higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

ENGINEERING TECHNOLOGY
NQF LEVEL 2

XX February 2020

This marking guideline consists of 5 pages.

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QUESTION 1: GENERAL

1.1	1.1.1	B		
	1.1.2	C		
	1.1.3	B		
	1.1.4	D		
	1.1.5	A		
			(5 × 1)	(5)
1.2	1.2.1	B		
	1.2.2	C		
	1.2.3	D		
	1.2.4	A		
	1.2.5	E		
			(5 × 1)	(5)
1.3	1.3.1	True		
	1.3.2	True		
	1.3.3	False		
	1.3.4	True		
	1.3.5	True		
			(5 × 1)	(5)
1.4	1.4.1	Luminous intensity		
	1.4.2	Ring test		
	1.4.3	Thread-pitch gauge		
	1.4.4	Current flow		
	1.4.5	Angle plate		
			(5 × 1)	(5)
				[20]

QUESTION 2: ENGINEERING HAND TOOLS

2.1
- Hammers
- Screwdrivers
- Pliers
- Spanners
- Files
- Camps (Any 5 × 1) (5)

2.2 A tap is a tool that is used to cut✓ internal threads in a drilled hole.✓
- Taper tap
- Intermediate tap
- Plug tap (2 + 3) (5)

2.3
- Incorrect and careless use
- Blade too soft
- Blade too hard
- Wrong blade type for type of metal
- Pitch too coarse when used on thin sections (Any 4 × 1) (4)

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2.4
- Always use safety goggles.
- Keep the head of the chisel free from grease and oil.
- Never use a chisel with a mushroomed head.
- Work away from the body.
- Place guards around the workpiece. (5)

2.5 Fault report (1)
[20]

QUESTION 3: ENGINEERING POWER TOOLS

3.1
- Bench and pedestal grinder
- Pedestal drilling machine
- Hydraulic press
- Portable electrical drilling machine
- Air compressor
- Band saw (6)

3.2 3.2.1
- Always use safety goggles and a face mask.
- Ensure that guards are fitted.

3.2.2
- Wear face protection.
- Secure the workpiece properly.

(2 × 2) (4)

3.3 3.3.1 It is used to cut the wheel to shape for precision grinding.

3.3.2 It is used to release foreign matter and blunt and abrasive grains that may be clogging the wheel.

(2 × 2) (4)

3.4 3.4.1 Check that all air filters are clean.
3.4.2 Keep the ventilation of the motor clean and clear.
3.4.3 Ensure that the drill press is bolted to the floor.
3.4.4 Regularly clean the ventilation slots.

(4 × 1) (4)

3.5 3.5.1 Vernier callipers or inside micrometre
3.5.2 Tape measure or laser measuring tool

(2 × 2) (4)
[22]

QUESTION 4: ENGINEERING MEASURING EQUIPMENT AND SI UNITS

4.1 Given: W =?✓ W = m ×g
m = 68 kg✓
= 68 × 9,8 (g = 9,8 m/s^2)✓
M = 666,4 N✓✓ (5)

4.2 4.2.1 Temperature
4.2.2 Electrical current
4.2.3 Time
4.2.4 Length
(4 × 1) (4)

