Code No: NR320501 **NR**

III B.Tech II Semester Supplementary Examinations, November/December 2005

COMPUTER GRAPHICS

(Common to Computer Science & Engineering, Information Technology and Computer Science & Systems Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions

All Questions carry equal marks

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1. (a) Apply the Bresenham's algorithm to turn up pixels along the line segment determined by points (5,7) and (12,11).
   (b) Give parametric equation of a line between points (1, 1, 2) and (14,14,10). [10+6]

2. Explain the following:
   (a) world, screen and normalised cordinates.
   (b) 2D graphics primitives. [8+8]

3. Prove that the two successive 2D rotations are additive $R(\theta_1)R(\theta_2) = R(\theta_1+\theta_2)$. [16]

4. Explain the following terms with reference to 2-D displays:
   (a) Viewing transformation
   (b) Windows and view ports [16]

5. Explain the logic of the Sutherland-Hodgman algorithm with the help of a neat flowchart. Illustrate the working of your flowchart with the help of a suitable example. [16]

6. (a) Write 3 dimentional homogeneous matrix to rotate by π degrees degrees about the line passing through the point (0,0,0) and (1,0,1)
   (b) Write a note on smooth shading. [10+6]

7. (a) Explain the basic conepts of hidden surfaces and line removal methods with suitale examples.
   (b) Write about z-buffers. [10+6]

8. (a) Write about pipeline and parallel front end architecture.
   (b) Explain about Bezier curves. [8+8]

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