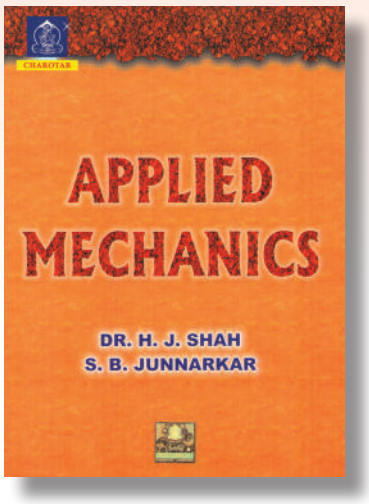

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APPLIED MECHANICS

[INCLUDING VECTOR APPROACH]

By
Dr. H. J. Shah, S. B. Junnarkar

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ABOUT THE BOOK

In this text-book, the approach is to study systematically the laws of Mechanics and their application to engineering problems. The outline of the book is:

Chapters 1 and 2 discuss Introduction of Mechanics; Fundamental Concepts and Principles; Scalars, Vectors and Tensors; SI Units, Vector Algebra, etc.

Chapter 3 to 10 consist the study of Mechanics of Rigid Bodies: Fundamentals of Statics, Forces and Force systems such as coplanar concurrent force systems; Moments; Parallel Forces and Couples; Spatial forces; Reactions etc.

Chapter 11 deals in Properties of Lines, Areas and Solids.

Chapter 12 and 13 discuss application of the connected bodies viz., trusses, frames and mechanisms.

Chapter 14 gives problems of statics in Graphics Statics

Chapter 15 and 16Moments of Inertia of Areas and Masses; Friction respectively.

Chapters 17 to 21 include the study of Dynamics and Kinematics such as — the motion of the particles, etc.

Chapters 22 to 29 deal with topics on Kinetics of Particles such as Laws of Motion; Work and Energy; Impulse and Momentum. Special Topics such as Central Force Motion and Collisions; Kinetics of Systems of Particles, Kinetics of Rigid Bodies; Motion of Vehicles are also covered.

Chapters 30 to 38 deal with topics such as Balancing and Rotating Masses; Virtual Work; The Catenary; Belt and Rope Drive; Toothed Gearing; Lifting Machine; Mechanical Vibration; Hydrostatics and Impact of Jets.

This book is now contains:

*** 904 Neatly drawn figures; * 56 Useful tables ;* 453 Solved examples; * 670 Unsolved examples at the end of chapters.**

It is hoped that this edition should prove extremely useful to students of Engineering reading for Degree Examinations of all the Universities of India, Diploma Examinations conducted by various Boards of Technical Education, Certificate Courses, as well as for the U.P.S.C., G.A.T.E., A.M.I.E., I.E.S. and other similar competitive and professional examinations. It should also prove of great interest and practical use to the practising engineers.

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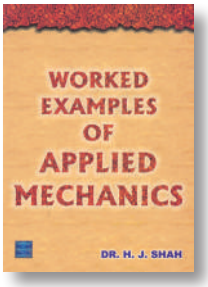

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