

Roll No

MCIT - 104
M.E/M.Tech., I Semester
Examination, December 2016
Computer Graphics and Multimedia

Time : Three Hours

Maximum Marks : 70

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

1. a) Derive all formulas for mid point circle drawing algorithm Apply algorithm and find out points for circle with radius 8 and centre (0, 0) for one octant only. 7
b) What is frame buffer? How long would it take to load a 640x480 frame buffer with 12 bits per pixel if transfer rate is 1 MbPS? What is the size of frame buffer? How many color it support? 7
2. a) Explain Cyrus beck clipping method with the help of suitable example. 7
b) Obtain a transformation matrix for rotation about the line joining the point (0, 0, 0) and (1, 1, 1) with the angle of rotation 45° in counter clockwise sense 7
3. a) A triangle is defined by P (2, 2), Q (4, 2) and R (5, 5). Find the transformed co-ordinates after 90° clockwise rotation followed by reflection about line $y = -x$. 7
b) Briefly explain scan line polygon filling algorithm. Explain the fields of edge table and criteria for adding and removing edge to active edge table. 7

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4. a) Classify the visible surface determination algorithm. Briefly explain Z-buffer visible surface determination algorithm. 7
b) Compare perspective and parallel projection. Briefly explain different types of parallel projection. 7
5. a) Discuss the characteristics of Bezier curves and Bezier surfaces in detail. 7
b) Explain the Gouraud shading model for rendering of polygon surfaces. 7
6. a) Explain briefly : 7
i) Ray tracing
ii) Viewing transformations
b) Describe the four types of image coding used in MPEG for processing. 7
7. a) Explain multimedia authoring tools briefly. 7
b) Give a brief note on distributed multimedia system. 7
8. Write short notes : 14
a) Hyper media massaging
b) Lossy compression Vs Lossless compression
c) Illumination model
d) Phong-shading
