No. of Printed Pages : **2**

Sl. No.

B4.4-R4 : COMPUTER GRAPHICS AND MULTIMEDIA SYSTEMS

NOTE :

1. **Answer question 1 and any FOUR questions from 2 to 7.**
2. **Parts of the same question should be answered together and in the same sequence.**

Time : 3 Hours **Total Marks : 100**

1. (a) What are the applications of computer graphics ?

(b) Discuss the relative advantage of interactive and passive graphics.

(c) What is raster graphics ? Differentiate between raster and vector graphics.

(d) Explain graphic file formats.

(e) Write short notes on MPEG.

(f) Write short notes on JPEG.

(g) Write short notes on Sketching. **(7x4)**

2. (a) Describe the DDA algorithm.

(b) Explain briefly the Scan Line Polygon Fill Algorithm.

(c) Describe Bezier curves and surfaces.

(d) Explain the concept of Hidden surface removal. **(5+5+4+4)**

3. (a) Explain briefly the multimedia authoring tool.

(b) Explain the concept of Inverse Geometric Transformation.

(c) What is Multimedia ?

(d) Write short notes on the following :

(i) Plotter

(ii) Touch Panels **(4+5+4+5)**

4. Explain the followings :

(a) Cathode Ray Tube (CRT).

(b) Inverse Coordinate Transformation.

(c) Beam Penetration Method.

(d) Shadow Mask Method. **(4+4+4+6)**

5. (a) Write the general form of the matrix for rotation about a point P (h, k).

(b) Explain Midpoint Circle Algorithm.

(c) Write a short note on Gouraud shading algorithm.

(d) Discuss Parallel Projections techniques. **(3+4+5+6)**

6. (a) Discuss Sutherland-Hodgeman Polygon Clipping.

(b) Define the flood fill algorithm.

(c) Explain in brief Z-Buffer Algorithm. **(6+6+6)**

7. (a) Find the transformation that scales to the origin by :

(i) A unit in the X-direction.

(ii) Units in the Y direction.

(iii) Simultaneously a unit in the X direction and b units in the Y direction.

(b) Discuss Bresenham's Line Algorithm and its key features. **(9+9)**

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