Ak Jha Physics

An advanced-level textbook of inorganic chemistry for the graduate (B.Sc) and postgraduate (M.Sc) students of Indian and foreign universities. This book is a part of four volume series, entitled "A Textbook of Inorganic Chemistry – Volume I, II, III, IV". CONTENTS: Chapter 1. Stereochemistry and Bonding in Main Group Compounds: VSEPR theory, dπ -pπ bonds, Bent rule and energetic of hybridization. Chapter 2. Metal-Ligand Equilibria in Solution: Stepwise and overall formation constants and their interactions, Trends in stepwise constants, Factors affecting stability of metal complexes with reference to the nature of metal ion and ligand, Chelate effect and its thermodynamic origin, Determination of binary formation constants by pH-metry and spectrophotometry. Chapter 3. Reaction Mechanism of Transition Metal Complexes – I: Inert and labile complexes, Mechanisms for ligand replacement reactions, Formation of complexes from aquo ions, Ligand displacement reactions in octahedral complexes- acid hydrolysis, Base hydrolysis, Racemization of tris chelate complexes, Electrophilic attack on ligands. Chapter 4. Reaction Mechanism of Transition Metal Complexes – II: Mechanism of ligand displacement reactions in square planar complexes, The trans effect, Theories of trans effect, Mechanism of electron transfer reactions – types; Outer sphere electron transfer mechanism and inner sphere electron transfer mechanism, Electron exchange. Chapter 5. Isopoly and Heteropoly Acids and Salts: Isopoly and Heteropoly acids and salts of Mo and W: structures of isopoly and heteropoly anions. Chapter 6. Crystal Structures: Structures of some binary and ternary compounds such as fluorite, antifluorite, rutile, antirutile, crystobalite, layer lattices- CdI2, BiI3; ReO3, Mn2O3, corundum, pervoskite, Ilmenite and Calcite. Chapter 7. Metal-Ligand Bonding: Limitation of crystal field theory, Molecular orbital theory, octahedral, tetrahedral or square planar complexes, π-bonding and molecular orbital theory. Chapter 8. Electronic Spectra of Transition Metal Complexes: Spectroscopic ground states, Correlation and spin-orbit coupling in free ions for Ist series of transition metals, Orgel and Tanabe-Sugano diagrams for transition metal complexes (d1 – d9 states), Calculation of Dq, B and β parameters, Effect of distortion on the d-orbital energy levels, Structural evidence from electronic spectrum, John-Tellar effect, Spectrochemical and nephalauxetic series, Charge transfer spectra, Electronic spectra of molecular addition compounds. Chapter 9. Magantic Properties of Transition Metal Complexes: Elementary theory of magneto - chemistry, Guoy's method for determination of magnetic susceptibility, Calculation of magnetic moments, Magnetic properties of free ions, Orbital contribution, effect of ligand-field, Application of magneto-chemistry in structure determination, Magnetic exchange coupling and spin state cross over. Chapter 10. Metal Clusters: Structure and bonding in higher boranes, Wade's rules, Carboranes, Metal Carbonyl Clusters - Low Nuclearity Carbonyl Clusters, Total Electron Count (TEC). Chapter 11. Metal-π Complexes: Metal carbonyls, structure and bonding, Vibrational spectra of metal carbonyls for bonding and structure elucidation, Important reactions of metal carbonyls; Preparation, bonding, structure and important reactions of transition metal nitrosyl, dinitrogen and dioxygen complexes; Tertiary phosphine as ligand.

This book has been divided into four chapters Radioactivity and Isotopes, X-particles, Bdecay, Y Radiations. This book is very helpful for the students of Degree/Honours and post graduates. This book is also very useful to the candidate appearing in the various competitions like I.A.S. and others. Contents: Radioactivity and Isotopes, Alpha Particles, Beta-Decay, Gamma Radiation.

B.Sc. Practical Physics

This book presents the proceedings of the IUPESM World Biomedical Engineering and Medical Physics, a tri-annual high-level policy meeting dedicated exclusively to furthering the role of biomedical engineering and medical physics in medicine. The book offers papers about emerging issues related to the development and sustainability of the role and impact of medical physicists and biomedical engineers in medicine and healthcare. It provides a unique and important forum to secure a coordinated, multileveled global response to the need, demand and importance of creating and supporting strong academic and clinical teams of biomedical engineers and medical physicists for the benefit of human health.

