

8/11/13

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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013

GEO INFORMATICS ENGINEERING

III Semester

GI 271 Engineering Surveying I / GI 9201 Surveying I

(Regulation 2004/2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Distinguish between plane surveying and geodetic surveying.
2. List the accessories of a plane table.
3. How would you carryout ranging by line ranger?
4. What is meant by ill conditioned triangle?
5. What is meant by azimuth?
6. What are the two systems of designating the bearings?
7. Differentiate between GTS bench mark and temporary bench mark.
8. Mention the errors in leveling.
9. What is indirect contouring?
10. State 'Simpson's rule'.

Part – B (5 x 16 = 80 marks)

11. (i) Explain the basic principles of surveying with sketches. (8)
(ii) Describe how would you set and orient the plane table. (8)
12. a) A line was measured with a steel tape which was exactly 30 m at 18°C and a pull of 50 N and the measured length was 459.242 m. Temperature during measurement was 28°C and the pull applied was 100 N. The tape was uniformly supported during the measurement. Find the true length of the line if the cross sectional area of the tape was 0.02 sq.cm, the coefficient of expansion per ° C = 0.0000117 and the modulus of elasticity = $21 \times 10^6 \text{N/cm}^2$.

OR

- b) Explain the various methods employed for chaining on sloping ground.
13. a) The following are the bearings taken on a closed compass traverse.

Line	FB
AB	60°30'
BC	122°00'
CD	46°00'
DE	205°30'
EA	300°00'

Compute the interior angles.

OR

- b) The following bearings were taken in running a compass traverse.

Line	FB	BB
AB	124°30'	304°30'
BC	68°15'	246°00'
CD	310°30'	135°15'
DA	200°15'	17°45'

At what stations, do you suspect local attraction? Find the correct bearings of the lines.

14. a) The following consecutive readings were taken with a level on a continuously sloping ground at a common interval of 20 m.
0.600, 1.235, 1.860, 2.575, 0.235, 0.915, 1.935, 2.870, 0.565, 1.825, 2.725
The reduced level of the first point was 192.125. Rule out a page of level book and enter the above readings. Calculate the reduced levels of the points. Apply the check and find the gradient of the line joining the first and last points.

OR

- b) What are temporary adjustments of dumpy level? Explain how they are performed.

15. a) Explain with sketches, contours and their characteristics.

OR

- b) Describe the planimeter and explain how would you use it in finding the area of a given map.