Total No. of Questions – [8] Total No. of Printed Pages 2

G.R. No.	

Paper Code – U229-114 (BE-F & FS)

DECEMBER 2019/ENDSEM -BACKLOG

S. Y. B. TECH. (CIVIL ENGINEERING) (SEMESTER - II)

COURSE NAME: SURVEYING

COURSE CODE: CVUA22174

(PATTERN 2017)

Time: [**2 Hours**] [Max. Marks: **50**]

(*) Instructions to candidates:

1) **Answer Q.1, Q.2, Q.3, Q.4, Q.5 OR Q.6, Q.7 OR Q.8**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed**
4) **Use suitable data where ever required**

Q.1) a) The observed bearings of a closed traverse are given below. Find the stations affected by local attraction and correct the bearings by findings the local attraction at the affected stations [6]

AB : 36^0 00'	BA : 216^0 45'
BC : 98^0 15'	CB : 276^0 00'
CD : 201^0 45'	DC : 203^0 15'
DA : 322^0 45'	AD : 142^0 45'

OR

b) State methods of plane tabling. Explain any one in detail. [6]

Q.2) a) What is curvature correction? How it affects calculating RL. [6]

OR

b) Show with neat sketches the characteristics feature of contour lines of the following. [6]
a) a pond b) a hill c) a ridge line d) a valley line e) a vertical cliff.

Q.3) a) Explain repetition method of measurement of angle. [6]

OR

b) The following records are obtained in a traverse survey. Where the length and bearing of the last line were not recorded. [6]

Line	Length (m)	Bearing
AB	75.5	30°24'
BC	180.5	110°36'
CD	60.25	210°30'
DA	?	?

Q.4) a) Derive equation for setting horizontal curve by taking offset from long chord. [4

OR

b) Why is a curve provided? What is the degree of a curve? [4

Q.5) a) The following observations were taken with tachometer fitted with an anallatic lens, the staff being held vertically. The constants of the tacheometer is 100.Calculate R.L of B and distance between A and B. [6]

Inst station	Height of instrument	Staff station	Vertical angle	Staff reading			Remark
P	1.255	B.M	-4°20′	1.325	1.825	2.325	RLof BM= 255.750 m
P	1.255	A	+ 6°30′	0.850	1.600	2.350	
B	1.450	A	-7°24′	1.715	2.315	2.915	

b) Write a note on marking alignment of canal [4]

c) Draw sketch and state equation for RL of point when the line of sight is inclined downwards and staff held normal to line of sight with usual notations. [4]

OR

Q.6) a) The following observations were made in a tachometer survey fitted with anallatic lens. [6]

Inst Station	Height of axis	Staff station	Vertical angle	Hair readings(m)			Remark
A	1.345	B.M	- 5°30′	0.905	1.455	2.005	R.L.of B.M.=450.500 m
A	1.345	B	+8°0′	0.755	1.655	2.555	
B	1.550	C	+10°0′	1.500	2.250	3.000	

a) Calculate RLs of A,B and C

b) Horizontal distance AB and BC.

b) Describe the method of determining constants of a tachometer from laboratory measurement. [4]

c) Explain Procedure for setting out foundation of building on ground. [4]

Q.7) a) Write short note on errors in using Total station. [6]

b) Explain the use of Nautical Sextant. [4]

c) Mention any four sounding tools with suitability [4]

OR

Q.8) a) Explain concept of Remote elevation measurement. [6]

b) Explain how soundings are located by cross roping. [4]

c) Expalin the term Mean Sea Level (MSL). Explain procedure used to find MSL at a place. [4]