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- 2008 - 2010 - Dec 2021



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M – 6023

Reg. No. : .....

Name : .....

Fourth Semester B.Tech. Degree Examination, December 2021

(2008 Scheme)

08.405 : SURVEYING — II (C)

Time : 3 Hours


Max. Marks : 100

PART – A

Answer all questions :

1. Illustrate the method of arranging the figures in triangulation system.
2. List the factors which determine the inter-visibility between triangulation stations.
3. What are the different types of errors in measurements?
4. Distinguish between simple, compound and reverse curves.
5. List out with sketch the different types of vertical curve.
6. Define the following terms (a) Celestial sphere (b) Declination circle.
7. What is meant by relief displacement?
8. What are the merits and limitations of total station?

(8 × 5 = 40 Marks)

P.T.O.  


PART – B

Answer **one full** questions from each Module.

**Module – I**

9. (a) What is meant by Satellite station and reduction to centre? **8**
- (b) Two triangulation stations A and B are 120 km apart and have elevations of 178 m and 200 m respectively. The intervening ground at a distance of 40km from A may be assumed to have a uniform elevation of 150 metres. Find the minimum height of signal required at B so that the line of sight may not pass nearer the ground than 3 metres. **12**

OR

10. (a) State the laws of weights. **8**
- (b) The angles of a triangle ABC were recorded as follows
- A  $75^{\circ} 15' 20''$  weight 2
- B  $=51^{\circ} 45' 30''$  weight 3
- C  $= 50^{\circ} 04' 56''$  weight 4

Find the most probable value of angles by normal equation method. **12**

**Module – II**

11. (a) Explain the various method of determining the length of transition curve. **8**
- (b) Two straights AB and BC intersect at a chainage of 4000 m, the intersection angle being  $140^{\circ}$ . Calculate the radius and chainage of tangent points of a  $6^{\circ}$  circular curve that can connect the two straights. Find the necessary data for setting out this curve by Rankine's method of deflection angles if the length of chain available is 20m. **12**

OR

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12. (a) Explain any two systems of coordinates employed to locate position of a heavenly body. 10
- (b) Determine the hour angle and declination of a star from the following data  
Altitude of the star is  $22^{\circ}36'$ , Azimuth is  $42^{\circ}W$  and latitude of the place of observation is  $40^{\circ}N$ . 10

### Module – III

13. (a) Derive an expression for focal length of a camera lens of a phottheodolite. 8
- (b) Two points A and B having elevations of 600m and 400m respectively above datum appear on the vertical photograph having focal length of 15 cm and flying altitude of 3000 m above datum. Their corresponding co-ordinates are as follows.

Point    Photographic Co-ordinates

	x(cm)	y(cm)
a	+2.73	+1.45
b	-1.85	+3.13

Determine the ground length AB. 12

OR

14. (a) Explain different types of EDM instruments with examples. 10
- (b) Illustrate the fundamental measurements in total station survey. 10

