

# NUMERICAL SOLUTION OF SEEPAGE PARABOLIC PARTIAL DIFFERENTIAL EQUATION

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## DECLARATION


This thesis is my original work and has not been presented for a degree in any other University or any other award.

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## ABSTRACT

In this study, we numerically solve the third order seepage parabolic partial differential equation subject to some initial and boundary conditions. In particular we use finite difference method. The corresponding approximations for partial derivatives in the equation under study are derived using Taylor series. The Schemes corresponding to the partial differential equation are developed and the stability analysis of the schemes done using matrix method. The resulting system of linear algebraic equations is solved using *Mathematica* software. The solution is then represented graphically in three dimensions and interpreted.