higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

ENGINEERING FUNDAMENTALS
NQF LEVEL 2

8 December 2020

This marking guideline consists of 5 pages.

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QUESTION 1

1.1 1.1.1 Removing or taking out something from the earth

1.1.2 The process of making or producing products using structural steel in manufacturing/The process in which materials and components are made which will be used to make other products and items

1.1.3 Putting things together

1.1.4 The science of farming is used to design and manufacture things to help farmers.

1.1.5 Roads, bridges and other constructions are built to be used by the community.

(5 × 2) (10)

1.2 1.2.1 Maintain equipment with regular services.

1.2.2 Put up signs to show there are dangerous chemicals in a place.

1.2.3 Issue workers with hard hats, goggles or earmuffs.

1.2.4 Install an emergency off switch on a machine or a shield to stop dust.

1.2.5 Run an induction course with workers who join the company.

(5 × 2) (10)

1.3 1.3.1 Unfair discrimination
1.3.2 Stress
1.3.3 Faulty
1.3.4 Poor ventilation
1.3.5 Verbal warning

(5 × 2) (10)

1.4 1.4.1 True
1.4.2 True
1.4.3 False
1.4.4 False
1.4.5 False

(5 × 1) (5)

1.5 1.5.1 Given a lower position than before✓ with a lower salary✓

1.5.2 Appointed to a higher position than before✓ with a higher salary✓

(2 × 2) (4)

1.6 Manufacturing, engineering and technology (1)

[40]

QUESTION 2

2.1
- Work better
- Last longer
- Less likely to break down
- Avoid accidents
- Accurate work (5)

2.2
- Always cover all sharp edges of tools.
- Never leave tools lying around.
- Store tools neatly in a suitable place.
- Label the toolbox clearly.
- Report faulty tools. (5)

2.3
- Storage areas for fuel
- Paints and chemical areas
- Areas with acid bath
- Welding areas
- High electric voltage areas
- Gas areas
- Grinding areas (Any 5 × 1) (5)

2.4
2.4.1 C
2.4.2 D
2.4.3 B
2.4.4 E
2.4.5 A
(5 × 1) (5)

2.5
2.5.1 Danger
2.5.2 Compulsory
2.5.3 Hazard
2.5.4 Information
2.5.5 General
(5 × 1) (5)

2.6
- It prevents falling objects from striking someone on the head.
- Workers might bump their heads against fixed objects.
- Workers work near exposed electric conductors. (3)

2.7
- Flying particles
- Metal sparks
- Chemical splash (Any 2 × 1) (2)

[30]

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QUESTION 3

3.1
- Incorrect wiring
- Cables and fittings not installed according to basic safety requirements
- People not maintaining and using electrical installations safely (3)

3.2
- Clean up any spills of flammable liquids as soon as you see them.
- Label and store flammable liquids carefully.
- Never light a match or cigarette.
- Never have any open flame near flammable liquids. (4)

3.3
- Keep firefighting equipment clean.
- Check it regularly to make sure that the needle is in the green area.
- Follow the manufacturer's instructions to see how often this must be done. (3)

[10]

QUESTION 4

4.1
4.1.1 True
4.1.2 False
4.1.3 True

(3 × 1) (3)

4.2
- Clean up after the emergency.
- Correct any unsafe conditions that caused the incident.
- Report the incident and your involvement in it. (3)

4.3 The severity depends on how fast the person is losing blood. (1)

[7]

QUESTION 5

5.1
5.1.1 B
5.1.2 D
5.1.3 E
5.1.4 A
5.1.5 C

(5 × 1) (5)

5.2
5.2.1 Noise pollution
5.2.2 Water pollution
5.2.3 Air pollution

(3 × 1) (3)

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5.3. 5.3.1 The OHSA states that people have the right to work in a safe workplace or environment.✓ It also states that it is the responsibility of both workers and employers to keep the workplace as safe as possible.✓

5.3.2 Mine Health and Safety Act includes rules for reporting accidents✓ and for appointing health and safety representatives.✓

(2 × 2) (4)

5.4 Compensation fund (1)

[13]

TOTAL : 100

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