

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-III (NEW) EXAMINATION – WINTER 2024

Subject Code:3132201

Date:29-11-2024

Subject Name: Introduction to 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 mineral resources of Gujarat and India.	03
	(b) Describe the interpretation of borehole data and borehole logging.	04
	(c) Explain the basic concepts and importance of mine closure in surface and underground mining.	07
Q.2	(a) Discuss the various equipments and accessories used in drilling.	03
	(b) Describe the various unit operations involved in surface and underground mining.	04
	(c) Explain the development of surface mining.	07
	OR	
	(c) Explain the development of underground mining.	07
Q.3	(a) Discuss the principle and methods of prospecting.	03
	(b) Explain deflection of borehole and difficulties faced during boring.	04
	(c) Discuss the factors affecting selection of explosive.	07
	OR	
Q.3	(a) Discuss the principle and methods of exploration.	03
	(b) Discuss the different drilling patterns used in surface and underground mining.	04
	(c) Explain the properties of explosive.	07
Q.4	(a) Discuss the principle of boring.	03
	(b) Explain the classification of surface and underground mining.	04
	(c) Explain the basic concept of blasting.	07
	OR	
Q.4	(a) Explain the pitting & trenching in details.	03
	(b) Discuss the comparison between surface and underground mining.	04
	(c) Explain the various stages in the life of a mine.	07
Q.5	(a) Define directional drilling. Discuss the objectives of directional drilling.	03
	(b) Explain the different types of drill bits and its selection.	04
	(c) Explain the various transportation equipments & its application in surface and underground mining.	07
	OR	
Q.5	(a) Describe the drillability of rocks.	03
	(b) Explain the various instruments used for core recovery.	04
	(c) Explain the various loading equipments & its application in surface and underground mining.	07