1000 Solved Problems in Modern Physics

The Doomsday Handbook

Concepts and Applications

World Congress on Medical Physics and Biomedical Engineering, June 7-12, 2015, Toronto, Canada

Proceedings, Delhi, India, December 12 -16, 2016

FOR B.SC STUDENTS OF ALL INDIAN UNIVERSITIES

This book on Hydrodynamics has been written to meet the requirements of graduate students of all Indian Universities. The subject matter of this book has been presented in such a way that it is easily accessible to students. Each chapter of this book has complete theory and large number of solved examples. We have also selected sufficient problems from various universities examination paper.

We live in a world positively teeming with threats and apocalyptic scenarios. Many of them are familiar: terrorism, deadly viruses, global warming and war, but many others most of us can't even imagine: self-replicating nanobots that can devour an entire planet, high-energy experiments that threaten to suck the Earth into a mini black hole, and even super-sophisticated scientific contraptions that can put an end to the entire universe.

The new Xam Idea for Class XII Physics 2020-21 has been thoroughly revised, diligently designed, and uniquely formatted in accordance with CBSE requirements and NCERT guidelines. The features of the new Xam Idea are as follows: 1. The book has been thoroughly revised as per the new CBSE Examination Paper design. 2. The book is divided into two Sections: Part–A and Part–B. 3. Part–A includes the following: · Each Chapter is summarised in 'Basic Concepts'. · Important NCERT Textbook and NCERT Exemplar questions have been incorporated. · Previous Years' Questions have been added under different sections according to their marks. · Objective Type Questions have been included as per new CBSE guidelines. These include Multiple Choice Questions, Very Short Answer Questions, and Fill in the Blanks carrying 1 mark each. · Short Answer Questions carrying 2 marks each and Long Answer Questions carrying 3 marks and 5 marks have also been added. · At the end of every chapter, Self-Assessment Test has been given to test the extent of grasp by the student. 4. Part–B includes the following: · CBSE Sample Question Paper 2020 with complete solution. · Blueprint as per latest CBSE Sample Question Paper and Examination Paper 2020. · Unsolved Model Question Papers for ample practice by the student. · Solved CBSE Examination Papers 2020 (55/1/1), (55/1/2) and (55/1/3). · Solved sets of remaining four regions' CBSE Examination Papers are given in QR code.

Contemporary Optics

SHIFTING ORBITS.

Concepts in Quantum Mechanics

Applied Physics for Engineers

Textbook of Applied Physics

In the 50 years since the invention of transistor, silicon integrated circuit (IC) technology has made astonishing advances. A key factor that makes these advances possible is the ability to have precise control on material properties and physical dimensions. The introduction of plasma processing in pattern transfer and in thin film deposition is a critical enabling advance among other things. In state of the art silicon Ie manufacturing process, plasma is used in more than 20 different critical steps. Plasma is sometimes called the fourth state of matter (other than gas, liquid and solid). It is a mixture of ions (positive and negative), electrons and neutrals in a quasi-neutral gaseous steady state very far from equilibrium, sustained by an energy source that balances the loss of charged particles. It is a very harsh environment for the delicate ICs. Highly energetic particles such as ions, electrons and photons bombard the surface of the wafer continuously. These bombardments can cause all kinds of damage to the silicon devices that make up the integrated circuits.

Applied Physics is designed to cater to the needs of first year undergraduate engineering students of Jawaharlal Nehru Technical University (J.N.T.U). Written in a lucid style, this book assimilates the best practices of conceptual pedagogy, dealing at length with various topics such as crystallography, principles of quantum mechanics, free electron theory of metals, dielectric and magnetic properties, semi conductors, superconductivity, lasers, holography, and nanotechnology.

Living Science for Classes 9 and 10 have been prepared on the basis of the syllabus developed by the NCERT and adopted by the CBSE and many other State Education Boards. Best of both, the traditional courses and the recent innovations in the field of basic Physics have been incorporated. The books contain a large number of worked-out examples, illustrations, illustrative questions, numerical problems, figures, tables and graphs.

