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B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, April /May 2013

GEO INFORMATICS

THIRD SEMESTER – (REGULATION 2008)

GI 9201 – SURVEYING- I

Time: 3 hrs

Max Marks: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. Differentiate between Plane and Geodetic Surveying.
2. Compare cumulative and compensating Error.
3. The length of a line measured with a chain having 100 links was found to be 2000 link. If the chain was 0.5 link too short, find the true length of the line.
4. What is Reciprocal Ranging?
5. The magnetic bearing of line as observed by the prismatic compass at a survey station is found to be 272° . If the local attraction at this station is known to be $5^\circ E$ and the declination is 15° .west, what is the true bearing of the line?
6. Distinguish Radiation and Resection.
7. Define a) Bench Mark, b) Back Sight.
8. List the permanent and temporary adjustments of a Level.
9. What is Simpson’s Rule?
10. What is a mass-haul diagram?

Part – B (5 x 16 = 80 Marks)

11. Explain about the measurement of obstacles. (16)
 12. (a) Explain about the different methods of representing the scale of a map and its Advantages and Disadvantages? (16)
- (OR)**
- 12.(b) Discuss various types of mistakes in linear measurement: How would you avoid them? (16)
 13. a) A closed compass traverse ABCDE was run and the observed bearings of the lines were obtained as under. Correct the bearings for local attraction. (16)

Line	FB	BB
AB	72°45'	252°0'
BC	349°0'	167°15'
CD	298°30'	118°30'
DE	229°0'	48°0'
EA	135°30'	319°0'

(OR)

13. (b) What is resection? Describe any two methods of resection. (16)

14. (a) The following staff readings were observed successively with level, the instrument having been moved forward after the second, fourth and eighth readings: 0.875, 1.235, 2.310, 1.385, 2.930, 3.125, 4.125, 0.120, 1.875, 2.030, 3.765. The first reading was taken with the staff held upon a benchmark of elevation 132.135. Enter the readings in level book- form and reduce the levels by both height of collimation and Rise and fall method. Find also the difference in level between the first and the last points. (16)

(OR)

14. (b) (i) Explain the uses of contour maps (8)

(ii) Discuss various methods of interpolating the contours (8)

15. (a) The following offsets were taken from a chain line to a hedge: Compute the area included between the chain line, the hedge, and end offsets by the Simpson rule.

Distance (m)	0	30	60	90	120	150	180
Offsets (m)	9.4	10.8	12.5	10.5	14.5	13.0	7.5

(16)

(OR)

15.(b) The areas enclosed by various contours are given below.

Contour (m)	100	105	110	115	120	125
Area (m ²)	3	8	10	15	20	25

Determine (a) the capacity of the reservoir if the full reservoir level is 125.00, (b) the elevation of the water surface when the reservoir is half-full. Ignore the volume below R.L. 100.00. (16)