

Total No. of Questions : 4]

PA-4957

SEAT No. :

[Total No. of Pages : 3

[6008]202

S.E. (Civil) (Insem)

SURVEY

(2019 Pattern) (Semester - II) (201009)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q1 or Q2, Q3 or Q4.
- 2) Neat sketches must be drawn wherever necessary.
- 3) Figures to right indicate full marks.
- 4) Assume suitable data if necessary.
- 5) Use of electronic pocket calculator is allowed.
- 6) Use of cell phone is prohibited in examination hall.

Q1) a) Differentiate between Plane Survey and Geodetic Survey? [3]

b) The following notes refer to an operation involving reciprocal levelling [7]

Instrument Station	Staff readings on		Remark
	A	B	
A	1.750	3.050	Distance AB = 350 m.
B	1.450	2.900	RL of A = 350.50 m

Find :

- i) True R.L. of point B,
 - ii) The combined correction for curvature and refraction.
 - iii) The collimation error
 - iv) Does line of collimation is inclined upward or downward.
- c) Explain the following Terms : [5]
- i) Whole Circle Bearing
 - ii) Fore Bearing
 - iii) Quadrantal/Reduced Bearing
 - iv) Local Attraction
 - v) Meridian

OR

P.T.O.

- Q2) a)** Enlist different accessories required for Plane Table Surveying? Explain any one method of plane table orientation? [5]
- b)** The following are the observed bearing of the lines of a traverse ABCDEA with a compass in a place where local attraction was suspected. [6]

Line	Fore Bearing	Back Bearing
AB	191° 45'	13° 0'
BC	39° 30'	222° 30'
CD	22° 15'	200° 30'
DE	242° 45'	62° 45'
EA	330° 15'	147° 45'

Find correct bearing of lines.

- c)** Enlist Different axes of Dumpy Level? State relationship between axes of Dumpy Level? [4]

- Q3) a)** Following records are obtained in a theodolite traverse survey where length and bearing of last side were not recorded. [6]

Line	Length (m)	Bearing
AB	75.50	30°24'
BC	180.50	110°36'
CD	60.25	210°30'
DA	?	?

Calculate length and bearing of line DA.

- b)** Explain with sketch the procedure for prolongation of straight line using theodolite? [5]

- c) Explain the following terms used in Theodolite [4]
- i) Transiting of telescope
 - ii) Swinging of telescope
 - iii) Change of Face
 - iv) Telescope Normal

OR

- Q4) a) Following records are obtained in a theodolite traverse survey where length of and bearing of line SP were missing. [6]

Line	Length (m)	Bearing
PQ	230.5	N 36°45' E
QR	250.2	S 82°48' E
RS	210.8	S 10°15' E
SP	?	?

Calculate length of and bearing of line SP.

- b) Explain the method of measurement of horizontal angle by repetition method? [5]
- c) Explain any one method of adjustment to corrections in consecutive coordinates of a closed traverse? [4]

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