KASIDIH HIGH SCHOOL – A Unit of JEM Foundation

SYLLABUS PLAN FOR YEAR 2010-11

Subject:- Physics Std:-XI A/B

Sl No	Name of Chapters	Topics	No. of periods required Chapters
01.	Physical World and	Physics – Scope and excite;nature	
	Measurement	Physical laws; Physics ,technology	
		and society	
		• Need for measurement	01
		• Fundamental and derived units	01
		• Errors in measurement	02
		• Significant figures	01
		• Dimensions of physical quantities	02
		• Dimensions analysis and its application.	03
02.	Kinematics	• Frame of reference.	
		• Motion in a straight line	03
		• Position –time graph , speed and	02
		velocity	02
		• Uniform and non-uniform velocity	02
		• Average speed and velocity	02
		• Uniformly accelerated motion	02
		• Velocity-time ,position –time graphs	03
		• Scalar and velocity quantities	02
		• Position and displacement	02
		vectors	02
		• Relative velocity	03
		• Motion in a plane	03
		• Projectile motion	
		• Uniform circular motion	3
		• Multiplication of vectors by real no	02
03.	Laws of motion	• Inertia	
		• Newton’s first law of motion	02
		• Newton’s second law of motion	02
		• Impulse	02
		• Newton’s third law of motion	01
		• Law of conservation of linear	01

		momentum	03
		• Laws of friction	04
		• Centripetal force	03
			04
04.	Work, Energy and	• Kinetic energy , Work, Power , Energy	02
	Power	• Work –energy thermo	02
		• Conservation of mechanical energy	08
		• Elastic and inelastic collision in one	
		and two dimensions	
05.	Motion of system of	• Momentum Conservation	02
	Particle and Rigid	• Vector product of vectors	02
	body	• Torque	02
		• Angular momentum	02
		• Moment of inertia	10
		• Radius of gyration	
		• Parallel and perpendicular axes theorem	
06.	Gravitation	• Keplar's law of planetary	01
		• Universal law of gravitation	02
		• Gravitational potential energy	03
		• Escape velocity	02
		• Orbital velocity of a satellite	03
		• Geo-stationary satellites	03
07.	Properties of Bulk	• Stress –strain relationship	
	Motion	• Hook's law	09
		• Young's modulus	
		• Bulk modulus	
		• modulus of rigidity	
		• Pascal's law and its application	
		• Viscosity	04
		• Stoke's law	
		• Steamline and turbulent flow	02
		• Bernulli's theorem and its application	
		• Surface tension	06
		• Thermal expansion	03
		• Heat Transfer	04
		• Newton's law of cooling	
08.	Thermodynamics	• Thermal equilibrium	07
		• First law of thermodynamics	
		• Second law of thermodynamics	02
		• Heat engines	03
		• Refrigerators	02

			05
09.	Behavior of Perfect	• Equation of gas	
	Gas and Kinetic theory	• Kinetic theory of gases	03
		• rms speed of gas molecules	
		• Law of equipartition of energy	
		• Concept of mean free path	
		• Avogrado's number	
10.	Oscillation and Waves	• Periodic motion	
		• Periodic functions	02
		• Simple Harmonic Motion and its	02
		Equation	01
		• Restoring forces and force constant	05
		• Energy in SHM-Kinetic and potential	
		energy	04
		• Simple pendulum	
		• Free , forced and damped oscillation	02
		• Resonance	03
		• Wave motion	02
		• Longitudinal and transverse waves	
		• Speed of wave motion	03
		• Displacement relation for a progressive	
		Wave	04
		• Principle and Superosition of waves	
		• Reflection of waves	
		• Standing waves in strings and organ	05
		Pipes	
		• Fundamental made and harmonics	
		• Beats	
		• Dopples effects	