



COMMON WRITTEN EXAMINATION

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<b>Tertiary and Vocational Education Commission</b>		
<b>Diploma in Quantity Surveying</b>		
<b>NVQ Level 05 –Semester I</b>		
<b>Measurement 1</b>	<b>K75C002M02</b>	<b>Three Hours</b>
<b>Answer 03 questions including question No 01</b>		

**Instructions to candidates:**

- I. Calculation – Attention to be drawn on methods of measuring dimensions, waste calculations, accuracy of dimensions, entering the dimensions in appropriate columns, clear and accurate work descriptions with standard abbreviations, abstracting and billing techniques.
- II. Query Sheet – All Queries should be listed together in a Query Sheet with assumptions made and should be attached with your answer papers.
- III. Method of Measurement – Your answers should be based on the Method of Measurement for Building works SLS 573 – 1999 (First Revision).
- IV. Non programmable calculators can be used.

**Specifications**

- a. Site clearance – clear entire land of 20 perches.
- b. Removing trees – Remove 2 trees of 550 mm and 1750 mm girth
- c. Concrete – Foundation – cement concrete 1:3:6 (25 mm)  
Floor – Cement concrete 1:2 1/2:5 (25 mm)
- d. Rubble work – Built in cement mortar 1:5
- e. DPC – 12 mm thick in cement sand 1:3 treated with 2 coats hot tar on top & blinded with fine sand
- f. DPM – 1000 gauge polythene laid on blinded hard core with 150 mm side & end laps
- g. Filling – filling to make up levels to be of gravelly hard core obtained off site, laid in 100 mm layers, well rammed, watered & consolidated & blinded with 50 mm thick fine sand
- h. Brick work – common bricks built in cement mortar 1:5
- i. Height from Ground level to wall plate – 3000 mm
- j. Pitch of the roof - 12°
- k. Internal plaster – 12 mm thick lime, cement & sand 1:1:5 plaster finished smooth
- l. External plaster - 12 mm thick lime, cement & sand 1:1:5 plaster finished semi rough

### **Question No 01**

Take out quantities up to the substructure using **Annexure 01** & the given Specifications  
(60 Marks)

### **Question No 02**

Take out quantities for the following superstructure works using **Annexure 01** & the given Specifications.

- a) Internal plaster (08 Marks)
- b) Ceiling framing & ceiling finishes for **03 bed rooms** (12 Marks)

### **Question No 03**

Prepare bar bending schedule for 05 No of beams using given detail in **Annexure 02**. **You are required to provide all the length calculations & assumptions neatly.**

(20 Marks)

### **Question No 04**

- I. State the contents of a BOQ
- II. Explain the process of preparing Bills of Quantities
- III. Explain the following with examples using standard taking off sheet
  - a) Timesing
  - b) Dotting on
  - c) Alteration of dimensions
- IV. Draw formats of the following papers required for prepare BOQ
  - a) Abstract sheet
  - b) Bill sheet
  - c) Query sheet

(20 Marks)



Architectural floor plan of a four-bedroom apartment. The plan includes the following rooms and dimensions:

- Top Left Bedroom:** Labeled "Bed Room", dimensions 3200 (width) x 2875 (height).
- Top Middle Bedroom:** Labeled "Bed Room", dimensions 2950 (width) x 2875 (height).
- Top Right Bathroom:** Labeled "D3", dimensions 2100 (width) x 1500 (height). It contains a toilet, a bathtub, and a shower area marked with an asterisk (\*).
- Bottom Left Bedroom:** Labeled "Bed Room", dimensions 2875 (height) x 3000 (width).
- Bottom Right Bedroom:** Labeled "Bed Room", dimensions 2875 (height) x 3000 (width).

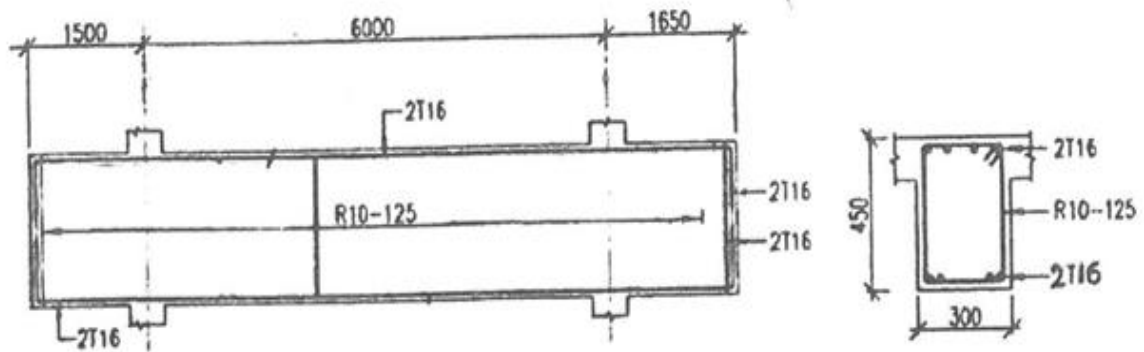
Additional labels and dimensions include:

- "W" (Window) above the top two bedrooms.
- "CL" (Closet) above the bathroom.
- "DW" (Doorway) at the top right corner.
- Door labels: "D1" (between top two bedrooms), "D3" (between top left bedroom and bottom left bedroom), and "D3" (between top middle bedroom and bathroom).

The diagram illustrates a cross-section of a wall and its foundation. The wall is constructed from 225 mm thick brickwork, with a DPC (Damp Proof Course) located at the G.L. (Ground Level). Below the G.L., the foundation consists of a 1:3:6 (20) concrete base, which is 375 mm wide and 150 mm thick. This base is supported by an R.R. (Reinforced) Foundation, which is 450 mm wide and 450 mm high. The foundation is filled with 225 mm thick earth filling, and a 75 mm thick concrete layer is applied to the top of the earth filling. The total height of the foundation assembly is 750 mm.



**ANNEXURE 02 – DRAWING NO QS/M02/18/02**



**DETAIL OF BEAM (300 X 450 mm)**