

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – SUMMER • 2014****Subject Code: 152204****Date: 17-06-2014****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 curve. Explain Rankine method for setting out curves. **07**
(b) List out the methods of enlarging and reduction of plans. Explain Eidograph and Pantagraph with neat sketches. **07**
- Q.2** (a) Define photographic survey. Discuss the photograph versus maps. **07**
(b) What are GIS and GPS? Enlist different applications of GIS and GPS. **07**
- OR**
- (b) Define the terms: (1) Back tangent (2) Normal chord (3) Deflection angle (4) Apex point (5) Simple curve (6) Point of intersection (7) Reverse curve. **07**
- Q.3** (a) Describe method of magnetic correlation for connecting the surface survey with the survey of underground workings of a mine. **07**
(b) Write a short note on uses of miner's dial and hanging compass with clinometers and theodolite in stope surveying. **07**
- OR**
- Q.3** (a) Explain correlation with gyro-theodolite with its uses and advantages. **07**
(b) Describe measurement for the scale of a vertical photograph. **07**
- Q.4** (a) Give the name of different types of plans. Add a note on legal requirements as to mine plans in India. **07**
(b) Write a short note on Weisbach Triangle. **07**
- OR**
- Q.4** (a) Explain various mine models. **07**
(b) Explain preparation and preservation of plans and sections. **07**
- Q.5** (a) Two straight roads intersect at 100m. calculate following if they are connected with radius of 200 m. (1) tangent distance (2) external distance (3) long chord. **07**
(b) Write a sort note on planimeter and its uses with neat sketch. **07**
- OR**
- Q.5** (a) The coal seams dip S 10° E at 1 in 5 and are 45 metres apart vertically. Calculate a level cross measure drift driven in the direction of S 20° W. **07**
(b) Define compound curve. Give the elements of compound curves. **07**
