



Classical Mechanics

By N.C. Rana, P.S. Joag

Tata McGraw-Hill Education Pvt. Ltd., 2015. Softcover. Book Condition: New. 18 x 24 cm. The book presents a lucid treatment of classical mechanics with an emphasis on the understanding of the fundamentals. It develops an appreciation of the versatility of practically all the fundamental principles of Physics. The book incorporates the recent developements in classical mechanics over the past four decades, and discusses in detail such topics as constrained systesms, Lagrangian and Hamiltonian systems, canonical transformations, Hamilton jacobi theory, small oscillations, rigid body dynamics, central force problems, elasticity and fluid mechanics. Table of contents Chapter 1 Constrained Motions in Cartesian Coordinates Chapter 2 Lagrangian Formulation in Generalised Coordinates Chapter 3 Rotating Frames of Reference Chapter 4 Central Force Chapter 5 Hamilton's Equations of Motion Chapter 6 Principles of Least Action and Hamilton's Principle Chapter 7 Brachistochrones, Tautochrones and the Cycloid Family Chapter 8 Canonical Transformations Chapter 9 The Poisson Bracket Chapter 10 Hamilton-Jacobi Theory Chapter 11 Small Oscillations Chapter 12 Rigid Body Dynamics Chapter 13 Elasticity Chapter 14 Fluid Dynamics Appendix A1 Coordinate Frames Appendix A2 Vector Calculus Appendix A3 Tensors Appendix B Sample of Short Questions Appendix C Hints and Answers to Selected Problems Appendix D Physical Constants Bibliography...



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