

B. Tech Degree VI Semester Examination April 2011

CS 603 COMPUTER GRAPHICS *(2002 Scheme)*

Time : 3 Hours

Maximum Marks : 100

- I. (a) Distinguish between Raster scan and Random scan systems. (10)
(b) Explain Bresenham's line drawing algorithm. (10)
OR
- II. (a) Explain any one polygon filling algorithm. (10)
(b) Describe the logical classification of input devices. (10)
- III. (a) What are homogeneous co-ordinates? (10)
Derive the homogeneous matrix representations for basic transformations.
(b) Show that two successive rotations are additive. (10)
OR
- IV. (a) Derive the transformation matrix for window to view port transformation. (8)
(b) Explain Suther-land –Hodgeman polygon clipping algorithm. (12)
- V. (a) Distinguish between Bezier curves and B-splines. (12)
(b) Write short notes on (i) Octrees (ii) BSP trees. (2 x 4 =8)
OR
- VI. (a) Briefly explain various projections. (12)
(b) Write a note on Fractal geometry methods. (8)
- VII. Explain any three visible surface detection algorithms in detail. (20)
OR
- VIII. Explain the following algorithms:
(i) Area subdivision method
(ii) Ray casting Method
(iii) Octree method. (7+7+6=20)
- IX. Explain the following polygon shading algorithms:
(i) Gourand shading
(ii) Phong shading
(iii) Constant intensity shading (7+7+6=20)
- OR**
- X. (a) Explain RGB and HSV color models. (10)
(b) Write notes on:
(i) Animation
(ii) Morphing (2 x 5 =10)