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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° 12'36"

B = 53° 46'12"

C = 58° 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)**

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