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Packed with the information, examples and problems you need to learn to think like a chemist, CHEMISTRY: AN ATOMS FIRST APPROACH, Third Edition is designed to help you become an independent problem-solver. The text begins with coverage of the atom and proceeds through the concept of molecules, structure and bonding. This approach, different from your high school course, will help you become an adept critical thinker and a strong problem-solver -- skills that will be useful to you in any career. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Written for calculus-inclusive general chemistry courses, Chemical Principles helps students develop chemical insight by showing the connections between fundamental chemical ideas and their applications. Unlike other texts, it begins with a detailed picture of the atom then builds toward chemistry's frontier, continually demonstrating how to solve problems, think about nature and matter, and visualize chemical concepts as working chemists do. Flexibility in level is crucial, and is largely established through clearly labeling (separating in boxes) the calculus coverage in the text: Instructors have the option of whether to incorporate calculus in the coverage of topics. The multimedia integration of Chemical Principles is more deeply established than any other text for this course. Through the unique eBook, the comprehensive Chemistry Portal, Living Graph icons that connect the text to the Web, and a complete set of animations, students can take full advantage of the wealth of resources available to them to help them learn and gain a deeper understanding.

- Strictly as per the new term wise syllabus for Board Examinations to be held in the academic session 2021-22 for classes 11 &12
- Multiple Choice Questions based on new typologies introduced by the board- I. Stand- Alone MCQs, II. MCQs based on Assertion-Reason III. Case-based MCQs.
- Revision Notes for in-depth study
- Mind Maps & Mnemonics for quick learning
- Include Questions from CBSE official Question Bank released in April 2021
- Answer key with Explanations
- Concept videos for blended learning (science & maths only)

Chemistry Principles, Patterns, and Applications

CK-12 Foundation's Chemistry - Second Edition FlexBook covers the following chapters: Introduction to Chemistry - scientific method, history. Measurement in Chemistry - measurements, formulas. Matter and Energy - matter, energy. The Atomic Theory - atom models, atomic structure, sub-atomic particles. The Bohr Model of the Atom electromagnetic radiation, atomic spectra. The Quantum Mechanical Model of the Atom energy/standing waves, Heisenberg, Schrodinger. The Electron Configuration of Atoms Aufbau principle, electron configurations. Electron Configuration and the Periodic Table- electron configuration, position on periodic table. Chemical Periodicity atomic size, ionization energy, electron affinity. Ionic Bonds and Formulas ionization, ionic bonding, ionic compounds. Covalent Bonds and Formulas nomenclature, electronic/molecular geometries, octet rule, polar molecules. The Mole Concept formula stoichiometry. Chemical Reactions balancing equations, reaction types. Stoichiometry limiting reactant equations, yields, heat of reaction. The Behavior of Gases molecular structure/properties, combined gas law/universal gas law. Condensed Phases: Solids and Liquids intermolecular forces of attraction, phase change, phase diagrams. Solutions and Their Behavior concentration, solubility, colligative properties, dissociation, ions in solution. Chemical Kinetics reaction rates, factors that affect rates. Chemical Equilibrium forward/reverse reaction rates, equilibrium constant, Le Chatelier's principle, solubility product constant. Acids-Bases strong/weak acids and bases, hydrolysis of salts, pH Neutralization dissociation of water, acid-base indicators, acid-base titration, buffers. Thermochemistry bond breaking/formation, heat of reaction/formation, Hess' law, entropy, Gibb's free energy. Electrochemistry oxidation-reduction, electrochemical cells. Nuclear Chemistry radioactivity, nuclear equations, nuclear energy. Organic Chemistry straight chain/aromatic hydrocarbons, functional groups. Chemistry Glossary

