Seat No.:	Enrolment No
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Subject Code: 132103

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- III EXAMINATION - SUMMER 2015

Date:27/05/2015

	•	Name: Mineral Processing	70
	ructio	Attempt all questions. Make suitable assumptions wherever necessary.	70
Q.1	(a)	Define Ore .List out ores and Minerals for metal like Al, Fe, Cu, Zn, Pb, Mg with their chemical composition.	07
	(b	Give classification of Crushers. Explain Jaw crusher with a neat diagram.	07
Q.2	(a)	Define Mineral. Give physical and chemical characteristics and sources of following minerals: 1) Iron 2) Copper 3) Aluminium	07
	(b	Define grinding ? Classify the various zones created in ball mill during grinding. OR	07
	(b	Draw flow sheet for mineral processing operations . Define terminology like Locking and unlocking of ore and tailing.	07
Q.3	(a)	Draw a figure of roll crusher and derive a relation between friction coefficient and angle of nip.	07
	(b	Define Liberation and Comminution. What do you understand by 'open circuit' and 'closed circuit' grinding	07
0.2	(-)	OR	07
Q.3	(a) (b	Discuss Heavy media separation in brief. Write short note on operation of Jigging machine.	07 07
Q.4	(a) (b	Short note on froth flotation process. What is screening? How is screening efficiency checked? Give types of screens. OR	07 07
Q.4	(a)	What is classification? Give different types of classifier and explain in brief about air classifier.	07
	(b	List different laboratory sizing techniques and describe in brief about them.	07
Q.5	(a)	What is free settling ratio in classification? Derive the equation for it as per Newton's law.	07
	(b	Explain briefly on electrostatic separator. OR	07
Q.5	(a) (b	Short note on Thickener. Explain magnetic separator in brief.	07 07
