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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)**B.Tech II Year I Semester Supplementary Examinations November 2020****SURVEYING**  
(Civil Engineering)

Time: 3 hours

Max. Marks: 60

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

**UNIT-I**

- 1 a Explain in detail the classifications of surveying. **6M**  
b Briefly explain the principles of surveying. **6M**

**OR**

- 2 a What is local attraction? **4M**  
b At what stations do you suspect local attraction? Find the correct bearings of lines and also compute the included angles.

LINE	FORE BEARING	BACKBEARING
AB	66°20'	246°20'
BC	139°30'	318° 50'
CD	189°40'	11°20'
DA	300°30'	119° 30'

**8M****UNIT-II**

- 3 a Write short notes on methods of leveling. **6M**  
b Discuss the effects of curvature and refraction in leveling. **6M**

**OR**

- 4 a What is a bench mark? Describe different types of bench marks. **6M**  
b Define contour. State the various characteristics of contour lines. **6M**

**UNIT-III**

- 5 a For the following traverse, compute the length CD, so that A, D and E may be in one straight line.

Line	Length(m)	Bearing
AB	110°	83°12'
BC	165°	30°42'
CD	?	346°06'
DE	212°	16°18'

**8M**

- b What are the different errors in theodolite work? How are they eliminated? **4M**

**OR**

- 6 a What is an analytical lens? Establish the basic equation for an analytic lens. **6M**  
b What is tachometry? What are different systems of tachometric measurements? **6M**

**UNIT-IV**

- 7 a Two straight lines AC and CB, to be connected by a 30 curve, intersect at a chainage of 1000. The WCBs of AC and CB are 45°30' and 75°30', respectively. Calculate all necessary data : **8M**  
out the curve by the method of offsets from the long chord.  
b Mention the various methods of setting out of simple curve. **4M**

**OR**

- 8 a Derive the expression for the elements of a compound curve. **6M**  
b Write short notes on reverse curves. **6M**

**UNIT-V**

- 9 a** List out and explain the properties of EM waves. **6M**  
**b** Briefly explain the types of EDM instrument. **6M**
- OR**
- 10 a** How will you measure the horizontal angle and vertical angle by using total station? **6M**  
**b** What is modulation? Explain the necessity of modulation. **6M**

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