

**UNIVERSITI TEKNOLOGI MARA**

**COMPARATIVE ANALYSIS OF NONLINEAR EQUATION SOLVERS:  
A STUDY ON NEWTON, OSTROWSKI, MODIFIED OSTROWSKI,  
STEFFENSEN, AND TWO-STEP STEFFENSEN METHODS**

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## **ABSTRACT**

The performance and convergence properties of several numerical techniques for solving nonlinear equations are examined in this work. The study uses Maple 2016 software to perform a thorough analysis, focusing on iterative techniques including Newton's method, Steffensen's method, Two-Step Steffensen's method, Ostrowski's method, and Modified Ostrowski's method. The effectiveness of these techniques is assessed across ten different test functions and multiple tolerance limits. Considering the computational efficiency and convergence rates of each method, the study highlights its advantages and disadvantages.

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