

Fluid Mechanics And Hydraulics

This textbook attempts to cover all the topics concerning fluid Mechanics, Hydraulics and Hydraulic Machines, keeping in view the requirements of undergraduate engineering students of all branches. Beginning with fundamentals, advanced topics are discussed towards the end of each chapter. This book written in SI System of units should be a single guiding reference material for most university examinations, AMIE and other competitive examinations. While dealing with various aspects, emphasis is on showing a physical picture of the situation with the help of diagrams.

Master fluid mechanics and hydraulics with Schaum's high-performance guide that helps you cut study time, hone problem-solving skills, and achieve your personal best on exams. Compatible with any classroom text, Schaum's guides are complete enough for graduate or professional exam review and allows you to progress at your own pace but find the answers you need fast. Copyright © Libri GmbH. All rights reserved.

This book is meant for the benefit of all the students studying the subject of Fluid Mechanics, Hydraulics And Fluid Machines and preparing for the A.M.I.E. and B.E. degree examinations of various universities of India. The book presents the subject in as simple a manner as possible with exhaustive explanations and explanatory diagrams. All the chapters on Hydraulic Turbines and Hydraulic Pumps have been enlarged with additional articles and numerical problems. The book contains thousands of fully solved problems besides numerous problems set for exercise at the end of the chapters. Problems have been generally drawn from the B.E. degree examinations of various universities of India, A.M.I.E. Examinations and U.P.S.C. Engineering Service Examinations

Tough Test Questions? Missed Lectures? Not Enough Time? Fortunately, there's Schaum's. This all-in-one-package includes more than 600 fully solved problems, examples, and practice exercises to sharpen your problem-solving skills. Plus, you will have access to 20 detailed videos featuring instructors who explain the most commonly tested problems--it's just like having your own virtual tutor! You'll find everything you need to build confidence, skills, and knowledge for the highest score possible. More than 40 million students have trusted Schaum's to help them succeed in the classroom and on exams. Schaum's is the key to faster learning and higher grades in every subject. Each Outline presents all the essential course information in an easy-to-follow, topic-by-topic format. You also get hundreds of examples, solved problems, and practice exercises to test your skills. This Schaum's Outline gives you 622 fully solved problems Extra practice on topics such as buoyancy and flotation, complex pipeline systems, fluid machinery, flow in open channels, and more Support for all the major textbooks for fluid mechanics and hydraulics courses Fully compatible with your classroom text, Schaum's highlights all the important facts you need to know. Use Schaum's to shorten your study time--and get your best test scores! Schaum's Outlines--Problem Solved.

This is an ideal offering for the complete course on Fluid Mechanics and Hydraulic Machines. Written in a simple and lucid style, the book covers the basic principles and its application to the solution of engineering problems. This book is apt for self-study by the students and lays down a strong foundation for problem-solving abilities.

Hydraulics, Fluid Mechanics and Hydraulic Machines S. Chand Publishing

This textbook offers a unique introduction to hydraulics and fluid mechanics through more than 100 exercises, with

guided solutions, which students will find valuable in preparation for their preliminary or qualifying exams and for testing their grasp of the subject. In some exercises two different solution methods are proposed, to highlight the fact that the level of complexity of the calculations is often linked to the choice of method, though in most cases only the simplest method is presented. The exercises are organized by subject, covering forces on planes and curved surfaces; floating bodies; exercises that require the application of linear and angular momentum balancing in inertial and non-inertial references; pipeline systems, with particular applications to industrial plants; hydraulic systems with machines (pumps and turbines); transient phenomena in pipelines; and uniform and gradually varied flows in open channels. The book also features appendices that contain selected data and formulas of practical interest. Instructors of courses that address one or all of the above topics will find the exercises of great help in preparing their courses, while researchers will find the book useful as an accessible summary of the topics covered.

Schaum's Outlines present all the essential course information in an easy-to-follow, topic-by-topic format. You also get hundreds of examples, solved problems, and practice exercises to test your skills.

This comprehensive book is an earnest endeavour to apprise the readers with a thorough understanding of all important basic concepts and methods of fluid mechanics and hydraulic machines. The text is organised into sixteen chapters, out of which the first twelve chapters are more inclined towards imparting the conceptual aspects of fluids mechanics, while the remaining four chapters accentuate more on the details of hydraulic machines. The book is supplemented with solutions manual for instructors containing detailed solutions of all chapter-end unsolved problems. Primarily intended as a text for the undergraduate students of civil, mechanical, chemical and aeronautical engineering, this book will be of immense use to the postgraduate students of hydraulics engineering, water resources engineering, and fluids engineering. Key features

- The book describes all concepts in easy-to-grasp language with diagrammatic representation and practical examples.
- A variety of worked-out examples are included within the text, illustrating the wide applications of fluid mechanics.
- Every chapter comprises summary that presents the main idea and relevant details of the topics discussed.
- Almost all chapters incorporate objective type questions of previous years' GATE examinations, along with their answers and in-depth explanations.
- Previous years' IES conventional questions are provided at the end of most of the chapters.
- A set of theoretical questions and numerous unsolved numerical problems are provided at the chapter-end to help the students from practice pointof-view.
- Every chapter consists of a section Suggested Reading comprising a list of publications that the students may refer for more detailed information.

