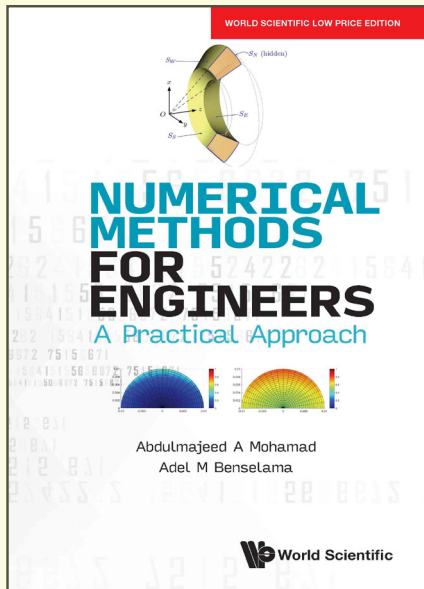


Numerical Methods for Engineers

A Practical Approach



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ABOUT THE BOOK

The unique compendium is an introductory reference to learn the most popular numerical methods cohesively. The text focuses on practical applications rather than on abstract and heavy analytical concepts. The key elements of the numerical methods are Taylor series and linear algebra. Based on the authors' years of experience, most materials on the text are tied to those elements in a unified manner.

The useful reference manual benefits professionals, researchers, academics, senior undergraduate and graduate students in chemical engineering, civil engineering, mechanical engineering and aerospace engineering.

READERSHIP

Researchers, professionals, academics, undergraduate and graduate students in chemical engineering, civil engineering and mechanical engineering.

CONTENTS

- Fundamentals: Taylor Series
- Linear Algebra
- Interpolation and Fitting
- Nonlinear Equations
- Numerical Differentiation and Integration
- Ordinary Differential Equations: Initial Value Problems
- Ordinary Differential Equations: Boundary Value Problems
- Partial Differential Equations
- Diffusion Equation (Parabolic Equation)
- Laplace and Poisson Equations (Elliptic Equations)
- Advection and Avection–Diffusion Equations
- Wave Equations