

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER • 2014****Subject Code: 152204****Date: 01-12-2014****Subject Name: Advance 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) Define: (i) GIS, (ii) GPS and (iii) Remote sensing? Give Application of GIS in surveying and computation. **07**
(b) Describe Measurement for scale of vertical photographs. **07**
- Q.2** (a) Discuss photograph v/s Map. **07**
(b) Define curve. Explain Rankine method for setting out of curve. **07**
- OR**
- (b) Give the elements of compound curve. **07**
- Q.3** (a) List out methods of enlarging and reduction of plans. Explain Eidograph and pantographs with neat sketch. **07**
(b) Write short note on uses of miner's dial and hanging compass with clinometers and theodolite in stope surveying. **07**
- OR**
- Q.3** (a) What do you mean by mine models? Explain various mine models. **07**
(b) Explain any one method of stope surveying which are used in metal mines. **07**
- Q.4** (a) Two drives commence from a starting point. One rises at an angle of 3° Going N 50° W, the other dips 5° going S 30° W. What is the direction and grade of true dip? **07**
(b) Explain correlation with gyro-theodolite with its uses and advantages. **07**
- OR**
- Q.4** (a) The true dip of a seam is 1 in 4.4 due N 52° E. a roadway AB driven due S 68° E with plan length of 180 meters has met a down throw fault at B with a vertical throw of 30 meter an hade of 45° . Assuming the fault to be at right angles to the true dip. Calculate the length of the shortest drift to be drive from A to win the coal on the other side of the fault. **07**
(b) Explain correlation survey? Explain correlation by plumbing in two shaft. **07**
- Q.5** (a) What are legal requirements as to mine plan in India. **07**
(b) Write short note on Planimeter and its uses. **07**
- OR**
- Q.5** (a) What is a vertical curve? Explain type of vertical curves? **07**
(b) Write in short a method of magnetic correlation for a connecting the surface survey with the survey of u/g working of mine. What are the drawbacks of this method? **07**
