



C16/C16S-C-306

5419

BOARD DIPLOMA EXAMINATION, (C-16/C-16S)

MARCH / APRIL - 2019

DCE - III SEMESTER EXAMINATION

SURVEYING - III

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 Define contour interval and contour gradient.
- 2 List any six parts of a theodolite.
- 3 Define Trigonometric levelling.
- 4 What is meant by tacheometry? List the instruments needed for tacheometry.
- 5 Define the following terms :  
(a) Point of tangency (b) Normal chord.
- 6 The algebraic sum of latitudes and that of departure of a closed traverse were -1.5m and 0.9m respectively. Find the length and direction of closing error.
- 7 State the components of GIS.
- 8 Define simple curve and compound curve.
- 9 Write any three uses of electronic theodolite.
- 10 What is photogrammetry?

## PART - B

10 × 5 = 50

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

- 11 (a) State the uses of contour maps in engineering purposes.  
(b) Explain any five characteristics of contours.

- 12 A closed traverse was conducted round on obstacle and the following observations were made, work out the missing quantities.

Line	Length (m)	Bearing
AB	500	98°30'
BC	620	30°20'
CD	468	298°30'
DE	?	230°00'
EA	?	150°10'

- 13 Find the reduced level of a church spire C from the following observations taken from two stations A and B, 50m apart.  
Angle BAC = 60°, Angle ABC = 50°.  
Angle of elevation from A to the top of Spire 'C' = 30°  
Angle of elevation from B to the top of spire 'C' = 29°  
Staff reading from A, taken on benchmark of reduced level 20.00 m is 2.500 m, staff reading from B, taken on bench mark is 0.500 m.  
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- 14 (a) List the sources of errors in stadia tacheometry.  
(b) The distance of 50m and 300m were accurately measured out and the intercepts on the staff between the outer stadia were 0.49 at the former distance and 2.99 at the later. Find out the constants of the tacheometer.

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- 15 (a) Calculate the ordinate from a 150m long chord at 10m interval to setout a simple circular curve of  $8^\circ$ .  
(b) Explain the elements used in simple circular curve.
- 16 State and explain the component parts and functions of transit theodolite with neat sketch.
- 17 Two tangents intersect at a point B of chainage 380 m. The deflection angle being  $36^\circ$ . Calculate all the data necessary for setting out a simple circular curve with a radius of 300 m by Rankines method of deflection angles, consider pag interval of 30 m.
- 18 (a) State and explain the applications used in GIS.  
(b) Write features of an EDM instrument.

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