

**Q3. Attempt any two: -**

**(10X2=20)**

- a) Use the Cohen sutherland algo to clip the line  $P_1 (70, 20)$  and  $P_2 (100, 10)$  against a window lower left hand corner  $(50, 10)$  and upper right hand corner  $(80, 40)$ .
- b) consider the square  $A(1,0), B(0,0), C(0,1), D(1,1)$ . Rotate the square ABCD by  $45^\circ$  clockwise about A  $(1, 0)$ .
- c) Explain the rotation transformation and translation transformation with example.

**Q4. Attempt any two**

**(10X2=20)**

- a) Explain the 3D transformation reflection about X-axis and Y-axis in detail.
- b) What do you mean by parallel projection explain with suitable example.
- c) Write a short notes on
  - Axonometric Projections
  - Oblique Projections
  - 3D Transformation

**Q5. Attempt any two :-**

**(10X2=20)**

- a) Define The Sierpinski Gasket and its applications.
- b) Write a short notes on:
  - The OpenGL API
  - Three-Dimensional Gasket
- c) Explain the OpenGL API primitives, attributes and controlling functions.

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