

Day : Friday
Date : 31/05/2019

Time : 02.30 PM TO 05.30 PM
Max. Marks : 80

S-2019-3136

N.B.:

- 1) **Q.No.1** and **Q.No.5** are **COMPULSORY**. Out of the remaining attempt **ANY TWO** questions from each section.
- 2) Answer to both the sections should be written in **SAME** Answer book.
- 3) Use of non-programmable **CALCULATOR** is allowed.
- 4) Figures to the right indicate **FULL** marks.
- 5) Assume suitable data if necessary.

SECTION – I

- Q.1** a) Explain Random scan display. [05]
b) Explain DDA algorithm. [05]
c) Write short note on Homogeneous transformation. [04]
- Q.2** Explain different graphic file format in detail. Which file format is used by you? [13]
- Q.3** Draw a circle with radius 10 and center point at (5, 5) using midpoint circle generation algorithm. Locate the pixels. [13]
- Q.4** A quadrilateral ABCD has A (10, 8), B (22, 8), C (34, 17) and D (10, 27). Reflect the quadrilateral ABCD about edge BC. [13]

SECTION – II

- Q.5** a) Explain axonometric projections. [05]
b) Explain window to view port co-ordinate transformer. [04]
c) Describe parametric equation of line and circle. [05]
- Q.6** A triangle has coordinates A (1, 2, 3), B (4, 3, 4) and C (5, 8, 2). The three orthographic views of this triangle are to be projected. Write the transformation matrix and determine the coordinates of the views. Plot the results. [13]
- Q.7** Clip the quadrilateral ABCD with co-ordinates (10, 18), (22, 18), (34, 27) and (10, 37) with the window (5, 30, 15, 25) (LRBT) using Cohen Sutherland algorithm. [13]
- Q.8** A line segment in XY plane defined by and points $P_1(0, 0)$ and $P_2(0, 5)$. Sweep the line by translating 20 units along X-axis and rotating it through 2π about x- axis simultaneously. Find the point at $u = 0$ and $s = 0.5$. [13]

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