



education

Department:
Education
REPUBLIC OF SOUTH AFRICA

**T1810(E)(M29)T
APRIL 2010**

NATIONAL CERTIFICATE

QUANTITY SURVEYING N6

(2050026)

**29 March (X-Paper)
09:00 – 13:00**

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

Calculators may be used.

This question paper consists of 5 pages and 5 annexures.

**DEPARTMENT OF EDUCATION
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. Only QUESTION 1 must be done in the ANSWER BOOK. The remainder of the work MUST be done on the appropriate paper.
 4. Number the answers correctly according to the numbering system used in this question paper.
 5. Start each question on a NEW sheet.
 6. Loose sheets must be placed in the correct sequence in the back of the ANSWER BOOK. Do NOT use a stapler.
 7. Consult the Standard System of Measuring Building Work for description criteria.
 8. Do NOT use red or green ink.
 9. ALL the specification notes must be incorporated in the descriptions.
 10. In marking the answers, particular attention will be paid to the systematic and orderly methods of taking-off and working-up techniques, well-referenced measurements with side casts, neatness, exposition and clear description of work.
 11. ALL marks = 100%
 12. Write neatly and legibly.
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PTO

QUESTION 1

1.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (1.1.1 – 1.1.10) in the ANSWER BOOK.

1.1.1 Waterproofing to sumps, catchpits, et cetera shall be given in number.

1.1.2 Carting away of excavated material shall be measured as an item.

1.1.3 Brickwork in piers shall be given in square meters.

1.1.4 Painting frames shall be given in meters.

1.1.5 Beamfilling shall be given in square meters.

1.1.6 Glass in shapes which are not rectangular shall be given separately.

1.1.7 Dividing strips shall be included with descriptions of floor coverings.

1.1.8 The Standard System lists all the building material available in Africa.

1.1.9 The Quantity Surveyor is appointed by the client on the Architect's advice.

1.1.10 Cover strips shall be given in meters including mitres. (10)

1.2 State the principles laid in the Standard System regarding the following:

1.2.1 The setting out of the bills of quantities (3)

1.2.2 The order of dimensions (3)

1.3 State FOUR advantages of the Standard System of Measuring Builders Work. (4)

1.4 Explain, by means of sketches, the difference between the following:

1.4.1 A parliament and a piano hinge

1.4.2 A purlin and a brandering

1.4.3 A round wire nail and a cut nail

1.4.4 A claw hammer and a brick hammer

1.4.5 A pillar cock and a bibcock

(5)
[25]

PTO

QUESTION 2

ANNEXURE A (attached), illustrates a purpose-made wooden window.

Measure the window according to the following subsections (no adjustments should be measured):

2.1 The frame, ironmongery and the paint

NOTE: Refer to the Standard System

- Frames shall be given in meters; see clause 8
- Painting frames shall be given in square meters; see clause 6 (13)

2.2 The window sashes, glass, ironmongery and paint

NOTE: Refer to Standard System

- Sashes shall be given in number; see clause 7
- Paint shall be measured over the full flat area; see clause 7 (12)

SPECIFICATIONS:

CARPENTRY AND JOINERY:

Meranti frames and sashes
 Fanlight top hung: 520 mm x 430 mm x 44 mm
 Window sashes: 520 mm x 1 816 mm x 44 mm
 75 mm x 110 mm frame, mullion and transome
 200 mm x 75 mm cill
 105 mm x 25 mm window boards
 10 mm x 10 mm glazing beads (10 mm x 10 mm rebates)
 19 mm quadrants

IRONMONGERY:

Fanlights:
 50 mm brass hinges
 300 mm brass peg stay
 Sashes:
 75 mm brass hinges
 Brass window catch
 Brass casement stay
 Frame:
 6 x 50 mm brass water bar
 1,6 mm thick iron lugs to brickwork

GLAZING:

3 mm clear sheet glass

PAINTWORK:

Two coats varnish to all meranti surfaces.

[25]

PTO

QUESTION 3

The figure in ANNEXURE B (attached), shows a schematic drawing of a hot and cold water installation for a house.

Make use of the schedule on ANNEXURE C (attached), which was prepared by the quantity surveyor to measure the provisional quantities for the following:

- | | | |
|-----|---|------|
| 3.1 | External cold water installations | (10) |
| 3.2 | Internal hot and cold water installations | (15) |

SPECIFICATIONS:

Allow the provisional sum of R5 400,00 for the connection to the municipal water main.

