

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

Time:

Seat No:

Max. Marks- 50

Instructions:

- i. All the 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	The following observations were taken with transit theodolite.						7 M
			Instrument station	Staff station	Target	Vertical angle	Staff readings	Remarks	
			O	A	Lower	+4°30'	0.95	RL of instrument axis = 355.5m	
					Upper	+6°30'	3.25		
			Calculate the horizontal distance between the instrument station and staff; also find RL of staff station A.						
3	CO2	b	Two triangulation stations A and B 60 Km apart and have elevations 240 m and 280 m respectively. Find minimum height of signal required at B so that line of sight may not pass near the ground then 2 meters. The intervening ground may be assumed to have uniform elevation of 200 m.						7 M
3	CO3	c	Calculate the maximum number of photographs required to cover a fairly level area with the following data: scale of photograph is 1:10,000, area is 100Sq.Km.Longitudinal overlap is 60%, Side lap is 30%, size of photograph is 20 cm x 20 cm.						6 M
		Q.2	All Questions are compulsory						10
2	CO4	a	Explain briefly raster and vector data.						4
2	CO4	b	Write a note on various components of GIS.						6
		Q.3	All Questions are compulsory						10
2	CO4	a	Explain active and passive remote sensing with neat sketch.						3
2	CO4	b	Explain electromagnetic energy and its interaction with mater.						7
		Q.4	Attempt any two out of three questions						10
2	CO4	a	What is GNSS? Enlist four applications in Civil Engineering field.						5
2	CO4	b	Describe in brief the segments in GNSS.						5
2	CO4	C	How GPS works? Explain with neat sketch.						5