

using Bresenham's line drawing method. **1B**. Explain Midpoint algorithm to draw a circle. 10 + 102A. Consider an example and explain parametric line clipping algorithm. 2**B**. Explain the different rules to be followed for filling a polygon using scan fill method. **2C.** Write a pseudocode to find region codes in Cohen-Sutherland method. 8+8+4 3A. Obtain the composite matrix for reflection of point p about a line Y=10X-7. **3B**. Explain the concept of window to viewport transportation. Find the window to viewport transformation matrix for transforming the points in the window defined by lower left corner (2,2) and upper right corner (6,10) to corresponding points in the viewport defined by lower left corner (0,0) and upper right corner (1,1). 10 + 104A. Apply 3D geometric transformations to make the given tertrahedron A(0,2,1), B(0,0,2), C(0,0,0) and D(1,1,1) rotate about the X-axis, making it erect with its base ABC resting on the XZ plane, Next, magnify it four times about a fixed point P(1,1,2).

Derive the decision parameters to draw a line with slope positive and less than one

- **4B.** Explain different types of projections.
- 4C. Define Addressability, Vanishing point and Perspective foreshortening. 5+12+3
- 5A. Explain any one of the list priority methods for visible surface determination.
- **5B.** How do you calculate depth of a planar surface of a polygon? Explain using depth buffer method.
- 5C. Mention the differences between Object precision and Image precision method. 10+6+4

1A.

- 6A. Explain the raster graphics system.
- **6B.** With a neat diagram explain different components of monochrome Cathode Ray Tube.
- **6C.** For a colour monitor screen that is 15.5 inches wide and 11.6 inches high, what will be the resolution of the screen if the distance between the triads (pitch) is 0.25 millimeter.
- **7A.** Consider four geometric constraints and derive basis matrix for Bezier curve. Draw the influence of each blending function on the curve.
- **7B.** Determine eleven points on a Bezier curve with equidistant parametric values, having control points P1(50, 180), P2(250, 100), P3(600, 300) and P4(500, 50), distribute over a screen of resolution 640*350.
- 7C. Explain any four properties of parametric polynomial curves. 10+6+4
- **8A.** Explain half toning and dithering techniques
- **8B.** Explain generalized illumination model.

10 + 10

5+12+3

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