1128

Code : 15CE33T

Register Number | | | | | | | | | | |

III Semester Diploma Examination, Nov./Dec.-2018

SURVEYING - II

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **six** questions from Part – A.

(ii) Answer any **seven** questions from Part – B.

PART – A

1. Explain the procedure for measuring horizontal angle between two given points by Repetition method using theodolite. **5**

2. List the different purpose for which the transit theodolite can be used. **5**

3. Differentiate between trigonometrical levelling and ordinary levelling. **5**

4. Explain the procedure to determine the tacheometric constants by fixed hair method. **5**

5. Define compound curve and with a neat sketch show it's elements. **5**

6. Define : **5**

   (i) Degree of curve

   (ii) Angle of intersection

   (iii) Normal chord

   (iv) Right band curve

   (v) Length of curve

[Turn over

7. Write short note on EDM. 5

8. Write short note on electronic theodolite. 5

9. List the various applications of total station. 5

PART – B

10. Differentiate between : 10

(i) Face left and face right – observation in theodolite.

(ii) Plunging and swinging the telescope.

(iii) Consecutive co-ordinate and independent co-ordinate.

(iv) Closed traverse and open traverse in theodolite survey.

(v) Horizontal angle and vertical angle in theodolite survey.

11. Calculate Latitude, departure and closing error for the following traverse and adjust the traverse using Bowditch rule : 10

Line	Length in mts	WCB
AB	235.00	196° 30′
BC	135.00	276° 20′
CD	90.50	330° 15′
DE	225.00	65° 10′
EA	160.30	115° 20′

12. The following data were recorded in running a traverse. The length of AB and CD has been omitted. Determine the omitted (missing) data. **10**

Line	Length in mts	Bearing
AB	?	33° 45′
BC	300	86° 23′
CD	?	169° 23′
DE	450	243° 54′
EA	268	317° 30′

13. Determine the RL of top of the tower from the following data : **10**

Instrument station	Reading on BM	Angle of Elevation to the top of tower
A	3.685	+ 15° 35′
B	2.430	+ 12° 20′

Reduced level of BM as 1850.000 mt. Station A and B are in same line with the top of tower. Distance between A and B is 40 mts.

14. A Tachometer was set up at a station P and the following observation are made on vertically held staff. Take multiplying constant as '100', Additive constant as '0'. **10**

Station	Staff Station	Vertical angle	Stadia hair reading
P	BM	–3° 25′	3.425, 3.750, 4.075
	Q	+10°30′	1.950, 2.800, 3.650

R.L. of BM as 450.500 mts. Calculate the distance between P and Q and R.L. of Q.

15. Two straights intersect at chainage 2350.450 mts and the angle of instruction is 130°. If the radius of the simple curve is 680 mts, find the following : **10**

    (i) Tangent lengths

    (ii) Chainage of point of commencement or point of curve

    (iii) Curve length

    (iv) Chainage point of tangency or point of tangency

    (v) Length of long chord

16. Two straights PQ and QR are intersected by a line MN. The angle PMN and MNR are 145° and 140° respectively. The radius of first curve is 650 mts and the second arc is 430 mts. Find the chainage of the tangent points and point of compound curve. The chainage of point of Intersection Q is 3630 mts. **10**

17. Two Tengents intersect at a chainage 1230 mts and the deflection angle being 40°. Calculate all the data necessary for setting out a simple curve with radius of curve 320 mts, by offset from chord produced. The Peg Interval being 30 mts. Prepare the curve table. **10**

18. What is meant by remote sensing ? What are it's basic principles and application ? **10**

19. Explain the procedure of setting out simple curve by Rankin's method using total station. **10**