



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE QUANTITY SURVEYING N4

20 April 2020

This marking guideline consists of 8 pages.

SECTION A

QUESTION 1

			<u>1.1.1</u> $2/220 = 0,440$ $13,500$ $2/2000 = \underline{4,000}$ $\underline{17,940} \text{ m } \checkmark$ $2/220 = 0,440$ $5,500$ $2/2000 = \underline{4,000}$ $\underline{9,940} \text{ m } \checkmark$	$\checkmark$ 2	$38,88$ $0,85$		<u>1.2.3</u> R.o.c. to sides of s.t. n.e. 1,5 m from g.l. $\checkmark$
	$17,94$ $9,94$		<u>1.1.2</u> C.s. for bldrs. wrk. $\checkmark$		$38,88$ $0,70$ $0,30$		<u>1.2.4</u> 15 MPa mass conc. in fdn. ftgs. $\checkmark$
			<u>1.2.1</u> $2/13,500 = 27,000$ $4/0,220 = 0,880$ $2/5,500 = \underline{11,000}$ $\underline{38,880} \text{ m } \checkmark$		$38,88$ $0,75$		<u>1.2.5</u> 220 mm thk. bk. wl. $\checkmark$ $550 + 200 = \underline{0,750} \text{ m } \checkmark$
	$38,88$ $0,70$ $0,85$		<u>1.2.2</u> Excav. in earth for s.t. n.e. 2 m dp. $\checkmark$ from g.l. $\checkmark$ $0,550 + 0,300 = \underline{0,850} \text{ m } \checkmark$	$\checkmark$ 2	$38,88$ $0,24$ $0,55$		<u>1.2.6</u> b/fil. to sides of fdn. bk. wl. $\checkmark$ $700 - 220 = 0,480 \div 2$ $= \underline{0,240} \text{ m } \checkmark$
	$38,88$ $0,70$ $0,85$	$\checkmark$ $\checkmark$ $\checkmark$	Excav. mat. avail. For fill. $\checkmark$				
			(1)				(2)

			<u>1.3.1</u> $38,880 + 4/0,220$ $= \underline{39,760} \text{ m} \checkmark$		13,94 5,94		<u>1.6</u> D.p. shtg. under conc. flr. $\checkmark$ $0,440 + 13,500 = \underline{13,940} \text{ m} \checkmark$ $0,440 + 5,500 = \underline{5,940} \text{ m} \checkmark$
	39,76 0,35		<u>1.3.2</u> E.o. ord. bk. wl. for fcgs. $\checkmark$ $200 + 2/75 = \underline{0,350} \text{ m} \checkmark$				
	13,50 5,50 0,20		<u>1.4</u> H.c. under conc. s.b. $\checkmark$		38,88 0,22	$\checkmark$ $\checkmark$	<u>1.7</u> D.p.c. membrane in 220 mm thk. bk. wl. $\checkmark$
	13,50 5,50 0,10		<u>1.5</u> 15 MPa mass conc. in s.b. Incl. s.o. & c. hor. top surface. $\checkmark$				

[30]

QUESTION 2.1

			<u>1.1.1</u> $\begin{array}{r} 2/220 = 0,440 \checkmark \\ 13,500 \checkmark \\ 2/2000 = \underline{4,000} \checkmark \\ 17,940 \text{ m } \checkmark \end{array}$ $\begin{array}{r} 2/220 = 0,440 \checkmark \\ 5,500 \checkmark \\ 2/2000 = \underline{4,000} \checkmark \\ 9,940 \text{ m } \checkmark \end{array}$	2			<u>1.2.3</u> R.o.c. to sides of s.t. n.e. 1,5 m from g.l. $\checkmark$
	17,94 9,94	$\checkmark$ 178,32	<u>1.1.2</u> C.s. for bldrs. wrk.		38,88 0,85	$\checkmark$ 66,10	
			<u>1.2.1</u> $\begin{array}{r} 2/13,500 = 27,000 \checkmark \\ 4/0,220 = 0,880 \checkmark \\ 2/5,500 = \underline{11,000} \checkmark \\ 38,880 \text{ m } \checkmark \end{array}$		38,88 0,70 0,30		<u>1.2.4</u> 15 MPa mass conc. In fdn. ftgs.
			<u>1.2.2</u> Excav. in earth for s.t. n.e. 2 m dp. from g.l.		38,88 0,75		<u>1.2.5</u> 220 mm thk. bk. wl. $550 + 200 = \underline{0,750} \text{ m } \checkmark$
	38,88 0,70 0,85	$\checkmark$ 23,13	$0,550 + 0,300 = \underline{0,850} \text{ m } \checkmark$	2	38,88 0,24 0,55	$\checkmark$ 10,26	<u>1.2.6</u> b/fll. to sides of fdn. bk. wl. $700 - 220 = 0,480 \div 2 = \underline{0,240} \text{ m } \checkmark$
	38,88 0,70 0,30	$\checkmark$ 8,17	Excav. mat. avail. for fill.				
	38,88 0,22 0,55	$\checkmark$ 4,71	Conc. fdn.				
		12,88 $\checkmark$	Fdn. bk. wl.				
			(1)				(2)

