Roll No. ....   Total Pages : 2

BT-8/M-20   **38002**

INTERACTIVE COMPUTER GRAPHICS
Paper–CSE-404-E

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 frame buffer and color lookup table. Discuss the color look-up table over frame buffer.

   (b) Explain Bresenham's line drawing algorithm. Also differentiate between shadow mask and beam penetration CRT.

2. (a) Explain the working mechanism of CRT with the help of a sketch.

   (b) Explain the construction and working of a LCD plasma panel display.

UNIT–II

3. Obtain the point on a line with end points (0,0) and (10,5) using DDA algorithm. Also explain high resolution devices.

38002/K/918   **P. T. O.**

4. (a) Derive the transformation that rotates an object point θ° about the origin. Also, write the matrix representation for this rotation.

(b) Draw flow chart of Sutherland Hodgman and explain with example.

UNIT–III

5. Distinguish between window and a viewport. Derive the window-to-viewport transformation in terms of scalling and translation.

6. Explain the following :

(a) Digitizing tablet.

(b) Painter algorithm.

(c) Scaling method and area subdivision algorithm.

(d) Z-buffer method.

UNIT–IV

7. (a) Explain hidden line detection and elimination algorithm.

(b) Explain subdivision algorithm in detail.

8. What is shading model? What are the important properties of such a model? How does such a model help in 3D graphics?