



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1460(E)(A8)T

NATIONAL CERTIFICATE

QUANTITY SURVEYING N6

(2050026)

8 August 2018 (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.**

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

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
 2. Read ALL the questions carefully.
 3. QUESTION 1 must be answered in the ANSWER BOOK.
 4. ALL the work of QUESTIONS 2, 3 and 4 must be answered on the appropriate sheets provided.
 5. Answer QUESTION 4.1 on ADDENDUM D (attached). Write your EXAMINATION NUMBER in the space provided, detach it from the question paper and hand it in with the ANSWER BOOK and sheets.
 6. Number the answers according to the numbering system used in this question paper.
 7. Use only BLUE or BLACK ink.
 8. Start each question on a NEW page.
 9. ALL loose sheets must be numbered correctly and placed in sequence in the ANSWER BOOK.
 10. Candidates must strictly apply the rules and methods as stipulated in the Standard System of Measuring Builders Work.
 11. Write neatly and legibly.
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QUESTION 1

- 1.1 Discuss and state the different categories for measuring the following:
- 1.1.1 Removal of trees larger than 200 mm girth
 - 1.1.2 Risk of collapse
 - 1.1.3 Mass brickwork and piers
- (3 × 3) (9)
- 1.2 Sketch sectional views through the two common types of lintel situations mentioned below:
- 1.2.1 In-situ concrete lintel
 - 1.2.2 Precast concrete (fabricated) lintel
- (2 × 3) (6)
- 1.3 A contingency sum is usually included as a separate item on the main summary page.
- Explain what the purpose of a contingency would be.
- (3 × 2) (6)
- 1.4 Explain the difference between the following quantity surveying terms:
- 1.4.1 Interim payment
 - 1.4.2 Final account
- (2 × 2) (4)
- [25]**

QUESTION 2

ADDENDUM A shows the plan and vertical sections through a purpose-made timber door, built into a 270 mm thick brick wall. The brick wall and internal and external finishes have been measured elsewhere.

Measure the quantities for the timber door and frame as well as the adjustments to be made to make provision for this opening.

SPECIFICATIONS

- Concrete: – 15 MPa
- Brickwork: – Ordinary bricks built in stretcher bond
– Face brick to external walls. Use 75 + 10 mm for brick course.
– 1:4 cement mortar
– 160 × 75 mm precast concrete lintel
– Soldier arch externally over door opening
- Plastering: – 19 mm thick plaster to internal vertical wall
– 30 mm thick cement mortar screed
- Carpentry and joinery – 2 100 × 1 150 × 44 mm framed, ledged and braced meranti timber door
– 75 mm meranti timber skirting
- Painting: – Two coats acrylic PVA paint to plaster walls
– Two coats clear varnish to timber surfaces
- Ironmongery: – Three-lever mortise lock
– Fixing lugs (three per side)
– Three 100 mm brass hinges
- Floor covering – Ceramic floor tile covering

[25]

QUESTION 3

ADDENDUM B shows the plan and vertical sectional view of a reinforced concrete structure.

Take off the quantities for all the work to be done above the natural ground level.

NOTE: The height of the columns must be calculated from the top of the bases to the bottom of the beam.

SPECIFICATIONS

The external measurements of the slab is 4 500 wide x 6 000 long and the width of the canopy is 1 500.

Concrete: 25 MPa

Formwork: Formwork to columns, slab and beams

Reinforcement: Allow the provisional sum of R25 000,00 for steel rod reinforcement. **[25]**

