
Lab Manual Class 11 Physics

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Ideal for use with any introductory physics text, Loyd's PHYSICS LABORATORY MANUAL is suitable for either calculus- or algebra/trigonometry-based physics courses. Designed to help students demonstrate a physical principle and learn techniques of careful measurement, Loyd's PHYSICS LABORATORY MANUAL also emphasizes conceptual understanding and includes a thorough

discussion of physical theory to help students see the connection between the lab and the lecture. 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.

One of eighteen timeless classics for independent student reading and preparation for mainstream classrooms. Also thematically linked to core series such as Visions. The College Physics for AP(R) Courses text is designed to engage students in their exploration of physics and help them apply these concepts to the Advanced Placement(R) test. This book is Learning List-approved

for AP(R) Physics courses. The text and images in this book are grayscale.

Physics Lab Manual Class XII | According to the latest CBSE syllabus and other State Boards following the CBSE curriculum

Comprehensive Practical Physics XI

Lab Manual Latest Edition

Comprehensive Chemistry

Comprehensive Laboratory Manual In Biology XI

Unit 1 : Physical World and Measurement 1. Systems of Units and Measurement, 2. Significant Figures and Error Analysis, 3. Dimensional Analysis, Unit 2 : Kinematics 4. Motion in a Straight Line, 5. Vector Analysis, 6. Motion in a Plane, Unit 3 : Laws of Motion 7. Newton ' s Laws of Motion, 8. Friction, 9. Uniform Circular Motion , Unit 4 : Work, Energy and Power 10. Work, Energy and Power, Unit 5 : Motion of System of Particles and Rigid Body 11. Centre of Mass, 12. Rotational Motion and Moment of Inertia, Unit 6 : Gravitation 13. Gravitation, Unit 7 : Properties of Bulk Matter 14. Elasticity, 15. Pressure of Fluids, 16. Viscosity, 17. Surface Tension, 18. Temperature and Calorimetry, 19. Transfer of Heat, Unit 8 : Thermodynamics, 20. First Law of Thermodynamics, 21. Second Law of Thermodynamics, Unit 9 : Behaviour of Perfect Gases and Kinetic Theory of Gases 22. Behaviour of Perfect Gas and Kinetic Theory of Gases, Unit 10 : Oscillations and Waves 23. Oscillations, 24. Speed of Mechanical Waves and Progressive Waves, 25. Superposition of Waves : Interference and Beats, 26. Reflection of Waves : Stationary Waves in Stretched Strings and Organ Pipes, 27. Doppler ' s Effect.
Lab Manual-Physics-TB-11_E-R1

A text book on Chemistry

Comprehensive Chemistry XI

College Physics for AP® Courses

Physics Lab Manual Class XI | According to the latest CBSE syllabus and other State Boards following the CBSE curriculum
Core Laboratory Manual of Physics for Class XI

Explorations in Basic Biology

SECTION : A EXPERIMENTS 1.To determine resistance per cm of a given wire by plotting a graph for potential difference versus current, 2.To find resistance of a given wire using meter bridge and hence determine the specific resistance (Resistivity) of its material, 3.To verify the laws of combination (Series/Parallel) of resistance using a meter bridge, 4.To compare the e.m.f. of two given primary cells using potentiometer, 5.To determine the internal resistance of a given primary cell (e.g. Leclanche cell) using potentiometer, 6.To determine the resistance of a galvanometer by half deflection method and to find its figure of merit. 7 A. To convert a given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same, 7.B.To convert a given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same. 8.To find the frequency of AC mains with a sonometer and horse-shoe magnet. SECTION : B EXPERIMENTS 1.To find the value of v for different values of u in case of a concave mirror and to find the focal length, 2.To find the focal length of a convex lens by plotting graph between u and v or $1/u$ and $1/v$. 3.To find the focal length of a convex mirror, using a convex lens.4.To find the focal length of a concave lens, using a convex lens. 5. To determine the angle of minimum deviation for a given prism by plotting a graph between the angle of incidence and angle of deviation, 6. To determine refractive index of a glass slab using a travelling microscope, 7.To find the refractive index of a liquid by using a convex lens and a plane mirror, 8.To draw I-V characteristics curve of a p-n junction in forward bias and reverse bias, 9.To draw the

