[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	Δ A = 93° 18' 16"	140°42"
BC	656m	Δ B = 74° 16' 24"	
CD	120m	Δ C = 123° 42'00"	
DE	668m	Δ D = 68° 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	N10° 00' E
RS	1504	S65° 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]**