higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ENGINEERING FUNDAMENTALS
NQF LEVEL 2

(6021002)

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13:00–16:00

This question paper consists of 10 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
ENGINEERING FUNDAMENTALS
NQF LEVEL 2
TIME: 3 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer all the questions.
2. Read all the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Clearly cross out all work you do not want to be marked.
5. Use only a black or blue pen.
6. Write neatly and legibly.

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SECTION A

QUESTION 1

1.1 Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (1.1.1–1.1.5) in the ANSWER BOOK.

1.1.1 The Bill of Rights forms part of the Constitution of the Republic of South African, 1996.

1.1.2 Employees are not allowed to participate in the activities and programmes of a trade union.

1.1.3 One of the reasons for conducting an exit interview is to provide suggestions for organisational improvement.

1.1.4 A final notice given to an employee to end their working contract is called termination.

1.1.5 Colour codes are used to help people to identify safety features quickly and easily in their private offices.

(5 × 1) (5)

1.2 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–G) next to the question number (1.2.1–1.2.5) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.2.1	Integrity	A	taking ownership of one's actions and decisions; being accountable
1.2.2	Responsibility	B	a natural talent to do a certain type of work or to follow a certain type of career
1.2.3	Quality	C	do not discuss personal issues that have been told in confidence with others
1.2.4	Teamwork	D	showing commitment to achieving one's goals
1.2.5	Discipline	E	work effectively with others; be cooperative and supportive
		F	it involves being honest, ethical, professional, and reliable in doing the right thing even when no one is looking
		G	involves striving for excellence, taking pride in one's work

(5 × 1) (5)
[10]

TOTAL SECTION A: 10

SECTION B

QUESTION 2

2.1 Poor ventilation and poor lighting have contributed to accidents in a workplace. Below are examples of what can happen because of these conditions:

- Causes fatigue.
- Noise can be caused because the sound is trapped in the room.
- Employees will make errors.
- It can cause fire hazards.
- Cause dust in the room.
- Low productivity.

2.1.1 Choose THREE disadvantages of poor lighting from the list above. (3)

2.1.2 Choose THREE disadvantages of poor ventilation from the list above. (3)

2.2 What are the FOUR employee rights? (4)

2.3 Briefly discuss the following principles that assist in improving the quality of work life:

2.3.1 Principle of equity

2.3.2 Principle of safety

2.3.3 Principle of individualism

2.3.4 Principle of democracy

(4 × 1) (4)

2.4 The Bill of Rights is a cornerstone of democracy in South Africa.

Briefly explain the following terms in relation to the Bill of Rights:

2.4.1 Natural rights (2)

2.4.2 Civil rights (2)

2.5 State at least TWO main pieces of legislation (laws) that governs/regulates the relationship between employers and employees. (2)

2.6 Every workplace must have a code of conduct.

2.6.1 Briefly explain what *code of conduct* means. (2)

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2.6.2 A conflict of interest is one example of a breach of the code of conduct that an employee must avoid.

Explain what *conflict of interest* means? (2)

2.7 Labour relations is responsible for dealing with various issues at the workplace.

State TWO issues that the labour relations office must deal with. (2 × 1) (2)

2.8 The following are good practices when maintaining storage and stacking equipment.

Choose ONE term from the list below for each of the following descriptions and write it next to the question number (2.8.1–2.8.4) in the ANSWER BOOK.

assess weight limits; use proper equipment; implement clear labelling; train employees

2.8.1 Invest in appropriate storage equipment designed for the specific materials being stored.

2.8.2 Proper training is fundamental.

2.8.3 Always adhere to the weight limits of shelving units and pallets.

2.8.4 Systems labelling is crucial in storage areas.

(4 × 1) (4)
[30]

QUESTION 3

3.1 Housekeeping is a general term that could be used in everyday situations.

3.1.1 Define the term, *housekeeping.* (2)

3.1.2 State THREE benefits of housekeeping. (3)

3.2 Different colours are used to demarcate the floors in a workplace.

State ONE reason why a workplace must be demarcated. (1)

3.3 The right footwear is important to prevent injuries and to keep our feet comfortable.

List FIVE hazards that our feet can be exposed to in the workplace. (5)

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3.4 Safety starts with employees protecting themselves. FIGURE 1 below shows an employee wearing personal protective equipment.

Identify any FIVE PPEs and indicate what each is used for. (5)



FIGURE 1

3.5 Analyse the statements below and state what type of injury that may be caused by using certain tools in a workplace.

Choose ONE term form the list below for each of the following descriptions and write it next to the question number (3.5.1–3.5.5) in the ANSWER BOOK.

broken bones, cuts and bruises, loss of eyesight, severe finger injuries; puncture wounds

3.5.1 When using a screwdriver with a loose handle.

3.5.2 When using a dull knife requires so much force that your hand may slip down the blade.

3.5.3 When using a wrong hammer for the job.

3.5.4 When using a striking tool without eye protection.

3.5.5 It is an example of minor injury.

(5 × 1) (5)

3.6 Briefly discuss FOUR examples of poor workplace culture. (4 × 1) (4)



x

FIGURE 2

3.7 Before being allowed to use the system in FIGURE 2 above, employees are informed of the yellow cover over the pulleys.

3.7.1 Provide the name of the yellow cover covering the pulleys. (1)

3.7.2 Give ONE reason why the pulleys are covered with a yellow cover. (2)

3.8 Briefly discuss why alcohol is a significant risk in the workplace. (2)
[30]

QUESTION 4



FIGURE 3

4.1 The equipment shown in FIGURE 3 above is useful in extinguishing fires.

4.1.1 Give the name of the equipment shown in FIGURE 3 above. (1)

4.1.2 State TWO reasons why water is preferred by firefighters to extinguishing fires. (2 × 1) (2)

4.2 Fires are classified according to their nature of burning materials. Give a short description of the following two class of fire you studied.

4.2.1 Class A (1)

4.2.2 Class D (1)

4.3 Briefly discuss what the consequences or effects are of fires in a workplace if not controlled. (2)

4.4 What are the basic principles of firefighting? (1)

4.5 Briefly discuss under which circumstances it is safe to fight fire using a fire extinguisher. (2)
[10]

QUESTION 5

5.1 List TWO objectives of first aid. (2)

5.2 What is the other name for false teeth? (1)

5.3 Give the full meaning of the following acronyms:

5.3.1 LOC

5.3.1 EMS

(2 × 1) (2)

5.4 CPR should not be performed without proper training.

List TWO things that are involved in performing CPR. (2 × 1) (2)

[7]

QUESTION 6

6.1 What is a health and safety policy? (2 × 1) (2)

6.2 When creating a health and safety policy you should consult with your employees about their experience. They may think of things to include that you have not covered.

List THREE things that should be included in your health and safety policy.

(3 × 1) (3)

6.3 Noise is said to be another type of environmental pollution.

Explain how noise pollutes the environment. (2)

6.4 How can pollution be lessened or eradicated? (2 × 1) (2)

6.5 State TWO benefits of involving employees and their representatives in discussions about their health, safety and well-being in the workplace.

(2 × 1) (2)

6.6 Health and safety representatives have a major role to play at a workplace.

State TWO roles and responsibilities of a health and safety representative at a workplace. (2 × 1) (2)

[13]

TOTAL SECTION B: 90
GRAND TOTAL: 100

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