characteristics curve of a zener diode and to determine its reverse break down voltage, 10. To study the characteristics of a common-emitter n-p-n or p-n-p transistor and to find out the values of current and voltage gains. SECTION : A ACTIVITIES 1. To measure the resistance and impedance of an inductor with or without iron core, 2. To measure resistance voltage (AC/DC), current (AC) and check continuity of given circuit using multimeter, 3. To assemble a household circuit comprising of three bulbs, three (on/off) switches, a fuse and a power source. 4. To assemble the components of a given electrical circuit. 5. To study the variation in potential drop with length of a wire for a steady current, 6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key ammeter and voltmeter. Make the components that are not connected in proper order and correct the circuit and also the circuit diagram. SECTION : B ACTIVITIES 1. To study effect of intensity of light (by varying distance of the source) on an LDR (Light Depending Resistor), 2. To identify a diode, a LED, a transistor, an IC, a resistor and a capacitor from mixed collection of such items, 3. Use a multimeter to : (i) identify the transistor, (ii) distinguish between n-p-n and p-n-p type transistor, (iii) see the unidirectional flow of current in case of a diode and a LED, (iv) Check whether a given electronic components (e.g diode, transistor or IC) is in working order, 4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab, 5. To observe polarisation of light using two polaroids, 6. To observe diffraction of light due to a thin slit, 7. To study the nature and size of the image formed by : (i) convex lens, (ii) concave mirror on a screen by using candle and a screen for different distance of the candle from the lens/mirror, 8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses. SUGGESTED INVESTIGATORY PROJECT 1. To Study Various factors on which the Internal Resistance/EMF of a cell depends, 2. To study the variations in current following in a circuit containing L.D.R. because of variation. (a) In the power of incandescent lamp used to illuminate the L.D.R.

Keeping all the lamps in fixed position (b) In the Distance of a incandescent lamp (of fixed power) used to illuminate the L.D.R. 3. To find the refractive indices of (a) Water (b) Oil (Transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle, 4. To design an appropriate logic gate combination for a given truth table. 5. To investigate the relation between the ratio of : (i) Output and Input voltage (ii) Number of turns in secondary coils and primary coils of a self designed transformer. 6. To Investigate the dependence of angle of deviation on the angle of incidence, using a hollow prism filled one by one with different transparent fluids, 7. To Estimate the charge induced on each one of the two identical styrofoam balls suspended in a vertical plane by making use of Coulomb's Law :, 8. To study the factors on which the self inductance of a coil depends by observing the effect of this coil, when put in series with a resistor (bulb) in a circuit fed up by an a.c. source of adjustable frequency, 9. To study the earth's magnetic field using a tangent galvanometer. APPENDIX Some Important Tables of Physical Constants Logarithmic and other Tables The market leader for the first-year physics laboratory course, this manual offers a wide range of class-tested experiments designed explicitly for use in small to mid-size lab programs. The manual provides a series of integrated experiments that emphasize the use of computerized instrumentation. The Sixth Edition includes a set of "computer-assisted experiments" that allow students and instructors to use this modern equipment. This option also allows instructors to find the appropriate balance between traditional and computer-based experiments for their courses. By analyzing data through two different methods, students gain a greater understanding of the concepts behind the experiments. The manual includes 14 integrated experiments—computerized and traditional—that can also be used independently of one another. Ten of these integrated experiments are included in the standard (bound) edition; four are available for

customization. Instructors may elect to customize the manual to include only those experiments they want. The bound volume includes the 33 most commonly used experiments that have appeared in previous editions; an additional 16 experiments are available for examination online. Instructors may choose any of these experiments—49 in all—to produce a manual that explicitly matches their course needs. Each experiment includes six components that aid students in their analysis and interpretation: Advance Study Assignment, Introduction and Objectives, Equipment Needed, Theory, Experimental Procedures, and Laboratory Report and Questions.

