C14-C-**404**

4422

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DCE - IV SEMESTER EXAMINATION

SURVEYING - III

Time : **3** Hours]   [Total Marks : **80**

PART - A   **3×10=30**

Instructions :   *(1) Answer **ALL** questions.*

*(2) Each question carries **THREE** marks.*

(3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1   State the principle and necessary of conducting trigonometric leveling. $1\frac{1}{2}+1\frac{1}{2}$

2   What are the different methods of tacheometry.   **3×1**

3   What is an analytic lens ? What are the advantages of analytic lens ?   **1+2**

4   Draw the neat sketch of simple curve and name its elements. $1\frac{1}{2}+1\frac{1}{2}$

5   If the radius of curve is 300 m, calculate the degree of curve.   **3**

6   What are the three basic functions of EDM instruments ?   **3×1**

7   State the components of GIS.   **3×1**

8   What are the uses of stereo-photogrammetry.   **3×1**

9   State three functions of total station.   **3×1**

10 State any six components of total station. $6\times\frac{1}{2}$

PART - B
10×5=50

Instructions :
(1) Answer any **FIVE** questions.
(2) Each question carries **TEN** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11 Find the elevation of the top of church spire 'A' from the following data :   **2+4+4**

Station	Sight to	Vertical Angle	Remarks
B	A	+25°23'	Staff reading BM 1.350 m
C	A	+16°40'	Staff reading on BM 1.225 m R.L. of BM 152.260 m. BC = 30 m

A, B and C are with same vertical plane.

12 Find the reduced level of top of tower 'C' from the following observations taken from stations 'A' and 'B', 50m apart.   **2+4+4**
Angle BAC = 60°, Angle ABC = 50°
Angle of elevation from 'A' to the top of spire 'C' = 30°
Angle of elevation from 'B' to the top of spire 'C' = 29°
Staff reading from 'A' taken on bench mark of reduced level 20.00m = 2.500m.
Staff reading from 'B' taken on bench mark = 0.5 m.

13 Describe the methods of tacheometry and enlist the uses of tacheometry survey.   **6+4**

14 A tacheometer was set up an intermediate station 'C' on the line 'AB' and following reading were obtained :   **2+4+4**

Staff Station	Vertical Angle	Staff Reading		
A	-6°20'	0.445	1.675	2.905
B	+4°20'	0.950	1.880	2.810

The instrument was fitted with an analytic lens and the multiplying constant was 100 and zero.

15 Explain briefly the method of setting out a curve by Rankin's method.   **2+8**

16 Two straights meet at an angle of 150° at chainage $4 \times 2\frac{1}{2} = 10$
    35 × 12.8 m. They are connected by a circular curve of
    R = 300m and chain is 20 m.

    Determined :

    (a) Length of curve

    (b) Chainage at first and last point of the curve

    (c) Length of long chord

    (d) Apex distance.

17 (a) What are the uses of electronic theodilite.   **4**

    (b) What are the advantages of GPS.   **3**

    (c) What are the points to be considered for selecting   **3**
         the map projection ?

18 State the advantages and disadvantages of total station. **6+4**

_____