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**Question Paper Code: 34106**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Civil Engineering

01UCE406 – SURVEYING - II

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Define reverse curve.
2. List out the different kinds of transition curves.
3. State the principle of signals used in triangulation.
4. Name the different corrections to be applied to length of a base line.
5. Define the terms probable error.
6. What is meant by most probable values?
7. Define scale.
8. What is an EDM?
9. Define sounding.
10. Give the significance of MSL.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain with neat sketches the different types of horizontal curve. (16)

Or

- (b) Explain the different elements of a simple curve with neat sketch and brief on its notations. (16)

12. (a) Explain in detail about the different triangulation systems with neat sketches. (16)

Or

(b) Explain any two mechanical solutions and one graphical solution to three point problem. (16)

13. (a) Derive an expression for principle of least squares. (16)

Or

(b) Find the most probable values of A, B and C from the following (16)

$$A = 25^{\circ} 17' 10.2'' \quad \text{Weight 1}$$

$$B = 28^{\circ} 22' 16.4'' \quad \text{Weight 2}$$

$$C = 32^{\circ} 40' 28.5'' \quad \text{Weight 3}$$

$$A + B = 53^{\circ} 39' 23.1'' \quad \text{Weight 2}$$

$$A + B + C = 86^{\circ} 39' 57.8'' \quad \text{Weight 1}$$

14. (a) Discuss the clasificación of electro optical system. (16)

Or

(b) Form the normal equation for  $X_1$ ,  $Y_1$  &  $Z$  in the following equations with respective weights

$$3x + 3y + z - 4 = 0 \quad \text{wt} - 2$$

$$x + 2y + 2z - 6 = 0 \quad \text{wt} - 3$$

$$5x + y + 4z - 21 = 0 \quad \text{wt} - 1 \quad (16)$$

15. (a) Determine the azimuth and altitude of a star from the following data (16)

1.) declination of the star =  $20^{\circ} 30'$

2.) hour angle of star =  $42^{\circ} 6'$

3.) latitude of observation =  $50^{\circ} N$ . (16)

Or

(b) Explain in detail any one method of finding the sounding. (16)

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