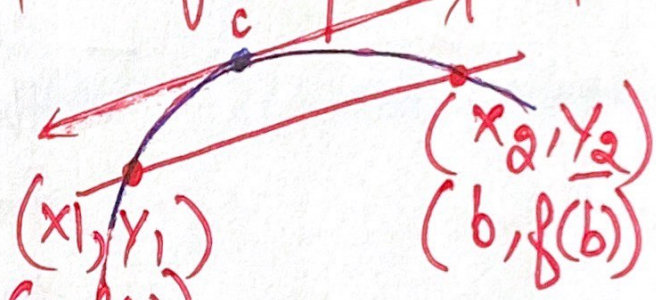
✓ BSC (3rd Semester) Batch-Ist

1) Plotting Graphs of Lagrange & Rolles

Secant Line:- A line that touches a curve at 2 points



$$\frac{y_2 - y_1}{x_2 - x_1} = \text{slope}$$

$$\text{(m) slope} = \frac{f(b) - f(a)}{b - a}$$

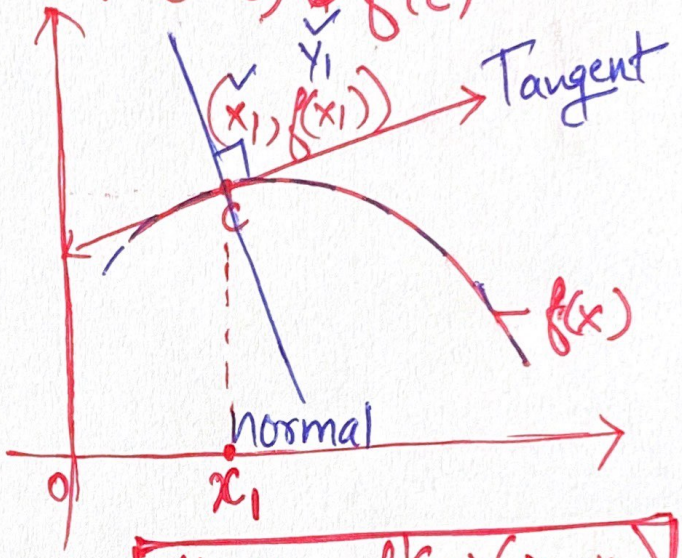
$$\boxed{y - y_1 = m(x - x_1)}$$

$$y - f(a) = \text{slope}(x - a)$$

$$y = f(a) + \text{Slope}(x - a) \quad \text{— eq(1)}$$

Eqⁿ of tangent :-

$$Y_1 = f(c) + (x-c) f'(c)$$



$$\Rightarrow \boxed{y - y_1 = f'(x_1)(x - x_1)}$$

$$y = y_1 + f'(x_1)(x - x_1)$$

$$y = f(c) + f'(c)(x - c)$$