Basic Mechanical Engineering covers a wide range of topics and engineering concepts that are required to be learnt as in any undergraduate engineering course. Divided into three parts, this book lays emphasis on explaining the logic and physics of critical problems to develop analytical skills in students.

Modern Engneering Physics

Living Science Physics 9

The Special and the General Theory

Text Book Of Electricity

Right to Education in India

This is one of the first volumes to comprehensively discuss resource constraints and institutional challenges in realizing the Fundamental Right to Education (RTE) in India. It looks at various aspects of the Sarva Shiksha Abhiyan (SSA), the primary vehicle to implement RTE and a flagship programme to universalize elementary education in the country. The book presents a comparative perspective across regions and states and evaluates the effective delivery of SSA at the grassroots level. Using rich empirical data, not yet available in the public domain, it provides valuable lessons for the planning and financing arrangements of SSA-RTE between the centre and the states, and towards understanding access, equity and quality of education. The work will be a major resource for scholars and researchers of education, economics, public policy, development studies, and politics.

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

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 syllabii 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.

After completing the final version of his general theory of relativity in November 1915, Albert Einstein wrote a book about relativity for a popular audience. His intention was 'to give an exact insight into the theory of relativity to those readers who, from a general scientific and philosophical point of view, are interested in the theory, but who are not conversant with the mathematical apparatus of theoretical physics.' The book remains one of the most lucid explanations of the special and general theories ever written. In the early 1920s alone, it was translated into ten languages, and fifteen editions in the original German appeared over the course of Einstein's lifetime. The theory of relativity enriched physics and astronomy during the 20th century.

An Introduction to Probability and Statistics

Advanced Engineering Mathematics

Engineering Physics (Annual Pattern)

Radioactivity And Radioactive Decay

Morden Physics,1e

The text has been divided in two volumes: Volume I (Ch. 1-13) & Volume II (Ch. 14-22). In addition to the review material and some basic topics as discussed in the opening chapter, the main text in Volume I covers topics on infinite series, differential and integral calculus, matrices, vector calculus, ordinary differential equations, special functions and Laplace transforms. Volume II covers topics on complex analysis, Fourier analysis, partial differential equations and statistics. The present book has numerous distinguishing features over the already existing books on the same topic. The chapters have been planned to create interest among the readers to study and apply the mathematical tools. The subject has been presented in a very lucid and precise manner with a wide variety of examples and exercises, which would eventually help the reader for hassle free study.

A comprehensive guide to a new technology for enabling high-performance spectroscopy and laser sources Resonance Enhancement in Laser-Produced Plasmas offers a guide to the most recent findings in the newly emerged field of resonance-enhanced high-order harmonic generation using the laser pulses propagating through the narrow and extended laser-produced plasma plumes. The author—a noted expert in the field—presents an introduction and the theory that underpin the roles of resonances in harmonic generation. The book also contains a review of the most advanced methods of plasma harmonics generation at the conditions of coincidence of some harmonics, autoionizing states, and some ionic transitions possessing strong oscillator strengths. Comprehensive in scope, this text clearly demonstrates the importance of resonance-enhanced nonlinear optical effects leading to formation of efficient sources of coherent extreme ultraviolet radiation that can be practically applied. This important resource: Puts the focuses on novel applications of laser-plasma physics, such as the development of ultrashort-wavelength coherent light sources Details both the theoretical and experimental aspects of higher-order harmonic generation in laser-produced plasmas Contains information on early studies of resonance enhancement of harmonics in metal-ablated plasmas Analyzes the drawbacks of different theories of resonant high order harmonic generation Includes a discussion of the quasi-phase-matching and properties of semiconductor plasmas Written for researchers and students in the fields of physics, materials science, and electrical engineering who are interested in laser physics and optics, Resonance Enhancement in Laser-Produced Plasmas offers an introduction to the topic and covers recent experimental studies of various resonance processes in plasmas leading to enhancement of single harmonic.

