BE Semester-VI (CE) Question Bank

Computer Graphics

All questions carry equal marks (10 marks)

1.	Write a short note on working of raster scan display system and random scan display system.
2.	Explain working of Display file interpreter and Video controller.
3.	Write a note on working of Cathode Ray Tube
4.	Explain Shadow mask and beam penetration method.
5.	What is display file? Explain display file structure.
6.	Explain DDA line drawing algorithm with its drawbacks.
7.	Compute points on line using mid point line drawing algorithm for a line passing through end points A(2, 3) and B (10, 8)
8.	Explain bresanham's line drawing algorithms.
9.	Explain midpoint Circle algorithm.
10.	Compute points on arc of circle using midpoint circle drawing algorithm for a circle with radius R = 10
11.	Explain midpoint ellipse algorithm.
12.	Explain Boundary fill and Flood fill algorithm.
13.	Explain Scan line fill polygon filling algorithm.
14.	Explain the following transformation with the matrix representations. Give suitable diagram for illustration. • Reflection. • Shearing.
15.	How the scaling of an object about the pivot point is performed?
16.	Prove • 2 Translations are additive. • 2 Rotations are additive. • 2 Scalings are multiplication.
17.	Derive the transformation matrix for rotation about origin and rotation about fix point
18.	What is segment table? Explain different operation on it.
19.	Explain Cohen-Sutherland line clipping algorithm.

20.	Explain Liang barsky line clipping algorithm with its advantages over other algorithm.
21.	Explain Sutherland Hodgman polygon clipping algorithm.
22.	Rasterize the circle with radius r=5 and center =(100,100) with midpoint circle generation algorithm.
23.	Rasterize the line from (10,5) to (15,9) using Bresenhams line drawing Algorithm.
24.	Find the reflection of a triangle defined by the vertices A(1,1), B(5,1) and C(1,5) about a line y=2x+10.
25.	Derive scaling factor for window to view port transformation
26.	Explain Cohen Sutherland algorithm with suitable diagram
27.	Explain Sutherland Hodgeman algorithm with suitable diagram
28.	Derive transformation matrix for 3D rotation followed by translation followed by scaling
29.	Derive transformation matrix for rotation about arbitrary axis passing through origin
30.	Explain With suitable diagram: Parallel projection
31.	Explain With suitable diagram: Perspective projection
32.	Write a note on Hidden surface removal
33.	Explain z-buffer algorithm with suitable example
34.	Write a short note on scan line algorithm
35.	Explain: A. Diffuse reflection, B. Specular reflection
36.	Write a note on: Half toning
37.	Explain: RGB color model and CMY color model
38.	Explain: Ray tracing
39.	Write a note on shading algorithm
40.	Explain in brief: Touch panel, Trackball, Joystick, Voice system