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C09–C–305

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2018

DCE—THIRD SEMESTER EXAMINATION

SURVEYING—II

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

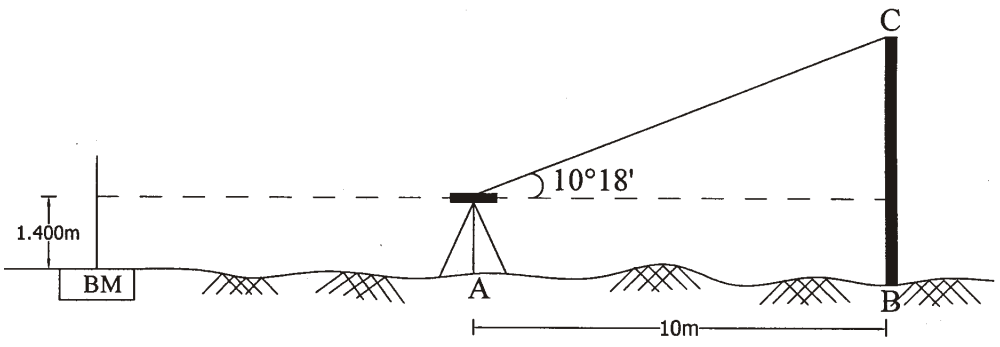
Instructions : (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the methods of theodolite traversing. 3

2. List any six parts of a theodolite. 3

3. A line is of length 190 m and its bearing is 60°. Calculate the latitude and departure of line. 3

4. Determine the reduced level of a point *C* shown in the figure 1 below. RL of BM is +100·00 m. Neglect curvature and refraction effect. 3



5. State the principle of tacheometry. 3

6. State any three disadvantages of tangential method of tacheometry. 3

7. Two adjacents *AB* and *BC* intersect at a point *B* at chainage of 1900 m, the deflection angle being 30°. Calculate the first tangent length for setting out a circular curve of radius 150 m. 3

8. Define *(a)* back tangent and *(b)* forward tangent. 3

9. State any three uses of distomat. 3

10. State the principle of GIS. 3

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 measurement of horizontal angle by the method of reiteration using a theodolite. 10

12. A closed traverse *ABCDE* was run in anti-clockwise direction by the method of included angles. The bearing of *AB* was observed to be 120°15 0 . Compute the closing error in the traverse. 10

Line	*Length* (in m)	*Observed Included Angle*	*Station*
AB	217·00	117°43 40	*A*
BC	318·50	122°14 40	*B*
CD	375·00	79°54 00	*C*
DE	283·00	92°53 40	*D*
EA	172·50	127°21 40	*E*

13. A theodolite was setup at a horizontal distance 200 m from a tower. The angle of elevation to the top of tower was 8 18 , while angle of depression to the foot of tower was 2º24 . The staff reading on the BM of RL 248·362 m with telescope horizontal was 1·286 m. Find :

(a) Height of the tower 5

(b) RL of top of tower 2½

(c) RL of foot of tower 2½

14. A staff was held vertically at a horizontal distance of 46·20 m and 117·60 m from the center of a theodolite fitted with stadia hairs and the staff intercepts with the telescope horizontal were 0·45 m and 1·15 m respectively. The instrument was then set over a station *P* or RL is 150·00 m. The height of instrument axis being 1·380 m. The stadia hair readings on a staff held vertically at a station *Q* were 1·200 m, 1·930 m and 2·650 m respectively, while the vertical angle was 9 30 . Find *(a)* Horizontal distance between *P* and *Q* and *(b)* Reduced level of *Q*. 5+5

15. Explain the procedure for setting a simple curve by offsets from chords produced. 10

16. A simple curve has a radius of 300 m and a long chord of length 140 m. Calculate offsets to the curve from the long chord at 10 m intervals. 10

17. State any five uses of *(a)* total station and *(b)* GPS. 5+5

18. *(a)* Explain different kinds of geographic information. 5

(b) State the principle of terrestrial photogrammetry. 2½

(c) Define remote sensing. 2½

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