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C14-C-304

4228

BOARD DIPLOMA EXAMINATION, (C-14)

JUNE—2019

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. State the purpose of levelling.
2. Define (a) Back Sight (b) Fore Sight (c) Change Point
3. List any three fundamental lines of level.
4. State any three uses of contour map.
5. List the errors eliminated in reciprocal levelling.
6. A lamp at the top of a light house is visible just above the horizon from a station at a sea level. The distance of the lamp from the station is 25 Km. Find the height of the light house.
7. List six component parts of theodolite.
8. What is meant by swinging and transiting theodolite?
9. The length and reduced bearing of a line are 150 m and N 30° W. Find the Latitude and Departure of the line.

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10. Explain briefly the procedure to prolong a line using the odolite.

### PART—B

10×5=50

**Instructions :** (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answer should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. State the component parts of a Dumpy level and briefly describe their functions.
12. (a) Explain in detail how longitudinal section and cross sectioning are done in a road project.  
(b) List the temporary adjustments necessary for dumpy level.
13. The following consecutive readings were taken with a level and 3 meter levelling staff on continuously sloping ground at a common interval of 20 meters:  
0.602, 1.234, 1.860, 2.574, 0.238, 0.914, 1.936, 2.872, 0.568, 1.824, 2.722.  
The reduced level of the first point was 191.12°. Rule out a page of a level field book and enter the above readings. Calculate the reduced levels of the points using Rise and Fall method and also the gradient of the line joining the first and last point.
14. The following reciprocal level were taken with a dumpy level

Instrument at	Staff Reading on		Remarks
	A	B	
A	1.156	2.597	Distance AB = 1200 m
B	0.987	2.418	RL of A = 625.555 m

- (i) The true difference between A and B.  
(ii) RL of B.  
(iii) The combined correction for curvature and refraction.

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15. (a) What is meant by contour interval? What factors does the contour interval depend?  
(b) Explain briefly the indirect method of locating contours.
16. (a) Explain the procedure of measure horizontal angle by method of reiteration.  
(b) Explain the procedure to measuring the bearing of a line using theodolite.
17. (a) Explain temporary adjustments of transit theodolite.  
(b) State the relationships between the fundamental lines of theodolite.
18. Given the following latitudes and departures of the sides of the traverse ABCDE. Calculate the area of the traverse by using independent co-ordinate method.

Line	Latitude (m)	Departure (m)
AB	+281	+351
BC	-340	+202
CD	-109	+80
DE	-207	-332
EA	+375	-301

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