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Note generali	Includes index.
Nota di contenuto	Basic Concepts of Structural Analysis -- Energy Principles -- Introduction To The Flexibility and Stiffness Matrix Methods -- Direct Stiffness Method -- Substructure Technique for the Analysis of Structural Systems -- The Flexibility Matrix Method -- Elements of Elasticity -- Introduction to The Finite Element Method -- Finite Element Analysis of Plane Elasticity Problems -- Isoparametric and Other Element Representations and Numerical Integrations -- Finite Element Analysis of Plate Bending Problems -- Finite Element Analysis of Shells -- Semi-Analytical and Spline Finite Strip Method of Analyses of Plate Bending -- Dynamic and Instability Analyses By The Finite Element Method -- The Finite Difference Method For The Analysis Of Beams And Plates -- Adaptive Finite Element Analysis -- Geometrical Non-Linear Finite Element Analysis -- Finite Element Method Of Analysis Of Stiffened Plates -- Selected Topics.
Sommario/riassunto	This textbook has been primarily written for undergraduate and postgraduate engineering students studying the mechanics of solids

and structural systems. The content focuses on matrix, finite elements, structural analysis, and computer implementation in a unified and integrated manner. Using classical methods of structural analysis, it discusses matrix and the finite element methods in an easy-to-understand manner. It consists of a large number of diagrams and illustrations for easy understanding of the concepts. All the computer codes are presented in "FORTRAN" AND "C". This textbook is highly useful for the undergraduate and postgraduate engineering students. It also acquaints the practicing engineers about the computer-based techniques used in structural analysis.