Formula of Diffrentiation

$$X = x^1$$

$$X^0 = 1$$

$$\frac{d}{dx}(c) = 0$$

$$\frac{d}{dx}(x) = 1$$

$$\frac{d}{dx}(x^n) = nx^{n-1}$$

$$\frac{d}{dx}(\sqrt{x}) = \frac{1}{2\sqrt{x}}$$

$$\frac{d}{dx}\left(\frac{1}{x}\right) = \frac{-1}{x^2}$$

$$\frac{d}{dx}e^x = e^x$$

$$\frac{d}{dx}\log(x) = \frac{1}{x}$$

$$\frac{d}{dx}\sin X = \cos X$$

$$\frac{d}{dx}\cos X = \sin X$$

$$\frac{d}{dx}\tan X = \sec^2 X$$

$$\frac{d}{dx}\cot X = \operatorname{cosec}^2 X$$

$$\frac{d}{dx}\sec X = \sec X.\tan X$$

$$\frac{d}{dx}\operatorname{cosec} X = \operatorname{cosec} X.\cot X$$