

Instructions : All questions mandatory

		Marks																																																																																																
1.	State the principles of survey	4																																																																																																
2.	Name the instruments used in chain surveying	5																																																																																																
3.	On a map drawn to a scale of 50 m to 1 cm, a surveyor measured the distance between two stations as 3,500 m. But it was found that by mistake he had used a scale of 100 m to 1 cm. Find the true distance between the stations.	8																																																																																																
4.	A line was measured by a 20 m chain which was accurate before starting the day's work. After chaining 900 m, the chain was found to be 6 cm too long. After chaining a total distance of 1,575 m, the chain was found to be 14 cm too long. Find the true distance of the line. (6 marks)	8																																																																																																
5.	The following readings were taken with a level and 4 m staff. Draw up a level book page and calculate reduce the levels by the height of instrument method. The B.M.(= 58.250 m). The readings are as follows 0.578, 0.933, 1.768, 2.450, (2.005 and 0.567) C.P., 1.888, 1.181, (3.679 and 0.612) C.P., 0.705, 1.810.	16																																																																																																
6	Following readings were taken in a closed traverse. Find the stations free from local attraction. Find the corrected readings for the closed traverse. <table><tr><td>Station</td><td>P</td><td>Q</td><td>R</td><td>S</td></tr><tr><td>Line</td><td>PQ</td><td>QR</td><td>RS</td><td>SP</td></tr><tr><td>F.B.</td><td>50°30'</td><td>140°30'</td><td>219° 00'</td><td>328° 00'</td></tr><tr><td>B.B.</td><td>230°30'</td><td>319°00'</td><td>38°00'</td><td>150°30'</td></tr></table>	Station	P	Q	R	S	Line	PQ	QR	RS	SP	F.B.	50°30'	140°30'	219° 00'	328° 00'	B.B.	230°30'	319°00'	38°00'	150°30'	15																																																																												
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7	The following is the page of a level book, where some readings were missing. Fill in the missing readings and calculate the reduced levels of all the points. <table><tr><td>Station point</td><td>BS</td><td>IS</td><td>FS</td><td>Rise (+ ve)</td><td>Fall (- ve)</td><td>RL</td><td>Remark</td></tr><tr><td>1</td><td>3.250</td><td></td><td></td><td></td><td></td><td>249.260</td><td>BM</td></tr><tr><td>2</td><td>1.755</td><td></td><td>?</td><td></td><td>0.750</td><td></td><td>CP</td></tr><tr><td>3</td><td></td><td>1.950</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td>?</td><td></td><td>1.920</td><td></td><td></td><td></td><td>CP</td></tr><tr><td>5</td><td></td><td>2.340</td><td></td><td>1.500</td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td>?</td><td></td><td>1.000</td><td></td><td></td><td></td></tr><tr><td>7</td><td>1.850</td><td></td><td>2.185</td><td></td><td></td><td></td><td>CP</td></tr><tr><td>8</td><td></td><td>1.575</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td>?</td><td></td><td></td><td></td><td></td><td>CP</td></tr><tr><td>10</td><td>?</td><td></td><td>1.895</td><td>1.650</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>1.350</td><td>0.750</td><td></td><td></td><td></td></tr></table>	Station point	BS	IS	FS	Rise (+ ve)	Fall (- ve)	RL	Remark	1	3.250					249.260	BM	2	1.755		?		0.750		CP	3		1.950						4	?		1.920				CP	5		2.340		1.500				6		?		1.000				7	1.850		2.185				CP	8		1.575						9		?					CP	10	?		1.895	1.650							1.350	0.750				10
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8	Discuss in detail the radiation method of plane table surveying	12																																																																																																
9	Write short notes on the following methods of measuring horizontal anagles using theodolite A. Ordinary method B. Repitition method C. Reiteration method	12																																																																																																
10	If the magnetic bearing of a line is S 64° E then calculate the true bearing if declination is a. 7° E b. 9° W	10																																																																																																