C16-C-**304**

6225

BOARD DIPLOMA EXAMINATION, (C–16)

OCT/NOV—2018

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. Define latitude and departure of a survey line.

2. List the errors that are eliminated by repetition method.

3. List any eight parts of a theodolite.

4. The angle of elevation to the top of the tower observed from the instrument station with theodolite is 35 30 . The distance between the instrument station and the tower is 175 m. What is the height of the tower?

5. List out different cases of trigonometric levelling.

6. What do you mean by stadia tacheometry?

7. Enumerate the difference between stadia and tangential tacheometry.

8. Define degree of curve and state the relation between radius and degree of curve.

9. Define the following :

(a) Point of commencement

(b) Back tangent

10. List any three parts of total station and state their functions.

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. Explain the traversing with theodolite by included angle method.   10

12. Explain briefly the sources of errors in theodolite survey.   10

13. Determine elevation of top of chimney *A* from the following observations :   10

Inst. Station	Sight to	Vertical Angle	Remarks
P	*A*	24 23	Staff reading on BM is 1·340 m
Q	*A*	16 60	Staff reading on BM is 1·235 m, RL of BM = 151·260 m, *PQ* = 30 m

14. The stadia readings with horizontal sight on a vertical staff held 50 m away from a tacheometer were 1·281 m and 1·784 m. The focal length of object glass was 30 cm. The distance between the object glass and trunnion axis of the tacheometer was 15 cm. Calculate the stadia intercept.   10

15. A tacheometer fitted with anallactic lens was set up at station *C* and following readings were obtained :

Instrument at	Staff Station	WCB	Vertical Angle	Hair Readings
C	*A*	13 25	0 00	1·870, 2·260, 2·620
	B	61 45	15 10	1·840, 2·140, 2·470

Determine the length of line *AB* and also RL of *A* and *B*, if RL of *C* = 130 m, multiplying constant = 100 and additive constant = 0. 10

16. Determine the offsets from tangents at intervals of 20 m to locate 400 m radius circular curve with deflection angle of 35° by *(a)* radial offsets and *(b)* perpendicular offsets. 10

17. A simple circular curve has a radius of 300 m and long chord of length 130 m. Calculate offsets to the curve from the long chord at 10 m intervals. 10

18. What is total station? Briefly explain the procedure for LS and CS for a proposed road. 10

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