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# P K Nag Power Plant Engineering

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Gas Turbines for Electric Power Generation John Wiley & Sons  
Mechanical Engineering  
Pow Plant Engg CRC Press  
Meant for the undergraduate course on Power Plant Engineering studied by the mechanical engineering students, this book is a comprehensive and up-to-date offering on the subject. It has detailed coverage on hydro-electric, diesel engine and gas turbine power plants. Plenty of solved examples, exercise questions and illustrations make this a very student friendly text.

Industrial Boilers and Heat Recovery Steam Generators John Wiley & Sons  
The Exergy Method of Thermal Plant Analysis aims to discuss the history, related concepts, applications, and development of the Exergy Method - analysis technique that uses the Second Law of Thermodynamics as the basis of evaluation of thermodynamic loss. The book, after an introduction to thermodynamics and its related concepts, covers concepts related to exergy, such as physical and chemical exergy, exergy concepts for a control method and a closed-system analysis, the exergy

analysis of simple processes, and the thermocentric applications of exergy. A seven-part appendix is also included. Appendices A-D covers miscellaneous information on exergy, and Appendix E features charts of thermodynamic properties. Appendix F is a glossary of terms, and Appendix G contains the list of references. The text is recommended for physicists who would like to know more about the Exergy Method, its underlying principles, and its applications not only in thermal plant analysis but also in certain areas.

Thermodynamics in Nuclear Power Plant Systems Artech

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House

This book is designed to serve as a basic text for the undergraduate course in Heat and Mass Transfer. The book follows the classical pattern treating the subject from both analytical and numerical view points. Throughout the text, emphasis has been place.

Power Plant Engineering Elsevier

This Text-Cum-Reference Book Has Been Written To Meet The Manifold Requirement And Achievement Of The Students And Researchers. The Objective Of This Book Is To Discuss, Analyses And Design The Various Power Plant Systems Serving The Society At Present And Will Serve In Coming Decades India In Particular And The World In General. The Issues Related To Energy With Stress And Environment Up To Some Extent And Finally Find Ways To Implement The Outcome. Salient Features# Utilization Of Non-Conventional Energy Resources# Includes Green House Effect# Gives Latest Information S In Power Plant Engineering# Include Large Number Of Problems Of Both Indian And Foreign Universities# Rich

Contents, Lucid Manner

Thermodynamics McGraw-Hill Companies

This book is designed for students and professionals who specialize in energy technologies and power plant engineering. It covers the mathematics and physics of both current conversion, such as solar cells, fuel cells, MHD, thermoelectric, and thermionic power generation, but also discusses emerging conversion technologies such as solar thermal, nuclear fusion, and hydrogen energy. Features: Covers both current conversion technologies as well as emerging technologies, such as solar thermal, nuclear fusion, and hydrogen energy Written in simple language, illustrated by diagrams, mathematical analysis, and numerical examples

Power Plant Engineering Jones & Bartlett Learning

This book explores the interplay of farm mechanization, human factors and climatic and other environmental uncertainty in agriculture, using an ergonomics based approach to discuss solutions to the traditionally acknowledged vulnerability of the sector. It converges contemporary research documentation, case studies and international standards on agricultural ergonomics, engineering anthropometry, human factors, basic occupational health services, safety management, human performance and system sustainability to provide a handy reference to students and professionals working to optimize

agricultural output while balancing the rational utilization of labour in agricultural practices and human well-being.

Heat and Mass Transfer Springer

Information on contemporary topics in power plant technology such as super critical boiler technology Practical approach to delineate complex topics with visual aids and representational schemes Exhaustive coverage of power generation from non-conventional sources of energy Ample solved examples, multiple-choice and exercise questions for practice.

Engineering Thermodynamics Springer

Everything you wanted to know about industrial gas turbines for electric power generation in one source with hard-to-find, hands-on technical information.

Power Generation Technologies CRC Press

This textbook has been designed for a one-semester course on Power Plant Engineering studied by both degree and diploma students of mechanical and electrical engineering. It effectively exposes the students to the basics of power generation involved in several energy conversion systems so that they gain comprehensive knowledge of the operation of various types of power plants in use today. After a brief introduction to energy fundamentals including the environmental impacts of power generation, the book acquaints the students with the working

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principles, design and operation of five conventional power plant systems, namely thermal, nuclear, hydroelectric, diesel and gas turbine. The economic factors of power generation with regard to estimation and prediction of load, plant design, plant operation, tariffs and so on, are discussed and illustrated with the help of several solved numerical problems. The generation of electric power using renewable energy sources such as solar, wind, biomass, geothermal, tidal, fuel cells, magneto hydrodynamic, thermoelectric and thermionic systems, is discussed elaborately. The book is interspersed with solved problems for a sound understanding of the various aspects of power plant engineering. The chapter-end questions are intended to provide the students with a thorough reinforcement of the concepts discussed.

