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	 6.3 Forced Vibration Analysis7 Effect of In-plane Forces on Static Flexure, Dynamics and Stability; 7.1 Governing Equations for Combined Bending and Stretching; 7.2 Analysis for Stability; 7.3 Static Flexure; 7.4 Free Vibrations; 8 Approximate Solutions; 8.1 Analytical and Numerical Methods; 8.2 Rayleigh-Ritz Method; 8.2.1 Static Flexure; 8.2.2 Buckling; 8.2.3 Free Vibration Analysis; 8.3 Galerkin's Method; Appendix - Solutions for Problems; Part B Complicating Effects and Corresponding Theories; 9 Anisotropic, Laminated and Functionally- Graded Plates 9.1 CPT for Homogeneous Anisotropic Plates9.1.1 The Anisotropic Constitutive Law; 9.1.2 Plate Equations; 9.2 Classical Laminated Plate Theory; 9.3 CPT for Functionally-Graded Plates; 10 Elasticity Solutions for Plates; 10.1 Cylindrical Bending of a Cantilevered Plate Strip Under Tip Shear; 10.1.1 Homogeneous Strip; 10.1.2 A Laminated Strip; 10.2 Flexure of Simply Supported Rectangular Plates/Laminates Due to Transverse Loading; 10.3 Vibrations and Stability of Simply Supported Rectangular Plates and Laminates; 10.4 Solutions for Rectangular Plates with Other Edge Conditions 10.5 Corner Reactions in Simply Supported Plates - Insight Obtained from Elasticity Solutions10.6 Plates under Thermal Loads; 11 Shear Deformation Theories; 12 Variable Thickness Plates; 12.1 Stepped versus Smooth Thickness Variation; 12.2 Rectangular Plates; 12.3 Circular Plates; 13 Plate Buckling due to Non-Uniform Compression; 13.1 The In-plane Problem; 13.2 Determination of the Critical Load; 13.3 Some Other Approaches; 14 Non-Linear Flexure and Vibrations; 14.1 Cylindrical Bending of a Simply Supported Plate Strip 14.1.1 Case (a): Immovable Edges
Sommario/riassunto	Plates: Theories and Applications provides a comprehensive introduction to plate structures, covering classical theory and applications. It considers plate structures in several forms, starting from the simple uniform, thin, homogeneous metallic structure to more efficient and durable alternatives involving features such as variable- thickness, lamination, sandwich construction, fiber reinforcement, functional gradation, and moderately-thick to very-thick geometry. Different theoretical models are then discussed for analysis and design purposes starting from the classical thin plate