



Province of the  
**EASTERN CAPE**  
EDUCATION

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**SEPTEMBER 2020**

**CIVIL TECHNOLOGY: WOODWORKING  
MARKING GUIDELINE**

**MARKS: 200**

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This marking guideline consists of 13 pages.

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**QUESTION 1: SAFETY AND MATERIALS (GENERIC)**

- 1.1 1.1.1 2 (1)
- 1.1.2 228 mm (1)
- 1.1.3 900 mm (1)
- 1.1.4 150 mm (1)
- 1.1.5 Non-slippery layer (1)
- 1.2 Similar answer:  
Prevents horizontal movement between the platform and structure (1)
- 1.3 Identify THREE of the following requirements that are applicable to the supplier of hazardous chemical substances:
- 1.3.1 First-aid measures must be indicated
- 1.3.4 Fire-fighting measures must be indicated
- 1.3.6 Storage instructions must be indicated (3 x 1) (3)
- 1.4 Minimum = 30° (1) and maximum = 50° (1) (2)
- 1.5 Similar answer:  
Aluminium conducts electricity (1) and workers who use a ladder could be shocked (1) (2)
- 1.6 Describe the difference between the surface finish of a water-based paint and an oil-based paint:  
Water-based – provide an elastic, flexible finish (1)  
Oil-based – provide a hard, durable finish (1) (2)
- 1.7 Any THREE advantages of the curing of concrete:
- Increases strength
  - Decreases permeability
  - Improves durability
  - Reduces cracks
  - Makes concrete more watertight
  - Provides volume stability
  - Concrete can carry more weight (3 x 1) (3)
- 1.8 Briefly describe the powder coating process:  
Plastic finish in powder form (1) is applied through a compressed air spray-gun (1) (2)

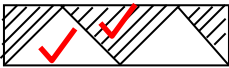
**[20]**

**QUESTION 2: GRAPHICS, JOINING AND EQUIPMENT (GENERIC)**

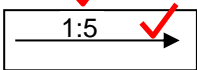
2.1 Answer the following questions with regard to the site plan on ANSWER SHEET A:

2.1.1 See ANSWER SHEET A (10)

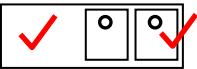
2.1.2 See ANSWER SHEET A (6)


2.2 2.2.1 Undisturbed earth  (2)

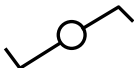
2.2.2 Plaster  (2)

2.2.3 Ramp with a slope of 1 : 5  (2)

2.2.4 Electrical meter  (2)

2.2.5 Sink unit – double  (2)

2.3 2.3.1  Unfinished wood (1)

2.3.2  Two-way switch (1)

2.4 When driven into place (1) it cannot be turned (1) (2)

2.5 Prevents backing off **OR** it acts as a lock nut (1)

2.6 18 mm (1)

2.7 2.7.1 1,35 m (1)

2.7.2  $1,412 - 1,285 = 0,127 \times 100 = 12,7\text{m}$  (0,1m leeway allowed) (3)

2.7.3 Minimum = 30 m (1) and maximum = 200 m (1) (2)

2.8 It can affect the measuring function of the tool. (1)

2.9 Batteries must be removed. (1)

**[40]**

**TOTAL SECTION A: 60**

**QUESTION 3: CASEMENTS, CUPBOARDS, WALL-PANELLING AND QUANTITIES (SPECIFIC)**

- 3.1 3.1.1 16 mm (1)
- 3.1.2 Stuck mould (1)
- 3.1.3 Rebate (1)
- 3.2 3.2.1 Drip groove (1)
- 3.2.2 Transom  
Bottom rail of fanlight 60 mm x 44 mm  
Putty  
Ovol moulding  
Windowpane/glass (3 x 1) (3)
- 3.2.3 Enhances the appearance and can open separately to allow ventilation (1)
- 3.3 ANSWER SHEET B (5)
- 3.4 3.4.1
- Top shelf/storage space
  - Hanging space
  - Shelving
  - Drawer unit (4)
- 3.4.2
- Melamine is waterproof
  - Easy to clean
  - Durable
  - Smooth finish
  - Improves appearance (Any 1) (1)
- 3.4.3 E = Front rail G = Side of cabinet  
F = Handrail H = Kick plate (4)
- 3.5 Fanlight (1)
- 3.6 3.6.1 A = Cornice  
B = Horizontal rough grounds  
C = Quadrant mould (3)
- 3.6.2
- Provide storage space
  - Improves/enhances the aesthetic appeal of the room
  - Looks expensive (2)
- 3.7 A casement window can be defined as a window assembly that has at least one casement or vertically hinged sash (frame that holds the glass) (2)

