



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

SUPPLEMENTARY EXAMINATION 2013

**MANUAL MANUFACTURING
NQF LEVEL 2**

11 MARCH 2013

This marking guideline consists of 6 pages.

QUESTION 1

1.1 Oxygen ✓

Heat ✓

Fuel ✓

(3)

1.2 Annexure A

Faulty Tool Report:			
Tool name:		Pliers ✓	
Description:		Water pump pliers ✓	
Item number:	19503 ✓	Date:	11/09/2011 ✓

Fault description:	Jaws of the pliers are damaged and the bolt is missing ✓✓
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Reporting person:	M. Zinto ✓	Signature:	<i>M. Zinto</i> ✓
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For office use

Stock number:	
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Repair of Tool

Service provider	Date sent:	Date back:	Cost of repairs:	Responsible person:	Signature

(8)

1.3 Safety hazard:

- Contact with moving parts
- Contact with electricity
- Contact with pressurised gas or liquids

(ANY TWO ✓✓) (2)

Health hazard:

- Contact with harmful chemicals
- Contact with excessive noise
- Harmful actions to the environment

(ANY TWO ✓✓) (2)

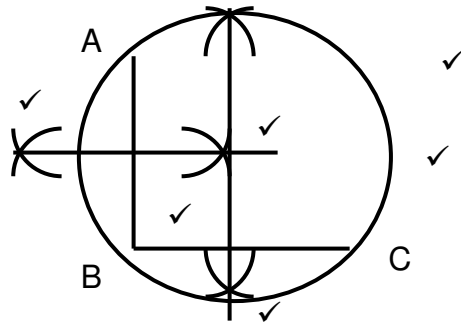
[15]

QUESTION 2

2.1 An engineering drawing is a type of drawing that is technical in nature. It is used to fully and clearly define the requirements for engineering items. ✓✓

An engineering drawing conveys information and instructions relating to the form, proportions, dimensions, material and finish of an object. ✓✓ (4)

2.2



(6)
[10]

QUESTION 3

NAME	PROCESS	EXPLANATION
3.1.1 Center punch	C. Punching ✓	X. Punching small holes for drilling ✓
3.1.2 File	D. Forming ✓	Z. Refers to forming materials by filing edges, surfaces and shapes ✓
3.1.3 Scriber	E. Marking off ✓	Q. Refers to scribing lines on workpieces. ✓
3.1.4 Feeler gauge	B. Measuring ✓	R. Measuring small gaps ✓
3.1.5 Spanner	A. Assembling ✓	S. Refers to joining material by various mechanical means ✓

(10)

3.2 3.2.1 Vernier ✓ (1)

3.2.2 1 – External measuring jaws ✓ (1)

2 – Internal measuring jaws ✓ (1)

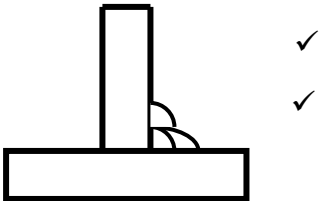
3 – Depth gauge rod ✓ (1)

4 – Main scale ✓ (1)

		5 – Beam ✓	(1)
		6 – Vernier scale ✓	(1)
		7 – Vernier accuracy division scale ✓	(1)
		8 – Locking device ✓	(1)
3.3	3.3.1	Reaming is the removal of small amount of material from an under sized hole ✓	(1)
	3.3.2	Tapping is a process of making thread in a drilled hole, or making internal threads ✓	(1)
	3.3.3	Forming is the process of beating material either by hand or machine into a shape different from its original form ✓	(1)
	3.3.4	Cutting is the process of separating a piece of material from the rest of the material ✓	(1)
3.4		<ul style="list-style-type: none"> • Abrasive grain • Fillers • Bond • Grain size • Grade 	
		(ANY TWO ✓✓)	(2)
			[25]

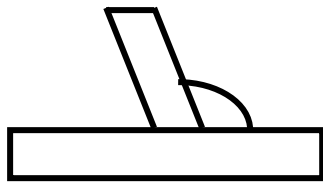
QUESTION 4

4.1		<ul style="list-style-type: none"> • Semi-permanent patch works • Jewellery components • Copper pipe connections • Sheet-metal object joints • Assembling electronic components to printed circuit boards • Small mechanical parts • Stained glass work for joining copper foil and lead to form a frame for the glass layout • Joining of electrical cables 	
		(ANY FOUR ✓✓✓✓)	(4)

4.2	4.2.1		
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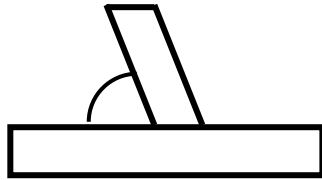
(2)

4.2.2



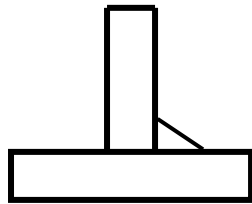
(2)

4.2.3



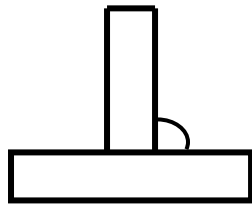
(2)

4.2.4



(2)

4.2.5



(2)

- 4.3
- Check handles for cracks ✓
 - The handle must be secured to the soldering iron housing ✓
 - Check the electrical cord for cracks, burn marks and loose connections ✓
 - Check the plug for loose connections and damaged casing ✓
 - Never use a soldering iron while standing in water ✓
- (5)

- 4.4
- The electrode lead ✓
 - The work lead ✓
 - The earth lead ✓
- (3)

4.5 4.5.1 Weld all around ✓✓ (2)

4.5.2 Site weld ✓✓ (2)

4.6 4.6.1  ✓✓ (2)

4.6.2  ✓✓ (2)

(2)
[30]

QUESTION 5

- 5.1 5.1.1 Caution: Square yellow inside with black thick outline ✓✓ (2)
- 5.1.2 Prohibition: Round white inside with red outer ✓✓ (2)
- 5.1.3 Safe condition: Square and green ✓✓ (2)
- 5.1.4 Mandatory: Square with round blue inside ✓✓ (2)
- 5.1.5 Supplementary: White or the colour of sign ✓✓ (2)

5.2

Work plan	
NAME:	
Name of task: screw-thread gauge ✓	
Start date:	End date

Procedure plan

List ALL the operations to be performed in the correct sequence and list ALL tools and equipment needed to accomplish the work task according to plan.

PROCESS	TOOLS/EQUIPMENT
Cut stock to size File two sides square Mark out the two V-shaped cuts Cut out the shape as close as possible but leave enough for filling File all sides to size Drill larger hole Take a small drill to drill the small round shape at tip of the V-shaped cuts (ANY FIVE ✓✓✓✓✓)	Steel ruler/hacksaw Vernier/files square Scriber/vernier protractor Hacksaw Files/vernier protractor Drilling machine (ANY FOUR ✓✓✓✓)

(10)

[20]

TOTAL: 100