



- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.

1. a) Explain DDA algorithm for line generation. 6
b) Explain various types of display devices. 7

OR

2. a) What is the significance of error term? Rasterize a line from (0, 0) to (-8, -4) using Generalised Bresenham's algorithm. 7
b) What is aliasing? Explain various anti-aliasing techniques in computer graphics. 6
3. a) Explain Scan line seed fill algorithm in detail with a suitable example. 7
b) Explain rotation about an arbitrary point with example. 7

OR

4. a) Reflect a figure defined by the vertices A (-1, 0), B(0, -2), C (1, 0) D (0, 2) about an axis $y = x + 2$ 8
b) Show that rotation about origin by 270° in anticlockwise is equivalent to reflection about two axes. 6
5. a) Clip a line from $P_1 (-3/2, 1/6)$ to $P_2 (1/2, 3/2)$ in a clipping window defined by vertices A (-1, -1) B(1, -1), C (1, 1) and D (-1, 1) by using Sutherland when algorithm. 7
b) Explain the structure of segment table in detail. 6

OR

6. a) A polygon is defined by following vertices $V_1 (4, 3)$, $V_2 (7, 3)$, $V_3 (9, 5)$, $V_4 (7, 7)$, $V_5 (4, 7)$ $V_6 (2, 5)$. Clip a line from $P_1 (2, 3)$ to $P_2 (9, 7)$ about above polygonal window using Cyrus Beck algorithm. 7
b) What is viewing Transformation explain with example. 6

7. a) Find the 3-D transformation matrix for translation, Scaling rotation. 9
b) Write short note on isometric projection. 5

OR

8. a) Obtain the Perspective and Parallel projection matrices. 6
b) Explain following hidden surface removal algorithm
i) Painters algorithm 4
ii) Warnock's algorithm. 4
9. a) Find equation of Bezier curve which passes through points (0, 0) and (-2, 1) is controlled through points (7, 5) and (2, 0). 7
b) Explain in detail phong shading technique. 6

OR

10. a) Determine the Blending Function for uniform periodic B-spline Curve for $d=3$ and $n=3$. 7
b) What is interpolation? Explain interpolation process. 6
11. a) Explain the various types of animation. 6
b) Write short note on.
i) Animation Language 3
ii) Key-frame system. 4

OR

12. a) Explain CIE Chromaticity diagram. 6
b) Explain the basic color models and list all the color models. 7