Oswaal CBSE Question Bank Class 12 Physics, Chemistry & Mathematics 2022-23 are based on latest & full syllabus The CBSE Question Bank Class 12 Physics, Chemistry & Mathematics 2022-23 Includes Term 1 Exam paper 2021+Term II CBSE Sample paper+ Latest Topper Answers The CBSE Books Class 12 2022 -23 comprises Revision Notes: Chapter wise & Topic wise The CBSE Question Bank Class 12 Physics, Chemistry & Mathematics 2022-23 includes Exam Questions: Includes Previous Years Board Examination questions (2013-2021) It includes CBSE Marking Scheme Answers: Previous Years' Board Marking scheme answers (2013-2020) The CBSE Books Class 12 2022 -23 also includes New Typology of Questions: MCQs, assertion-reason, VSA ,SA & LA including case based questions The CBSE Question Bank Class 12 Physics, Chemistry & Mathematics 2022-23 includes Toppers Answers: Latest Toppers' handwritten answers sheets Exam Oriented Prep Tools Commonly Made Errors & Answering Tips to avoid errors and score improvement Mind Maps for quick learning Concept Videos for blended learning The CBSE Question Bank Class 12 Physics, Chemistry & Mathematics 2022-23 includes Academically Important (AI) look out for highly expected questions for the upcoming exams

Part 1: Chapters 1-17
Physics Laboratory Experiments
Lab Manual-Physics-TB-12_E-R

Lab Manual

Laboratory Manual for Introductory Geology

1. This book deals with CBSE New Pattern Physics for Class 11 2. It is divided into 8 chapters as per Term 1 Syllabus 3. Quick Revision Notes covering all the Topics of the chapter 4. Carries all types of Multiple Choice Questions (MCQs) 5. Detailed Explanation for all types of questions 6. 3 practice papers based on entire Term 1 Syllabus with OMR Sheet With the introduction of new exam pattern, CBSE has introduced 2 Term Examination Policy, where; Term 1 deals with MCQ based questions, while Term 2 Consists of Subjective Questions. Introducing, Arihant 's " CBSE New Pattern Series " , the first of its kind providing the complete emphasize on Multiple Choice Questions which are designated in TERM 1 of each subject from Class 9th to 12th. Serving as a new preparatory guide, here 's presenting the all new edition of " CBSE New Pattern Physics for Class 11 Term 1 " that is designed to cover all the Term I chapters as per rationalized syllabus in a Complete & Comprehensive form. Focusing on the MCQs, this book divided the first have syllabus of Physics into 8 chapters giving the complete coverage. Quick Revision Notes are covering all the Topics of the chapter. As per the prescribed pattern by the board, this book carries all types of Multiple Choice Questions (MCQs) including; Assertion – Reasoning Based MCQs and Cased MCQs for the overall preparation. Detailed Explanations of the selected questions help students to get the pattern and questions as well. Lastly, 3 Practice Questions are provided for the revision of the concepts. TOC Physical World, Units and Measurement,

Motion in a Straight, Motion in a Plane, Laws of Motion, Work, Energy and Power, System of Particles and Rotational Motion, Gravitation, Practice Papers (1-3).

Developed by three experts to coincide with geology lab kits, this laboratory manual provides a clear and cohesive introduction to the field of geology. Introductory Geology is designed to ease new students into the often complex topics of physical geology and the study of our planet and its makeup. This text introduces readers to the various uses of the scientific method in geological terms.

Readers will encounter a comprehensive yet straightforward style and flow as they journey through this text. They will understand the various spheres of geology and begin to master geological outcomes which derive from a growing knowledge of the tools and subjects which this text covers in great detail.

