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09ENG2.6

Second Semester B.Arch. Degree Examination, June/July 2015 Surveying and Leveling

Time: 3 hrs.

Max. Marks: 100

**Note: 1. Answer any FIVE full questions.
2. Assume missing data suitably.**

- 1
 - a. Explain briefly Plane surveying and Geodetic surveying. (04 Marks)
 - b. Explain in detail the classification of surveying. (10 Marks)
 - c. A 20 mts chain was found to be 4cms too long after chaining 1400 mts. It was 8 cms too long at the end of day's work after chaining a total distance of 2420 mts. If chain was correct before commencement of work, find true distance. (06 Marks)
- 2
 - a. Explain different methods of chaining on sloping ground (any three methods). (09 Marks)
 - b. What are errors encountered in chain surveying? (06 Marks)
 - c. With the help of a neat sketch, briefly explain the working of line ranger. (05 Marks)
- 3
 - a. With neat sketch, explain "Reciprocal Ranging". (06 Marks)
 - b. Explain the following corrections applied to the tape in Base line measurement :
 - i) Correction to absolute length ii) Correction to temperatures iii) Correction to Pull or Tension iv) Correction for sag. (08 Marks)
 - c. Explain Gunter's chain in detail. (06 Marks)
- 4
 - a. Explain the obstacles encountered in chain surveying. Explain any 2 methods in each obstacle. (12 Marks)
 - b. Explain chaining on sloped ground. (08 Marks)
- 5
 - a. Explain with neat sketch, Radiation and Intersection. (10 Marks)
 - b. What are advantages and disadvantages of Plain table survey? (10 Marks)
- 6
 - a. Define the following :
 - i) Level surface ii) Horizontal surface iii) Reduced level iv) Bench mark
 - v) Mean sea level datum. (05 Marks)
 - b. Briefly differentiate between Differential leveling and Reciprocal leveling. (05 Marks)
 - c. The following consecutive readings were taken with a level and 4 mt leveling staff on a continuously sloping ground
0.755, 1.545, 2.335, 3.345, 3.655, 0.525, 1.275, 2.630, 2.895, 3.565, 0.345, 1.5250, 1.850, 2.675, 3.775. 1st Reading was taken on BM of RL 200.000 mts.
Rule out a page of level book and enter the readings. Calculate the RL of stations by line of collimation method. Apply Normal check. (10 Marks)
- 7
 - a. Explain how the horizontal angles are measured in the theodolite by
 - i) Method of Repetition ii) Method of Reiteration. (14 Marks)
 - b. What are the characteristics of contour? (06 Marks)
- 8
 - Write short notes on any four of the following :
 - a. Principles adopted in surveying.
 - b. Shrink Scale - & its importance.
 - c. Three point problem & its application in surveying.
 - d. Different types of chains used in chaining process.
 - e. With neat sketch, explain optical squares.
 - f. Direct and indirect method of counter-sighting. (20 Marks)