

1. Circle drawing Algorithm ≤ 2 equations

Derivatives and Dinit

2. Derive the decision and its derivatives starting from $(0, r)$ and $(r, 0)$

a. Write a program to draw the above

c. Write down the co-ordinates of last first 10 pixels starting from $(80, 0)$.

3. Line Drawing Algo/Exact something

4. Homogeneous co-ordinate system

(a) What is homogenous co-ordinate. Difference between co-ordinate. homogeneous and cartesian co-ordinate system

5. Composition of Transformation, why required in Computer Graphics.

6. Derive 4×4 rotation matrix when while rotating at a point in x axis / y axis / z axis

7. Rotation or math

8. Classification of Transformation, based on scaling and 4×4 (Answer)

9. Polygon Filling Algorithm. Make edge table & active edge table.

10. Cyrus Beak Line Clipping Algorithm. If you are on a boundary how do you determine that a point is inside or outside a boundary.

✓ 11. Derive T (the intersection value) and make a table of T of all ~~values~~ edges
 y_{min} , y_{max} ~~उपरी सीमा~~, you have to find all values,

✓ 12. Cohen Sutherland

definition of region outcode.

- The basic principle of Cohen Sutherland Algorithm.
or
- ▶ Region Outcode compute Algorithm
- Algorithm for Make Code

✓ 13. Mid point Line Drawing Algorithm

- Write an algorithm to determine the zone of a line.
- How can you make a line .
→ slope depend...

Q1: Make a comparison between RGB and
any color model.

Q2: Algo to convert RGB to HSV and or
RGB to HLS. (Maths and or code)

Q3: Elimination and third model
~~shade, shade model.~~ comparison global
and local light model.

Q4: Defuse or Speculate
(Pls and mathematics) ??
Defuse \rightarrow Math.

comparison flat and smooth shading.

" between Phong and gouraud shading

visible surface determination:

2-buffering algo on visible surface
 \rightarrow difference between Z and depth buffer.

Explain visible surface Ray-Tracing
algo (using 3-d scene or object).

Subject:

Date:

Sat Sun Mon Tue Wed Thu Fri

Questions from curve and surface

(I) Generally equation of parametric cubic curve.

(II) Derive the basis matrix of Hermite cubic curve.

(III) " " " " of Bézier curve.

(IV) What is blending function.

(V) # Show that the sum of blending functions for any value of t is 1. ~~show that~~
→ (Hermite or Bézier or for any other function).

Math from Hermite/Bézier

(VI) Write down the properties of spline or B-spline.

(VII) Segmentation of curve or de Casteljau's subdivision of a curve. (Generalized Equation of n degree for left and right).

Special case:

Q

1 Simplification of Projection of matrix.

- (i) LOP from the origin.
- (ii) Origin from the projection plane.

2 Derivation of general purpose of projection matrix.

↳ Maths

4 out of 5

2:30 hours

(80 marks)
20x4=80.