**24067**

**B.Tech. 3rd Semester (Civil Engg.) (Branch-XI)**

**Examination, December–2013**

**SURVEYING–I**

**Paper–CE–207-F**

*Time allowed : 3 hours ]* *[ Maximum marks : 100*

*Note :* * *Attempt any **five** full questions. Taking at least **one** from each unit.*

* *Assume suitable data if not provided.*

## Unit–I

1. (a) What is the different tape corrections applied in the measurements ? 10

   (b) Explain principles and classification of surveying. 10

2. (a) Explain different methods of chaining on sloping ground. What is hypotenusal allowance ? 10

   (b) A field was surveyed by a chain and the area was found to be 127.34 acres. If the chain used in the measurement was 0.8 percent too long, what is the correct area of the field. 10

## Unit–II

3. What is Local attraction ? How is it detected and eliminated.

The following bearing were taken in running a compass survey

| Line | F.B. | B.B. |
|---|---|---|
| AB | 124°30' | 304°30' |
| BC | 68°15' | 246° |
| CD | 310°30' | 135°15' |
| DA | 200°15' | 17°45' |

At what stations do you suspect Local attraction ? Compute the correct bearing of the lines and also compute the included angles. 20

4. (a) What is Reciprocal leveling ? Explain the procedure of reciprocal leveling. Explain how various errors are eliminated by Reciprocal Leveling. 10

(b) Describe with the help of sketches the characteristics of Contours. Describe various methods of Contouring. Discuss merits and demerits of each. Explain with sketch the use of contour map. 10

## Unit–III

5. (a) Discuss various methods of theodolite Traversing. 10

(b) For the following Compass traverse Adjust the closing error if any. 10

| Line | Length | Bearing |
|---|---|---|
| AB | 130 | S 88° E |
| BC | 158 | S 6° E |
| CD | 145 | S 40° W |
| DE | 308 | N 81° W |
| EA | 337 | N 48° E |

6. (a) What is the different source of error in plane table ? How they are eliminated ? 10

(b) Differentiate between method of 'resection' and 'intersection'. 10

## Unit–IV

7. (a) What are the different systems of tachometric Measurements ? Explain any one of them. 10

(b) Explain Principle of STADIA Method. 10

8. (a) What are transition curve ? Where they are provided ? Derive formula to find out Length of Transition Curve. 10

(b) Explain any two methods of setting of horizontal curve. 10