higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1460**(E)**(A15)T

# NATIONAL CERTIFICATE

# QUANTITY SURVEYING N6

(2050026)

**15 April 2019 (X-Paper)**
**09:00–13:00**

**REQUIREMENTS:** **Dimension paper (OE 8/12)**
**Abstract paper (OE 8/10)**
**Billing paper (OE 8/11)**

**Candidates will require their own unmarked STANDARD SYSTEM OF MEASURING BUILDING WORK.**

**Calculators may be used.**

**This question paper consists of 5 pages and 4 addenda.**

 

# DEPARTMENT OF HIGHER EDUCATION AND TRAINING
# REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
QUANTITY SURVEYING N6
TIME: 4 HOURS
MARKS: 100

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**INSTRUCTIONS AND INFORMATION**

1. Answer ALL the questions.
2. Read ALL the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. QUESTION 1 must be done in the ANSWER BOOK.
5. ALL the work for QUESTIONS 2, 3 and 4 must be done on the appropriate sheets provided.
6. ALL loose sheets must be numbered correctly and placed in sequence inside the ANSWER BOOK.
7. Candidates must strictly apply the rules and methods as stipulated in the Standard System of Measuring Building Work.
8. Red ink is NOT allowed.
9. Sketches must be large, neat and fully labelled.
10. Write neatly and legibly.

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## QUESTION 1

1.1 State in which unit each of the following items should be measured:

1.1.1 Ground anchors

1.1.2 Augered drilling

1.1.3 Concrete in augered piles

1.1.4 Planking and strutting

1.1.5 Concrete in enlarged feet of piles

1.1.6 Mesh reinforcement

1.1.7 Stripping of turf, vegetation and soil

(7 × 1) (7)

1.2 Explain the difference between:

1.2.1 Site clearance

1.2.2 Working space

(2 × 2) (4)

1.3 Briefly explain the following methods used to prepare a document for tendering purposes:

1.3.1 Traditional method

1.3.2 Cut-and-shuffle method

1.3.3 Computer method

(3 × 3) (9)

1.4 Draw a neat sketch of a vertical section through the eaves of a roof construction. Clearly show the following details:

- 220 mm brick wall
- Timber wall plate
- Part of a timber rafter
- A tie beam
- Roof covering
- Purlin
- Eave distance

(5)
**[25]**

## QUESTION 2

ADDENDUM A (attached) shows a vertical section through a basement wall. The external dimensions of the hole are 15 metres long and 11,5 metres wide.

SPECIFICATIONS

Earthworks:
- The site is to be cleared to an area of 2 metres from the basement wall.
- Excavation is in ordinary earth and has to be partly filled in and rammed.

Concrete:
- 25 MPa

Masonry:
- Local stock bricks
- 1:4 cement mortar

Measure only the following trades to construct this basement:

- All the earthwork
- All the concrete work
- All the masonry work
- All the waterproofing work

**NOTE:** Do NOT measure the internal finishes. **[25]**

## QUESTION 3

ADDENDUM B (attached) shows the plan view and vertical section through a reinforced concrete structure. Measure all the work above the ground level only.

SPECIFICATIONS

Concrete work:
- 25 MPa in columns, slab and beams
- Measure columns to the underside of the beams

Measure strictly in accordance with the measuring list given below:

