



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

**NATIONAL CERTIFICATE
QUANTITY SURVEYING N6**

13 August 2021

This marking guideline consists of 9 pages.

QUESTION 1

- 1.1.
 - Construction progress
 - Delays
 - Weather reports
 - Quality of workmanship
 - Variation orders
 - Design (drawings)
 - Health and safety (Any 5 × 1) (5)
- 1.2 The duties of the chairperson are:
 - Controlling order in the meeting
 - Strictly following the agenda
 - Calling site meetings
 - Enabling discussions
 - Calling for resolutions (Any 3 × 1) (3)
- 1.3
 - Site meetings
 - Drawings
 - Site instructions
 - Variation orders (Any 3 × 1) (3)
- 1.4 1.4.1
 - Site instructions are issued by the architect to the contractor.
 - Site instructions are issued to carry out work allowed in the contract.
 - Thus, there are no cost implications. (Any TWO)
- 1.4.2
 - Variation orders are issued by the architect/engineer.
 - They make changes to the original contract.
 - The quantity surveyor calculates the cost of a variation (Any TWO)
(2 × 2) (4)
- 1.5
 - Issues regarding site conditions
 - Removal of unruly elements from site
 - Storing of materials on site
 - Maintenance of plant on site
 - Clearing of the site (5)
- 1.6 1.6.1
 - Arbitration is a process used in building contracts
 - Arbitration is used to resolve disputes
 - Disputes may occur between two parties
 - Disputes are resolved outside a of court of law. (Any 3 × 1) (3)
- 1.6.2
 - An arbitrator is a person appointed to mediate the process.
 - Appointment is approved by both parties to settle the dispute.
 - Arbitrator's findings are final and to be accepted by both parties. (Any 2 × 1) (2)

[25]

QUESTION 2

2.1.1 SQUARING

19,00 15,50	294,50	<p>C.s. & prep. site for bldrs. wrk.</p> $1000 - 350 = 650 \div 2 = 0,325 \text{ m}$	53,00 0,50	26,50	<p>Exc. back from bsmnt. hole for w.s. n.e. 500 mm dp.</p>
15,00 11,50 2,00	345,00		<p>Excav. in ord. earth for bsmnt. Hole n.e. 2 m dp.</p> $15,000 \times 11,500$ $2 \times 2m \frac{4,000}{4,000}$ $19,000 \times 15,500$	53,00 1,00	
15,00 11,50 1,30	224,25	<p>Ditto, but exc. 2m n.e. 4 m dp.</p> $2950 + 350 = 3300 - 2000 = 1,300 \text{ m}$	53,00 1,50	79,50	<p>Ditto, but exc. 1,5 m n.e. 3 m dp.</p>
49,00 1,00 0,30	14,70	<p>Excav. for bsmnt. Trench exc. 2 m n.e. 4 m from g.l.</p> $2/15,000 = 30,000$ $2/11,500 = 23,000$ $53,000$ <p>Less 4/ 1,000 <u>4,000</u></p> $49,000 \text{ m}$	53,00 0,30	15,90	<p>Ditto, but exc. 3 m n.e. 4,5 m dp.</p> $3,300 - 3,000 = 0,300 \text{ m}$
			53,00 3,60	190,80	<p>R.o.c to sides of bsmnt. Hole exc. 1,5 m dp. from g.l.</p> $3,300 + 0,300 = 3,600 \text{ m}$
			45,00 0,30	13,50	<p>Ditto, but to int. sides of bsmnt. trench exc. 1,5 m dp. from g.l.</p> $53,00 - 8/1,000 = 45,000 \text{ m}$

(1)

(2)

(4)

2.1.2 ABSTRACTING

		<u>BASEMENT EARTHWORK</u>	
<u>Site clearance</u>			
<u>M²</u>			
C.s. & prep. Site for bldrs. wrk.			
249,50	1		
<u>250M²</u>			
<u>Excavation</u>			
<u>M²</u>			
R.o.c. to sides of bmnt. hole exce. 1,5 m from g.l.			
190,80	2		
<u>M²</u>			
Ditto but to sides of bmnt. trench exce. 1,5 m from g.l.			
13,50	2		
<u>14M²</u>			

2.1.3 BILLING

	<u>BASEMENT</u>				
	<u>Bill No. 1</u>				
	<u>EARTHWORKS</u>				
	<u>Site clearance</u>				
1.	Clear site and prepare site for builders work.	M ²	250		
	<u>Excavations</u>				
2.	Risk of collapse exceeding 1,5 metres from ground level.	M ²	191		
3.	Risk of collapse to sides of basement trench exceeding 1,5 metres from ground level.	M ²	14		
	Carried to summary			R	

(7)

Working-up mark allocation

<u>Squaring</u>		
Check everything	1	
Square dimensions	1	
Check squaring	1	
Transfers to abstract	1	(4)
<u>Abstracting</u>		
Section of work	1	
Trade	1	
Page referencing	1	
Transfers to bill	1	(4)
<u>Billing</u>		
Section of work	1	
Bill no.	1	
Trade	1	
Item no.	1	
Descriptions (no abbreviations)	1	
Units/quantities	1	
Summary	1	(7)

