Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- IVth SEMESTER–EXAMINATION – MAY/JUNE- 2012

Subject code: 142202 **Date: 25/05/2012**

Subject Name: Basic Mine surveying

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 fly leveling and reciprocal leveling.	**07**
	(b)	Defined the tacheometry. Give the uses of it. Mention the two main principles of tacheometric surveying. What are the relative merits of the two systems?	**07**
Q.2	**(a)**	What are the uses of miner`s dial? Give the tests and adjustments of it.	**07**
	(b)	Write a note on shaft depth measurement by leveling.	**07**
		OR	
	(b)	If you are given a tacheometer, whose constants are not known? Describe how you would determine them?	**07**
Q.3	**(a)**	Explain the procedure of leveling for the measurement of subsidence.	**07**
	(b)	What are the contour lines? Write the notes on contouring on flat and steep grounds.	**07**
		OR	
Q.3	**(a)**	Describe the method of determining the distance and elevation by means of a staff and theodolite? Horizontal sight is not possible in the area, what are the advantages and disadvantages of the method?	**07**
	(b)	Explain the method of interpolating contours.	**07**
Q.4	**(a)**	Describe various uses of theodolite in mine surveying. Explain why the theodolite is more accurate than other instruments.	**07**
	(b)	What are the sources of errors in theodolite observations?	**07**
		OR	
Q.4	**(a)**	Explain the measurement of horizontal angle below the ground by theodolite.	**07**
	(b)	Explain traversing with theodolite by different methods.	**07**
Q.5	**(a)**	Write a note on Gyro – theodolite.	**07**
	(b)	Give the basic concept of triangulation surveying.	**07**
		OR	
Q.5	**(a)**	Write the notes on tubular and through compasses.	**07**
	(b)	What are the uses of contour lines on mine plans? Add the note on characteristics of contours.	**07**

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