**[30]**

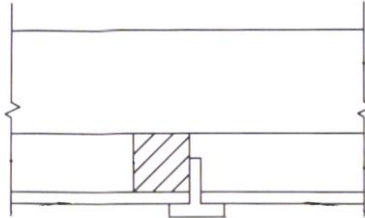
**QUESTION 4: ROOFS, CEILINGS, TOOLS AND EQUIPMENT, AND MATERIALS (SPECIFIC)**

- 4.1 4.1.1 A = Router                      B = Radial arm saw (2)
- 4.1.2
- Lubricate and adjust according to the manufacturer's instructions
  - Clean the saw after use
  - Repair or replace damaged electrical cords
  - Use machinery only for the intended purpose
  - Keep ventilation holes open and clean (2)
- 4.1.3
- Always wear safety goggles
  - Use both hands to operate the machine
  - Stand firmly and comfortably
  - Wear a dusk mask when using the router
  - The workpiece must be gripped firmly before starting the moulding (2)
- 4.2
- Gypsum ceiling board
  - Cover strips
  - Trapdoor panel
  - Tie beam (2)
- 4.3
- Sand the wood with different grades of sandpaper
  - Sand until it is smooth and free from scratches
  - Remove all dust (3)
- 4.4 Hurricane clips:
- Securing purlins to rafter (roof truss)
  - Securing trusses to wall plates
  - Ideally used at eaves overhangs
  - Where trusses cross each other or where truss members cross each other or meet at 90°
  - To fix opposite faces of roof members
- Storm clips: Securing roof tiles to the battens (2)
- 4.5
- Strength
  - Density (2)
- 4.6
- King post positioned in the middle of the roof truss
  - Brandering is nailed to the tie beam and to existing brandering
  - Roof sheeting to cover the roof (3)
- 4.7
- Always wear safety goggles
  - Wear a dusk mask when using the belt sander
  - Inspect the power cord regularly for damage
  - Avoid carrying the machine by the cord (2)

- 4.8 4.8.1 A. Tie beam  
 B. Brandering  
 C. Brandering  
 D. Trapdoor  
 E. Ceiling board (5)

4.8.2 Cover strips keep the panels in place (2)

4.8.3



Sectional view showing a metal T-strip (3)

- 4.9 4.9.1 A. Hipped end  
 B. Purlin  
 C. Ridge  
 D. Valley rafter  
 E. Overhang  
 F. Gable end (6)

4.9.2 75 mm x 50 mm (2)

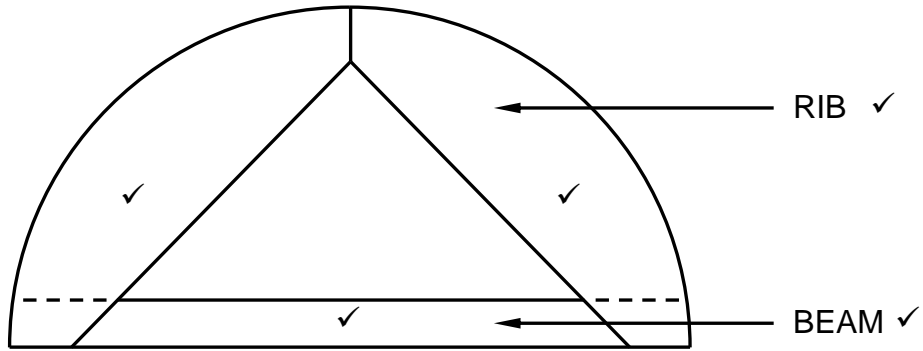
- 4.10
- Must be able to withstand natural elements like rain, wind and corrosion
  - Must look expensive and must be able to improve the appearance of the building
  - Must be able to withstand fire
  - To insulate against heat and cold

