

Engineering Chemistry Jain And Jain 15th Edition Book Free

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.

This book is written strictly for the first and second semester diploma students of engineering chemistry according to the revised syllabus. It aims to provide a thorough understanding of the chemical concepts, theories and principles in Engineering Chemistry in a clear and concise manner, so that the average students are able to grasp the intricacies of the subject. Explaining general concepts of atomic structure and chemical bond, the book covers all advanced topics such as acid–base theory, concentration of solutions, electrochemistry, corrosion, metallurgy, hydrocarbons, sources of water and its treatment, lubricants and adhesives, fuel, polymer and environmental chemistry. Each theoretical concept is well supported by illustrative examples. Besides, the book provides a large number of solved problems to reinforce the theoretical understanding of concepts. Each chapter contains glossary terms and provides short questions and long questions for practice. Previous year question papers and model questions with answers are appended at the end of the book to help students ace in

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examinations.

With escalating concerns over the current state of our planet, the realization to work toward reducing our environmental footprint is gaining momentum. Scientists have realized that green chemistry is the key to reduce waste, rendering healthy environment, and improving human health. The 12 principles of green chemistry are the basic tenets that require understanding at the most fundamental level and implementation to promoting sustainable synthesis. This book discusses innovations in the form of greener technologies (superior green catalysts, alternate reaction media, and green energy sources) and elaborates their tremendous potential in combating the critical global challenges on the horizon. It intends to empower and educate students to grasp the key concepts of green chemistry, think out of the box and come up with new ideas, and apply the basic concepts in greening the world. It extensively covers the goals of the United Nation's 2030 Agenda of Sustainable Development, which can be successfully achieved with the aid of green chemistry. It also highlights cutting-edge greener technologies such as biomimicry, miniaturization, and continuous flow. Edited by two active green chemists, the book presents in-depth knowledge of this field and is extremely helpful for undergraduate, graduate, and postgraduate readers, as well as academic and industrial researchers.

"This revised and expanded edition takes account of new research into Jainism as carried out over the last ten years."--BOOK JACKET.

The Jain community in India, though small in number, is

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very important in the economic and social life of the country. Jain history becomes more important when we find that the community anticipated new commercial practices adopted by European trading countries from the sixteenth century onwards. Two Jain names stand out in history; they are Veerji Vora, in the seventeenth century and Jagat Seth of Bengal in the eighteenth century. A succession of Jagat Seths interacted with high government officials and were very influential in their time as this volume brings out. This volume contributes significantly to the study of merchant communities and colonial history in South Asia. Please note: Taylor & Francis does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka

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.

Optical Properties of Functional Polymers and Nano Engineering Applications provides a basic introduction to the optical properties of polymers, as well as a systematic overview of the latest developments in their nano engineering applications. Covering an increasingly important class of materials relevant not only in academic research but also in industry, this comprehensive text: Considers the advantages of the liquid gradient refractive index (L-GRIN) lenses over the

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conventional solid lenses Explores the electrochemistry of photorefractive polymers, the molecular structure of commonly used polymers, and various 3D holographic displays Discusses gene detection using the optical properties of conjugated polymers Highlights the physics of fluorescence in photoluminescent polymers, and energy and electron transfer mechanisms Introduces conventional polymer ion sensors based on the optical sensors of conjugated polymers prepared by click chemistry reactions Explains colorimetric visual detection of ions by donor–acceptor chromophores Describes optical sensors based on fluorescent polymers and for the detection of explosives and metal ion analytes Addresses holographic polymer-dispersed liquid crystal technology, its optical setups, and its applications in organic lasers Presents cutting-edge research on electrochromic devices, along with new concepts, prototypes, commercial products, and future prospects Demonstrates new techniques for creating nanoscale morphologies through self-assembly, which affect the optical properties of the functional polymers Optical Properties of Functional Polymers and Nano Engineering Applications emphasizes the importance of nano engineering in improving the fundamental optical properties of the functional polymers, elaborating on high-level research while thoroughly explaining the underlying principles.

The book is meant for for B.E./B.Tech./B.Sc. (Engg.) students of Indian universities. Theoretical portions have been explained in simple language, together with large number of illustrative diagrams. Contains many tutorial problems drawn

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from various universities. Also included is a special feature test your understanding and know the type of theoretical questions asked in the examinations.

