8th Sém

Roll No.

Total Pages : 2

BT-8/M-23

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COMPUTER GRAPHICS

Paper-PE-CS-A404A

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note: Attempt five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

UNIT-I

- 1. -(a) Write and explain the midpoint circle drawing algorithm with the help of suitable example. 8
 - **(**b) Write an algorithm for Bresenham's line generation which will work for all slopes. 7
- 2. (a) Write the advantages and disadvantages of Floodfill and Boundaryfill algorithms. 8
 - Explain in detail the Scan Line Algorithm for Area (b)filling of Polygonal areas.

UNIT-II

- 33. Why Matrices used for implementing. (a)are transformations? What are Homogeneous coordinates? What is the significance of this Co-ordinate system ? 10
 - (b) Differentiate between Viewport and Window. 5

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4. (a) Write a short note on viewing pipeline with respect to Three-dimensional viewing.
(b) Show how Shear transformation may be expressed

in terms of Rotation and Scaling.

• 10

UNIT-III

- 5. (a) What do you understand by Clipping ? Discuss text Clipping. 5
 - (b) Suggest modification to Sutherland-Hodgeman
 Polygon clipping algorithm to clip concave. 10
- Explain the concept of Parallel Projections in threedimensional viewing. Also find the transformation matrix for providing any parallel projection on to the x,y plane.

UNIT-IV

- What do you understand by Hidden surface Elimination ? Explain the depth buffer algorithm for hidden surface elimination. Also discuss the limitation of depth buffer algorithm.
- 8. (a) Explain the procedure for creating a Beizer curve. Also explain the properties of Beizer curve.
 - (b) What is difference between Interpolation and approximation splines ? Explain. 7