higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

CARPENTRY AND ROOFING THEORY N2

1 AUGUST 2018

This marking guideline consists of 7 pages.

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NOTE: Alternate relevant answers not covered by this marking guideline will be considered as correct.

QUESTION 1: SETTING OUT OF BUILDINGS

1.1
1.1.1 Spirit bubble
1.1.2 Adjusting screw
1.1.3 Eyepiece
1.1.4 Diaphragm adjusting screw
1.1.5 Tripod
1.1.6 Levelling screw
1.1.7 Focus knob

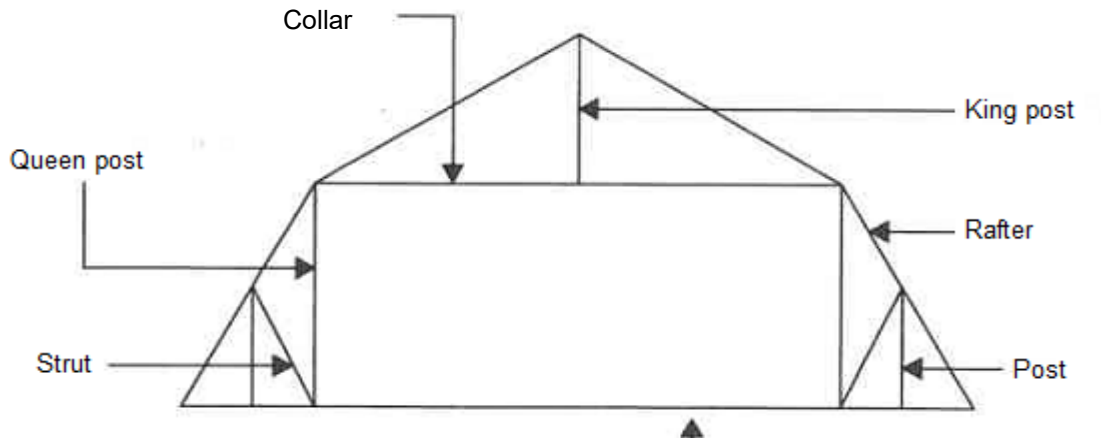
(7 × 1) (7)

1.2
- 3 : 4 : 5 method
- Diagonal measuring method
- Builder's square
- Optical square

(Any 3 × 1) (3)
[10]

QUESTION 2: ROOF CONSTRUCTION

2.1



Sketch:	3
Correctness:	1
Labels:	7
Quality of sketch:	1
Total:	12

(12)

2.2 A lean-to roof is the simplest and the least expensive form of all roof structures. It is design or constructed to have a slope, appropriate over short spans and is mainly used for extensions to existing buildings. (2)

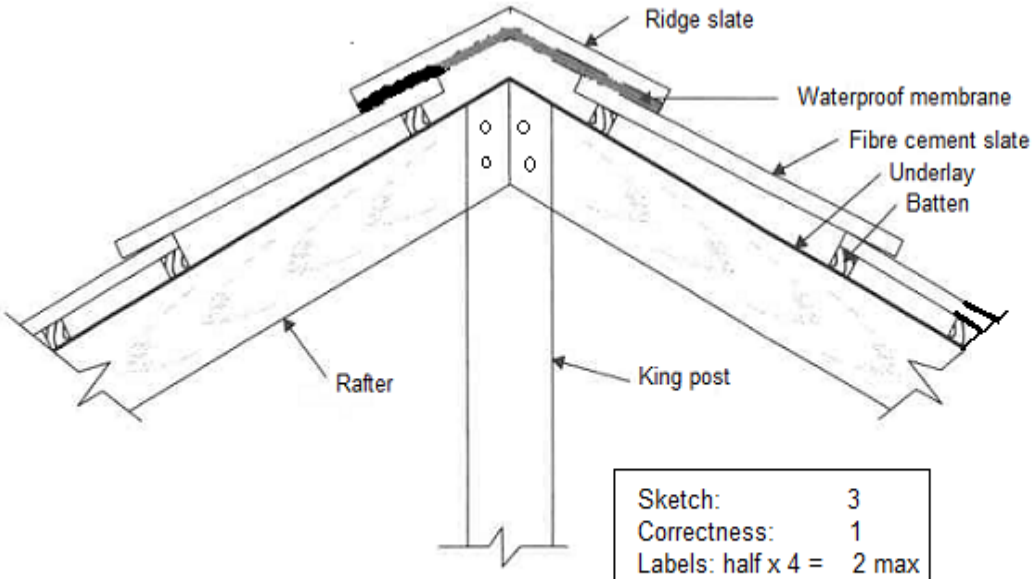
2.3
- Stoeps and verandas
- Sheds or outbuildings
- Carports (Any 2 × 1) (2)

