

B.E. Computer Science & Engineering Sixth Semester
CSE603 - Computer Graphics

P. Pages : 2

Time : Three Hours



GUG/W/18/1674

Max. Marks : 80

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

1. a) Compare the display devices DVST, calligraphic refresh and raster scan display. 8
b) Describe the frame buffer architecture. 8

OR

2. a) Explain working principle of CRT with suitable diagram. 8
b) Explain scan conversion in brief. 8
3. a) Explain the significant of 'error' term in Bresenham's line algorithm. 8
b) Develop an algorithm for generation of a circle in first quadrant in anticlockwise direction. 8

OR

4. a) A polygon is defined by the vertices 8
(1, 1), (8, 1), (8, 6), (5, 3), (1, 7)
fill this polygon using order edge list algorithm & fence fill algorithm.
b) A (1, 1), B (8, 1), C (8, 4), D (6, 6), E (1, 6) 8
show the detail working of algorithm using seed fill algorithm.
5. a) Explain various operation that can be performed on segment. 8
b) Write short notes on Normalized devices co-ordinates. 8

OR

6. a) Explain the matrix for reflection about a line 'L' with slope 'm' about y-intercept (o, b). 8
b) Show that the rotation about origin by 270 in anticlockwise direction is equivalent to reflection about 2 axis. 8
7. a) Explain Sutherland – Hodgman algorithm. 8
b) A clipping window ABCD is defined as A (0, 0), B (40, 0), C (40, 40), D (0, 40) clip a line from P (-10, 20) and Q (50, 10) using mid-point subdivision algorithm. 8

OR

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| 8. | a) | Explain the working of Sutherland Cohen algorithm for line clipping. | 8 |
| | b) | Explain Cyrus-beck algorithm in detail. | 8 |
| 9. | a) | Derive a transformation matrix about an arbitrary axis in 3D. | 8 |
| | b) | Write in brief viewing parameters. | 8 |

OR

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| 10. | Write short note on : | | 16 |
| | i) | 3-D transformation. | |
| | ii) | Bezier curve. | |
| | iii) | Parallel projections. | |