If you want top grades and excellent understanding of fluid mechanics and hydraulics, this powerful study tool is the best tutor you can have! It takes you step-by-step through the subject and gives you accompanying related problems with fully

worked solutions. You also get hundreds of additional problems to solve on your own, working at your own speed. This superb Outline clearly presents every aspect of fluid mechanics and hydraulics. Famous for their clarity, wealth of illustrations and examples, and lack of dreary minutiae, Schaum's Outlines have sold more than 30 million copies worldwide. Compatible with any textbook, this Outline is also perfect for self-study. For better grades in courses covering fluid mechanics and hydraulics you can't do better than this Schaum's Outline!

The favourable and warm reception, which the previous editions and reprints of this popular book has enjoyed all over India and abroad has been a matter of great satisfaction for me.

Very Good, No Highlights or Markup, all pages are intact.

In the book a large number of problems from the Examination paper of London University, Institution of Mechanical Engineers (London) Institution of Engineers (India) Union Public Service Commission (India) and Various Indian Universities have been included.

CONTENTS : Part- I : Properties of Fluids * Pressure Measurement * Hydrostatic Forces on Surfaces * Buoyancy and Floating * Fluid Masses in Relative Equilibrium * Kinematics of Fluid Flow * Dynamics of Fluid Flow * Flow Measurement * Flow Through Orifices and Mouth Pieces * Flow over Notches and Weirs * Fundamentals of Flow Through Pipes * Fundamentals of Flow through Open Channels * Flow of Compressible Fluids

Part-II : Advance Topics In Fluid Mechanics And Hydraulics : Dimensional Analysis * Hydraulic Similitude * Laminar Flow * Turbulent Flow Through Pipes * Boundary Layer Theory * Flow Around Immersed Bodies * Uniform Flow in Open Channels * Non Uniform Flow in Open Channels

Part- III : Hydraulics Machines : Impacts of Free Jets * Hydraulic Turbines * Governing and Performance of Hydraulic Turbines * Reciprocating Pumps * Centrifugal Pumps * Miscellaneous Hydraulic Devices and Machines

Part-IV : Miscellaneous Topics : Fluvial Hydraulics * Elementary Hydrodynamics * Water Power Engineering * Laboratory Experiments

Part-V : Appendices : Appendix A : Miscellaneous Objective Type Questions * Appendix B : Cavitation * Appendix C : Geometrical Properties of Plane Areas * Appendix D : secondary Flow * Appendix E : Use Vector Notations * Appendix F : Computer Programmes * Reference * Index.

Divided in two parts, "A Textbook of Fluid Mechanics and Hydraulic Machines" is one of the most exhaustive texts on the subject for close to 20 years. For the students of Mechanical Engineering, it can easily be used as a reference text for other courses as well. Important topics ranging from Fluid Dynamics, Laminar Flow and Turbulent Flow to Hydraulic Turbines and Centrifugal pumps are well explained in this book. A total of 23 chapters (combined both units) followed by two special chapters of 'Universities' Questions (Latest) with Solutions' and 'GATE and UPSC Examinations' Questions with Answers/Solutions' after each unit also make it an excellent resource for aspirants of various entrance examinations. If you want top grades and excellent understanding of fluid mechanics and hydraulics, this powerful study tool is the best

tutor you can have! It takes you step-by-step through the subject and gives you accompanying related problems with fully worked solutions. You also get hundreds of additional problems to solve on your own, working at your own speed. This superb Outline clearly presents every aspect of fluid mechanics and hydraulics. Famous for their clarity, wealth of illustrations and examples, and lack of dreary minutiae, Schaum's Outlines have sold more than 30 million copies worldwide. Compatible with any textbook, this Outline is also perfect for self-study. For better grades in courses covering fluid mechanics and hydraulics—you can't do better than this Schaum's Outline!

Fluid Mechanics And Hydraulic Machines is designed for the course on fluid mechanics and hydraulic machines offered to the undergraduate students of mechanical and civil engineering. Written in a lucid style, the book lays emphasis on explaining the logic and physics of critical problems to develop analytical skills in the reader.

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