

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 trough compasses. **07**
(b) What are the uses of contour lines on mine plans? Add the note on characteristics of contours. **07**
