BRAC UNIVERSITY

Inspiring Excellence

Lab Assignment 1

Integral Calculus & Differential Equations (MAT120)

1. Find the maxima and the minima of the function $\frac{x^2-7x+6}{x-10}$

2. What is the maxima of the function $\frac{x}{lnx}$?

2. Find the third derivative of the function $y = x^2 ln(x)$. Show its value in the point $x = 2$.

3. Plot the following functions upto its third derivative with proper labeling and arbitrary range-

   a. $y = x^3 - 3x + 2$

   b. $y = asin(3x)$ where a is an arbitrary constant.

4. Make the very common of shape of an atom (where several ellipses intersect having a common center).