Understanding ISC Mathematics, for class 11 - sections A, B & C, has been written by Mr. M.L. Aggarwal (Former Head of P.G. Department of Mathematics, D.A.V. College, Jalandhar) strictly according to the new syllabus prescribed by the Council for the Indian School Certificate Examinations, New Delhi in the year 2015 and onwards for students of class 11. A new feature - Typical Illustrative Examples and Typical Problems, has been added in some chapters for those students who want to attempt some more challenging problems. The entire matter in the book is given in a logical sequence so as to develop and strengthen the concepts of the students.

SBPD Publications (English)

Chemistry Class 11 - [Bihar & JAC]

Practical/Laboratory Manual Physics Class XI based on NCERT

guidelines by Dr. J. P. Goel & Er. Meera Goyal

Oswaal CBSE Question Bank Class 12 English, Physics, Chemistry & Mathematics (Set of 4 Books) (For 2022-23 Exam)
Goyal Brothers Prakashan

Lab Manual-Physics-TB-12_E-R

EXPERIMENTS 1.Measurement of Length 1.To measure the diameter of a small spherical/cylindrical body by using a vernier callipers, 2. To measure the dimensions of a given regular body of known mass, using vernier callipers and hence find its density, 3. To measure the internal diameter and depth of a given cylindrical vessel (say calorimeter/beaker) by using vernier callipers and hence find its internal volume (i.e., capacity) Viva-voce 2. Screw Gauge/Micrometer 4.To determine the diameter of a given wire using a screw gauge and find its volume, 5. To find the thickness of a given sheet with the help of screw gauge, 6.To measure the volume of an irregular lamina by using a screw gauge Viva-voce 3. Spherometer 7.To measure the radius of curvature of a given spherical surface (convex lens) by using a spherometer Viva-voce 4.Mass and Weight 8.To determine the mass of two different objects using a beam balance Viva-voce 5.Parallelogram Law of Vectors 9.To find the weight of a given body using parallelogram law of vectors Viva-voce 6.Simple Pendulum (Measurement of Time) 10.Using a simple pendulum, plot $L - T$ and $L - T^2$ graphs. Hence find the effective length of a second's pendulum, using appropriate graphs Viva-voce 7. Friction 11.To study the relationship between force of limiting friction and normal reaction and to find the coefficient of friction between a block and a horizontal surface, Viva-voce 8. Motion of a

Body Along an Inclined Plane 12. To find the downward force along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination by plotting graph between force and \sin Viva-voce SECTION : B EXPERIMENTS 1.Elasticity 1.To determine the Young's modulus of elasticity of the material of the wire, using Searle's apparatus Viva-voce 2.Spring Constant 2.To find the spring constant of a helical spring by plotting load-extension graph Viva-voce 3. Boyle's Gas Law 3.To study the variation in volume with pressure for a sample of air constant temperature by plotting graphs between P and V and between P and $1/V$ 18 Viva-voce 4. Surface Tension 4.To determine the surface tension of water by capillary rise method Viva-voce 5.Viscosity 5.To determine the co-effective of viscosity of given liquid by measuring the terminal velocity of a given spherical body in it Viva-voce 6.Newton's Law of Cooling 6.To study the relationship between temperature of a hot body and time by plotting a cooling curve Viva-voce 7.Vibrations of Strings 7. To study the relation between frequency and length for a given wire under constant tension using a sonometer Viva-voce 8.To study the relation between the length of a given wire and tension for constant frequency using sonometer Viva-voce 8.Vibrations of Air Columns 9.To find the velocity of sound in air at room temperature using a resonance tube by two resonance position Viva-voce 9.Specific Heat 10.To determine specific heat of a given solid by the method of mixture 11.To determine the specific heat of a given liquid by method of mixture Viva-voce SECTION : A ACTIVITIES 1.To make a paper scale of given least count e.g., 0.2 cm, 0.5 cm and use it to measure the length of a given object. 2.To determine the mass of a given body using a metre scale and by applying principle of moments. Viva-voce 3.To plot a graph for a given set of data using proper choice of scales and error bars. Viva-voce 4.To measure the force of limiting friction for rolling of a roller on horizontal plane. Viva-voce 5.To study the variation in the range of a jet of water with angle of projection. Viva-voce 6.To study the conservation of energy of a ball rolling down on inclined plane (using a double inclined plane). Viva-voce 7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time. Viva-voce SECTION : B ACTIVITIES 1.To observe the change of the state and plot a cooling curve for molten wax. Viva-voce 2.To observe and explain the effect of heating on a bimetallic strip. Viva-voce 3.To note the change in level of liquid in a container on heating and interpret the observations. Viva-voce 4.To study the effect of detergent in surface tension by observing capillary rise. Viva-voce 5.To study the factors affecting the rate of loss of heat of a liquid. Viva-voce 6.To study the effect of load on depression of a suitably clamped meter scale loaded (i) at its end (ii) in the middle. Viva-voce 7.To observe the decrease in pressure with the increase in velocity of the fluid. Viva-voce APPENDIX Some Important Tables of Physical Constants Log-Antilog and other Tables