MAHARASTRA HSC QB Malcolm Forbes said "Education's purpose is to replace an empty mind with an open one" and this is something which is always followed by Maharashtra State Board of Secondary & Higher Education (MSBSHSE). The aim of the Board is not just to let learners obtain basic knowledge but to make them life-long learners. The purpose of this book is to nurture individuality and thus enhance one's innate potentials which help in increasing the self-study mode for students. This book strengthens knowledge and attitude related to subject. This book is designed in such a way that students can set their own goals and can improve their problem solving and thinking skills. This book is strictly as per the latest Maharashtra Board Curriculum for HSC Exams. It contains variety of questions from latest textbooks. It contains all types of questions like VSA Questions (Very Short Answer), SA Questions (Short Answer), MCQs (Multiple Choice Questions) and LA Questions (Long Answer). A synopsis is given for every chapter which contains important points from that chapter. Each chapter has high quality figures wherever required for better, fast and clear understanding. OSWAAL HSC Question Bank is different and better in terms of High Quality Questions which are developed by 'OSWAAL Expert Panel'. The Question Bank is strictly based on the latest MSBSHSE Textbooks and is arranged 'TOPIC-WISE' where each Topic from every Chapter is explained in detail. Through OSWAAL Books students are taught how to think, not what to think. We at OSWAAL Books try to use quality content, standard language, creativity and high quality figures, which makes learning easy and fun. This is one of the reasons that the scope of this book extends from students to teachers. Teachers can use this book as a perfect teaching guide and students can use this book for good learning and practice.

"• Solved Board Examination Paper 2020 • Latest Board Sample Paper • Revision Notes • Based on Latest CBSE Syllabus released on 22th July 2021 • Commonly Made Errors & Answering Tips • Most Likely Questions (AI) for 2022 Board Exams "

The books currently available on this subject contain some elements of physical-chemical treatment of water and wastewater but fall short of giving comprehensive and authoritative coverage. They contain some equations that are not substantiated, offering empirical data based on assumptions that are therefore difficult to comprehend. This text brings together the information previously scattered in several books and adds the knowledge from the author's lectures on wastewater engineering. Physical-Chemical Treatment of Water and Wastewater is not only

descriptive but is also analytical in nature. The work covers the physical unit operations and unit processes utilized in the treatment of water and wastewater. Its organization is designed to match the major processes and its approach is mathematical. The authors stress the description and derivation of processes and process parameters in mathematical terms, which can then be generalized into diverse empirical situations. Each chapter includes design equations, definitions of symbols, a glossary of terms, and worked examples. One author is an environmental engineer and a professor for over 12 years and the other has been in the practice of environmental engineering for more than 20 years. They offer a sound analytical mathematical foundation and description of processes. Physical-Chemical Treatment of Water and Wastewater fills a niche as the only dedicated textbook in the area of physical and chemical methods, providing an analytical approach applicable to a range of empirical situations

Contents Introduction Characteristics of Water and Wastewater Quantity of Water and Wastewater Constituents of Water and Wastewater Unit Operations of Water and Wastewater Treatment Flow Measurements and Flow and Quality Equalizations Pumping Screening, Settling, and Flotation Mixing and Flocculation Conventional Filtration Advanced Filtration and Carbon Adsorption Aeration, Absorption, and Stripping Unit Processes of Water and Wastewater Treatment Water Softening Water Stabilization Coagulation Removal of Iron and Manganese by Chemical Precipitation Removal of Phosphorus by Chemical Precipitation Removal of Nitrogen by Nitrification-Denitrification Ion Exchange Disinfection

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This book is meant to be a quick refresher for JEE (MAIN)/AIEEE aspirants. With the aim and scope of providing a comprehensive study package for aspirants of JEE (MAIN)/AIEEE, this crash course focuses less on theory and more on concepts, formulae and tips. This is supported by plenty of practice problems based on the latest formats, structure and syllabus of JEE (MAIN)/AIEEE. This is further supplemented by a CD given along with this study kit with fully solved 2012 JEE (MAIN)/AIEEE question paper.

