higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

MANUAL MANUFACTURING
NQF LEVEL 2

XX February 2020

This marking guideline consists of 5 pages.

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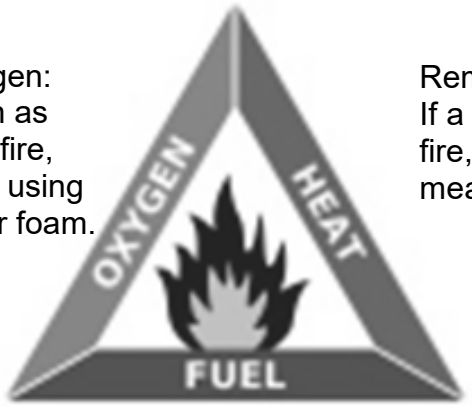
QUESTION 1

1.1 Stand behind the person choking, reach under the arms and wrap your arms around the waist.✓ Locate the xiphoid process with one hand and the naval with the other hand.✓ Position a fist just above the naval and below the xiphoid process.✓ Grasp your fist with the other hand and pull towards you and upwards with a firm rapid movement.✓ Repeat these quick upward thrusts until the obstruction is dislodged or until the person becomes unconscious.✓ (5)

1.2

Remove oxygen:
If liquids such as petrol are on fire, extinguish by using dry powder or foam.



Remove heat:
If a solid such as wood is on fire, remove the heat by means of water.

Remove fuel:
If there is an electrical or gas fire, remove the energy supply by turning off the gas or power.

(Any relevant diagram 4 × 1) (4)

1.3
- Blocking the fire-exit door
- Water or oil on the floor
- Walking without a hard hat
- Working without safety glasses on a machine
- Carrying a heavy container
- Smoking in a non-smoking area
- Obstructing the health-and-safety board
- Loose electrical wire on the floor
- Unsafe stacking of containers
- Safety guard open while working on a machine (Any 6 × 1) (6)

[15]

QUESTION 2

2.1
- T-squares
- Drawing tables
- Set squares
- Clutch/Normal pencils
- Erasers
- Erasing shields
- Compasses
- Dividers
- Rulers
- Scale rulers
- Protractors
- Stencils
- French curves
- Flexible curves (Any 6 × 1) (6)

2.2



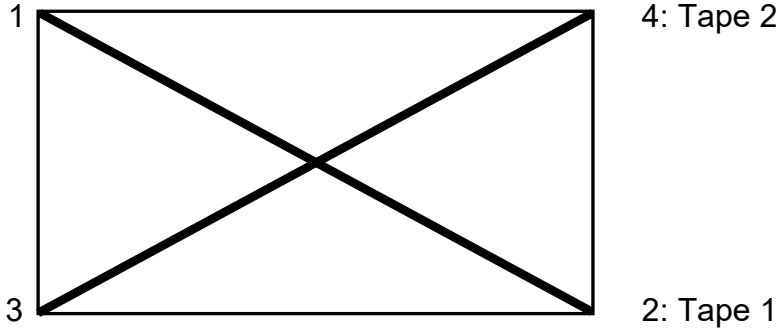
(2 + 2) (4)
[10]

QUESTION 3

3.1 34° 15' (1)

3.2
- Keep the tape clean.
- Store the tape in a dry place.
- Handle the tape with care.
- Do not kink or loop the tape.
- Always roll up the tape.
- Regularly slide the tape between a slightly oiled cloth. (Any 4 × 1) (4)

