

Please check whether you have got the right question paper.

- N.B:**
1. **Q.1 is compulsory**
 2. **Answer any four questions from Q2 to Q7**
 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. **10**
- 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 $y = mx + b$ **10**
- Q.3** a. Write an algorithm for Liang Barsky line clipping and Find the clipping coordinates for the line $(-1, 7)$ and $(11, 1)$ where $(x_{wmin}, y_{wmin}) = (1, 2)$ and $(x_{wmax}, y_{wmax}) = (9, 8)$. **10**
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 3 points on the curve. **10**
- Q.7** a. Write short notes on **any 4**: **20**
a. Color models
b. Frame buffer
c. Computer Animation
d. DVST
e. Output primitives
-