Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – SUMMER • 2014

Subject Code: 172204 **Date: 29-05-2014**

Subject Name: Mineral Processing

Time: 02:30 pm - 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.**

Q.1	**(a)**	Define terms like Ore, Mineral, Concentration, Crushing, Grinding, Middling and Tailing.	**07**
	(b)	Give the classification of industrial screens. Explain it briefly.	**07**
Q.2	**(a)**	Short note on Froth flotation.	**07**
	(b)	Draw flow sheet for concentrating plant for a magnetite ore.	**07**
		OR	
	(b)	Explain ball mill? Classify the various zones created in ball mill during grinding.	**07**
Q.3	**(a)**	Give classification of Crushers. Explain the jaw crusher.	**07**
	(b)	What is sizing? Explain sieve analysis in detail.	**07**
		OR	
Q.3	**(a)**	Define Liberation and Comminution. What do you understand by 'Open circuit' and 'Closed circuit' grinding?	**07**
	(b)	Write short note on operation of Jigging machine.	**07**
Q.4	**(a)**	Draw a simplified flow sheet of beneficiation of lead-zinc ore.	**07**
	(b)	Explain briefly on electrostatic separator.	**07**
		OR	
Q.4	**(a)**	What is magnetic separation? Which are the materials usually separable by magnetic separation?	**07**
Q.4	**(b)**	Draw flow sheet for beneficiation of Copper ore.	**07**
Q.5	**(a)**	Explain Heavy media separation in brief	**07**
	(b)	What is classification? What are different types of classifiers? Explain air classifier.	**07**
		OR	
Q.5	**(a)**	What is the importance of sampling and explain method used in ore dressing.	**07**
	(b)	Draw flow sheet of bituminous coal.	**07**

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