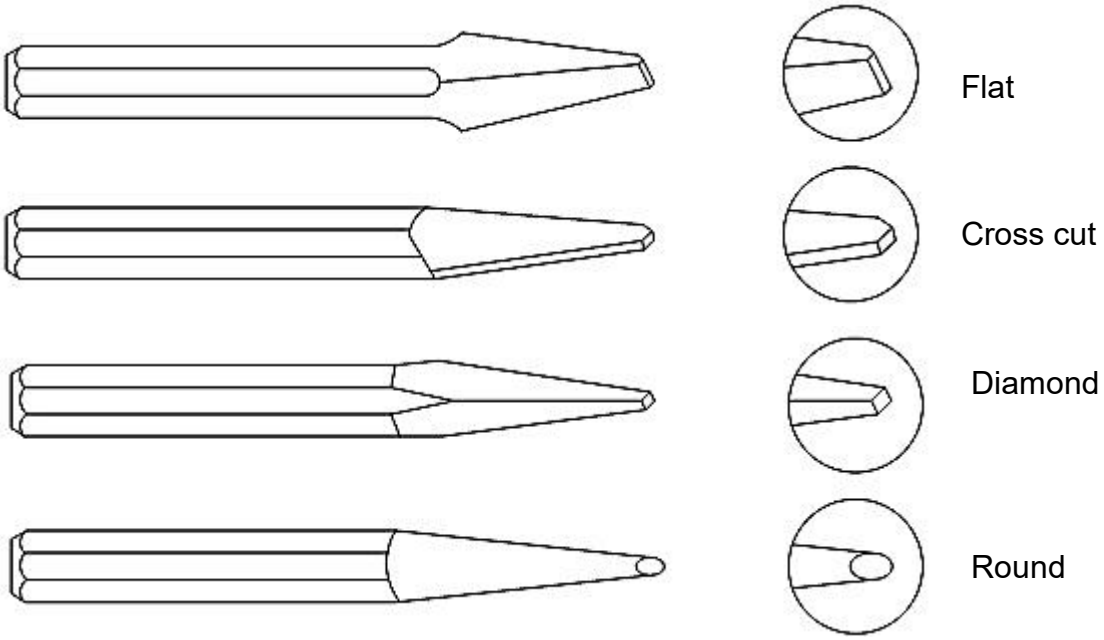
3.3



The measurement on both tapes must be exactly the same for the workpiece to be square. (5)

3.4 Solid dies are solid blocks of hardened tool steel with a threaded hole.✓ The cutting edges take the form of flutes.✓ It is used to repair threads that are damaged or for finishing a thread that has been machined.✓ (3)

3.5



(4 × 3) (12)
[25]

QUESTION 4

4.1
- The worker does not need to raise the helmet each time when performing a series of welding.
- A beginner does not need to master holding the welding electrode steady when dropping the helmet.
- It offers continuous eye protection when welding is performed. (3 × 2) (6)

4.2



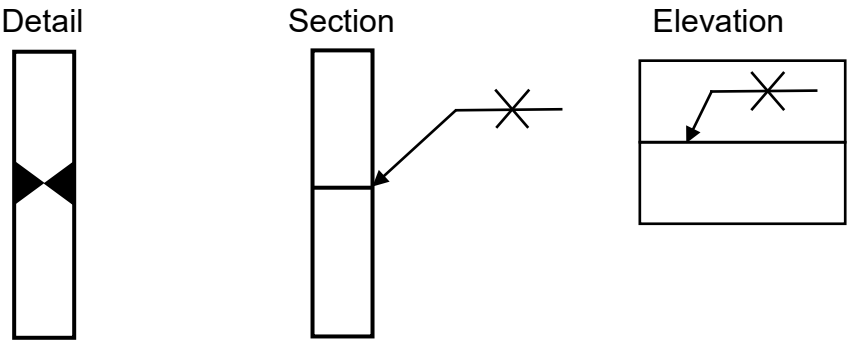
Weld all around Site weld

(2 + 2) (4)

4.3 4.3.1
- Electrode lead
- Work lead
- Earth lead (3)

4.3.2
- Electrode lead – the cable that connects the electrode holder to the welding machine
- Work lead – the electrical cable that connects the workpiece to the welding machine
- Earth lead – the lead that connects the workpiece to an earth point (3 × 2) (6)

4.4



(3 × 2) (6)

4.5
- Size of the joint to be soldered (tip size)✓
- Heat needed to solder the joint✓ without damaging other components✓
- Size of the soldered area (not to be heavy or uneven)✓
- Soldering iron costs✓ (5)

[30]

QUESTION 5

5.1

Name:	(any name)✓
Name of task:	Machine key✓
Start date:	(any date)✓
End date:	(any date after start date)✓
Material:	Mild steel✓
Size:	55 × 15 × 10 mm✓

Plan:
Cut steel to size and remove burrs – vernier, scriber, hacksaw, file✓
Mark off the shape of the key – scriber, ruler✓
File steel to size and shape – file, vernier✓
Measure to make sure of size – ruler, vernier✓
File 45° as indicated – file, 45° square✓
Final finishing of key – fine file, vernier, very fine sandpaper✓ (12)

5.2 Heating changes the properties of a metal.✓ Metal is heated to a certain temperature and then cooled down rapidly.✓ Metal may, depending on requirements, be softer than before to facilitate machining or it may be harder.✓ (3)

5.3
- Clean and pleasant working conditions
- Reduced possibility of accidents
- More space available
- Reduced fire-hazard risk
- Time management because workers do not need to search for tools and equipment (5)

[20]

TOTAL: 100

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