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 3.2 Properties of Infinite Series 3.3 Method of Frobenius; 3.3.1 Indicial Equation and Recurrence Relation; 3.4 Summary of the Frobenius Method; 3.5 Special Functions; 3.5.1 Bessel's Equation; 3.5.2 Modified Bessel's Equation; 3.5.3 Generalized Bessel's Equation; 3.5.4 Properties of Bessel Functions; 3.5.5 Differential, Integral, and Recurrence Relations; Problems; References; 4 Integral Functions; 4.1 Introduction; 4.2 The Error Function; 4.2.1 Properties of Error Function; 4.3 The Gamma and Beta Functions; 4.3.1 The Gamma Function; 4.3.2 The Beta Function; 4.4 The Elliptic Integrals
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Sommario/riassunto

This Second Edition of the go-to reference combines the classical analysis and modern applications of applied mathematics for chemical engineers. The book introduces traditional techniques for solving ordinary differential equations (ODEs), adding new material on approximate solution methods such as perturbation techniques and elementary numerical solutions. It also includes analytical methods to deal with important classes of finite-difference equations. The last half discusses numerical solution techniques and partial differential equations (PDEs). The reader will then be equipped to
