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C16-C-304

6225

BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—2022

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 steps involved in carrying out temporary adjustments with theodolite.
2. Define (a) latitude and (b) departure.
3. Define the terms (a) face-left observation and (b) face-right observation.
4. Write the situation when trigonometric levelling is used.
- * 5. Write any three functions of trigonometric levelling.
6. State the principle of tacheometry.
7. Write the expression for distance when the line of sight is horizontal and staff held is vertical.
8. Draw the neat sketch of a simple curve and name its elements.
9. List the chain and tape methods to set a curve.
10. List any six parts of total station.

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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain various types of errors in theodolite surveying.
12. Explain traversing with theodolite by included angle method.
13. Determine the elevation of the top of a flagstaff with the following observations :

Instrument station	Readings on BM	Angles of elevation	Remarks
A	1.375	+13°42'	RL of BM = 157.42 m
B	1.150	+8°30'	

Stations A and B and the top of the flagstaff are in the same vertical plane. Find the elevation of top of the flagstaff if the distance between A and B is 50 m.

14. Explain the methods of tacheometry.
15. A tacheometer was set up at an instrument station C on the line AB and following observations were made :

Staff station	Vertical angle	Hair readings
A	-8°40'	0.365, 0.980, 1.345
B	+5°54'	0.680, 1.115, 2.200

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

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16. Explain Rankine's method of deflection angles for setting out curves.
17. Calculate radial offsets and perpendicular offsets at 20 m interval along the tangents to locate a simple circular curve of 400 m radius.
18. Explain the procedure for measurement of area using total station.

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