

## Engineering Chemistry 1 By Shashi Chawla

A Textbook of Engineering Physics is written with two distinct objectives: to provide a single source of information for engineering undergraduates of different specializations and provide them a solid base in physics. Successive editions of the book incorporated topics as required by students pursuing their studies in various universities. In this new edition the contents are fine-tuned, modernized and updated at various stages.

Examining the underlying logic of the strategic and economic partnership between the Republic of Korea and India, this book is the first detailed study of the numerous facets — cultural, economic, people-to-people, and strategic — of blossoming relations between two major Asian democracies. This comprehensive survey documents the interaction between the two governments, relying on facts and hitherto unpublished original records provided by India's Ministry of External Affairs; offers an illuminating account of India's active role as a neutral party in the post-Second World War events of the Korean War and the division of the Korean Peninsula; and provides a vision of the future direction of India–Korea relations. The author also shares candid observations of Korean society and its people during his service as Ambassador of India in Seoul. The work will be useful to policy makers as well as students of politics and international relations, strategic studies, economics, and contemporary world history.

This book is concerned with the steady state hydraulics of natural gas and other compressible fluids being transported through pipelines. Our main approach is to determine the flow rate possible and compressor station horsepower required within the limitations of pipe strength, based on the pipe materials and grade. It addresses the scenarios where one or more compressors may be required depending on the gas flow rate and if discharge cooling is needed to limit the gas temperatures. The book is the result of over 38 years of the authors' experience on pipelines in North and South America while working for major energy companies such as ARCO, El Paso Energy, etc.

The book in its present form is due to my interaction with the students for quite a long time. It had been my long-cherished desire to write a book covering most of the topics that form the syllabi of the Engineering and Science students at the degree level. Many students, although able to understand the various topics of the books, may not be able to put their knowledge to use. For this purpose a number of questions and problems are given at the end of each chapter.

The challenge for today's new chemistry graduates is to meet society's demand for new products that have increased benefits, but without detrimental effects on the environment. Green Chemistry: An Introductory Text outlines the basic concepts of the subject in simple language, looking at the role of catalysts and solvents, waste minimisation, feedstocks, green metrics and the design of safer, more efficient, processes. The inclusion of industrially relevant examples throughout demonstrates the importance of green chemistry in many industry sectors. Intended primarily for use by students and lecturers, this book will also appeal to industrial chemists, engineers, managers or anyone wishing to know more about green chemistry.

Spatial database research has continued to advance greatly since three decades ago, addressing the growing data management and analysis needs of spatial applications. This research has produced a taxonomy of models for space, conceptual models, spatial query languages and query processing, spatial file organization and indexes, and spatial data mining. However, emerging needs for spatial database systems include the handling of 3D spatial data, temporal dimension with spatial data, and spatial data visualization. In addition, the rise of new systems such as sensor networks and multi-core processors is likely to have an impact in spatial databases. The goal of this paper is to provide a broad overview of the recent advancements in spatial databases and research needs in each area.

The Encyclopedia of GIS provides a comprehensive and authoritative guide, contributed by experts and peer-reviewed for accuracy, and alphabetically arranged for convenient access. The entries explain key software and processes used by geographers and computational scientists. Major overviews are provided for nearly 200 topics: Geoinformatics, Spatial Cognition, and Location-Based Services and more. Shorter entries define specific terms and concepts. The reference will be published as a print volume with abundant black and white art, and simultaneously as an XML online reference with hyperlinked citations, cross-references, four-color art, links to web-based maps, and other interactive features.

This comprehensive Handbook is aimed at both academic researchers and practitioners in the field of research. The book's 8 chapters, provide in-depth coverage of research methods based on the revised syllabus of various universities especially considering the students of under graduate, post graduate and doctorate level. This book is a product of extensive literature survey made by the authors. The authors have made sincere efforts to write the book in simple language. The book comprises all the aspects according to new syllabus of PCI and APJ Abdul Kalam Technical University, Lucknow. Though this book is intended for the use of pharmacy students of any level yet it can also be useful to students of applied fields and medical students. The book deals with interdisciplinary fields such as finding research problems, writing research proposals, obtaining funds for research, selecting research designs, searching the literature and review, collection of data and analysis, preparation of thesis, writing research papers for journals, citation and listing of references, preparation of visual materials, oral and poster presentation in conferences, minutes of meetings, and ethical issues in research. At the end of every chapter and book some questions related to chapter have been mentioned for the support of students to understand the subject. Valuable suggestions for the improvement of this book are most welcome.

Written in lucid language, the book offers a detailed treatment of fundamental concepts of chemistry and its engineering applications.

