Sub Code: R2321012 **R23** **Set No. 1**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURAJADA VIZINAGARAM
II B. Tech I Semester Regular/Supply Examinations, November – 2025
SURVEYING
(CE)

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

Question paper consists of Part A, Part B.
Part A is compulsory, Answer all questions.
In Part B, Answer any one question from each unit.
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PART-A **(20 Marks)**

1	a)	List out the accessories for chaining.	[2]
	b)	What are the principles of surveying?	[2]
	c)	Distinguish between fore sight and back sight.	[2]
	d)	Define Contour	[2]
	e)	Write the formula to calculate volumes	[2]
	f)	Write about omitted measurements	[2]
	g)	What are the elements of a simple circular curve?	[2]
	h)	What is GPS?	[2]
	i)	What is mosaics	[2]
	j)	Write briefly about photographic mapping	[2]

PART-B **(50 Marks)**

Unit-1

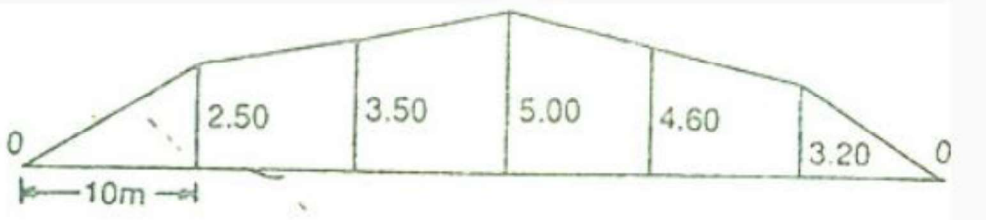
2	a)	Distinguish between a check line and a tie line.	[5]
	b)	Explain about local attraction	[5]

(OR)

3		The bearing of a line AB was found to be N 79º E. There was local attraction at A. In order to determine the correct bearing of the line, a point O was selected at which there was no local attraction. The bearing of the line AO was S 53º 45"E and that of OA was N 57º 30"W. Determine the correct bearing of the line AB.	[10]

Unit-2

4		The following offsets were taken from a chain line to an irregular boundary line at an interval of 10 m (FIGURE) 0, 2.50, 3.50, 5.00, 4.60, 3.20, 0 m Compute the area between the chain line, the irregular boundary line and the end of offsets by: a) mid ordinate rule b) the average –ordinate rule c) the trapezoidal rule d) Simpson's rule	[10]



(OR)

5		The following consecutive readings were taken with a level and 5 meter leveling staff an continuously sloping ground on a common interval of 20 meters. 0.385; 1.030; 1.925; 2.825; 3.730 ; 4.685 ; 0.625 ; 2.005 ; 3.110 ; 4.485 the R.L of the first point was 208.125 m. Rule out a page of level book and enter the readings. Calculate the R.L.'S of the points by rise and fall method	[10]

Unit-3

6		In order to determine the elevation of the top Q of a signal, observations were made from two instrument stations A and B which are in line with the signal. The stations A and B are 80m apart. The vertical angles of Q as observed at A and B were respectively 300 45' and 160 10'. The staff reading on the bench mark of elevation 178.450 was 2.850m when the instrument was at A and 3.580m when the instrument was at B. Determine the elevations of the top and foot of the signal if the height of the signal above its base is 5m?	[10]

(OR)

7	a)	What are face left and face right observations? Why is it necessary to take both these observations?	[5]
	b)	Write about trigonometrical levelling	[5]

Unit-4

8		Two straights intersect at a chain age of 3500.5m with an angle of intersection of 156^0. These two straights are to be connected by a simple circular curve of 200m radius. Calculate the data necessary by the method of offsets from the chords produced with a peg interval of 20m.	[10]

(OR)

9	a)	Explain about Drone survey	[5]
	b)	Write the types of curves and their necessities	[5]

Unit-5

10	a)	Explain about mapping using stero-plotting	[5]
	b)	Discuss about Plotting instruments	[5]

(OR)

11	a)	Explain about Stereoscopy	[5]
	b)	Explain about flight planning	[5]

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