



c09-c-305

3221

BOARD DIPLOMA EXAMINATION, (C-09)

JUNE—2019

DCE—THIRD SEMESTER EXAMINATION

SURVEYING—II

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 fundamental lines of a theodolite.
2. State the errors in theodolite surveying.
3. State the transit rule.
4. State the expression to calculate the height of an object when the base of the object is accessible.
5. State the principle of stadia tacheometry.
6. What are the tacheometric constants?
7. State the various linear methods of curve setting.
8. Find the degree of the curve, if the radius of the curve is 500 m.
9. State the principle of EDM.
10. State the types of photogrammetry.

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**PART—B**

10×5=50

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

11. It was not possible to observe the length and bearing of a line *AB* directly and the following are the observations made from two stations *C* and *D* :

<i>Line</i>	<i>Length (m)</i>	<i>Bearing</i>
CA	129	S 68° 24' W
CD	294	N 20° 36' W
DB	108	N 60° 18' W

Compute the length and bearing of *AB*.

12. Explain the measurement of horizontal angle by the method of reiteration using a theodolite.
13. Find the RL of the top of the chimney from the following data :

<i>Inst. station</i>	<i>Reading on BM</i>	<i>Vertical angle</i>	<i>RL of BM</i>	<i>Distance AB (in m)</i>	<i>Remarks</i>
A	1.578	10° 12'	543.075	30 m	A and B are in line with top of chimney
B	1.269	8° 20'	—	—	—

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14. Following readings were taken by a tacheometer from a station *A*. The staff was kept vertical. The constant of the instrument is 100 and is fitted with anallatic lens. Find the horizontal distance from *A* to *B* and the reduced level of *B* :

<i>Instrument station</i>	<i>Staff station</i>	<i>Vertical angle</i>	<i>Hair readings</i>	<i>Remarks</i>
A	BM	-6° 00'	1.100, 1.153, 1.206	RL of BM 976.000m
—	B	+8° 00'	0.982, 1.085, 1.188	—

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15. Calculate the ordinates from 150 m long chord at 10.0 m interval to set out a simple circular curve of  $8^\circ$ .
16. Calculate the necessary data to set out a right-handed circular curve of 600 m radius to connect two straights intersecting at a chainage of 3605 m by Rankine's method of deflection angles, the angle of deflection being  $25^\circ$  and peg interval of 30 m.
17. State the applications of GPS and GIS in civil engineering.
18. Write about the various platforms and sensors used in remote sensing.

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