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C14-C-106

4020

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DCE - FIRST YEAR EXAMINATION

SURVEYING - I

Time : 3 hours ]

[ Total Marks : 80

**PART—A**

4×5=20

**Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **four** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State the fundamental principles of surveying.
2. List the instruments used for linear and angular measurements.
3. List out the equipment used in chain surveying.
4. Write the errors and mistakes in chain surveying.
5. What is off-set and mention any two instruments for calculating right angles.
6. Briefly explain the methods of ranging a line.
7. State the principle and use of compass surveying.
8. Define whole circle bearings and quadrantal bearings.

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9. Convert the following whole circle bearings into quadrantal bearings :
- (a)  $350^{\circ}30'$
  - (b)  $165^{\circ}30'$
10. List the use of electronic Planimeter.

### PART—B

15×4=60

**Instructions :** (1) Answer *any four* questions.  
(2) Each question carries **fifteen** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Classify the surveying based on purpose and instruments used.
12. List the various obstacles occurs in chain surveying.
13. Explain briefly how to calculate the area of irregular boundaries by using :
- (a) Trapezoidal rule
  - (b) Simpson's rule
14. List out the errors and mistakes in chain surveying.
15. Briefly explain whole circle bearings and quadrantal bearings.
16. Draw a neat sketch of a prismatic compass and label the parts.
17. What is the general role of a surveyor while aligning a new road work.
18. Explain the working and use of Pentagraph.

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