Total No. of Questions :8]   [Total No. of Printed Pages :2

Roll No ....

MCTA-105
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) What is Aliasing? Explain different methods of minimizing its effect.   7

    b) Explain Bresenham's line drawing algorithm. Trace the intermediate points for a line having end points as (0, 0) and (10, 6) using this algorithm.   7

2. a) Briefly explain Cyrus Beck line clipping algorithm. Compare Cyrus Beck and Liang Barsky line clipping algorithm.   7

    b) What is meant by refreshing of the screen? What is refresh buffer? Identify the Content and organisation of refresh buffer for the case of raster display system.   7

3. a) A mirror is placed such that it passes through (2, 0) and (0, 2). Find the reflected view of a triangle with vertices (3, 4), (5, 5) and (4, 7) in this mirror?   7

    b) Draw a flowchart illustrating the logic of Sutherland Hodgeman algorithm for polygon clipping.   7

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4. a) Reflect the diamond shaped polygon whose vertices are A(-1, 0), B(0, -2), C(1, 0) and D(0, 2) about: 7
    i)   Horizontal line y=2.
    ii) Vertical line x=2.
    iii) The line y=x+2.

    b) What is vanishing point and define one point, two point and three point perspective projection.   7

5. a) Derive the equation of parallel projection onto the XY plane in the direction of projection: 7
    V=aI+bJ+cK

    b) Briefly explain diffuse and specular reflection.   7

6. a) Define blending function. Explain how this function is used in Bezier curves. Also give the procedure for constructing Bezier curve.   7

    b) Explain the following color model: 7
    i)   RGB
    ii) HSV

7. a) Explain MPEG file format for motion picture compression.   7

    b) Explain briefly multimedia presentation tools and authoring tools in detail.   7

8. Write short note: 14
    a) MIDI
    b) Z-buffer
    c) Tweeking
    d) Phong shading

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