

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3172217****Date: 28-05-2024****Subject Name: Safety Engineering****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

**MARKS**

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|------------|--|-----------|
| <b>Q.1</b> | (a) What is the role of Directorate General of Mines Safety (DGMS) for improving safety?                 | <b>03</b> |
|            | (b) Discuss the importance of Safety education and training in mine.                                     | <b>04</b> |
|            | (c) Describe the role & responsibility of safety officer in mines.                                       | <b>07</b> |
| <b>Q.2</b> | (a) List the causes of accident in mines.  | <b>03</b> |
|            | (b) Write the process of determining the accident proneness of mining operation.                         | <b>04</b> |
|            | (c) Write a brief note on Personal protective equipment used in mines.                                   | <b>07</b> |
|            | <b>OR</b>  |           |
|            | (c) Explain development of industrial safety in mining operation.  | <b>07</b> |
| <b>Q.3</b> | (a) List the various safety instructions during working in open cast coal mining.                        | <b>03</b> |
|            | (b) Write a note on accident compensation.   | <b>04</b> |
|            | (c) Describe the role of workmen inspector in mines.   | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.3</b> | (a) Discuss the basic functions of vocational training centre.   | <b>03</b> |
|            | (b) List the various types of accidents takes place in mines. Explain any one.                           | <b>04</b> |
|            | (c) Explain the purpose and procedure for investigation of accident.                                     | <b>07</b> |
| <b>Q.4</b> | (a) Write a note on job safety analysis.   | <b>03</b> |
|            | (b) Explain risk analysis with flow chart diagram  | <b>04</b> |
|            | (c) As a mining engineer prepare a report on an accident occurred in a mine. Assume your own parameters. | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.4</b> | (a) Discuss the role of vocational training centre for enhancing safety of employees.                    | <b>03</b> |
|            | (b) Write a short note on accident records and statistics.   | <b>04</b> |
|            | (c) Explain the role & function of pit safety committee.   | <b>07</b> |
| <b>Q.5</b> | (a) Discuss the role of supervisor in mines.   | <b>03</b> |
|            | (b) Explain the publicity and propaganda for safety.   | <b>04</b> |
|            | (c) Explain assessment and evaluation of training schemes.   | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.5</b> | (a) How is the training schemes assessed and evaluated in mining?  | <b>03</b> |
|            | (b) Describe the different aids for the motivation of workers.   | <b>04</b> |
|            | (c) Explain the appraisal of safety program.   | <b>07</b> |

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