**Nuclear Energy Springer Nature**

Research and development in thermal engineering for power systems are of significant importance to many scientists who are engaged in research and design work in power-related industries and laboratories. This book focuses on variety of research areas including Components of Compressor and Turbines that are used for both electric power systems and aero

engines, Fuel Cells, Energy Conversion, and Energy Reuse and Recycling Systems. To be competitive in today's market, power systems need to reduce the operating costs, increase capacity factors and deal with many other tough issues. Heat Transfer and fluid flow issues are of great significance and it is likely that a state-of-the-art edited book with reference to power systems will make a contribution for design and R&D engineers and the development towards sustainable energy systems.

**Power Plant Engineering Notion Press**

This expanded, revised, and updated fourth edition of Nuclear Energy maintains the tradition of providing clear and comprehensive coverage of all aspects of the subject, with emphasis on the explanation of trends and developments. As in earlier editions, the book is divided into three parts that achieve a natural flow of ideas: Basic Concepts, including the fundamentals of energy, particle interactions, fission, and fusion; Nuclear Systems, including accelerators, isotope separators, detectors, and nuclear reactors; and Nuclear Energy and Man, covering the many applications of radionuclides,

radiation, and reactors, along with a discussion of wastes and weapons. A minimum of mathematical background is required, but there is ample opportunity to learn characteristic numbers through the illustrative calculations and the exercises. An updated Solution Manual is available to the instructor. A new feature to aid the student is a set of some 50 Computer Exercises, using a diskette of personal computer programs in BASIC and spreadsheet, supplied by the author at a nominal cost. The book is of principal value as an introduction to nuclear science and technology for early college students, but can be of benefit to science teachers and lecturers, nuclear utility trainees and engineers in other fields.

**Thermodynamics In Nuclear Power Plant Systems Elsevier**

This revised book covers the fundamentals of thermodynamics required to understand electrical power generation systems, honing in on the application of these principles to nuclear reactor power systems. This text treats the fundamentals of thermodynamics from the perspective of nuclear power systems. In addition to the Four Laws of Thermodynamics, it discusses Brayton and

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Rankine power cycles in detail with an emphasis on how they are implemented in nuclear systems. Chapters have been brought up-to-date due to significant new results that have become available for intercooled systems and combined cycles and include an updated steam table. The book starts with basic principles of thermodynamics as applied to power plant systems. It then describes how Nuclear Air-Brayton systems will work. It documents how they can be designed and the expected ultimate performance. It describes several types of Nuclear Air-Brayton systems that can be employed to meet different requirements and estimates component sizes and performance criteria for Small Modular Reactors (SMR) based on the Air-Brayton concept. The book provides useful insight into the engineering of nuclear power systems for students and the tabular data will be of great use to practicing engineers.

An Introduction to Microelectromechanical Systems Engineering Elsevier

Filled with over 225 boiler/HRSG operation and design problems, this book covers steam generators and related systems used in process plants, refineries, chemical plants, electrical utilities, and other industrial settings. Emphasizing the thermal

engineering aspects, the author provides information on the design and performance of steam generators

Thermal Power Plant Tata McGraw-Hill Education

This book covers the fundamentals of thermodynamics required to understand electrical power generation systems, honing in on the application of these principles to nuclear reactor power systems. It includes all the necessary information regarding the fundamental laws to gain a complete understanding and apply them specifically to the challenges of operating nuclear plants. Beginning with definitions of thermodynamic variables such as temperature, pressure and specific volume, the book then explains the laws in detail, focusing on pivotal concepts such as enthalpy and entropy, irreversibility, availability, and Maxwell relations. Specific applications of the fundamentals to Brayton and Rankine cycles for power generation are considered in-depth, in support of the book's core goal- providing an examination of how the thermodynamic principles are applied to the design, operation and safety analysis of current and

projected reactor systems. Detailed appendices cover metric and English system units and conversions, detailed steam and gas tables, heat transfer properties, and nuclear reactor system descriptions.

