

## B Sc Practical Physics CI Arora

The present edition of the book is revised as per the UGC syllabus. Questions and problems at the end of each chapter have been up-dated. Many new solved examples are included in this edition. Certain topic have been added so that students from some universities where the syllabus has been modified and upgraded may benefit. Besides being a text book we hope that this benifit students appearing at the IAS, AMIE and other Competitive Examinations.

B.Sc. Practical Physics S. Chand Publishing

### Publisher Description

In Science, experiments are as important as theory and, in subjects like Physics and Chemistry, experiments form a significant part. This compact book on Practical Physics gives all the experiments required by undergraduate students of Physics. They are chosen as per the latest university syllabi. Divided into six chapters, the book contains a large number of experiments from general Physics, properties of matter, mechanics, heat, sound, optics, magnetism and electricity. The experiments are discussed in relation to the principles involved, the apparatus used, procedures required as well as observation and result. Tables and graphs are given wherever necessary. Undergraduate students of Physics should find this book extremely useful as an adjunct text for their study.

The Book Has Been Written Keeping In Mind The Experiments Carried Out At B.Sc. Level At Indian Universities. It Is Written In An Easy To Understand And Systematic Format. Detailed Description Of Different Apparatus, Related Errors And Their Handling Is An Added Feature Of The Book. Tables Of Physical Constants Are Also Presented. More Than One Experimental Method For Determining A Physical Parameter Is Given So That Student Can Appreciate The Intricacies.

### B.Sc. Practical Physics

Unit-I :Electrostatics 1.Electric charge and Electric Field, 2 .Gauss' Theorem, 3 .Electric Potential, 4. Electric Capacitance, Unit-II : Current Electricity 5.Electric Conduction and Ohm's Law, 6. Electric Measurements, Unit-III : Magnetic Effects of Electric Current and Magnetism 7.Magnetic Effects of Electric Current, 8 .Magnetism, Unit-IV : Electromagnetic Induction and Alternating Current 9.Electromagnetic Induction, 10. Alternating Current, Unit-V : Electromagnetic Waves 11.Electromagnetic Waves, Log Antilog Table Value Based Questions (VBQ) Board Examination Papers. Section I Relativity Section Ii Quantum Mechanics Section Iii Atomic Physics Section Iv Molecular Physics Section V Nuclear Physics Section Vi Solid State Physics Section Vii Solid State Devices Section Viii Electronics Index

A surprisingly simple way for students to master any subject--based on one of the world's most popular online courses and the bestselling book A Mind for Numbers A Mind for Numbers and its wildly popular online companion course "Learning How to Learn" have empowered more than two million learners of all ages from around the world to master subjects that they once struggled with. Fans often wish they'd discovered these learning strategies earlier and ask how they can help their kids master these skills as well. Now in this new book for kids

and teens, the authors reveal how to make the most of time spent studying. We all have the tools to learn what might not seem to come naturally to us at first--the secret is to understand how the brain works so we can unlock its power. This book explains:

- Why sometimes letting your mind wander is an important part of the learning process
- How to avoid "rut think" in order to think outside the box
- Why having a poor memory can be a good thing
- The value of metaphors in developing understanding
- A simple, yet powerful, way to stop procrastinating

Filled with illustrations, application questions, and exercises, this book makes learning easy and fun.

#### FOR B.SC STUDENTS OF ALL INDIAN UNIVERSITIES

For B.Sc I yr students as per the new syllabus of UGC curriculum for all Indian Universities. The present book has two sections. Section I covers 1 which includes chapters on Mechanics, oscillations and Properties of Matter. Section II covers course 2 which includes chapters on Electricity, Magnetism and Electromagnetic theory.

Unit-VI : (Optics) A : Ray Optics and Optical Instruments 12.Reflection and Refraction of Light, 13.Reflection of Light at Spherical Surfaces : Lenses, 14.Prism and Scattering of Light, 15 .Chromatic and Spherical Aberration, 16. Optical Instruments, Unit-VI : (Optics) B : Wave Optics 17.Nature of Light and Huygen's Principle, 18. Interference of Light, 19. Diffraction of Light, 20. Polarisation of Light, Unit-VII : Dual Nature of Matter and Radiation 21.Particle Nature of Radiation and Wave Nature of Matter, Unit-VIII : Atoms and Nuclei 22.Atomic Physics, 23 .X–Rays, 24. Structure of the Nucleus, 25. Nuclear Energy, 26. Radioactivity, Unit-IX : Electronic Devices 27.Semiconductor Diode and Transistor, 28.Digital Electronics, Unit-X : Communication System 29.Principles of Communication Log Antilog Table Value Based Questions (VBQ) Board Examination Papers.

Section-I: Solid State Physics| Section-Ii Electronics | Section-Iii: Nuclear And Particle Physics

"YOU HAVE CHANGED MY LIFE" is a common refrain in the emails Walter Lewin receives daily from fans who have been enthralled by his world-famous video lectures about the wonders of physics. "I walk with a new spring in my step and I look at life through physics-colored eyes," wrote one such fan. When Lewin's lectures were made available online, he became an instant YouTube celebrity, and The New York Times declared, "Walter Lewin delivers his lectures with the panache of Julia Child bringing French cooking to amateurs and the zany theatricality of YouTube's greatest hits." For more than thirty years as a beloved professor at the Massachusetts Institute of Technology, Lewin honed his singular craft of making physics not only accessible but truly fun, whether putting his head in the path of a wrecking ball, supercharging himself with three hundred thousand volts of electricity, or demonstrating why the sky is blue and why clouds are white. Now, as Carl Sagan did for astronomy and Brian Green did for cosmology, Lewin takes readers on a marvelous journey in For the Love of Physics, opening our eyes as never before to the amazing beauty and power with which physics can reveal the hidden workings of the world all around us. "I introduce people to their own world," writes Lewin, "the world they live in and are familiar with but don't approach like a physicist—yet." Could it be true that we are shorter standing up than lying down? Why can we snorkel no deeper than about one foot below the surface? Why are the

colors of a rainbow always in the same order, and would it be possible to put our hand out and touch one? Whether introducing why the air smells so fresh after a lightning storm, why we briefly lose (and gain) weight when we ride in an elevator, or what the big bang would have sounded like had anyone existed to hear it, Lewin never ceases to surprise and delight with the extraordinary ability of physics to answer even the most elusive questions. Recounting his own exciting discoveries as a pioneer in the field of X-ray astronomy—arriving at MIT right at the start of an astonishing revolution in astronomy—he also brings to life the power of physics to reach into the vastness of space and unveil exotic uncharted territories, from the marvels of a supernova explosion in the Large Magellanic Cloud to the unseeable depths of black holes. “For me,” Lewin writes, “physics is a way of seeing—the spectacular and the mundane, the immense and the minute—as a beautiful, thrillingly interwoven whole.” His wonderfully inventive and vivid ways of introducing us to the revelations of physics impart to us a new appreciation of the remarkable beauty and intricate harmonies of the forces that govern our lives.

For B.Sc. Second Year Students as per UGC Model Curriculum (For All Indian Universities). The book is presented in a comprehensive way using simple language. The sequence of articles in each chapter enables the students to understand the gradual development of the subject. A large number of illustrations, pictures and interesting examples have been given. It has been revised and brought up-to-date in accordance with the latest syllabi, to meet the needs of the students and teachers alike. This book has been prepared to enable the students to give a correct and to the point answer to questions set in the examination. The answers have been arranged under various heads and subheads to facilitate the students

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