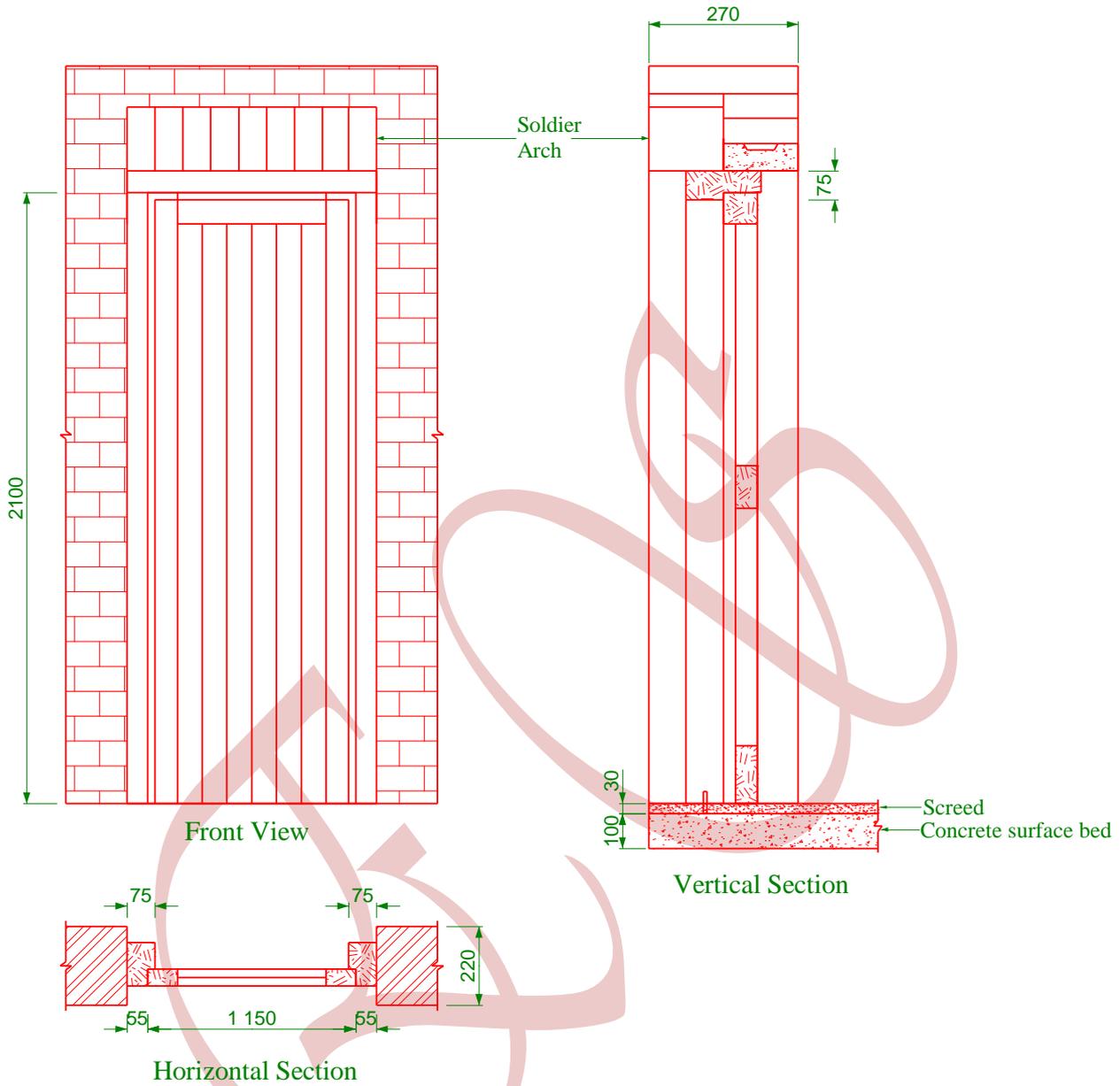
QUESTION 4

ADDENDUM C shows the plan and sectional views of a timber roof construction and ADDENDUM D shows the measurements taken off by the quantity surveyor.

