



Numerical Methods For Engineers

By Santosh K. Gupta

New Academic Science Ltd. Paperback. Book Condition: new. BRAND NEW, Numerical Methods For Engineers, Santosh K. Gupta, ;This book is intended to be a text for either a first or a second course in numerical methods for students in all engineering disciplines. Difficult concepts which usually pose problems to students are explained in detail and illustrated with solved examples. Enough elementary material that could be covered in the first-level course is included such as methods for solving linear and nonlinear algebraic equations, interpolation, differentiation, integration, and simple techniques for integrating ODEs and PDEs (ordinary and partial differential equations). Advanced techniques and concepts that could form part of a second-level course include Gear's method for solving ODE-IVPs (initial value problems), stiffness of ODE-IVPs, multiplicity of solutions, convergence characteristics, the orthogonal collocation method for solving ODEBVPs (boundary value problems) and finite element techniques. An extensive set of graded problems, often with hints, has been included. Some involve simple applications of the concepts and can be solved using a calculator, while several are from real-life situations and require writing computer programs or use of library subroutines. Practice on these is expected to build up the reader's confidence in developing large computer codes.



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