higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

NOVEMBER EXAMINATION

MANUAL MANUFACTURING
NQF LEVEL 2

15 NOVEMBER 2013

This marking guideline consists of 7 pages.

QUESTION 1

1.1 1.1.1
- Keep away from live circuits.
- Never touch exposed wires without first testing them.
- Do not earth yourself.
- When using an extension lead, check that the extension lead has the correct rating.
- Do not use electricity in damp conditions.
- When using electricity appliances make sure that they are correctly connected.
- Wear correct (insulated PPE's)
- Check for any damaged/cracked/frayed electrical cables before starting. (Any 2 × 1) (2)

1.1.2
- Never try to dismantle any pneumatic component while under pressure.
- All pneumatic components must be securely attached before putting them under pressure.
- Pipes must be regularly checked for cracks and breakages.
- Wear safety goggles. (2)
- Do not use pneumatic equipment to blow/clean yourself

(Any 2 × 1)

1.1.3
- Guards should be fitted around all mechanical rotating equipment.
- Make sure the machine is switched off before replacing or altering mechanical moving parts.
- Never reach across rotating parts of the machine. (2)
- Do not leave machine unattended whilst in operation

(Any 2 × 1)

1.2 It is to promote the health and safety off all workers, as well as other people that may be affected as a result of work-related activities. (1)

1.3 1.3.1 National Occupational Safety Association

1.3.2 To supply advice and services to the industry

(2 × 1) (2)

1.4 Some companies will only do business with companies which have a NOSA rating. (1)

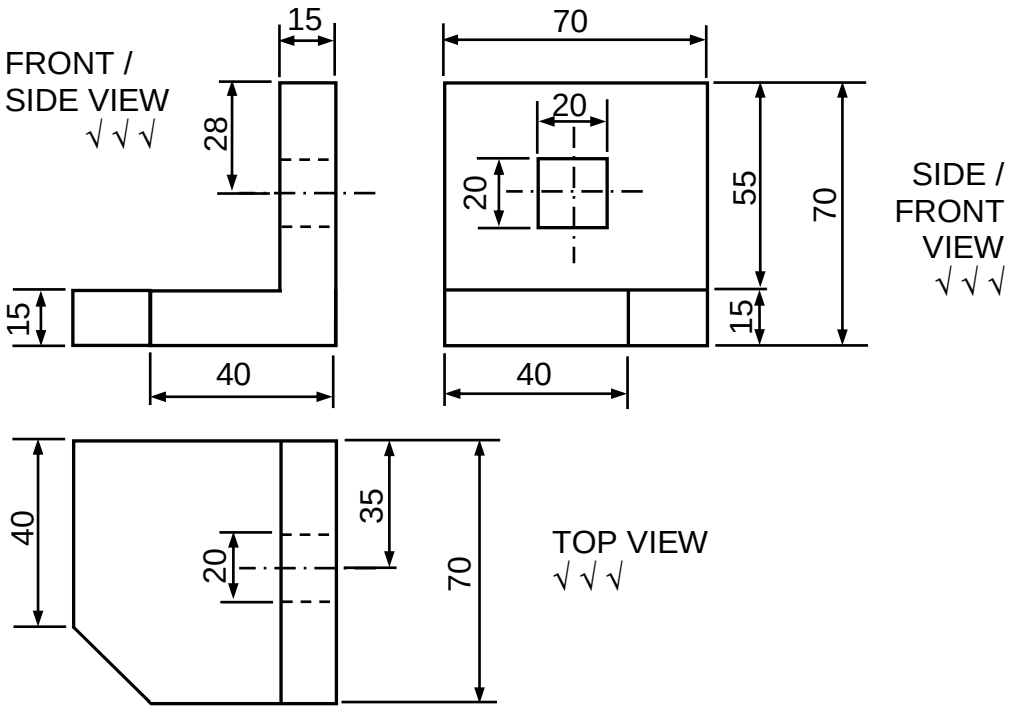
1.5
- Boxes packed against fire exit door
- Person carrying a high stack of books and cannot see where she is going
- Cables not secured on the floor
- Dustbins overflowing
- Man standing on round object while trying to fix bulb
- Person smoking around others
- Man talking on phone while sitting on a tilted chair/chair balanced on a few legs

(**ANY OTHER RELEVANT ANSWER)**

(Any 5 × 1) (5)
[15]

QUESTION 2

2.1



(3 marks per view = 1 for dimensions + 1 for linework + 1 for correctness)
FIGURE in question 2.1 not clear as to which is the SIDE VIEW and which is the FRONT VIEWas the labels A, B and C do not correlate with the instruction. (9)

2.2 The purpose of flexi curve is to draw continuous curves. (1)
[10]

QUESTION 3

3.1 3.1.1 Depth micrometer (1)

3.1.2 Depth micrometer is used to measure depth of the workpiece (2)

3.1.3 0, 01 mm (1)

3.2
- Make sure that the hacksaw blade is tightened correctly.
- More than 1 tooth of the blade must touch the surface being cut.
- Make sure the teeth of the hacksaw blade are facing forward.
- Saw lightly and with slight pressure.
- The workpiece must be firmly clamped.

(ANY OTHER RELEVANT ANSWER) (5)

3.3 3.3.1 The ring test is to check for cracks in the wheel.

