

# Mechanical engineer of coal mines other than underground coal mines

Examiners' report November 2017

## Written examination

CME3 – Safety and mining legislation applicable to open-cut coal mines

### Summary of results and general comments

Exam date:	7 July 2017
Number of cCandidates:	2
Number who passed:	1
Highest mark:	63%
Average mark:	52%
Lowest mark:	42%

### Question 1 (total 25 marks)

Highest mark:	17/25
Average mark:	13/25
Lowest mark:	9/25

#### Examiner's comments

Question used a scenario to determine the candidates understanding of confined spaces and the applicable legislation.

Candidates demonstrated a reasonable knowledge.

### Question 2 (total 25 marks)

Highest mark:	21.5/25
Average mark:	19.25/25
Lowest mark:	17/25

**Examiner's comments**

The Mechanical Engineering Control Plan is fundamental in the identification and management of mechanical hazards at the mine site.

This question was answered well by the candidates.

**Question 3 (total 25 marks)**

Highest mark: 6/25

Average mark: 4.75/25

Lowest mark: 3.5/25

**Examiner's comments**

Candidates reviewed a gazettal notice relating to testing requirements of fire resistant anti-static (FRAS) conveyor belting used in applications such as reclaim tunnels.

This question was poorly answered, indicating an inadequate understanding of the testing and compliance requirements of FRAS conveyor belt.

**Question 4 (total 25 marks)**

Highest mark: 15/25

Average mark: 12/25

Lowest mark: 9/25

**Examiner's comments**

Challenged candidates' ability to interpret the personnel safety and mechanical failure aspects of an incident in a recent industry safety alert, and determine potential causes and control measures. It then asked candidates to identify recommendations that should be communicated to the industry.

In general, the potential causes were identified, but controls and recommendations were more systems based and did not identify the practical measures that can be applied to mitigate a reoccurrence.

**Question 5 (total 25 marks)**

Highest mark: 21/25

Average mark: 20.5/25

Lowest mark: 20/25

**Examiner's comments**

Mechanical engineers at open cut coal mines often hold statutory responsibility for the coal handling and preparation plant. The question tested candidates' understanding of the hazards and control measures associated with reclaim tunnels.

Candidates demonstrated a good understanding.

**Question 6 (total 25 marks)**

Highest mark: 15/25

Average mark: 11/25

Lowest mark: 7/25

#### **Examiner's comments**

Tyre selection and management, especially with respect to heat, is critical when managing the truck fleet over long distances.

Some more focus is required by candidates in this area.

### **Question 7 (total 25 marks)**

Highest mark: 9/25

Average mark: 8/25

Lowest mark: 7/25

#### **Examiner's comments**

Hot work management is one of the core responsibilities of the mechanical engineer. Candidates were required to understand the requirements of a comprehensive safe cutting and welding management plan, key hazards, and effective controls for a safe work environment.

Candidates demonstrated a poor understanding.

### **Question 8 (total 25 marks)**

Highest mark: 23.5/25

Average mark: 16/25

Lowest mark: 8.5/25

#### **Examiner's comments**

Mechanical engineers at open cut coal mines often hold statutory responsibility for the coal handling and preparation plant. The question tested candidates' understanding of the hazards and control measures associated with chemicals through a safety data sheet.

Candidate responses varied significantly, with one demonstrating a good understanding, and the other may have run out of time.

## **Oral examination**

Date: 10 November 2017

Number of candidates: 1

Number deemed competent: NA

#### **General comments**

Discussion included the Mechanical Engineering Control Plan (MECP), situation management, incident investigation, and personnel management.

## **More information**

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## **Acknowledgments**

Mechanical Engineer Examination Panel

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