(2)  
**[40]**

**QUESTION 5: CENTRING, FORMWORK, SHORING AND GRAPHICS AS MEANS OF COMMUNICATION (SPECIFIC)**

- 5.1 Plastic  
Metal sheeting  
Hardboard  
Fibreglass (1)
- 5.2 ANSWER SHEET C (6)
- 5.3 5.3.1 Double flying shore: used to provide temporary support to two parallel walls that are located between 9 metres and 15 metres apart where one or both walls show signs of failure (1)
- 5.3.2 Dead shore:  
• Support structures  
• Carry the dead weight of the structure above them, for example walls and floors  
• New openings for existing walls and doors underpinning, is needed during restoration of the wall (1)
- 5.4 5.4.1 Steel dogs: nails used to secure the joint between prop and needle (1)
- 5.4.1 Sole plate: made of timber to spread the weight transferred by the props over a wider area (1)
- 5.4.3 Props or struts: placed vertically on top of each other on the different floors to strengthen or brace the floors and ceilings (1)
- 5.5 5.5.1 A – Concrete/floor slab  
B – Brace/strut  
C – Prop  
D – Sole plate (4)
- 5.5.2  
• To support the formwork  
• Keep the different formwork components sturdy and fixed  
• Facilitate the raising or lowering of the formwork to the required height  
• For levelling the formwork  
• Ease the striking of formwork after the concrete has cured (4)

5.6



ASSESSMENT CRITERIA	MARK
Beam	1
Ribs	2
Two labels	2
Correctness of drawing	1
<b>TOTAL:</b>	<b>6</b>

Correctness ✓

(6)

5.7 5.7.1 To lower  
To raise the centre

(2)

5.7.2 Table saw  
Bandsaw  
Jigsaw  
Portable circular saw  
Circular saw

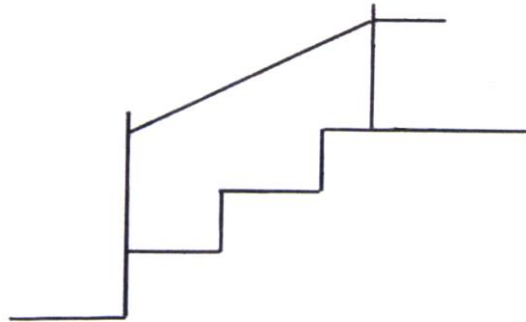
(Any 2) (2)  
**[30]**



**QUESTION 6: SUSPENDED FLOORS, STAIRCASES, IRONMONGERY, DOORS AND JOINING (SPECIFIC)**

- 6.1 A. Place to rest
  - B. For safety reasons in case of an accident
  - C. Change of direction
- (2)

6.2

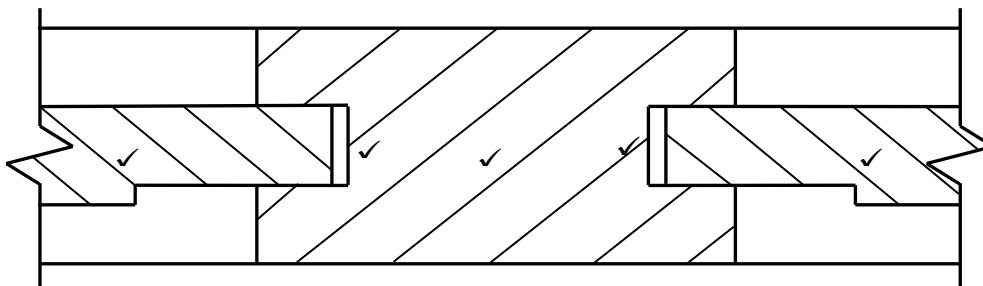


(5)

- 6.3 • On a cupboard door
  - On a drawer
- (2)

6.4 Night latch (1)

6.5



Correctness✓

ASSESSMENT CRITERIA	MARK
Muntin	1
Raised panels	2
Space for expansion and shrinkage	1
Hatching	1
Correctness of drawing	1
<b>TOTAL:</b>	<b>6</b>

(6)

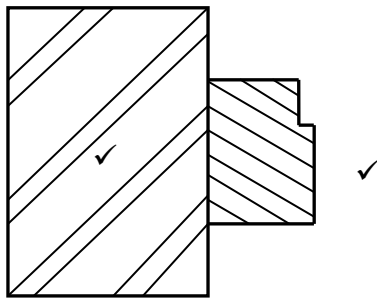
6.6 The opening allows for shrinkage and expansion of wood (1)

6.7 6.7.1 A: Brace B: Tongue and groove panels C: Stile (3)