Lab Manual-Physics-TB-11_E-R1

Hard Bound Lab Manual Health and Physical Education

Physics Laboratory Manual

Comprehensive Practical Physics XII

CBSE New Pattern Physics Class 11 for 2021-22 Exam (MCQs based book for Term 1)

ICSE-Lab Manual Physics-TB-10

An Excellent Book in Accordance with the latest syllabus for Class-11

Prescribed by CBSE/NCERT and Adopted by Various State Education Boards. (A) Basic Laboratory Techniques – 1. To cut a glass tube or glass rod, 2. To bend the glass rod at an angle, 3. To draw a glass jet from a glass tube, 4. To bore a cork and fit a glass tube into it. (B) Characterisation and Purification of Chemical Substances- 1. To determine the melting point of the given unknown organic compound and its identification (simple laboratory technique), 2. To determine the boiling point of a given liquid when available in small quantity (simple laboratory method), 3. To prepare crystals of pure potash alum $[K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O]$ from the given impure sample, 4. To prepare the pure crystals of copper sulphate from the given crude sample, 5. To prepare pure crystals of benzoic acid from a given impure sample. (C) Measurement of pH Values 1. To determine the pH value of vegetable juices, fruit juices, tap water and washing soda by using universal pH paper, 2. To determine and compare the pH values of solutions of strong acid (HCl) and weak acid (CH₃COOH) of same concentration, 3. To study the pH change in the titration of strong base Vs. strong acid by using universal indicator paper, 4. To study the pH change by common ion (CH₃COO⁻ ion) in case of weak acid (CH₃COOH), 5. To determine the change in pH value of weak base (NH₄OH) in presence of a common ion (NH₄⁺), (D) Chemical Equilibrium 1. To study the shift in equilibrium between ferric ions and thiocyanate ions by changing the concentrations of either of the ions, 2. To study the shift in equilibrium between $[Co(H_2O)_6]^{2+}$ and Cl⁻ ions by changing the concentrations of either of the ions, (E) Quantitative Analysis 1. To prepare M/10 oxalic acid solution by direct weighing method, 2. To prepare M/10 solution of sodium carbonate by direct weighing method, 3. To determine the strength of given solution of sodium hydroxide by titrating it against N/10 or M/20 solution of oxalic acid, 4. To determine the strength of a given solution of hydrochloric acid by titrating it against a standard N/10 or M/20 sodium carbonate solution, (F) Qualitative Analysis 1. Analysis of Anions, 2. Analysis of Cations (G) Detection of Elements in Organic Compounds 1. To detect the presence of nitrogen, sulphur and halogens in a given organic compound by Lassaigne's test, 2. To detect the presence of nitrogen, sulphur and halogens in the given organic compound sample number by Lassaigne's test INVESTIGATORY PROJECTS (A) Checking of Bacterial Contamination in Water 1. To check the bacterial contamination in drinking water by testing sulphide ions (B) Methods of Water Purification 1. To purify water from suspended impurities by using sedimentation, 2. To purify water by boiling, 3. To purify water by distillation method, 4. To purify water by reverse osmosis technique. 5. To purify water by GAC method, 6. To purify water by bleach treatment, 7. To purify water by oxidising agent, 8. To purify water by ozone treatment method. (C) Water Analysis 1. To test the hardness of different water samples. (D) Foaming Capacity of Various Soaps 1. To compare the foaming capacity of different washing soaps, 2. To study the effect of addition of sodium carbonate on foaming capacity of washing soap (E) Tea Analysis 1. To study the acidity of different samples of tea leaves (tea) by using pH paper (F) Analysis of Fruits and Vegetable Juices 1. To analyse the fruit and vegetable juices for the constituent present in them (G) Rate of Evaporation 1. To study the rate of evaporation of different liquids (H) Effect of Acids and Bases on Tensile Strength of Fibres 1. To compare the tensile strength of natural fibres and synthetic fibres, 2. To study the effect of acids and bases on tensile strength of different fibres. Log & Antilog Table
Lab Manuals
Hard Bound Lab Manual Physics
APC Understanding ISC Mathematics - Class 11 - Avichal Publishing Company
Numerical Physics With Chapterwise Question - Answers Class XI by D. C. Upadhyay, Dr. J. P. Goel, Er. Meera Goyal

