



CMR INSTITUTE OF TECHNOLOGY		USN <input type="text" value="1"/> <input type="text" value="C"/> <input type="text" value="R"/> <input type="text" value=""/> <input type="text" value="C"/> <input type="text" value="V"/> <input type="text" value=""/> <input type="text" value=""/>									
Internal Assessment Test –3											
Sub: Basic Surveying								Code: 18CV35			
Date: 2 /02/2022	Duration: 90 mins	Max Marks: 50	Sem: III	Sections: CV (A)							
Answer <i>any five</i> questions. Good luck!											
								Marks		OBE	
										CO	RBT
1.	Explain the importance of Areas & Volumes.							10	2	L1,L2	
2a	Derive the expression for area of trapezoidal section.							5	3	L1,L2	
2b	Explain (i) Simpson's rule (ii) Trapezoidal rule.							5	2	L1,L2	
3.	Explain in detail Working operations in Prismatic Compass.							10	2	L1,L2	
4.	Explain (i) Temporary adjustments of Prismatic Compass (ii) Temporary adjustments of Dumpy level								2	L1,L2	
5.	Explain (i) Errors in Compass Survey. (ii) Elimination of local attraction							10	3	L1,L2	
6.	Discuss differences between Prismatic compass & Surveyors Compass.							10	3	L1,L2	

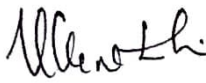

C.I


C.C.I.

H.O.D.

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Scheme and Solution

Basic Surveying - 18CV35 IAT#2.

Date: /01/2022

Qn#1. Temporary adjustments:

(i) centring (ii) levelling (iii) focussing prism

$$1 \times 3 = 3m$$

Explain centring - (2m)

levelling - (1m)

focussing - (1m)

Explain permanent adjustments - (4m)

Qn#2. figure - (2m)

Explain figure - (2m)

Simplification of derivation - (6m)

$$A = \frac{1}{2} \left\{ y_1(x_2 - x_4) + y_2(x_3 - x_1) + y_3(x_4 - x_2) + y_4(x_1 - x_3) \right\}$$

Qn#3. Detailed explanation - (10m)

Qn#4. $A = By + ky^2$, $B = 12m$, $k = 2$. - (1m)

$$A_1 = 36.08 m^2, A_2 = 28.08 m^2, A_3 = 22.50 m^2$$

$$A_4 = 49.28 m^2, A_5 = 46.28 m^2$$

$$1 \times 5 = 5m$$

Trapezoidal rule formula - (2m)

$$\text{Volume} = 14139 m^3 - (2m)$$

Qn#5. Errors in Compass Survey

- (i) Instrumental errors
- (ii) personal errors
- (iii) errors due to natural Causes

Detailed explanation:

1*3

(a) Instrumental errors — (2m)

(b) personal errors — (3m)

(c) errors due to natural Causes

Qn#6. (i) $A = 390 \text{ m}^2$ (3m)

(ii) $A = 394.87 \text{ m}^2$ (3m)

(iii) $A = 390.25 \text{ m}^2$ (4m)

Qn#7. plot the traverse — (2m)

find the MB — (6m)

Add declination — (2m)

End of scheme