



# higher education & training

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**

## **MARKING GUIDELINE**

**NATIONAL CERTIFICATE (VOCATIONAL)**

**NOVEMBER 2010**

**CARPENTRY AND ROOF WORK  
NQF LEVEL 2**

**25 NOVEMBER 2010**

**(12020122)**

**This marking guideline consists of 5 pages.**

**QUESTION 1: GENERAL**

- |     |  |             |                    |
|-----|--|-------------|--------------------|
| 1.1 | Crosscut saw<br>Claw hammer<br>Spirit level<br>Tape measure<br>Ring spanner<br>Combination square  | (Any FOUR)  | (4)                |
| 1.2 | Safety goggles   |             | (1)                |
| 1.3 | It is absolutely vertical  |             | (1)                |
| 1.4 | Makes a tighter joint.<br>Prevents the bolt from pulling through the timber.   |             | (1)<br>(1)         |
| 1.5 | Wear a safety harness.<br>Don't lean over the side of a roof or a ladder<br>Wear the appropriate p.p.e<br>Ensure that all tools and equipment are in good working order. | (Any THREE) | (3)                |
| 1.6 | The Howe roof truss.   |             | (1)                |
| 1.7 | The top chord.   |             | (1)                |
| 1.8 | They are more economical.<br>Time in construction is saved.<br>They are professionally designed and guaranteed.  | (Any TWO)   | (2)<br><b>[15]</b> |

**QUESTION 2: TERMINOLOGY IN ROOF WORK**

- |     |  |           |      |
|-----|--|-----------|------|
| 2.1 | 2.1.1 monopitch<br>2.1.2 slope<br>2.1.3 double<br>2.1.4 hip girder<br>2.1.5 90 <sup>0</sup> angle<br>2.1.6 heel<br>2.1.7 bottom chords<br>2.1.8 top chords<br>2.1.9 strong<br>2.1.10 Support | (10 x1)   | (10) |
| 2.2 | Any type of roof covering.<br>A geyser.<br>Air conditioning ducting.   | (Any TWO) | (2)  |

2.3	The overhang.		(1)
2.4	At the end of overhangs.		(1)
2.5	Bolts and nuts Washers Clout nails Nail plate connectors	(Any TWO)	(2)
2.6	Battens are fixed to the rafters. They support the roof covering. Branding is fixed to the tie beam. It supports ceilings.	(1 x 2) (1 x 2)	(4)
2.7	2.7.1 Tie beam		(1)
	2.7.2 Pitch		(1)
	2.7.3 Runner		(1)
	2.7.4 Roof covering		(1)
2.8	For attaching plastic underlay. For securing hurricane clips. For fixing roof hangers.	(Any TWO)	(2) <b>[26]</b>

**QUESTION 3: ROOF CONSTRUCTION**

3.1	Branches Grass mats Wooden poles Animal hides	(Any TWO)	(2)
3.2	The mansard roof.		(2)
3.3	Wind Rain Hail Snow Workers	(Any THREE)	(3)
3.4	3.4.1 The roof ends vertically up at both ends.		(2)
	3.4.2 The roof ends in a slope on all sides.		(2)
	3.4.3 The roof has only one slope and rests against a building.		(2)
	3.4.4 The roof has a slight slope and can stand on its own.		(2)

- |     |   |       |           |             |
|-----|---|-------|-----------|-------------|
| 3.5 | 3.5.1   | False |           | (1)         |
|     | 3.5.2   | False |           | (1)         |
|     | 3.5.3   | False |           | (1)         |
|     | 3.5.4   | True  |           | (1)         |
|     | 3.5.5   | True  |           | (1)         |
| 3.6 | By means of hurricane clips.<br>By using a combination of wire and nails.<br>By using a combination of wire clips and nails.        |       | (Any TWO) | (2)         |
| 3.7 | Distortion will be prevented.<br>Damages and weakening will be prevented.<br>Lateral bending will be prevented.                     |       |           | (3)         |
| 3.8 | Trusses will remain vertical.<br>The top and bottom chords will remain straight.<br>The chords are effectively supported laterally. |       |           | (3)         |
|     |   |       |           | <b>[28]</b> |

**QUESTION 4: GABLE ROOF CONSTRUCTION**

- |     |  |   |         |     |
|-----|--|---|---------|-----|
| 4.1 | 4.1.1  | C |         | (1) |
|     | 4.1.2  | B |         | (1) |
|     | 4.1.3  | D |         | (1) |
|     | 4.1.4  | B |         | (1) |
|     | 4.1.5  | D |         | (1) |
| 4.2 | Step 1: Fix a gauge block to each end of the wall plate.   |   |         |     |
|     | Step 2: String a builder's line tightly on top of the blocks.  |   |         |     |
|     | Step 3: Slide a third gauge block under the line and slide it along the length of the line.                          |   |         |     |
|     | Step 4: Where the block does not touch the line, pack up the wall plate until it does and caulk the gap with mortar. |   |         |     |
|     | Step 5: When the mortar has set, nail the wall plate to the wall.  |   | (5 x 1) | (5) |

4.3	50 mm.		(1)
4.4	The size of the battens used. The type of roof cladding used.		(2)
4.5	A gauge rod is a piece of timber, marked off at the truss centres, used to space trusses.		(2)
4.6	Skew nailing.		(1)
4.7	One checks the alignment at the apex. The other two check the alignment at the eaves.		(2)
4.8	A builder's line. Wedges. Hardboard packing.	(1 x 3)	(3)
4.9	Nail the truss from both sides with a 100 mm wire nail into the wall plate.  Strap hoop iron firmly over the truss and nail securely.  Ensure that the hoop iron is long enough to tie down both the wall plate and the truss.	(1x3)	(3)
4.10	38 mm x 76 mm		(1)
4.11	It prevents dust accumulating in the roof. It prevents water entering the roof in the event of a leak.	(1 x 2)	(2)
4.12	200mm		(1)
4.13	A tilting batten is a batten that provides support for the first row of tiles on a roof. It is thicker than the rest of the battens because the first row of tiles does not have a tile to rest on. It can be found immediately behind the fascia board.		(3)
		<b>TOTAL:</b>	<b>100</b>

**[31]**