

BT-5 / D-19
COMPUTER GRAPHICS
Paper-IT-309N

Time allowed : 3 hours]

[Maximum marks : 75

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

Unit-I

1. (a) What is computer graphics? Discuss its major applications. 7
- (b) List and explain the operating characteristics for the following display devices:
 - (i) Light Pen
 - (ii) Tablet 8
2. (a) Write and explain the DDA algorithm for line drawing. 7
- (b) What is meant by boundary filled algorithms? Explain using suitable examples. 8

Unit-II

3. (a) How a window-to-viewport transformation is performed? Explain. 7
- (b) Describe the various ways for text clipping using suitable examples. 8

4. Write and explain the Sutherland-Hodgeman algorithm for line clipping. 15

Unit-III

5. Explain following in detail:
 - (i) Parallel Projection
 - (ii) Perspective Projection
 - (iii) Depth cueing 15
6. How can you perform: (i) Scaling (ii) Translation (iii) Rotation (iv) Reflection, in three-dimensional transformation. 15

Unit-IV

7. (a) What is Spline representation? Explain parametric and geometric counting conditions w.r.t. Spline representations. 7.5
- (b) What is meant by morphing? Explain how it can be implemented using suitable examples? 7.5
8. (a) Write and explain the depth-buffer algorithm for detecting from visible surface. 7.5
- (b) Explain the working of priority algorithm using suitable example. 7.5