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Question Bank for all

Seat No.: _____ **Enrolment No.**_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (OLD) - EXAMINATION – SUMMER 2018

Subject Code: 132103 **Date: 21/05/2018**

Subject Name: Mineral Processing

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.**

Q.1	**(a)**	List different types of crushers. Draw a simplified diagram of Blake Jaw Crusher showing different parts.	**07**
	(b)	What is Grinding? Classify the various zones created in ball mill during grinding operation.	**07**
Q.2	**(a)**	List out ores and Minerals for metal like Al, Fe, Cu, Zn, Pb, Zn, Mg with their chemical composition	**07**
	(b)	What are merits of mineral processing .Draw a simplified flow sheet for the various processes involved in ore processing	**07**
		OR	
	(b)	Define mesh number. Mention the importance of sieve analysis	**07**
Q.3	**(a)**	What is screening? Classify different types of industrial screening.	**07**
	(b)	Differentiate between Crushing and Grinding.	**07**
		OR	
Q.3	**(a)**	What is Jigging? Explain its principles with neat diagram.	**07**
	(b)	Explain the working process of mechanical classifier with a schematic diagram.	**07**
Q.4	**(a)**	Discuss magnetic separator with neat diagram in brief.	**07**
	(b)	What is free settling ratio in classification? Derive the equation for it as per Newton's law.	**07**
		OR	
Q.4	**(a)**	What is froth flotation? Explain principle of Flotation cell.	**07**
	(b)	Explain Sedimentation and Thickening	**07**
Q.5	**(a)**	What are the purpose of collectors, frothers, activators and depressants in flotation process?	**07**
	(b)	Explain in brief 'Dense Media Separation'.	**07**
		OR	
Q.5	**(a)**	List out factors affecting the comminution operation. Also discuss the factors Affecting the operation of grinding mills in brief.	**07**
	(b)	Explain briefly on electrostatic separator.	**07**

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