

EXAMINERS REPORT | CERTIFICATE OF COMPETENCE

Electrical engineer of coal mines other than underground coal mines

August 2016

Summary of written results

Date:	1 August 2016
Number who passed:	0 out of 3
Highest mark:	57%
Average mark:	50%
Lowest mark:	45%

CEE3 – Legislation and standards applicable to surface coal mines

Question 1 (total 10 marks)

Highest mark:	9/10
Average mark:	5/10
Lowest mark:	3/10

Examiners Comments

Not all candidates had a thorough understanding of the requirements of AS3007 to enable a clear answer to be provided.

Question 2 (total 10 marks)

Highest mark:	7/10
Average mark:	4.5/10
Lowest mark:	2.5/10

Examiners Comments

Candidates need to understand the AS3007 requirements in relation to reclaim and transfer tunnels as well as the gas monitoring and tripping requirements.

Question 3 (total 10 marks)

Highest mark:	10/10
Average mark:	8/10
Lowest mark:	5.5/10

Examiners Comments

Candidates had no trouble with the legislation requirements. The question scored highly.

Question 4 (total 10 marks)

Highest mark: 7/10

Average mark: 4.5/10

Lowest mark: 2.5/10

Examiners Comments

Candidates did not provide an adequate understanding of the substation earthing requirements. These included the connection and coordination between HV and lightning earths. Construction requirements were not well addressed in regards to depths, typical dimensions or testing requirements.

Question 5 (total 10 marks)

Highest mark: 7/10

Average mark: 6.5/10

Lowest mark: 6/10

Examiners Comments

Candidates had a fair understanding of the legislation requirements and were received high marks for this question.

Question 6 (total 10 marks)

Highest mark: 5/10

Average mark: 3/10

Lowest mark: 0/10

Examiners Comments

Candidates should be aware on how to undertake basic full load current calculations. These type of questions have appeared previously and should be better understood if past papers were attempted.

Question 7 (total 10 marks)

Highest mark: 7/10

Average mark: 6.5/10

Lowest mark: 6/10

Examiners Comments

The candidates who took the time to study the requirements of 4871.6 were rewarded with the marks. This standard is fundamental to a surface Electrical Engineer and should be well understood.

Question 8 (total 10 marks)

Highest mark: 4/10

Average mark: 2.5/10

Lowest mark: 2/10

Examiners Comments

Candidates still struggle with the fundamental principle of fault level and protection processes. The calculation of fault currents and impedances is critical to Electrical Engineering practices.

Question 9 (total 10 marks)

Highest mark: 6.5/10

Average mark: 4/10

Lowest mark: 0/10

Examiners Comments

Functional safety has been around for a number of years; candidates need to have a workable understanding of the processes involved, the people who should be involved and what should take place when changes are required to be made.

Question 10 (total 10 marks)

Highest mark: 6/10

Average mark: 5/10

Lowest mark: 3/10

Examiners Comments

The question was to assess candidate's understanding of the *Work Health and Safety Regulation*; not that "no live work is allowed" on site.

Candidates need to know the Regulations that affect an Electrical Engineer in his/her daily activities.

Question 11 (total 10 marks)

Highest mark: 7/10

Average mark: 6.5/10

Lowest mark: 5/10

Examiners Comments

Arc fault protection and management is an area which has been ignored for quite a while, but is a critical failure in our industry.

The "Action Plan" was handled reasonably well.

The memo to the manager needed to be handled better. Most candidates did not present their answer from the perspective of the Electrical Engineer position and just recited in point form.

The Personal Protective Equipment question was not understood very well at all.

Question 12 (total 10 marks)

Highest mark: 5/10

Average mark: 4/10

Lowest mark: 3/10

Examiners Comments

Candidates failed to demonstrate an adequate understanding of the management of drainage process and how it relates back to legislation.

Candidates also failed to provide an adequate flow chart process in relation to the question.

Summary of oral results

Not applicable.

More information

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Acknowledgments

Electrical Engineer Examination Panel

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