



c09-c-105

3015

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2014

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. What are the instruments that are used for measuring
(a) horizontal distances and (b) horizontal angles?

2. Mention any four instruments used in chain surveying.

3. Distinguish between baseline and checkline.

4. Describe the process of setting right angles with an open-cross staff and tape.

5. What are (a) true meridian and (b) arbitrary meridian?

- * 6. What is bearing? Convert the following bearings from one system to another system :
- (a) 160 50
- (b) S 46 45 W
7. Define the following terms :
- (a) Foresight
- (b) Backsight
8. State any four uses of contour maps.
9. List any four points to be remembered while recording a level-field book.
10. Write any four 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. (a) What are the different types of obstacles in chaining?
- (b) Explain any two methods, how chaining is continued when a river come across a chain line.
12. (a) State and explain any two methods of calculating areas in chain surveying.

(b) The following offsets are taken from chain line to an irregular boundary. Find the area by trapezoidal rule :

Chainage (in m) :	0	50	100	150	200	250
Offsets (in m) :	2·8	3·1	4·2	6·2	5·0	4·8

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- 13.** (a) What are the common errors in compass surveying?
(b) The following bearings were observed while running a closed traverse where local attraction was suspected. Correct them for local attraction and tabular true bearings :

<i>Line</i>	<i>FB</i>	<i>BB</i>
<i>AB</i>	191 45	14 15
<i>BC</i>	41 25	223 50
<i>CD</i>	20 15	200 15
<i>DE</i>	230 15	50 15
<i>EA</i>	328 15	147 15

- 14.** (a) Sketch a prismatic compass. Identify eight component parts.
(b) Distinguish between whole circle bearing system and reduced bearing system.
- 15.** (a) Write a short note on error due to curvature and refraction.
(b) An observer standing on the deck of a ship first sees peak of a tower. The peak of a tower is 25 m above sea level and height of observer's eye is 8 m above sea level. Find the distance between observer from the tower.
- 16.** (a) Write any six characteristics of contours.
(b) Write about temporary adjustments to the dumpy level.
- 17.** While carrying out leveling operation with a dumpy level using a 4-m leveling staff, the following observations were made 0·705, 1·235, 2·540, 3·50, 0·830, 1·260, 2·75, 3·23, 0·90, 2·61. The first reading was on a BM of RL 90·00 m. Enter the above reading in the correct form and compute the reduced levels of the ground. Apply necessary check.
- 18.** (a) Describe the working of a pantograph for enlarging a plan with a neat sketch.
(b) List any four keys of digital planimeter.
