



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

QUANTITY SURVEYING N6

(2050026)

20 April 2020 (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 4 pages, 4 addenda and 1 answer sheet (Addendum C).



315Q1A2020

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
QUANTITY SURVEYING N6
TIME: 4 HOURS
MARKS: 100

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. Red or green ink is not allowed.
 5. QUESTION 1 must be done in the answer book.
 6. All the work for QUESTIONS 2, 3 and 4 must be done on the appropriate sheets provided.
 7. ADDENDUM C is an answer sheet. Detach it from the question paper and fill in the examination number, then complete and hand in with the other completed sheets.
 8. All loose sheets must be numbered correctly and placed in sequence in the answer book.
 9. Candidates must strictly apply the rules and methods as stipulated in the Standard System of Measuring Builders Work.
 10. Write neatly and legibly.
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QUESTION 1

- 1.1 Briefly explain the following quantity surveying terms:
- 1.1.1 Retention
- 1.1.2 Interim valuation
- 1.1.3 Arbitrator 
- 1.1.4 Sketched drawings
- 1.1.5 Bills of quantities (5 × 2) (10)
- 1.2 Complete the following sentences by writing only the missing word or words next to the question number (1.2.1(a)–1.2.5(b)) in the ANSWER BOOK.
- 1.2.1 (a) ... refers to the (b) ... only of specialist materials to site.
- 1.2.2 A specialist subcontractor is called a (a) ... appointed by the (b) ...
- 1.2.3 Variations orders are (a) ... to the original contract and is issued by the (b) ... 
- 1.2.4 The (a) ... appoints a registered (b) ... to establish the boundary pegs of the building site.
- 1.2.5 The document for monthly payments is compiled by the (a) ... and certified by the (b) ... for payment to the contractor. (10 × 1) (10)
- 1.3 Name FIVE important information items that must supplied on the tender form. (5)
[25]

QUESTION 2

ADDENDUM A shows the plan and vertical section of a mountain hut. Measure all the work to construct the foundation up to and including the concrete surface bed.

NOTE: Use the internal wall lengths for this exercise.

SPECIFICATIONS


- Earthworks : Clear site 1,5 metres from the external walls.
Excavated soil to be used for filling.
- Concrete : 15 MPa
- Masonry : Ordinary bricks built in 1:3 cement mortar.
Facings externally to two courses below the ground level.

**[25]**

QUESTION 3

ADDENDUM B shows the plan and a vertical section through a concrete structure. ADDENDUM C shows the measurements for the work to be carried out.

Remove ADDENDUM C from the question paper, insert your EXAMINATION NUMBER and hand it in with the ANSWER BOOK.


- 3.1 Square all the items on ADDENDUM C. (8)
- 3.2 Abstract all the items from ADDENDUM C. (8)
- 3.3 Bill all the items.  (9)
- [25]**

QUESTION 4

ADDENDA D and E show the front view of a solid timber door frame with glazed side lights on both sides. Also vertical and horizontal sections through parts of the door frame.