Wrap pipes in two layers of red paper prior to fixing it in chases.

100 litre electrical combination type hot-water geyser with a 1,2 mm thick galvanised steel drip tray.

Expanded polysterene lagging secured with adhesive tape to fit around 15 mm and 20 mm diameter pipes.

[25]

QUESTION 4

ANNEXURE D (attached), shows the plan and a sectional elevation of a troughed reinforced concrete slab with the measurement of this slab on ANNEXURE E (attached).

Remove ANNEXURE E, insert your examination number and do the following:

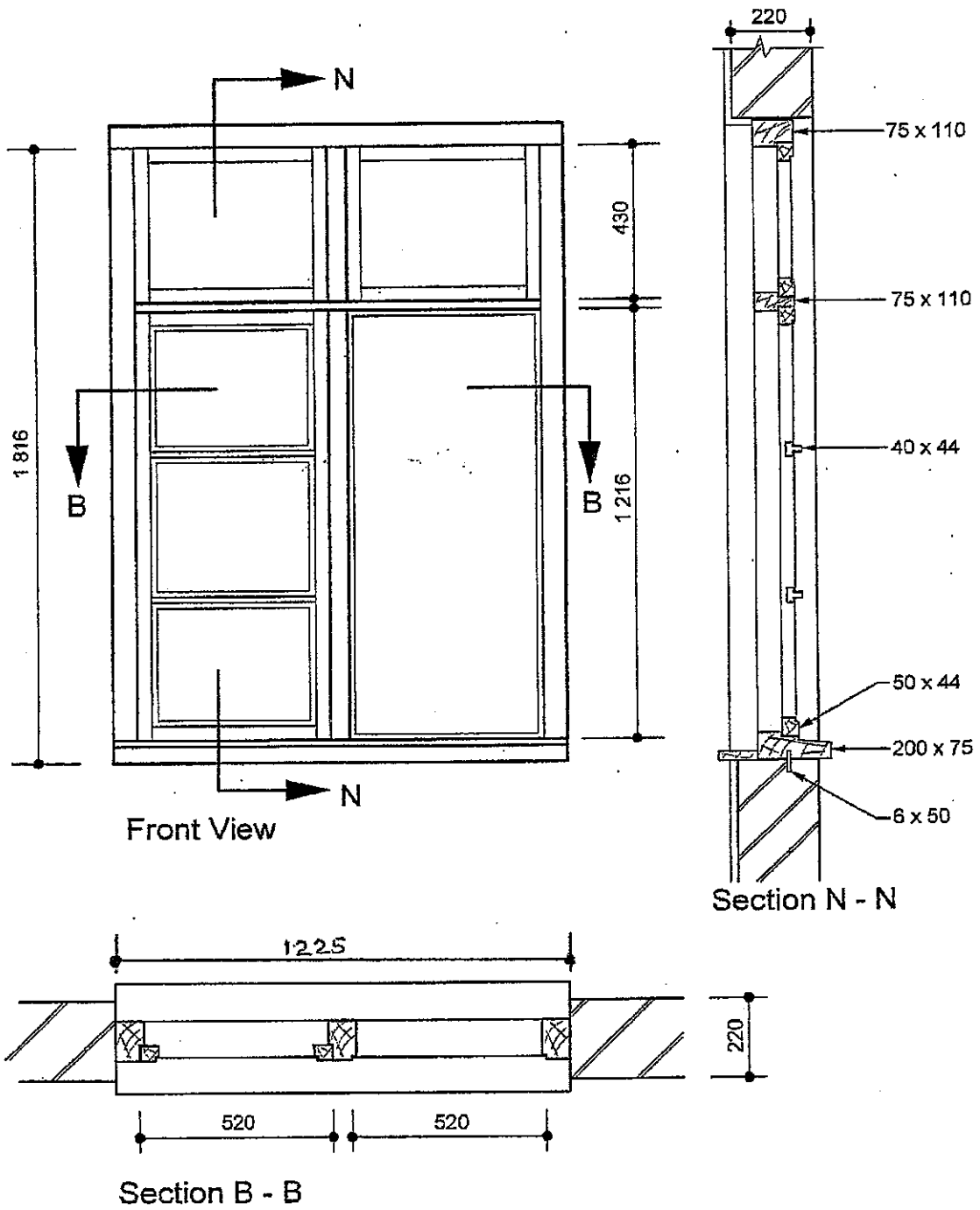
Square, abstarct and bill the measurements.

