



C14-C-304

4228

**BOARD DIPLOMA EXAMINATION, (C-14)
SEPTEMBER/OCTOBER - 2020
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. Define levelling. List different types of levelling instruments.
2. List any three fundamental lines of a level.
3. Define the terms (a) curvature and (b) refraction.
4. List any three temporary adjustments of dumpy level.
5. State any three uses of contour maps.
6. Define (a) fore sight, (b) back sight and (c) change point.
7. List out any six component parts of theodolite.
8. State any three instrumental errors in theodolite survey.

- * 9. Define (a) latitude and (b) departure.
10. Define plunging. What is the least count for transit theodolite?

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. Draw a neat sketch of dumpy level and mention its parts.
12. The following consecutive readings were taken with a dumpy level and a 4-m staff on a continuously sloping ground on a straight line at a common interval of 30 m :
- 0.680, 1.455, 1.855, 2.330, 2.885, 3.380, 1.055, 1.860, 2.265, 3.540, 0.835, 0.945, 1.530 and 2.445
- The reduced level of the first point was 80.750 m. Rule out a page of a level field book and enter the above readings. Calculate the reduced levels of the points by the rise and fall method and apply usual checks.
13. Explain the sources of errors in levelling.
14. The following details refer to the reciprocal levels taken with a dumpy level :

Instrument station near to	Staff readings on		Remarks
	A	B	
A	1.156	2.597	Distance AB 1000 m
B	0.987	2.418	RL of B 100.000 m

Find—

- (a) RL of A;
 (b) combined error for curvature and refraction.

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- 15.** Write any ten characteristics of contours.
- 16.** Explain the procedure for measuring horizontal angle between two points by repetition method.
- 17.** The following are the lengths and bearings of a closed traverse ABCDA. Calculate the length and bearing of missing line DA :

<i>Line</i>	<i>Length</i>	<i>Bearing</i>
<i>AB</i>	76.80	S 39° 48 E
<i>BC</i>	195.60	N 36° 24 E
<i>CD</i>	37.20	N 20° 12 W
<i>DA</i>	?	?

- 18.** The following are the corrected consecutive coordinates of a closed traverse. Calculate the area of the traverse by independent coordinate method :

<i>Line</i>	<i>Latitude</i>	<i>Departure</i>
<i>AB</i>	77 062	312 139
<i>BC</i>	248 421	101 734
<i>CD</i>	123 993	254 686
<i>DE</i>	197 161	280 333
<i>EA</i>	252 315	121 146

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