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

G.R. No.	

Paper Code - U228-114 (RE-FS)

MAY 2019/ENDSEM - RE-EXAM

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) What are the advantages and disadvantages of Plane table survey? [6]

OR

b) The following are the bearing observed in traversing, with a compass, an area where local attraction was suspected. Calculate the interior angle of the traverse and correct them if necessary. [6]

Line	FB	BB
AB	150°0′	330°0′
BC	230°30′	48°0′
CD	306°15′	127°45′
DE	298°00′	120°00′
EA	49°30′	229°30′

Q.2) a) Derive the equation for finding RL of point when base of object is not accessible using trigonometric levelling. [6]

OR

b) The following consecutive reading were taken with a levelling instrument at interval of 20 m. [6]
2.375,1.730,0.615,3.450,2.835,2.070,1.835,0.985,0.435,1.630,2.255 and 3.630 m.
The instrument was shifted after the fourth and eighth readings. The last reading was taken on a BM of RL 110.200 m.
Find
A) the RL's of all the points.
B) Gradient of line joining first and last point.

Q.3) a) What are methods of measurement of horizontal angle using Theodolite? Explain any one in detail. [6]

OR

b) Following observations were taken from stations P and Q [6]

Line	Length (m)	Bearings
PA	125.0	S60° 30'W
PQ	200.0	N30° 30'E
QB	150.5	N50° 15'W

Calculate A) Length and Bearing of line AB
B) Angles PAB and QBA

Q.4) a) Describe the method of setting a simple circular curve by Rankine's deflection angle method. [4]

OR

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

Q.5) a) A tacheometer was set up at a station C and the following reading were obtained on a staff vertically held. [6]

Inst station	Staff Station	Vertical angle	Hair reading (m)			Remark
C	B M	- 5°20´	1.500	1.800	2.450	RLof BM= 750.50 m
C	D	+ 8°12´	0.750	1.500	2.250	

Calculate horizontal distance CD and RL of D, if constants of instruments are 100 and 0.15

b) Write a note on maintaining verticality of tall building. [4]

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

OR

Q.6) a) State the methods of determination of tacheometric constants. Explain any one in detail. [6]

b) Write a note on marking foundation plan of a building on ground. [4]

c) What is the principle of Tacheometry. [4]

Q.7) a) Write short note on remote elevation measurements using Total Station. [6]

b) Describe objectives and applications of Hydrographic survey. [4]

c) What is sounding? State methods of locating sounding. [4]

OR

Q.8) a) Derive equation for three-point problem using Analytical method. [6]

b) Write short note on remote distance measurements using Total Station. [4]

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