: **(20 Marks)**
- i) Deemed included.
 - ii) Extra over.
 - iii) Preliminaries.
 - iv) Raking cutting.
 - v) Provisional sum.
 - vi) Prime cost sum.
 - vii) Contingency sum.
 - viii) Overheads and Profits.
 - ix) Preambles.
 - x) Query sheet

QUESTION TWO

- a) We have several methods of measurement on the market. State three determinants for using a particular standard method of measurement. **(5 Marks)**
- b) Explain the importance of the standard method of measurement. **(5 Marks)**
- c) State the importance of quantity surveying **(5 Marks)**
- d) What are the main challenges faced by quantity surveyors on construction sites? **(5 Marks)**

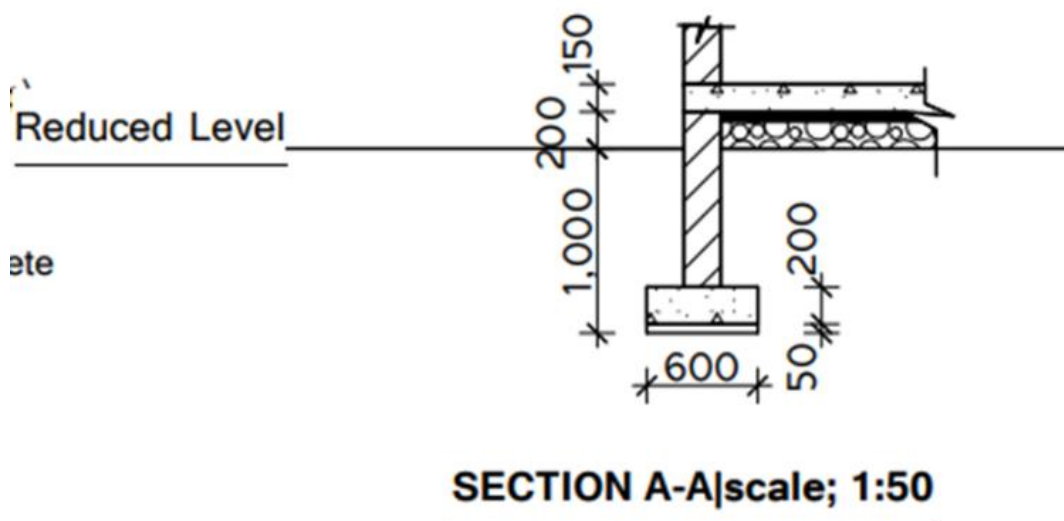
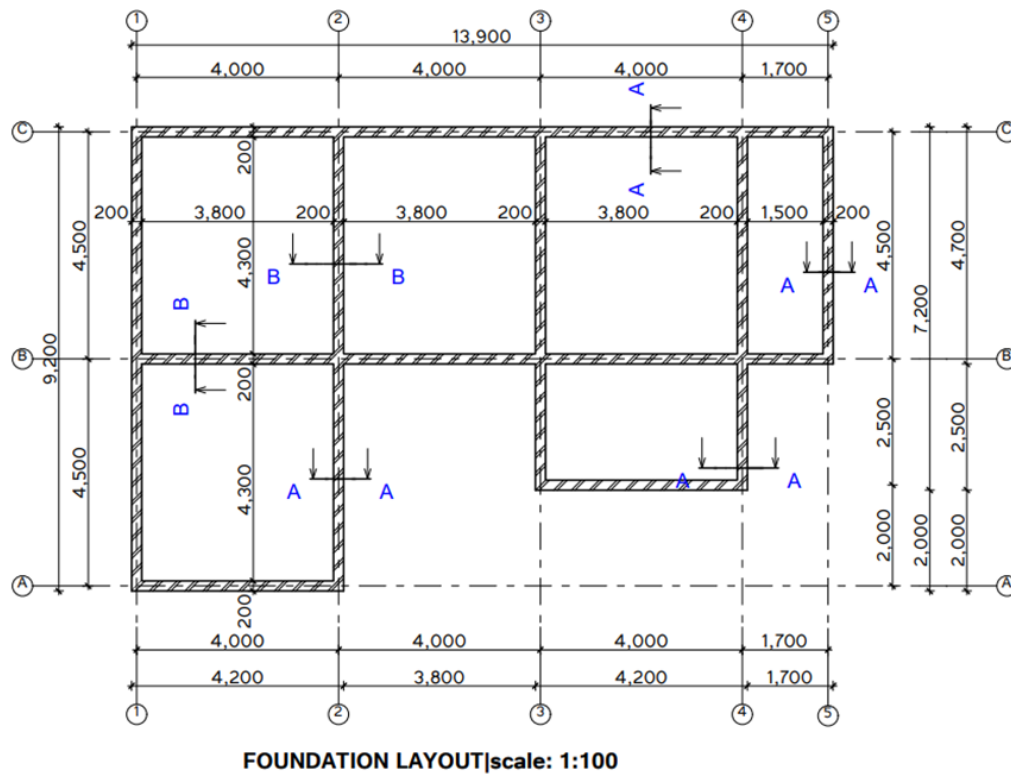
QUESTION THREE

- a) Illustrate the process of preparing the bill of quantities. (5 Marks)
- b) Define preliminaries and indicate major sub-elements of the preliminaries section in the bill of quantities. (5 Marks)
- c) What are the key differences between a Bill of Quantities (BOQ) and a Schedule of Rates? (2 marks)
- d) Name three standard methods of measurement used in preparing BOQs. (3 marks)

QUESTION FOUR

The drawings below show the ground floor plan and foundation details of a simple building. Assume the following site data:

- The size of the site is 20x20.0m
 - The site comprises a thicket, 5 No. big trees measuring 1800mm girth, 5 No. tree stumps measuring 1400mm girth and 1No. termite nests.
- a) Measure all quantities for the substructure including the DPC



Brief specifications about the work:

- 150mm thick plain in situ concrete 1:3:6 ground floor slab
- 1.54kg/m², BRC Ref No. A98 steel fabric reinforcement in the slab
- Damp-proof membrane: A layer of 1000-gauge polythene sheeting
- Hardcore bed: 150mm compacted thickness with 50mm thick sand blinding
- Plinth walls: building unit, approved burnt clay bricks; mortar type and mix, cement mortar 1:4; reinforcement, 24-gauge x 25mm wide galvanized hoop iron wall ties in every two alternate courses.
- Damp proof courses: Hessian-based bituminous felt.

