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

Question Paper Code : 20262

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Fourth Semester

Civil Engineering

CE 6404 — SURVEYING – II

(Regulations 2013)

(Common to PTCE 6404 — Surveying for B.E. (Part-Time) – Second Semester – Civil Engineering – Regulations – 2014)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is Gale's table? What is its use?

2. Define : Satellite Station.

3. Define : Systematic Error.

4. Define : Level Net.

5. What do you mean by the term Trilateration?

6. Explain the Term Traversing.

7. Expand the term GPS.

8. What do you mean by Selective Availability?

9. Define : Azimuth.

10. Explain the term Transition Curve.

PART B — (5 × 13 = 65 marks)

11. (a) From a eccentric station S, 5.8 m from the main triangulation station A, the following directions were observed :

A	0°	0'	0"
B	132°	18'	30"
C	232°	24'	6"
D	296°	6'	11"

The lengths AB, AC and AD were computed to be 3265.5 m, 4022.2 m and 3086.4 m respectively. Determine the directions of AB, AC and AD. (13)

Or

(b) Write a note on the Triangulation figures and its types. Enumerate the various criteria for the selection of the figures. (13)

12. (a) Find the most probable value of the angle A from the following observation equation :

A = 30° 28' 40"; 3A = 91° 25' 55"; 4A = 121° 54' 30" (13)

Or

(b) The angles of a triangle ABC were recorded as follows :

A = 77° 14' 20" Wt. = 4

B = 49° 40' 35" Wt. = 3

C = 53° 04' 52" Wt.= 2

Give the corrected values of the angles using method of correlates. (13)

13. (a) What is a Total Station? List out the various operations that are possible with total stations. What the advantages of using Total Stations? (13)

Or

(b) EDM has slope distance AB of 561.276 m. EDM instrument is 1.820 m above station A, and the prism is 1.986 m above station B. The EDM is mounted on a theodolite whose optical center is 1.720 m above the station. The theodolite measured a vertical angle of +6° 21' 38" to target on prism pole; the target is 1.810 m above station B. Compute both the horizontal distance AB and elevation of station B given an elevation at A of 186.275 m. (13)

14. (a) Write a note on the different segments of the GPS. (13)

Or

(b) Write a note on the Signal Structure. (13)

15. (a) Two straights T_1V and VT_2 of a road curve meet at an angle of 80°. Find the radius of curve which will pass through a point P, 30 m from the P.I. (V), the angle T_1VP being 30°. (13)

Or

(b) The following observations of the sun were taken for azimuth of a line in connection with a survey :

Mean time = 16 h 30 m

Mean horizontal angle between the sun and the referring object = 18° 20' 30"

Mean corrected altitude = 33° 35' 10"

Declination of the sun from N.A. = +22° 05' 36"

Latitude of place = 52° 30' 20"

Determine azimuth of line. (13)

PART C — (1 × 15 = 15 marks)

16. (a) What the various applications of Surveying in Civil Engineering? (15)

Or

(b) What the various applications of Hydrographic Surveying? (15)