



C14-C-404

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BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2018
DCE—FOURTH 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) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State the principle and necessity of trigonometric leveling.
2. State the uses of tachometric survey.
3. What is an anallactic lens? What are the advantages of using it?
4. Distinguish between a simple curve and a compound curve.
5. Define the terms (a) point of tangency, (b) long chord and (c) normal chord.
6. State the principle of EDM equipment.
7. Define the terms (a) GPS and (b) GIS.
8. Distinguish between terrestrial photogrammetry and aerial photogrammetry.
9. State the importance of total station in modern surveying.
10. What do you understand by 'resection' in total station?

PART-B

10×5=50

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

- 11.** Derive the formula to find the distance and elevation of the object when the base of the object is inaccessible and instrument stations and object are in the same vertical plane.
- 12.** Find the elevation of a top of a chimney with the data given below :

<i>Inst. at</i>	<i>Reading on BM</i>	<i>Angle of elevation</i>	<i>Remarks</i>
<i>P</i>	1.535	12°36'	RL of BM=76.15 m
<i>Q</i>	1.420	9°24'	Distance PQ=30 m

- 13.** Derive the formulate to determine the horizontal distance of staff station from the instrument station using stadia techeometry, when the line of collimation is horizontal with staff held vertical.
- 14.** The following observations are made on a staff held vertical with a tacheometer fitted with an anallactic lens. The constant of instrument is 100.

<i>Instrument at</i>	<i>Height of Axis</i>	<i>Staff at</i>	<i>Vertical angle</i>	<i>Stadia readings</i>
<i>A</i>	1.45	<i>B</i>	-3°30'	2,100,2.550,3.115
		<i>C</i>	+4°20'	1.625, 2.160, 2.685

Compute the horizontal between *B* and *C* from *A* and RLs of *B* and *C* if the RL of *A* is 250.25 m.

- 15.** Explain the procedure for setting a simple curve by offsets from chords produced.
- 16.** Two tangents intersect at chainage 1186.0 m, the deflection angle is 48°30'. Calculate the necessary data for setting out a curve of radius 280 m to connect the two tangents if it is intended to set out the curve by offsets from chords produced. Take peg interval as 20 m.
- 17.** Explain various applications of GIS Civil Engineering.
- 18.** Explain the procedure of traversing using total station.