1128

Code : 15CE33T

Register Number

III Semester Diploma Examination, April/May-2018

SURVEYING – II

Time : 3 Hours]   [Max. Marks : 100

Instructions : (i)   Answer any **six** questions from Part – A. Each question carries **5** marks.

(ii) Answer any **seven** questions from Part – A. Each question carries **10** marks.

PART – A

1. Explain the temporary adjustment of a transit theodolite.

2. Write the procedure for the measurement of deflection angle using transit theodolite.

3. Explain the procedure to find the RL of the elevated object whose base is accessible by single plane method.

4. What is tachometric survey ? What are its advantages ?

5. Write the formula used in curve to calculate the following :
   (i)   Length of curve
   (ii)   Tangent length
   (iii) Length of long chord
   (iv)   Mid ordinate
   (v)   Apex distance

6. Explain briefly the different types of vertical curves with neat sketch.

7. List the various application of total station.

8. Explain the principal of electronic theodolite.

9. Write the field procedure for co-ordinate measurement using total station.

PART – B

10. Differentiate between : **10**

    (i) Clamp Screw and Tangent Screw in theodolite.

    (ii) Horizontal circle and vertical circle in theodolite.

    (iii) Direct angle and deflection angle.

    (iv) Telescope normal and telescope inverted.

    (v) Bowditch rule and transit rule for balancing the traverse.

11. The following details are given for a traverse survey where length of AB is required. Point A is 60 mts from point P on the line PQ and B is 80mts from point R on the line RS. **10**

Line	Length in mts.	Bearing
PQ	130.25	N35° 20' E
QR	90.80	S42° 20' E
RS	160.40	S64° 30' W

12. Find the latitude and departure and adjust the following traverse by transit rule. **10**

Line	Length in metre	WCB
AB	90.60	46° 20'
BC	220.50	73° 05'
CD	152.80	168° 30'
DE	160.20	230° 30'
EA	240.20	310° 20'

13. Find the RL of the top of church spire R from the following observation taken from two station P and Q 65 mt apart. Horizontal angle QPR = 65°, Horizontal angle PQR = 55°, Angle of elevation from P to the top of spire R = 35°, Angle of elevation from Q to the top of spire R = 30°. Staff reading from P on BM = 2.680 mts. Staff reading from Q on BM = 1.150 mt. RC of BM = 280.580 mts. **10**

14. The following reading were taken with a tachometer.   **10**

Stadia reading	Reading on vertically held staff
Top hair	2.850
Middle hair	2.400
Bottom hair	1.950

   If the tachometer constants K and C as 100 and 0.30 mt respectively. Find the horizontal distance between the Staff and the instrument station and also determine the RL of the staff station. Take RL of the instrument station as 120.500 mts. Height of the instrument above ground is 1.430 mts.

15. Describe the method of setting out compound curve using theodolite.   **10**

16. Two Tangents intersect at a chainage of 1250 mts. The deflection angle being 45°. Calculate the necessary data for setting out a curve with radius of 350 mts by deflection angle method. The peg intervals is 30mt. Prepare the chart for setting out angle in theodolite of least count 20".   **10**

17. Two straights BA and AC are interested by a line EF. The angle BEF and EFC are 135° and 145° respectively. The radius of first curve is 550 mts and that of second curve is 325 mt. Find the chainage of the tangent points and point of compound curve, given that the chainage point of intersection at A is 3800.000 mt.   **10**

18. Compare GIS with Auto CAD. (five points)   **10**

19. Explain the procedure of setting out building corner by total station.   **10**