

4427

BOARD DIPLOMA EXAMINATION, (C-14) OCT / NOV-2017

DCE-FOURTH SEMESTER EXAMINATION

SURVEYING- III

Time: 3 Hours] [Total Marks: 80

PART - A

 $3 \times 10 = 30$

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.

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- **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
В	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	+ 9030"	2.100, 2.700, 3.300
В	-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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