Power Plant Engineering Bentham Science Publishers

Thermal Cycles of Heat Recovery Power Plants presents information about thermal power plant cycles suitable for waste heat recovery (WHR) in modern power plants. The author covers five thermal power cycles:

organic Rankine cycle (ORC), organic flash cycle (OFC), Kalina cycle (KC), steam Rankine cycle (SRC) and steam flash cycle (SFC) with the working fluids of R123, R124, R134a, R245fa, R717 and R407C. The handbook helps the reader to understand the latest power plant technologies suitable for utilizing the waste heat generated by thermal industrial processes. Key Features: -

- Comprehensive modeling, simulation, analysis and optimization of 5 power cycle types with different working fluids - Clear information about the processes and solutions of thermal power cycles to augment the power generation with improved energy conversion. - Simple, reader friendly presentation - bibliographic references after each chapter for further reading This handbook is suitable for

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engineering students in degree courses and professionals in training programs who require resources on advanced thermal power plant operation and optimal waste heat recovery processes, respectively. It is also a handy reference for energy conversion efficiency in heat recovery power plants. The book is also of interest to any researchers interested in industrial applications of thermodynamic processes.

Power Plant Engineering Tata McGraw-Hill Education

Power Plant Engineering has been designed for the students of B.E./B.Tech Mechanical Engineering. Divided in five units it will also prove to be a valuable source for practicing engineers and teachers. It provides all the necessary information about Power Plants and Steam Power Plant, Nuclear and Hydel Power Plants, Diesel and Gas Turbine Power Plants, Geothermal Plants, Ocean Thermal Plants, Tidal Power Plants, Solar Power Plants and Economics of various Power Plants. KEY FEATURES: " Each chapter is accomplished with solved problems." Text has been supplemented with illustrated diagrams, tables, flow charts, and graphs wherever required, for clear understanding of students. " Summary, at the end of each chapter helps students to review literature presented in the chapter." Review questions and exercise problems have been designed to enhance the engineering skills of students.

### Power Station Engineering and Economy

Pearson Education India

This book makes intelligible the wide range of electricity generating technologies available today, as well as some closely allied technologies such as energy storage. The book opens by setting the many power generation technologies in the context of global energy consumption, the development of the electricity generation industry and the economics involved in this sector. A series of chapters are each devoted to assessing the environmental and economic impact of a single technology, including conventional technologies, nuclear and renewable (such as solar, wind and hydropower). The technologies are presented in an easily digestible form. Different power generation technologies have different greenhouse gas emissions and the link between greenhouse gases and global warming is a highly topical environmental and political issue. With developed nations worldwide looking to reduce their emissions of carbon dioxide, it is becoming increasingly important to explore the effectiveness of a mix of energy generation technologies. Power Generation

Technologies gives a clear, unbiased review and comparison of the different types of power generation technologies available. In the light of the Kyoto protocol and OSPAR updates, Power Generation Technologies will provide an invaluable reference text for power generation planners, facility managers, consultants, policy makers and economists, as well as students and lecturers of related Engineering courses. - Provides a unique comparison of a wide range of power generation technologies - conventional, nuclear and renewable - Describes the workings and environmental impact of each technology - Evaluates the economic viability of each different power generation system Direct Energy Conversion Technologies How2Become Ltd Global Warming: Engineering Solutions goes beyond the discussion of what global warming is, and offers complete concrete solutions that can be used to help prevent global warming. Innovative engineering solutions are needed to reduce the effects of global warming. Discussed here are proposed engineering solutions for reducing global warming resulting from carbon

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dioxide pollution, poor energy and environment policies and emission pollution. Solutions discussed include but are not limited to: energy conversion technologies and their advantages, energy management and conservation, energy saving and energy security, renewable and sustainable energy technologies, emission reduction, sustainable development; pollution control and measures, policy development, global energy stability and sustainability.

Optimization of Energy Systems PHI Learning Pvt. Ltd.

Bringing you up-to-date with the latest developments in MEMS technology, this major revision of the best-selling *An Introduction to Microelectromechanical Systems Engineering* offers you a current understanding of this cutting-edge technology. You gain practical knowledge of MEMS materials, design, and manufacturing, and learn how it is being applied in industrial, optical, medical and electronic markets. The second edition features brand new sections on RF MEMS, photo MEMS, micromachining on materials other than silicon, reliability

analysis, plus an expanded reference list. With an emphasis on commercialized products, this unique resource helps you determine whether your application can benefit from a MEMS solution, understand how other applications and companies have benefited from MEMS, and select and define a manufacturable MEMS process for your application. You discover how to use MEMS technology to enable new functionality, improve performance, and reduce size and cost. The book teaches you the capabilities and limitations of MEMS devices and processes, and helps you communicate the relative merits of MEMS to your company's management. From critical discussions on design operation and process fabrication of devices and systems, to a thorough explanation of MEMS packaging, this easy-to-understand book clearly explains the basics of MEMS engineering, making it an invaluable reference for your work in the field.