4422

BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DCE-FOURTH SEMESTER EXAMINATION

SURVEYING-III

Time : 3 Hours]   [Total Marks: 80

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PART-A

3X10=30

Instructions   :   1. Answer **All** questions.

2. Each question carries THREE marks

3. Answer should be brief and straight to the point

1. Define Trigonometric leveling.

2. List the different methods of tacheometry.

3. List the uses of tacheometry.

4. Mention any three methods of setting out simple circular curve by chain and tape.

5. If the radius of curve is 300m calculate the degree of curve taking standard chord length 20m.

6. Write the principle of an EDM instrument.

7. Write the advantages of GPS.

8. State the principle of Photogrammetry.

9. Write any three precautions to be taken while using total station.

10. Write the advantages of total station.

PART-B

Instructions : 1. Answer any **five** questions. Each question carries **ten** marks.

2. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Determine elevation of top of tower 'A' from the following observations

Instrument at	Staff reading on B.M	Vertical angle to pt A	Remarks
P	1.650	$+18^0.20'$	RL of BM = 150.00m
Q	1.550	$+10^0.40'$	Distance PQ= 20m

12. Two vertical angles $+3^0.30'$ and $-5^0.25'$ are measured to top and bottom of the pole from instrument station which is at a distance of 80m from base of the pose. Find the height of the pole and RL of the bottom of the pole. The RL of instrument axis is 150.00m.

13. (a) The distances of 50m and 300m were accurately measures on the ground with the intercepts on the staff 0.49 at the former distance and 2.99 at the later. Find the constants of the tacheometer.
    (b) What are the advantages of tangential tacheometry?

14. A tacheometer was setup at an intermediate station 'C' on the line AB and following reading were obtained.

Staff Station	Vertical angle	Staff Readings		
A	$-6^0.20'$	0.445	1.675	2.905
B	$+4^0.20'$	0.950	1.880	2.810

The instrument was fitted with an anallatic lens and the constant was 100. Find the gradient of the line joining station A and Station B. Take RL of A=100.

15. Two straight lines AB and BC intersect at chainage 2060m. The intersection angle being 140^0. Calculate the radius and chainage of the tangent points of a circular curve connecting the two lines if D=6^0.

16. (a) Determine the perpendicular offsets at 20m intervals along tangents to locate a simple circular curve of 250m radius. Take the deflection as angle 40^0.
    (b) Draw the sketch of simple circular and show their elements.

17. (a) Write the application of GIS in various fields.
    (b) List the applications of GPS in civil Engineering.

18. (a) Explain the orientation of total station by resection method.
    (b) Explain the procedure for measurement of area with single station setup by using total station.

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