



**2** Answer any **four** parts : **4×5=20**

- (a) Give Bresenham's line drawing algorithm. Explain the same with suitable example.
- (b) Describe boundary fill algorithm for polygon with suitable example.
- (c) Discuss the method for storing colour values in a colour look up table(or video lookup table) where each entry in the table uses 24 bits to specify an RGB colour.
- (d) Define the following:
  - (i) Point clipping
  - (ii) Line clipping.
- (e) What do you mean by display file? What are the functions for segmenting the display file?
- (f) Using midpoint method, and taking symmetry into account, develop an algorithm for the curve over the interval  $-10 \leq x \leq 10$ .

$$y = \frac{1}{12} \times 3$$

**3** Answer any **two** parts **2×10=20**

- (a) Write an algorithm for converting, any specified sphere, ellipsoid, or cylinder to a polygon-mesh representation
- (b) Write an algorithm to display two dimensional, cubic Bezier curves, given a set of four control points in the X-Y plane.
- (c) Define the following with example :
  - (i) Octrees
  - (ii) B-spline curves.

**4** Answer any **two** parts : **2×10=20**

- (a) (i) Define translation and scaling with an example.
- (ii) Determine the form of the transformation matrix for a reflection about an arbitrary line with equation  $y = mx + b$ .
- (b) Define the following with example :
  - (i) 3-D rotation
  - (ii) Parallel projection.
- (c) What do you mean by hidden surface removal? Describe any hidden surface removal algorithm.

**5** Answer any **two** parts : **2×10=20**

- (a) Define animation sequences. What are the various steps involved in animation sequence? Describe.
- (b) Define the following with example
  - (i) Morphing
  - (ii) Types of animation system.
- (c) Write short notes on the following:
  - (i) Animation tools
  - (ii) Git animator : List the names and explain any one of them.

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