

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3162202

Date:15-05-2024

Subject Name:Underground Metalliferous Mining

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
Q.1	(a) Discuss the present scenario of the Indian metal mining industry.	03
	(b) Write demerits of underground metalliferous industry.	04
	(c) Define the terms: (1) Adit (2) Raise (3) Chute (4) Draw point (5) Incline (6) Decline (7) Shaft	07
Q.2	(a) What are the various factors affecting the selection of stoping method.	03
	(b) Define the terms with a neat sketch: Crown pillar and Sill pillar.	04
	(c) Describe the classification of Stopping method.	07
	OR	
	(c) Explain: Ore grade and its distribution with sketch.	07
Q.3	(a) Write a short note on wedge cut drilling pattern.	03
	(b) Write the merit and demerits of sub level stoping method.	04
	(c) Explain in detail with a neat sketch: Drop raising method.	07
	OR	
Q.3	(a) Write a short note on raising by long hole drilling.	03
	(b) Narrate the applicability of sub level stoping method.	04
	(c) Explain in detail with a neat sketch: Shrinkage stoping method.	07
Q.4	(a) Write a short note on the LDBH method.	03
	(b) Explain: Pneumatic back filling	04
	(c) Explain in detail with a neat sketch: cut and fill stoping method.	07
	OR	
Q.4	(a) Explain: overhand and underhand stoping method.	03
	(b) Explain: Rock breakers.	04
	(c) Explain in detail with a neat sketch: square set stoping method.	07
Q.5	(a) Explain: two or three compartment raising method.	03
	(b) Draw a principal layout of underground and metalliferous mining.	04
	(c) Explain in detail with a neat sketch: sub level caving method.	07
	OR	
Q.5	(a) Explain: Raise borers.	03
	(b) What are the phases and planning for mine closure?	04
	(c) Explain in detail with a neat sketch: block caving method.	07
