



C09-C-105

3015

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH / APRIL - 2019

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) Answer should be brief and straight to the point.

- 1 State the classification of survey based on nature of the field.
- 2 Draw the conventional symbols for the following :
 - (a) Double Railway line
 - (b) Metal Road
 - (c) Level crossing.
- 3 What is the formula to calculate the area of a piece of land using Simpson's rule. Give a neat sketch.
- 4 Distinguish between perpendicular off-set and oblique off-set.
- 5 List the types of meridians and bearings.
- 6 Name six component parts in prismatic compass.
- 7 Compare the line collimation with rise and fall method in Levelling.
- 8 Distinguish between differential levelling and fly levelling.
- 9
 - (a) Define a Line of collimation
 - (b) Axis of telescope
 - (c) Vertical axis
- 10 Write uses of Abney level.

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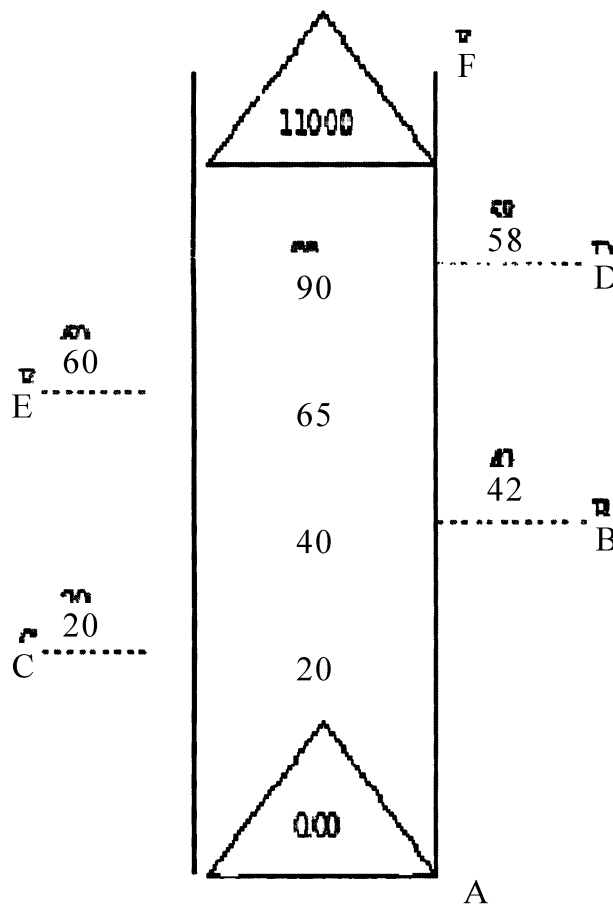
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PART - B

10×5=50

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

- 11 Explain how do you measure a line on sloping ground.
- 12 A page of the field book of a cross staff surveying is given below. Plot the required fig. and calculate the total area of the field. All dimensions are in meters.



- 13 Explain different errors in compass survey.

- 14 The following bearings were observed in running a closed compass traverse. At what stations do you suspect the local attraction and determine the corrected bearings ?

LINE	Fore Bearing	Back Bearing
AB	75°05'	254°20'
BC	115°20'	296°35'
CD	165°35'	345°35'
DE	224°50'	44°05'
EA	304°50'	125°05'

- 15 The line of sight from two stations A and B just grazes the sea level. If the height of A and B above sea level are 100 and 150 m respectively, find the distance AB (diameter of earth = 12,880 km).
- 16 (a) Define Levelling and list the instruments used in levelling.
(b) State the functions of any five component parts of a dumpy level.
- 17 Define contour gradient and explain the procedure of finding contour gradient.
- 18 Describe the method of determining the area of the plan by using electronic planimeter.