

Code: 9F00404c

MCA IV Semester Supplementary February 2014 Examinations

**COMPUTER GRAPHICS**

(For 2009, 2010 & 2011 admitted batches only)

Time: 3 hours

Max. Marks: 60

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Explain the working with advantages of raster refresh display with neat sketch.  
(b) What are applications of computer graphics?
- 2 (a) What is an inside test? Explain even-odd inside test method.  
(b) Explain the concept of Bresenham's circle drawing algorithm.
- 3 Write the matrix for transformation that rotates an object  $\theta^0$  about the origin. Extend the derivation for matrix of rotation about an arbitrary point.
- 4 Define window and view port. Explain the process to derive viewing transformation with suitable diagram.
- 5 (a) Explain diffused illumination and specular illumination model.  
(b) Explain B-spline curve in detail.
- 6 (a) Derive following 3D transformation matrix.  
(i) Translation.  
(ii) Rotation.  
(iii) Scaling.  
(b) Derive parallel projection matrix.
- 7 Explain binary space partition tree algorithm for hidden surfaces.
- 8 What are basic steps needed in computer generated animation? Enlist animation languages that support these steps.

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