This updated edition of Gesser's classic textbook has undergone a full revision and now has the latest material, including new chapters on semiconductors and nanotechnology. It includes a supplementary laboratory section with stepwise experimental protocols.

Completely revised and updated, Elements of Environmental Engineering: Thermodynamics and Kinetics, Second Edition covers the applications of chemical thermodynamics and kinetics in environmental processes. Each chapter has been rewritten and includes new examples that better illuminate the theories discussed. An excellent introduction to environmental engineering, this reference stands alone in its multimedia approach to fate and transport modeling and in pollution control design options. Clearly and lucidly written, it provides extensive tables, figures, and data that make it the reference to have on this subject.

Any good text book, particularly that in the fast changing fields such as engineering & technology, is not only expected to cater to the current curricular requirements of various institutions but also should provide a glimpse towards the latest developments in the concerned subject and the relevant disciplines. It should guide the periodic review and updating of the curriculum.

This book is based on the lecture notes of the author delivered to the students at the Institute of Science, Banaras Hindu University, India. It covers simplex, revised simplex, two-phase method, duality, dual simplex, complementary slackness, transportation and assignment problems with good number of examples, clear proofs, MATLAB codes and homework problems. The book will be useful for both students and practitioners.

It is increasingly recognized that the economic value of forests is not merely the production of timber. Forests provide other key ecosystem services, such as being sinks for greenhouse gases, hotspots of biodiversity, tourism and recreation. They are also vitally important in preventing soil erosion and controlling water supplies, as well as providing non-timber forest products and supporting the livelihoods of many local people. This handbook provides a detailed, comprehensive and broad coverage of forest economics, including traditional forest economics of timber production, economics of environmental role of forests, and recent developments in forest economics. The chapters are grouped into six parts: fundamental topics in forest resource economics; economics of forest ecosystems; economics of forests, climate change, and bioenergy; economics of risk, uncertainty, and natural disturbances; economics of forest property rights and certification; and emerging issues and developments. Written by leading environmental, forest, and natural resource economists, the book represents a definitive reference volume for students of economics, environment, forestry and natural resource economics and management.

Market\_Desc: Primary Market· RGPV (B.E.- 101 Engineering Chemistry)· VTU (10CHE12/ 10CHE 22 Engineering Chemistry)· BPUT ( BSCC 2101 Chemistry)· UPTU (EAS-102/202 Engineering Chemistry)· WBUT (Chemistry -1 (Gr A and B))· JNTU (BS Engineering Chemistry)· Anna (CY2111 Engineering Chemistry-I; CY2161 Engineering Chemistry-II)· PTU ( CH-101 Engineering Chemistry)· RTU ([106] and [206]

Engineering Chemistry-I and II)· GTU ( Chemistry)· CSVTU ( 300112 Applied Chemistry)Secondary Market· Higher semesters of Chemical and Biotechnology courses.· Students preparing for GATE and TANCET examinations. Special Features: · Accordant with the syllabi of various technical universities.· Structured to support the objective of Engineering Chemistry course for undergraduates. · Excellent correlation of concepts with their applications.· Systematic chapter organization based on logical progression of concepts.ü Builds the fundamentals of the subject in the initial chaptersü Comprehensively covers the applied topics in the field of engineering in the later chapters.ü Coherent chapter layout withü Clearly defined learning objectives.ü Introduction of topics, their precise and adequate explanation.ü Ample illustrations and diagrams.ü Solved examples at the end of relevant subtopics to strengthen the concepts.· Multiple-author model with content sourced from experts in respective areas of expertise (Inorganic, Organic, Physical, Analytical and Applied Chemistry) across geographies.·

Comprehensive question bank at the end of each chapter containingü Objective type questions (classified into multiple-choice questions and fill in the blanks).ü Review questions (categorized into short-answer and long-answer type questions).ü Numerical problems.· Extensively reviewed content with single or multiple reviews by academicians of various technical universities for each chapter to generate error-free and accurate content. About The Book: The Engineering Chemistry course for undergraduate students is designed to strengthen the fundamentals of chemistry and then build an interface of theoretical concepts with their industrial/engineering applications. This book is structured keeping in view the objective of the course and is intended as a textbook for first year B.Tech/B.E. students of all engineering disciplines. The book aims to impart in-depth knowledge of the subject and highlight the role of chemistry in the field of engineering. The lucid explanation of the topics will help students understand the fundamental concepts and apply them to design engineering materials and solve problems related to them. An attempt has been made to logically correlate the topic with its application. The extension of fundamentals of electrochemistry to energy storage devices such as commercial batteries and fuel cells is one such example. The layout for a topic is designed after detailed study and analysis of the syllabi of various technical universities. The chapter for each topic begins with clearly defined learning objectives, followed by introduction of subtopics, their precise and adequate explanation supported with ample illustrations and diagrams. Solved examples are given at the end of relevant subtopics to strengthen the concepts. The chapters conclude with a set of review and practice questions.

