



FACULTY OF ENGINEERING AND ENVIRONMENT

DEPARTMENT OF MINING ENGINEERING

MINE ENVIRONMENTAL HEALTH AND SAFETY

EMN 3109

Final Examination Paper

NOVEMBER 2023

This examination paper consists of 2 pages

Time Allowed: 3 hours

Total Marks: 100

Examiner's Name: MS C MACHADU

INSTRUCTIONS

1. Answer **ALL FOUR (4)** questions
2. Each question carries **25** marks

Additional Requirements

None

MARK ALLOCATION

Question 1 to 4	Total 25 marks each
Part Questions	As shown in each part question
Total Attainable	100 marks

QUESTION 1

- a) Explain how and why safety has improved since the last 2 decades. [4]
- b) Outline the reasons why accidents have to be prevented. [3]
- c) Give 4 examples of positive outcomes of accidents. [4]
- d) State 4 ways how change can be managed in the mining industry? [4]
- e) Define the following terms:
 - i. Accident
 - ii. Incident
 - iii. Hazard
 - iv. Risk
 - v. Safety [10]

QUESTION 2

- a) What are the negative environmental impacts posed by artisanal gold mining and how can hazards associated with this mining method be mitigated? [25]

QUESTION 3

- a) Why is social corporate responsibility (CSR) done? [4]
- b) Give examples of CSRs undertaken by any mine of your choice. [6]
- c) What are the merits and demerits that might accrue when an organisation undertakes CSRs? [12]
- d) State the 3 ISO management systems predominantly used in mining. [3]

QUESTION 4

- a) Discuss the rights and responsibilities of claim holders and land owners as enshrined in the Mines and Minerals Act (Chapter 21.05). [25]