

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:2172204****Date:14/06/2022****Subject Name:Mineral Processing****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) Define:	03
	i. Comminution	
	ii. Liberation	
	(b) Explain the steps involved in mineral processing.	04
	(c) Discuss the importance of mineral processing in mining.	07
Q.2	(a) Classify crushers.	03
	(b) Differentiate between crushing and grinding.	04
	(c) Explain the laws of comminution.	07
OR		
	(c) Draw and explain different zones of crushing in ball mill.	07
Q.3	(a) Explain sizing.	03
	(b) Define grinding. Classify different types of grinders.	04
	(c) Explain classifiers.	07
OR		
Q.3	(a) Define:	03
	i. Collectors	
	ii. Jigging	
	(b) Write a note on sieve analysis.	04
	(c) Using neat labelled diagram explain the froth floatation process of ore beneficiation.	07
Q.4	(a) Write a note on sample reduction.	03
	(b) Write a note on sample collection.	04
	(c) Explain electrostatic method of ore beneficiation.	07
OR		
Q.4	(a) Write a note on sample storage.	03
	(b) Explain the factors influencing washability of coal.	04
	(c) Explain different types of industrial screens.	07
Q.5	(a) Explain the working of shaking table.	03
	(b) Explain heavy media separation.	04
	(c) Draw and explain flow chart of anthracite coal.	07
OR		
Q.5	(a) Name different steps involved in cleaning of coal.	03
	(b) Explain the thickening process used in mineral processing.	04
	(c) Draw and explain flow chart of copper.	07
