higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

CARPENTRY AND ROOFING THEORY N2

15 April 2021

This marking guideline consists of 7 pages.

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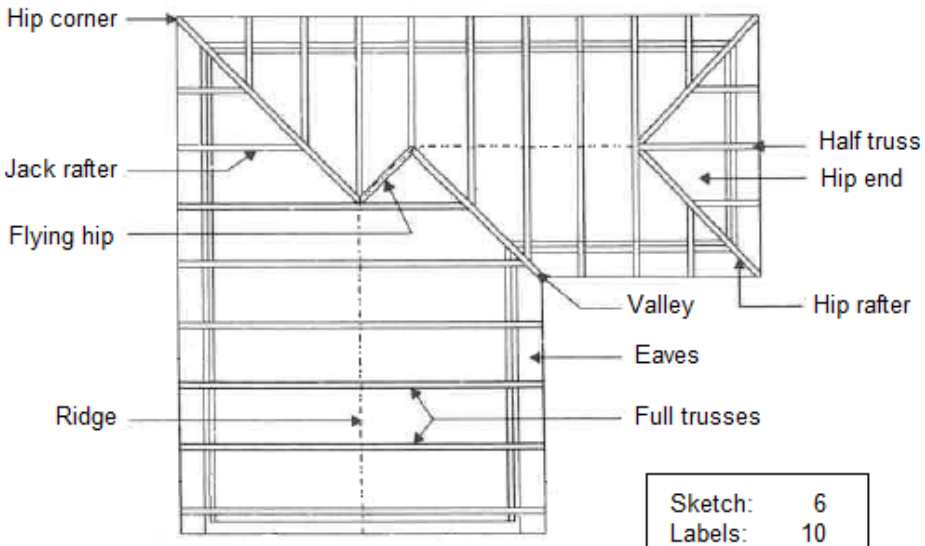
QUESTION 1

- Spirit level: To check the accuracy of the level of structures horizontally and/or vertically.
- Water level: To transfer levels from one level point to another point that cannot be measured on the same height.
- Dumpy level: Is an instrument on a tripod, used to obtain levels of various points in relation to a horizontal line.
- Tape measure: Used for measuring lengths.
- Measuring rod: To determine or measure lengths and survey areas of various sizes.
- Straight edge: Is used in conjunction with a spirit level to obtain horizontal levels at two or more points.
- Plumb bob: Used to check if structures are vertically level or plumb.

(Any applicable 5 × 2) **[10]**

QUESTION 2

2.1



Sketch:	6
Labels:	10
Correctness:	2
Total:	18

(18)

2.2 The king post is the main support member in a HOWE roof truss,✓ placed vertically in the middle of the truss and support to spread the load on the rafters.✓ (2)

[20]

QUESTION 3

3.1 3.1.1 Thatch✓

- High aesthetic value
- Very lightweight
- Fairly resistant to hail

(Any applicable 2 × 1) (3)

3.1.2 Natural slates✓
- Durable
- Do not absorb water easily
- High aesthetic value (Any applicable 2 × 1) (3)

3.1.3 Clay tiles✓
- Fairly strong
- Available in various colours
- Rust and water proof (Any applicable 2 × 1) (3)

3.2 Physical properties:
- Come in thicknesses of 0,5 mm, 0,6 mm and 0,8 mm and are cut to any required length
- They are manufactured and available in aluminium, copper and stainless steel (Any applicable 2 × 1)

Advantages:
- It comes in various colours
- Decorative with no visible fixing
- The risk of leakages are reduced
- Acoustic benefits
- A variety of sheet profiles available (Any 4 × 1) (6)

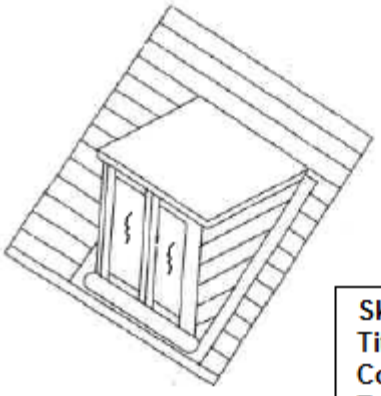
[15]

QUESTION 4

4.1 C
4.2 E
4.3 G
4.4 B
4.5 H
4.6 A
4.7 F
4.8 D (8 × 1) **[8]**

QUESTION 5

5.1.1

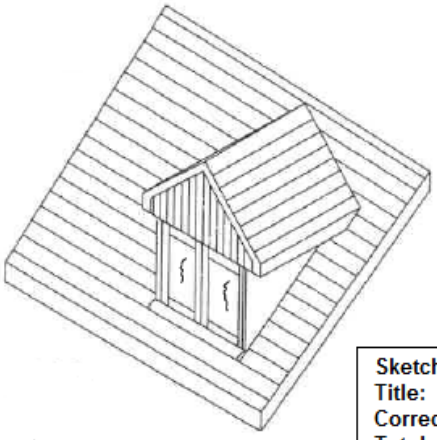


Flat roof dormer

Sketch:	3
Title:	1
Correctness:	1
Total:	5

(5)

5.1.2

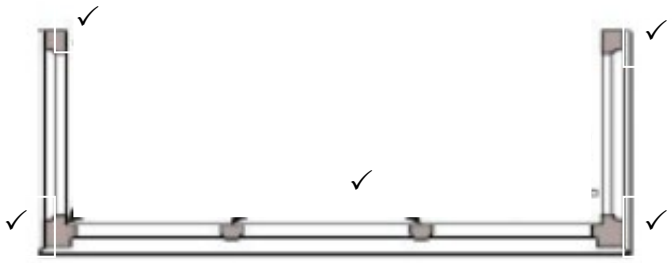


Pitched Roof dormer

Sketch:	3
Title:	1
Correctness:	1
Total:	5

(5)

