



SRM Institute of Science and Technology
Department of Mathematics
21MAB206T- Numerical Methods and Analysis
2023-2024 Odd
Answer all questions (5 X 10 = 50 marks)
Assignment - 1

S.No.	
1.	Using Newton's iterative method, find the real root of $x \log_{10} x = 1.2$ correct to five decimal places. .
2.	Solve by Gauss-Seidel method, the following system of equations. $28x + 4y - z = 32$ $x + 3y + 10z = 24$ $2x + 17y + 4z = 35$
3.	The following table gives same relation between steam pressure and temperature. Find the pressure at temperature 372.1° T $361^{\circ} \ 367^{\circ} \ 378^{\circ} \ 387^{\circ} \ 399^{\circ}$ P 154.9 167.9 191.0 212.5 244.2
4.	Use Lagrange's formula to fit a polynomial to the data and hence find y (x=1). x : -1 0 2 3 y : -8 3 1 12

5.	<p>Apply Lagrange's formula to find the value of y when $x(7) = 5$ from the following data.</p> <p>x: 5 6 9 11 $f(x)$: 12 13 14 16</p>
----	--