Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–V (NEW) EXAMINATION – WINTER 2020

Subject Code:3152208 Date:01/02/2021

Subject Name:Mine Surveying II

Time:10:30 AM TO 12:30 PM Total Marks: 56

Instructions:

1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1	**(a)**	Define curve ranging. Explain direct and indirect method of curve ranging.	**03**
	(b)	Discuss the various purposes of correlation surveying in mines.	**04**
	(c)	Discuss the construction and various uses of Miner's Dial with neat sketch.	**07**
Q.2	**(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)	Discuss the various types of vertical curve.	**04**
	(c)	Explain the setting out of curve by offsets from the tangent.	**07**
Q.3	**(a)**	Discuss the purpose of stope surveying.	**03**
	(b)	Explain the element of simple curve with neat sketch.	**04**
	(c)	Describe briefly the method of correlating surface and underground surveys when two shafts are available.	**07**
Q.4	**(a)**	Define photogrammetry with its advantages.	**03**
	(b)	Differentiate between photographs and map.	**04**
	(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.5	**(a)**	Describe the various stages of aerial photogrammetry.	**03**
	(b)	Explain the procedure of preparation and preservation of mine plans and sections.	**04**
	(c)	Explain the different types of mine models.	**07**
Q.6	**(a)**	Discuss the legal requirements about mine plans and sections.	**03**
	(b)	What is tilt distortion? What are the advantages and disadvantages of photogrammetric mapping?	**04**
	(c)	Discuss the application of photogrammetry in mining industry.	**07**
Q.7	**(a)**	Define remote sensing. Discuss the basic concepts and components of remote sensing.	**03**
	(b)	Explain the basic functions and advantages of GIS.	**04**
	(c)	Discuss the applications of remote sensing in mining.	**07**
Q.8	**(a)**	Explain the basic concepts and principles of GPS.	**03**
	(b)	Explain the visual image interpretation in remote sensing.	**04**
	(c)	Discuss the applications of GPS & GIS in mining industry.	**07**

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