

Lecture Plan		
Name of the college: Govt College of Arts Science and commerce Sanquelim Goa		
Name of Faculty: Suvarna G Patil	Subject: Physics	
Paper code: PHY111	Program: FY BSc	Division: A
Academic year: 2025- 2026	Semester: II	Total Lectures: 60
<p><b>Course Objectives</b> This course aims to enhance the perception of physical concepts and develop deeper understanding of the world we interact with every day.</p>		
<p><b>Expected Course Outcome-</b> 1. Recall fundamental concepts in Physics and connect them in everyday life 2. Describe the fundamental concept to understand the physical phenomena happening around us. 3. Apply fundamental concepts in Physics to analyse these phenomena. 4. Correlate the concepts of Physics in other branches of science.</p>		

<b>Student Learning Outcome:</b> <b>Understanding basic physics more deeply</b>							
Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/Assignment	ICT Tools	Reference books
December	01/12/2025	6/12/2025	4	Exploring the laws of motion No. of Hours Newton's first law of Inertia, Net Force, the equilibrium rule, speed, velocity, Acceleration, how fast, friction, Mass and weight, Newtons second law of motion, when acceleration is $g$ , when acceleration is less than $g$ , Forces and interaction,	Solving question bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	8/12/2025	13/12/2025	4	Newton's third law of motion, Momentum, Impulse, Bouncing, conservation of momentum, collisions, work, Power, Potential, Kinetic energy, conservation of energy.	Solving question bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	15/12/2025	20/12/2025	4	Revision	Solving question	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed.,

					bank at the end of chapter		Pearson, 2015. Other reference Books
22/12/2025	23/12/2025			Revision Solving Problems	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
24/12/2025	1/01/2026			Christmas Vacation			P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
January	02/1/2026	3/01/2026		Physics of circular motion 7 Circular Motion, Rotational inertia, Torque, Center of mass and center of gravity, Centripetal force,	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	5/01/2026	10/01/2026		centripetal force, centrifugal force, Angular Momentum, conservation of angular momentum.,Wonders of	Solving questin bank at the	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books

				gravitational force Content: 6 5 The universal law of gravity, the universal gravitational constant, Inverse square law,	end of chapter		
	12/01/2026	17/01/2026		weight and weightlessness, ocean tides, black holes. Understanding Matter from solid to plasma Solids: Density, Elasticity, tension and compression, Scaling. Liquids: Pressure, Buoyancy, Flotation,	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	19/01/2026	24/01/2026		Archimedes principle, what makes object sink and float, Surface tension, Capillarity, Gases: The Atmosphere, atmospheric pressure, Barometers, Bernoulli's Principal, Plasma.	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	26/01/2026	31/01/2026		Dynamics of heat 6 Temperature, heat, specific heat Capacity, Thermal Expansion. Heat Transfer: Conduction,	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
Februvary	02/02/2026	07/02/2026		Convection and Radiation. Newtons law of cooling. The wonders of sound 6 Wave motion, wave speed, wave interference, Doppler Effect, Sound in air, forced vibrations, resonance,	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books

	09/02/2026	14/02/2026		interference, Beats, Music, Pitch, Sound intensity, Musical Instruments. Fun with Electricity and Magnetism Electricity: electric charges, Coulomb's law Conductors and Insulators, electric field,	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	16/02/2026	21/02/2026		electric energy storage, voltage sources, electrical Resistance, direct and alternating current, Electric power, Lamps. Magnetism: Magnetic poles, magnetic fields, Electric current and magnetic field,	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	23/02/2026	28/02/2026		Electromagnets, Faraday's law, Electric Motors, Electric Generators, Power Production, Transformers. The Magic of Light 8 Electromagnetic wave, Electromagnetic spectrum, transparent materials, opaque materials,	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
March	02/03/2026	07/03/2026		<b>shadows, Seeing Light, colour, selective reflection, selective transmission, mixing coloured light, natural phenomenon like why sky is blue? Why Sunsets Are Red? Why Clouds Are</b>	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books

				<b>White? Why Water Is Greenish Blue? Reflection, Refraction,</b>			
	09/03/2026	14/03/2026		Dispersion and Rainbows, total internal reflection, Lenses and Mirrors. Unlocking secrets of an atom 7 Quantization of energy, wave particle duality, complementarity, predictability and chaos. Bohr Model of the atom, concept of electron waves, Schrodinger's wave equation.	Solving questin bank at the end of chapter	Smart Board	P. G. Hewitt, Conceptual physics, 12th ed., Pearson, 2015. Other reference Books
	16/03/2026	21/03/2026		X-ray and radioactivity, alpha, beta and gamma rays, environmental radiation, doses of radiation, radioactive traces, The atomic nucleus and the strong force, transmutation of elements, radioactive half-life.	Solving questin bank at the end of chapter	Smart Board	
	23/03/2026	28/03/2026		Problem Solving			
	30/03/26	31/03/2026		Revision			

**\* Assessment Rubrics**

Component	Max Marks
ISA 1	10
ISA 2	10
ISA 3	10
Semester End Exam	80



