Code :RR311206

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III B.Tech I Semester(RR) Supplementary Examinations, May 2011
COMPUTER GRAPHICS
(Electronics & Computer Engineering, Information Technology)
Time: 3 hours   Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
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1. List the operating characteristic of the following display technologies:

    (a) Raster refreshes systems

    (b) Vector refresh systems

    (c) Plasma panels and

    (d) LCD.

2. (a) What steps are required to plot a line whose slope is between 45^0 and 90^0 using Bresenham's algorithm?

    (b) Propose the alterations to the original Bresenham's to plot a dashed line.

3. (a) Show that the composition of two rotations is additive that is, $R(\varphi_1).R(\varphi_2) = R(\varphi_1+\varphi_2)$.

    (b) Characterize the transformation with suitable matrix formulation, for the following operations: $x^{'} = x + a.y, \quad y^{'} = bx + y$.

4. Discuss the steps involved in Sutherland-Hodgeman algorithm for polygon clipping.

5. The transformation matrix A_v denotes the alignment of an arbitrary vector with the Z-axis. Show that the alignment transformation satisfies the relation $A_v^{-1} = A_v^T$.

6. (a) List the conditions, which require no re-ordering of surfaces in painter's algorithm.

    (b) Explain how to implement painter's algorithm when the polygons over-laped in cyclic order.

7. (a) Briefly explain the steps involved in Bezier's curve generation.

    (b) Discuss how the Bezier's curve algorithm is extended to generate surfaces.

8. Describe the following rules of animation in detail:

    (a) Squash and stretch

    (b) Slow-in and Slow out.

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