

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-V EXAMINATION – WINTER 2025

Subject Code:3152208

Date:21-11-2025

Subject Name:Mine Surveying II

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
Q.1	(a) Define curve ranging. Explain direct and indirect method of curve ranging.	03
	(b) Explain the basic functions and advantages of GIS.	04
	(c) Explain the construction and various uses of Miner's Dial with neat sketch.	07
Q.2	(a) Explain the basic concepts and principles of GPS.	03
	(b) Discuss the various purposes of correlation surveying in mines.	04
	(c) Describe briefly the method of correlating surface and underground surveys when two shafts are available.	07
	OR	
	(c) Explain the method of magnetic correlation for connecting the surface survey with the survey of underground workings of a mine. What are the drawbacks of these methods?	07
Q.3	(a) Define correlation survey. Enumerate the different methods of correlation of surface and underground surveys. What should be the accuracy in such surveys?	03
	(b) Define tilt distortion. Discuss the advantages and disadvantages of photogrammetric mapping.	04
	(c) Explain the setting out of curve by successive bisection of chords.	07
	OR	
Q.3	(a) Discuss the purpose of stope surveying.	03
	(b) Differentiate between photographs and map.	04
	(c) Explain the setting out of curve by deflection angles.	07
Q.4	(a) Describe the various stages of aerial photogrammetry.	03
	(b) Explain the element of simple curve with neat sketch.	04
	(c) Discuss the application of photogrammetry in mining industry.	07
	OR	
Q.4	(a) Define photogrammetry with its advantages.	03
	(b) Discuss the various types of vertical curve.	04
	(c) Discuss the applications of GPS & GIS in mining industry.	07
Q.5	(a) Define remote sensing. Discuss the basic concepts and components of remote sensing.	03
	(b) Explain the visual image interpretation in remote sensing.	04
	(c) Discuss the applications of remote sensing in mining.	07
	OR	
Q.5	(a) Discuss the legal requirements about mine plans and sections.	03
	(b) Explain the procedure of preparation and preservation of mine plans and sections.	04
	(c) Explain the different types of mine models.	07
