

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V(NEW) EXAMINATION – SUMMER 2022****Subject Code:3152208****Date:09/06/2022****Subject Name:Mine Surveying II****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 curve ranging. Explain direct and indirect method of curve ranging.	03
(b) Differentiate between photographs and map.	04
(c) Explain the construction and various uses of Miner's Dial with neat sketch.	07
Q.2 (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 setting out of curve by tangent and offset methods.	07
OR	
(c) Explain the setting out of curve by chords and angles.	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) Explain the visual image interpretation in remote sensing.	04
(c) Describe briefly the method of correlating surface and underground surveys when two shafts are available.	07
OR	
Q.3 (a) Define photogrammetry with its advantages.	03
(b) Explain the basic functions and advantages of GIS.	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.4 (a) Discuss the purpose of stope surveying.	03
(b) Explain the element of simple curve with neat sketch.	04
(c) Explain the different types of mine models.	07
OR	
Q.4 (a) Discuss the legal requirements about mine plans and sections.	03
(b) Explain different types camera used in photogrammetry.	04
(c) Draw any seven convention symbol with detail used for the preparation of mine plans.	07

- Q.5** (a) Define remote sensing. Discuss the basic concepts and components of remote sensing. **03**
- (b) Define tilt distortion. Discuss the advantages and disadvantages of photogrammetric mapping. **04**
- (c) Discuss the applications of GPS and GIS in mining industry. **07**
- OR**
- Q.5** (a) Explain the basic concepts and principles of GPS. **03**
- (b) Discuss the various purposes of correlation surveying in mines. **04**
- (c) Discuss the applications of remote sensing in mining. **07**