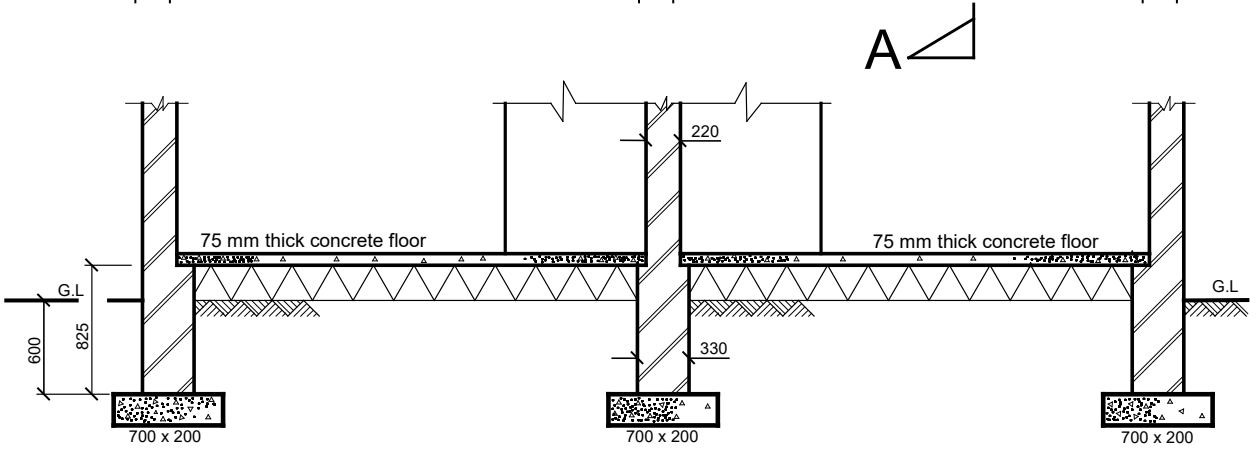
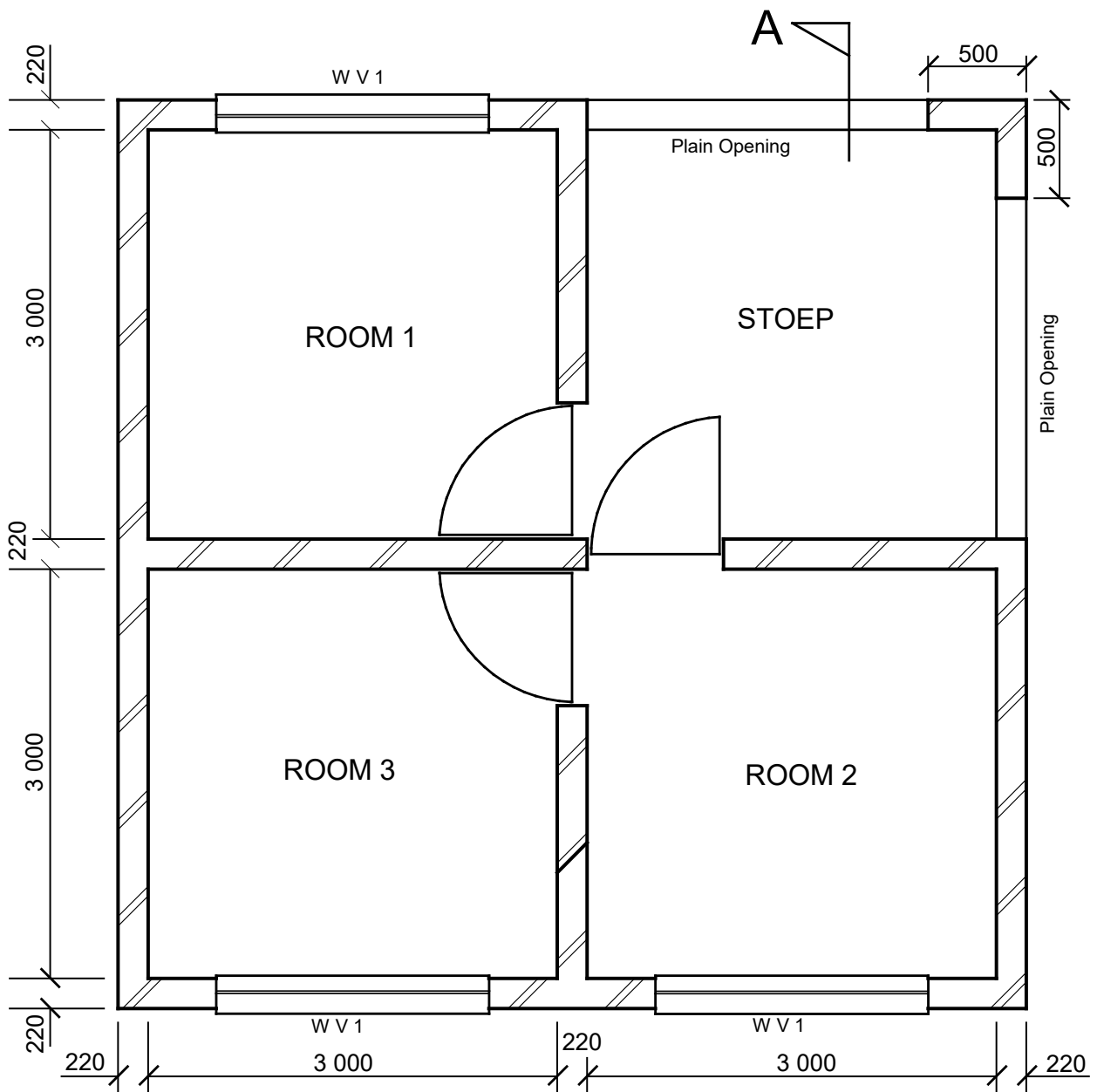
Measure all the items to construct the timber door and frame.

