

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III(NEW) EXAMINATION – SUMMER 2023****Subject Code:3132201****Date:28-07-2023****Subject Name:Introduction to Mining****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
Q.1	(a) Discuss the mineral resources of Gujarat and India.	03
	(b) Explain the classification of surface and underground mining.	04
	(c) Explain the basic concept of blasting.	07
Q.2	(a) Discuss the various equipments and accessories used in drilling.	03
	(b) Explain the various instruments used for core recovery.	04
	(c) Discuss the factors affecting selection of explosive.	07
	OR	
	(c) Explain the properties of explosive.	07
Q.3	(a) Describe the principle and methods of prospecting and exploration.	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.3	(a) Discuss the principle of boring.	03
	(b) Discuss the different drilling patterns used in surface and underground mining.	04
	(c) Explain the various loading equipments & its application in surface and underground mining.	07
Q.4	(a) Define directional drilling. Discuss the objectives of directional drilling.	03
	(b) Explain deflection of borehole and difficulties faced during boring.	04
	(c) Explain the development of underground mining.	07
	OR	
Q.4	(a) Explain the pitting & trenching in details.	03
	(b) Describe the interpretation of borehole data and borehole logging.	04
	(c) Explain the development of surface mining.	07
Q.5	(a) Describe the drillability of rocks.	03
	(b) Discuss the comparison between surface and underground mining.	04
	(c) Explain the various stages in the life of a mine.	07
	OR	
Q.5	(a) Explain the different methods of drilling.	03
	(b) Describe the various unit operations involved in surface and underground mining.	04
	(c) Discuss the basic concepts of mine closure & its importance in surface and underground mining.	07