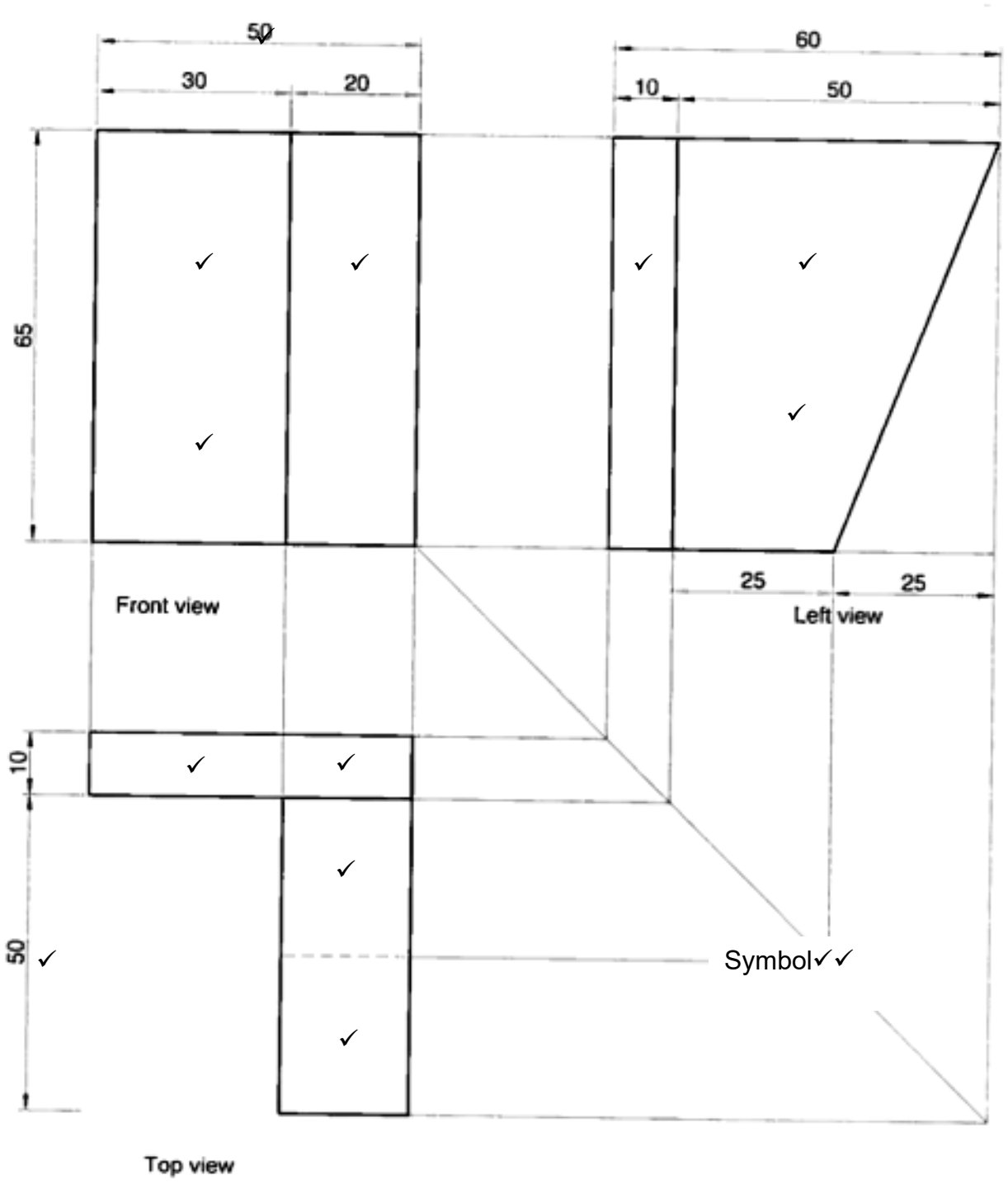
4.3
- Do not use as a lever or hammer.
- Clean and oil well.
- Do not drop or bump.
- Release all tension on the instrument.
- Store it in its proper place or box. (5)

4.4
- Vernier scale
- Graduated dial
- Blade
- Stock
- Upper jaws
- Lower jaws
- Lock screw
- Depth rod
- Thumb screw (Any 4 × 1) (4)

4.5 It helps to make scribed lines clearer.✓✓
- Marking blue (engineers)✓
- Copper sulphate✓
- Chalk and water✓ (2 + 3) (5)

[23]

QUESTION 5: BASIC ENGINEERING DRAWING



[15]

TOTAL: 100

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