

**BT-6 / M-18**  
**COMPUTER GRAPHICS**  
**Paper-IT-356**

*Time allowed : 3 hours]*

*[Maximum marks : 100*

*Note :- Attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.*

**Unit-I**

1. (a) Explain the working of following color display techniques:
  - (i) Beam penetration CRT
  - (ii) Shadow mask CRT
- (b) Write and explain the Bresenham's circle drawing algorithm.
2. (a) Compare and contrast the CRT and plasma panel display device. Also highlight the merits and demerits of each display system.
- (b) What is the difference between simple DDA and symmetrical DDA? Explain using suitable example.

**Unit-II**

3. (a) What do you understand by clipping? Explain the midpoint subdivision algorithm for clipping.
- (b) Explain the Sutherland-Hodgeman polygon clipping algorithm.
4. Write Liang-Barsky algorithm for line clipping and compare its efficiency with Cohen-Sutherland line clipping algorithm.

**Unit-III**

5. What do you understand by transformation? Prove the assertion that the transformation of a line between two points A and B is equivalent to the line between the transform of A and transform of B. Consider only the scaling, rotation, and translation transformations.
6. What is the difference between orthographic projection and oblique projection? Explain.

**Unit-IV**

7. What is Bezier curve? Also specify the properties of Bezier curves.
8. What do you understand by hidden surface elimination? Explain the depth-buffer algorithm for hidden surface elimination. Also discuss the limitations of depth-buffer algorithm.