Salient features:

- A Based on the latest pattern and syllabus of JEE (MAIN)/AIEEE
- A Solved examples, practice problems in each chapter
- A Previous years question papers fully solved
- A Less theory and more concepts, formulae and tips
- A Practice CD with fully solved JEE (MAIN)/AIEEE 2012 question paper
- A Plenty of problems for practice
- A Comprehensive, holistic revision of the complete syllabus of JEE (MAIN)/AIEEE
- A In-depth analysis of the recent trends of JEE (MAIN)/AIEEE
- A A quick and efficient study kit for JEE (MAIN)/AIEEE aspirants
- A Facilitates self-study.
- A Low priced, handy book for quick and efficient revision

The Zumdahls' hallmark problem-solving approach and focus on conceptual development come to life in this new edition with interactive problems that promote active learning and visualization. Enhanced by a wealth of online support that is seamlessly integrated with the program, Chemistry's solid explanations, emphasis on modeling, and outstanding problem sets make both teaching and learning chemistry more meaningful and accessible than ever before. The authors emphasize a qualitative approach to chemistry in both the text and the technology program before quantitative problems are considered, helping to build comprehension. The emphasis on modeling throughout the narrative addresses the problem of rote memorization by helping students to better understand and appreciate the process of scientific development. By stressing the limitations and uses of scientific models, the authors show students how chemists think and work. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

The scope of thermodynamics. Definitions; the concept of equilibrium. Conventions and mathematical methods. Solutions. The first law of thermodynamics and the concept of energy. The fugacity. Application of the second law to solutions. The perfect solution. The laws of the dilute solution. Systems involving variables other than pressure, temperature and composition. A useful function, called the activity, and its application to solutions. Change of activity with the temperature, and the calculation of activity from freezing points. The standard change of free energy; the equilibrium constant. Solutions of electrolytes. The activity of strong electrolytes. The activity of electrolytes from freezing point data, and tables of activity coefficients. Activity coefficient in mixed electrolytes; the principle of the ionic strength; the activity of individual ions. The galvanic cell. Single potentials; standard electrode potentials of the elements. The third law of thermodynamics. The entropy of monatomic gases and a table of atomic entropies. Introduction to systematic free energy calculations: the free energy of elementary hydrogen and metallic hydrides. Oxygen and its compounds with hydrogen and with some metals. Chlorine and its compounds. Bromine and its compounds. Iodine and its compounds. Nitrogen compounds. Carbon and some of its compounds. Compounds of carbon and nitrogen. Table of free energies; and examples illustrating its use. Conversion table for mol fractions, mol ratios and molities. Some useful numerical factors. Coefficients employed in converting activity, equilibrium constant and free energy from one temperature to another. Publications by the authors, pertaining to thermodynamics.

This fully updated Ninth Edition of Steven and Susan Zumdahl's CHEMISTRY brings together the solid pedagogy, easy-to-use media, and interactive exercises that today's instructors need for their general chemistry course. Rather than focusing on rote memorization, CHEMISTRY uses a thoughtful approach built on problem-solving. For the Ninth Edition, the authors have added a new emphasis on critical systematic problem solving, new critical thinking questions, and new computer-based interactive examples to help students learn how to approach and solve chemical problems--to learn to think like chemists--so that they can apply the process of problem solving to all aspects of their lives. Students are provided with the tools to become critical thinkers: to ask questions, to apply rules and develop models, and to evaluate the outcome. In addition, Steven and Susan Zumdahl crafted ChemWork, an online program included in OWL Online Web Learning to support their approach, much as an instructor would offer support during office hours. ChemWork is just one of many study aids available with CHEMISTRY that supports the hallmarks of the textbook--a strong emphasis on models, real world applications, visual learning, and independent problem solving. Available with InfoTrac Student Collections <http://gocengage.com/infotrac>. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This brand new manual prepares dental school applicants across the United States and Canada to pass the required admissions test. It features: Three full-length model tests, including a diagnostic test All answers explained in detail Access to video tutorials from the authors, and more Test-takers will also find thorough reviews of all DAT test topics: a general survey of the natural sciences, including biology, chemistry, and organic chemistry, as well as testing for perceptual ability, reading comprehension, and quantitative reasoning. ONLINE PRACTICE TEST: Students will also get access to one additional full-

length online DAT test with all questions answered and explained. This online exam can be easily accessed by smartphone, tablet, or computer.

