

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2024****Subject Code:3152208****Date:02-12-2024****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) Define tilt distortion. Discuss the advantages and disadvantages of photogrammetric mapping.	04
	(c) Explain the different types of mine models.	07
Q.2	(a) Define correlation survey. Enumerate the different methods of correlation of surface and underground surveys. Discuss the accuracy required in such surveys.	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. Discuss the drawbacks of these methods.	07
Q.3	(a) Discuss the purpose of stope surveying.	03
	(b) Explain the element of simple curve with neat sketch.	04
	(c) Explain the construction and various uses of Miner's Dial with neat sketch.	07
OR		
Q.3	(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
Q.4	(a) Define photogrammetry with its advantages.	03
	(b) Differentiate between photographs and map.	04
	(c) Explain the setting out of curve by tangent and offset methods.	07
OR		
Q.4	(a) Describe the various stages of aerial photogrammetry.	03
	(b) Explain different types camera used in photogrammetry.	04
	(c) Explain the setting out of curve by chords and angles.	07
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) Draw any seven-convention symbol with detail used for the preparation of mine plans.	07
OR		
Q.5	(a) Explain the basic concepts and principles of GPS.	03
	(b) Explain the basic functions and advantages of GIS.	04
	(c) Discuss the applications of GPS and GIS in mining industry.	07