SPECIFICATIONS

- Carpentry and joinery : Meranti 3-panelled door
Meranti timber framing to be 76 × 114 mm
Rebate size is 15 mm
- Painting : Two coats clear varnish to exposed timber surface
Priming backs
- Glazing : 3 mm obscure glass 
- Ironmongery : 3-lever mortise locks
3/100 × 45 mm brass butt hinges

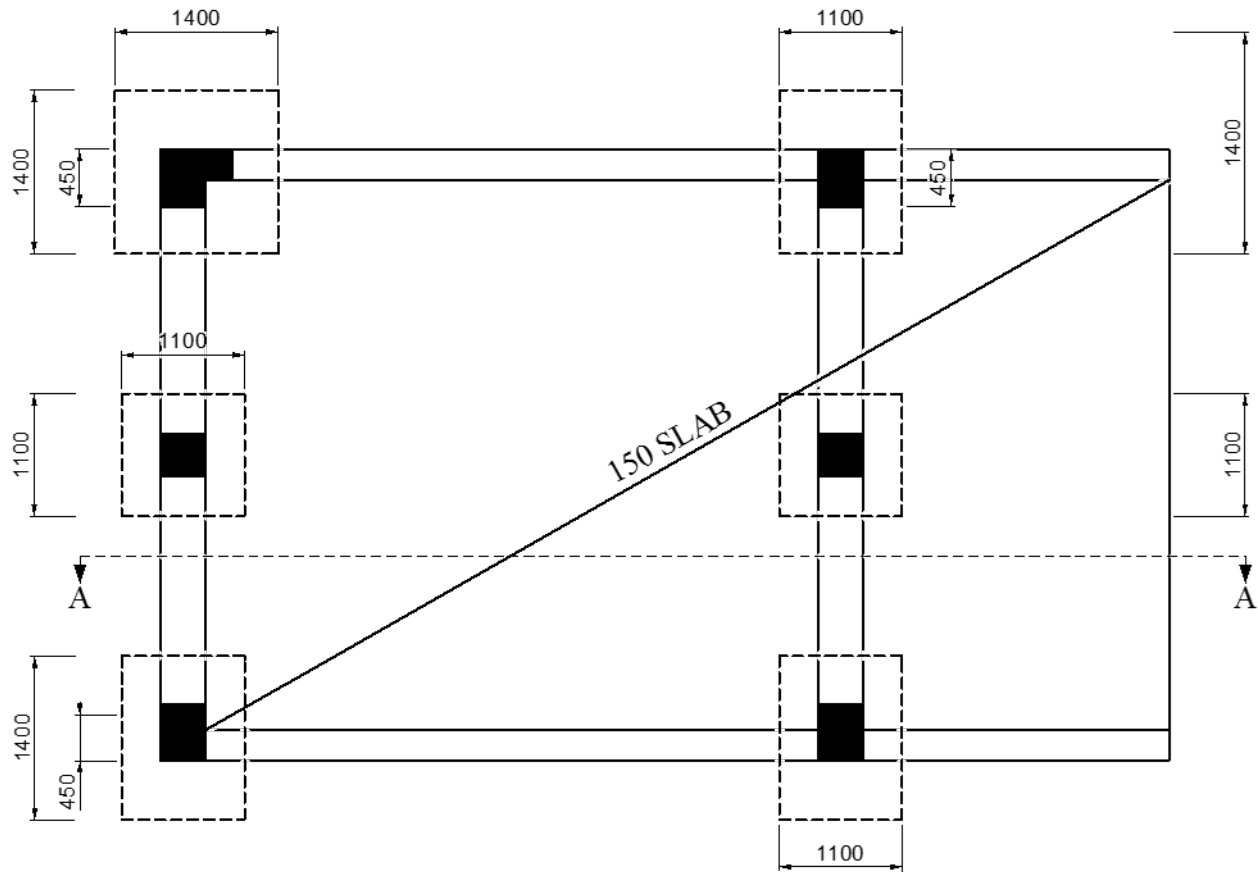
[25]**TOTAL: 100**

ADDENDUM A

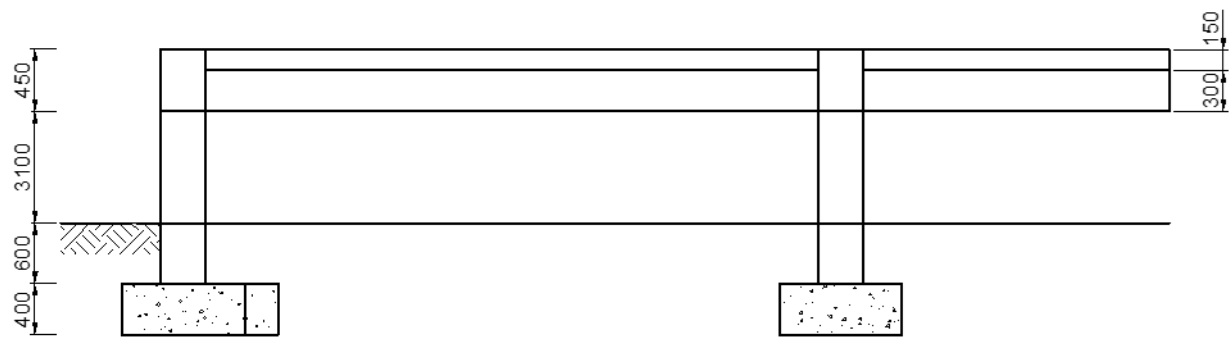


SECTION A-A

ADDENDUM B



PLAN VIEW



SECTION A-A

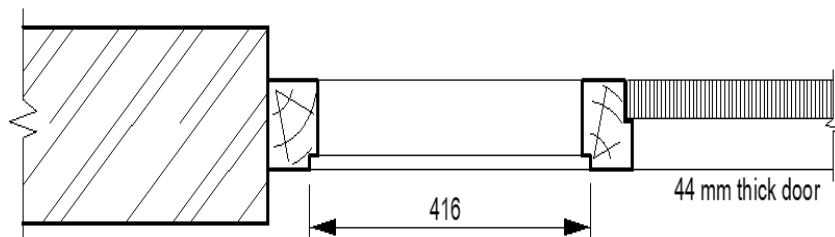
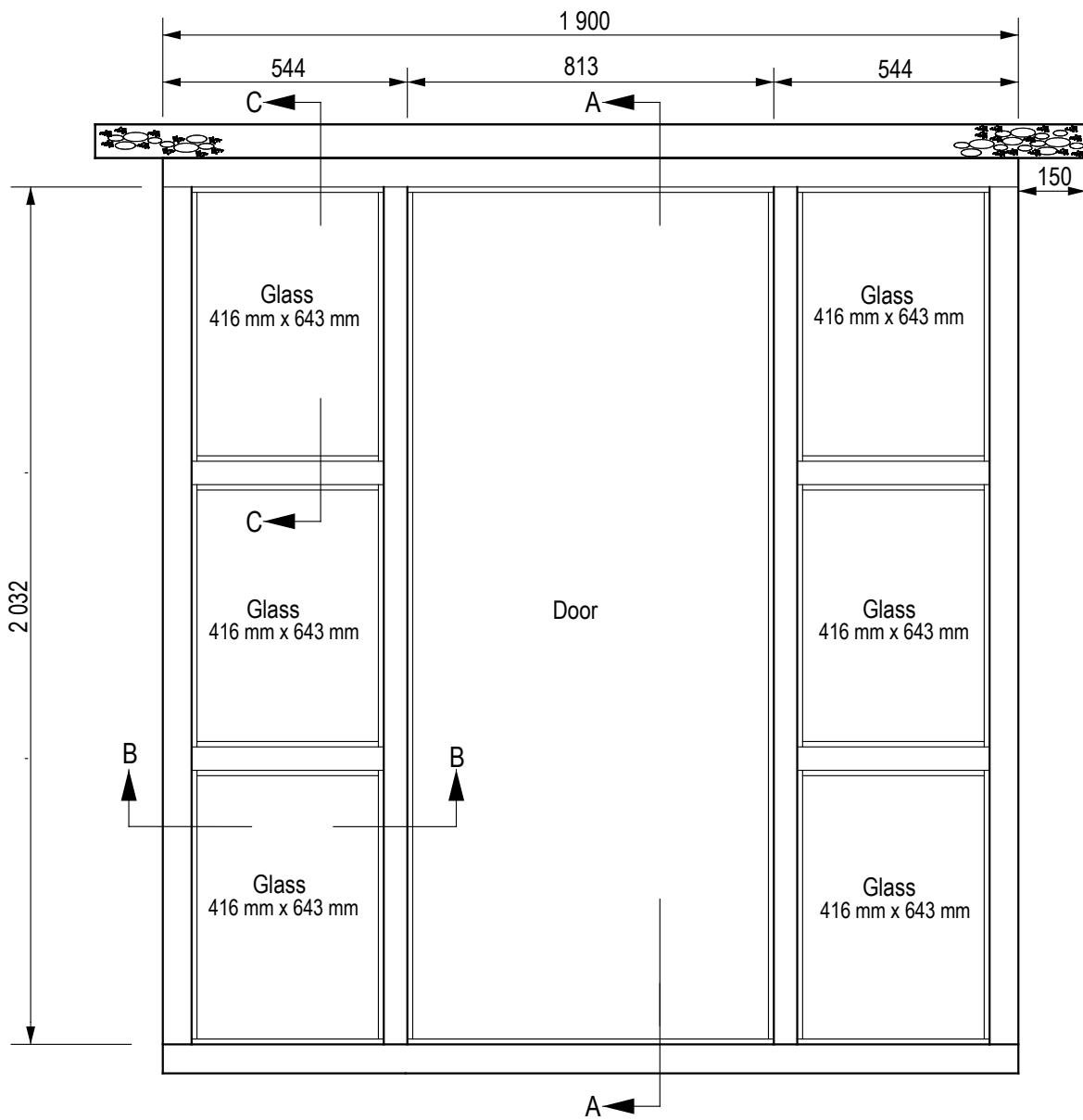
EXAMINATION NUMBER:

