

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-IV Examination June- 2010

Subject code:142202

Subject Name: Basic Mine Surveying

Date:18 / 06 / 2010

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 with a neat sketch constructional features of a Miner's Dial. **07**
(b) Compare Miner's Dial with Prismatic compass. **07**
- Q.2** (a) Draw a neat sketch of vernier theodolite and name its various parts. **07**
(b) Explain in brief various tests and adjustments of Miner's dial. **07**
- OR**
- (b) Explain the temporary adjustments of vernier theodolite. **07**
- Q.3** (a) Explain Repetition method of horizontal angle measurement. **07**
(b) Write various uses of theodolite in mine surveying. **07**
- OR**
- Q.3** (a) Differentiate between external focusing and internal focusing telescope. **07**
(b) Write various types of errors in theodolite surveying. **07**
- Q.4** (a) Explain in brief method of measuring depth of a vertical shaft. **07**
(b) Write various uses of contour lines on mine plans. **07**
- OR**
- Q.4** (a) Explain in brief method of Subsidence measurement. **07**
(b) Write characteristics of contour lines. **07**
- Q.5** (a) Find out additive and multiplying constants of a tacheometer **07**
(b) Give classification of triangulation system. **07**
- OR**
- Q.5** (a) Find out the constants of a tacheometer from following data. **07**
- | Horizontal Distance | Stadia Reading | |
|---------------------|----------------|--------|
| | Lower | Upper |
| 200 | 1.50 m | 3.46 m |
| 400 | 0.40 m | 4.33 m |
- also find the distance when the readings of the stadia hair were 1.20 m and 3.70 m. The line of sight is horizontal in all cases.
- (b) List out the points considered for fixing triangulation station. **07**
