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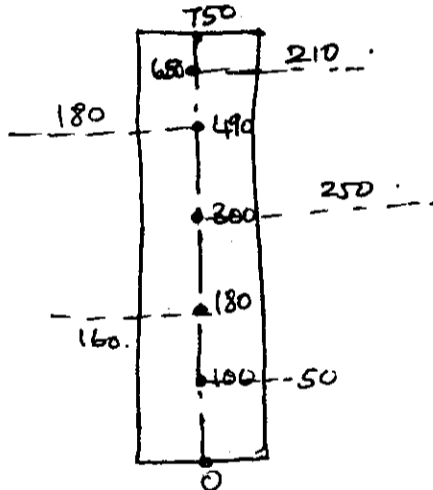
**Second Semester B.Arch. Degree Examination, June/July 2014**  
**Surveying and Levelling**

Time: 3 hrs.

Max. Marks: 100

**Note: 1. Answer any FIVE full questions.**  
**2. Assume missing data.**  
**3. Write neat sketches wherever necessary.**

- 1
  - a. Discuss in detail the classification of survey. (10 Marks)
  - b. Explain the fundamental principles of surveying. (04 Marks)
  - c. A 20 mt chain was found to be 10 cms too long after chaining a distance of 1500mts. It was found to be 18cms too long at end of day's work after chaining a distance of 2900 mts. If the chain was correct before the start for work, find correct distance. (06 Marks)
- 2
  - a. What are different types of chains commonly used? (10 Marks)
  - b. Explain 5 different corrections to tape applied in base line measurement. (10 Marks)
- 3
  - a. Explain 4 different methods of measuring horizontal distance on sloping ground. (08 Marks)
  - b. With help of neat sketch explain working of optical square. (07 Marks)
  - c. How to overcome the "OBSTACLES TO CHAINING" if it is possible to chain around the obstacle (any 2 methods). (05 Marks)
- 4
  - a. With help of neat sketch explain "RECIPROCAL RANGING". (08 Marks)
  - b. What is "SHRUNK SCALE"? (03 Marks)
  - c. Following details are obtained from cross staff survey, calculate the area of field. (09 Marks)



- 5
  - a. Explain different methods of plane tabling. (10 Marks)
  - b. List and explain advantages and disadvantages of plane table surveying. (10 Marks)
- 6
  - a. With neat sketch, explain the method to measure horizontal angle by "Method of Reiteration". (10 Marks)
  - b. Explain the "Temporary adjustments" made in theodolite. (06 Marks)
  - c. Briefly explain face left and face right observations. (04 Marks)

- 7 a. Explain:
- i) Differential leveling.
  - ii) Profile leveling and cross sectioning.
  - iii) Reciprocal levelling. (10 Marks)
- b. Following staff readings were observed successively with a level. The instrument was shifted after 3<sup>rd</sup>, 6<sup>th</sup> and 8<sup>th</sup> reading. Enter the readings in a level book, and calculate the RC's of points if RL of bench mark is 432.384 mts. (10 Marks)
- 2.228, 1.606, 0.988, 2.090, 2.864, 1.262, 0.602, 1.982, 1.044, 2.684.
- 8 a. Explain in detail the characteristics of contour. (08 Marks)
- b. Differentiate between direct and indirect contouring. (08 Marks)
- c. Explain briefly four uses of contour. (04 Marks)

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