# UNIVERSITY INSTITUTE OF ENGINEERING

## Department of Computer Science & Engineering

**(BE-CSE/IT-6th Sem)**

**Subject Name:** Computer Graphics with Lab

**Subject Code:** 22CSH-352

**Submitted to:**

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**Submitted by:**

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Section: 629

Group: B

## INDEX

| Ex. No | Name of Experiments | Date | Conduct (MM:12) | Viva (MM:10) | Worksheet (Record) (MM: 8) | Total (MM: 30) | Remarks | Signature (with date) |
|---|---|---|---|---|---|---|---|---|
| 1 | Demonstrate the use of graphics.h functions to draw basic shapes like lines, triangles, and circles. | | | | | | | |
| 2 | Implement and compare the performance of Simple DDA, Symmetrical DDA, and Bresenham's algorithm for positive and negative line slope. | | | | | | | |
| 3 | Apply translation, scaling, and rotation transformations on a given triangle and observe the changes. | | | | | | | |
| 4 | a) Develop a program to draw a circle using the circle generator algorithm for a given center and radius.<br>b) Develop a program to draw a circle using the midpoint circle algorithm for a given center and radius. | | | | | | | |
| 5 | Implement clockwise and anticlockwise rotation of a triangle about a specified point and evaluate the results. | | | | | | | |
| 6 | Analyze and implement the reflection of a point about a line defined by the equation y=mx+c. | | | | | | | |
| 7 | Evaluate the 4-bit region code for line endpoints and determine whether the line lies inside or outside the viewport. | | | | | | | |
| 8 | a) Apply the Cohen-Sutherland Line Clipping algorithm to clip a line intersecting at one point with a given window.<br>b) Apply the Cohen-Sutherland Line Clipping algorithm to clip a line intersecting at two or more points with a given window. | | | | | | | |
| 9 | Demonstrate the result of window-to-viewport transformation by implementing and visualizing the process. | | | | | | | |
| 10 | Lab Based Mini Project | | | | | | | |