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Question Paper Code : 40786

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Fourth Semester
Civil Engineering
CE 6404 – SURVEYING – II
(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. Give the specifications of first order triangulation.
2. What is reciprocal observation ?
3. Distinguish between true error and residual error.
4. State Gauss's rule.
5. List the components of an electro optical EDM system.
6. What are the salient parameters of a total station ?
7. What is space segment ?
8. What is multipath error ?
9. Name the different equipment needed for soundings.
10. What is a transition curve ?

PART – B

(5×13=65 Marks)

11. a) What is meant by triangulation adjustment ? Explain the different conditions and cases with sketches. (13)

(OR)



- b) A traverse ABCD was to be run but due to an obstruction between the stations A and B, it was not possible to measure the length and direction of the line AB. The following data could only be obtained. (13)

Line	Length (m)	R.B.
AD	44.5	N50° 20' E
DC	67.0	S69° 45' E
CB	61.3	S30° 10' W

Determine the length and the direction of BA. Also determine the perpendicular distance of C from AB.

12. a) Find the most probable value of angles A, B and C of a triangle ABC, from the following observation equations: (13)

$$A = 68^\circ 12' 36''$$

$$B = 53^\circ 46' 12''$$

$$C = 58^\circ 01' 16''$$

(OR)

- b) Write the various rules that are adopted for corrections to the observed angles of triangles in figure adjustment. (13)
13. a) Explain the pulse method and phase difference method used in EDMs. (13)

(OR)

- b) i) Describe the steps involved in the initial setting of total station of a field work. (6)
- ii) How traversing is performed using a total station? (7)
14. a) Explain the pseudo-range method and carrier phase measurement method. (13)

(OR)

- b) i) Distinguish between single frequency receivers and dual frequency receivers. (7)
- ii) List and discuss the sources of error in GPS. (6)

15. a) Two tangents AB and AC intersect at point B, at a chainage 150.5 m. Calculate all the necessary data for setting out a circular curve of radius 100 m and deflection angle 30° by the method of offsets from long chord. The normal chord is 30 m. (13)

(OR)

- b) Explain the application of three point problem in hydrographic surveying and strength of fix in hydrographic surveying. (13)

PART - C

(1×15=15 Marks)

16. a) i) Explain briefly about the working principles of total station. (8)

- ii) What are the methods employed in locating soundings? (7)

(OR)

- b) Explain briefly about the procedure of setting out of curve by linear method. (15)