



**C14-C-106**

**4020**

**BOARD DIPLOMA EXAMINATION, (C-14)**

**OCT/NOV—2015**

**DCE—FIRST YEAR EXAMINATION**

**SURVEYING—I**

*Time* : 3 hours ]

[ *Total Marks* : 80

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**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 three instruments used for linear measurements.
2. State the classification of surveying based on nature of field of survey.
3. The length of a line measured with a 20 m chain was found to be 1200 m. Calculate the true length of the line if the chain was 0.1 m too long.
4. State the use of (a) Chain, (b) Offset rod and (c) Pegs.
5. List the three kinds of obstacles in chaining.
6. Define chain triangulation.
7. State the temporary adjustments of prismatic compass.

\* **8.** Convert the following whole circle bearings to reduced bearings :

(a)  $25^{\circ}15'$

(b)  $275^{\circ}45'$

(c)  $159^{\circ}55'$

**9.** State the classification of errors in compass survey.

**10.** State the uses of pantograph.

**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.** State and explain the stages of survey operations.

**12.** Define ranging and explain the methods of ranging by eye and using a line ranger. 2+4+4

**13.** The following perpendicular offsets were taken from a survey line to a hedge :

Distance (m)	0	15	30	45	60	70	80	100	120	140
Offsets (m)	7.60	8.50	10.7	12.8	10.6	9.5	8.3	7.9	6.4	4.4

Calculate the area enclosed by the survey line, the irregular boundary line and the first and the last offsets by trapezoidal rule.

- \* **14.** Explain two methods of chaining on sloping ground.
- 15.** (a) Define local attraction. How do you suspect local attraction at a station? 2+3
- (b) The following bearings were observed with a compass. Calculate the interior angles and apply check. 5

<i>Line</i>	<i>AB</i>	<i>BC</i>	<i>CD</i>	<i>DA</i>
<i>Fore bearing</i>	40°0	70°00	210°00	280°0

- 16.** The following bearings were observed while traversing with a compass. Mention which stations were affected by local attraction and find the corrected bearings :

<i>Line</i>	<i>AB</i>	<i>BC</i>	<i>CD</i>	<i>DE</i>	<i>EA</i>
<i>Fore bearing</i>	191°45	39°30	22°15	242°45	330°15
<i>Back bearing</i>	13°0	222°30	200°30	62°45	147°45

- 17.** Describe the prismatic compass with a sketch showing the parts and their uses.
- 18.** Explain the uses and working principles of electronic planimeter.

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