[25]

TOTAL: 100

ANNEXURE A

EXAMINATION NUMBER:



ANNEXURE C

EXAMINATION NUMBER:

ANNEXURE C

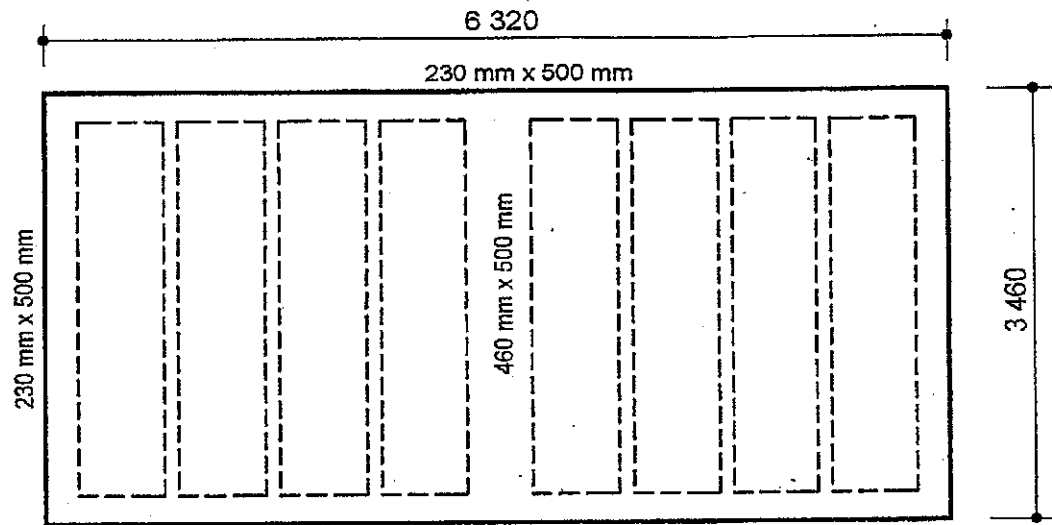
ANNEXURE C

| LOCATION | COPPER PIPES | | | | | | Labour | | | FITTINGS | | | | | | JOINT | | | REMARKS |
|-------------------------------------|--------------|-------------|----|----|----------|----|--------|------|-----|----------|----|--------------|-------|-------|----|-------|----------------------------|--|---------|
| | In Ground | Fixed walls | | | In chase | | Bends | Bend | Tee | | | Reducing Tee | Joint | Brass | | | | | |
| | | 15 | 20 | 25 | 15 | 20 | | | 15 | 20 | 15 | | | | 20 | 15 | 20 | | |
| | 15 | | | | | | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | Municipal connection | | |
| From meter | 8.00 | | | | | | 1 | | | | | | 1 | | | | | | |
| Riser in trench to floor to ceiling | 0.45 | | | | | | 1 | | 2 | | | | | | 1 | | | | |
| Branch to sink | | 0.33 | | | | | | | | | | | | | | | | | |
| | | 3.00 | | | | | | | | | | | | | | | | | |
| Branch to sink | | 1.00 | | | | | 2 | | | | | | | | | | | | |
| In roof space | | 2.50 | | | | | 2 | | | | | | | | | | | | |
| Branch to geyser | | 1.00 | | | | | 1 | | 2 | | | | | | 1 | 2 | Geyser & drip tray | | |
| Branch W.C. | | 5.00 | | | | | 1 | | 2 | | | | | | | | W.C. | | |
| Drop to bath basin | | 0.75 | | | | | | 2 | 2 | | | | | | 2 | | Bath & basin: wall, chases | | |
| | | 0.75 | | | | | | 2 | | | | | | | | | | | |
| Drop to W.C. | | 0.50 | | | | | 1 | | | | | | | | 1 | 2 | | | |
| | | | | | | | | | | | | | | | | | | | |
| TOTAL | 8.95 | 14.83 | - | - | 4.70 | - | 10 | - | 5 | - | 8 | 0 | - | - | 5 | - | 5 | | |

