O.P.Code: 23CE0105	R23	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech. II Year I Semester Regular & Supplementary Examinations November-2025

SURVEYING

(Civil Engineering)

Time: 3 Hours **Max. Marks: 70**

PART-A

(Answer all the Questions **10 x 2 = 20** Marks)

1	a	Differentiate between WCB and RB.	CO1	L2	2M
	b	List any four accessories in surveying	CO1	L1	2M
	c	Make a note on Simpson's one-third rule.	CO2	L1	2M
	d	Define Levelling.	CO2	L1	2M
	e	Mention the formula to find the distance between the two points when the base is inaccessible by single plane method.	CO3	L2	2M
	f	Differentiate between face left and face right observation	CO3	L2	2M
	g	Write short note on infrared type of EDM instrument	CO5	L1	2M
	h	Define tangent length of a curve.	CO5	L1	2M
	i	Define photographic mapping	CO6	L1	2M
	j	Make a note on Isocentre.	CO6	L1	2M

PART-B

(Answer all Five Units **5 x 10 = 50** Marks)

UNIT-I

2	a	Briefly explain the various approximate methods in linear measurement.	CO1	L2	5M
	b	A steel tape was exactly 30 m long at 20°C when supported throughout its length under a pull of 98N. A line was measured with this tape under a pull of 147N and at a mean temperature of 32°C and found to be 780 m long. The crosssectional area of the tape = 0.03 cm2, and its total weight = 6.8N. For steel, = 11 X 10-6 per °C and E for steel = 20.58 X 106 N/cm2. Compute the true length of the line if the tape was supported during measurement at every 30 m.	CO1	L3	5M

OR

3		Explain the prismatic compass with a neat sketch by indicating their parts.	CO1	L2	10M

UNIT-II

4		The following staff readings were observed successively with level, the instrument has been moved forward after the second, fourth and eighth readings: 0.875, 1.235, 2.310, 1.385, 2.930, 3.125, 4.125, 0.120, 1.875, 2.030 and 3.765. The first reading was taken with the staff held upon a benchmark of elevation 132.135m. Enter the readings in level book-form and reduce the levels. Apply the usual checks. Find also the difference in level between the first and the last points.	CO2	L4	10M

OR

5	a	List out the various methods of determining the areas of given surface.	CO2	L1	5M
	b	Discuss in detail about the volume by cross section method.	CO2	L2	5M

UNIT-III

6		Determine the R.L of the top of a temple from the following data. Station A and B are in line with the top of the temple.	CO3	L3	5M

Inst Station	Reading on BM(m)	Vertical Angle	R.L of BM
A	1.085	10°48′	R.L of BM = 150.000m AB=50 m
B	1.265	7°12′	

OR

7	a	Write short notes on methods of adjusting the traverse.	CO4	L1	5M
	b	Briefly explain the Bowditch's method of adjusting the traverse.	CO4	L2	5M

UNIT-IV

8		Mention the various methods of setting out of simple curve. Briefly explain the field procedure of setting out of curve by two theodolite method.	CO5	L2	10M

OR

9	a	Write short notes on Global Positional System.	CO5	L1	4M
	b	Brief explain about Drone survey and LiDAR survey.	CO5	L2	6M

UNIT-V

10		Illustrate about terrestrial photogrammetry in detail.	CO6	L2	10M

OR

11	a	Make a note on mapping using paper prints.	CO6	L1	5M
	b	Brief about mapping using stereo-plotting instruments with their types and applications.	CO6	L2	5M

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