2.4 2.4.1 A gable end is where the brick work is built to the slope of the rafters, taking the same slope or shape as the roof. (2)

2.4.2 The dihedral angle, also called the backing bevel, is the angle of intersection between two sloping roofs. (2)
[20]

QUESTION 3: ROOF COVERING

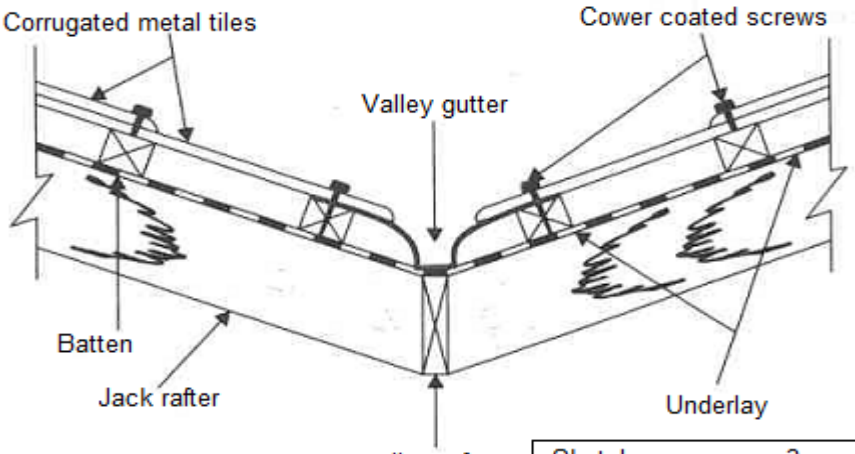
3.1.1



Sketch:	3
Correctness:	1
Labels: half x 4 =	2 max
Quality of sketch:	1
Total:	7

(7)

3.1.2



Sketch:	3
Correctness:	1
Labels: half x 6 =	3 max
Quality of sketch:	1
Total:	8

(8)
[15]

QUESTION 4: CEILINGS

4.1 4.1.1

- This type of ceiling provides space to hide pipework/ducting and wires.
- The ceiling can easily be levelled.
- It serves as a good isolator against heat and cold.
- It presents good aesthetic values/attractiveness.
- It provides for sound and thermal insulation.
- It provides for acoustics control with reference to absorption.

4.1.2

- The size of the sheets makes it convenient to cover big areas quickly at a time.
- It has a good isolation value.
- The fire risks are reduced when using fibre cement boards.

4.1.3

- Although it requires a skilled person to install the ceiling, it is fairly easy to install it.
- It does not require brandering, the tongue-and-groove boards can be secured directly to the tie beam by means of secret nailing.
- No additional finish such as cretestone or paint is required.
- The wood grains of the knotty pine boards present a decorative finish.

(3 × 2) (6)

4.2

- Tongue-and-groove V-joint
- Tongue-and-groove beaded joint
- Tongue-and-groove recessed or open groove joint (2 × 1) (2)

[8]

QUESTION 5: DORMER ROOF CONSTRUCTION

5.1
- Dormers provide additional interior or room space in the roof.
- It provides daylight to the attic room in the roof.
- It also provides additional ventilation and daylight.
- It enhances the exterior appearance of the building. (4)

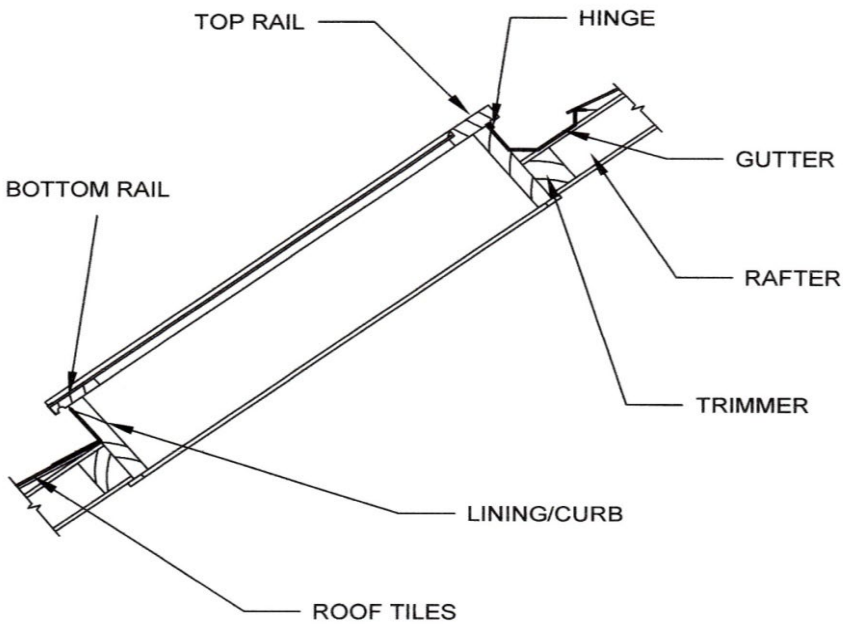
5.2
- A bay window is a protruding round or three-sided window with side lights.
- It has its own independent roof structure.
- It projects in front of the external wall/main structure and is supported by a sill-height wall.
- It can be of any window type, but predominantly of the casement type.
- It can be constructed of any of the window materials such as timber, metal and aluminium. (5 × 1) (5)

