Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – WINTER 2013

Subject Code: 152204 Date: 02-12-2013

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)**	What is compound curve? Give the elements of a compound curve with a neat sketch.	**07**
	(b)	What is photographic survey? Discuss the photograph versus maps.	**07**
Q.2	**(a)**	Define GIS, GPS and remote sensing? Give application of GIS in surveying and computation.	**07**
	(b)	Write a short note on Weisbach Triangle.	**07**
		OR	
	(b)	Define correlation survey. What are the purpose of correlation surveying in mines? Enumerate the different methods of correlation of surface and U/G surveys.	**07**
Q.3	**(a)**	Explain Mining suspension compass with clinometers and transit.	**07**
	(b)	Give the legal requirements as to mine plans in India.	**07**
		OR	
Q.3	**(a)**	List out the methods of enlarging and reduction of plans. Explain Eidograph and Pantagraph with neat sketches.	**07**
	(b)	Explain preparation and preservation of plans and sections.	**07**
Q.4	**(a)**	What do you mean by mine models? List out different mine models. Explain any three.	**07**
	(b)	Explain correlation with gyro-theodolite with its uses and advantages.	**07**
		OR	
Q.4	**(a)**	Write a note on measurement for the scale of a vertical photograph.	**07**
	(b)	Explain the setting out of simple curves by chords and angles.	**07**
Q.5	**(a)**	Explain Hanging compass and miner's dial with its applicability in mining and its method of working.	**07**
	(b)	A level roadway in a seam encounters an upthrow fault bearing at right-angles to the road, from a point A 50m back from the fault a cross-measure drift is driven at an inclination of 1 vertical to $3\,^{1}/_{2}$ horizontal. The length of this drift to the seam on the upthrow side of the fault is 250m. A road is driven back from this point to the fault, the distance of driving being 165m. Find the throw, hade and want of the fault.	**07**
		OR	
Q.5	**(a)**	Write a sort note on planimeter and its uses with neat sketch.	**07**
	(b)	Three boreholes X, Y and Z have been put down to a coal seam, Y is S 10°W and Z is S 52°W from X. Horizontal distance XY=550m and XZ=270m. The surface levels of the boreholes are same. The depth to the coal seam at points X, Y and Z are 125m, 175m and 179m respectively. Calculate the direction and rate of full dip of the seam.	**07**

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