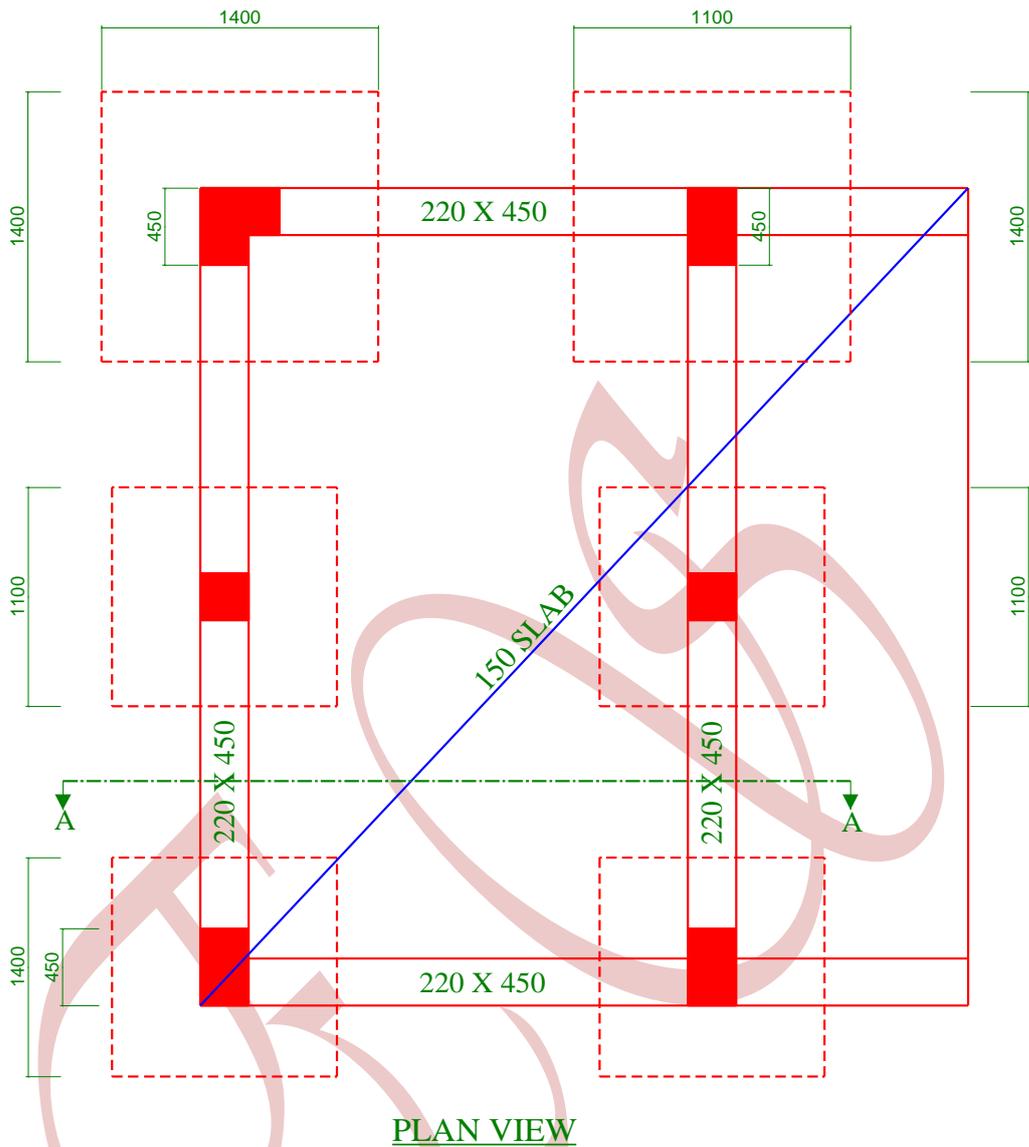
- 4.1 Square ALL the items on ADDENDUM D. Write your EXAMINATION NUMBER in the space provided, detach it from the question paper and hand it in with the ANSWER BOOK and sheets. (7)
- 4.2 Abstract ALL the items of the trades on a sheet provided. (8)
- 4.3 Draw up the bills for the trades. (10)