Mathematics Class 11 - [Chhattisgarh & MP Board]

NCERT Exemplar Problems-Solutions MATHEMATICS class 11th

Lab. E- Manual Physics (For XIIth Practicals) A. Every student will perform 10 experiments (5 from each section) & 8 activities (4 from each section) during the academic year. Two demonstration experiments must be performed by the teacher with participation of students. The students will maintain a record of these demonstration experiments. B. Evaluation Scheme for Practical Examination :

One experiment from any one section 8 Marks Two activities (one from each section) (4 + 4) 8 Marks Practical record (experiments & activities) 6 Marks Record of demonstration experiments & Viva based on these experiments 3 Marks Viva on experiments & activities 5 Marks Total 30 Marks

Section A Experiments 1. To determine resistance per cm of a given wire by plotting a graph of potential difference versus current. 2. To find resistance of a given wire using metre bridge and hence determine the specific resistance of its material. 3. To verify the laws of combination (series/parallel) of resistances using a metre bridge. 4. To compare the emf of two given primary cells using potentiometer. 5. To determine the internal resistance of given primary cells using potentiometer. 6. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit. 7. To convert the given galvanometer (of known resistance and figure of merit) into an ammeter and voltmeter of desired range and to verify the same. 8. To find the frequency of the a.c. mains with a sonometer. Activities 1. To measure the resistance and impedance of an inductor with or without iron core. 2. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter. 3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source. 4. To assemble the components of a given electrical circuit. 5. To study the variation in potential drop with length of a wire for a steady current. 6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter.

Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram. Section B Experiments 1. To find the value of v for different values of u in case of a concave mirror and to find the focal

length. 2. To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$. 3. To find the focal length of a convex mirror, using a convex lens. 4. To find the focal length of a concave lens, using a convex lens. 5. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation. 6. To determine refractive index of a glass slab using a travelling microscope. 7. To find refractive index of a liquid by using (i) concave mirror, (ii) convex lens and plane mirror. 8. To draw the I-V characteristic curve of a p-n junction in forward bias and reverse bias. 9. To draw the characteristic curve of a zener diode and to determine its reverse break down voltage. 10. To study the characteristics of a common-emitter npn or pnp transistor and to find out the values of current and voltage gains. Activities 1. To study effect of intensity of light (by varying distance of the source) on a L.D.R. 2. To identify a diode, a LED, a transistor and IC, a resistor and a capacitor from mixed collection of such items. 3. Use of multimeter to (i) identify base of transistor. (ii) distinguish between npn and pnp type transistors. (iii) see the unidirectional flow of current in case of a diode and a LED. (iv) check whether a given electronic component (e.g. diode, transistor or IC) is in working order. 4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab. 5. To observe polarization of light using two Polaroids. 6. To observe diffraction of light due to a thin slit. 7. To study the nature and size of the image formed by (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror). 8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses. Suggested Investigatory Projects 1. To investigate whether the energy of a simple pendulum is conserved. 2. To determine the radius of gyration about the centre of mass of a metre scale as a bar pendulum. 3. To investigate changes in the velocity of a body under the action of a constant force and determine its acceleration. 4. To compare effectiveness of different materials as insulators of heat. 5. To determine the wavelengths of laser beam by diffraction. 6. To study various factors on which the internal resistance/emf of a cell depends. 7. To construct a time-switch and study dependence of its time constant on various factors. 8. To study infrared radiations emitted by different sources using photo-transistor. 9. To compare

