O.P.Code: 20CE0104	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year I Semester Regular & Supplementary Examinations December-2023
SURVEYING & GEOMATICS
(Common to CE & AGE)

Time: 3 Hours **Max. Marks: 60**

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	What are the different tape corrections and how are they applied?	CO1	L1	6M
	b	Explain the different methods of chaining on sloping ground. What is a hypotenusal allowance?	CO1	L2	6M

OR

2	a	What is local attraction? How is it detected and eliminated?	CO1	L1	6M
	b	The following bearings were observed in running a closed traverse. At what stations do you suspect local attraction? Find the correct bearings of lines and compute the included angles.	CO1	L3	6M

LINE	FORE BEARING	BACK BEARING
AB	71°05'	250°20'
BC	110°20'	292°35'
CD	161°40'	341°40'
DE	220°50'	40°05'
EA	300°50'	121°10'

UNIT-II

3	a	Describe in detail how you will proceed in the field of profile levelling.	CO2	L2	6M
	b	In levelling between two points A and B on opposite sides of a river, the level was set up near A and the staff readings on A and B were 2.642m and 3.228m respectively. The level was then moved and set up near B, the respective staff readings on A and B was 1.086m and 1.664m. Find the true difference level of A and B.	CO2	L3	6M

OR

4	a	What is grade contour? How will you locate it (i) on the ground (ii) on the map?	CO2	L1	6M
	b	Discuss various methods of interpolating the contours.	CO2	L2	6M

UNIT-III

5	Explain with a neat sketch, about the parts of a transit theodolite.	CO3	L2	12M

OR

6	The following readings were taken by a tacheometer with the staff held vertically. The tacheometer is fitted with an Analytic lens and the multiplying constant is 100. Find out the horizontal distance from A to B and the R.L of B.	CO3	L3	12M

Inst. station	Staff station	Vertical angle	Staff readings	Remarks
A	BM	-6°00'	1.100, 1.580, 2.060	R.L. of B.M = 976.000
	B	8°00'.	0.982, 1.085, 1.188	

UNIT-IV

7	a	Define and draw a typical compound curve. Under what circumstance compound.	CO4	L1	5M
	b	Derive the expression for the elements of a compound curve.	CO4	L3	7M

OR

8		Two tangents intersect at chainage 1350 m. The angle of intersection is 1600. Calculate all data necessary for setting out a curve of radius 250 m by the deflection angle method. The peg intervals may be taken as 20 m. Prepare a setting out table when the least count of the Vernier is 20". Calculate the data for field checking.	CO4	L4	12M

UNIT-V

9	a	Explain in detail about the infrared type of EDM instrument.	CO5	L2	6M
	b	Write short notes on total stations.	CO5	L1	6M

OR

10		How will you measure the horizontal angle and vertical angle by using total station?	CO5	L2	12M

***** END *****