

(CS 321)

III/IV B.Tech. DEGREE EXAMINATION,
OCTOBER 2005.

Second Semester

COMPUTER GRAPHICS

Time : Three hours

Maximum : 70 marks

All questions carry equal marks.

Answer Question No. 1 compulsory.

(1 × 14 = 14)

Answer ONE question from each Unit.

(4 × 14 = 56)

1. (a) Define the term pixel and frame buffer.
- (b) Display file format standards.
- (c) What are screen coordinates and world coordinates?
- (d) Mention any two graphical input devices.
- (e) What is meant by normalized device coordinates?
- (f) Explain the term visibility.
- (g) Differentiate transformation and inverse transformation.

- (h) Graphics primitives.
- (i) Difference between window and viewport.
- (j) Define Homogeneous coordinates.
- (k) What is the advantages of DDA algorithm over Bresenham's live drawing algorithm?
- (l) What is rotation transformation?
- (m) What is polygon clipping?
- (n) Polygon filling.

UNIT I

2. (a) Explain basic incremental algorithm to draw lines.
- (b) Describe how characters are generated.

Or

- (c) Write algorithms for various operations on display file.
- (d) What are different attributes of text primitive? How text primitive is displayed using display file?

UNIT II

3. (a) Explain DDA algorithm to generate lines.
- (b) Describe an algorithm for generating an ellipse.

Or

- (c) Explain :
- (i) Flat panel display. (7)
 - (ii) Interent memory devices. (7)

UNIT III

4. (a) Discuss inside test of a point on a polygon.
(b) Explain the scan line polygon fill algorithm.

Or

- (c) What is segment? Explain the operations on segment.
(d) Give the algorithms for deleting and renaming segments and explain their features.

UNIT IV

5. (a) Explain about 3-basic transformations in detail.
(b) Find the matrix transformation for rotating the triangle with vertices (7, 2), (3, 2) and (3, 9) with 90 degrees keeping the vertex (3, 9) fixed.

Or

- (c) Write short notes on windowing.
(d) Describe the Cohen-Sutherland algorithm for line clipping.