

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2022****Subject Code:3142202****Date:27-06-2022****Subject Name:Mine Surveying - I****Time:10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
<b>Q.1</b>	(a) What is Surveying? What are the instruments are used in it?	<b>03</b>
	(b) Write a short note on plane table surveying.	<b>04</b>
	(c) Explain the principles of surveying.	<b>07</b>
<b>Q.2</b>	(a) What is compass? Classified it.	<b>03</b>
	(b) Define the terms: (i) Vertical axis (ii) Telescope inverted (iii) Transiting (iv) Face left observation	<b>04</b>
	(c) Explain in detail with neat sketch : Reiteration method	<b>07</b>
	<b>OR</b>	
	(c) Explain in detail with neat sketch : Repetition method	<b>07</b>
<b>Q.3</b>	(a) Explain the temporary adjustments of a level.	<b>03</b>
	(b) Define the terms: (i) Horizontal plane (ii) Levelling (iii) Bench mark (iv) Mean sea level	<b>04</b>
	(c) Explain the profile levelling with neat sketch.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Narrate the merit and demerit of contouring	<b>03</b>
	(b) Explain any one method of contouring.	<b>04</b>
	(c) The following staff readings were observed successively with a level, the instrument having been moved after third, sixth and eighth readings : 2.228, 1.606, 0.988, 2.090, 2.864, 1.262, 0.602, 1.982, 1.044, 2.684 meters. Enter the above readings in page of a level book and calculate the R.L. of points if the first reading was taken with a staff held on a bench mark of 432.384 meter.	<b>07</b>
<b>Q.4</b>	(a) What is tacheometry surveying? How is it helpful?	<b>03</b>
	(b) Write a short note on closing error of traversing.	<b>04</b>
	(c) Explain with neat sketch: characteristics of contour	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Draw various patterns of stadia diaphragm	<b>03</b>
	(b) Explain any one method of Interpolation of contour.	<b>04</b>
	(c) Explain the stadia method with neat sketch.	<b>07</b>
<b>Q.5</b>	(a) What are the uses of Planimeter?	<b>03</b>
	(b) Explain classification of Triangulation System.	<b>04</b>
	(c) How to measure a baseline? How to do the selection of site for it?	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Write a short note on Clinometer.	<b>03</b>
	(b) Explain: Trapezoidal rule	<b>04</b>
	(c) What is Miner's dial? Draw a neat sketch and explain its constructional feature in detail.	<b>07</b>

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