QUESTION 2.2

<u>MOUNTAIN HUT</u>									
<u>Earthworks</u>									
			<u>m³</u>			<u>m³</u>			
			Excav. in earth for s.t. n.e. 2 m dp.			Filling in fdn. from avail. excav. mat.			
<u>Site clearance</u>						12,88	1		
<u>m²</u>			23,13	1		13	m ³		
C.s. for bldrs. wrk.			<u>23 m³</u>			<u>m³</u>			
178,32	1					B.fll. to sides of fdn. wl.			
<u>178 m²</u>			<u>m²</u>			10,26	1		
			R.o.c. to sides of s.t. n.e. 1,5 m dp.			<u>10 m³</u>			
			66,10	2					
			<u>66 m²</u>						

QUESTION 2.3

<u>MOUNTAIN HUT</u>					
<u>Earthworks</u>					
<u>Site clearance</u>					
1.	Clear site for builders' work.	m ²	178		
<u>Excavations</u>					
2.	Excavate in earth for surface trenches Not exceeding 2 metres deep from ground level.	m ³	23		
3.	Risk of collapse to sides of surface trenches Not exceeding 1,5 metres from ground level.	m ²	66		
4.	Filling in foundation from excavated material.	m ³	13		
5.	Backfilling to sides of foundation walls.	m ³	10		
Carried to summary				R	

Working up mark allocation

<u>Squaring</u>		
Check side casts. (ticks)	0,5	
Check dimensioning. (ticks)	0,5	
Square dimensions.	0,5	
Check squaring answers. (ticks)	0,5	
Transfers to abstract.	0,5	(2,5)
<u>Abstracting</u>		
Section of work.	0,5	
Trades.	0,5	
Units.	0,5	
Page referencing.	0,5	
Use of columns.	0,5	
Reducing.	0,5	
Transfers to bill.	0,5	(3,5)
<u>Billing</u>		
Section of work.	0,5	
Bill no.	0,5	
Trade.	0,5	
Item no.	0,5	
Descriptions. (No abbreviations)	0,5	
Units.	0,5	
Quantities.	0,5	
Summary	0,5	(4)

10**TOTAL SECTION A: 40**

SECTION B**QUESTION 3**

3.1	3.1.1	Internal plaster	(5 × 1)	(5)
	3.1.2	Clear site		
	3.1.3	Risk of collapse		
	3.1.4	As usual		
	3.1.5	Facing		
3.2	3.2.1	m ³	(5 × 1)	(5)
	3.2.2	m ²		
	3.2.3	m ²		
	3.2.4	m		
	3.2.5	m ²		
				[10]

QUESTION 4

4.1	• To provide uniformity in the preparation of a bills of quantities. • Lays down the principles for measurements. • Makes the bills of quantities comprehensible and adaptable. • Provides guidelines for measurement. • Provides the order for setting out the bills of quantities. • Simplifies the compilation of the bills of quantities.	(Any 5 × 1)	(5)
4.2	• Benefits all parties for financial control. • Reduces risks. • Provides a basis for competitive tendering. • Is used to solve disputes. • Safeguards the contractor against risks. • Is used as a data base for future estimations. • Provides a service to parties concerned.	(Any 5 × 1)	(5)
			[10]

QUESTION 5

5.1	A list drawn up by the measurer of all the relevant items to be measured.	(5 × 2)	[10]
5.2	A list drawn up by the measurer of queries to be cleared up.		
5.3	Reference notes that indicate the origin of measurements.		
5.4	Calculations done during the process of measurement.		
5.5	The rounding off of decimal quantities.		

QUESTION 6

- 6.1
- Preparation of feasibility studies
 - Estimates project budgets
 - Analysis of design changes on the project budget
 - Prepares tender documents
 - Writes specifications (Any 4 × 1) (4)
- 6.2
- Checks price bills of quantities
 - Prepares monthly valuations
 - Price variations
 - Prepares the draft final account
 - Measures provisional quantities
 - Values site instructions
 - Controls costs during construction (Any 5 × 1) (5)
- 6.3 Agrees and settles the draft final account with the contractor. (1)
[10]

QUESTION 7

- 7.1 True
- 7.2 False
- 7.3 True
- 7.4 True
- 7.5 True
- 7.6 True
- 7.7 False
- 7.8 True
- 7.9 False
- 7.10 True
- (10 × 1) **[10]**

QUESTION 8

- 8.1 These are amounts of money✓ in the bills of quantities✓ for specialist materials and units✓ to be supplied only✓ by a specialist supplier.✓
- 8.2 These are amounts of money✓ in the bills of quantities✓ for specialist materials✓ to be supplied and installed✓ by a specialist subcontractor.✓
(2 × 5) **[10]**

TOTAL SECTION B: 60
GRAND TOTAL: 100