SANT NANDLAL SMRITI VIDYA MANDIR; GHATSILA

YEARLY SYLLABUS (2025-26)

SUBJECT - PHYSICS (SCIENCE)

CLASS - IX

Month	Working days	Topic	LABORATORY ACTIVITIE(S) /PROJECT(S)	LEARNING OUTCOME/ASSESSMENT	VALUES & SKILLS IMPARTED	ASSESSMENT
April	21	**1)** Motion Motion: uniform and non-uniform motion along a straight line Distance and displacement, velocity acceleration, Distance-time and velocity-time graphs for uniform motion and uniformly accelerated motion. REVISION and TEST	1. TO ESTABLISH RELATIONSHIP BETWEEN WEIGHT OF A RECTANGULAR WOODEN BLOCK LYING ON A HORIZONTAL TABLE AND THE MINIMUM FORCE REQUIRED TO JUST MOVE IT USING A SPRING BALANCE	The student will able to understand:- • Differentiate between scalar and vector quantities. • Illustrate that motion and rest are relative terms. • Differentiate between distance and displacement. • Differentiate between velocity and speed. • Identify changes in motion that produce acceleration. • Able to calculate speed, velocity and acceleration of an object, analytically, and graphically. • Classify acceleration as positive, negative, and zero. • Plot graph between different quantities. • Differentiate between uniform and non-uniform motion. TOPIC OF ASSESSMENT- 1.DESCRIBING OF DIFFERENT TYPES OF MOTION. 2. GRAPHICAL REPRESENTATION OF MPOTION.	Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project
May	9	Motion (contd...) Derivation of equations of motion by graphical method Elementary idea of uniform circular motion.		• Differentiate between uniformly and non uniformly accelerated motion. • Interpret distance-time graph, velocity-time graph, and explain the meaning of the slope.		Lab Activity Test Viva Project

				• Derive equations of motion with the help of velocity-time graph. • Analyse that uniform circular motion is an accelerated motion.		
June	11	2) Force and laws of Motion Force and Motion, Newton's Laws of Motion, Inertia of a body, Inertia and mass, Momentum. REVISION and TEST	2. TO VERIFY NEWTONS THIRD LAW OF MOTION USING SPRING BALANCE.	The student will able to understand:- • Pull or push acting on a body • Force can bring motion of a rested body. • Force can change direction of motion of a moving body • Force can change the shape of the body • Resultant force on a body experienced by balanced forces should be zero and no displacement in the body. • Definition of : Inertia of motion , inertia of rest and inertia of direction • F = ma • Quantity of motion of a body depends upon two factors 1.Mass 2.Velocity • P = mass x velocity • Recoiling of gun • Action force and reaction forces are equal and opposite • Momentum in system remains conserved • Textbook Numerical problems related to the topic. TOPIC OF ASSESSMENT- 1. NEWTONS LAWS OF MOTION 2.LAW OF CONSEVATION OF MOMENTUM.		Lab Activity Test Viva Project
July	26	Force and laws of Motion (contd..) Force and Acceleration. Newton's 2nd law of motion Elementary idea of conservation of Momentum, Action and Reaction forces.. Newton's 3rd law of motion REVISION and TEST			Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project
August	24	3) Gravitation Gravitation; Universal Law of Gravitation	3. TO DETERMINE THE DENSITY OF A SOLID (DENSER THAN WATER) BY	The student will able to understand:- • Calculate effects of gravitational force on planets		Lab Activity Test Viva

		Force of Gravitation of the earth (gravity), Acceleration due to Gravity; Mass and Weight; Free fall. REVISION and TEST	USING A SPRING BALANCE AND A MEASURING CYLINDER.	• Discuss the effects of weightlessness on the human body • Describe and demonstrate how objects in a state of free fall are accelerated by gravity at an equal rate • Define gravity as the force of attraction between two objects • Define free fall as the way an object moves when it is influenced by gravity only TOPIC OF ASSESSMENT- 1. UNIVERSAL LAW OF MOTION AND ITS GRAVITATIONS.		Project
Septemb er	21	Revision for half yearly HALF – YRARLY EXAMINATION				Lab Activity Test Viva Project
October	18	Gravitation - Floatation (contd...) Thrust and Pressure. Archimedes' Principle Buoyancy; Elementary idea of Relative Density. REVISION and TEST	4. TO ESTABLISH THE RELATION BETWEEN THE LOSS OF WEIGHT OF A SOLID WHEN FULLY IMMERSED IN a) TAP WATER b) STRONGLY SALINE WATER WITH THE WEIGHT OF WATER DISPLACED BY IT BY TAKING ATLEAST TWO DIFFERENT SOLIDS.	The student will able to understand:- • Students should be able to explain what is meant by density • Application of the concept of density to floating and sinking • Application of these key concepts to the environment and technology • Properties of matter • Students should be able to explain the conditions necessary for an object to float and will be able to make some general statements from the activities which they have engaged in on-line • Children will understand that an object which floats can be made to sink and vice versa • Children will note that an object which is buoyant is kept from sinking	Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project

				• Water has buoyancy that allows certain objects to float • Children may note that liquids are difficult to compress TOPIC OF ASSESSMENT- 1. UPTHRUST AND PRESSURE 2. RELATIVE DENSITY.		
November	23	4) Work, energy and power Work done by a Force Energy ,Kinetic and Potential energy Power REVISION and TEST	5. TO VERIFY THE LAWS OF REFLECTION OF SOUND.	The student will able to understand:- • Define energy and identify the different types that exist. • Define potential and kinetic energy. • Describe the role of engineering in finding and testing various energy sources for electricity production. • The student should be able to define work and identify its units. • The student should be able to predict whether a force is doing positive, negative or zero work. • The student should be able to define power and identify its units. • The student should be able to distinguish between work and power and calculate the power for physical situations. TOPIC OF ASSESSMENT- 1. CONCEPT OF WORK AND ITS TYPE. 2. TYPES OF ENERGY.	Development of scientific aptitude, experimental approach, Accuracy, drawing skills, problem solving skills. Development of competencies.	Lab Activity Test Viva Project
December	22	Sound(contd...) ultrasound; reflection of sound; echo and SONAR. Structure of the Human Ear (Auditory aspect only). Revision+ Sample paper discussion REVISION and TEST		The student will able to understand:- • Understand the production of sound. • Explain the propagation of sound in a medium. • Analyse the properties of sound. • Explain the wave nature of sound. • Know about the mechanism of hearing. • Discuss about noise pollution and		Lab Activity Test Viva Project

				the ways to control it. TOPIC OF ASSESSMENT- 1. LAWS OF REFLECTION OF SOUND. 2.CHARACTERISTICS OF SOUND.		
January	22	Revision+ Sample paper discussion REVISION and TEST	PRACTICAL EXAMINATION			Lab Activity Test Viva Project
February	22	Final/Terminal Examination				

Subject Teacher : Gurbax Singh Sokhey **Principal**