Discipline: MATHEMATICS & SCIENCE DEPARTMENT.	Semester: 1st	Name of the Teaching Faculty: MISS. RENU EKKA
Subject: PHYSICS	No. of Days/per week class allotted:	Semester From Date: 16/08/2023 To Date:11/12/2023 No. of Weeks 15
Week	Class Day	Theory/Practical Topics
1st	01	UNIT -1. Physical quantities-(Definition) , Definition of fundamental and derived units (FPS, CGS, MKS, Ana SI units).
	02	Definition of dimension and dimensional formulae of physical quantities.
	03	Dimensional equations and Principle of homogeneity, Checking the dimensional and correctness of Physical relations.
	04	UNIT-2. Scalar and Vector quantities (definition and concept), Representation of a Vector- examples , types of vectors.
2nd	01	Traingle Ana Parallelogram law of vectors addition (statement only) simple numerical. Resolution of vectors-simple numericals on Horizontal and Vertical components.
	02	Vector multiplication (scalar product and Vector product on vectors)
	03	UNIT-3. Kinematics-Concept of Rest and Motion. Displacement, speed, Velocity, Acceleration & Force(Definition, formula, dimension & S.I Units).
	04	Equation of motion under gravity(upward & downward motion)- no deivation
3rd	01	Circular motion: Angular displacement, Angular velocity, Angular acceleration (definition, formula, S.I Units).
	02	Relation between :(i)Linear and Angular velocity (ii) Linear and Angular acceleration. Define projectile with example.
	03	Expression of equation of trajectory, Time of flight, Maximum height
	04	Horizontal range for a projectile fired at an angle, Condition for maximum horizontal range.
4th	01	UNIT-4 Work- definition , formula & S.I Unit. Friction- Definition & concept
	02	Types of friction(static & dynamic) Limiting friction(Definition & concept).
	03	Laws of Limiting friction- only statement.
	04	Coefficient of Friction- Definition & Formula, Simple numericals.
5th	01	Methods to reduce friction
	02	UNIT-5. Newton's Laws of Gravitation- Statement & Explanation.
	03	Universal Gravitation Constant (G)- Definition, Unit & Dimension.
	04	Acceleration due to gravity(g)- Definition & Concept.
6th	01	Definition of mass and weight. Relation between g and G.
	02	Variation of g with altitude and depth (only explanation without derivation).
		Kepler's Laws of Planetary Motion (Statement only)

	03	UNIT-6. Simple Harmonic Motion(SHM)- Definition & Examples. Expression (Formula/Equation) for displacement, velocity, acceleration of a body/ particle in SHM.
	04	Wave Motion- Definition & Concept .
7th	01	Transverse and Longitudinal wave Motion- Definition, Example & comparison.
	02	Definition of different wave parameters (Amplitude, Wavelength, Frequency, Time Period.
	03	Derivation of Relation between velocity, frequency and wavelength of a wave.
	04	Ultrasonic- Definition, Properties & Applications.
8th	01	UNIT-7. Heat and Temperature- Definition & Difference. Units of Heat (FPS MKS CGS & SI).
	02	Specific Heat (Concept), Latent Heat (concept, definition, unit, dimension & simple numerical). Change of state (concept), Latent Heat (concept, definition, unit, dimension and simple numerical).Thermal Expansion- Definition & Concep hit.
	03	Expansion of solids(concept). Coefficient of linear, superficial and cubical expansions of solids- Definition & Units.
	04	Relation between
9th	01	Work and Heat- Concept & Relation.
	02	Joule's Mechanical Equivalent of Heat (Definition, Unit).
	03	First Law of Thermodynamics (Statement and concept only).
	04	UNIT-8. Reflection & Refraction- Definition. Laws of reflection and refraction (Statement only).
10th	01	Refractive index - Definition, Formula & Simple numerical. Critical angle
	02	Total internal reflection - Concept, definition & Explanation.
	03	
	04	Refraction through Prism (Ray Diagram & Formula only- No derivation). Fiber Optics- Definition, Properties & Applications.
11th	01	UNIT-9. Electrostatics- Definition & Concept. Statement & Explanation of Coulomb's laws, Definition of Unit charge.
	02	Absolute & Relative Permittivty ()- Definition, Relation & Unit. Electric potential and Electric potential difference (Definition, Formula & SI Units).
	03	Electric field, Electric field intensity (E)- Definition, Formula & Unit. Capacitance- Definition, formula & unit.
	04	Series & Parallel combination of Capacitors (Formula for effective/ combined/total capacitance & Simple numericals).
12th	01	Magnet, Properties of a magnet. Coulomb's laws in magnetism- Statement & Explanation, Unit Pole(Definition).
	02	Magnetic field, Magnetic Field intensity (H) - (Definition, Formula & S.I unit). Magnetic lines of force (Definition & Properties).
	03	Magnetic Flux () & Magnetic Flux Density (B)- Definition, Formula & Unit.

	04	UNIT- 10. Electric current- Definition, Formula & SI Units.
13th	01	Ohm's law and it's applications.
	02	Series and parallel combination of resistors.
	03	Formula for effective/ combined/total resistance & simple numerical for series and parallel combination of resistors.
	04	Kirchoff's laws (Statement & Explanation with diagram).
14th	01	Application of kirchoff's laws to Wheatstone bridge - Balanced condition of Wheatstone's Bridge - Condition of Balance(Equation).
	02	UNIT- 11. Electromagnetism - Definition & Concept.
	03	Force acting on a current carrying conductor placed in a uniform magnetic field , Fleming's Left Hand Rule.
	04	Fleming's Right Hand Rule.
15th	01	Faraday's Laws of Electromagnetic Induction (Statement only). Lenz's Law (statement).
	02	Comparison between Fleming's Right Hand Rule & Fleming's Left Hand Rule.
	03	UNIT-12. LASER & Laser beam (Concept & Definition).
	04	Principle of LASER (Population Inversion & Optical Pumping). Properties & Application of LASER.
	05	Wireless Transmission - Ground Waves, Sky Waves, Space Waves (Concept & Definition).