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ADDENDUM C

	0,68 0,22 3,70 0,45 0,22 3,70 0,22 0,22 3,70	<p><i>25 Mpa reinf. conc. in cols.</i></p> <p>$2 \times 0,450 = 0,900 - 0,220$ $= \underline{0,680 \text{ m}}$</p> <p><u>Col. heights</u> 3,100 <u>0,600</u> <u>3,700 m</u></p>	26,12 0,22 0,30 1,50 0,22 0,30	<p><i>25 Mpa reinf. conc. in ring beam.</i></p> <p><u>Centre line of ring beam</u></p> <p>$2 \times 4,500 = 9,000$ $2 \times 9,000 = \underline{18,000}$ <u>27,000</u> less $4 \times 0,220$ <u>0,880</u> <u>26,120 m</u></p>
	3 1,34 3,70 2 0,88 3,70	<p><i>Frmwrk. to sides of cols.</i></p> <p>$2 \times 0,450 = 0,900$ $2 \times 0,220 = \underline{0,440}$ <u>1,340 m</u></p> <p>$4 \times 0,220 = 0,880 \text{ m}$</p>	26,12 0,22 1,50 0,22	<p><i>Frmwrk. to soffits of bms.</i></p>
	2 0,90 3,70	<p><i>Ditto, but to L – shape cols.</i></p> <p>$4 \times 0,450 = 0,900 \text{ m}$</p>	26,12 0,30 1,50 0,30 30,00 0,15 0,22 0,30	<p><i>Frmwrk. to sides of bms. & slab.</i></p> <p>-R.bm.</p> <p>-Overhang</p> <p>-Slab</p> <p>-Bm. Ends</p> <p>$2 \times 6,000 = 12,000$ $2 \times 9,000 = \underline{18,000}$ <u>30,000 m</u></p>
	6,00 9,00 0,15	<p><i>25 Mpa. Reinf. conc. in slab incl. s.o. & c. hor. top surfaces.</i></p> <p>$4,500 + 1,500 = 6,000 \text{ m}$ $2 \times 4,500 = 9,000 \text{ m}$</p>	Item	<p><i>Allow the prov. sum of R25,000 (Twenty Five Thousand) for steel rod reinf.cut, bent, del. to site & fixed in position.</i></p>
	4,06 8,56	<p><i>Frmwrk. to soffit of slab.</i></p> <p style="text-align: right;"><u>4,500</u> Less $2 \times 0,220 = \underline{0,440}$ <u>4,060 m</u></p> <p style="text-align: right;"><u>9,000</u> Less $2 \times 0,220 = \underline{0,440}$ <u>8,560 m</u></p>		<p style="text-align: center;">&</p> <p><i>Add for attendance.</i></p> <p style="text-align: center;">&</p> <p><i>Add. For profit.</i></p>
		(1)		(2)

ADDENDUM D



Section B-B

ADDENDUM E

