SDM COLLEGE OF ENGINEERING AND TECHNOLGY, DHARWAD-02

Department of Mathematics

LAB 1: 2D plots of Cartesian and Polar Curves

Write a program

1) to plot a line joining the points (1,2),(2,7),(3,9),(4,1),(6,5),(7,10),(8,3).

2) to plot a sine and cosine curves in (-10,10) with step size 0f 0.001

3) to plot an implicit curve $a^2y^2 = x^2(a^2 - x^2)$ [Lemniscate], taking $-5 \le x \le 5; -5 \le y \le 5;$ a=2.

4) to plot an implicit curve $x^3 + y^3 = 3axy$ [Folium of De-Cartes], taking $-5 \le x \le 5; -5 \le y \le 5;$ a=2.

5) to plot an polar curve $r = 5(1 + \cos\theta)$ [Cardiod], taking $0 \le \theta \le 2\pi$ with 1000 linespace.

6) to plot the Cardiods $r = a(1 + \cos\theta)$ and $r = a(1 - \cos\theta)$ taking $0 \le \theta \le 2\pi$ with with step size 0f 0.01.

7) To plot the parametric curve, Cycloid $x = a(\theta - \sin\theta)$ and $y = a(1 - \cos\theta)$ taking $-2\pi \le \theta \le 2\pi$ with with 100 linespace

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