R18

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year II Semester Regular Examinations October-2020
SURVEYING & GEOMATICS
(Common to CE & AGE)

Time: 3 hours   Max. Marks: 60

PART-A
(Answer all the Questions **5 x 2 = 10** Marks)

1	**a**	Define dip and declination.	**2M**
	b	What is a benchmark? List out various types of bench marks.	**2M**
	c	Define the terms swinging a telescope and transiting a telescope.	**2M**
	d	Mention various methods of setting out a simple curve.	**2M**
	e	Define the terms Period of a wave and phase of a wave.	**2M**

PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2 Explain in detail the classification of surveying. **10M**

OR

3 **a** A Chain was tested before starting and it was found to be exactly 20m after **5M**
measurement of a total length of 2600m. The Chain length was again tested and
found 20.2m after that another 4600m was measured and at the end of the day,
length of the chain was found to be 20.36 m. Calculate the true length of chain
measured.

b What is local attraction and how it is detected and eliminated? **5M**

UNIT-II

4 The following staff readings were observed successively with level, the instrument **10M**
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. Apply the usual checks. Find also the
difference in level between the first and the last points.

OR

5 **a** Define contour. State various characteristics of contour lines. **5M**

b Mention the uses of contour in civil engineering works. **5M**

UNIT-III

6 **a** Write the temporary adjustments of a theodolite. **4M**

b How do you measure the horizontal angle between two points with the help of a **6M**
theodolite by repetition method?

OR

7 The vertical angles to vanes fixed at 0.5m and 3.5m above the foot of the staff held **10M**
vertically at a point are - 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
125.380m above the datum.

UNIT-IV

8 Explain various elements of a simple curve with a neat sketch. **10M**

OR

9 Two tangents intersect at chainage 1250 m. The angle of intersection is 150°. **10M**
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.

UNIT-V

10 **a** List out and explain the properties of EM waves. **5M**
   b State and brief about transit time. **5M**

OR

11 Explain in detail about the Wild T-1000 Electronic Theodolite. **10M**