

**Day and Date: .....day, .../.../2022**

**Time: .....**

Seat No:

**Max. Marks- 50**

**Instructions:**

- i. All Questions are compulsory.
- ii. Figure to the right indicate full marks.

BT	CO's	Q.No.						Marks	
		Q.1	All Questions are compulsory					20	
3	CO1	a	Find the RL of station B from two observations taken by a theodolite from station A one to BM and other to station B.						7 M
			Instrument station	Staff station	Target	Vertical angle	Staff readings	Remarks	
			A	BM	Lower	-12°30'	0.565	RL of instrument axis = 655.5m	
					Upper	-8°20'	2.565		
			A	C	Lower	-7°30'	1.25		
					Upper	+3°12'	3.20		
Find RL of staff station C and calculate the horizontal distance between the BM and staff station C.									
3	CO2	b	What is meant by satellite station and reduction to the centre					5M	
3	CO3	c	What is the necessity of providing overlaps in Aerial Photogrammetry? The scale of an aerial photograph is 1:10000 size of photograph is 200 mm x 200 mm. Determine the number of photographs required to cover an area of 8 Km x 12.5 Km. Take longitudinal overlap 60% and side lap as 30%					8 M	
		Q.2	All Questions are compulsory					10	
2	CO4	a	Explain in brief applications of GIS.					4	
2	CO4	b	Write a note on advantages of GIS mapping.					6	
		Q.3	All Questions are compulsory					10	
2	CO4	a	What is an idealized Remote Sensing system?					4	
2	CO4	b	Write in detail applications of Remote Sensing in Civil Engineering.					6	
		Q.4	Attempt any two out of three questions					10	
2	CO4	a	Explain Waypoints, Tracks and Routes in GNSS.					5	
2	CO4	b	Describe the components of GNSS with neat sketch.					5	
2	CO4	c	Write a short note on applications of GNSS in Civil Engineering field.					5	