Engineering Chemistry discusses the fundamental theoretical concepts of chemistry and links them with their engineering applications. The book is designed as an introductory course for undergraduate students in all branches of engineering. Employing an easy-to-understand approach, it elaborates on the fundamental concepts and their applications, and includes scores of illustrations and learning exercises to facilitate comprehension. Starting with areas of common interest, such as fuels, water, corrosion and phase rule, followed by chapters on engineering materials, polymers and lubricants, the book then covers a range of important subjects, such as structure and bonding, solid state, liquid crystal, chemical kinetics, surface chemistry, thermodynamics, electrochemistry, spectroscopy, photochemistry, the basics of organic chemistry and organometallic compounds. It also covers the applications of several important topics in detail, including nanomaterials, green chemistry, NMR spectroscopy and biotechnology.

Engineering Chemistry is an interdisciplinary subject offered to undergraduate Engineering students. This book introduces the fundamental concepts in a simple and concise manner and highlights the role of chemistry in the field of engineering. It includes a large number of end-of-chapter exercises that test the student's understanding besides being useful from the examination point of view.

Focusing on the relationship between structure and properties, this is a well-balanced treatment of the mechanics and the materials science of composites, while not neglecting the importance of processing. This updated second edition contains new chapters on fatigue and creep of composites, and describes in detail how the various reinforcements, the materials in which they are embedded, and of the interfaces between them, control the properties of the composite materials at both the micro- and macro-levels. Extensive use is made of micrographs and line drawings, and examples of practical applications in various fields are given throughout the book, together with extensive references to the literature. Intended for use in graduate and upper-division undergraduate courses, this book will also prove a useful reference for practising engineers and researchers in industry and academia.

Some chapters in the book deal with the basic principles of chemistry while others are focused on its applied aspects, providing the correct interphase between the principles of chemistry and engineering. KEY FEATURES \* Chapters cover both basic principles of chemistry as also its applied aspects. \* Written in easy self-explanatory language and in depth at the same time. \* Review questions provided at the end of each chapter. \* A separate section 'Laboratory Manual' in Engineering Chemistry comprising 12 experiments is appended at the end of the book.

This comprehensive book, in its third edition, continues to provide an in-depth analysis on the fundamental principles of electrical engineering.

The exposition of these principles is fully reinforced by many practical problems that illustrate the concepts discussed. Beginning with a precise and quantitative detailing of the basics of electrical engineering, the text moves on to explain the fundamentals of circuit theory, electrostatic and electromagnetism and further details on the concept of electromechanical energy conversion. The book provides an elaborate and systematic analysis of the working principle, applications and construction of each electrical machine. In addition to circuit responses under steady state conditions, the book contains the chapters on dynamic responses of networks and analysis of a three-phase circuit. In this third edition, two chapters on Electrical Power System and Domestic Lighting have been added to fulfil the syllabus requirement of various universities. The chapters discuss different methods of generating electrical power, economic consideration and tariff of power system, illumination, light sources used in lighting systems, conductor size and insulation, lighting accessories used in wiring systems, fuses and MCBs, meter board, main switch and distribution board, earthing methods, types of wiring, wiring system for domestic use and cost estimation of wiring system. Designed as a text for the undergraduate students of almost all branches of engineering, the book will also be useful to the practising engineers as reference. Key Features • Discusses statements with numerical examples • Includes answers to the numerical problems at the end of the book • Enhances learning of the basic working principles of electrical machines by using a number of supporting examples, review questions and illustrative examples

This book focuses on the toxicity of various organic and inorganic pollutants, their eco-toxicological effects and eco-friendly approaches for remediation of environmental pollutants. Extensive focus has been relied on the recent advances in ecofriendly approaches such as bioremediation and phytoremediation technologies, including the use of various group of microbes for remediation of environmental pollutants, etc. Researchers working in the field of bioremediation, phytoremediation, waste management and related fields will find this compilation most useful for further study to learn about the subject matter.

Water And Its Industrial Applications | Fuels And Combustion | Lubricants | Cement And Refractories| Polymers | Instrumental Techniques In Chemical Analysis | Water Analysis Techniques | Question Bank

This book presents the state of the art in the processing, properties, and applications in various fields of science and technology related to graphene and its derivatives. It also discusses the limitations and drawbacks of graphene due to some of its intrinsic properties. Further, it provides a brief overview of graphene analogs, comparing the properties of graphene with those of other similar 2D materials.