effectiveness of different materials as absorbers of sound. 10. To design an automatic traffic signal system using suitable combination of logic gates. 11. To study luminosity of various electric lamps of different powers and make. 12. To compare the Young's modulus of elasticity of different specimens of rubber and also draw their elastic hysteresis curve. 13. To study collision of two balls in two dimensions. 14. To study frequency response of : (i) a resistor, an inductor and a capacitor, (ii) RL circuit, (iii) RC circuit, (iv) LCR series circuit.

Unit I : Sets and Functions 1. Sets, 2. Relations and Functions, 3. Trigonometric Functions, Unit II : Algebra 4. Principles of Mathematical Induction, 5. Complex Numbers and Quadratic Equations, 6. Linear Inequalities, 7. Permutations and Combinations, 8. Binomial Theorem, 9. Sequences and Series, Unit III : Coordinate Geometry 10. Straight Lines, 11. Conic Sections, 12. Introduction to Three Dimensional Geometry, Unit IV : Calculus 13. Limits and Derivatives, Unit V : Mathematical Reasoning 14. Mathematical Reasoning, Unit VI : Statistics and Probability 15. Statistics, 16. Probability, Appendix : Value Based Questions (VBQ) Chapterwise Objective Type Questions

With the NEP 2020 and expansion of research and knowledge has changed the face of education to a great extent. In the Modern times, education is not just constricted to the lecture method but also includes a practical knowledge of certain subjects. This way of education helps a student to grasp the basic concepts and principles. Thus, trying to break the stereotype that subjects like Physics, Chemistry and Biology means studying lengthy formulas, complex structures, and handling complicated instruments, we are trying to make education easy, fun, and enjoyable.

Occupational Outlook Handbook

Practical/Laboratory Manual Chemistry Class XI based on NCERT guidelines by Dr. S. C. Rastogi & Er. Meera Goyal
Chemistry

ICSE-Lab Manual Physics-TB-10

College Physics

Lab Manual

Syllabus : Unit I : Some Basic Concepts of Chemistry, Unit II : Structure of Atom, Unit III : Classification of Elements and Periodicity in Properties, Unit IV

: Chemical Bonding and Molecular Structure, Unit V : States of Matter : Gases and Liquids, Unit VI : Chemical Thermodynamics, Unit VII : Equilibrium, Unit VIII : Redox Reactions, Unit IX : Hydrogen, Unit X : s-Block Elements (Alkali and Alkaline earth metals) Group 1 and Group 2 Elements, Unit XI : Some p-Block Elements General Introduction to p-Block Elements, Unit XII : Organic Chemistry—Some Basic Principles and Techniques, Unit XIII : Hydrocarbons Classification of Hydrocarbons, Unit XIV : Environmental Chemistry Content : 1. Some Basic Concepts of Chemistry, 2. Structure of Atom, 3. Classification of Elements and Periodicity in Properties, 4. Chemical Bonding and Molecular Structure, 5. States of Matter, 6. Thermodynamics, 7. Equilibrium, 8. Redox Reactions, 9. Hydrogen, 10. s-Block Elements 11. p-Block Elements, 12. Organic Chemistry—Some Basic Principles and Techniques 13. Hydrocarbons 14. Environmental Chemistry I. Appendix II. Log-antilog Table

Physics Lab Manual

Comprehensive Physics XI

The Tempest

Comprehensive Laboratory Manual in Biology XII

Comprehensive Practical Chemistry XII