International Mathematics Series
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SYLLABUS

LAPLACE TRANSFORMS, MATRICES, ORDINARY DIFFERENTIAL EQUATIONS AND PARTIAL DIFFERENTIAL EQUATIONS
(Thesaurus 1)

*** Important Note:** All Examples (Sections Containing Examples) are skipped from this book. Some Proofs are omitted.

Laplace Transforms (Part I):- The Laplace Transform, The Inverse Laplace Transform, Applications of Laplace Transforms to Differential Equations.

Matrices (Part II):- Algebra of Matrices, Determinants, Adjoints and Inverses, Rank of a Matrix, Systems of Linear Equations, Vector spaces of n-tuples, Unitary space and Euclidean Space, Characteristic Roots and Vectors, Similarity of Matrices, Quadratic Forms, Applications to Geometry.

Ordinary Differential Equations (Part III):- Formation of Differential Equations, First Order and First Degree Equations, Linear Differential Equations with Constant Coefficients, Applications to Geometry and Mechanics, Equations of the First Order but not of First Degree, Homogeneous Linear Equations, Orthogonal Trajectories, Singular Solutions, Linear Equations of the Second Order, Simultaneous Differential Equations, Total Differential Equations, Exact Differential Equations and Equations of Particular Forms.

Partial Differential Equations (Part IV):- Derivation of Partial Differential Equations, Partial Differential Equations of 1^{st} Order, Non-linear Partial Differential Equations of Order One, Homogeneous Linear Partial Differential Equations with Constant Coefficients, Non-homogeneous Linear Partial Differential Equations with Constant Coefficients, Partial Differential Equations of Order Two with Variable Coefficients, Problems On Classified Partial Differential Equations, Monge's Methods.

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