



**mineral resources
& energy**

Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

MINE ENGINEER'S CERTIFICATE OF COMPETENCY EXAMINATION

MINES AND WORKS

LEGAL KNOWLEDGE

DATE: 16 November 2020

TOTAL MARKS: 100
TO PASS: 50

TIME ALLOWED: 3 HOURS
(09H00 to 12H00)

INSTRUCTIONS:

- This question paper consists of **Five** pages including cover page.
- **ALL** questions must be answered.
- All answers are to be presented in a neat and readable manner. Papers will not be marked if not readable.
- Restrict the use of highlighters.
- Do not use a red pen.
- Read the instructions on the front page of your answer book carefully.
- No cellular phones and any other related devices shall be allowed in the examination venue.
- The use of computers, laptops and any other related devices is prohibited.

QUESTION 1

What are the 'Objects of the Act', with reference to the Mine Health and Safety Act, No 26 of 1996, (MHSA), as amended?

[10]

QUESTION 2

What requirements must a mines rescue service provider comply to for the purposes of Regulation 16.5(1) (c) and (d). List any 5 such requirements.

[10]

QUESTION 3

3.1 Define each of the following terms

- | | |
|-----------------------------------|-----|
| 3.1.1 Health and safety equipment | (2) |
| 3.1.2 Overhead power line | (3) |
| 3.1.3 Attached load | (3) |
| 3.1.4 Booster fan | (2) |

[10]

QUESTION 4

- 4.1 All operators of the Trackless Mobile Machines have to complete the pre-use checklist at the beginning of their shift. What must the checklist clearly identify? (3)
- 4.2 In terms of regulation 8.10(20) of the MHSA, when it comes to trailers the employer must take reasonable practicable measures. Name three of those measures. (6)
- 4.3 What reasonable practicable measures must the employer take to ensure that the towing and recovery of trackless mobile machines is done safely? (1)

[10]

QUESTION 5

5.1 What reasonably practicable measures must the employer take to ensure safety with regards to:

- a. The use of a compression ignition engine system. (2)
- b. The services, maintenance and repairs to diesel powered equipment. (1)
- c. The storage of diesel fuel and where fuelling is carried out. (5)
- d. The keeping of every mobile diesel engine powered unit when not in use. (2)

[10]

QUESTION 6

- 6.1 There are certain measures that the employer must take as far as reasonably practicable to ensure that all electric apparatus used in a hazardous area are used safely. Name those measures. (2)
- 6.2 The employer must take reasonably practicable measures to ensure that any cable reel used in connection with self-propelled mobile machine shall be provided with a device. What is the purpose of the device and what provisions should be in place in case this device is not required? (4)
- 6.3 The employer must take reasonably practicable measures to ensure that whenever work is to be carried out on electrical apparatus which has been isolated from all sources of supply, effective precautions must be taken. Name four such effective precautions that must be taken. (4)

[10]

QUESTION 7

- 7.1 You are an engineer on a mine. A set of winding ropes are installed on a newly licensed winder. What must you do before the winder is used for raising and lowering of persons? (7)
- 7.2 What are the statutory requirements for re-using a winding rope, balance rope or guide rope that was previously used? (3)

[10]**Question 8**

- 8.1 The employer is responsible to ensure as far as reasonably practicable, that every main fan complies with certain requirements in terms of regulation 8.6(3) of the MHSA. Mention four of those requirements. (8)
- 8.2 What reasonably practicable measures must the employer take to ensure that the competent person examines every main and booster fan for effective operation? (2)

[10]**Question 9**

- 9.1 In terms of regulation 2.13.3.1 of the Minerals Act No 50 of 1991 (MA), the manager may appoint one or more sub-ordinate engineers to assist the engineer appointed in terms of regulation 2.13.1 of the MA. Name four provisions that apply to this subordinate engineer. (8)
- 9.2 In terms of regulation 16.15 of the MA, there are two conditions where a trailer is prohibited to be used. Name the two conditions. (2)

(2)

[10]

Question 10

The conveyor belt COP must address eight requirements to prevent injuries during installing, extension, dismantling, transportation and re-installing of conveyor belt installations due to the installation collapsing, the belt breaking or running away. What are those requirements?

[10]**TOTAL = [100]**