

**ARMY PUBLIC SCHOOL, MUMBAI (2019-2020)****STANDARD CURRICULUM****CLASS:XI****SUB: PHYSICS**

<b><u>S.NO</u></b>	<b><u>MONTH</u></b>	<b><u>CHAPTER NAME</u></b>	<b><u>CORE VALUE / VALUES AND SKILLS</u></b>	<b><u>METHODO LOGY</u></b>	<b><u>LEARNING OUTCOMES</u></b>
1.	June	1. Physical world	Team work  Global outlook and scientific skill	Self awareness	Student was able to  <ul style="list-style-type: none"><li>• Explain the various laws of nature.</li><li>• Relate physics with various aspects of nature and society.</li></ul>
2.	July	2. Units and measurements  3. Motion in a straight line	Environmental awareness Scientific attitude and problem solving skills	Classroom discussion and practice of numericals	Student was able to  <ul style="list-style-type: none"><li>• Understand the need of measurement.</li><li>• Develop relationship between various units of measurement.</li><li>• Understand difference between accuracy and precision.</li><li>• Find errors and significant figures in a measurement.</li><li>• Define the various terms related to motion in a straight line.</li><li>• Able to derive the equations of motion and solve numericals using it.</li></ul>
3.	August	4. Motion in a plane 5.Laws of motion	Patriotism and nationalism Dependability and responsibility, critical and logical thinking	Classroom discussion and practice of numericals	Student was able to  <ul style="list-style-type: none"><li>• Differentiate between scalar and vector quantities.</li><li>• Solve numericals based on scalar and dot product.</li><li>• Differentiate between uniform and non uniform velocity and acceleration.</li><li>• Solve numericals on projectile motion.</li><li>• State and derive Newton's laws of motion</li><li>• Explain the law of conservation of energy and solve numericals based on it.</li><li>• Differentiate and derive</li></ul>

					<p>relationship between the various types of friction.</p> <ul style="list-style-type: none"> <li>• Explain uniform circular motion.</li> </ul>
4.	September	6. Work, energy and power	<p>Discipline and diligence Scientific attitude and problem solving skills Dependability and responsibility, critical and logical thinking</p>	Classroom discussion and practice of numericals	<p>Student was able to</p> <ul style="list-style-type: none"> <li>• Understand the concept of work done by a force.</li> <li>• Derive equations of Kinetic and potential energy.</li> <li>• Differentiate between conservative and non conservative forces.</li> <li>• Solve numericals on elastic and inelastic collisions.</li> </ul>
5.	October	7. Gravitation 8. Mechanical properties of solids	<p>Diversity and togetherness Dependability and responsibility, scientific attitude, problem solving attitude</p>	Environmental awareness and practice of numericals	<p>Students was able to</p> <ul style="list-style-type: none"> <li>• Describe Kepler's law of planetary motion and universal law of gravitation.</li> <li>• Explain the variation of acceleration due to gravity at a height and depth.</li> <li>• Derive and solve numericals based on the energy and velocities of the satellite.</li> <li>• Explain stress and strain relationship and Hooke's law.</li> <li>• Describe various modulus of rigidity and elastic energy.</li> </ul>
6.	November	9. Mechanical properties of fluids 10. Thermal properties of matter 11. Thermodynamics	<p>Gender sensitivity Dependability and responsibility, scientific attitude, problem solving attitude</p>	Environmental awareness and practice of numericals	<p>Student was able to</p> <ul style="list-style-type: none"> <li>• Explain Pascal's law and its application.</li> <li>• Describe the effect of gravity on fluid pressure.</li> <li>• Define viscosity and terminal velocity.</li> <li>• State stoke's law and differentiate between streamline and turbulent flow.</li> <li>• Describe Bernoulli's theorem and its applications.</li> <li>• Explain the various surface phenomena of liquid and terms related to it.</li> <li>• Explain thermal expansion of solid, liquid and gases.</li> <li>• Explain specific heat capacity and latent heat capacity.</li> <li>• Describe the various modes</li> </ul>

					<p>of heat transfer and conductivity.</p> <ul style="list-style-type: none"> <li>• State and explain blackbody radiation, wien's displacement law, stefan's law and the greenhouse effect.</li> <li>• State Zeroth law of thermodynamics and laws of thermodynamics.</li> <li>• Explain isothermal and adiabatic processes and reversible and irreversible processes.</li> <li>• Explain the working of heat engine and refrigerator.</li> </ul>
7.	December	12.Kinetic theory of gases 13.Oscillations	Perseverance	Classroom discussion and practice of numericals	<p>Student was able to</p> <ul style="list-style-type: none"> <li>• State perfect gas equation and explain for work done on gas.</li> <li>• Derive expressions for rms speed and mean free path of gas molecules and application to specific heat capacities of gases.</li> <li>• Describe periodic motion and its characteristics.</li> <li>• Explain SHM and its applications.</li> <li>• Derive expressions of energies of SHM.</li> <li>• Differentiate between types of oscillations.</li> </ul>
8.	January	14.Waves	Effective communication	Experiments in lab and classroom discussion	<p>Student was able to</p> <ul style="list-style-type: none"> <li>• Differentiate between transverse and longitudinal waves.</li> <li>• Explain the principle of superposition of waves and its reflection.</li> <li>• Explain fundamental mode and harmonics.</li> <li>• Describe Doppler's effect and solve numericals.</li> </ul>