

Assignment 8. Fixed point & Newton-Raphson

Marks 10

Posted on 10.09.2025 @ 2:30 pm and due on 10.09.2025 @ 6:00 pm

1. Find the solution for the following set of nonlinear equations using both fixed point and Newton-Raphson method. Compare their convergence rate. [4+6]

$$\begin{aligned}x_1^2 + x_2 &= 37 \\x_1 - x_2^2 &= 5 \\x_1 + x_2 + x_3 &= 3\end{aligned}$$

Choose your own initial guess and fixed-point functions.