3.3.2 Dressing a wheel means to restore the cutting ability of the wheel.

(2 x 2) (4)

3.4 3.4.1 An inside micrometer is used to measure the diameters of holes as well as the distance area between two parallel surfaces.

3.4.2 A helical fluted hand reamer is used to ream holes with groves or slots.

3.4.3 A scriber is used for marking of metals.

3.4.4 A water pump pliers is used to grip, clamp and bend various materials.

3.4.5 A thread pitch gauge is used to compare the threads on the bolt to the teeth on the gauge to assess the pitch of the bolt.

3.4.6 Dividers are used for scribing circles and arcs on metals.

(6 × 2) (12)
[25]

QUESTION 4

4.1
- To grip the electrode during the welding process
- To carry the welding current through the holder to the electrode
- To thermal insulate the operator from the conducted heat of the electrode (3)

4.2 4.2.1 C

4.2.2 D

4.2.3 F

4.2.4 B

4.2.5 A

4.2.6 E

(6 × 1) (6)

4.3
- Single-bead bend test
- Multiple-bead bend test
- Controlled thermal severity test
- The cruciform test

(4)

4.4
- Begin by heating the tip until it will melt the solder.
- Rub some solder onto the hot tip and spread the molten metal over the surface. When this is properly done, the tip will have a bright, shiny silver appearance.
- If the tip is too hot, the copper tip will tarnish. When this happens, allow the tip to cool slightly before tinning.

(3)

4.5
1. Weld size
2. Basic symbol
3. Length
4. Pitch
5. Site weld
6. Tail
7. Weld all round

(7)

4.6
- 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 connection and damaged casing
- Never use soldering iron while standing in water

(5)

4.7 When it has difficulty in sticking to the tip
The solder forms into balls around the tip

(2)
[30]

QUESTION 5

5.1 Good housekeeping means keeping the work area neat, tidy and free from hazards.

(2)

5.2
- Workers tripping over objects on floors
- Articles dropping from above
- Workers slipping on greasy, wet or dirty floors
- Staff bumping against material which protrude or stick out because they have been badly stacked or badly placed
- Hands or other parts of the body being cut by nails, wire, steel straps or splinters which stick out from untidy piles of materials or untidy working surfaces

(ANY OTHER RELEVANT ANSWER)

(5)

5.3
- Pleasant and clean working conditions make workers more productive.
- Time is saved because employees do not have to search for tools and equipment.
- The possibility of accidents is reduced, for example a person will not trip over tools and equipment.
- The risk of a fire hazard is reduced.

(ANY OTHER RELEVANT ANSWER) (4)

ADDENDUM A

QUESTION 5.4

NAME OF INJURED: √												DATE REPORTED: √	
LOCATION OF INCIDENT:												DATE AND TIME OF INCIDENT:	
DISCRIPTION OF DAMAGE:													
DAMAGE/INJURY/LOSS													
BUILDING		EQUIPMENT		FLOOR		MACHINERY		VEHICLE		INJURUY	√	PRODUCT	
GENERAL CAUSES													
STRUCK	FALL √	HANDLING	TRANSPORT	FIRE	MACHINE	ELECTRICITY	FALLING OBJECTS	STRUCK AGAINST √					
Was this in the course of performing normal duties?									**YES**		**NO**		

UNSAFE ACTS	**UNSAFE CONDITIONS**	**PERSONAL FACTORS**
OPERATING WITHOUT AUTHORITY	IN ADEQUATELY GUARDED	LACK OF KNOWLEGE/SKILL
OPERATING AT BUSAFE SPEEDS	UNGURDED	PHYSICAL/MENTAL
DISABLING SAFETY DEVICES	DEFECTIVE TOOLS AND EQUIPMENT	INCOMPATIBILITY
USING EQUIPMENT UNSAFELY	HAZARDOUS ARRANGEMENT √	IMPROPER ATTITUDE
USING UNSAFE EQUIPMENT	UNSAFE DESIGN OF CONSTRUCTION	MOTIVATION
UNSAFE LOADING/PLACING	POOR LIGHTING	**JOB FACTORS**
TAKING UNSAFE POSITION	UNSAFE CLOTHING	INADEQUATE WORK STANDARDS √
WORKING ON UNSAFE OR MOVING EQUIPMENT	POOR FLOOR CONDITION	HIGH-RISK CONDITION
TRANSFER TO ANOTHER JOB	POOR VENTILATION	

CONTROL STEPS TO PREVENT REOCCURANCE	
NAME & SIGNATURE OF EMPLOYER	**DATE**

PERSONAL FACTORS		**JOB FACTORS**			
ATTEND TRAINING		WRITE WORK STANDARDS		MODIFY	
GIVE PERSONAL INSTRUCTION	√	REVISE WORK STANDARDS		LOCKOUT	
HAVE MEDICAL TIMETABLE		JOB SAFETY STANDARDS		HOUSEKEEPING	√
ATTEND SHE COMMITEE		REVIEW PROCESS		REMOVE	
		GUARD		PROVIDE PROTECTION	
		REPAIR		IMPROVE	

EMPLOYER'S FOLLOW UP ACTION		
ACTION TAKEN	**BY WHOM**	**WHEN**
NAME AND SIGNATURE OF EMPLOYER		**DATE**

(9)
[20]

TOTAL: 100