Reg. No. : | | | | | | | | | | |

Question Paper Code: 44106

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Fourth Semester

Civil Engineering

14UCE406 - SURVEYING -II

(Regulation 2014)

Duration: 1.15 hrs Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. If R is the radius of the main curve, θ the angle of deflection, S the shift and L the length of the transition curve, then, total tangent length of the curve, is

   (a) $(R - S) \tan \theta/2 + L/2$ (b) $(R + S) \tan \theta/2 - L/2$
   (c) $(R - S) \tan \theta/2 - L/2$ (d) $(R + S) \tan \theta/2 + L/2$

2. An ideal vertical curve to join two gradients, is

   (a) parabolic (b) circular (c) elliptical (d) hyperbolic

3. Difference between horizontal length and measured length along the cantenary is called

   (a) sag correction (b) slope correction
   (c) pull correction (d) alignment correction

4. The setting of points in the vertical direction is usually done

   (a) Boning rods and travellers (b) Sight Rails
   (c) Slope rails or batter boards (d) all the above

5. Systematic Error

   (a) it produces a serious effect on the final result
   (b) error that under the same conditions will always be of the same size and sign
   (c) errors that arise from inattention, inexperience, carelessness and poor judgment
   (d) all the above

6. Errors that arise from inattention, inexperience, carelessness and poor judgment or confusion in the mind of the observer

(a) Accidental errors (b) Mistakes

(c) Systematic errors (d) All the above

7. EDM is

(a) Electromagnetic Distance Measurement

(b) Electronic Distance Measurement

(c) Elevation and Distance Measurement

(d) Electronic Direct Measurement

8. Most advanced surveying instrument is

(a) Theodolite (b) Tachometer (c) Total station (d) Dumpy level

9. A survey which is observations of the heavenly bodies such as sun or any-other fixed star is done, is known as

(a) Celestial survey (b) Astrological survey

(c) Photographic survey (d) Astronomical survey

10. solar apparent time

(a) calculation of the passage of time based on the Sun's position in the sky

(b) calculation of the day time based on the Sun's position in the sky

(c) calculation of the normal time based on the Sun's position in the sky

(d) all the above

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Describe method of setting a simple circular curve by Rankine's deflection angle method. (8)

12. Describe the satellite station and process of reduction to centre? (8)

13. Examine the most probable values of the angles *A, B, C* from the following observations at a station P.

$A = 38° 25' 20"$ Weight 1

$B = 32° 36' 12"$ Weight 1

$A+B = 71° 01' 29"$ Weight 2

$A+B+C = 119° 10' 43"$ Weight 1

$B+C = 80° 45' 28"$ Weight 2 (8)

14. Discuss about: (i) Traversing, Example of use of traversing. (ii) Classical traversing methods. (8)

15. What is a three point problem in hydrographic surveying? List the various solutions for the problem? Explain in detail. (8)