## Q.P. Code :04108

Please check whether you have got the right question paper.

## N.B: $\quad$ 1. Q. 1 is compulsory

2. Answer any four questions from $\mathbf{Q} \mathbf{2}$ to $\mathbf{Q 7}$
3. Figures to the right indicate full marks.
4. Assume any additional information, but justify the same.
Q. 1 a. Discuss types of Projections in Computer graphics with suitable examples. 10
b. Write Bresenham's algorithm for line drawing with an example.
Q. 2 a. What is a fractal? What are its Different Types? How is a fractal dimension measured? 10
b. Describe the transformation ML which reflects an object about a line $y=m x+b$
Q. 3 a. Write an algorithm for Liang Barsky line clipping and Find the clipping coordinates for the line ( $-1,7$ ) and (11, 10 1) where $(x w m i n, y w m i n)=(1,2)$ and (xwmax,ywmax) $=(9,8)$.
b. Explain the $Z$ buffer algorithm for hidden surface removal? 10
Q. 4 a. Explain the algorithm for drawing a circle using midpoint approach. 10
b. Describe Phong shading technique with the help of a diagram. 10
Q. 5 a. Describe any three 2 dimensional transformation methods. 10
b. Explain different methods of character generation. 10
Q. 6 a. Describe Window to viewport transformation with diagram. 10
b. Construct a Bezier of order 3 and with 4 polygon vertices $A(1,1), B(2,3), C(4,3)$ and $D(3,1)$. Generate atleast 10 3 points on the curve.
Q. 7 a. Write short notes on any 4:
a. Color models
b. Frame buffer
c. Computer Animation
d. DVST
e. Output primitives
