



Physics (Class XI)
(2023-24)

DURATION	SYLLABUS COVERED	SYLLABUS TESTED	SUBJECT ENRICHMENT/PRACTICAL	LEARNING OBJECTIVE	RESOURCES	SDG
PT 1 (APRIL-MAY)	Ch 2-Units and measurements Ch3- Motion in a straight line	Ch 2-Units and measurements Ch3- Motion in a straight line (08.05.23)	1.To measure diameter of a small spherical body using Vernier Callipers 2.To measure diameter of a small cube using Vernier Callipers 3.To measure diameter of a small cylindrical body using Vernier Callipers 4.To measure internal volume of a beaker using Vernier Callipers	1.To differentiate between fundamental and derived units. 2.To summarise applications of dimensional analysis. 1.To ascertain the concepts of distance, displacement, speed and velocity, acceleration 2.To know the idea of vector calculus (differentiation and integration) 3.To obtain —equation of motion for a uniformly accelerated body and apply them in solving various numericals.	NCERT CLASS 11 PHYSICS https://youtu.be/VRW0f0XUU8 https://youtu.be/pZt357pk-I https://youtu.be/Pj8Zh0A-uLU	Quality education Good health and well being

	Ch 4. Motion in a plane			1.To comprehend laws of vector addition.(triangle law and parallelogram law) 3.Deduce expression for a projectile fired at an angle with the horizontal and its numericals		
	Ch 9 - Mechanic al properties of solids			1.To deduce the expressions for various types of modulus of elasticity. 2.To draw stress vs strain graph and hence identify ductile and brittle materials.		
	Ch 13- Kinetic theory of gases			1. State Ideal gas equation 2.Write the assumptions of kinetic theory of gases 3..Derive an expression for pressure exerted by an ideal gas. 4..Law of equipartition of energy.		
FIR T TER M		Ch 2-Units and measurements Ch3- Motion in a straight line Ch 4. Motion in a plane Ch 9 - Mechanical properties of solids				

	Ch 7- System of particles and rotational motion			<p>1. Define center of mass and deduce expression for center of mass for two particle system</p> <p>2. Obtain expression for Torque and angular momentum in cartesian coordinates.</p> <p>3. State the law of angular momentum and apply in various real life applications</p> <p>4. To define moment of inertia and obtain values of moment of inertia for simple geometric objects.</p>		
HALF YEARLY		<p>Ch 2-Units and measurements</p> <p>Ch3- Motion in a straight line</p> <p>Ch 4. Motion in a plane</p> <p>Ch 9 - Mechanical properties of solids</p> <p>Ch 13- Kinetic theory of gases</p> <p>Ch 5- Laws of motion</p> <p>Ch 6- Work energy and power</p> <p>Ch 7- System of particles and rotational motion</p>				
Pt3 (Oct-Dec)	Ch 8- Gravitation	<p>Ch 8- Gravitation</p> <p>Ch 10- Mechanical properties of fluids</p> <p>(29.11.23)</p>	<p>8. To find the force constant of a helical spring by plotting a graph between load and extension</p> <p>9. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.</p> <p>10.. To find the downward force, along an inclined</p>	<p>1. State Newton's law of gravitation</p> <p>2. Deduce expression variation of g with height and depth</p> <p>3. To define gravitational field intensity and deduce expression for gravitational potential and potential energy</p> <p>4. To obtain expression for escape velocity and various parameters</p>	<p>https://youtu.be/1yBwWLunIOM</p> <p>https://youtu.be/UJ3-Zm1wbIQ</p> <p>https://youtu.be/4Sppoaw00rM</p>	Sustainable cities and communities.

	<p>Ch 10- Mechanical properties of fluids</p>		<p>plane, acting on a roller due to the gravitational pull of the earth and study its relationship with the angle of inclination θ by plotting a graph between force and $\sin \theta$.</p> <p>11.To study the relation between frequency and length of a given wire under constant tension using sonometer.</p> <p>12.To determine radius of curvature of a given spherical surface by a spherometer.</p>	<p>for launching a satellite.</p> <p>1. To make the learners analyse the concept of fluid dynamics and its application for our daily life.</p> <p>2.To obtain expression for pressure due to a fluid column, Pascal's law and its application hydraulic lift and Hydraulic brakes.</p> <p>3.To study effect of gravity on fluid pressure.</p> <p>4.Define viscosity derive terminal velocity find Reynolds number(streamline and turbulent flow)</p> <p>5.To Deduce expression for Bernoulli's theorem and discuss its application</p> <p>6.Explain surface energy and surface tension</p> <p>7.Obtain an expression for excess of pressure inside a soap bubble ,drop</p> <p>8.To obtain ascent formula (capillary rise)</p> <p>1.To make the learners to summarise the</p>	<p>https://youtu.be/MYwCwoCIMRY</p>	
	<p>Ch 12- Thermodynamics</p>					

	Ch 14- Oscillations			<p>concept of Thermodynamics and its different laws (first law of thermodynamics and second law)</p> <p>2.To explain the concept of internal energy and obtain expression for mayer's relation ‘</p> <p>3.To find work done in adiabatic and isothermal processes</p> <p>4.To find work done in a cyclic process using PV diagrams</p> <p>1.To make the learners ascertain the concept of SHM along with its different application and mathematical analysis and also to learn basics of oscillation and its types.</p> <p>2.Geometrical interpretation of SHM And to find velocity displacement acceleration Total energy frequency amplitude wavelength and time period</p> <p>3.To obtain an expression for time period of a simple pendulum.</p> <p>4.To find Spring constant of a spring and discuss different combination of a spring (series and parallel combination)</p>		
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	<p>Ch 15- Waves</p> <p>Ch -11 Thermal properties of matter</p>			<p>1.To make learners comprehend the concept of wave motion longitudinal and transverse wave 2. Speed of a wave motion, displacement relation for a progressive wave, 3.Principle of superposition of reflection of waves 4.standing waves and string and organ pipes ,fundamental modes and harmonics beats and its application</p> <p>1.To make the learners to comprehend the concept of heat transfer between the body and different methods conduction and thermal conductivity Convection and radiation 2.Qualitative ideas of heat ,temperature thermal expansion of solids, Liquids and gases ,specific heat capacity, change of state, Newton's law of cooling and Stefan's law</p>		
<p>PRE FINA LS/ ANN UAL S</p>		<p>Ch 2-Units and measurements Ch3- Motion in a straight line</p>				

		Ch 4. Motion in a plane Ch 9 - Mechanical properties of solids Ch 13- Kinetic theory of gases Ch 5- Laws of motion Ch 6- Work energy and power Ch 7- System of particles and rotational motion Ch 8- Gravitation Ch 10- Mechanical properties of fluids Ch 12-Thermodynamics Ch 14- Oscillations Ch 15- Waves Ch -11 Thermal properties of matter				
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Book prescribed: NCERT, S.L Arora

Laboratory manual: Arya publications