

Roll No.....

**MCA-403**

**M.C.A. IV Semester**

Examination, November 2019

**Computer Graphics And Multimedia**

*Time : Three Hours*

*Maximum Marks : 70*

- Note:** i) Attempt any five questions.  
ii) All questions carry equal marks.

1. a) What is Cathode Ray Tube? Explain the working of CRT and explain function of each component of CRT with the help of diagram. 7  
b) Write down Mid Point Circle drawing algorithm. Draw a circle of radius 5 about origin with the help of this algorithm. 7
2. a) List out differences between: 7  
i) Raster scan graphics Vs Random scan graphics  
ii) Shadow mask CRT Vs Beam penetration CRT  
b) Explain Bresenham's algorithm for drawing line. Give one appropriate example to support your algorithm. 7
3. a) Explain Boundary fill and Flood fill algorithm for polygon filling. 7  
b) Rotate a triangle A(3, 0), B(8, 2), C(5, 5) by 30° about origin. 7
4. a) Explain about composite transformation in general and explain two successive rotations with matrix representation. 7  
b) Explain Sutherland Hodgeman for polygon clipping. 7

5. a) Explain the following color model in detail 7  
i) RGB color model  
ii) HSV color model  
b) Differentiate between 7  
i) Diffuse reflection Vs Specular reflection  
ii) Phong shading Vs Gouraud shading
6. a) What is Z Buffer technique? Write the use of depth and frame buffer. 7  
b) What is Projection? Write down the difference in parallel and perspective projection. 7
7. a) Determine the blending function for cubic (i.e.,  $n = 3$ ) Bezier curve and also list out the properties of Bezier curve. 7  
b) Explain the different components of Multimedia. 7
8. a) What are Multimedia and presentation tools? 7  
b) Write short notes : 7  
i) MPEG  
ii) JPEG  
iii) GIF  
iv) SCSI

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