

Month / No of Working Days	Name of the Unit / Chapter/Topic	Learning Outcomes	Suggested Activities/ Projects under Internal Assessment/PRACTICALS	Assignment	Assessment
APRIL+JUNE	CH 7- MOTION/ Distance and displacement, uniform and non-uniform motion speed and velocity, Acceleration, distance-time and velocity-time graph, elementary idea of uniform circular motion.	Students will be able to- *Difference between (a)rest and motion, (b) Vector and Scalar, (c) speed and Velocity, *Concept of acceleration its types, Graphical representation of motion, *uniform circular motion.	Activities- #Individually students will ask to calculate distance and displacement when a person moves half round of basket-ball court. # They will ask to observe uniform and non-uniform motion of given object. # In groups they will ask to identify everyday life motions in different ranges. #Individually they will ask to show the distance travelled by two persons in same graph.	*What does the odometer of an automobile measures? *Under what conditions the magnitude of average velocity of an object equal to its average speed?	
JULY	CH 8 - FORCE AND LAWS OF MOTION/ Force its motion, Newton's laws of motion, action and reaction forces, Inertia of body, Inertia and mass, Momentum, Force and Acceleration.	Students will be able to- *Explain Force its types. Inertia and its dependence on mass. *Laws of motion and their everyday applications, *concept of momentum.	Activities- #Individually students will demonstrate inertia of rest with the help of a coin, glass tumbler and card. #In groups they will Displaying Inertia of motion with simple activity. #Individually students will demonstrate Concept of instantaneous force with an activity.	*Statements of three laws of motion. *Significance of Inertia, Momentum and their dependence. *Inter-relation of Force and Mass.	PT I Application of Newton's first and second laws of motion.

AUGUST + SEPTEMBER	CH 9- GRAVITATION/ Gravitation, Universal law of gravitation, Force of Gravitation of the Earth (gravity), free fall, acceleration due to gravity, its value, mass and weight, Free fall.	Students will be able to – *Understand universal law of Gravitation, *Free fall, *Factors on which value of g depends, *Relation between mass and weight.	Activities- #Students will ask to show direction of motion of a body in a circular motion. # Individual they will observe free fall of a stone. #Students will observe effect of acceleration due to gravity on freely falling body.	*State and prove Universal law of motion. *Explanation of free fall and acceleration due to gravity. *Factors on which 'g' depends. *Difference between mass and weight.	TERM I (PT II)
OCTOBER	CH 9- FLOATATION/ Thrust and Pressure, Archimedes' Principle, its applications, Buoyancy, relative density.	Students will be able to- *Differentiate Thrust and Pressure. *Understand Archimedes' principle and its practical utility. *Relative density and its significance. *Concept of unitless term.	Activities- #Individually students will show concept of Buoyancy/Upthrust via immersing empty water bottle in the bucket #In group students will observe principle of floatation with the use of cork, iron nail and a beaker filled with water. EXP-(1) Determine the density of solid (denser than water) by using a spring balance and a measuring cylinder. EXP-(2) Establishing the relation between the loss in weight of a solid when fully immersed in –(a) Tap water, (b) Strongly salty water with the weight displaced by it by taking at least two different solids.	*Difference between Thrust and Pressure. *Statement of Archimedes' principle. *List important applications of Archimedes' principle. *Explain the term Relative Density. Write its SI unit. * What is the physical significance of Relative Density.	
NOVEMBER	CH-10 WORK AND ENERGY/ Work, work done by force a constant and variable force, Energy, different forms of energy, kinetic energy, its	Students will be able to- *Define work done by the body on the body. *Types of work done and their	Activities- #Individually students will identify either work done or not in different day-to-day situations, they will classify them as positive, negative and zero. #In group students will discuss sources of	*Deduce expression for work done by a variable and constant force. * Explain energy and	

	expression, potential energy, its expression, law of conservation of energy, rate of doing work (Power)	identification for given case. *Understand concept of Energy and their conversion from one form to another. *Use of energy transformation in different devices. * Deduce the relation of kinetic energy and potential energy.	energy and classify them. #Individually they will study energy associated with slinky, an arrow and the stretched string on the bow. # Group activity to discuss conversion of energy from one form of energy to another during many human activities and gadgets.	its various forms. *State law of conservation of energy. * Relation between Joule and erg. * Derive formula for Power, write its SI unit.	
DECEMBER + JANUARY	CH-11 SOUND/ Nature of sound, Production of sound, propagation of sound in various media, types of waves, characteristics of sound wave, speed of sound, reflection of sound, ECHO, Reverberation its uses and range of hearing, ultrasound, Infrasound, SONAR, Human Ear(Auditory aspect)	Students will be able to- *Explain production of sound, its propagation in different media. *Draw waves of different- (i) loudness (ii) pitch *Relation between amplitude, frequency and time-period. *Explain condition necessary for the production of ECHO. *Ways to reduce Reverberation. *Draw labelled diagram of Human Ear.	Activities- # Individually students demonstrate propagation of sound. #In group they generate Longitudinal wave in a slinky and they show compressions and rarefactions in it. #EXP- (3) Verification of laws of reflection of sound. (4) Determination of the speed of a pulse propagated through a stretched string/ slinky (helical spring)		PT III
FEBRUARY	FULL SYLLABUS				TERM II

ACADEMIC PLAN :2023-24
CARMEL CONVENT SR SEC SCHOOL ,RATANPUR,BHOPAL.

STD: IX
SUBJECT:PHYSICS

SIGNATURE OF THE SUBJECT COORDINATOR: Mrs Archna Talele