PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING
MID TERM EXAMINATION - APR 2023

Semester : Semester IV - 2021
Course Code : CSE2066
Course Name : Sem IV - CSE2066 - Computer Graphics
Program : CAI,CBD,CEI,CSG,CST

Date : 17-APR-2023
Time : 9:30AM - 11AM
Max Marks : 50
Weightage : 25%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS   (5 X 2 = 10M)

1. List out the advantages of Bresenham's line drawing algorithm over DDA line drawing algorithm.
                                                                (CO1) [Knowledge]

2. Define persistence of a pixel?
                                                                (CO1) [Knowledge]

3. State why mid-point circle drawing algorithm is called so?
                                                                (CO1) [Knowledge]

4. List examples for emissive display and non-emissive display devices.
                                                                (CO2) [Knowledge]

5. Define Geometric Transformation in Computer Graphics.
                                                                (CO2) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS   (4 X 5 = 20M)

6. With a neat diagram explain the working principle of Cathode Ray Tube (CRT).
                                                                (CO1) [Comprehension]

7. Distinguish between Raster Scan System and Random Scan System for CRT display devices.
                                                                (CO1) [Comprehension]

8. Using 2D Rotation, Locate a triangle ABC by an angle 90 degree anti clockwise about a point(-1,1), where the triangle has the coordinates A(5,0),B(10,2) and C(7,4).
                                                                (CO2) [Comprehension]

9. Given a circle C with radius 10 and center coordinates (1, 4). Estimate the translation with distance 5 towards X axis and 1 towards Y axis. Locate the new coordinates of C without changing its radius.

(CO2) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS   **(2 X 10 = 20M)**

10. Illustrate DDA line drawing algorithm. To illustrate the algorithm, Digitize the line with endpoints (5, 6), (13, 10) and draw the line.

(CO1) [Application]

11. Illustrate Mid-point Circle drawing algorithm. Using the above algorithm, Given the center point coordinates (0, 0) and radius as 10, generate all the points to form a circle.

(CO2) [Application]