(DMCA 206)

M.C.A. DEGREE EXAMINATION, MAY – 2015

Second Year

Paper - VI : COMPUTER GRAPHICS

Time : 3 Hours   Maximum Marks: 75

SECTION - A

Answer any THREE questions   *(3×15 = 45)*

1)   Discuss about midpoint ellipse algorithm.

2)   Explain the cohen-sutherland line clipping algorithm.

3)   Draw the projected image of a unit cube, which is projected onto the Xyplane, using the standard perspective transformation with

   a)   D = 1 and

   b)   D = 10,

   Where d is distance from the view plane.

4)   Explain the following methods for representing a surface:

   a)   Guiding nets

   b)   Interpolating surface patches.

5)   Describe the painter's algorithm.

SECTION – B

Answer any FIVE questions   *(5×5 = 25)*

6)   Explain how color attributes are set to pixels.

7)   What is Koch curve? Write a pseudo-code procedure to generate Koch curve K_n.

8)   Explain the three basic two –dimensional transformations.

9) Find the normalization transformation N which uses the rectangle A(1,1), B(5,3), C(4,5), D(0,3) as a window and the normalized device screen as a viewport.

10) Define tilting as a rotation about the x-axis followed by a rotation about the y-axis and find the tilting matrix. Does the order of Performing the rotation matter?

11) Let $P(p,q)_q$ be the view plane coordinates of a point on the view plane. Find the world coordinates $P(x,y,z)_w$ of the point.

12) Explain about polynomial basis functions.

13) Discuss the wright algorithm for rendering mathematical surfaces.

SECTION-C

Answer ALL questions (5×1 = 5)

14) What is the pitch of a color CRT?

15) What is point clipping?

16) What is viewport?

17) What is polyhedron?

18) What is scan-line coherence?

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