Examining the history and intellectual activity of the medieval Svetambara Jain renunciant order, the Tapa Gaccha, this book focuses on the consolidation by the Tapa Gaccha from the thirteenth century of its identity as the leading Svetambara order. The author argues that this was variously effected by negotiating the primacy of lineage, the posthumous divinity of one of its leaders, the validity of styles of scriptural exegesis and customary practice and the status of non-Jains through the medium of chronicles and poetry and polemical engagement with other Jain orders and dissident elements within its own ranks. Drawing on largely unstudied primary sources, the author demonstrates how Tapa Gaccha writers created a sophisticated intellectual culture which was a vehicle for the maintenance of sectarian identity in the early modern period. The book explores issues which have been central to our understanding of many of the questions currently being asked about the development not just of Jainism but of South Asian religions in general, such as the manner in which authority is established in relation to texts, the relationship between scripture, commentary and tradition and tensions both between and within sects.

High purity, thin metal coatings have a variety of important commercial applications, for example, in the microelectronics industry, as catalysts, as protective and decorative coatings as well as in gas-diffusion barriers. This book offers detailed, up- to-date coverage of the chemistry behind the vapor deposition of different metals from organometallic precursors. In nine chapters, the CVD of metals including aluminum, tungsten, gold, silver, platinum, palladium, nickel, as well as copper from copper(I) and copper(II) compounds is covered. The synthesis and properties of the precursors, the growth

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process, morphology, quality and adhesion of the resulting films as well as laser- assisted, ion- assisted and plasma- assisted methods are discussed. Present applications and prospects for future developments are summarized. With ca. 1000 references and a glossary, this book is a unique source of in-depth information. It is indispensable for chemists, physicists, engineers and materials scientists working with metal- coating processes and technologies. From Reviews: 'I highly recommend this book to anyone interested in learning more about the chemistry of metal CVD.' J. Am Chem. Soc. Life is impossible without chemistry. Engineering chemistry has a special role to play in the curriculum of under graduate students of all branches of Engineering. The present book entitled "ENGINEERING CHEMISTRY LABORATORY MANUAL" is very useful to Engineering students of various Institutions. The practical book providing simple and easy approach on the subject matter to Engineering students. "Chemical Vapour Deposition: An Integrated Engineering Design for Advanced Materials" focuses on the application of this technology to engineering coatings and, in particular, to the manufacture of high performance materials, such as fibre reinforced ceramic composite materials, for structural applications at high temperatures. This book aims to provide a thorough exploration of the design and applications of advanced materials, and their manufacture in engineering. From physical fundamentals and principles, to optimization of processing parameters and other current practices, this book is designed to guide readers through the development of both high performance materials and the design of CVD systems to manufacture such materials. "Chemical Vapour Deposition: An Integrated Engineering Design for Advanced Materials" introduces integrated design and manufacture of advanced materials to researchers, industrial practitioners, postgraduates and senior undergraduate students.

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This new resource focuses on many recent advances in recycling and reuse of materials, outlining basic tools and novel approaches. It covers such important issues as e-waste recycling, bio-mass recycling, vermitechnology, recovery of metals, polymer recycling, environmental remediation, waste management, recycling of nanostructured materials, and more. Also included is coverage of new research in the use of laser spectroscopy, pyrolysis, and recycled biomaterials for biomedical applications.

This book is primarily intended for the first year B.Tech students of all branches for their course on engineering chemistry. The main objective of this book is to provide a broad understanding of the chemical concepts, theories and principles of Engineering Chemistry in a clear and concise manner, so that even an average student can grasp the intricacies of the subject. It includes the general concepts of structure and bonding, phase rule, solid state, reaction kinetics and catalysis, electrochemistry, chemical thermodynamics and free energy. Besides, the book introduces topics of applied chemistry like water technology, polymer chemistry and nanotechnology. Each theoretical concept is well supported by illustrative examples. The book also provides a large number of solved problems and illustrations to reinforce the theoretical understanding of concepts. **KEY FEATURES** (i) Each chapter of the book provides a clear and easy understanding of the definitions, theories and principles. (ii) A large number of well-labelled diagrams help to understand the concepts easily and clearly. (iii) Chapter-wise glossary and important mathematical relations are given for quick revision. (iv) Provides multiple choice questions with answers, short questions and long questions for practice.a

This updated edition of Gesser's classic textbook has

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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.