QUESTION FIVE

- a) List and briefly explain three types of contracts used in construction projects. (5 marks)
- b) What is the purpose of cost control in construction projects? (5 marks)
- c) Explain the concept of Value Engineering in quantity surveying. (3 marks)
- d) Differentiate between Prime Cost Sum and Provisional Sum in a BOQ. (2 marks)
- e) Discuss the importance of accurate cost estimation in construction projects and its impact on project success. (5 marks)

QUESTION SIX

- a) Discuss the key responsibilities and roles of a quantity surveyor in a construction project, highlighting how their involvement impacts project cost management, risk management, and overall project success.(5 marks)
- b) b) Explore the various cost management techniques used by quantity surveyors, such as cost planning, budgeting, and financial reporting.(5 marks)
- c) How do these methods ensure that construction projects stay within budget? (5 marks)
- d) Discuss the collaborative role of quantity surveyors in a construction project, particularly their interactions with architects, engineers, contractors, and clients.(5 marks)

SECTION B

QUESTION SEVEN

- a) How do they contribute to the overall success of a project?(5 marks)
- b) Why is professionalism critical in the field of quantity surveying?(5 marks)
- c) Discuss the importance of risk management in the role of a quantity surveyor.(5 marks)
- d) What is the future of the quantity surveying profession in light of emerging trends such as digitalization, globalization, and sustainability? (5 marks)

QUESTION EIGHT

- a) Define the bill of quantities and its usefulness on a construction contract. **(5 Marks)**
- b) Explain the two types of bills of quantities, their characteristics, and the determinants for each type. **(10 Marks)**
- c) Define Quantity Surveying and explain its role in the construction industry (5 marks)

QUESTION NINE

- a) Define preliminaries and indicate major sub-elements of the preliminaries section in the bill of quantities. (5 Marks)
- b) Compare and contrast Civil engineering works and Building works (10 marks)
- c) Elaborate on the procedure that must be followed when taking off (5 marks)

QUESTION TEN

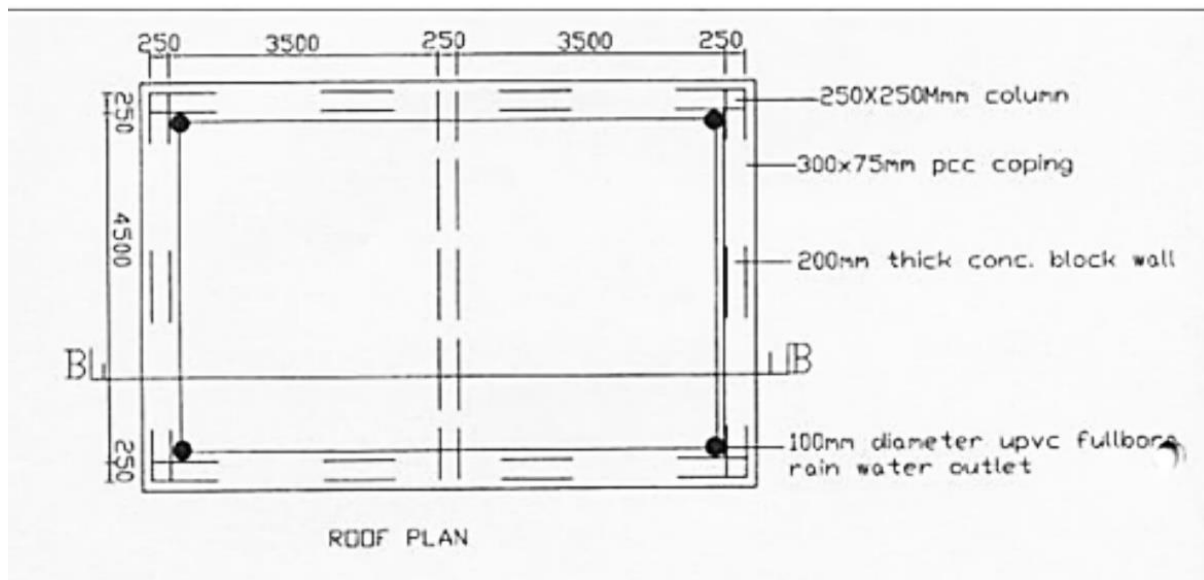
- a) Explain the significance of accurate measurement and quantification in quantity surveying. (10 marks)
- b) Discuss the methods and tools employed by quantity surveyors to ensure precise measurements and the consequences of errors in this process.(10 marks)

QUESTION ELEVEN

- a) How Do Quantity Surveyors Work with Contractors to Ensure the Project's Financial Success?
- b) Why is Measurement of Materials Important in Construction? (5 marks)
- c) What are Some Common Tools or Software Used by Quantity Surveyors?(5 marks)
- d) What are the Main Responsibilities of a Quantity Surveyor in a Construction Project?(5 marks)

QUESTION TWELVE

- a) The drawings below show the ground floor plan and details of a simple building with a flat roof. Take off all quantities for superstructure works including walking, beams, columns and roof (20 marks)



Section

