

Code No: MC1349/R13

MCA IV Semester Regular/ Supplementary Examinations, June-2016

COMPUTER GRAPHICS**Time: 3 Hours****Max. Marks: 60**

*Answer Any FIVE Questions
All Questions Carry Equal Marks*

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| 1. a | Derive the decision parameter used in Bresenham's line drawing algorithm. | 6 |
| b | Write short notes on graphics monitors and work stations. | 6 |
| 2. a | Explain and demonstrate with suitable examples "the even-odd method" of determining the polygon interior points. | 6 |
| b | What are the merits and demerits of flood-fill and scan-line algorithms? | 6 |
| 3. a | Write the general form of the matrix for rotation about a point P(h, k). | 6 |
| b | Show that 2-D scales and rotations do not commute in general. | 6 |
| 4. | Explain the Cohen-Sutherland algorithm for finding the category of a line segment. Show clearly how each category is handled by the algorithm. | 12 |
| 5. a | Explain the perspective projection for projecting 3D objects on a 2D view surface. | 6 |
| b | Describe 3D clipping. | 6 |
| 6. a | Explain the Phong shading model for rendering of polygon surfaces. | 6 |
| b | What are B-spline curves? Explain, briefly, mentioning a few of their properties. | 6 |
| 7. a | Explain the Z-Buffer method of Hidden Surface removal. | 6 |
| b | Write about 3D viewing transformations. | 6 |
| 8. a | List and explain about the steps of animation. | 8 |
| b | Describe raster animation. | 4 |
