Reg. No. : | | | | | | | | | | |

Question Paper Code: 31136

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Third Semester

Civil Engineering

01UCE306 - SURVEYING - I

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define surveying.
2. What is well conditioned triangle?
3. Define the term “Dip”.
4. Define bearing.
5. What is mean leveling?
6. What are the methods of leveling?
7. What are the uses of leveling.
8. Define contouring.
9. What do you mean by transit theodolite?
10. What are the tacheometer constant?

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain the basic principles of surveying. (8)

(ii) Define chain surveying. What are the operations involved in chain survey? (8)

Or

(b) A line AB between the stations A and B was measured as 348.28 using a 20 m tape, too short by 0.05 m. Determine the correct length of AB the reduced horizontal length of AB if AB lay on a slope of 1 in 25, and the reading required to produce a horizontal distance of 22.86 m between two pegs, one being 0.56 m above the other. (16)

12. (a) Explain the various parts of surveyor compass with a neat sketch. (16)

Or

(b) Explain the procedure of two point problem in plan table survey. (16)

13. (a) The following consecutive readings were taken with a dumpy level along a chain line at a common interval of 15 m. 3.150, 2.245, 1.125, 0.860, 3.125, 2.760, 1.835, 1.470, 1.965, 1.225, 2.390 and 3.035 m. The first reading was at a chain age of 165 m where the RL is 98.085. The instrument was shifted after the fourth and ninth readings. Find the RL of all the points. (16)

Or

(b) Brief about fly leveling and check leveling. (16)

14. (a) Describe the characteristics of contours with neat sketches. (16)

Or

(b) Explain the procedure longitudinal and cross sectioning in detail. (16)

15. (a) Explain the method of repetition and reiteration of measuring horizontal angle using theodolite. (16)

Or

(b) A tacheometer was set up at a station A and the readings on a vertically held staff at B were 2.255,2.605 and 2.955, the line of sight being at an inclination of +8°24'. Another observation on the vertically held staff at B.M gave the readings 1.640,1.920 and 2.200, the inclination of sight being +1°6'. Calculate the horizontal distance between A and B, and the elevation of B if the R.L of B.M is 418.685 m. The constant of instrument were 100 and 0.3. (16)

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