CLASS XI PART 2 PHYSICS

Month	Name of the Unit / Chapter/Topic	Learning Outcomes	Suggested Activities/ Projects under Internal Assessment/PRACTICALS	Assignment	Assessment
APRIL+ JUNE	Units of measurement; systems of units; SI units, fundamental and derived units. significant figures. Dimensions of physical quantities, dimensional analysis and its applications.	Enumerates the International system of base and supplementary units. Estimates precise experimental results using significant figures and rounding off the final results. Identifies and applies the concept of dimensions, dimensional formulae and dimensional analysis techniques to write, validate and derive correct physical equations. Identifies and applies the concept of dimensions, dimensional formulae and dimensional analysis techniques to write, validate and derive correct physical equations.		MCQ NUMERICALS WORK SHEETS	PT1
JULY	Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy	Differentiates between rigid, elastic and plastic bodies. Explains elastic behaviour in solids. 0.Describes and explains different types of stresses and corresponding strains produced in a body. Describes elastic moduli of various bodies with different materials, elastic behaviours and shape. Explains and derives elastic potential energy stored in a stretched wire	EXP)To find the force constant of a helical spring by plotting a graph between load and extension.	PROJECTS ART INTEGRATED MODELS. WORK SHEET.	
AUGUST	Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, streamline and	Defines fluids and explains pressure experienced in fluids. Explains the effect of gravity on fluid pressure. Describes and explains hydraulic machines based		MCQ CBQ	

	turbulent flow, critical velocity, Bernoulli's theorem and its simple applications. Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.	on Pascal's law. Explains the properties, laws and mathematical equations followed during fluid flow. Explains the viscosity of fluids in terms of fluid friction. Explains surface tension as surface property of liquids only	EXP)To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body. ACT)To study the effect of detergent on surface tension of water by observing capillary rise. ACT)To note the change in level of liquid in a container on heating and interpret the observations.		
SEPTEMBER	Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law .	Explains and differentiates between heat and temperature of a body. xplains thermal expansion in substances and identifies linear, superficial and cubical expansions. Defines heat capacity and specific heat capacity of a substance and states its importance in amount of heat exchanged by a body to change its temperature. Explains the process of change of state and describes the heat	ACT)To observe and explain the effect of heating on a bi-metallic strip.	PROJECT WORK SHEET	TERM1

		exchanges during the process. xplains the mechanisms of heat transfers from one body to another through conduction, convection and radiation.			
OCTOBER	Thermal equilibrium and definition of temperature zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state -isothermal, adiabatic, reversible, irreversible, and cyclic processes	States and explains Zeroth law of thermodynamics. Describes and explains the three important thermodynamic variables as heat, internal energy and work done.States and explains first law of thermodynamics. Describes and explains specific heat capacity and molar specific heat of matter .States and explains second law of thermodynamics		WORK SHEET	
	Equation of state of a perfect gas, work done in compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of	s postulates and describes the properties of different states of matter. spostulates and describes the properties of different states of matter. States kinetic theory of gases and uses the theory to explain the pressure exerted by gas molecules and its temperature. .States and explains the law of equipartition of energies		WORK SHEET. CBQ	

	mean free path, Avogadro's number. concept of mean free path , Avogadro's number.	for gas molecules with varying degrees of freedom. Defines mean free path of gas molecules based on kinetic theory of gases			
NOVEMBER	time period, frequency, displacement as a function of time, periodic functions and their application. Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.	Describes periodic and oscillatory motion using common examples and states suitable equations of motion. States the equations governing the displacement, velocity and acceleration of a body in simple harmonic motion. Explains the energy and the force law of the body in SHM. dentifies few examples of bodies in SHM and derives their equations of motion and time period.		WORK SHEET CBQ	
DECEMBER & januar y	Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.	Describes the concept of wave motion with examples. Explains the characteristics of transverse and longitudinal wave motions with examples. 6.States the principle of superposition of mechanical waves and derives the equations of resultant wave. Describes the reflection of progressive waves from rigid and non rigid boundaries. Defines and explains standing waves produced due to reflection of waves by two boundaries. Demonstrates and explains the formation of beats due to superposition of sound waves of slightly different frequencies.	EXP)To study the relation between frequency and length of a given wire under constant tension . using Sonometer. EXP)To find the speed of sound in air at room temperature using a resonance tube by two resonance positions	WORK SHEET CBQ	PT2
februa ry	FULL SYLLABUS				FINAL EXAM