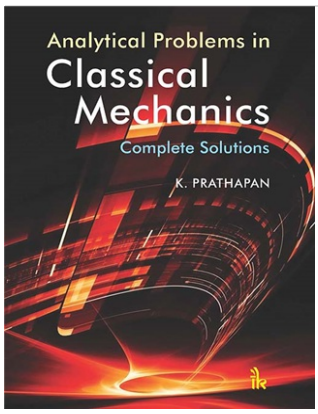
Book Information Sheet



Analytical Problems in Classical Mechanics: Complete Solutions

Prathapan K.

2018 | 526 pp | Paperback | ISBN: 9789386768186 | Price: 725.00

About the Book

The book is meant for the students, both graduate and postgraduate, to understand the application of various formulations of classical mechanics and equip them for solving mechanical problems. Theory notes are given at the beginning of each chapter.

This book contains problems of various difficulty levels. Most of the problems are discussed in detail for understanding of the applications of various formulations. Certain number of problems are discussed in all formulations which will help the reader to make a comparison between different formulations. A large number of problems are selected from various university examinations as well as from competitive examinations like NET, JEST, GATE and Civil Services. Practice problems are also given at the end of each chapter. Consequently, this book will also be helpful to the students preparing for such examinations.

Salient Features

- Application of various formulations of classical mechanics.
- Theory notes.
- Problems in all formulations.
- Classical problems with applications of various formulations.

Table of Contents

1. Foundations of Mechanics
2. Lagrangian Formulation
3. Hamiltonian Formulation
4. Canonical Transformation and Poisson Brackets
5. Hamilton - Jacobi Formulation and Action - Angle Variables
6. Small Oscillations
7. Scattering and Rigid Body Dynamics

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