N.C. JINDAL PUBLIC SCHOOL						
PUNJABI BAGH, NEW DELHI						
ANNUAL CURRICULUM (2022-2023)						
Class : XII	**Subject:-PHY**	**Subject Teacher (Prepared By): NAVIN KUMAR TRIPATHI**			**Designation : P G T**	
Academic Book	**Chapter Nam**	**Chapter Topic / Sub Topic**	**Term**	**Start Date**	**End Date**	**No. of Periods**
PHYSICS TEXT BOOK NCERTPART -1 and 2	**Electric Charges and Fields**	Electric charges, Conservation of charge, Coulomb's law-force between two-point charges, multiple charges, superposition principle	1	1/4/2022	2/4/2022	2
		Coulomb's law-force between two-point charges, multiple charges, superposition principle.and continuous charge distribution.Electric field, electric field due to a point charge		4/4/2022	8/4/2022	4
		Electric field. Electric flux, statement of Gauss's theorem and applications (sheet, wire and conducting pherical shell)		11/4/2022	16/4/2022	4
	Electrostatic Potential and capacitance	Electric potential, potential difference.electric potential due to a point charge.		18/4/2022	22/4/2022	4
		a dipole and system of charges; equipotential surfaces.electrical potential energy of a system of two-point charges.and of electric dipole in an electrostatic field.Conductors and insulators, free charges and boundcharges inside a conductor		25/4/2022	30/4/2022	5
		.Dielectrics and electric polarization.capacitors and capacitance,combination of capacitors in series and in parallel .capacitance of a parallel plate capacitor without dielectric medium and energy stored		2/5/2022	6/5/2022	5
	Current Electricity	Electric current, flow of electric charges in a metallic conductor,drift velocity, mobility		9/5/2022	14/5/22	4
		Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power.electrical resistivity and conductivity, temperature dependence of resistance,		1/7/2022	2/7/2022	2
		Internal resistance of a cell, potential difference and emf of a cell,		4/7/2022	8/7/2022	5

	Moving Charges and Magnetism	combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge		11/7/2022	16/7/2022	5
		Concept of magnetic field, Oersted's experiment.Biot - Savart law and its application to current.carrying circular loop.Ampere's law and its applications to infinitely long straight wire.Straight solenoid (only qualitative treatment),		18/7/22	22/722	5
		force on a moving charge in uniform magnetic and electric fields.Force on a current-carrying conductor in a uniform magnetic field.force between two parallel currentcarrying conductors-definition of ampere , torque experienced by a current loop in uniform magnetic field		25/7/22	30/722	5
		Current loop as a magnetic dipole and its magnetic dipole moment,moving coil galvanometer, its current sensitivity and conversion to ammeter and voltmeter		1/8/2022	5/8/2022	5

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Academic Book	**Chapter Name**	**Chapter Topic / Sub Topic**	**Trem**	**Start Date**	**End Date**	**No. of Periods**
PHYSICS TEXT BOOK NCERT PART -1 AND 2	Magnetism and Matter	Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only)magnetic field intensity due to a magnetic dipole (bar magnet) along its axis.and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole(bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines.Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examplesMagnetization of materials, effect of temperature on magnetic properties.	1	8/8/2022	20/8/2022	7
	Electromagnetic Induction	Electromagnetic Induction,Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction.		22/8/2022	23/8/2022	2
	Alternating Current	Alternating currents, peak and RMS value of alternating current/voltage reactance and impedance; LCR series circuit (phasors only),resonance, power in AC circuits, power factor, wattless current.AC generator, Transformer.		24/8/2022	31/8/2022	8
	Electromagnetic Waves	Basic idea of displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.	Trem - 2	1/9/2022	2/9/2022	2

	Ray Optics and Optical Instruments	.Reflection of light, spherical mirrors, mirror formula, refraction of light,total internal reflection and optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker’s formula, magnification, power of a lens,combination of thin lenses in contact, refraction of light through a prism.Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers		5/9/2022	15/9/2022	10
	Wave Optics	Wave front and Huygen’s principle, reflection and refraction of plane wave at a. plane surface using wave fronts.Proof of laws of reflection and refraction using Huygen’s principle. Interference,Young's double slit experiment,expression for fringe width coherent sources and sustained interference of light,diffraction due to a single slit, width of central maxima		6/10/2022	15/10/2022	6

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Academic Book	**Chapter Name**	**Chapter Topic / Sub Topic**	**term 2**	**Start Date**	**End Date**	**No. of Periods**
PHYSICS TEXT BOOK NCERT PART -1 and 2	Dual Nature of Radiation and Matter	Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light.Experimental study of photoelectric effect.Matter waves-wave nature of particles, de-Broglie relation		17/10/2022	19/10/2022	3
	Atoms	Alpha-particle scattering experiment; Rutherford's model of atom.Bohr model of hydrogen atom,Expression for radius of nth possible orbit, velocity and energy of electron in his orbit, of hydrogen line spectra (qualitative treatment only).		20/10/2022	27/10/2022	3
	Nuclei	Composition and size of nucleus, nuclear force.Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number.nuclear fission, nuclear fusion		28/10/2022	31/10/2022	3
	Semiconductor Electronics: Materials, Devices and Simple Circuits	Energy bands in conductors, semiconductors and insulators (qualitative ideas only).Intrinsic and extrinsic semiconductors- p and n type, p-n junction Semiconductor diode - I-V characteristics in forward and reverse bias, application of junction diode -diode as a rectifier.		1/11/2022	9/11/2022	7
		Revision				
		Prepared by NAVIN KUMAR TRIPATHI				

		Subject Coordinator Name : MRS MENKA GARG				

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Periodic Test/Half Yearly/Annual Marking Scheme : 2022-2023			
Class :	**XII**	**Subject : PHYSICS**	
S.No.	**PT/Half Yearly/Pre Board**	**Chapter / Topic**	**Max. Marks**
1	PT-1	1 Electric Charges and Fields	20
		2.Electrostatic Potential and Capacitance	
		3.Current Electricity	
2	HALF YEARLY/ TERM -1		70
		1 Electric Charges and Fields	
		2.Electrostatic Potential and Capacitance	
		3.Current Electricity	
		4.Moving Charges and Magnetism	
		5.Magnetism and Matter	
		6.Electromagnetic Induction	
		7.Alternating Current	
3	PT-2	8.Electromagnetic wave	20
		9.Ray Optics and Optical Instruments	
		10.Wave Optics	
4	PREBOARD EXAM	including term 1 , PT2 syllabus 11.Dual Nature of Radiation and Matter 12. Atoms 13.Nuclei 14. Semiconductor Electronics: Materials, Devices and Simple Circuits	70
	PRACTICAL EXAM	Two experiments one from each section 7+7 Marks	30
		Practical record [experiments and activities] 5 Marks	
		One activity from any s 3 Marks	
		Investigatory Project 3 Marks	
		Viva on experiments, activities and project 5 Marks	