Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 52761

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Fourth Semester

Civil Engineering

CE 6404 — SURVEYING – II

(Regulation 2013)

(Common to PTCE 6404 — Surveying – II 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 meant by phase of signal?
2.   What is a base net?
3.   What is parallax? How can it be eliminated?
4.   What is the principle of least squares?
5.   What do you mean by the term Trilateration?
6.   Explain the Term Traversing.
7.   List out the various segments in GPS?
8.   What is called anti spoofing?
9.   List out the aims of route survey.
10. What are the methods of locating soundings?

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) Describe the laws of accidental errors. (13)

Or

(b) The following are the measured angles of a quadrilateral ABCD with the central point E :

Triangle	Central Angle	L.H. Angle	R.H. Angle
AEB	59° 03' 10"	61° 00' 54"	59° 56' 06"
BEC	118° 23'50"	32° 03' 54"	29° 32' 06"
CED	60° 32' 05"	56° 28' 01"	62° 59' 49"
DEA	122° 00' 55"	28° 42 00"	29° 17 00"

(13)

Adjust the quadrilaterals.

13. (a) (i) Brief a comparison between microwave system and electro optical system. (9)

(ii) What are the important precautionary measures and maintenance of total station instrument? (4)

Or

(b) Explain in detail about the measuring principle working principle and sources of error in infrared and laser total station instruments. (13)

14. (a) Explain the different segment of GPS. (13)

Or

(b) (i) Discuss the hand held receiver and geodetic receiver of GPS. (7)

(ii) Explain the task of control segment in GPS. (6)

15. (a) What is a compound curve? Explain the step by step procedure for setting out a compound curve.

Or

(b) A, B and C are three visible stations in a hydrographical survey. The computed sides of the triangle ABC are AB, 1000 m; BC, 1300 m: and CA, 2000 m. Outside this triangle (and nearer to AC), a station P is established and its position is to be found by three point resection on A, B, and C, the angles APB and BPC being respectively 40° 30' and 64° 00'. Determine the distances PA and PC.

PART C — (1 × 15 = 15 marks)

16. (a) Discuss the various steps in triangulation Survey. (15)

Or

(b) Briefly explain the application of remote sensing. (15)

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