



C14-C-106

4020

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2018

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 used for linear and angular measurements.
2. Define surveying and state two purpose of surveying.
3. Explain the function of each of the following :
  - (a) Ranging rod
  - (b) Tape
  - (c) Arrow
4. Draw the conventional signs adopted in chain surveying for the following :
  - (a) Wire fencing
  - (b) River
  - (c) Wall with gate
5. State any three points to be kept in mind in selecting the survey stations.

6. What are the duties of a leader?
- \* 7. Define the following:  
 (a) Bearing  
 (b) True bearing
8. What is the principle of compass surveying?
9. Define the following :  
 (a) Open traverse  
 (b) Closed traverse
10. List three minor instruments used in surveying.

**PART-B**

10×5=50

- Instructions :** (1) Answer *any five* questions.  
 (2) Each questions carries **ten** marks.  
 (3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Explain different stages of survey operations?
12. Following perpendicular offsets were taken from the centre line of a road to a hedge:

Offset no	1	2	3	4	5	6	7	8	9
Offset in m	4	6	5	7	5	4	3	4	6
Distance in m	0	15	30	45	60	80	100	110	120

Calculate the area between the centre line of road and hedge by applying.

- \* 13. (a) Explain the various sources of errors in chain surveying.  
 (b) Write the various types of obstacles in chaining, with an example to each type.

14. (a) Explain the method of chaining by stepping method.

\* (b) A 30m chain, was tested before the commencement of the day's work and found 5cm too long. After chaining a distance of 1600m, it was checked again and found 10cm too long. At the end of days work, after chaining 3000m, the chain was found to be 18cm, too long. find the true distance measured.

15. The following are the bearings of the lines of a closed traverse ABCD.

Line	Fore Bearing	Back Bearing
AB	N45°10' E	S45°10' W
BC	S60°40' E	N60°40' W
CD	S4°50' E	N4°50' W
DA	N80°40' W	S80°40' E

Calculate the interior angles of the traverse and apply check.

16. (a) List out the three types of errors that are usually met with the compass surveying.

(b) What are the precautions to be taken in compass surveying?

17. Draw a neat sketch of a prismatic compass and explain the functions of each component in it?

18. (a) State the uses of Abney level.

(b) State the uses of pentagraph.

\* \* \*