- 2.2
- Financial cost control
 - Reductions of risk
 - Competitive tendering
 - Monthly valuations
 - Final accounts
 - Costing of variations
- (Any 4 × 1) (4)
- 2.3 A quantity surveyor is a professional✓ who specialises in estimating the value of construction works and quantifying the various costs of building contracts.✓ (2)
- 2.4 2.4.1 A measuring list is a list of all the items✓ to be measured in a section of work.✓
- 2.4.2 A taking-off list is a list of all the sections✓ of work of a project.✓
(2 × 2) (4)
- [25]**

QUESTION 3.1

$\begin{array}{r} 2 \\ \hline 0,40 \\ 0,22 \\ \hline 2 \\ \hline 3,05 \\ 0,22 \\ 0,22 \\ \hline 2 \\ \hline 3,05 \\ 0,58 \\ 0,22 \\ 3,05 \end{array}$	<p>25 Mpa reinf. Conc. in cols. ✓</p> $\begin{array}{l} 3,150 + 0,400 = 3,550 \\ \text{Less } (0,350 + 0,150) \\ = \underline{3,050} \text{ m} \checkmark \end{array}$	$\begin{array}{r} 21,12 \\ 0,22 \\ \hline 0,35 \\ 3,56 \\ 0,22 \\ \hline 0,35 \end{array}$	<p>25 Mpa reinf. Conc. in bms. ✓</p> $\begin{array}{l} 2 \times 7,000 = 14,000 \\ 2 \times 4,000 = \underline{8,000} \\ 22,000 \\ \text{Less } 4 \times 0,220 \quad \underline{0,880} \\ 21,120 \text{ m} \checkmark \end{array}$ <p>$4,000 - 2/0,220 = \underline{3,560} \text{ m} \checkmark$</p>
$\begin{array}{r} 2 \\ \hline 1,24 \\ 2 \\ \hline 3,05 \\ 0,88 \\ 3,05 \end{array}$	<p>Frmwrk. To sides of cols. ✓</p> $\begin{array}{l} 2/0,400 + 2/0,220 = \underline{1,240} \text{ m} \checkmark \\ 4/0,220 = \underline{0,880} \text{ m} \checkmark \end{array}$	$\begin{array}{r} 21,12 \\ 0,22 \\ \hline 3,56 \\ 0,22 \end{array}$	<p>Frmwrk. to soffits of bms. ✓</p> <p style="text-align: center;">&</p>
$\begin{array}{r} 2 \\ \hline 1,60 \\ 3,05 \end{array}$	<p>Ditto, but to L-shaped cols. ✓</p> $4/0,400 = \underline{1,600} \text{ m} \checkmark$		<p><u>Ddt.</u></p> <p>Frmwrk. to soffits of slab a.b. ✓</p>
$\begin{array}{r} 7,00 \\ 4,00 \\ 0,15 \end{array}$	<p>25 Mpa reinf. Conc. in slab incl. s.o. & c. hor. top surf. ✓</p> $3,000 + 4,000 = \underline{7,000} \text{ m} \checkmark$	$\begin{array}{r} 22,00 \\ 2 \\ \hline 0,15 \\ 21,12 \\ 2 \\ \hline 0,35 \\ 3,56 \\ 0,35 \end{array}$	<p>Frmwrk. to sides of bms. ✓</p>
$\begin{array}{r} 7,00 \\ 4,00 \end{array}$	<p>Frmwrk. to hor. soffits of slab Exce. 1,5 m n.e. 3,5 m high. ✓</p>		

(20)

QUESTION 3.2

	<p>Item</p>	<p>✓</p>	<p>Allow the provisional sum of R25 000,00 (twenty-five thousand rand) ✓ for st. rod reinf. supl. cut, bent del. to site and placed in position. ✓</p> <p style="text-align: center;">&</p> <p>Extra for attendance. ✓</p> <p style="text-align: center;">&</p> <p>Extra for profit. ✓</p> <p style="text-align: center;">(5)</p>				
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(5)
[25]

QUESTION 4

- 4.1 A plaster mixture consists of a combination of cement, ✓ sand ✓ and water. ✓ (3)
- 4.2 2 pockets of cement will fill one wheelbarrow. Thus:
The ratio 1:4 represents:
1 = 2 pockets of cement ✓ = one wheelbarrow of cement. ✓
4 = 4 wheelbarrows of sand. ✓ (4)
- 4.3 Size of a standard brick is 220 × 110 × 75 mm ✓ each dimension (3)
- 4.4 ✓
 $11,000 \times 1,800 = 19,800 \text{ m}^2$ ✓
✓ ✓
Thus: $19,800 \times 55 \times 2 = 2\ 178$ bricks. ✓ (5)
- 4.5 Concrete is a building material made from cement, ✓ sand ✓ and stone ✓ mixed with water, to be spread or cast into a mould. (2)
- 4.6 Curing is the process to allow for the chemical reaction ✓ to take place for the setting and hardening ✓ of the concrete in the presence of water, ✓ and for it to reach the required strength. ✓ (4)
- 4.7 Keep concrete wet by:
• Spraying
• Covering with wet sacks
• Covering with plastic material
• Wet sand
• Keeping formwork in place (4)

[25]**TOTAL: 100**