Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 132202 **Date: 10-01-2013**

Subject Name: Mine Development

Time: 10.30 am – 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)**	Explain various attachment of headgear with sketch.	**07**
	(b)	Write Short notes on : various types of shaft lining.	**07**
Q.2	**(a)**	Describe tunnel driving using jumbos . Explain material transport and support system used during tunneling.	**07**
	(b)	Explain shaft pillars . How optimum location of shaft is decided?	**07**
		OR	
	(b)	Write short not on : Walling scaffold & Rider	**07**
Q.3	**(a)**	Explain special methods of shaft sinking : (1) Piling System & Caisson methods.	**07**
	(b)	Explain mucking operation during shaft sinking.	**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) Adit , (2) Decline	**07**
	(b)	shaft of 5.8 m diameter is to be sunk to a seam 180 m depth .Describe briefly cycle of operation including ventilation & mucking.	**07**
		OR	
Q.4	**(a)**	Explain : Raise climbers use for vertical development.	**07**
Q.4	**(b)**	Explain with sketch : Shaft centering arrangement.	**07**
Q.5	**(a)**	Describe long hole raising method of vertical development.	**07**
	(b)	Explain tunneling by using road header machine.	**07**
		OR	
Q.5	**(a)**	What is the meaning of following terms. Explain it : [1] Cross cut , [2] Temporary lining of shaft .	**07**
	(b)	Explain merits and demerits of incline system v/s a shaft system.	**07**

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