MCA-301

June - Examination 2018

MCA 3rd Year Examination

Computer Graphics

Paper - MCA-301

Time : 3 Hours] **[Max. Marks :- 80**

Note: The question paper is divided into three sections A, B and C. Write answers as per given instructions.

Section - A $8 \times 2 = 16$

(Very Short Answer Questions)

Note: Answer **all** questions. As per the nature of the question delimit your answer in one word, one sentence or maximum upto 30 words. Each question carries 2 marks.

1) (i) Define Aspect Ratio.

(ii) What is Pixel?

(iii) List the disadvantages of DDA Algorithm.

(iv) Name the algorithm used for filling the interior of a polygon.

(v) What is Colour Gaunt?

(vi) Name any two Hardware Animation Tools.

(vii) What do you mean by pixel mask?

(viii) List the applications of Computer Graphics.

Section - B

$4 \times 8 = 32$

(Short Answer Questions)

Note: Answer **any four** questions. Each answer should not exceed 200 words. Each question carries 8 marks.

2) Define Computer Graphics. Describe the applications of Computer Graphics?

3) Write differences between Raster scan system and Random scan system.

4) Given $B_0[1,1]$, $B_1[2,3]$, $B_2[4,3]$ and $B_3[3,1]$ and the vertices of Beizer polygon, determine seven points on the Beizer curve.

5) What is composite transformation? Explain two successive translation and rotations with the final composite transformation matrixes is 3D.

6) Write short note on Orthographic Projection.

7) Explain Cohen-Sutherland Line Clipping Algorithm with suitable example.

8) Differentiate between Gouraud Shading and Phong Shading?

9) How RGB color model is converted into CMY color model? Explain.

Section - C $2 \times 16 = 32$

(Long Answer Questions)

Note: Answer **any two** questions. You have to delimit your each answer maximum upto 500 words. Each question carries 16 marks.

10) What is CRT Monitor? Explain the working of Raster scan display and Random scan display with suitable example.

11) Explain the Bresenham's line drawing algorithm with suitable example.

12) Write a short note on:
    (i) Boundary fill algorithm
    (ii) Flood fill algorithm

13) Explain depth buffer algorithm to display visible surfaces of a given polyhedron. Also explain the any relation in object and storage requirement of the depth buffer?