

Code No: 56096

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year II Semester Examinations, June - 2022****MINE SURVEYING-II****(Mining Engineering)****Time: 3 hours****Max. Marks: 75**

Answer any five questions
All questions carry equal marks

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- 1.a) Determine the gradient from a point P to another point Q from the following observations made with a tacheometer fitted with an anallactic lens. The constant of the instrument was 100 and 0.5 and the staff was held vertical.

Instrument station	Staff station	Bearing	Vertical angle	Staff readings (m)
R	P	130 ⁰	+10 ⁰ 32'	1.255,1.810,2.365
	Q	220 ⁰	+5 ⁰ 06'	1.300,2.120,2.940

- b) Define Tacheometry. What are its fundamental objects? [10+5]
- 2.a) List the various methods of setting out a simple circular curve. Explain briefly about the Rankine method of deflection angles for setting out a simple circular curve.
- b) Explain the elements of a simple circular curve with neat diagram. [7+8]
- 3.a) What is Aerial Photogrammetry?
- b) What is Terrestrial Photogrammetry?
- c) Write the applications of Photogrammetry. [5+5+5]
4. Given the latitude and longitude of a point and azimuth and distance to a second point, compute the latitude, longitude of the second point. [15]
5. What are the various operations required in Mine surveying? Discuss in brief. [15]
- 6.a) How remote sensing (RS) and geographic information system(GIS) are related?
- b) What is main purpose of GIS? [10+5]
- 7.a) What is a total station?
- b) Explain how the distance between two inaccessible points determined using Total station.
- c) What are the advantages of using total stations? [5+5+5]
8. What are different types of EDM instruments? Give a brief description of each. [15]