This book is meant to serve as a textbook of Physics for the undergraduate students of science and engineering. Exhausted treatment of topics in quantum mechanics, statistical mechanics, nuclear physics, electromagnetic theory, X-rays production, properties and applications and ultrasonics and accoustics of buildings have been presented. These topics have been presented in easy to understand and simple language. Large number of solved numericals have been included to give a quantitative idea of the subject. Short and long answer type questions and unsolved numericals have been given at the end of each chapter for practice. New in this edition: Four new chapters have been added, namely: â€¢ Physics of Semiconductors â€¢ Dielectric, Ferroelectric and Piezoelectric Properties of Materials â€¢ Superconductivity â€¢ Nanomaterials

A well-balanced introduction to probability theory and mathematical statistics Featuring updated material, An Introduction to Probability and Statistics, Third Edition remains a solid overview to probability theory and mathematical statistics. Divided intothree parts, the Third Edition begins by presenting the fundamentals and foundationsof probability. The second part addresses statistical inference, and the remainingchapters focus on special topics. An Introduction to Probability and Statistics, Third Edition includes: A new section on regression analysis to include multiple regression, logistic regression, and Poisson regression A reorganized chapter on large sample theory to emphasize the growing role of asymptotic statistics Additional topical coverage on bootstrapping, estimation procedures, and resampling Discussions on invariance, ancillary statistics, conjugate prior distributions, and invariant confidence intervals Over 550 problems and answers to most problems, as well as 350 worked out examples and 200 remarks Numerous figures to further illustrate examples and proofs throughout An Introduction to Probability and Statistics, Third Edition is an ideal reference and resource for scientists and engineers in the fields of statistics, mathematics, physics, industrial management, and engineering. The book is also an excellent text for upper-undergraduate and graduate-level students majoring in probability and statistics.

Text Book Of Hydrodynamics

Atomic And Nuclear Structure

A Textbook Of Applied Physics

Applied Physics

Resources, institutions and public policy

This book is intended to serve as a textbook of Applied Physics / Physics paper of the undergraduate students of B.E., B.Tech and B.Sc. Exhaustive treatment of topics in optics, mechanics, relativistic mechanics, laser, optical fibres and holography have been included. Physics is best learnt by conceptualization of the involved principles and to help the students conceptualize the involved principles, the text has been presented in an easy to understand manner. Large number of solved numericals have been included in the book to give a quantitative idea of the subject. Exercises and unsolved numericals have been given at the end of each chapter for practice. The book will also be useful for the students taking various competitive examinations. Publisher Description

Taking a conceptual approach to the subject, Concepts in Quantum Mechanics provides complete coverage of both basic and advanced topics. Following in the footsteps of Dirac's classic work Principles of Quantum Mechanics, it explains all themes from first principles.The authors present alternative ways of representing the state of a physical system,

'Physics of Cancer' emphasizes a novel biophysical-based view on cancer disease and metastasis highlighting the functional role of mechanical properties of cells while describing the biological state of cancer. Originating in part from the author's own courses on tumor biology and cellular biophysics, this book is suitable for students and researchers in this dynamic interdisciplinary field, be they from a physical, biological or medical sciences background.

A Textbook of Engineering Physics

Basic Mechanical Engineering

Physics of Cancer

Relativity

Concepts of Modern Physics

This book is intended as a textbook for the first-year undergraduate engineering students of all disciplines. The text, written in a student-friendly manner, covers a wide range of topics of engineering interest both from the domains of applied and modern physics. It is meticulously tailored to cover the syllabi needs of almost all the Indian universities and institutes. With its exhaustive treatment of different topics in one volume, it relieves the engineering students of the arduous task of referring to several books. Besides engineering students, this book will be equally useful to the BSc (Physics) students of different universities. KEY FEATURES Simple and clear diagrams throughout the book help students in understanding the concepts clearly. Numerous in-chapter solved problems, chapter-end unsolved problems (with answers) and review questions assist students in assimilating the theory comprehensively. A large number of objective type questions at the end of each chapter help students in testing their knowledge of the theory.

This book has been designed to cover the syllabus of electricity for B.Sc. students of the Indian universities. The subject matter has been arranged so as to provide a clear and integrated approach to the support with all essential tools of applicable mathematics required for B.Sc. curriculum Illustrated examples have been incorporated to help the students in getting the clear concept of the subject matters. Care has been taken to make the treatment of the subject simple and accessible to the average students. It believed that the book in the present form will be found to be useful by the students community and the teaching traternity alike. Contents: Units Dimensions and Victor Analysis, Vector Differentiation and Integration, Electrostatics: Electric Potential, Electrostatics: Electric Field.

