

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2021****Subject Code:2142202****Date:07/09/2021****Subject Name:Basic Mine Surveying****Time:02:30 PM TO 05:00 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
Q.1	(a) Define surveying. Describe basic principle of surveying. List out instruments used for surveying.	03
	(b) Differentiate between Tubular and through compass.	04
	(c) Explain use, tests and adjustments of Miner's Dial.	07
Q.2	(a) Define closing error. Explain Bowditch's Rule.	03
	(b) Explain the procedure for omitted measurements of traversing.	04
	(c) Explain measurement of depth of shaft with neat sketch.	07
OR		
	(c) Explain closing error with its adjustments.	07
Q.3	(a) Define leveling. Describe the principle and object of leveling.	03
	(b) Describe construction of Miner's Dial with neat sketch.	04
	(c) List out different types of theodolite. Explain vernier theodolite with neat sketch.	07
OR		
Q.3	(a) Discuss the general procedure for field work of tacheometric surveying.	03
	(b) Explain the importance of subsidence survey in mining.	04
	(c) Explain interpolation of contours in brief.	07
Q.4	(a) Discuss the various characteristics of contours.	03
	(b) Explain dumpy level with neat sketch.	04
	(c) Describe the principle of tacheometric surveying. Explain additive and multiplying constants.	07
OR		
Q.4	(a) Describe basic concept of triangulation surveying.	03
	(b) Explain wye level with neat sketch.	04
	(c) Explain measurements of vertical angles with theodolite.	07
Q.5	(a) Discuss the methods for measurement of depth of shaft.	03
	(b) Explain permanent adjustment of theodolite.	04
	(c) Explain reduction of data by the use of tacheometric table.	07
OR		
Q.5	(a) Explain why a theodolite is more accurate than other instruments.	03
	(b) Explain temporary adjustment of theodolite.	04
	(c) List out various methods for measurements of horizontal angles. Explain repetition method to measure horizontal angle with an example.	07
