



# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Third Semester, B.E. - Civil Engineering

Semester End Examination; March - 2021

Basic Surveying

Time: 3 hrs

Max. Marks: 100

### Course Outcomes

The Students will be able to:

CO1: Apply the knowledge of basic surveying and mathematics for measurements of distance and angles using conventional surveying equipments.

CO2: Conduct traversing to plot the area and locate the objects on the drawing using chain, tape, compass.

CO3: Prepare the contour plans to estimate area and volume and to determine distance & elevation by tachometric surveying.

CO4: Interpretation of the data of leveling, theodolite surveying to measure the elevation and distances.

**Note:** I) PART - A is compulsory. Two marks for each question.

II) PART - B: Answer any **Two** sub questions (from a, b, c) for Maximum of **18 marks** from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
<b>I : PART - A</b>		<b>10</b>			
I a.	List the different types of taper used in surveying.	2			
b.	Differentiate between Dip and Declination.	2			
c.	What is Fly leveling?	2			
d.	Mention the uses of contours.	2			
e.	List the fundamental lines or axes of Transit theodolite.	2			
<b>II : PART - B</b>		<b>90</b>			
<b>UNIT - I</b>		<b>18</b>			
1 a.	Explain the basic principles of surveying with neat sketches.	9			
b.	With a neat sketch, explain stepping method of chaining on sloping ground.	9			
c.	In passing an obstacle in the form of a pond, stations A and D, on the main line were taken on opposite sides of the pond. On the left of AD, a line AB, 200 m long was laid down and the second line AC, 250 m long was ranged on right of AD. The points B, D and C being in the same straight line. BD and DC were then chained and found to be 125 m and 150 m respectively. Find the length of AD.	9			
<b>UNIT - II</b>		<b>18</b>			
2 a.	Differentiate between prismatic compass and surveyors company.	9			
b.	Explain the following:	9			
	i) Whole circle bearing      ii) Declination      iii) Local attraction				
c.	Following bearings were observed with a compass. Calculate the interior angles.				

Line	FB
AB	60°30'
BC	122°0'
CD	46°0'
DE	205°30'
EA	300°0'

FB → Fore Bearing

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