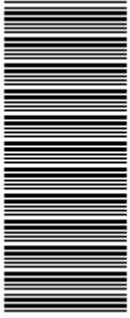


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higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1340(E)(A5)T
AUGUST EXAMINATION

NATIONAL CERTIFICATE

QUANTITY SURVEYING N6

(2050026)

5 August 2014 (Y-Paper)
13:00–17:00

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

Candidates may use the Standard System of
Measuring Building Work document.

Calculators may be used.

This question paper consists of 4 pages and 6 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. ONLY QUESTION 1 must be done in the ANSWER BOOK. The remainder of the work must be done on the appropriate paper.
 2. Work strictly according to the question numbers, for example QUESTION 3.1 and QUESTION 3.2 may NOT be combined.
 3. Start each section on a NEW page.
 4. Number the answers according to the numbering system used in this question paper.
 5. Loose sheets must be placed in the correct sequence in the back of the ANSWER BOOK. DO NOT use a stapler.
 6. Consult the Standard System of Measuring Building Work for description criteria.
 7. ALL the specification notes must be incorporated.
 8. HINT: Colour the drawings to establish what has to be measured.
 9. In marking the answers, particular attention will be paid to the systematic orderly method of taking-off and working-up techniques, well-referenced measurements with side casts, neatness, exposition and clear description of work.
 10. Do NOT use red or green ink.
 11. Write neatly and legibly.
-

QUESTION 1

- 1.1 Fully explain the following and give ONE example for each:
- 1.1.1 Prime cost items (5)
 - 1.1.2 Provisional sums (5)
- 1.2 Explain the following:
- 1.2.1 Retention money (2)
 - 1.2.2 Interim paymen. (2)
 - 1.2.3 Arbitration (2)
 - 1.2.4 Drawings (2)
 - 1.2.5 Specifications. (2)
- 1.3 Final accounts are done by the quantity surveyor during the post-contract period.
- Name FIVE items/sections that must be investigated and adjusted for final accounts. (5)
- [25]**

QUESTION 2

ADDENDUM A (attached) illustrates the cold water service for a dwelling.

ADDENDUM B and C (attached) are measurements for this service.

Measure the following variation order:

Galvanised mild steel pipes in lieu of polycop and copper water pipes
No work was attempted before issuing this variation order.

DO NOT simply remeasure and do NOT measure net, BUT measure according to the following sections:

- 2.1 Omissions. (15)
- 2.2 Additions. (10)

NOTE: Work strictly in the same order as in the original taking-offs. No marks will be allocated for a different approach. **[25]**

QUESTION 3

Take-off ALL the structural work entailed in the construction of the reinforced concrete basement detailed on ADDENDUM D up to and including the damp-proof course. (DO NOT include the external and internal finishing)

- 3.1 Complete the centerline calculations of items (3.1.1–3.1.8) and then measure the following in order:
- | | | |
|-------|-------------------------------|------|
| 3.1.1 | 1200 x 290 footing | (3) |
| 3.1.2 | external girth | (1) |
| 3.1.3 | Internal girth | (1) |
| 3.1.4 | half-brick wall (110mm) | (1) |
| 3.1.5 | 150 micron vertical polythene | (1) |
| 3.1.6 | 440 concrete wall | (1) |
| 3.1.7 | backfilling | (1) |
| 3.1.8 | damp-proof course 550mm wide | (1) |
| 3.2 | Measurements of basement | (15) |

SPECIFICATIONS

EARTHWORKS Site is cleared. Excavation is in soil and is to be partly filled in and rammed. Excess material is to be carted away from the site.

BRICKWORKS: Local stock bricks
1 : 4 cement mortar

REINFORCING: Measured elsewhere

[25]**QUESTION 4**

ADDENDUM E (attached) shows the plan and elevation of a coffer block reinforced concrete slab. ADDENDUM F is the measurement of this slab.

Remove F, insert examination number and do the following:

Square, abstract and bill measurements.

Do the intermediate checks and use different colour pens to indicate different persons working on this.

[25]**TOTAL: 100**

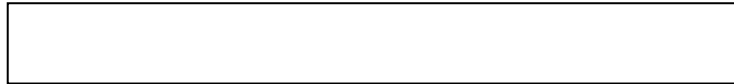
ADDENDUM B

			<u>COLD WATER SERVICE</u> (prov.)			<u>Polycop to geyser</u> <u>msd to u/s & incldg geyser</u>
			<u>Connection</u>	<u>3.82</u>		/
		/	Allow the prov. sum of R2000 for the municipal connection	<u>2.00</u>		19Ø pipe grnd 600 flr <u>420</u>
		&		<u>1.00</u>		1020
	<u>Item</u>	/	Allow for profit			<u>2800</u>
		&	Allow for attendance	<u>5</u>		3820
		&	Allow for profit			/
		/	Allow for attendance	<u>2</u>		Ex.for fittings n.e 300 mm
		\	<u>Polycorp: in ground</u>			-bend
		/	19Ø pipe in grnd including excav. And backfill	<u>2</u>		Tee red/ equal
		\				\
		/	19Ø pipe in grnd including excav. And backfill	<u>1</u>		/
		\				Ex. For adaptor a.b Polycop to cu
		/	19 gate valve	<u>1</u>		\
		\				/
		/	19 gate valve	<u>1</u>		19 gate valve
		\				\
		/	220 x 220 x 450 dp valve box	<u>1</u>		/
		\				Pressure control relieve valve
		/	Ex for adaptor n.e 300mm	<u>1</u>		\
		\				/
		/				13 overflow pipe
		\				\
		/				/
		\				150/ kwik hot square vert. geyser t.b.d
		/				\
		&				&
		/				1.2 mm galv. m.s.tray incl. nec. Brackets
		\				\