3.1 Concrete and formwork in columns (11)

3.2 Concrete and formwork to soffits of slab (4)

3.3 Concrete and formwork in column beams (10)

**[25]**

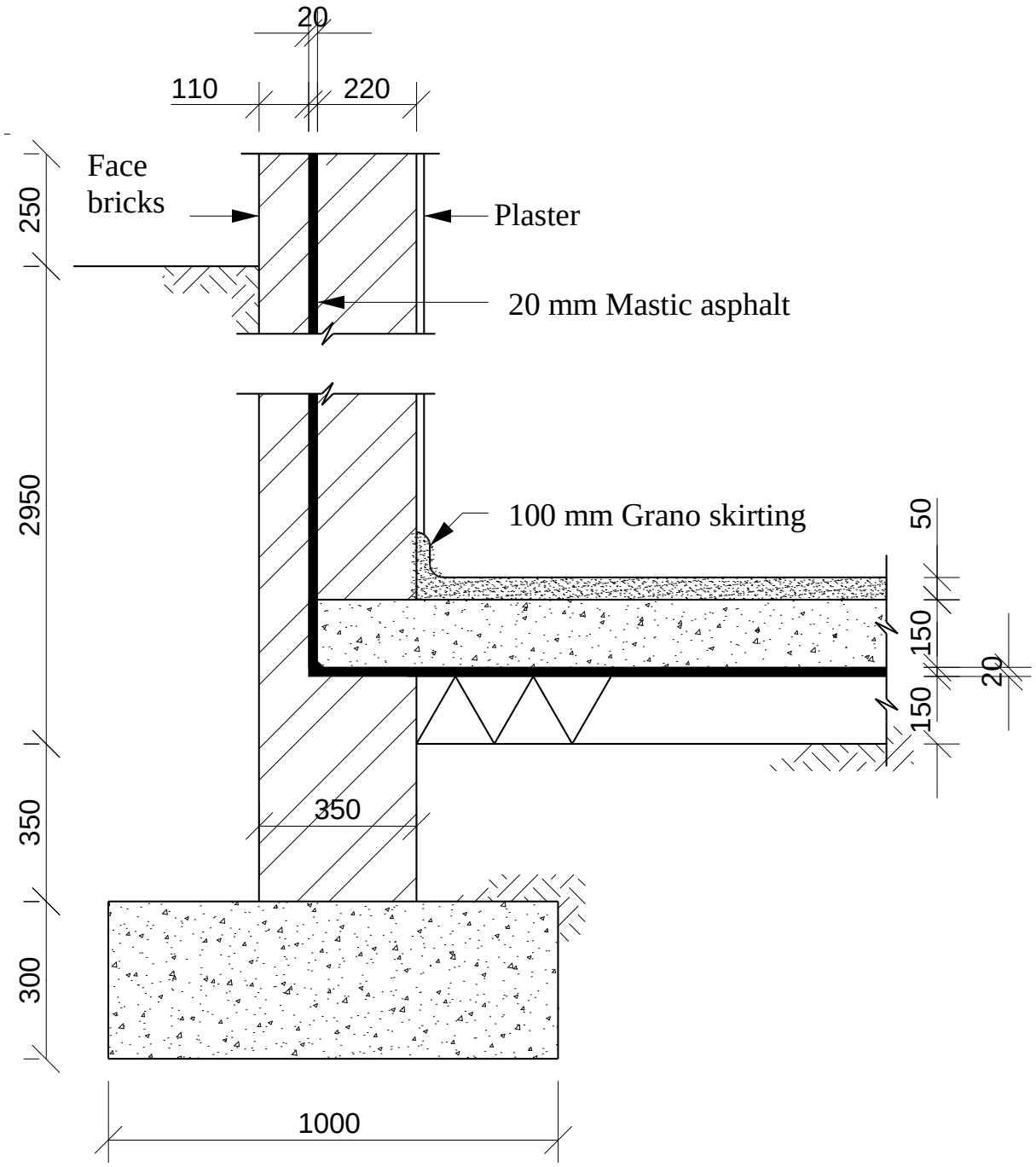
**QUESTION 4**

ADDENDUM C (attached) shows the front and horizontal and vertical views of a timber casement window. ADDENDUM D (attached) shows the measurements of the carpentry and joinery. Detach ADDENDUM D from the question paper, write your EXAMINATION NUMBER in the spaces provided and prepare a tender document for the carpentry and joinery trade only.

| | | |
|---|---|---|
| 4.1 | Squaring | (7) |
| 4.2 | Abstracting | (9) |
| 4.3 | Billing | (9) |
| | | **[25]** |