Smart Computational Intelligence in Biomedical and Health Informatics presents state-of-the-art innovations; research, design, and implementation of methodological and algorithmic solutions to data processing problems, including analysis of evolving trends in health informatics and computer-aided diagnosis. This book describes practical, applications-led research regarding the use of methods and devices in clinical diagnosis, disease prevention, and patient monitoring and management. It also covers simulation and modeling, measurement and control, analysis, information extraction and monitoring of physiological data in clinical medicine and the biological sciences.

FEATURES

- Covers evolutionary approaches to solve optimization problems in biomedical engineering
- Discusses IoT, Cloud computing, and data analytics in healthcare informatics
- Provides computational intelligence-based solution for diagnosis of diseases
- Reviews modelling and simulations in designing of biomedical equipment
- Promotes machine learning-based approaches to improvements in biomedical engineering problems

This book is for researchers, graduate students in healthcare, biomedical engineers, and those interested in health informatics, computational intelligence, and machine learning.

About the Book: This book Engineering Mathematics-II is designed as a self-contained, comprehensive classroom text for the second semester B.E. Classes of

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Visveswaraiah Technological University as per the Revised new Syllabus. The topics included are Differential Calculus, Integral Calculus and Vector Integration, Differential Equations and Laplace Transforms. The book is written in a simple way and is accompanied with explanatory figures. All this make the students enjoy the subject while they learn. Inclusion of selected exercises and problems make the book educational in nature. It shou.

The book attends to a historical question — how to account for the high numbers of renouncers (sadhvis) mentioned in medieval and ancient texts — which has been acknowledged and raised, but left unaddressed within Jain studies. It does so through ethnographic data gathered through extensive fieldwork among the sadhvis in Delhi and Jaipur. The volume foregrounds the primacy of ‘choice’ and ‘agency’— upheld by the nuns themselves, who associate asceticism with autonomy, freedom, joy, spiritual well-being, self-worth and peace, and grihastha (household) with loss of independence, fettered existence, degradation, burdensome familial obligations and social responsibilities. It also examines whether it may be apt to term Jain nuns as practitioners of an ‘indigenous mode of feminism’. The book challenges the existing sociological theories of renunciation and tests the feminist concepts of agency and autonomy by investigating the culturally coded roles ascribed to women in Jainism, which are variegated, and examines how a fractured discourse and reality is resolved in the subjectivities and identities of female ascetics. The very legitimacy of the institution of female

asceticism, and the way in which the society (samaj) upholds and sustains it, renders female asceticism into a socially approved alternative institution — albeit one that allows Jain nuns to create spaces of relative and autonomy and even prestige for themselves.

Fundamentals of DC and AC Circuits
Fundamentals of DC Circuits : Ohm's law, Kirchhoff's law, Simple resistive circuits - Effect of series and parallel resistances - Mesh and Nodal analysis - Simple problems.
Fundamentals of AC Circuits : RMS and average values of sine wave, Form factor, Peak factor. Single phase AC circuits - Impedance, Power and power factor - RL, RC, RLC circuits - Simple AC circuits - Problems.
Fundamentals of Magnetic Circuits
Ohm's law of magnetic circuit, Simple and composite magnetic circuits, Effect of air gap - Leakage factor - fringing effect - Simple problems.
Faraday's law of electromagnetic induction - Self and Mutually induced EMF - Statically and Dynamically induced EMF - Simple problems.
DC Machines and Transformers
DC Machine : Construction - EMF equation of DC generator - Types of generators and motors - Characteristics.
Transformer : Construction - EMF equation - Transformation ratio - Types of transformers - Instrumentation transformer.
Induction Machines
Three Phase Induction Motor : Construction, Types - Principle of operation - Torque equation - Slip Vs Torque characteristics of cage and wound rotor.
Single Phase Induction Motor : Principle of operation-Types - Applications.
Power Supplies
Half wave and full wave rectifiers - Bridge rectifier - Types of filters - Voltage regular - Introduction to SMPS and UPS.

