

MTC-292MNP: Practical on Mathematics for Computer Science-II

Course type: Minor

No. of Credits: 02(P)

- 1) Plotting 2D bar graphs, histograms, pie charts and subplots etc.
- 2) Plotting 3D Surface Plots, Wireframes plots and Surface Plots.
- 3) Using sympy generation of 2D geometrical objects like points, line segments, lines, triangles, other polygons and regular polygons. Transformations of straight lines.
- 4) Finding area, perimeter, midpoint of line segment or centroid of 2D objects. Point of intersections of two objects and angles between them etc.
- 5) Plotting of 2D geometrical objects like points, line segments, triangles and other polygons.
- 6) Finding rotations, reflections, scaling, shearing and translation of given 2D objects.
- 7) Plotting original 2D object and transformed object after applying any of the 2D transformations such as rotation, reflection, scaling, shearing and translation.
- 8) Using combined transformations on 2D object and finding transformed figure. Plotting both.
- 9) Using sympy and/or transformation matrices finding 3D rotations, reflections, scaling, shearing and translation of given 3D objects such as points or line segments etc.
- 10) Generation and plotting of uniformly spaced n - points on circumference of standard Circle $x^2 + y^2 = r^2$ and on arc of a circle.
- 11) Generation and plotting of uniformly spaced n - points on parabola when x range or y range is given