PHYSICS SCHEME
CLASS: SS2

SN	TOPICS	TOPIC ANALYSIS
1	Scalars and vectors	The concept of scalars and vectors, vector representation, addition & subtraction of vectors resolution of vectors.
2	Motion	Speed, velocity and acceleration, velocity-time graph, equations of uniformly accelerated motion. Motion under gravity.
		Motion under gravity and calculations
3	PROJECTILES	Motion of projectiles time of flight, Range maximum height
		Calculations involving projectiles, useful analysis
4	EQUILIBRIUM OF FORCE	The concept of equilibrium, resultant and equilibriant force, Equilibrium of three forces acting at a point
		Moment of a force, calculation of motions, conditions of equilibrium of parallel coplanar forces couples, conditions of equilibrium under the action of non-parallel coplanar forces centre of gravity
		Stability of objects equilibrium of bodies in

		liquids, floatation, density and relative density, measurement of density and relative density, the hydrometer

5	Simple Harmonic Motion (SHM)	Definition, relationship between simple harmonic motion and circular motion, speed and acceleration of SHM
6		Period, frequency of SHM. Energy of a SHM. Force vibration and resonance
7	LINEAR MOMENTUM	Impulse and momentum, inertia, Newton 1st law of motion, second law, third law
8	Conservation of linear momentum	Conservation of linear momentum, collision theory. Application of Newton's and conservation of momentum laws: Recoil of a sun, Jet and rocket propulsion, inertial mass and weight lift syptans weightlessness
9	MECHANICAL ENERGY	Work, Energy and power, conservation of mechanical energy machines; velocity ratio mechanical advantage; efficiency etc.
10	TEMPERATURE & ITS MEASUREMENT	Heat and temperature, methods of measuring

		temperature, upper and lower fixed point, types of thermometer, molecular explanation of temperature calculations involving therometers.
11	MEASUREMENT OF HEAT ENERGY	Specific heat capacity, experiment to measure, the specific heat capacity of a solid by electrical method and other various experiments.
12	CONTINUATION OF HEAT MEASUREMENT	Change of state: latent heat, latent Heat, expansion and contraction in fusion, effects of premre and impurities on freezing point latent heat & vaporization, evaporization, boiling etc.

13	Gas laws	Measurement of gas pressure, the barometer and their practical uses, Boyles law and its applications, experiment to demonstrate Boyles law.

		Charles laws and its applications, experimental verification of Charles law. Cubic expansirity of a gas; thermodynamic temperature, Gay-Lussace's law. Air pressure in an automobile tyre. The general gas law. Kinetic molecular theory of gases
14	WAVES	Introduction, basic concepts, production of mechanical waves, wave fronts transverse and longitude wave description of waves and mathematical relationship. Properties of waves etc.
15	Reflection of light waves	Sources of light, transmission of light, rays and beams of light, rectilinear propagation of light, shadows, the pin-hole camera, magnification produced by a pin-hole camera, reflection of light at a plane-surface laws of reflection.
		Principle of reversibility of light, image formation by plane mirrors: virtual image and real image, parallax, lateral inversion, images formed by inclined mirrors, reflection of light by

		curved mirrors. Calculations etc.
16	Refraction of light waves	Definitions, refraction through rectangular slan block, laws of refraction, real and apparent depth total internal reflection, critical angle and refraction index, refraction though triangular slaw prisms, dispersion of white light, colours of object, refraction of light through lenses
17	LIGHT WAVES	Formation of images by lenses, construction of ray diagrams, diverging anf concave lens, lens formular and sign conversion, simple camera and projector, the human eye, Accomodation, binocular vision, Normal vision and the defects of vision. Micros copes and telescopes
18	SOUND WAVES	Production and transmission of sound, propagation of sound wave in air, velocity of sound wave reflection of sound: echoes and applications characteristic of sound Noise and music, forced vibration, vibrations in strings and pipes

		vibration in closed and open pipes.
		Definition, mechanical waves, electromagnetic waves, types of radiation, uses of electromagnetic waves.