

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**