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Conceptual Chemistry Volume-I For Class XII

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 handbook covers the broad scope of nanomedicine. Starting with the basics, the subject is developed to potential clinical applications, many of which are still at an experimental stage. The book features extensive coverage of nanodiagnostics and nanopharmaceuticals, which are two important components of nanomedicine. Written by a physician-scientist author who blends his clinical experience and scientific expertise in new technologies, this book provides a definitive account of nanomedicine. It offers more up-to-date and comprehensive coverage of nanomedicine than any other comparable work.

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 explores the ways in which the ecologically centred Indian philosophy of Jainism could introduce a new and non-western methodology to environmental politics, with the potential to help the green movement find new audiences and a new voice. Aidan Rankin begins with a description of the ideas and principles that distinguish Jainism from other Indian (and western) philosophies. He goes on to compare and contrast these principles with those of current environmental politics and to demonstrate the specific ways in which Jain ideas can assist in driving the movement forward. These include the reduction of material consumption, the ethical conduct of business within sustainable limits, and the avoidance of exploitative relationships with fellow humans, animals and ecosystems. Overall, the book argues that Jain pluralism could be a powerful tool for engaging non-western societies with environmental politics, allowing for an inclusive approach to a global ecological problem. This book will be of great interest to students and scholars of environmental politics, environmental philosophy,

comparative religions and Jainism.

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.

America now is home to approximately five million Hindus and Jains. Their contribution to the economic and intellectual growth of the country is unquestionable. Dharma in America aims to explore the role of Hindu and Jain Americans in diverse fields such as: education and civic engagements medicine and healthcare music. Providing a concise history of Hindus and Jains in the Americas over the last two centuries, Dharma in America also gives some insights into the ongoing issues and challenges these important ethnic and religious groups face in America today.

Over the years, researchers have reported solubility data in the chemical, pharmaceutical, engineering, and environmental literature for several thousand organic compounds. Until the first publication of the

Handbook of Aqueous Solubility Data, this information had been scattered throughout numerous sources. Now newly revised, the second edition of

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.

This book aims at providing a complete coverage of the needs of First Year students as per S.B.T.E's. revised syllabus. The entire revised syllabus has been covered keeping in view the non-availability of the complete subject matter through a single source. The difficult articles have been explained in a simple language providing, wherever necessary, neat and well explained diagrams so that even an average student may be able to follow it independently. A sufficient number of solved examples and problems with answers and SBTE questions are given at the end of each topic. Formulae specifying symbol meaning are enlisted before solving the examples. Graphene has many unique properties that have generated tremendous interest in the scientific community and make it suitable for several applications. The tuning of graphene's Fermi level by the modulation of its charge carriers is an important factor in determining the successful operation of electronic/optoelectronic devices. This book focuses on different methods of performing carrier modulation in graphene and the application of doped graphene in diodes, field-effect transistors, solar cells, transparent conducting electrodes, and supercapacitors. It discusses the current status of the research and development in graphene and will be helpful for readers who want to know about graphene and its applications and also other 2D nanomaterials.

Geomicrobiology is a combination of geology and microbiology, and includes the study of interaction of microorganisms with their environment, such as in sedimentary rocks. This is a new and rapidly-developing field that has led in the past decade to a radically-revised view of the diversity and activity of microbial life on Earth. Geomicrobiology e

Take some heat off the complexity of thermodynamics Does the mere thought of thermodynamics make you sweat? It doesn't have to! This hands-on guide helps you score your highest in a thermodynamics course by offering easily understood, plain-English explanations of how energy is used in things like automobiles, airplanes, air conditioners, and electric powerplants.

Thermodynamics 101 — take a look at some examples of both natural and man-made thermodynamic systems and get a handle on how energy can be used to perform work Turn up the heat — discover how to use the first and second laws of thermodynamics to determine (and improve upon) the efficiency of machines Oh, behave — get the 411 on how gases behave and relate to one another in different situations, from ideal-gas laws to real gases Burn with desire — find out everything you need to know about conserving mass and energy in combustion processes Open the book and find: The laws of thermodynamics Important properties and their relationships The lowdown on solids, liquids,

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and gases How work and heat go hand in hand The
cycles that power thermodynamic processes
Chemical mixtures and reactions Ten pioneers in
thermodynamics Real-world applications of
thermodynamic laws and concepts Learn to: Master
the concepts and principles of thermodynamics
Develop the problem-solving skills used by
professional engineers Ace your thermodynamics
course

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