REGISTRATION NUMBER | | | | | | | | | | |

SRINIX COLLEGE OF ENGINEERING

1ST INTERNAL EXAMINATION-2021-22

Subject-**CG** Semester-**5th** Branch-**CSE**

Full Mark-**60** Time-**2Hrs**

ANSWER ALL THE QUESTIONS (PART-A) **[2*10=20]**

1. Difference between raster scan and random scan system.
2. Define persistence. What types of persistence system are held in animations?
3. Differentiate between interpolation and approximation?
4. What is the difference between Flood fill algorithm and Boundary Fill algorithm?
5. What is shearing?
6. Prove that 2D rotation and scaling are commutative.
7. Mention the drawbacks of DDA line drawing algorithm.
8. Write four properties of Bezier Curve.
9. What is viewport?
10. What is homogeneous co-ordinate and how it is important in computer graphics?

ANSWER ALL QUESTIONS (PART-B) **[5*4=20]**

1. Explain the working principle of CRT.
2. Explain scan line polygon filling algorithm.
3. a) Find the matrix that represents rotation of an object by 45o about the origin.
   b) What are the new coordinates of the point P(2 , -4) after the rotation?
4. Perform a 45o rotation of a triangle A(0,0, B(1,1), C(5,2)

1) About the origin.
2) About the point p(-1,-1)

ANSWER ALL QUESTIONS (PART-C) **[10x2=20]**

1. Find the transformation matrix that transforms the square ABCD whose center is at (2,2) is reduced to half of its size, with center still remaining at (2,2). The coordinate of square ABCD are A(0,0), B(0,4), C(4,4) and D(4,0). Find the co-ordinate of new square.

2. Write cohen-sutherland algorithm for line clipping. Use the Cohen Sutherland algorithm to clip line P1 (70, 20) and p2(100,10) against a window lower left hand corner (50,10) and upper right hand corner (80,40)