ASSIGNMENT

1. Find the Maxima and Minima of $y = \frac{1}{x} - \frac{1}{1-x}$.
2. Find the Maxima and Minima of $y = 4x^3 - 5x^2 - 13x + 9$. Also find its point of inflexion, if any.
3. Find the Maxima and Minima of $y = \frac{2x}{3+x^2}$. Also find its point of inflexion, if any.
4. Write the Maclaurin's Series of $f(x) = \log(1+x^2)$ upto first four non-zero terms.
5. Express the function $y = \frac{1}{4}x^4 - 4x^2 + 6x - 4$ into its Taylor's series at $x = -1$.
6. If the average revenue function is given by $AR = 10 - 4q$, where q represents the quantity of goods, then calculate the marginal revenue function.
7. If the average cost function is given by $AC = 2q^2 - 5q + 24$, where q represents the quantity of goods, then calculate the marginal cost function and also find the rate of change of average cost.