

M.C.A. DEGREE II SEMESTER EXAMINATION APRIL 2013

CAS 2201 COMPUTER GRAPHICS
(Regular and Supplementary)

Time: 3 Hours

Maximum Marks : 50

PART A
(Answer *ALL* questions)

(15 x 2 = 30)

- I. (a) Write a note on primitive "Cell Array".
(b) What is meant by Bundled attributes?
(c) Describe Antialiasing.
- II. (a) What is meant by Affine Transformations?
(b) Define view up factor.
(c) Write and explain the translate-rotate-translate operations.
- III. (a) What are the advantages of B-Splines over the Bezier Splines?
(b) Draw and explain the pipeline for transforming a view of a world – coordinate scene to device coordinates.
(c) Define "Blobby Objects".
- IV. (a) Write the steps of a depth-buffer algorithm.
(b) Write a note on Wireframe Methods.
(c) Define various possible relationships between polygon surfaces and a rectangular area.
- V. (a) What is meant by flat shading?
(b) Write the basic techniques for antialiasing in ray-tracing algorithms.
(c) Write the Animation sequence and explain.

(P.T.O.)

PART B

(5 x 4 = 20)

- VI. A. Draw and explain the architecture of a simple random scan systems.
OR
B. With the help of an example, describe the Midpoint Ellipse Algorithm.
- VII. A. Explain Window to Viewport Coordinate Transformations.
OR
B. Describe, Sutherland-Hodgeman Polygon Clipping algorithm with an example.
- VIII. A. Write a short note on Octrees.
OR
B. Write a short note on Fractal-Geometry methods.
- IX. A. Explain the Painter's Algorithm.
OR
B. Write a note on various 3-D transformations.
- X. A. Explain Phong Shading Algorithm.
OR
B. Describe basic Ray-Tracing Algorithm.