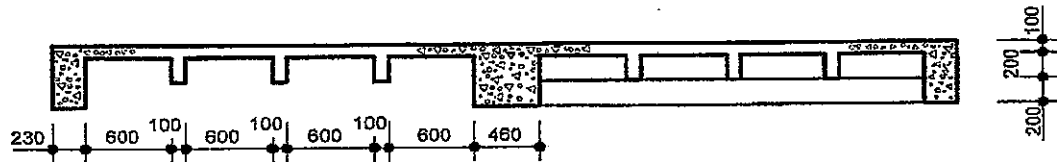
| LOCATION | COPPER PIPES | | | | | | LABOUR BENDS | | | FITTINGS | | | | | | JOINTS | | | REMARKS |
|---------------------|--------------|-------------|------|----|----------|------|--------------|----|----|----------|-----|----|----|--------------|----|--------|-------|----------------|----------------------|
| | In Ground | Fixed walls | | | In chase | | | | | Bend | Tee | | | Reducing tee | | | Joint | Brass stopcock | |
| | 15 | 15 | 20 | 25 | 15 | 20 | 1 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | Lagging |
| From geyser in roof | | 2,00 | 0,50 | | | | | | | 1 | | | | | | 2 | | 1 | |
| Drop to sink | | | | | 2,00 | | | | 2 | | | | | | | | | | Stainless steel sink |
| Branch to sink | | 1,00 | | | | | 2 | | 2 | | | | | | | 1 | | | Lagging |
| From geyser to bath | | | 3,00 | | | | | | | 2 | | | | | | | | | |
| Drop basin | | | | | | 2,50 | | | | | | | | 2 | | | | | Bath Basin |
| Branch to bath | | | | | 1,00 | | 2 | | 2 | | | | | 1 | | | | | |
| Branch to basin | | 1,50 | | | 1,50 | | 2 | | | | | | | 1 | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| TOTAL | - | 4,50 | 3,50 | - | 4,50 | 2,50 | 6 | - | 5 | 3 | - | - | - | 4 | 3 | 2 | - | 1 | |

ANNEXURE D

EXAMINATION NUMBER:



PLAN VIEW



SECTION / SNIT

ANNEXURE E

EXAMINATION NUMBER:

| | | | | | |
|------|-------------|--|------|-------------|--|
| 2/3/ | 6.32 | TROUGHED | 2/ | 2.70 | Fmwk to u/s of trgh slab Wl 600 wide & 200 hi ribs (1000mm girth) @ 700mm c/c |
| | 3.46 | REINFORCED SLAB | | <u>3.00</u> | |
| | <u>0.10</u> | 30 MPA RC in | | | |
| | | troughed slab incl bms | | | |
| | 3.00 | -slab | | | |
| | 0.10 | 3.460 | | | |
| | <u>0.20</u> | 2/230 <u>0.460</u> | | | |
| | | 3 000 | | | |
| | 18.64 | -ribs | | | |
| | 0.23 | 200 | | | |
| | <u>0.40</u> | 200 | | | 0.600 |
| | | 400 2/6320 12.640 | | | 2/200 <u>0.400</u> |
| | | | | | 1 000 |
| | | -ring bm | | | 0.600 |
| | | 2/3460 <u>6.920</u> | | | 1/2/200 <u>0.100</u> |
| | | 19.560 | | | 0.700 |
| | 3.00 | 4/230 <u>0.920</u> | | | 2/230 460 6.320 |
| | 0.46 | 18.640 | | | <u>460</u> <u>0.920</u> |
| | <u>0.40</u> | -mid bm | 2/4/ | <u>3.00</u> | 5.400/2 |
| | | | | | 2.700 |
| | | | | | Fmwk to trghs 600 |
| | | | | | Wide, 200mm hi |
| | <u>Item</u> | Allow for the prov sum for the sup, del, & fixing of reinforcement | | 19.56 | Fmwk to s & s of bms |
| | | # | | <u>1.13</u> | Ne 3.5m hi |
| | | Allow for attendance | | 3.46 | -ring |
| | | # | | <u>1.26</u> | -middle |
| | | Allow for profit | | | 500 |
| | | | | | 230 |
| | | | | | <u>400</u> |
| | | | | | 1.130 |
| | | | | | 2/400 800 |
| | | | | | <u>460</u> |
| | | | | | 1.260 |