5.3 5.3.1
- Flat roof
- Pitched roof
- Segmental roof (3 × 1) (3)

5.3.2
- Square bay
- Splay or cant bay
- Circular bay (3 × 1) (3)

[15]

QUESTION 6: ROOF LIGHT CONSTRUCTION



(Labels = 8)
(Drawing = 4) **[12]**

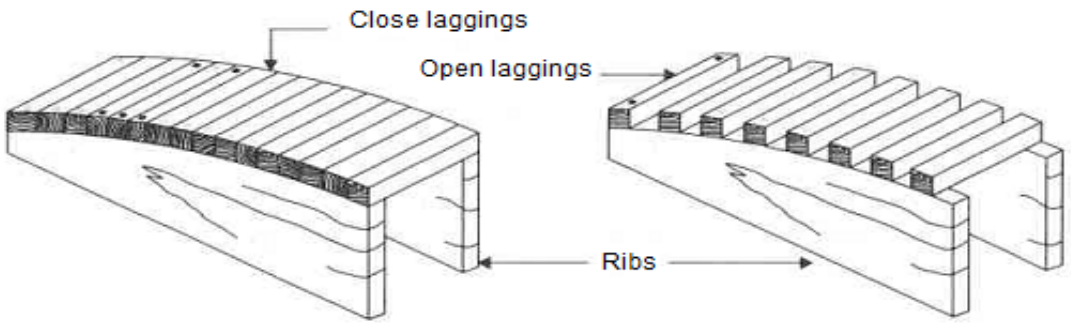
QUESTION 7: (CARPENTRY CANDIDATES ONLY)

7.1
7.1.1 Plasterboard cladding
7.1.2 Head plate
7.1.3 Staggered noggings
7.1.4 Wall stud
7.1.5 Intermediate studs
7.1.6 Sole plate
7.1.7 Doorframe post

(7 × 1) (7)

7.2
- Measure the height of the inside of the frame and cut the door to this dimension.
- Fit the door into the frame and scribe the side of the door where the hinges will be fixed.
- Use a plane and scribe the hinge side close to the scribed line.
- Fit the door again and scribe the top and lock side, then cut and plane to the scribed lines, allowing 2 mm clearance all round and 5 mm at the bottom.
- With the door in position in the doorframe, mark off the positions for the hinges on both the door and doorframe.
- Chisel out the recesses for the hinges on both the door and the frame.
- With wedges under the door to keep it in position, drill the holes for the hinges and screw the door to the doorframe.
- Ensure a clear margin of 2 mm to 3 mm all round between the door and doorframe. (Any 7 × 1) (7)

7.3



Sketches:	2 x 2= 4
Correctness:	2 X 1= 2
Total:	6

(2 × 3) (6)
[20]

QUESTION 8: (ROOFING CANDIDATES ONLY)

8.1

METALS		USES
8.1.1	Brass	• Rivets • Sheeting • Castings • Externally in severe weather conditions (Any TWO)
8.1.2	Zinc	• To be alloyed with copper to give brass • In a form of sheeting for roofing • As a substitute for lead in flashing (Any TWO)
8.1.3	Aluminium	• Gutters • Flashing • Rivets (Any TWO)
8.1.4	Lead	• Valley gutters • Roof sheeting • Flashing (Any TWO)

(4 × 2) (8)

8.2
- Roof covering.
- Roof area or the flow rate.
- Number of outlets.
- Height of down flow.
- Standard length available.
- Serviceability of chosen material, for example. PVC, fibre cement, et cetera. (Any 4 × 1) (4)

8.3
- The surface where it will be applied must be clean and free of oil to ensure a neat finish.
- Al loose particles must be brushed off with a wire brush.
- The liquid is applied liberally with a brush.
- The cloth is then placed on the wet liquid and laminated.
- The brush is pressed against the cloth until the liquid oozes through the cloth.
- The liquid is then smoothened with the brush and left to dry.
- A second coat and further coats can be applied over the cloth if required.

(Any 4 × 1) (4)

8.4
8.4.1 False
8.4.2 False
8.4.3 True
8.4.4 True

(4 × 1) (4)

[20]

TOTAL: 100

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