Intended to be used in a one-semester course covering modern physics for students who have already had basic physics and calculus courses. Focusing on the ideas, this book considers relativity and quantum ideas to provide a framework for understanding the physics of atoms and nuclei.

This book is targeted mainly to the undergraduate students of USA, UK and other European countries, and the M. Sc of Asian countries, but will be found useful for the graduate students, Graduate Record Examination (GRE), Teachers and Tutors. This is a by-product of lectures given at the Osmania University, University of Ottawa and University of Tebrez over several years, and is intended to assist the students in their assignments and examinations. The book covers a wide spectrum of disciplines in Modern Physics, and is mainly based on the actual examination papers of UK and the Indian Universities. The selected problems display a large variety and conform to syllabi which are currently being used in various countries. The book is divided into ten chapters. Each chapter begins with basic concepts containing a set of formulae and explanatory notes for quick reference, followed by a number of problems and their detailed solutions. The problems are judiciously selected and are arranged section-wise. The so- tions are neither pedantic nor terse. The approach is straight forward and step-- step solutions are elaborately provided. More importantly the relevant formulas used for solving the problems can be located in the beginning of each chapter. There are approximately 150 line diagrams for illustration. Basic quantum mechanics, elementary calculus, vector calculus and Algebra are the pre-requisites.

College Physics

B.Sc. Practical Physics

Practical Physics

A Textbook Of Applied Physics:

Xam Idea Physics for CBSE Class 12- 2021

This book is targeted to serve as a textbook of Physics for the undergraduate students of science and engineering. Exhausted treatment of topics in quantum mechanics, statistical mechanics, nuclear physics, electromagnetic theory , X-rays production, prop

This book has been divided into four chapters theory of atomic structure, nuclear detectors, acceleration, nuclear forces in order to limit the volume of the book. A working knowledge of theory of relatively some basic ideas of atomic and molecular physics has been explained on the part of the reader. The book is very useful for the students of graduate and post graduate level and the candidate appearing for the various competitive examination like PCS and IAS. Suggestions for the improvement of the book shall be grateful acknowledge and incorporated in the next addition. Contents: Theory of Atomic Structure, Nuclear Detectors, Acceleration, Nuclear Forces.

These proceedings gather invited and contributed talks presented at the XXII DAE-BRNS High Energy Physics (HEP) Symposium, which was held at the University of Delhi, India, on 12–16 December 2016. The contributions cover a variety of topics in particle physics, astroparticle physics, cosmology and related areas from both experimental and theoretical perspectives, namely (1) Neutrino Physics, (2) Standard Model Physics (including Electroweak, Flavour Physics), (3) Beyond Standard Model Physics, (4) Heavy Ion Physics & QCD (Quantum Chromodynamics), (5) Particle Astrophysics & Cosmology, (6) Future Experiments and Detector Development, (7) Formal Theory, and (8) Societal Applications: Medical Physics, Imaging, etc. The DAE-BRNS High Energy Physics Symposium, widely considered to be one of the leading symposiums in the field of Elementary Particle Physics, is held every other year in India and supported by the Board of Research in Nuclear Sciences (BRNS), Department of Atomic Energy (DAE), India. As many as 400 physicists and researchers attended the 22nd Symposium to discuss the latest advances in the field. A poster session was also organized to highlight the work and findings of young researchers. Bringing together the essential content, the book offers a valuable resource for both beginning and advanced researchers in the field.
Modern Physics? by Kaur and Pickrell is designed in such a way that it can be read and understood with minimum guidance. It analyses the basic concepts systematically and logically ? providing clear exposition to the subject in comprehensive manner. Salient Features ? Comprehensive coverage to Quantum mechanics, Astro-Physics, Thermal Properties, Semiconductors, Electronics, Optics and Lasers ? Provides clear exposition of background concepts. ? Lucid, explanatory and student friendly languageÿ
Resonance Enhancement in Laser-Produced Plasmas
XXII DAE High Energy Physics Symposium
Living Science Physics 10
A Textbook of Inorganic Chemistry – Volume 1
Plasma Charging Damage