U.S.N.										

B.M.S. College of Engineering, Bengaluru - 560 019

Autonomous Institute Affiliated to VTU

April 2024 Semester End Main Examinations

Programme: B.E. **Semester: III**
Branch: Civil Engineering **Duration: 3 hrs.**
Course Code: 23CV3PCGDY / 22CV3PCGDY **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.

		UNIT - I	CO	PO	Marks
1	a)	Define Surveying & Explain the different classification of Surveying.	CO1	PO1	08
	b)	Explain the terms: (i) Plan and Map; (ii) Plane and Geodetic Surveys.	CO1	PO1	04
	c)	A 20 m chain was found to be 10 cm too long after chaining a distance of 1500 m. It was found to be 18 cm too long at the end of day's work after chaining a total distance of 2900 m. Find the true distance if the chain was correct before the commencement of the work.	CO1	PO1	08
		UNIT - II			
2	a)	Define and explain the followings terms in levelling. (i) Mean sea level (ii) Bench mark (iii) Line of collimation	CO1	PO1	06
	b)	What are temporary adjustments of dumpy level? Explain how they are performed?	CO1	PO1	06
	c)	The following consecutive readings were taken with a level and 5 metre levelling staff on continuously sloping ground at a common interval of 20 metres: 0.385; 1.030; 1.925; 2.825; 3.730; 4.685; 0.625; 2.005; 3.110; 4.485. The reduced level of the first point was 208.125 m. Rule out a page of a level field book and enter the above readings. Calculate the reduced levels of the points by rise and fall method and also the gradient of the line joining the first and the last point.	CO1	PO1	08
		OR			
3	a)	What are Contours? Mention some of the engineering applications of Contours.	CO1	PO1	10
	b)	Describe the characteristics of Contour Lines and Contour Maps.	CO1	PO1	10

			UNIT - III			
	4	a)	Explain: (i) True & Magnetic Meridian (ii) True & Magnetic Bearing (iii) Arbitrary Meridian & Arbitrary Bearing	**CO1**	**PO1**	**06**
		b)	On an old map, a line was drawn to a magnetic bearing of $320^0 30'$ when the declination was $20^0 30'$W. Find the present bearing of the line if the declination is $4^0 15'$E.	**CO1**	**PO1**	**04**
		c)	The following bearings were observed with a compass. Calculate the interior angles with neat diagram. Line: AB, BC, CD, DE, EA Fore Bearings: $60^0 30'$, $122^0 30'$, $46^0 0'$, $205^0 30'$, $300^0 0'$	**CO1**	**PO1**	**10**
			OR			
	5	a)	Enumerate the temporary adjustments of a theodolite.	**CO1**	**PO1**	**06**
		b)	List out and explain various errors in theodolite surveying.	**CO1**	**PO1**	**08**
		c)	Explain briefly the procedure to measure the horizontal angle by Repetition method with a neat sketch and a tabular column.	**CO1**	**PO1**	**06**
			UNIT - IV			
	6	a)	With a neat diagram explain any four important elements of simple circular curve.	**CO2**	**PO1**	**08**
		b)	Two straights AI and BI meet at a chainage of 3450 m. A right handed simple circular curve of 250 m radius joins them. The deflection angle between two straights is 50°. Tabulate the necessary data to layout a simple circular curve by Rankine's method of deflection angles. Take the chord interval as 20 m.	**CO2**	**PO1**	**12**
			UNIT - V			
	7	a)	Differentiate between Aerial Photogrammetry and Terrestrial Photogrammetry.	**CO3**	**PO1**	**10**
		b)	Define Global Positioning System. Explain its working principles and applications.	**CO3**	**PO1**	**10**

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