U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

April 2024 Semester End Main Examinations

Programme: B.E. **Semester: III**
Branch: Civil Engineering **Duration: 3 hrs.**
Course Code: 19CV3PCGDY **Max Marks: 100**
Course: Geodesy

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			CO	PO	Marks
		UNIT - I			
1	a)	Briefly explain the fundamental principles of Surveying with neat sketches.	*CO* 1	*PO1*	**06**
	b)	Explain the classification survey based on the nature, instruments used and purpose.	*CO* 1	*PO1*	**08**
	c)	The area of the plan of an old survey plotted to a scale of 10m to 1cm measures now as 100.2 sq.m as found by a plainimeter. The plan is found to be shrunk so that the line originally 10 cm long now measures 9.7 cm only. Find the (1) shrunk Scale (2) True area of the survey	*CO* 1	*PO1*	**06**
		UNIT - II			
2	a)	The following bearing were observed while traversing with a compass. Mention which station were affected by local attraction and determine the corrected bearings. Line | Fore Bearing (FB) | Back Bearing (BB) AB | 80^0 10' | 259^0 0' BC | 120^0 20' | 301^0 50' CD | 170^0 50' | 350^0 50' DE | 230^0 10' | 49^0 30'	*CO* 2	*PO1*	**10**
	b)	Explain intersection and orientation method of surveying using plane table.	*CO* 2	*PO1*	**10**
		UNIT - III			
3	a)	The following staff readings were observed successively with a level, the instrument having been moved after third, sixth and eight readings. The levels are 2.228, 1.606, 0.988, 2.090, 2.864, 1.262, 0.602, 1.982, 1.044, 2.684. Enter the above readings in level book and calculate RL of points if the first reading was taken with a staff held on bench mark of 432.384. Use HI method.	*CO*2	*PO1*	**10**

		b)	The following notes refer to the reciprocal levels taken with one level. Instrument station | Staff reading on A | Staff reading on B | Remarks P | 1.824 | 2.748 | Distance PQ = 1010 m Q | 0.928 | 1.606 | RL at P = 126.386 Find (i) True RL of Q (ii) Combined correction for curvature and refraction.	***CO*** 2	***PO1***	**05**
		c)	Define Contour and explain the characteristics of contour	***CO*** 2	***PO1***	**05**
			OR			
	4	a)	Define (i) Back sight (ii) Reduced level (iii) Fore sight (iv) Bench Mark (v) Mean Sea Level	***CO***2	***PO1***	**10**
		b)	Derive the expressions for the horizontal distance, vertical distance and the elevation of an elevated object when the base is inaccessible and instrument axis at different levels with neat diagram.	***CO*** 1	***PO1***	**10**
			UNIT - IV			
	5	a)	Define (i) Transit Theodolite, (ii) Vertical axis (iii) face right observation (iv)Trunion axis (v) Face Left Observation (vi) Line of Collimation	***CO*** 2	***PO1***	**06**
		b)	Explain step by step procedure for measuring horizontal angle by method of reiteration using theodolite along with Tabular column.	***CO*** 2	***PO1***	**06**
		c)	With neat sketch explain the elements of simple circular curve	***CO*** 2	***PO1***	**08**
			OR			
	6	a)	A simple circular curve of 350 m radius and a deflection angle 360^0 is to be set out along a proposed railway alignment. The two tangents intersect at a chainage of 1238 m. Compute and tabulate the angles and the theodolite readings to set out the curve using Rankine's method. Take peg interval as 30 m.	***CO*** 2	***PO1***	**10**
		b)	Define Triangulation and Explain various methods of Triangulation.	***CO*** 2	***PO1***	**10**
			UNIT - V			
	7	a)	Explain briefly Aerial and Terrestrial Photogrammetry.	***CO*** 3	***PO1***	**10**
		b)	Define Remote sensing and explain the principles of remote sensing.	***CO*** 3	***PO1***	**10**

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