



c09-c-105

3015

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2016

DCE—FIRST YEAR EXAMINATION

SURVEYING—I

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. Name the instruments used for taking linear and angular measurements in surveying.
2. List the precautions to be taken while entering the field book.
3. Draw the conventional symbols for the following :
 - (a) North direction
 - (b) Building
 - (c) Canal
4. Define (a) offset, (b) perpendicular offset and (c) oblique offset.
5. List the types of meridian and bearing.
6. Define local attraction and state the methods for elimination of local attraction.

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7. Define the terms ^{*} (a) back sight, (b) fore sight and (c) intermediate sight.
8. How do you carry out alignment of canals with the help of contour maps?
9. Write a short note on profile levelling with neat sketch.
10. List any three uses of Abney level.

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. What are different equipments used in chain surveying? Explain the functions of different equipments used in chain surveying.
12. Describe briefly various types of obstacle in chain surveying by giving examples with neat sketches.
13. List any ten parts of prismatic compass and state their functions.
14. The following interior angles were measured in a compass closed traverse. The bearings of a line AB was measured 150°15' with a prismatic compass. Calculate the bearings of all other lines, if $\angle A = 209^\circ 45'$, $\angle B = 50^\circ 15'$, $\angle C = 95^\circ 15'$, $\angle D = 102^\circ 15'$, $\angle E = 82^\circ 30'$.
15. (a) A luminous object on the top of a hill is visible just above the horizon at a certain station at sea level. The distance of the top of the hill from the station is 36 km. Find the height of the hill. Assume, diameter of the earth to be 12,740 km. 5
 (b) Briefly explain the need for calculating the curvature and refraction. Give the formulae for both. 5

16. While carrying out levelling operation with a dumpy level and a 4 m levelling staff, the following observations were recorded :

0.865, 1.430, 0.315, 2.430, 1.815, 3.260, 1.750, 2.105, 1.380

The levelling instrument was shifted after 4th and 7th readings. The first reading was on a BM of RL 100.00 m. Rule out a page of a level book and enters the above readings in correct form and compute the reduced levels of the remaining points by rise-and-fall method. Apply the check.

17. Following is the page of an old-level field book entered with pencil. Some of the entries got erased, and have been marked with crosses. Find the missing entries.

Station	B.S	I.S	F.S	Rise	Fall	R.L	Remarks
1	2.150					450.00	BM1
2	1.645		×	0.500			
3		2.345			×		
4	×		1.965	×			
5	2.050		1.825		0.400		
6		×		×		451.730	BM2 staff held against ceiling
7	1.690		×	0.120			
8	×		2.100		×		
9			×	×		499.100	BM3
	8.445						

18. Describe the method of determining the area of the plan by using electronic planimeter.
