Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-III Examination May 2012

Subject code: 132202

Subject Name: Mine development

Date: 15/05/2012 **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)**	Explain advantages of incline over shaft.	**07**
	(b)	Explain with sketch shaft centering arrangement in shaft sinking.	**07**
Q.2	**(a)**	What is head gear? Describe various attachment of headgear.	**07**
	(b)	Explain drilling & blasting operation during shaft sinking (shaft diameter : 6.2 meter)	**07**
		OR	
	(b)	Explain mucking operation during shaft sinking.	**07**
Q.3	**(a)**	Explain fast driving methods of tunneling using drill jumbos	**07**
	(b)	Describe tunnel driving operation . Size of tunnel (size : 3.6 m X 3.2 m). i.e. Explain drilling & blasting , support pattern , material transport system.	**07**
		OR	
Q.3	**(a)**	What do you mean by trackless mucking ?	**07**
	(b)	Explain ventilation & drainage pattern in drifting.	**07**
Q.4	**(a)**	Explain : (1) Incline & decline , (2)Scaffold	**07**
	(b)	Explain various types of shaft lining.	**07**
		OR	
Q.4	**(a)**	Explain : (1) Road header , (2) Gathering arm conveyor	**07**
	(b)	What are characteristic of roof considered for large size tunnels?	**07**
Q.5	**(a)**	Describe various factor affecting size , gradient, shape of drives and tunnels.	**07**
	(b)	Explain vertical development method of raising by raise climbers.	**07**
		OR	
Q.5	**(a)**	Explain long hole raising method of vertical development.	**07**
	(b)	What is shaft pillars? Define optimum location of shaft.	**07**

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