

6TH SEM./CIVIL / 2024(S)
Th-1 LAND SURVEY-II

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Write the principle of Tacheometry.
 - b. Define bar scale in map.
 - c. Differentiate between Aerial Photogrammetry and Terrestrial Photogrammetry.
 - d. What is versed sine of a curve? Express it mathematically?
 - e. What are the two series of maps?
 - f. What is control survey & Geometric Distortion?
 - g. A vertical photograph was taken from an aircraft flying at an altitude of 2000m above mean sea level the focal length of camera is 175mm. what is the scale of the photograph for a hill of an elevation of 25m.
 - h. What is spatial data model?
 - i. What are GPS & DGPS
 - j. What is Micro-optic Theodolite?
2. Answer **Any Six** Questions 6 x 5
 - a. Derive Tacheometric multiplying and additive constants.
 - b. Write about Working principle of GPS & Error of GPS Signals.
 - c. Give a brief description on setting up of a total station.
 - d. Write down the method for setting out simple curve by offset from chord produced.
 - e. What are Map Scale and Map Projection?
 - f. What is a topographic map? What informations are given on a topographic map?
 - g. Explain in brief Aerial Photogrammetry and Terrestrial Photogrammetry.
3. A tacheometer was set up at a station C and the following readings were obtained on a vertically held staff. 10

Inst. Station	Staff station	Vertical angle	Hair readings	Remark
C	BM	$-5^{\circ} 20'$	1.750, 1.300, 2.450	RL of BM
C	D	$+8^{\circ} 12'$	0.750, 1.500, 2.250	=750.50m

Calculate the horizontal distance CD and RL of D, when the constants of instrument are 100 & 0.15.
4. How Maps are classified. Give description on each type of Map. 10
5. Two tangents AB & BC intersect at a point 'B' at chainage 150.5m. Calculate all the necessary data for setting out a circular curve of radius 100m and deflection angle 30° by the method of offset from the long chord. 10
6. Explain three view of information system. 10
7. Write short note on any two:- 10
 - (a) Latitude & Longitude
 - (b) UTM
 - (c) Magnetic Declination