Code No: NR320501 **NR**

III B.Tech II Semester Supplementary Examinations, Apr/May 2006
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. (a) Briefly explain the steps involved in flood-fill algorithm.
   (b) Distinguish flood-fill and scan-line algorithms for polygon filling. [8+8]
3. Describe the transformation that rotates an object point Q(x,y), θ degrees about an arbitrary point. [16]
4. (a) What is the utility of segments? Explain the use of segment table for organizing information about the segments.
   (b) What are the various data structures that are used for storing segments? Comment on their relative merits and demerits. [16]
5. Explain the working of the Sutherland - Hodgeman algorithm for polygonal clipping with the help of suitable example. [16]
6. Explain briefly the transformation steps for obtaining a composite matrix for rotation about an arbitrary axis with the rotation axis projected on to the z-axis [16]
7. Explain the following:
   (a) Painter's algorithm
   (b) Warnock's algorithm. [8+8]
8. (a) Write about pipeline and parallel front end architecture.
   (b) Explain about Bezier curves. [8+8]

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