

9. Write short notes on :

- (a) Different sources of errors in Plain Table Survey.
How they are eliminated? 10
- (b) Reciprocal levelling 10

Roll No.

24067

**B. Tech 3rd Semester (Civil)
Examination – December, 2017**

SURVEYING-I

Paper : CE-207-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all, selecting one question from each Section. Question No. 1 is compulsory. All questions carry equal marks.

1. Write short notes on : 4 × 5 = 20

- (a) Obstacles in chaining
(b) Characteristics of contours
(c) Orientation & its importance in plain table survey
(d) Whole circle bearing quadrantal bearing and reduced bearing

SECTION – A

2. (a) Explain the principle of chain survey. 10

(b) A and B are the two points on the opposite sides of a river on a chain CAB which crosses the river at right angle. The surveyor selects a point D which is 50 m from A and along the bank and a perpendicular CD on line BD and the distance CA is 60.50 m. Determine the distance AB. 10

3. (a) State and solve Two Point Problem. Under what circumstances the problem is solved. 10

(b) What is interpolation of Contours ? Explain various methods of interpolation of Contour with their advantages and disadvantages. 10

SECTION - B

4. (a) Derive distance and elevation formula for inclined line of sight and staff held vertical. 10

(b) Differentiate between prismatic compass and surveyor's compass. 10

5. The following staff readings were observed successively with a level and 5 m levelling staff on a continuously falling ground : 0.875, 1.235, 2.310, 0.385, 2.930, 0.125, 4.125, 0.120, 1.875, 0.030, 3.750. The first staff reading was taken with the staff held upon a Bench Mark of elevation 132.135 m. Enter these reading in a page of a level book and find the reduced level of the points. Apply the necessary check. 20

SECTION - C

6. For a closed traverse ABCDE, the lengths and bearings of the lines were measured with a tape and theodolite :

Line	Length (N)	Bearing
AB	365.00	N30° - 40°W
BC	205.00	N35° - 0°E
CD	160.00	S25° - 15°E
DE	197.00	S56° - 50°E
CA	275.00	S35° - 50°W

Compute the consecutive coordination and closing error. 20

7. (a) Define transition curves their advantages. What are the various methods to find the length of a transition curve ? 10

(b) Describe relation between various components of a simple circular curve. 10

SECTION - D

8. (a) Explain various characteristics of Contours. 10

(b) Describe various methods of Theodolite Traversing. 10