higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

QUANTITY SURVEYING N5

12 AUGUST 2019

This marking guideline consists of 9 pages.

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QUESTION 1

QUESTION 1

1.1

2 x 4,300 = 8,600
3 x 0,300 = 0,900
9,500
+ 2 x 2,000 = 4,000
13,500 m

7,300 + 0,450 + 0,300
= 8,050
+ 2 x 2,000 = 4,000
12,050

(2)

1.2

13,50
12,05

C.s. of all deb. veg. matter & prep. site for bldg. works.

(2)

1.3

0,500 + 0,350
= 0,850 m

(2)

1.4

2
1,40
1,40
4 0,85
1,10
1,10
0,85

Excav. in firm soil for col. bases n.e. 2 m dp. from g.l.

A1, A3

A2, B1–B3

(3)

[9]

	Item	
2		
	4,20	
	2,45	
2		
	5,60	
4	0,85	
	4,40	
	0,85	
2		
	5,60	
4	0,50	
	4,40	
	0,50	
2	5,60	
	0,35	
4	4,40	
	0,35	

(1)

QUESTION 2

2.1

Keep excav. dry.

(1)

2.2

A1
4 x 1,400 = 5,600 m
B1
4 x 1,100 = 4,400 m

(2)

2.3

R.o.c. to sides of col. bases n.e. 1,5 m dp.
A1, A3

A2, B1–B3

(2)

2.4

Excav. back from sides of col. bases for w.s. n.e. 500 mm from g.l, for placing & rem. of frmwrk.

Ditto, but exce. 500 mm n.e. 1,5 m dp. ditto

0,850 – 0,500 = 0,350 m

(4)

[9]

(1) (2)

QUESTION 3

3.1

2 / 1,40 / 1,40 / 4 / 0,50 / 1,10 / 1,10 / 0,50

30 MPa reinf. conc. in bases.

(2)

3.2

3,000 + 0,350
= 3,350 m

(1)

3.3

2 / 0,60 / 0,30 / 3,35

2 / 0,30 / 2 / ~~0,25~~ / 0,30 / 3,35

0,15 / 0,15 / 3,35

30 MPa reinf. conc. in cols.

2 x 0,450 = 0,900
– 0,300
0,600 m

(3)

3.4.1

2 / 4 / 0,45 / 3,35

Frmwrk. to L-shape cols.

(2)

3.4.2

2 / 4 / 0,30 / 3,35

Ditto, but to square cols.

(2)

3.4.3

2

Ditto, but to circ. cols. 300 mm in diameter

(2)

[12]

(3)

33,90 / 0,30 / 0,45 / 7,30 / 0,30 / 0,35

OR

33,90 / 0,30 / 0,60 / 7,30 / 0,30 / 0,50

33,90 / 0,30 / 7,30 / 0,30

2 / 33,90 / 2 / 045 / 7,30 / 0,35

OR

35,10 / 0,60 / 33,70 / 0,45

2 / *7,30 / 0,35*

QUESTION 4

4.1

2 x 9,500 = 19,000
2 x 8,050 = 16,100
35,100
-4 x 0,300 = 1,200
33,900 m

(3)

4.2

25 MPa reinf. conc. in bms.

0,600 - 0,150 = 0,450 m

(3)

OR

0,350 + 0,150 = 0,500 m

4.3

Frmwrk. to soffits of bms.

(2)

4.4

Frmwrk. to sides of bms.

(2)

[10]

33,900 - 1,200 = 32,700 m

(4)

QUESTION 5

			5.1 25 MPa reinf. conc. in slab incl. s.o. & c. Hor. top surfaces. (2)				5.3 Allow the prov. sum of R30 000,00 (thirty thousand rand) for steel rod reinf. & Allow for attendance & Allow for profit (4)
	9,50 8,05 0,15				item		
2	OR *4,30* *7,30* *0,15*						
			5.2 Frmwrk. to soffits of slab n.e. 3,5 m from g.l. (2)				5.4 Allow for casting, cure & transporting 150 x 150 x 150 conc. test cubes. (2) **[10]**
2	7,30 4,30				2		
	~~Item~~		(5)				(6)

