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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. Define trigonometrical levelling.

2. What are the characteristics of good tacheometer?

3. What principle is used in tacheometer?

4. What are the methods to setting out the simple curve? Name them.

5. Name any six elements of a simple curve.

6. Write the uses of EDM.

7. Draw the flowchart of GIS architecture.

8. List the points to select types of map projections.

9. What are the disadvantages of total station?

10. What are the types of total stations?

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 methods of tacheometry.

12. Derive the formula to find the RL of top of a tower, whose base is in accessible and instrument stations are in same vertical plane.

13. Determine the reduced level of the top of a pole from the following observations :

Instrument at	*Reading on BM*	*Vertical angle*	*RL on BM*	*Remarks*	
A	2·625	19 48	500 m	*AB* 50 m	*A*, *B*, *C* are in
B	1·516	14 25	500 m		Same plane

14. A tacheometer was set up at an intermediate station *C* on the line *AB* and the following readings were obtained :

Staff at	*Vertical angle*	*Staff readings*
A	6 20	0·445; 1·675; 2·905
B	4 20	0·950; 1·880; 2·810

The instrument was fitted with analytic lens and the multiplying constant was 100. Find the gradient of line *A* and *B*.

15. Calculate the ordinate from a 150 m long chord at 10 m interval to set out a simple circular curve of 8°.

16. Write the procedure to setting out a curve by radial offsets from tangents.

17. *(a)* State the applications of GIS in civil engineering. 6

(b) Write a note on distomat. 4

18. What are the points can be recorded in the field book as recording in a total station survey?

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