

## MATHEMATICS ASSIGNMENT FOR ALL L4(SOD,ML,NIT)

Analyze the function and determine the properties of a function :(domain of a function, range of a function,

**a)**  $y = \frac{8(x-2)}{x^2}$

**j)**  $y = \frac{|x-1|}{x+2}$

**s)**  $y = x^3 + 3x$

**b)**  $y = \frac{x-1}{x-2}$

**k)**  $y = \frac{\ln x}{x} + 1$

**t)**  $y = x^2 - 2|x|$

**c)**  $y = 3x^5 - 5x^3$

**l)**  $y = \sqrt{x-2} - 1$

**u)**  $y = (1-x^2)^2$

**d)**  $y = \frac{2x^3}{x^2+1}$

**m)**  $y = x + 2\arctan x$

**v)**  $y = \sqrt{|x-1|}$

**e)**  $y = |16 - x^2|$

**n)**  $y = 2 \times 3^x + 1$

**w)**  $y = \frac{x^2 - 3x}{x+1}$

**f)**  $y = (x^2 - 1)3x$

**o)**  $y = \sin x + \cos x$

**x)**  $y = x^2 e^{-x}$

**g)**  $y = \frac{x^2+1}{x}$

**p)**  $y = (x-4)\sqrt[3]{x}$

**y)**  $y = 3 + \sin x \cos x$

**h)**  $y = -x^4 + 6x^2 - 5$

**q)**  $y = \ln \frac{1-x}{1+x}$

**z)**  $y = x \arctan x$

**i)**  $y = x^2 + \frac{1}{x^2}$

**r)**  $y = \left| \frac{x-1}{x+1} \right|$

**Z)**  $y = \frac{2x}{x^2-1} + x$