



## Civil Engineering

**Vision:** “To impart quality technical education beneficial to industry and the society in the field of Civil Engineering.”.

- **Mission:** • To arrange academic and technical expertise.
  - To improve the practical knowledge of the student as per current scenario of industry.
  - To make the students socially and ethically responsible.

**Assignment No :- 01**

**Date :-**

**Topic Name :- Overview and classification of survey (C206.1)**

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1. State the classification of surveying based on the nature of field and object of survey.
2. State the object of surveying.
3. State any four differences between plane survey and geodetic survey.
4. Explain the principles of surveying.
5. Define representative fraction of scale.

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**Date of Submission :-**

**Assign By :- Mr.Dattatray Bangar.**



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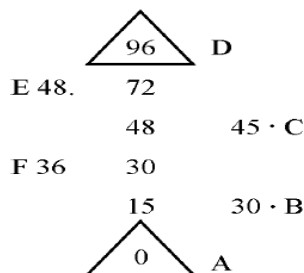
**Assignment No :- 02**

**Date :**

**Topic Name :- Chain and Cross staff survey.(C206.2)**

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1. Define Base line and Tie line and Draw survey map showing Base-line, Tie line and Check line.
2. List any four instrument used for linear measurement.
3. State any four types of tapes.
4. A road actually 1420 m long was found 1414 m when measured by a defective 30 m chain. How much correction does the chain need?
5. Explain ‘Stepping Method’ of measuring horizontal distance of sloping ground with sketch.
6. Draw a conventional symbols for (i) Embankment (ii) Pond (iii) Temple (iv) Bridge (v) Compound wall (vi) Pucca building
7. Plot the following cross staff survey of a field ABCDEFA and calculate its area.



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**Assignment No :- 03**

**Date :**

**Topic Name :- Chain and Compass Surveying.(C206.3)**

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1. List any eight component parts of prismatic compass with their function in brief.
2. Convert following bearing from WCB to QB : (i)  $325^{\circ} 30'$  (ii)  $265^{\circ} 15'$  (iii)  $195^{\circ} 45'$  (iv)  $60^{\circ} 30'$
3. The following are bearing taken on a closed compass traverse :

Line	FB	BB
AB	$80^{\circ} 10'$	$259^{\circ} 0'$
BC	$120^{\circ} 20'$	$301^{\circ} 50'$
CD	$170^{\circ} 50'$	$350^{\circ} 50'$
DE	$230^{\circ} 10'$	$49^{\circ} 30'$
EA	$310^{\circ} 20'$	$130^{\circ} 15'$

Compute the interior angles and find the corrected included angles.

4. Draw a neat sketch of prismatic compass and label the parts.
  5. Describe the temporary adjustment of prismatic compass.
  6. Differentiate between WCB & RB.
  7. Following are the observed fore bearing of the line. Find their back bearings. (i)  $40^{\circ} 30'$  (ii) N  $38^{\circ} 30'$  W (iii)  $169^{\circ} 30'$  (iv) N  $25^{\circ} 30'$  E
  8. Distinguish between closed traverse and open traverse.
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9. Following are the observed bearings of the traverse ABCDEA. Identify the stations attested by local attraction. Find the corrected bearing of the lines :

Line	FB	BB
AB	191° 45'	13° 0'
BC	39° 30'	222° 30'
CD	22° 15'	200° 30'
DE	242° 45'	62° 45'
EA	330° 15'	147° 45'

10. Define dip of needle and magnetic declination

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**Assignment No :- 04**

**Date :**

**Topic Name :- Levelling.**

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1. State the types of benchmark used in surveying.
2. Discuss the process of Fly levelling with neat sketch.
3. Explain the following terms : (i) Datum (ii) Height of instrument
4. The following staff reading were taken with a level. The instrument having been shifted after 4th, 7th and 10th reading. The B.M. is 150.000 m. Rule out a page of a level book and enter the following readings. Calculate the reduced levels of the points by rise and fall method and apply the usual checks. 1.655, 2.740, 3.050, 3.800, 0.375, 1.555, 0.890, 0.640, 2.840, 3.215, 1.280, 2.825
5. The following consecutive readings were taken with a level and a 4.0 m staff on a continuously sloping ground as a common interval of 30 m : 0.460, 1.285, 1.730, 2.695, 1.200, 2.055, 2.740, 3.485, 3.820, 0.620, 1.530, 1.860 and 3.580 The reduced level of the first point ‘A’ was 450.650 m. Enter the reading in level field book. Calculate reduced level by line of collimation method and gradient of line joining the first and the last point.
6. Calculate the missing reading and reduced levels. Apply the usual checks.

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Stations	BS	IS	FS	Rise	Fall	RL	Remark
1.	3.000						B.M.
2.		X			0.840	99.160	
3.		2.340		X			
4.		X		1.000			
5.	1.850		2.185		X		CP1
6.		1.575					
7.		X					
8.	X		1.895		1.650		CP2
9.			2.870				

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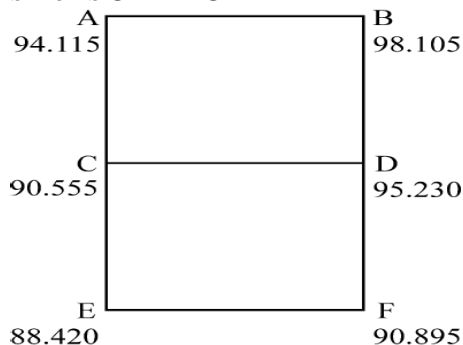
**Assignment No :- 05**

**Date :-**

**Topic Name :- Contouring.**

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1. State the uses of contour map.
2. Describe the process of measurement of volume of reservoir from contour map.
3. Draw a contour lines representing different features : (i) A gentle slope (ii) A hill (iii) A pond (iv) Overhanging cliff (v) A valley lines (vi) A ridge lines
4. Explain the characteristics of contour with suitable sketch.
5. Contour survey data of a field is shown in figure below. Draw 89.000 m contour line by linear interpolation method. Show all the calculations. Grid size is 5 m × 5 m



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**Assignment No :- 06**

**Date :-**

**Topic Name :- Measurements of area and volume.**

1. State advantages of digital planimeter.
2. Describe the procedure for measuring the area using digital planimeter.
3. Write down precautions to be taken while using planimeter.
4. List component parts of a digital planimeter.
5. The following reading were taken when area was measured by a polar planimeter, the tracing arm being set to 100 sq. cm. Determine the area of fig.

IR	FR	Position of Anchor point	Remarks
7.825	3.425	Outside the fig.	The zero of disc passed fixed index marks once in clockwise direction
1.250	4.370	Inside the fig.	Index marks passes twice in reverse direction

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