

4020

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH /APRIL-2019

DCE - FIRST YEAR EXAMINATION

SURVEYING-I

Time: 3 Hours

Max. Marks:80

## PART-A

10x3=30M

**Instructions :** 1) Answer **all** questions. Each question carries **three** marks.  
2) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1) State classifications of surveys based on the instruments used.
- 2) Write any three objects of surveying.
- 3) What is the purpose of chain surveying?
- 4) Define survey lines. Mention the different types of survey lines.
- 5) Define the following
  - (a) Index sketch
  - (b) Base line of survey
- 6) Write short notes on cross staff survey?
- 7) State the purpose of compass survey.
- 8) What is meant by local attraction?
- 9) Convert the following QBS to WCBS,
  - (a) QB of PQ = S 36° 30' W
  - (b) QB of QR = S 43° 30' E
  - (c) QB of RS = N 26° 45' E
- 10) List any six minor instruments.

**PART-B**

**5x10=50M**

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

- 11) Explain the two main principles of surveying.
- 12) a) Classify the obstructions to chaining  
b) To find the width of river flowing west to east P and Q are fixed along a bank parallel to it at 400m apart. The bearing of a pole R on the other bank of the river as observed from P and Q are  $30^\circ$  and  $315^\circ$  respectively. Determine the width of the river.
- 13) List the instruments used in chain surveying. Explain briefly the use of each instrument.
- 14) The following offsets were taken from a chain line to a hedge.

Diatance in m	0	5	10	15	20	30	40	55	70
Offset in m	3	4	6	5	4	5	4	3	2

Calculate the area in sq.mts. Enclosed by the chain line, the hedge and the end offsets by a) Trapezoidal rule b) Simpsons rule

- 15) Explain the following terms:
- a) Whole Circle Bearing System
  - b) Quadrantal Bearing System
  - c) Forward Bearing
  - d) Traversing.

- \* 16) The following bearings were observed while running a closed traverse where local attraction was suspected. Correct them for local attraction.

Line	Fore bearing	Back bearing
AB	191°45'	14°15'
BC	41°25'	223°50'
CD	20°15'	200°15'
DE	230°15'	50°15'
EA	328°15'	147°15'

17) Describe the field procedure of Prismatic compass survey.

18) Explain the working principle of Electronic planimeter with neat sketch.

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