

Code: 9F00404c

MCA IV Semester Regular & Supplementary Examinations, July 2013

COMPUTER GRAPHICS

Time: 3 hours

Max Marks: 60

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Explain the conceptual framework for interactive graphics.
(b) Describe in detail about video display devices.
- 2 (a) Write and explain Bresenham's circle generation algorithm with an example.
(b) Write short note on polygon filling.
- 3 Write about basic transformations in computer graphics. Explain each with an example and derive the transformation matrix.
- 4 (a) Derive a general transformation matrix for the viewing transformation.
(b) For each window-viewport pair specified below give the viewing transformation matrix as homogeneous coordinates.
 - (i) Set viewport (0, 1, 0.25, 0.75)
Set window (0, 1, 0, 0.5)
 - (ii) Set viewport (0.5, 1, 0.5, 1)
Set window (10, 20, 0, 10)
- 5 (a) What is interpolation? Explain.
(b) Write the specifications for spline curves.
- 6 (a) Write a short note on clipping of 3-dimensional objects.
(b) Briefly explain the 3D primitives of a graphics system.
- 7 (a) Explain Franklin's and Painter's algorithm for hidden surface removal.
(b) Write and explain about visibility detection functions.
- 8 (a) Discuss the functions required for computer animation.
(b) Elaborate on Raster animation.