QUESTION 6.1

			1.1 2 x 4,300 = 8,600 3 x 0,300 = 0,900 9,500 √ + 2 x 2,000 = 4,000 13,500 m√ 7,300 + 0,450 + 0,300 = 8,050 + 2 x 2,000 = 4,000 12,050 m √ (4)
	13,50 12,05	162,68	1.2 C.s. of all deb. veg. matter & prep. site for bldg. works. √ (2)
			1.3 0,500 + 0,350 = 0,850 m√ (2)
2 4	1,40 1,40 0,85 1,10 1,10 0,85	3,33 4,11 7,44	1.4 Excav. in firm soil for col. bases n.e. 2 m dp. from g.l. *A1, A3* *A2, B1 –B3* (5) √ (1)

	Item		2.1 Keep excav. dry. (1)
			2.2 A1 4 x 1,400 = 5,600 m B1 4 x 1,100 = 4,400 m (2)
2 4	5,60 0,85 4,40 0,85	9,52 14,96 24,48	2.3 R.o.c. to sides of col. bases n.e. 1,5 m dp. *A1, A3* *A2, B1–B3* (4) √
2 4	5,60 0,50 4,40 0,50	5,60 8,80 14,40	2.4 Excav. back from sides of col. bases for w.s. n.e. 500 mm from g.l, for placing & rem. of frmwrk. √ Ditto, but exce. 500 mm n.e. 1,5 m dp. ditto 0,850 – 0,500 = 0,350 m marks Squaring = 2 Checking = 2 Correctness = 1 **(5)**
2 4	5,60 0,35 4,40 0,35	3,92 6,16 10,08	√ (2)

QUESTION 6.2

CONCRETE STRUCTURE

EARTHWORKS

SITE CLEARANCE

m²

C.s. of all deb. & rub.
162,68 1

163 m² √

EXCAVATIONS

m³

Excav in firm grnd for col. bases n.e. 2 m dp. from g.l.

7,44 1

7 m³ √

m²

R.o.c. to sides of bases n.e. 1,5 m dp. from g.l.

24,48 2

25 m² √

m²

Excav. back for w.s. n.e. 500 mm from g.l. for the placing & rem. of frmwrk. in bases.

14,40 2

14 m² √

m²

W.s. but n.e.500 mm dp.

10,08 2

10 m² √

Item

Keep excav dry

Item

Mark allocation

Section	1
Trade	1
Unit	1
Page ref.	1
Cols.	1
Reduce	1
Transfer	1
	(7)

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QUESTION 6.3

	CONCRETE STRUCTURE				
	BILL No. 1				
	EARTHWORKS				
	SITE CLEARANCE				
1	Clear site of all debris and rubbish.	m²	163		
	EXCAVATIONS				
2	Excavate in firm soil for column bases not exceeding 2 metres deep from ground level	m³	7		
3	Risk of collapse to sides of bases not exceeding 1,5 metres deep from ground level.	m²	25		
4	Excavate back for working space not exceeding 500 mm deep from ground level for the placing removal of formwork in the bases.	m²	14		
5	Ditto, but exceeding 500 mm not exceeding 1,5 metres deep.	m²	10		
6	Keep excavations free of water.			Item	
	Carried to summary			R	

Mark allocation

Section	1
Bill No.	1
Trade	1
Item No.	1
Description	1
Unit	1
Quantity	1
Page summary	1
	(8)

[20]

TOTAL SECTION A: 70

SECTION B

QUESTION 7

CHECK LIST

Dr.
– pt.
– lock

St. frme.
– pt.

Ddt.
- bk. wl.
- ext. fcgs.
- int. pls.
- int. pt.

Add.
- conc. flr.
- c.m. scrd.

Closing cavities **[5]**

QUESTION 8

8.1 Clause no 2
True

8.2 Clause no 3
True

8.3 Clause no 13
False

8.4 Clause no 21
False

8.5 Clause no 24
False

(5 × 2) **[10]**

QUESTION 9

Tender price	R1 701 868,06
Less contingency amount	R55 000,00
Original contract amount	R1 646 868,06

SAVINGS

1. Foundations (Revised) R110 450,89
   R121 241,33 = -R15 462,44

2. Site works (Revised) R122 456,06
   R132 435,96 = -R9 979,90 = -R25 442,34
   R1 621 425,72

EXTRAS

1. Prime cost and provisional sums
   Revised R162 500,00
   R135 259,45 = R27 240,55

2. Variations R40 678,00

3. Plumbing and drainage
   Revised R135 567,99
   R89 692,99 = R45 875,00

4. Increased costs R105 785,45 R219 579,00

New contract amount	R1 841 004,27	
Less previous payments	R1 106 345,00	
Full and final payment to the contractor	R734 659,27	**[15]**

TOTAL SECTION B: 30
GRAND TOTAL: 100

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