6.7.2 To prevent sagging (1)

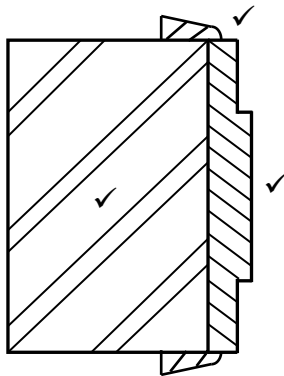
6.7.3 Gives a neater appearance at the outside of the frame members (1)

6.8



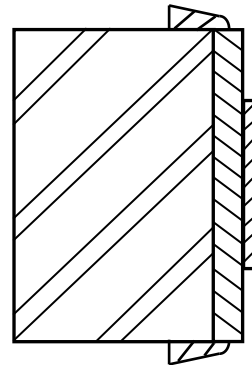
Doorframe ✓

(3)



Jamb lining

OR



(3)

ASSESSMENT CRITERIA	MARK
Walls	2
Frame profile of door	1
Jamb lining profile	1
Title	1
Architraves	1
<b>TOTAL:</b>	<b>6</b>

- 6.9 6.9.1 A = 220mm wall E = Floor joist  
 B = 12 mm plaster F = Wall plate/bearers  
 C = Skirting G = Damp-proof course (DPC)  
 D = Floorboard H = Foundation (8)

6.9.2 To cover the gaps between the flooring and the wall (1)

- 6.9.3
- Span of the floor
  - The centre-to-spacing between the floor joist; and
  - The grade of timber of the floor
- (3)

[40]

**TOTAL: 200**

<b>ANSWER SHEET</b>	<b>A</b>	<b>CIVIL TECHNOLOGY GENERIC</b>	<b>NAME:</b> _____
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2.1 Answer the following questions with regard to the site plan on ANSWER SHEET A:

2.1.1 Any TEN particulars that are not shown according to the checklist:

- Plot no. 31 is not shown
- Plot depth measurement is not shown
- Street name is not shown
- Branch sewage at S is not shown
- Connecting manhole (1,5 m inside plot boundary) is not shown
- Measurements of southern building boundary are not shown
- Structure measurements are not shown
- RE (rodding eye) symbol is not shown
- IE symbols are not shown
- VP and symbol are not shown at WC
- Entrance to plot is not shown
- No datum level is shown

(10)

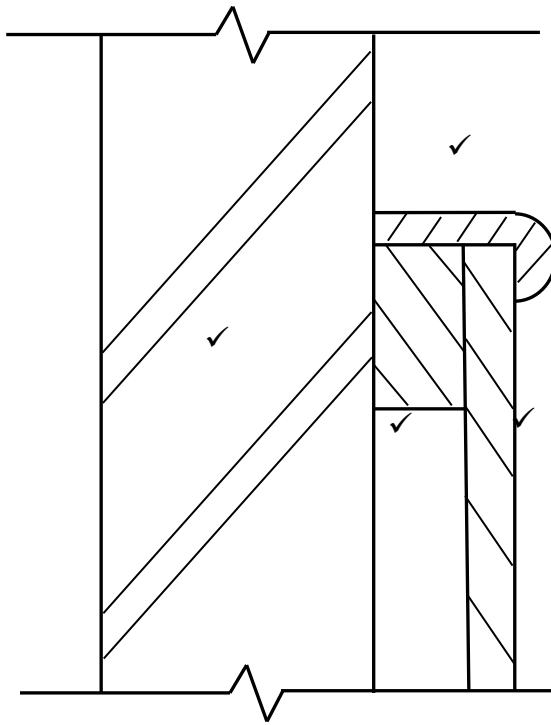
2.1.2 Identify SIX particulars that are shown incorrectly on the site plan:

- Construction is over the building boundary on the west side
- North arrow must be right-hand side, at the bottom of the page
- Scale is shown incorrectly
- Corner of branch sewage at WB incorrect
- RE and symbol missing at the change of direction in sewage line
- House depth measurements are not shown

(6)

ANSWER SHEET <b>B</b>	CIVIL TECHNOLOGY WOODWORKING	NAME: _____
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## QUESTION 3.3



