

B.E. Computer Technology Seven Semester
CT702 – Computer Graphics

P. Pages : 2

Time : Three Hours



GUG/W/18/1857

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.

1. a) Define computer Graphics and explain its application in details. 8
b) Explain Interlacing and Non interlacing in detail. 8

OR

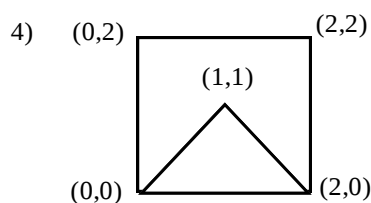
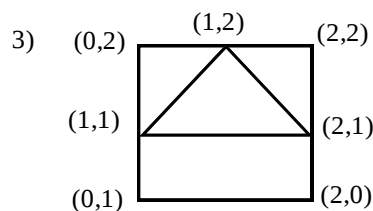
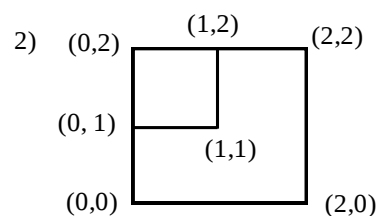
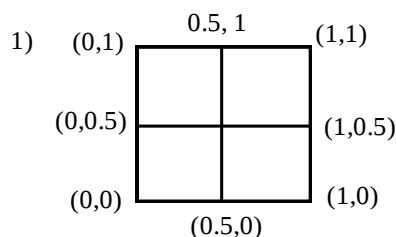
2. a) Explain in detail about input and output devices. 8
b) Draw and explain CRT. 8
3. a) Rasterize and show a line for (10, 10) to (90, 30) using DDA algorithm. 8
b) Write an algorithm in first quadrant anticlockwise direction with an example. 8

OR

4. a) A polygon defined by the vertices $P_1(1, 2)$, $P_2(4, 5)$, $P_3(7, 2)$, $P_4(7, 5)$, $P_5(4, 8)$ & $P_6(1, 5)$ using the below algorithm fill the polygon. 8
i) Edge fill algorithm. ii) Fence fill algorithm.
b) Draw a circle using Bresenham's algorithm for radius 12. 8
5. a) Write an algorithm for renaming a segment and closing a segment. 8
b) Explain display file structure. 8

OR

6. Write MOV and LINE command. 16



7. a) Explain windowing, viewport and clipping. 8
- b) Find normalization transformation who map a window lower left is at (1, 1) upper right (3,5) on 8
- i) A viewport is entire normal device screen
- ii) A viewport that has lower left (0,0) and upper right corner ($\frac{1}{2}, \frac{1}{2}$)

OR

8. a) Explain the working of Sutherland Hodgman algorithm with an example. 8
- b) Clip a line from P_1 (1,8) to P_2 (8,2) about a window defined by coordinates A (3,3) B (8,5) C (6,8) and D (1,6) using Cyrus Beck Algorithm. 8
9. a) What is 2D transformation give the various transformation in 2D. 8
- b) Obtain a transformation Matrix for anticlockwise rotation abt a pt (x_c, y_c) 8

OR

10. a) Briefly explain Bezier curve with its equation. 8
- b) Write short note on : 8
- i) Parallel projection ii) Perspective projection
