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Autore	Musa Sarhan M
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Nota di contenuto	Mathematical preliminaries -- Introduction to finite element method -- Finite element analysis of axially loaded members -- Finite element analysis trusses -- Finite element analysis of beams -- Stress analysis of a rectangular plate with a circular hole -- Thermal analysis -- Fluid flow analysis -- Dynamic analysis -- Engineering electromagnetics analysis.
Sommario/riassunto	Today, the finite element method (FEM) has become a common tool for solving engineering problems in many industries for the obvious reasons of its versatility and affordability. This book contains materials applied to mechanical engineering, civil engineering, electrical engineering, and physics. It is written primarily as a simple introduction to the practice of FEM analysis in engineering and physics. It contains many 1D and 2D problems solved by the analytical method, by FEM using hand calculations, and by using ANSYS®, COMSOL®, and MATLAB® software. Results of all the methods have been compared. Features: •Includes a comparison of solutions to the problems obtained by the analytical method, FEM hand calculations, and the software method•Includes over 35 solved problems using software applications such as MATLAB, COMSOL, and ANSYS•Accompanied by a DVD with applications and figures from the text •Careful, balanced presentation of theory and applicationseBook Customers: Companion files are available for downloading with order number/proof of purchase by

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