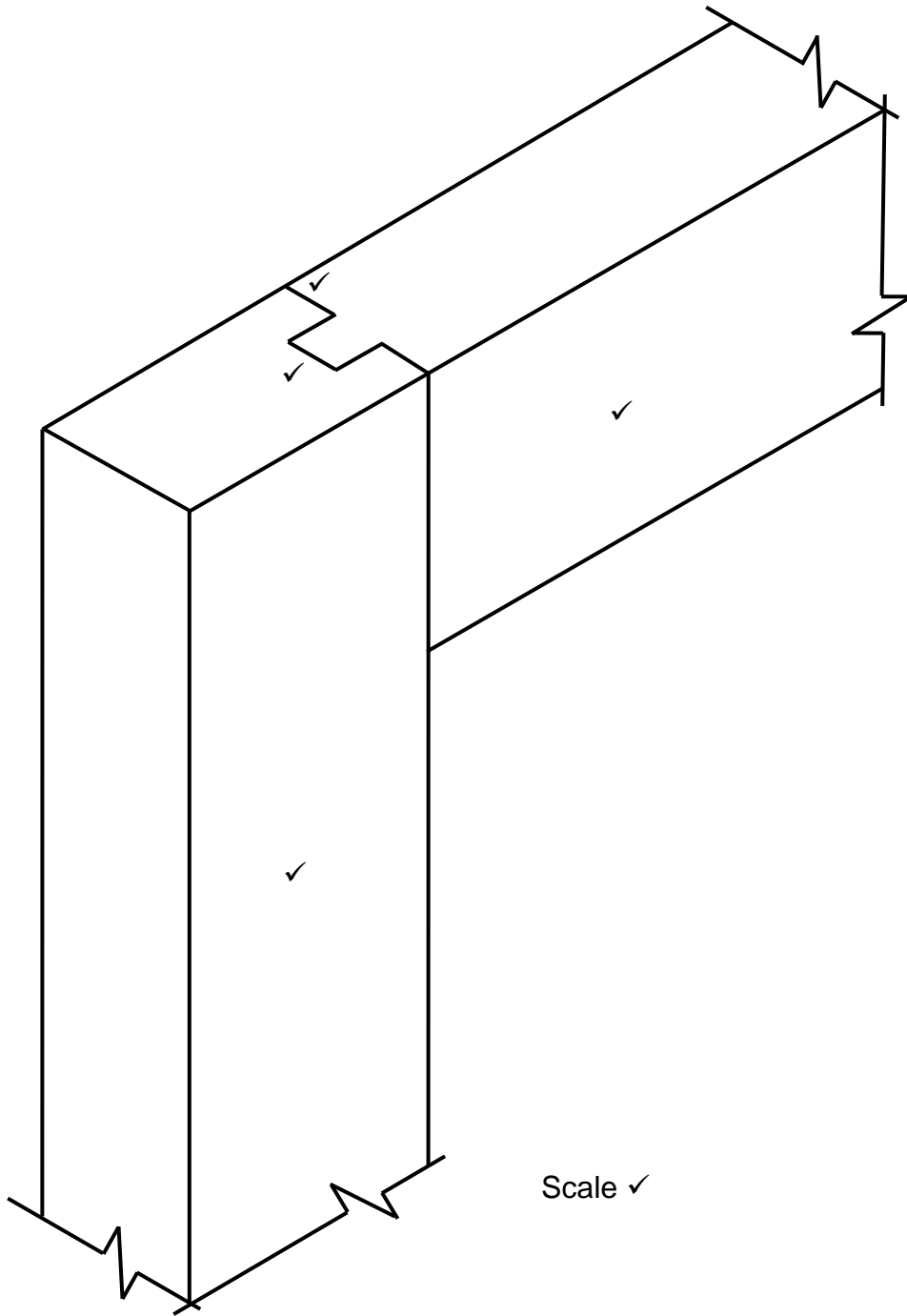
Correctness

✓

ASSESSMENT CRITERIA	MARK
Wall	1
Capping	1
Rough ground	1
Tongue and groove board	1
Correctness of drawing	1
<b>TOTAL:</b>	<b>5</b>

<b>ANSWER SHEET</b>	<b>C</b>	<b>CIVIL TECHNOLOGY WOODWORKING</b>	<b>NAME:</b> _____
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**QUESTION 5.2**



<b>ASSESSMENT CRITERIA</b>	<b>MARK</b>
Stile	1
Top rail	1
Mortise	1
Haunch	2
Application of scale	1
<b>TOTAL:</b>	<b>6</b>