

April 2023

Examiners' report

Mechanical Engineer of coal mines other than underground coal mines certificate of competence

Examiners' report 2022 – 2023

Written examination

CME3 – Safety and mining legislation for open cut mines

Summary of results and general comments

Exam date: 3 August 2022

Number of candidates: 2

Number who passed: 1

Highest mark: 82%

Average mark: 65%

Lowest mark: 48%

Question 1 (total of 20 marks) MEM MECP (essential question)

Highest mark: 20

Average mark: 15.5

Lowest mark: 11

Examiners' comments:

Essential question requiring detailed knowledge of legislation pertaining to the role of the mechanical engineer and the mechanical engineering control plan. Candidate(s) did not have sufficient knowledge of the mechanical engineering control plan, and were deemed not yet competent for the exam

Question 2 (total of 20 marks) Reclaim tunnels and stockpiles

Highest mark: 15

Average mark: 10.5

Lowest mark: 6

Examiners' comments:

Question was answered below average by candidates, indicating difficulty with FRAS requirements and standards, as well as risks of harm to dozer operators, and controls for dozer cabin engulfment

Question 3 (total of 20 marks) Confined space

Highest mark: 18

Average mark: 14.5

Lowest mark: 1

Examiners' comments:

Question generally answered well by candidates

Question 4 (total of 20 marks) Consultation

Highest mark: 12

Average mark: 6

Lowest mark: 0

Examiners' comments:

Candidate understanding of consultation requirements was poor, indicating little knowledge of the requirements of consultation, and when consultation is required.

Question 5 (total of 20 marks) Notifiable

Highest mark: 15

Average mark: 14.5

Lowest mark: 14

Examiners' comments:

Question generally answered well by candidates

Question 6 (total of 20 marks) Scenario (essential elements)

Highest mark: 18

Average mark: 17.5

Lowest mark: 17

Examiners' comments:

Question generally answered well by candidates

Question 7 (total of 20 marks) Hydraulic

Highest mark: 20

Average mark: 15.5

Lowest mark: 11

Examiners' comments:

Question was generally well understood by candidates

Question 8 (total of 20 marks) Structural integrity

Highest mark: 18

Average mark: 12.5

Lowest mark: 7

Examiners' comments:

Structural integrity was answered satisfactorily, except for identifying actions to eliminate hazards.

Question 9 (total of 20 marks) Hot work

Highest mark: 18

Average mark: 12.5

Lowest mark: 7

Examiners' comments:

Question was answered satisfactorily, except for identifying site management plans, controls applicable to all hot work activities, and specific controls required for Category C welding

Question 10 (total of 20 marks) Critical System (essential elements)

Highest mark: 11

Average mark: 11

Lowest mark: 11

Examiners' comments:

Safety critical systems included essential elements regarding the primary safety critical systems, and was answered satisfactorily. However, candidates had some difficulty with identifying controls to minimise the potential for incidents involving the failure of safety critical systems

Oral examination

Date: 5 – 6 October 2022

Number of candidates: 2

Number deemed competent: 0

Examiners' comments:

The questions centred around incident management, fluid injection management, and collision avoidance.

In general candidates:

- managed the injured person during an incident, however, some candidates did not provide suitable assistance to the other workers involved

- did not focus on observing and recording information at the incident scene, or obtaining facts about the incident, to determine the likely root cause, especially the absence of guarding
- understood the injury would be notifiable, however, they required prompting to consider how the nature of the incident would be considered a dangerous incident
- lacked a structured approach to investigation
- had some difficulty in the management of victims of oil injection

Post Oral examination

Date: 23 March 2023

Number of candidates: 2

Number deemed competent: 1

Examiners' comments:

Successful candidate drew on practical experience and understanding to safely resolve the scenarios in the same way they would on site.

In general:

- although aspects of incident management were completed satisfactorily, they did not adequately manage people, or determine a root cause
- they lacked knowledge on tyre selection criteria and strategy, and had a limited knowledge on the root causes of tyre pyrolysis failure mechanisms

More information

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Acknowledgments

Mechanical Engineer of coal mines other than underground coal mines examination panel

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