

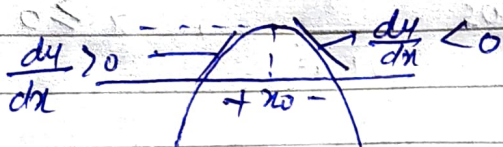
FORMULA LIST

1. First derivative test.

a) Maxima -

$$1.) \left. \frac{dy}{dx} \right|_{x=x_0} = 0$$

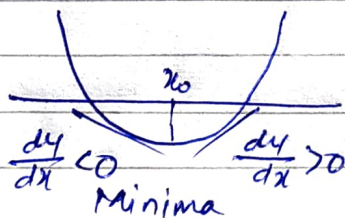
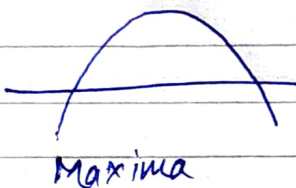
$$2.) \left. \frac{dy}{dx} \right|_{x=x_0-h} > 0 \quad \& \quad \left. \frac{dy}{dx} \right|_{x=x_0+h} < 0$$



b) Minima -

$$1.) \left. \frac{dy}{dx} \right|_{x_0} = 0$$

$$2.) \left. \frac{dy}{dx} \right|_{x_0-h} < 0 \quad \& \quad \left. \frac{dy}{dx} \right|_{x_0+h} > 0$$



2.) 2nd derivative test

a) Maxima

$$\left. \frac{dy}{dx} \right|_{x_0} = 0 \quad \& \quad \left. \frac{d^2y}{dx^2} \right|_{x_0} < 0$$

b) Minima

$$\left. \frac{dy}{dx} \right|_{x_0} = 0 \quad \& \quad \left. \frac{d^2y}{dx^2} \right|_{x_0} > 0$$