

Roll No

MCTA-105

M.E./M.Tech. I Semester Examination, June 2020

Computer Graphics and Multimedia

Time : Three Hours

Maximum Marks : 70

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

1. a) Discuss the operation of raster scan system with a neat sketch.
b) Explain the design issues in color CRT monitors.
2. a) Derive the necessary equation to generate Bresenham's line drawing.
b) Draw a circle of radius 5 about point P(2, 4) with the help of midpoint circle drawing algorithm.
3. a) What is meant by anti aliasing? Explain.
b) Derive the transformation matrix for rotation about any point P(h, k).
4. a) Explain Sutherland-Hodgeman polygon clipping algorithm with the help of flowchart and an example.
b) Find the matrix for mirror reflection with respect to plane passing through the origin and have a normal vector whose direction is $N = I + J + K$.
5. a) Contrast the efficiency of Cohen Sutherland and Cyrus Beck line clipping algorithms.
b) Explain the steps involved in depth buffer (Z-buffer algorithm).
6. a) Derive the transformation matrix for parallel projections.
b) Enumerate the properties of Bezier curves.
7. a) Give points P(1, 2, 0), P(3, 6, 20), P(2, 4, 6) and a view point C(0, 0, -10), determine which points obscure the others when viewed from C.
b) Explain RUB and HSV color models.
8. a) Explain various Presentation and Authorizing tools of multimedia.
b) Write short note:
 - i) Animation
 - ii) Tweeking
 - iii) Morphing