

Code No: 157ER

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, February/March - 2022

HEALTH AND SAFETY IN MINES

(Common to CE, ECE)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

- 1.a) Explain the causes for accidents and reasons for preventing accidents in Mines.
- b) Describe the methods for measuring safety performance in mining industries. [7+8]
- 2.a) Describe the classification of accidents according to mining legislation rules / laws and general classification of accidents.
- b) Define industrial accident. List the economic losses of industrial accidents. [12+3]
- 3.a) Explain the causes and preventive measures of accidents in underground mines and in opencast mines.
- b) Summarize the accidents due to electricity in mines. [12+3]
- 4.a) Describe the important steps in accident analysis and accident investigation in mining industry.
- b) Explain the importance of accident analysis in the promotion of industrial safety. [10+5]
- 5.a) Explain the methods and steps in "system engineering approach" to implement safety in mines.
- b) Discuss the measures taken to implement "loss control" in mining operations. [10+5]
- 6.a) Describe the principles of Failure Mode and Effect Analysis (FMEA) method to analyze safety in industries.
- b) What is Zero Accident Potential (ZAP)? List the steps involved to achieve ZAP policy. [10+5]
7. Explain the "Hazard and Operability Study (HAZOP)" technique to investigate accidents and risk analysis in mining operation. [15]
- 8.a) Discuss the tools and methods followed for the publicity and propaganda of safety practices and policies in mining industries.
- b) Define safety audit. Mention the steps followed to an effective safety audit. [10+5]

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