Roll No. .....

67111

MCA 3rd Semester (Old for Re-appear only with old notes) Examination–December, 2013

COMPUTER GRAPHICS & MULTIMEDIA

Paper MCA-301 (with old notes)

Time : 3 hours ***Max. Marks : 80***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt **five** questions in all, selecting at least **one** question from each unit. All questions carry equal marks.

UNIT - I

1. (a) What do you mean by Presentation Graphics ? Also explain the utility of Graphics in CAD. 8

(b) Explain the classification of Video Display Devices along with their working. 8

2. (a) Short notes on PHIGS+ and GKS. 6

(b) What are high definition systems ? 4

(c) Explain the technique which is used to produce colour pictures on raster scan systems ? 6

UNIT - II

3. (a) Develop and implement a Flood fill algorithm to fill the interior of any specified area. 8

(b) Explain the various output primitive types with their associated attributes and their functions. 8

4. (a) Enlist the various shortcomings of DDA line algorithm and explain how they are resolved by Bresenham's Line algorithm. 8

(b) What steps are required to plot a line whose slope is between 0° and 45° (|m| > 1) using Bresenham's algorithm ? 8

UNIT - III

5. Differentiate :

(a) Pivot Point and Fixed Point 4

(b) Reflection and Shearing 4

(c) Window and Viewport 4

(d) Depth Cueing and Surface Rendering 4

6. (a) Discuss the Liang Barsky Line Clipping algorithm. How is it more efficient than Cohen Sutherland Line clipping algorithm. 8

(b) Formalize the various 3D Transformations (Translation, Rotation, Scaling). A pyramid defined by the coordinates A(0,0,0), B(1,0,0), C(0,1,0) and D(0,0,1) is rotated 45° about the line L with direction V = J + K and passing through point C(0,1,0). Find the coordinates of rotated image. 8

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UNIT - IV

7. (a) Discuss the classification of Multimedia. Explain the various vital components of multimedia. 8

(b) Define Morphing and Compression in Animation. 8

8. (a) Compare and contrast the Presentation Systems with Authoring Systems. 8

(b) Explain, how Analog data is converted into Digital data in multimedia. 8