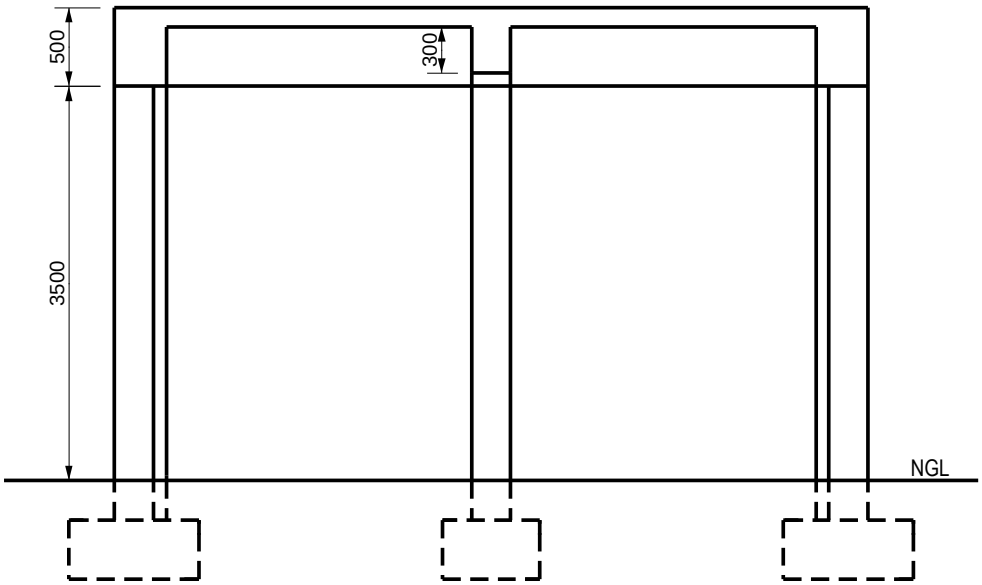
**TOTAL: 100**

**ADDENDUM A**

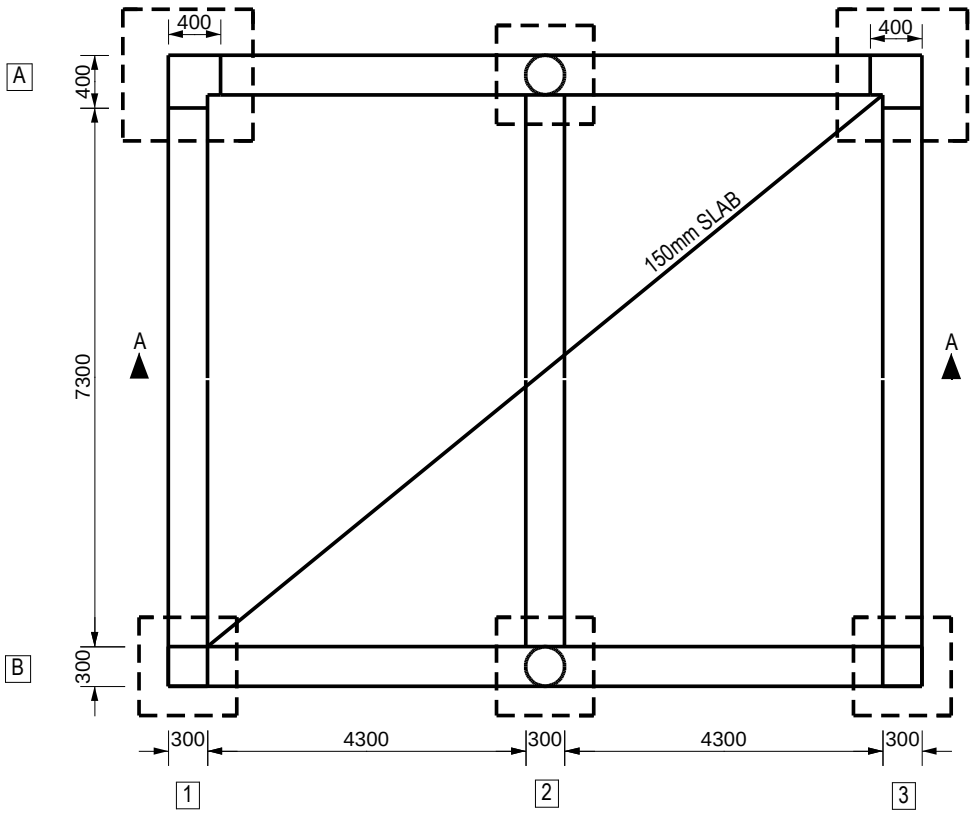


**ADDENDUM B**



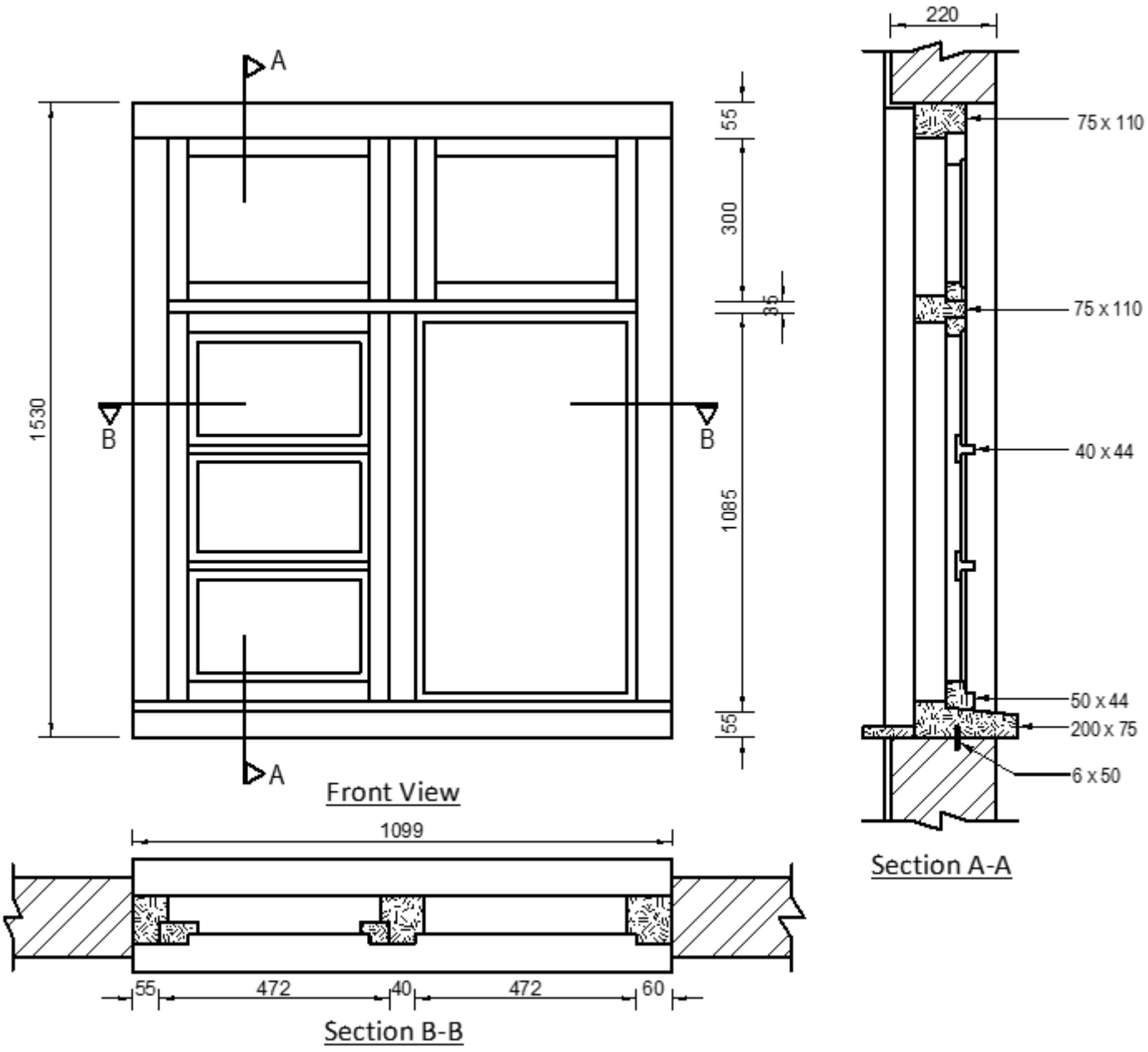

SECTION A-A




PLAN VIEW

**ADDENDUM C**



**ADDENDUM D** **EXAMINATION NUMBER:**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | 1,53<br>1,10 | | 75 × 110 mm meranti tbr. once rebated.<br>-Stiles<br>-Head | 1,10<br>0,35 | | Two cts. clear varnish to exposed tbr. surfaces.<br>Girth<br>2 × 75 = 0,150<br>0,200<br>0,350 m | |
| 2 | 1,53<br>0,26<br>1,10<br>0,26 | | Two cts. clear vanish to tbr. surfaces.<br>-Stiles Girth 2 × 75 = 0,150<br>-Head 0,110<br>0,260 m | 5,26 | | Priming to backs of frame<br>2 × 1,099 = 2,198<br>2 × 1,530 = 3,060<br>5,258 m | |
| | 1,53<br>1,10 | | 75 × 110 mm meranti tbr. twice rebated.<br>-Mullion<br>-Transome | 2 | | 472 × 300 mm meranti tbr. fanlight w. two 50 × 44 mm stiles, once rebated, one 50 × 44 mm top and one bot rails, once rebated. | |
| 2<br>2 | 1,53<br>0,37<br>1,10<br>0,37 | | Two cts. clear varnish to exposed tbr. surfaces.<br>Girth<br>2 × 75 = 0,150<br>2 × 110 = 0,220<br>0,370 m | 0,47<br>0,30 | | Two cts. clear vanish to flat surfaces of fanlight. | |
| | 1,10 | | 75 × 200 mm meranti tbr. twice rebated and once weathered.<br>-Sill | 1 | | 472 × 1 085 mm meranti tbr. casement w., two 50 × 44 mm stiles, once rebated, one 50 x 44 mm top and bot. rails, once rebated. | |
| | | | | 0,47<br>1,09 | | Two cts. clear varnish to flat surfaces of casement. | |
| | | | (1) | | | (2) | |