

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024

Subject Code:3162204

Date:22-05-2024

Subject Name:Mine Hazards

Time:10:30 AM TO 01:00 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
Q1	a) Name the locations or places of portable fire extinguishers provided in underground mines.	3
	b) Discuss the symptoms of spontaneous combustion.	4
	c) List out classes of fires and explain all in brief.	7
Q2	a) List out the causes of mine fires.	3
	b) Describe the salient features of coward's diagram with neat sketch.	4
	c) Discuss the methods of sealing off the fire in underground coal mines.	7
	<b>OR</b>	
	c) Explain any two fire extinguishers in details with neat sketch.	7
Q3	a) List out the factors affecting the limit of explosibility in firedamp.	3
	b) What do you understand by Graham's Ratio? Explain with example.	4
	c) What do you mean by stone dust barrier? Explain the types of stone dust barriers with neat sketch.	7
	<b>OR</b>	
Q3	a) What steps should be taken in a mine to prevent explosion of firedamp?	3
	b) State the precautions to be taken when approaching old working containing water.	4
	c) Discuss the main causes of accidents resulting in inundation in a mine.	7
Q4	a) Write a short note on safety dams.	3
	b) Explain the method of dewatering a waterlogged working.	4
	c) Write a brief note on 'Self rescuer' with neat sketch.	7
	<b>OR</b>	
Q4	a) List out the devices used for dust measurement.	3
	b) Write a note on gas mask with neat sketch.	4
	c) Write a brief note on design and construction of water dams.	7
Q5	a) Describe the function of rescue station.	3
	b) Explain the process of investigations after an explosion.	4
	c) State the standard of lighting at various places in a mine as required by the circular of D.G.M.S.	7
	<b>OR</b>	
Q5	a) Write a short note on rescue room.	3
	b) How lamp room is designed and organized?	4
	c) Discuss the construction and advantages of electric cap lamp with neat sketch.	7

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