

Total No. of Questions - [6]

Total No. of Printed Pages: 2

G.R. No.

S.Y. B.Tech

Civil

MARCH 2020 INSEM (T1)
S. Y. B.TECH. (PROGRAM) (SEMESTER - IV)

COURSE NAME: Surveying
COURSE CODE: CVUA22184

(PATTERN 2018)

Time: [1 Hour]

[Max. Marks: 20]

(*) Instructions to candidates:

1. Attempt Q.1 **OR** Q.2, Q.3 **OR** Q.4, Q.5 **OR** Q.6
2. Figures to the right indicate full marks.
3. Use of scientific calculator is allowed.
4. Assume suitable data wherever required.

- Q. 1) a) The following fore and back bearing were observed in traversing with a compass in place where local attraction was suspected. Find the corrected FB and BB of lines. [4] CO-1

Line	AB	BC	CD	DE	EA
FB	158°30'	62°	342°	281°	210°30'
BB	339°	242°	163°	101°30'	30°

b) Explain radiation method of plane table surveying with suitability

[4] CO-1

OR

- Q. 2) a) Following are the bearings of closed traverse. [4] CO-1

Line	AB	BC	CD	DE	EA
FB	190°30'	40°45'	20°30'	240°45'	330°15'
BB	11°30'	220°45'	200°30'	60°45'	150°15'

Calculate included angles and correct them if required.

- b) List three advantages and disadvantages of plane table surveying. [4] CO-1

- Q. 3) a) Following reciprocal readings were taken with dumpy level find true RL of Q and combined correction [4] CO-2

Instrument at	Staff reading on		Remark
	P	Q	
P	1.824	2.748	Distance PQ = 1010m
Q	0.928	1.606	RL of P = 125.386m

- b) Compare HI and Rise and fall method (any four points) [4] CO-2

OR

- Q. 4) a) Following staff readings were taken with a level where instrument was shifted after 3rd and 6th readings : [4] CO-2
2.215, 1.605, 0.985, 2.080, 2.755, 1.255, 0.605, 1.975, 1.045 and 2.685.
Calculate RL of all points by HI method, if first reading was taken on a TBM of 132.385m RL.

- b) Derive an equation for curvature, refraction and combined correction with usual notations. (4) CO-2

- Q. 5) State fundamental lines of level and write desired relation between them. [4] CO-3

OR

- Q. 6) The following observations were taken from stations M and N by transit theodolite [4] CO-3

Line	Length (m)	Bearings
MP	95.0	S 75° 20' E
MN	180.0	N 15° 40' E
NQ	126.30	N 60° 20' E

Calculate the length and bearing of line PQ