UCS505 Computer Graphics
Lab Experiments

S. No	Description
1	Installation and basics of Basics of OpenGL (library GLUT, GL, GLU)
2	Write a program to: • Create empty window (Black, White and different Colors) • Draw a point of width 10 pixel • Draw a green color line from (10,10) to (50,50) • Draw a triangle on black background • Draw a rectangle on black background
3	Write a program to draw a line using: • DDA algorithm • Bresenham's line algorithm
4	Write a program to: • Draw a circle using Midpoint circle algorithm • Draw an ellipse using Midpoint ellipse algorithm
5	Write a program to fill a polygon using scan line fill algorithm.
6	Write a program to fill a polygon using boundary fill and flood fill algorithm (4-connected and 8-connected) for various concave and convex polygons.
7	Write a program for drawing the following simple two dimensional objects using certain graphic functions available for drawing lines, rectangles, polygons, ellipses & circles which generates pixel activation list. (i) House (ii) Car (iii) Fish (iv) Man
8	Write a program to perform basic 2D transformation (translation, rotation and scaling) about origin and about a fixed point without using direct OpenGl functions for the transformations.
9	Write a program to perform: (i) Reflection about x-axis, y-axis and a line y = x+2 (ii) Shear about x-axis and y-axis
10	Write a program for performing the basic transformations such as translation, Scaling, Rotation for a given 3D object.
11	Write a program to clip a line using Liang Barsky Algorithm and Cohen Sutherland
12	Write a program to clip a line using Nicholl-Lee-Nicholl Line clipping
13	Write a program to clip a polygon using Sutherland Hodgeman and Weiler Atherton algorithm
14	Write programs for designing following simple animations using transformations. (i) Circle moving from left to right and vice versa (ii) Wind mill rotation (iii) Simple animation of football goal