ACADEMIC PLANNER FOR CLASS XII; Physics.(2019-2020)				
Date / Day	**chapter/contents**	**mode of assesment**	**cw/hw**	**experiments/lab activity**
April	**(Chapter 1)Electric charges and fields**			
1--15	Introduction			
(11 days)	Electric charges		Cw:NCERT numericals(examples and conceptual questions)	
	Conductor and Insulator			To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.
	Charging by induction		Hw: Assignment of electrostatics	
	Basic properties of electric charges			
	Coulomb'law			
	Forces between multiple charges			
	Electric field			
	Electric field lines			
	Electric flux			To assemble components of given electric circuit
	Electric dipole			
	Dipole in uniform electric field			
	Continuous charge distribution	Test of electrostatics -i (based on conceptual question and numericals)		
	Gauss's law			
	Application of gauss's law			
	(Chapter 2)Electrostatic potential and capacitance			
	Introduction			
	Potential due to an electric dipole			To draw the diagram of open circuit .
	Equipotential surfaces			To find resistance of a given wire using meter bridge hence determine the specific resistance of its material.

	Potential energy due to system of charges			hence determine the specific resistance of its material
	Electrostatic of conductors	Class test -ii, test of electrostatics-ii(Derivation & numerical based)		
	Dielectric and polarisation			
April	**Capacitor and Capacitance**			To verify the laws of combination of resistance
(16-30)	The parallel plate capacitor			
(11 days)	Effect of dielectric on capacitance			
		REVISION		
		Gauss's law		
		Equipotential surfaces		Demonstration of van de graaf
		The parallel plate capacitor		
	(Chapter 3)			
	Current electricity		Cw:N.C.E.R.T. examples & questions will be done	
	Introduction			
	Electric current		Hw:N.C.E.R.T questions	
	Electric currents in conductors			
	Ohm's law			
	Drift velocity and mobility	Test of currentelectricity		
	V-I characterstics (linear & non linear)	M.C.Q.based on numericals related to electricity		
	Resistivity and conductivity			
	Temperature dependence of resistivity			
	Colour coding			To find internal resistance of a primary cell.
	Combination of resistors			
	Cells, emf,internal resistance		Assignment will be given at the end of chapter	
	Cells in series and in parallel			

May	Kirchhoff's laws			To compare e.m.f of two cell using potentiometer.
1--15	Wheatstone bridge			
(11 days)	Meter bridge			
	Potentiometer & its applications	**REVISION**		
		kirchhoff's laws		
		N.P.based on potentiometer		
	(Chapter 4)		**UNIT TEST- I (29 Ap-10 May).**	
	Magnetic effect of current and magnetism			
	Introduction		Cw:NCERT questions will be done	
	Magnetic field			
	Biot-savart law & its applications			
	Ampere's circuital law & its applications			
	The solenoid and toroid			To determine resistance of a galvanometer by half defection method and find its figure of merit
	Force on moving charge in uniform electric	Test of magnetic effect will be taken	Hw:NCERT questions	
	and magnetic field			
	Cyclotron			
	Forces between two parallel currents		Assignment will be given at the end of chapter	
	Torque on current loop.magnetic dipole			
	The moving coil galvanometer			To demonstate various part of moving coil galvanometer.
	Conversion of galvanometer into ammeter and voltmeter			
	(Chapter 5)			
	Magnetism and Matter			
July	Introduction			
1--15	Current loop as magnetic dipole			

(12 days)	Magnetic field intensity due to bar magnet			
	Torque on a dipole in uniform magnetic field			
	Magnetic field lines			
	Earth's magnetic field & magnetic elements			
	Para,ferro & dia-magnetic substances			
	Electromagnets,permanent magnets			Showing them behaviour of different substances in magnetic field.
		REVISION	Cw: Conceptual questions &numericals	
		Element of earth magnetic field		
	(Chapter 6)			
July	**Electromagnetic induction**			
(16-31)	Introduction		Hw:Assignment of chapter	
(14 days)	Faraday and henry 's experiment			
	Lenz's law and conservation of energy			
	Motional electromotive forces			
	Energy consideration:a quantitative study			
	Eddy currents			
	Inductance	Test of E.M.I.		
	A.C generator			
	(Chapter 7)			
	Alternating current			
	Peak & rms values			To find frequency of a.c. Mains using sonometer.
	A.C. voltage applied to r,l,c.	**REVISION**		
	Phasor diagram	N.P. on L.C.R.		

	A.C. voltage applied to lcr circuit	Lenz's law		
	Power in ac circuit:the power factor	Inductance		
	L.C. oscillations	Test of A.C.(conceptual based)		
	Transformers			
			Cw:NCERT & extra questions will be done	
	(Chapter 8)			
August	**Electromagnetic wave**	\	Assignment of e.m wave(conceptual based & numericals based)	
1--15	Displacement current			
(10days)	E.M. waves			
	E.M.spectrum			
	(Chapter 9)			
	Ray optics and optical instruments			
	Reflection of light by spherical mirrors			
	Refraction		Assignment of ray optics	To find focal length of convex lens
	Lens makers formula		(Conceptual based & Numericals based)	
	Combination of lenses			
	Dispersion,Scattering,			
	Optical instruments			
		Test of ray optics		To show variation in size of image through concave mirror or convex lens (using candle and screen)
			Cw:NCERT questions will be done	
	(Chapter 10)			
	wave optics			To find focal length of concave mirror using u-v Graph.
August	Huygen's principle			

16-31	Reflection and refraction of a plane wave			To find R.I.of a Liquid using a convex lens and a plane mirror.
(13 days)	Coherent and Incoherent:addition of waves			
	Interference of light			
	Young's experiment			To find angle of minimum deviation by plotting graph.
	Resolving power	Test of wave optics	Hw:Assignment of wave optics	
	Diffraction			
	Polarisation	**REVISION**		
		Conceptual problem based on interference,		Activity of polaroid
		N.P.based on telescope and microscope		
Sept.	Revision of syllabus	class test on alternate days		
1--15				
(10days)				
Sept.	Revision of syllabus			
(16-31)			**Half Yearly 15th Sep to 1oct**	
(11 days)				
	(Chapter 12)			
	Atoms			
Oct.				
(1--15)	Alpha particle scattering			
(06 days)	Rutherford's nuclear model of atom			
	Atomic spectra			To find lateral displacement using glass slab.
	Bohr's model of the hydrogen atom			

	The line spectra of hydrogen atom			
	De-broglie's explanation of bohr's postulates			
	Chapter -13			
	Nuclei			
	Atomic massses and Composition of Nucleus			
	Size of nucleus			
	Nuclear forces			
	Nuclear energy			
	Radioactivity			
Oct.	**Semiconductor Electronics**		Hw:Assignment of chapter	
(16-31)	Classification of semiconductor			
(11 days)	p-n junction			To show characteristics of p-n diode(forward and reverse bias).
	Semiconductor diode			
	Application of junction diode as a rectifier	**REVISION**		To show characteristics of zener diode and to find break-down voltage.
	Special purpose p-n junction diode	Test of semiconductors(application based)		
		Rectifier,		To identify capacitor,diode,resistor,ic,transistor from the given mixture.
		N.P.based on Logic gates		
		REVISION		
Nov.	Revision of syllabus			
(1-15)				
11 days				
		EXAM.	**SYLLABUS**	
		UT -1	**Chapter 1,2,**	
		Half yearly	**Chapter 1-9**	
		Preboard EXAM.	**CompleteSyllabus**	
		Preboard EXAM.	**CompleteSyllabus**	