

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E SEM-V Examination-Nov/Dec.-2011

Subject code: 152204**Date: 29/11/2011****Subject Name: Advance Mine Surveying****Time: 02.30 pm-05.00 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) What are the applications of GIS in various fields? **07**
(b) What do you understand by photogrammetry? What are the procedures of deriving scale of photograph? **07**

- Q.2** (a) Explain preparation and preservation of plans and sections **07**
(b) Which methods are used to enlarge or reduce maps and plans? Explain any two methods. **07**

OR

- (b) Discuss the photograph versus maps. **07**

- Q.3** (a) Describe a method of connecting the surface survey of underground workings of a mine when only one shaft is available for survey work. Explain the precautions to be taken in work. **07**
(b) What is Miner's dial? Give the uses of it. **07**

OR

- Q.3** (a) Describe briefly the method of correlating surface and underground surveys when two shafts are available. **07**
(b) Explain Mining suspension compass with clinometers and transit. **07**

- Q.4** (a) A coal seam dips due South at 20° from the horizontal. Find by calculation the bearings of roadways having a gradient of 1 in 5. **07**
(b) Discuss in brief the relative merits of triangulation and precise traversing for carrying out the survey of an extensive area. **07**

OR

- Q.4** (a) A dipping tunnel is to be driven from a seam 85 meters vertically above it. The angle of dip of the tunnel is to be 10 degrees and it is driven on the same bearing as the true dip of the seams. True dip is 25 degrees. Find the true length of the tunnel and also the plan length. **07**
(b) Which instrument is used for measuring areas of irregular figures plotted to scale? Explain it with a neat sketch. **07**

- Q.5** (a) Why the curve surveying is carried out? Give the setting out method of compound curves. **07**
(b) Explain the linear method of setting out of simple curves by deflection distances. **07**

OR

- Q.5** (a) Give the elements of compound curves. **07**
(b) Which instrumental methods are used for setting out a circular curve? Explain any one. **07**
