Or

What is Hidden surface problem ? Describe Scan Line algorithm for line removal with example. **12**

13. Explain hardware, software and application area of multimedia.

Or

Write short notes on the following :

(a) Calligraphy Display

(b) Multmedia Component

(c) Vanishing Points

(d) Inking and Painting. **11**

Subject Code—0419

M.C.A. (Fourth Year) EXAMINATION

(5 Years Integrated Course)

(Batch 2009 Onwards)

COMPUTER GRAPHICS AND MULTIMEDIA

MCA-401

Time : 3 *Hours* *Maximum Marks* : 70

Section A

Note : Attempt any *Seven* questions. **7×5=35**

1. What do you mean by computer graphics ? Indicate the practical application of computer graphics.

2. Explain the operating characteristics for Raster Scan Display.

3. Write the Midpoint Ellipse drawing algorithm.

4. Describe 3-D rotation about x, y, z axes and writes the corresponding transformation matrices.

5. What are the major differences between Bezier curve and B-Spline curves ?

6. Explain Painters algorithm for hidden surface removal.

7. Explain the working of Light Pen.

8. Discuss briefly where multimedia authoring tools are used.

9. Define the terms Parallel Projection, Perspective projection and Orthographic Projection.

10. Differentiate between text, hypertext and hypermedia.

Section B

Note : Attempt all the questions.

11. Explain Bresenham's algorithm for line drawing. What Raster location will be chosen when scan converting line from pixel (1, 1) to pixel (8, 5) using above algorithm.

Or

What is mean by 2-D transformation ? What are its various types ? Also provide the transformation-matrix and suitable example for each of these.   12

12. (a) What is significance of study of problem of clipping ? Describe Cohen-Sutherland line clipping algorithm.

   (b) Differentiate Window and Viewport. Why there is need to study these separate port ? Give steps to transform an object from window port to viewport.