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C09–C–305

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—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) Answer should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the steps involved in carrying out temporary adjustments for taking observations.

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

3. State any three instrumental errors in theodolite survey.

4. List out different cases of trigonometric levelling.

5. What are different methods of tacheometric surveying?

6. State any three disadvantages of tangential tacheometry.

7. List different methods of curve setting in the field.

8. List different angular methods of curve setting.

9. What is terrestrial photograph?

10. Write a short note on distomat.

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* :

Line	*Length* (in m)	*Bearing*
CA	129·0	S 68°24 W
CD	294·0	N 20°36 E
DB	108·0	N 60°18 W

Compute the length and bearing of *AB* and also the angles *CAB* and *DBA*.

12. Explain how to solve the omitted length and bearing of one-side of traverse with a neat sketch.

13. In order to ascertain the elevation of the top of a signal *Q* on a hill, observations were made from two instrument stations *P* and *R* at a horizontal distance of 100 m apart, the stations *P* and *R* being in line with *Q*. The angles of elevation of *Q* at *P* and *R* were 18 42 and 18 06 respectively. The staff readings upon the benchmark of elevation 287·28 m were respectively 2·870 m and 3·750 m when the instrument was at *P* and *R*, the telescope being horizontal. Determine the elevation of the foot of the signal, if the height of the signal above its base is 3 m.

14. Derive an expression for the horizontal distance *D* of a vertical staff from a tacheometer and RL of staff station if the line of sight is horizontal and staff held vertical.

15. Two straights *AB* and *BC* intersect at chainage 3810 m. The angle of intersection is 140°. It is required to set out a 5° simple circular curve to connect the straights. Calculate all the necessary data to set out the curve by the method of offsets from the chords produced with a peg interval of 30 m.

16. How will you set out a circular curve with a chain and a theodolite by method of tangential angles.

17. *(a)* Define GIS along with its subsystems?

(b) List various types of data representation in GIS and list out the categories of GIS.

18. What are the three segments of GPS? Explain their functions briefly.

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