From liquids and solids to acids and bases - work chemistry equations and use formulas with ease Got a grasp on the chemistry terms and concepts you need to know, but get lost halfway through a problem or, worse yet, not know where to begin? Have no fear - this hands-on guide helps you solve many types of chemistry problems in a focused, step-by-step manner. With problem-solving shortcuts and lots of practice exercises, you'll build your chemistry skills and improve your performance both in and out of the science lab. You'll see how to work with numbers, atoms, and elements; make and remake compounds; understand changes in terms of energy; make sense of organic chemistry; and more! 100s of Problems! Know where to begin and how to solve the most common chemistry problems Step-by-step answer sets clearly identify where you went wrong (or right) with a problem Understand the key exceptions to chemistry rules Use chemistry in practical applications with confidence

This book is ideal for use in a one-semester introductory course in physical chemistry for students of life sciences. The author's aim is to emphasize the understanding of physical concepts rather than focus on precise mathematical development or on actual experimental details. Subsequently, only basic skills of differential and integral calculus are required for understanding the equations. The end-of-chapter problems have both physiochemical and biological applications.

Emphasises on contemporary applications and an intuitive problem-solving approach that helps students discover the exciting potential of chemical science. This book incorporates fresh applications from the three major areas of modern research: materials, environmental chemistry, and biological science.

The book has been designed to cover all the topics related to Physical and Inorganic Chemistry of B.Pharma students of RGPV, Bhopal and all other Indian universities. The textbook provides the indeph information. All updated usual topics are explained in very simple language, from weak to extremely brilliant, will find something of interest to them in the chapters.

“The Objective of Education is to prepare the young to Educate themselves throughout their Lives” This philosophy has always been followed by Gujarat Secondary Education Board (GSEB), whether through their education system framework or regular enhancement in curriculum. GSEB ensures better access, equality and quality in elementary education for school students. In order to achieve aforesaid objectives, Gujarat State Board of School Textbooks (GSSTB) has proposed a new syllabus for school textbooks, which will be aligned with NCERT. We at Oswaal Books, welcome the above decision of GSEB and have ensured our offerings include updated content, aligned with the latest syllabus as directed by the Board. Oswaal GSEB NCERT Solutions are designed as per the latest curriculum of Gujarat Board and emphasize on nurturing individuality thus enhancing one's innate potentials which help in increasing self-confidence. We believe that OSWAAL GSEB NCERT SOLUTIONS will help the students in school and after school in practicing and preparing extensively for both, Final Examinations as well as Competitive Examinations with utmost confidence! Some of the Key Highlights of Oswaal GSEB NCERT Solutions are: | Latest content: Strictly based on the latest GSEB Curriculum | GSSTB (NCERT) Textbook Questions: Fully Solved | Some Important Questions developed by ‘Oswaal Editorial Board’ | Chapter-wise & Topic-wise presentation | Chapter Objectives: A sneak peek into the chapter | Mind Map: A single page snapshot of the entire chapter | Quick Review: Concept-based study material | Tips & Tricks: Useful guidelines for attempting each question perfectly | Some Commonly Made Errors: Most common and unidentified errors made by students discussed | Expert Advice: Oswaal Expert Advice on how to score more! | Oswaal QR Codes: For a Digital Learning Experience

For instructors who wish to focus on practical, industrial, or research chemistry. Includes case studies, applications boxes, and spreadsheet applications.

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