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Question Paper Code: 34106

B.E. / B.Tech. DEGREE EXAMINATION, NOV 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. What is meant by curve ranging?
2. List out the different kinds of transition curves.
3. State the principle of triangulation.
4. Name the different corrections to be applied to length of a base line.
5. State the law of weights.
6. Define the terms probable value and probable error.
7. Write the sources of error.
8. What is an EDM?
9. What do you understand by hydrographic surveying?
10. Define celestial horizon.

PART - B (5 x 16 = 80 Marks)

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

Or

(b) (i) What are transition curves? How will you determine the length of transition curves? (8)

(ii) Explain the procedure for calculating the length of valley curve. (8)

12. (a) (i) Explain in detail about the different triangulation systems with neat sketches. (10)

(ii) Explain briefly the different aspects of fieldwork in triangulation. (6)

Or

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

13. (a) (i) What is meant by weight of an observation and enumerate laws of weights giving examples. (8)

(ii) Explain the general principles of least squares. (8)

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) (i) What are parallax and refraction and how do they affect the measurements of vertical angles in astronomical work? (8)

(ii) Write a detailed note: (1) Sidereal time and (2) Solar apparent time. (8)

Or

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