Due to its simple language, straightforward approach to explaining concepts, and the right kind of examples, this book has established itself as student's companion in almost all leading universities in India. With its authentic text and a large number of questions taken from various university examinations, coupled with regular revisions, the book has served well for more than 20 years now. In the attempt to keep the book aligned with various syllabuses and to reach out to students of more and more universities, more details have been included for the fourth edition, which has been completely recast and reformatted. The book is meant for the first year engineering degree courses of Indian universities. STRENGTH OF THE BOOK • Numerous solved problems • Large number of questions from various universities for exhaustive practice • Boxes featuring important and popular aspects of the topic NEW IN THE FOURTH EDITION • Completely recast and reformatted text • New topics like: Cooling curves for one- and two-component eutectics; Electrode polarization and overvoltage; Decomposition potential; Solar cells; Pitting corrosion; Metallurgy and medicine; Reverse osmosis; Bioengineering.

Soft Chemistry and Food Fermentation, Volume Three, the latest release in the Handbook of Food Bioengineering series is a practical resource that provides significant knowledge and new perspectives in food processing and preservation, promoting renewable resources by applying soft ecological techniques (i.e. soft chemistry). Fermentation represents a simple and very efficient way to preserve food in developing countries where other methods, depending on specialized instruments, are not available. Through processes of soft chemistry and fermentation, food ingredients can be produced with improved properties (such as probiotics) able to promote health. Includes the most recent scientific progress with proven biological, physical and chemical applications of the food engineering process to understand fermentation Presents novel opportunities and ideas for developing and improving technologies in the food industry that are useful to researchers in food bioengineering Provides eco-friendly approaches towards components, materials and technologies developed for improvements in food quality and stability Includes valuable information useful to a wide audience interested in food chemistry and the bioremediation of new foods

Engineering Chemistry is designed as a textbook for first year undergraduate engineering students. Besides covering the revised AICTE syllabus, it fulfils the syllabus requirements of universities across India. Divided into two parts, the book provides a comprehensive discussion of all relevant and important topics related to basic and applied chemistry.

This book on Engineering Chemistry has been entirely rewritten in order to make it up-to-date and modern, both in approach and content. All diagrams have been redrawn or replaced by new ones. To meet the requirements of the latest syllabi of the various universities of India, topics like transition metals, coordination compounds, crystal field theory, gaseous and liquid states, adsorption, flame photometry, fullerenes, composites, mechanism of some typical reactions, oils and fats, soaps and detergents, have been included or expanded upon. A large number of solved numerical examples drawn from various university examinations have been given at the end of theoretical part of each chapter. Questions have been drawn from latest examinations of various universities.

This book provides a comprehensive understanding of each aspect of offshore operations including conventional methods of operations, emerging technologies, legislations, health, safety and environment impact of offshore operations. The book starts by coverage of notable offshore fields across the globe and the statistics of present oil production, covering all types of platforms available along with their structural details. Further, it discusses production, storage and transportation, production equipment, safety systems, automation, storage facilities and transportation. Book ends with common legislation acts and comparison of different legislation acts of major oil/gas producing nations. The book is aimed at professionals and researchers in petroleum engineering, offshore technology, subsea engineering, and Explores the engineering, technology, system, environmental, operational and legislation aspects of offshore production systems Covers most of the subsea engineering material in a concise manner Includes legislation of major oil and gas producing nations pertaining to offshore operations (oil and gas) Incorporates case studies of major offshore operations (oil and gas) accidents and lessons learnt Discusses environment impact of offshore operations

One of the most problematic issues confronting societies today is the massive transformations of the environment throughout the world. The challenge of maintaining a sustainable environment is the most pressing issue of our time. This edited book focusses on green chemistry as the research community endeavours to create eco-friendly materials

and technologies. It provides an in-depth overview of the fundamentals, key concepts and experimental techniques for eco-friendly synthesis of organic compounds and metal/metal oxide nanoparticles/nanomaterials. It also emphasizes the mechanisms, designing and industrial technologies for green synthesis and its applications. Each chapter brings the recent developments, state of the art, challenges and perspectives which cover all the aspects in one place, and which concern the green synthesis and evolution. Authored by world-renowned experts in a broad range of green chemistry sectors, this book is an archival reference guide for researchers, engineers, scientists and postgraduates working in the field of sustainable science, green chemistry, environmental science, engineering sciences and industrial technologies.  
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