higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

ENGINEERING FUNDAMENTALS
NQF LEVEL 2

23 November 2023

This marking guideline consists of 5 pages.

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QUESTION 1

1.1 1.1.1 Engineering and Related Design
1.1.2 Employment Equity Act
1.1.3 Basic Conditions of Employment Act

(3 × 2) (6)

1.2
- Reinstatement
- Re-employment
- Compensation (3)

1.3
- Intimidation
- Dismissal
- Promises of a wage increase
- Imposition of a penalty (Any 3 × 1) (3)

1.4 1.4.1 Field
1.4.2 Maintenance-based
1.4.3 Behave
1.4.4 Laws
1.4.5 Develop

(5 × 1) (5)

1.5 1.5.1 D
1.5.2 F
1.5.3 K
1.5.4 A
1.5.5 J
1.5.6 H
1.5.7 L
1.5.8 E
1.5.9 B
1.5.10 C

(10 × 1) (10)

1.6 1.6.1 To protect someone✓ or something from harm.✓

1.6.2 Introducing a new employee to a company and its culture✓ or introducing someone to a post.✓

1.6.3 An unfair act✓ or an omission by an employer affecting an employee.✓

1.6.4 Emotional strain or tension resulting from adverse or demanding circumstances.✓ Stress may involve either emotional or physical tension.✓ It may be the result of any event or thought that causes you to feel frustrated.✓

(4 × 2) (8)

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1.7 1.7.1 True
1.7.2 True
1.7.3 False
1.7.4 False
1.7.5 True

(5 × 1) (5)
[40]

QUESTION 2

2.1

UNSAFE CONDITIONS		WHAT COULD GO WRONG.	
1.	Slippery floors	A	Workers may slip, fall and injure themselves or their co-workers
2.	No demarcation signs	B	Workers may go into dangerous places
3.	Cables or wires lying on the floor	C	Workers may trip and fall or may cause damage to machines
4.	Blocked or cluttered exits	D	Workers cannot get out quickly in case of fire or in an emergency
5.	Overcrowding in a workshop	E	Too many workers in a workshop may lead to an accident
6.	Items are not packed or stacked safely	F	An object may fall and break or hurt someone

(6 × 2) (12)

2.2 2.2.1 2 June 2022
Forging department (2)

2.2.2 The operator cut his finger (1)

2.2.3 The operator was cutting rods (1)

2.2.4 Guillotine or cutting machine (1)

2.2.5 Federal Mogul Car Valve Manufacturing is based in Westmead. (1)

2.2.6 They manufacture car valves. (1)

2.2.7 Mr W. Dlalisa (1)

2.2.8 All machines should be maintained✓ and workers should not be allowed to use machines without guards.✓ (2)

2.3
- Labelled machine parts.
- Instructions to operate the machine safely.
- How often the machine should be serviced.
- Type of lubrication for the machine. (Any 3 × 1) (3)

2.4
- If you swallow chemicals
- If you inhale chemicals
- If you touch chemicals (3)

2.5
- Mining industry
- Manufacturing industry (2)

[30]

QUESTION 3

3.1
- Store oily rags in a closed metal container to prevent fires.
- Know where to find the nearest fire extinguisher and know how to use it.
- Have an emergency and evacuation plan in place.
- Avoid welding near flammable liquids. (4)

3.2
3.2.1 Fire extinguisher
3.2.2 Fire hazard warning
3.2.3 Fire blanket

(3 × 2) (6)

[10]

QUESTION 4

4.1
- Check
- Call
- Care (3)

4.2
4.2.1 C
4.2.2 A
4.2.3 E
4.2.4 B

(4 × 1) (4)

[7]

QUESTION 5

5.1
- Improved health and wellbeing
- Greater productivity
- Higher performance
- Lower absenteeism
- Fewer workplace injuries
- Fewer worker compensation claims (Any 3 × 1) (3)

5.2	5.2.1	Elimination		
	5.2.2	Substitution		
	5.2.3	Engineering controls		
	5.2.4	Administration controls		
	5.2.5	Protect the worker		
			(5 × 1)	(5)

5.3	• Electrical hazards • Overloading • Material falling • Slipping from overhead hoist	(Any 3 × 1)	(3)

5.4	• Safety glasses • Hard hats • Hard-toe boots/steel toe boots • Working gloves	(Any 2 × 1)	(2)
			[13]

TOTAL: 100

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