[25]**TOTAL: 100**

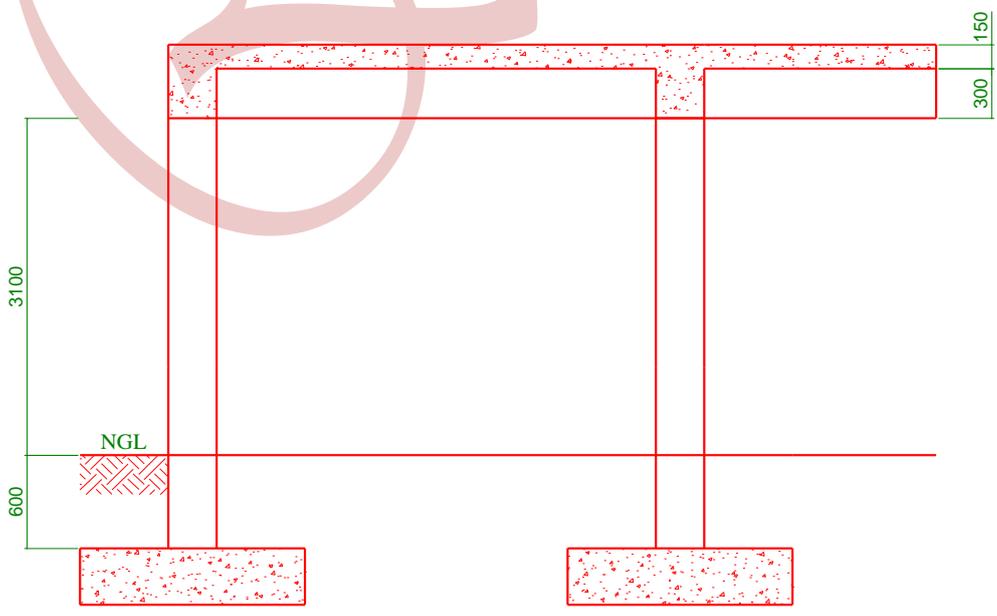
ADDENDUM A



ADDENDUM B

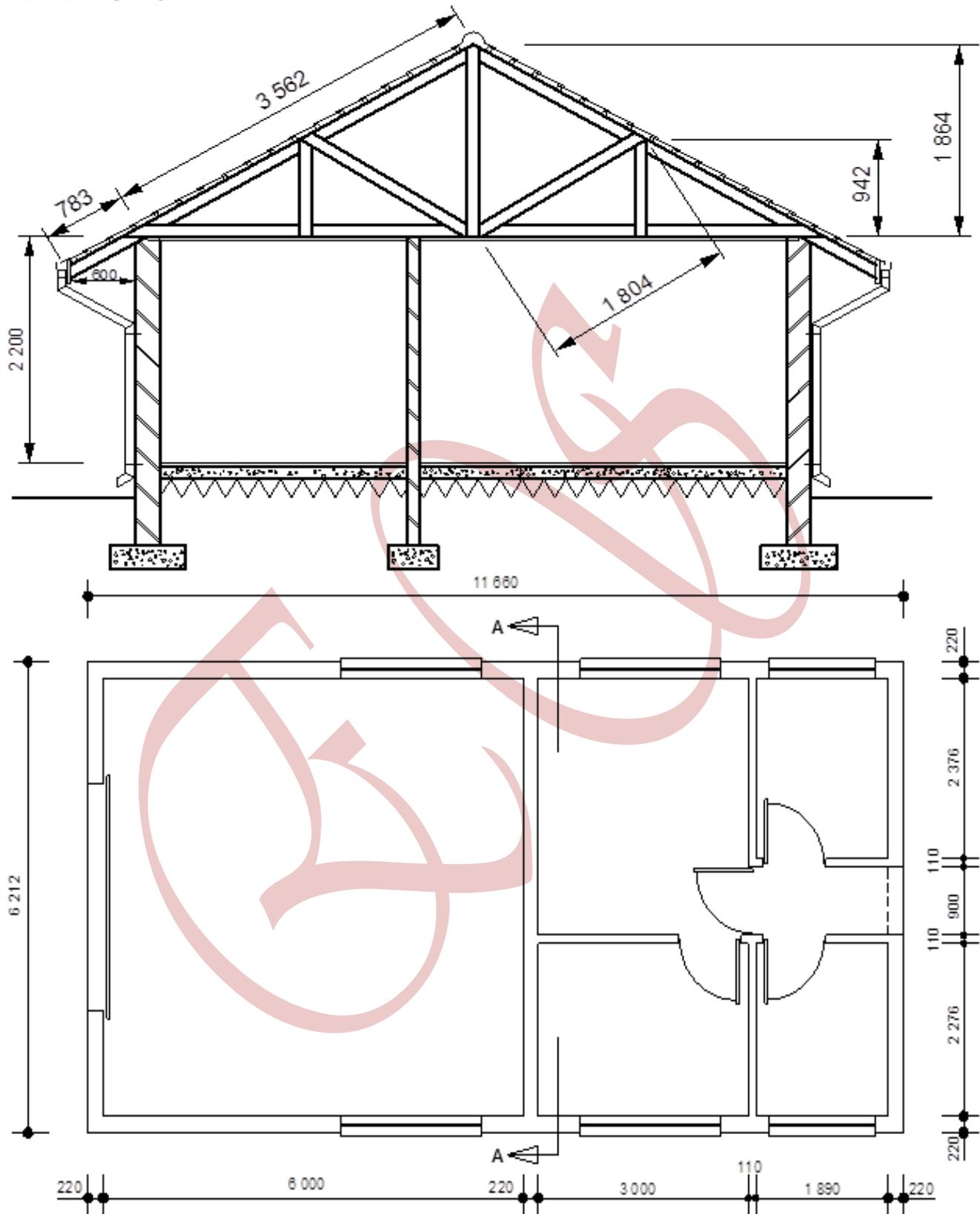


PLAN VIEW



SECTION A-A

ADDENDUM C



ADDENDUM D

EXAMINATION NUMBER:

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$\frac{2}{11,22}$		<p>38 x 114 mm S.S.A.P. w.p.</p> $11,660 - 2(0,220) = \underline{11,220 \text{ m}}$		$\frac{17}{2} \quad 4,35$ $\frac{17}{6,21}$	<p>Ditto but exce. 3,9 m n.e. 6,6 m long</p> <p>rafter</p> <p>tie bm.</p>
$\frac{2}{11,22}$ $0,30$		<p>Treat tbr. w.p. with carb. oil before fixing.</p> $2 \times 114 = 0,228$ $2 \times 38 = \underline{0,076}$ $\underline{0,304 \text{ m}}$		$\frac{17}{2}$	<p>Wrought ends of tbr. Rafter approx. 783 mm long.</p>
		$\frac{11,220}{0,700} = 16,029$ <p>16 + 1 = 17 no. trusses</p> <p><u>The following in measurement of 17 no. full trusses fixed 2,3 m above ground level</u></p>		$\frac{2}{4,40}$ $12,86$	<p>Marseil's roof tiles on 38 x 45 mm tile battens w. insulation shtg. under tile battens.</p> <p><u>Sloping length</u> $3,562 + 0,783 = 4,345$ + 0,050 <u>4,395 m</u></p> <p><u>Length</u> 11,660 2 x 0,600 <u>1,200</u> <u>12,860 m</u></p>
$\frac{17}{1,86}$ $\frac{17}{1,80}$ $\frac{2}{0,94}$		<p>38 x 114 mm S.S.A.P. Tbr. n.e. 2,4 m long.</p> <p>-k.p.</p> <p>-diag. strut</p> <p>-vert. strut</p>		$12,86$ 2	<p>Ridge covering at apex.</p> <p>Stopped ends to ridge cover.</p>