

Total No. of Questions: 4]

SEAT No. :

PB8

[Total No. of Pages :3

[6268]-202

S.E. (Civil) (Insem)

SURVEY

(2019 Pattern) (Semester-IV) (201009)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Attempt Q1 or Q2, Q3 or Q4.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the 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) Explain the following terms with its type

[4]

- i) Meridian
- ii) Bearing

b) Following notes refer to reciprocal levels taken with one level-

[6]

Instrument Station	Staff readings on		Remark
	A	B	
A	1.425	2.725	Distance AB=1150 m
B	1.430	2.505	R.L. of A = 100 m Collimation Error = 0.003/150m

Find:

- i) True R.L. of point B
 - ii) Correction for collimation
 - iii) Correction for refraction
 - iv) Combined correction for curvature and refraction
- c)** State advantages and limitations of use of plane table survey in surveying?

[5]

OR

P.T.O.

Q2) a) Convert the following whole circle bearings to Reduced Bearings [5]

Line	Whole Circle Bearing
AB	108° 30' 40"
BC	334° 58' 00"
CD	89° 20' 40"
DE	221° 18' 30"
EF	90° 46' 15"

- b) Enlist different axes of Dumpy Level, State their relationship with each other to maintain permanent adjustment? [5]
- c) Enlist Different methods of Plane Table Surveying? Explain any one in detail? [5]

Q3) a) Explain with sketch method of measuring horizontal angle by reiteration method? [4]

- b) The Length and Bearings of a closed traverse ABCDA was surveyed with a transit theodolite. The readings are recorded in the following Table. [6]

Find consecutive coordinates

Line	Length	Included angle	Bearing
AB	255m	$\Delta A = 93^\circ 18' 16''$	140° 42"
BC	656m	$\Delta B = 74^\circ 16' 24''$	
CD	120m	$\Delta C = 123^\circ 42' 00''$	
DE	668m	$\Delta D = 68^\circ 41' 16''$	

- c) State different uses of theodolite? Explain any one in detail? [5]

OR

- Q4)** a) An incomplete traverse table is obtained as follows. Where the length and bearing of last line were missing:

Line	Length (m)	Bearing
PQ	1000	S 67° 00' W
QR	512	N 10° 00' E
RS	1504	S 65° 00' E
SP	?	?

Calculate length and Bearing of Line SP. [6]

- b) Explain different errors in theodolite surveying? [4]
- c) What are the fundamental axes of Theodolite, State relationship of different axes with each other? [5]