BTS(C) – VI – (S) – 08 – 047 – C

B. Tech Degree VI Semester (Supplementary) Examination, September 2008

CS 603 COMPUTER GRAPHICS

(2002 Scheme)

Time : 3 Hours Maximum Marks : 100

I. (a) Explain any one polygon filling algorithm. (10)

(b) Explain logical classification of input devices. (10)

OR

II. (a) Explain midpoint circle drawing algorithm. (10)

(b) Differentiate between random scan systems and raster scan systems. (10)

III. (a) Define the terms window, view port, viewing pipeline. Also derive the transformation matrix for window to view port transformation. (10)

(b) Explain basic transformations. Also give their homogeneous matrix representations. (10)

OR

IV. (a) Explain Cohen Sutherland Line clipping algorithm using an example. (10)

(b) Give the matrix representation of reflection about the line $y = x$ and $y = -x$. (10)

V. (a) Explain Bezier Curves. (10)

(b) Explain how a 3D object is presented on the screen using perspective projection. (10)

OR

VI. (a) Explain B-Spline curves? Differentiate between uniform and non uniform B-Spline. (10)

(b) What are fractals? Discuss the use of fractals in computer graphics. (10)

VII. Discuss

(i) Octrees (ii) BSP Trees

(iii) Ray casting (iv) Depth Buffer Method (20)

OR

VIII. (a) Explain scan line method for visible surface detection. (10)

(b) Explain the following algorithm for visible Surface detection in 3D graphics

(i) A-buffer (ii) Back face detection (10)

IX. (a) Briefly explain the various steps in creating an animation. (10)

(b) Explain Phong shading and Goraud shading. (10)

OR

X. (a) Explain RGB and HSV colour models. (10)

(b) Write ***short notes*** on :

(i) Morphing (ii) Virtual Reality

(iii) VRML (iv) Raster Animation (10)

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