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SIDDHARTH INSTITUTE OF ENGINEERING &amp; TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year I Semester Supplementary Examinations December-2021

SURVEYING &amp; GEOMATICS

(Common to CE &amp; AGE)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

**UNIT-I**

- 1 a Briefly explain the principles of surveying. L2 6M  
 b Write short notes on types of errors. L1 6M

OR

- 2 The following bearings were observed in running a closed traverse. At what stations do you suspect local attraction? Find the correct bearings of lines and also compute the included angles. L3 12M

LINE	FORE BEARING	BACKBEARING
AB	71°05'	250°20'
BC	110°20'	292°35'
CD	161°40'	341°40'
DE	220°50'	40°05'
EA	300°50'	121°10'

**UNIT-II**

- 3 a Write short notes on methods of leveling. L1 6M  
 b Briefly explain the temporary adjustment of leveling. L2 6M

OR

- 4 The following staff readings were observed successively with level, the instrument has been moved forward after the second, fourth and eighth readings: 0.875, 1.235, 2.310, 1.385, 2.930, 3.125, 4.125, 0.120, 1.875, 2.030 and 3.765. The first reading was taken with the staff held upon a benchmark of elevation 132.135m. Enter the readings in level book-form and reduce the levels. Find also the difference in level between the first and the last points. Tabulate the field book and calculate the levels of the points. Use Rise and Fall method L3 12M

**UNIT-III**

- 5 a Find the horizontal and vertical distances by tangential method when both angles are angles of elevation. L3 6M  
 b How would you, determine the constants K and C of a Tacheometer. L3 6M

OR

- 6 The vertical angles to vanes fixed at 0.5m and 3.5m above the foot of the staff held vertically at a point were - 00° 30' and + 10 °12' respectively. Find the horizontal distance and the reduced level of the point, if the level of the instrument axis is 125.380meters above datum. L5 12M

**UNIT-IV**

- 7 a Write short notes on types of circular curves. L1 6M  
 b Define degree of curve. Derive a relation between the radius and degree of a curve. L1 6M

OR

- 8 Two tangents intersect at chainage 1250 m. The angle of intersection is 1500. Calculate all data necessary for setting out a curve of radius 250 m by the deflection angle method. The peg intervals may be taken as 20 m. prepare a setting out table when the least count of the Vernier is 20". Calculate the data for field checking.

**L3 12M**

**UNIT-V**

- 9 a Explain about AM and FM modulation.  
b What is modulation? Explain the necessity of modulation.

**L2 6M**

**L2 6M**

**OR**

- 10 a Explain in detail about the infrared type of EDM instrument.  
b Write short notes on total stations.

**L3 6M**

**L1 6M**

**\*\*\* END \*\*\***