higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

PLANT AND EQUIPMENT
NQF LEVEL 2

15 November 2022

This marking guideline consists of 6 pages.

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QUESTION 1

1.1 True
1.2 True
1.3 False
1.4 True
1.5 True

(5 × 1) **[5]**

QUESTION 2

2.1
- Bumping against poorly packed or poorly placed material
- Being injured by projecting nails, splinters, wires and broken glass
- Tripping over loose objects
- Slipping on wet, greasy or dirty floors
- Being injured by materials or tools falling or dropping from above
- Cooking anywhere near flammable materials or poorly ventilated areas

(Any 5 × 1) (5)

2.2
- Ear plugs
- Helmet
- Safety goggles
- Gloves
- Dust mask (Any 3 × 1) (3)

2.3
- An electric drill that has a damaged cable
- A grinder that does not have a protection plate
- Exceeding the maximum mass load on any equipment
- Working without protective clothing
- Fire safety equipment that has not been serviced regularly

(Any 3 × 1) (3)

2.4
- A general description of the site conditions
- A general description of the work
- Acceptable tolerances
- Specific requirements
- The safe offloading of materials
- Dangers (Any 4 × 1) (4)

[15]

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QUESTION 3

3.1
- Ambulance
- Police
- Hospital
- Safety representative of the company
- Fire brigade
- First-aid officer (Any 5 × 1) (5)

3.2 First aid means identifying any medical emergency✓ and applying suitable treatment✓ to an injured person until help arrives from a medical practitioner.✓ (3)

3.3 A person may faint when there is a shortage✓ of oxygen in the brain.✓ (2)

3.4 A burn is any damage to the skin✓ or other tissues caused by dry or moist heat, chemical action, electrical energy or radiation.✓ (2)

3.5
- Burns
- Shock
- Fainting
- Bones injuries
- Deep cuts
- Bleeding profusely
- Spine and neck injuries (Any 3 × 1) (3)

[15]

QUESTION 4

4.1.1 A spirit level is used to check whether a surface is horizontal (level)✓ or vertical (plumb).✓

4.1.2 A caulking gun is used to squirt sealant✓ into small cracks.✓

4.1.3 A marking gauge is used to mark out lines✓ on wood for cutting.✓ (2 × 3) (6)

4.2 First you need to apply eye protection.✓ Turn the electric bench grinder on low speed. Hold the drill bit at an angle, so that the grinding wheel will meet one of the sloped sides of the conical top.✓ Never let the bit overheat. Regularly dip the bit in cold water. Hold the bit against the face of the wheel, not against the sides.✓ Rotate the drill by turning it between the thumb and another finger. Test the angles using a drill gauge.✓ To finish the job, place the drill bit in a vice and use a metal file to sharpen the edges of the ridges.✓ (5)

4.3 Wood chisel

- The chisel blade is sharpened on the two sides of the oil stone.
- The one stone is coarse and the other fine with a 30° sharpening angle.
- After honing, turn the blade around and remove the burr by slightly polishing the oil stone.

Plane iron

- Lay it flat on the oil stone and slowly raise the back end until it forms a 30° angle.
- With both the plane blade and the wood chisel you can also use sharpening tools that hold the blade at the correct angle.

(Any 4 × 1) (4)

4.4

- Scrape off any mortar with a wire brush.
- Wash the trowel in clean water.
- Wipe the trowel with an oil cloth.

(Any 2 × 1) (2)

4.5

- Bricklayer's trowel
- Pointing trowel
- Gauging trowel (3)

4.6 When completing the plastering of a wall, they are used to finish off the corners✓ by forming neat, continuous and straight internal and external corners with a small radius.✓ (2)

4.7 Consult the detail plan.✓ The next step is to get the formwork and support work specifications from the engineer.✓ Make sure that all the material, equipment and tools that you need to mark out and assemble the plywood have been collected.✓ Mark out and cut to size all the pieces required.✓ Assemble all parts and make the mould.✓ Oil the inside of the mould.✓ (6)

4.8

- Bar clamps
- Cutting machine
- Manual saw
- Steel square
- Screwdriver (Any 2 × 1) (2)

[30]

QUESTION 5

5.1
- People fall off ladders because they lose their footing, or the ladder falls over.
- They did not check the condition of the ladder before using it.
- They do not follow the correct safety rules for the use of ladders. (3)

5.2
- Two-legged ladders
- Step ladders
- Straight ladders
- A-frame ladders
- Extension ladders (Any 3 × 1) (3)

5.3 The ladder may tip as you reach too far or lean too far over sideways.✓ The pressure in over-reaching could force the feet of the ladder to slide.✓ The ladder may topple over sideways.✓ You can lose your balance and fall off the ladder.✓ You may drop the tools you are holding.✓ (4)

[10]

QUESTION 6

6.1 A scaffold is a temporary structure,✓ usually made of metal frames and tubing,✓ which provides temporary support and access for workers and materials used in construction, demolition, repair and maintenance work.✓ (3)

6.2
- It can be folded to a very small and compact size.
- It can easily be loaded onto a vehicle without requiring a crane. (2)

6.3
- Check the ground condition.
- See that there are no obstructions.
- Check that the ground is level.
- Check the potential wind load condition. (4)

6.4
- Platforms that are based on the trestle must be fully boarded, with no gaps between the boards.
- Platforms must be adequately supported.
- Safe access to trestle working platforms must be provided.
- If the trestle working platform is higher than 2,5 m, guard rails and toe boards must be provided on all the open sides.
- There must be overhead protection if workers are exposed to overhead hazards. (5)

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6.5
- The ground must be level.
- The ground on which the tower is moved has to be able to support the weight of the tower.
- Never move the tower faster than normal walking speed.
- Towers must only be moved by hand and moving machinery.
- No one is allowed on the tower when moving the tower. (5)

6.6
- Guard rail
- Toe board
- Working platform
- Transom
- Ledgers
- Double coupler
- Secured ladder
- Cross bracing
- Swivel coupler
- Putlog clip
- Base plate (Any 6 × 1) (6)

[25]

TOTAL: 100

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