5.3



Square bay window

(5 × 1) (5)
[15]

QUESTION 6

6.1
6.1.1 Glass
6.1.2 Weather groove/drip
6.1.3 Top rail
6.1.4 Gutter back
6.1.5 Hinge
6.1.6 Roof tile
6.1.7 Boarding
6.1.8 Spar
6.1.9 Trimmer
6.1.10 Lining

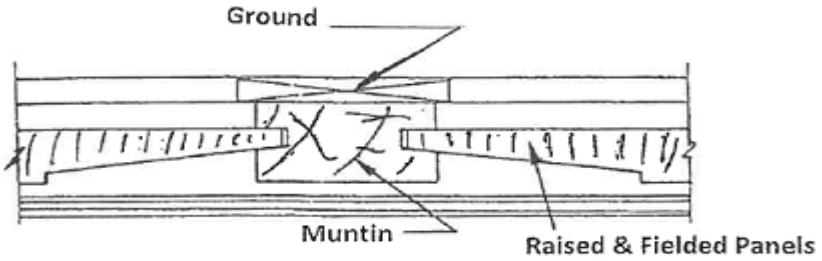
(10 × 1) (10)

6.2
- Natural lighting
- Ventilation

(2)
[12]

QUESTION 7: THIS QUESTION IS ANSWERED BY **CARPENTRY CANDIDATES** ONLY

7.1



Sketch:	3
Labels:	3
Correctness:	1
Total:	7

(7)

7.2
- The door is measured and marked according to the frame.
- Cut the length and width, allowing for 2 mm clearance all around.
- Fit the door and trim /plane all the surfaces where the door is too big or too tight.
- The trimming and cutting must be on a slight angle (bevel cut) to prevent jamming.
- Fit the door and mark the positions for the butt hinges on the door and the doorframe where applicable.
- Accurately cut the marked recess/rebate for the butt hinges. Ensure that the butt hinges fit snugly in the recesses and are flushed with the surface of the edge of the door and the doorframe where applicable.
- Screw the hinges to the door in place and make sure that the screws and hinges are flushed with the door.
- Make a bevel cut to allow the diagonal of the thickness of the door to swing past the lock jamb.
- Check that the door swings well with no hinge-binding.
- Check that the door hangs on the correct hanging side.

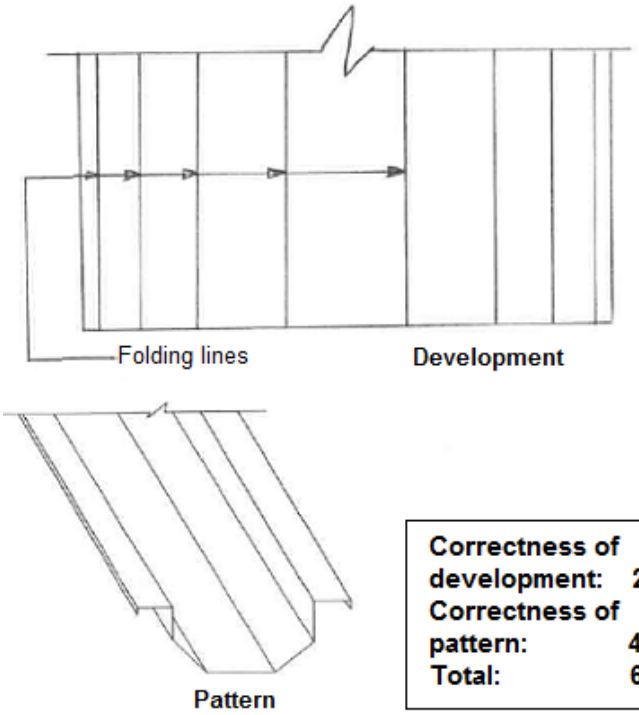
(Any applicable 9 × 1) (9)

7.3
7.3.1 Steel column clamps
7.3.2 Plywood sheet
7.3.3 Soldiers
7.3.4 Slot for steel wedges (4 × 1) (4)

[20]

QUESTION 8: THIS QUESTION IS ANSWERED BY **ROOFING CANDIDATES** ONLY

8.1



Correctness of development:	**2**
Correctness of pattern:	**4**
Total:	**6**

(2 + 4) (6)

8.2
- Copper is a non-ferrous metal and reddish brown in colour.
- It is soft, can be easily shaped and bent, but tough.
- Is very ductile, highly malleable and hardens when stretched.
- Can be hard and soft soldered but welded with special equipment.
- It is rust proof

(Any 2 × 1) (2)

8.3 8.3.1
- No maintenance is required.
- It is rust and corrosion resistant.
- Is light and works easily
- It drills and cuts very easily

(Any 2 × 1)

8.3.2
- Gutters can be obtained in long lengths
- It can be shaped easily
- It cuts and drills easily
- Can resist rust to a certain extent

(Any 2 × 1)

8.3.3
- uPVC gutters are light and easy to install
- It is easy to cut and drill
- Does not require any form of painting
- It is maintenance free
- It is rust free and does not corrode

(Any 2 × 1)

8.3.4
- It is easy to drill holes
- Cuts easily
- Durable

(Any 2 × 1)
(4 × 2) (8)

8.4 8.4.1 The tool is used for nailing tiles or slates to the battens

8.4.2 The tool is used to hook out nails when the tiles have to be replaced

8.4.3 The tool is used to cut smaller quantities of tile

8.4.4 The tool is used to cut curves and irregular shapes

(4 × 1) (4)
[20]

TOTAL: 100

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