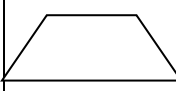
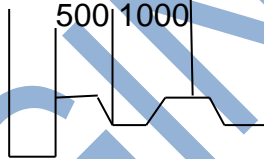
ADDENDUM C

3/	<u>5.00</u> <u>0.50</u> <u>1.50</u>	<p><u>Copper in ground</u></p> <p>/</p> <p>13Ø pipe in grnd</p> <p>-main</p> <p>-t-s/wc</p> <p>-hwb</p> <p>\</p> <p>/</p> <p>Ex. For fittings n.e 30 mm</p>	1	<p><u>Sink</u></p> <p>/</p> <p>1500 x 750 x std s.s centrally situated single bowl sink unit t.b.d</p> <p>&</p> <p>13 cp pillar sink mixer</p> <p>&</p> <p>13 pillar mixer tap</p> <p>\</p> <p><u>WHB</u></p> <p>/</p> <p>White glazed HWB wi plug and brackets compl. T.b.d</p> <p>&</p> <p>Paint pair for HWB brackets</p> <p>&</p> <p>13 cp pillar tap</p> <p>& 13 cu connector a.u</p> <p>\</p> <p><u>WC</u></p> <p>/</p> <p>White glazed pan and cistern wi. plastic seat t.b.d</p> <p>&</p> <p>13 brass s.c.</p> <p>&</p> <p>Ex. For adaptor a.b</p> <p>&</p> <p>13 cu connector a.b</p> <p>\</p>
3/	<u>2</u> <u>2</u>	<p>-bend</p> <p>-tee</p> <p>\</p> <p><u>Copper in walls</u></p>	1	
4/	<u>1.00</u> <u>1.02</u>	<p>/</p> <p>13Ø pipe</p> <p>\</p> <p>/</p> <p>Ex. For fittings a.b</p>	4	
4/	<u>4</u>	<p>-bend</p> <p>\</p> <p><u>Sanitary fittings</u></p> <p><u>Trough</u></p> <p>/</p> <p>White glazed wash trough t.b.d</p> <p>&</p> <p>13 cp bib tap</p> <p>&</p> <p>Ex. For adaptor n.e. 30 mm</p> <p>\</p>	1	

ADDENDUM F



EXAMINATION NUMBER

			<u>COFFER BLOCK</u> <u>SUSP.FLOOR</u>	2/7	1	/	Ditto from square coffers.size 700 x 700 at the bottom. Diminishing to 500 x 500 at the top, 500 high
	10.00	/	25 MPa reinf.conc in susp			/	
	4.00	\	Coffer block slab 100			\	
	<u>0.40</u>		<u>300</u>				
			400				
		/		7/2	1	/	Ditto for form half coffers, size 700 x 350 ditto to 500 x 250 ditto, ditto with one edge perpendicular next bm
		/	Ddt			\	
		/	Reinf. Conc.in susp slab			/	
	0.60		a.b			\	
2/7/	0.60		500 1000			/	
	<u>0.30</u>		500			/	
	0.60		<u>700</u>			/	25 MPa reinf. Conc in
2/7/0.5/	0.60		600		26.00	bms	
	<u>0.30</u>				0.50	2/10 000	20 000
					<u>0.15</u>	2/ 4000	<u>8000</u>
			500				28 000
			2/100 <u>200</u>			-4/500	<u>2000</u>
			700				26 000
						\	
					27.60	/	Ditto in inverted bm
					0.10	(or dwarf wall)	
					<u>0.35</u>		28 000
						4/100	<u>400</u>
							27 600
		/	Fmwk to composite coffer			\	
	9.00	/	block slab.Exc. 1.5 n.e 3.5		28.00	/	Fmwk to s & s if ringbm,
	<u>3.00</u>	/	m high; coffer size 700 x		<u>1.55</u>	/	inclgd one side of
		/	700 at the bottom & 500 x			\	inverted bm above slab
		/	500 at the top, 300 hi, @				900
		/	1 m crs				500
		/	400 4000				<u>150</u>
		/	10000				1550
		/	<u>100</u>				
		/	2/500 <u>1000</u> <u>1000</u>				
		/	3000 9000				
		\				\	
		/				/	
	1.15		Ex. Ov.Last for			\	
2/	<u>3.00</u>		adjustment flush solid		28.00	/	Ditto to incl. Side only of
			concrete surface		<u>0.35</u>	\	inverted bm
						\	

ENGINEERING