higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

ENGINEERING FUNDAMENTALS
NQF LEVEL 2

19 November 2024

This marking guideline consists of 6 pages.

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SECTION A

QUESTION 1

1.1 1.1.1 True
1.1.2 False
1.1.3 True
1.1.4 True
1.1.5 False

(5 × 1) (5)

1.2 1.2.1 F
1.2.2 A
1.2.3 G
1.2.4 E
1.2.5 B

(5 × 1) (5)
[10]

TOTAL SECTION A: 10

SECTION B

QUESTION 2

2.1 2.1.1 It will cause fatigue
Employees will make errors
Low productivity (3)

2.1.2 It will cause dust in the room
It will cause fire hazards
Noise can be caused because the sound is trapped in the room (3)

2.2
- Not to be unfairly dismissed, or to be discriminated against
- To be provided with appropriate resources and equipment
- To have safe working conditions
- To receive the agreed upon remuneration on the agreed date and time (4)

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2.3 2.3.1 Principle of equity – it involves ensuring that all employees, regardless of their background, identity, should be equal.

2.3.2 Principle of safety – safe and secure working conditions should be provided.

2.3.3 Principle of individualism – every employee should be given an opportunity to grow and develop his ability and personality.

2.3.4 Principle of democracy – authority should also be transferred to employees along with responsibility

(4 × 1) (4)

2.4 2.4.1 Natural rights are rights that a person can claim by virtue of his/her humanity.

2.4.2 Civil rights are rights granted to citizens by their government.

(2 × 2) (4)

2.5
- The Employment Equity Act
- Labour Relation Act
- Basic Condition of Employment
- Skills Development Act (Any 2 × 1) (2)

2.6 2.6.1 A set of rules according to which people in a particular field of work are expected to behave.

2.6.2 When an employee's personal interest takes precedent above the interest of an employer or the core business of a company.

(2 × 2) (4)

2.7
- Disciplinary procedures
- Workplace safety
- Labour dispute (Any 2 × 1) (2)

2.8 2.8.1 Use proper equipment.

2.8.2 Train employees.

2.8.3 Use proper equipment.

2.8.4 Implement clear labelling.

(4 × 1) (4)

[30]

QUESTION 3

3.1 3.1.1 Housekeeping is when you always keep everything in its place, avoiding things or items laying around. (2)

3.1.2
- Saves time
- improves productivity and workmanship
- Minimise injuries
- Promotes cleanliness
- Saves space
- Worker's morale is boosted
- Waste is stacked orderly and recycled for everyone's benefit

(Any 3 × 1) (3)

3.2 A workplace is demarcated to ensure workplace safety and proper workflow. (1)

3.3
- Falling objects
- Sharp objects underfoot
- Water, heat and cold
- Slips, trips and falls
- Chemical burns (5)

3.4
- Hard hat – protecting the head from falling objects
- Safety glasses or googles – protecting eyes from flying particles
- Safety overalls – protecting your body
- Safety gloves – protecting your hands from cuts, sharp objects
- Safety boots – protecting your feet from falling objects
- Safety/work vest – it provides a level of protection from potential injuries while also helping to keep track of employees in a large worksite environment (Any 5 × 1) (5)

3.5 3.5.1 Puncture wounds
3.5.2 Severe finger injuries
3.5.3 Broken bones
3.5.4 Loss of eye vision
3.5.5 Cuts and bruises

(5 × 1) (5)

3.6
- A lack of healthy competition (lack of motivation)
- Office politics
- Harassment by co-workers/clients
- Unusually high stress
- Lack of recognition of achievement (Any 4 × 1) (4)

3.7 3.7.1 Safety guard. (1)

3.7.2 To safeguard the employees and prevents their clothing from being caught by moving belts and pulleys. (2)

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3.8 Working under the influence of alcohol will cause impairment to mental faculties which can lead to poor decision making and concentration; negative health impact to the workers; slower reaction times and increased error rates.
(Any answer related to answers above.) (2)
[30]

QUESTION 4

4.1 4.1.1 Fire hydrant. (1)

4.1.2 Water is freely available.
Water is effective in putting out fire quickly.
Water pressure extinguishers use air under pressure.
(Any TWO correct answers 2 × 1) (2)

4.2 4.2.1 Class A: involves ordinary combustible materials such as wood; paper, etc.

4.2.2 Class D: involves highly reactive metals such as sodium and magnesium
(2 × 1) (2)

4.3 Flames; smoke inhalation and explosions can kill or severely injure workers on site; can cause damage to property, thick smoke and lack of oxygen.
(Any TWO correct answers above) (2)

4.4 To save individuals trapped by the fire while simultaneously extinguishing the fire; evaluating materials after saving people and objects. (1)

4.5 When the fire is small and confined to a manageable area where one might be safe from smoke; while everyone has left or is in the process of leaving the building. (2)
[10]

QUESTION 5

5.1
- To save life
- To prevent further injury
- To promote recovery (Any 2 × 1) (2)

5.2 Dentures (1)

5.3 5.3.1 LOC – Level of Consciousness.

5.3.2 EMS – Emergency Medical Services.
(2 × 1) (2)

5.4
- Compression of the heart
- Rescue breathing (2)

[7]

QUESTION 6

6.1 It is a document that describes how to manage health and safety in an organisation. (2)

6.2
- A statement of intent, showing your commitment to having a safe and healthy working environment
- A list of who is responsible for what
- Information on how your main health and safety issues will be managed (3)

6.3 Noise pollutes the environment by causing discomfort to humans and animals and can result in a loss of hearing. (2)

6.4 Pollution can be eradicated if communities can abide by the laws formulated and enforced by the government. (2)

6.5
- Lower accident rates
- Reduced costs
- Positive health and safety culture
- Better policies and procedures (Any 2 × 1) (2)

6.6
- To do health and safety audits
- To identify potential danger
- To carry out inspection
- To make representation
- To attend committee meetings
- To investigate incidents (Any 2 × 1) (2)

[13]

TOTAL SECTION B: 90
GRAND TOTAL: 100

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