

**B.E. PRINTING ENGINEERING FOURTH YEAR SECOND SEMESTER - 2022**

**Subject : COMPUTER GRAPHICS**

**Time: 4 Hrs.**

**Full Marks: 70**

**GROUP A**

**(Answer ALL the questions)**

1. Describe the following with suitable examples and diagrams: (5 × 2 = 10)
  - (a) Cathode Ray Tube (CRT).
  - (b) Raster scan and Random scan.
2. Explain and compare DDA and Bresenham's line-drawing algorithms. (10)
3. Explain 2D & 3D rotation of a polygon about any point with suitable examples and diagrams. (10)
4. Discuss and compare Scan-line, Boundary-fill, Flood-fill algorithms for a polygon. (10)

**GROUP B**

**(Answer ALL questions)**

5. Write short note on ANY ONE of the following: (15)
  - (a) 3D viewing mechanism and devices.
  - (b) Line and Polygon clipping algorithms.
  - (c) Visible surface detection algorithms.
6. With suitable examples and diagrams, elaborate ANY ONE of the following: (15)
  - (a) B-Spline and Bezier curves.
  - (b) Types of reflection and Illumination models.
  - (c) Color models: RGB, YMCK, HSI.