



C14-C-404

**4427**

**BOARD DIPLOMA EXAMINATION, (C-14)**

**OCT / NOV-2017**

**DCE-FOURTH SEMESTER EXAMINATION**

**SURVEYING- III**

Time : 3 Hours ]

[Total Marks : 80

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**PART - A**

3 × 10 = 30

**Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. What is Trigonometric Levelling? When is it used?
2. What is Tacheometric Survey? List the instruments needed for Tacheometry.
3. List out different methods of Tacheometric Survey.
4. State the types of Horizontal Curves.
5. Define the following terms (i) Back Tangent (ii) Apex distance (iii) Mid ordinate.
6. List out the Advanced Electronic Surveying instruments and Systems.
7. State the importance of GPS Receivers.
8. Define Photogrammetry and state its uses.
9. What do you understand by Total Station? State two advantages of Total Station.
10. State the types of Total Stations.

**PART - B**

10 X 5 = 50

- Instructions :** (1) Answer any **five** questions  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.

11. a) Enumerate the different cases that occur in trigonometrical levelling to find the elevation and distance of a given object.  
b) Derive the formula for finding height and elevation of an object when the base of the object is accessible.
12. Find the elevation of a top of a Tower, with the data given below:

Inst.at	Reading on B.M.	Angle of Elevation	Remarks
A	0.865	20°30''	RL of BM = 156.45m
B	1.225	12°20''	Distance AB = 40 m

Stations A, B and the top of the Tower are in the same vertical plane.

13. a. State the Principle of Stadia Tacheometry.  
b. Explain the Field procedure of determining the Tacheometric constants.
14. A Tacheometer was set up at an intermediate station P on a line AB and the following observations were made on a vertically held staff at A and B.

Staff at	Vertical Angle	Stadia Readings
A	+ 9°30''	2.100, 2.700, 3.300
B	-6°20''	1.650, 1.900, 2.150

Compute the Horizontal and Vertical distances between A and B. The instrument is fitted with Anallactic lens and multiplying constant is 100.

15. With the help of a neat sketch, explain all the elements of a Simple Curve.
16. Determine the following (i) Radial (ii) Perpendicular off sets to be set out at 10 m interval along the tangents to locate a 310 m Radius curve, the length of each chain being 20 m.
17. Enumerate the advantages and disadvantages of Global positioning System.
18. Explain the procedure for measurement of area with single station setup using Total Station.

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