

VII-SEM/CIVIL[PT]/2022(W)/(New)
Th-1 Land Survey-II

Full Marks: 80

Time: 3 Hours

Answer any FIVE Questions including Q No.1 &2

Figure in the right hand margin indicates marks

1. Answer All the questions. 2 X 10
- a) What are the different types of horizontal curves?
 - b) Define Thematic Map.
 - c) Define the Multiplying constant and Additive constant of a tacheometer.
 - d) Define temporary adjustment of a Theodolite.
 - e) Define DGPS.
 - f) Define Longitude and Latitude.
 - g) What is tacheometry?
 - h) Define the term "Points of Curve" & "Point of Tangency".
 - i) What is the relation between the radius and degree of a curve?
 - j) Define the term "Film" in connection with the aerial survey.

2. Answer any SIX questions. 5 X 6
- a) Describe the procedure of setting out of circular curve by Offset from Long Chord Method.
 - b) Write short notes on the followings
(i) Stereoscopy (ii) Oblique Photography
 - c) Explain the working Principle of Global Positioning System (GPS)
 - d) A tacheometer was set up at a station C and the following readings were obtained on a staff vertically held.

Inst. Station	Staff Station	Vertical angle	Hair Readings (m)			Remarks
C	BM	-5°22'	1.500	1.800	2.460	RL of B.M = 750.50 m
C	D	+8°14'	0.750	1.520	2.270	

Calculate the horizontal distance CD and RL of D , when the constant of instrument are 100 and 0.15 .

- e) Explain the following terms in connection with the Aerial Photography.
(i) Focal Length (ii) Scale
- f) What are the advantages of Global Positioning System (GPS)?
- g) Briefly discussed about the different elements of a Simple Circular Curve with neat sketch.

3. Two tangents intersect at a chainage of 1425.0 m , the deflection angle is 60° . Calculate the following quantities for setting out of a curve of 300m radius. 10
- a) Length of curve
 - b) Tangent Length
 - c) Length of Long Chord
 - d) Mid-ordinate &
 - e) Apex distance
4. What is a Total Station? Why is it preferred in surveying these days? Explain briefly. 10
5. Describe in details how ground photogrammetry is conducted in the field and in office. For what type of country photogrammetry is suited? 10
6. What are the different types of maps used in the field ? Explain briefly any four of them. 10
7. Write Short notes on 10
- (a) Stereoscopy (b) Field Notes (c) UTM's (d) Public Land Survey System