C14–C–**304**

4228

BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2017

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 levelling. List different types of levelling instrument.

            1+(½×4)=3

2. Define the following :   2×1½=3

    (a) Line of collimation

    (b) Axis of telescope

3. List any three temporary adjustments of dumpy caves.

4. Give the expressions for curvature, refraction and combined corrections.

5. List any three precautions to avoid errors in dumpy leveling.

6. Give any three uses of contours.

7. Define the following :   1½×2=3

    (a) Transiting

    (b) Swinging

8. List any six important component parts of theodolite.

9. List any three methods of traversing with a theodolite.

10. Define the following :   1½×2=3

    (a) Latitude

    (b) Departure

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. *(a)* List any four comparisons between height of collimation method and fall method.   4

    (b) Find the RLS various points *B* to *F* by height of collimation method and also do the arithmetic checks, if the RL of point *A* 100 000 m and staff readings from *A* to *F* are 0·385, 0·58, 0·76, 0·97, 1·24 and 1·44.   6

12. *(a)* Classify different types of leveling. 4

(b) Explain briefly the reciprocal leveling with neat sketch and derive an expression for 'different in levels' and 'total error'. 6

13. *(a)* List and explain briefly different typse of BM. 5

(b) Explain how we can adjust the axis of bubble tube perpendicular to the vertical axis (one peg method). 5

14. What are the sources of errors in leveling? Explain briefly. Give any four precautions to avoid errors. 8+2=10

15. Define contour. Explain contouring by the following methods :

1+3+3+3=10

(a) Cross section

(b) Squares

(c) Radial line

16. Explain the measuring of horizontal angle between two points by repetition method. Give the proforma. 8+2=10

17. *(a)* List any four fundamental lines in theodolite. Give any three relations between them. 2+3=5

(b) The following are the lengths and bearings of the sides of a closed traverse *ABCDA*. Compute the length and the bearings of missing line : 5

Line	Length	Bearing
AB	76·80	S 39°–48 E
BC	195·60	N 36°–24 E
CD	37·20	S 20°–12 E

18. The following are the corrected latitudes and departures of a closed traverse *ABCDA*. By assuming independent coordinates of point *A* (10, 5) for North and East respectively.

(a) Calculate independent coordinates of other stations.

(b) Find the area of the traverse : 10

Line	Corrected coordinates			
	Latitude		*Departure*	
	N	S	E	W
AB	9·853		1·722	
BC	2·137		10·164	
CD		11·939	1·133	
DA		0·051		13·019

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