Roll No. ..... Total Pages : 2

BT-5/D-22 **45200**

COMPUTER GRAPHICS

Paper–PC–IT-303A

Time : Three 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) Write and explain scan line polygon filling algorithm. (7.5)

(b) What are the various graphics devices? Explain any three in brief. (7.5)

2. (a) Compare and contrast the DDA and Bresenham's line drawing algorithms. (8)

(b) What are the various applications of computer graphics? Explain in detail. (7)

UNIT-II

3. Explain the following two-dimensional transformations using suitable examples :

(i) Translation.

(ii) Scaling.

(iii) Rotation.

(iv) Shearing.

Also state applications of each type of transformation. (15)

4. Discuss the various methods for curve clipping and text clipping using suitable examples in detail. (15)

UNIT-III

5. What are the various three-dimensional display methods? Explain in detail using suitable examples. (15)

6. How can you perform :
   (i) Coordinate axis Rotation about all the dimension.
   (ii) Shearing.
   (iii) Quaternion method for Rotation.
   (iv) Reflection, in three-dimensional transformation? (15)

UNIT-IV

7. (a) What is a Bezier curve? Explain its major properties in detail. (7.5)
   (b) What are the various continuities conditions in spline representations? Explain. (7.5)

8. (a) Write and explain the priority algorithm using suitable example. (7.5)
   (b) Explain the working of area coherence algorithm using suitable example. (7.5)