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2.10 Semi-Infinite Rod; 2.11 Infinite Rod; 2.12 The Error Function; Miscellaneous; Chapter 3. The Wave Equation; 3.1 The Vibrating String; 3.2 Solution of the Vibrating String Problem; 3.3 D'Alembert's Solution; 3.4 One-Dimensional Wave Equations: Generalities; 3.5 Estimation of Eigenvalues; 3.6 Wave Equation in Unbounded Regions; Miscellaneous; Chapter 4. The Potential Equation; 4.1 Potential Equation; 4.2 Potential in a Rectangle; 4.3 Further Examples for a Rectangle; 4.4 Potential in Unbounded Regions; 4.5 Potential in a Disk; 4.6 Classification and Limitations; Miscellaneous Exercises
Chapter 5. Higher Dimensions and Other Coordinates; 5.1 Two-Dimensional Wave Equation: Derivation; 5.2 Three-Dimensional Heat Equations: Vector Derivation; 5.3 Two-Dimensional Heat Equation: Solution; 5.4 Problems in Polar Coordinates; 5.5 Bessel's Equation; 5.6 Temperature in a Cylinder; 5.7 Vibrations of a Circular Membrane; 5.8 Some Applications of Bessel Functions; 5.9 Spherical Coordinates; Legendre Polynomials; 5.10 Some Applications of Legendre Polynomials; Miscellaneous; Chapter 6. Laplace Transform; 6.1 Definition and Elementary Properties; 6.2 Partial Fractions and Convolutions; 6.3 Partial Differential Equations; 6.4 More Difficult Examples; Miscellaneous Exercises; Chapter 7. Numerical Methods; 7.1 Boundary Value Problems; 7.2 Heat Problems; 7.3 Wave Equation; 7.4 Potential Equation; 7.5 Two-Dimensional Problems; Miscellaneous

Sommario/riassunto

This student solutions manual accompanies the text, *Boundary Value Problems and Partial Differential Equations*, 5e. The SSM is available in print via PDF or electronically, and provides the student with the detailed solutions of the odd-numbered problems contained throughout the book. Provides students with exercises that skillfully illustrate the techniques used in the text to solve science and engineering problems. Nearly 900 exercises ranging in difficulty from basic drills to advanced problem-solving exercises. Many exercises based on current engineering
