|  |  |
| --- | --- |
| MONO | **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING****NATIONAL INSTITUTE OF TECHNOLOGY PATNA** Ashok Raj Path, PATNA 800 005 (Bihar), India |
|  Phone No.: 0612 – 2372715, 2370419, 2370843, 2371929, 2371930, 2371715 Fax – 0612- 2670631 Website: [www.nitp.ac.in](http://www.nitp.ac.in/) |

## CSL6401 Computer Graphics lab

**L-T-P-Cr: 0-0-3-1**

**Objectives:**

* To make students acquainted with drawing different graphical objects using computer programs.

**Course outcomes:**

After completing this course a student should come to know**:**

|  |  |
| --- | --- |
| **Outcome** | **PO mapping** |
| To draw line, circle and ellipse using different algorithms | PO2, PO3 |
| To fill a polygon using scanline conversion algorithm | PO2, PO3 |
| To clip line and polygons using different algorithms | PO2, PO3 |
| To apply different transformation techniques on 2-D objects  | PO2, PO3 |
| To draw Bezier and B-spline curves | PO2, PO3 |

**Course contents**:

1. Line drawing using Bresenham algorithm
2. Line drawing using DDA algorithm
3. Draw Circle using Mid-point circle algorithm
4. Draw ellipse using Mid -point ellipse Algorithm
5. Polygona filling using scan line conversion algorithm
6. Line clipping using Cohen-Sutherland algorithm
7. Polygon clipping using Sutherland-Hodgeman algorithm
8. Programs on 2D Transformation- Scaling , Rotation , translation
9. Drawing of Bezier curves
10. Drawing of B-spline curves