



Sir Padampat Singhania Education Centre
Kamla Nagar, Kanpur

Lesson Plan
Session 2021 - 2022
Class: 12

Subject : **PHYSICS**
Book : **S.L. ARORA OR NOOTAN PHYSICS**

PHYSICS DEPARTMENT

Name: MR. NEERAJ CHAUBE, MR. ASHISH SHUKLA

AND MR. SANJEEV KUMAR

Sign:

Sign:



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Yearly Syllabus/Planning overview

Session: 2021 - 2022

Subject : **PHYSICS**

Class : 12

No. of periods : 157

Month	Assessed in	Lesson/s to be covered	Period Count
APRIL	1 ST TEST Half yearly Pre Board 1 Pre Board 2	Chapter 1 : ELECTROSTATICS: Electric charge and fields, Electric field and details of Electric dipole	15
MAY	1 ST TEST Half yearly Pre Board 1 Pre Board 2	Gauss's theorem, Chapter 2 : Electrostatic potential and Capacitance	22
JUNE		Capacitance continued and Chapter 3 : Current Electricity (introduction)	-
JULY	2 ND TEST Half yearly Pre Board 1 Pre Board 2	Current electricity continued and Chapter 4 : Moving charges and Magnetism Chapter 5: Magnetism and matter	25
AUGUST	Half yearly Pre Board 1 Pre Board 2	Chapter 6 : Electro magnetic induction and Chapter 7 : Alternating current	23
SEPTEMBER	Pre Board 1 Pre Board 2	Chapter 8 : Electromagnetic waves Chapter 9 : Ray optics and Optical instruments	09
OCTOBER	Pre Board 1 Pre Board 2	Chapter 10 : Wave optics Chapter 11 : Dual nature of radiation and Matter Chapter 12 : Atoms	22
NOVEMBER	Pre Board 1 Pre Board 2	Chapter 13 :Nuclei Chapter 14 : Semiconductor Electronics, Devices	14
DECEMBER		Revision	21
JANUARY		Revision	06

Subject coordinator: **NEERAJ CHAUBE**

HOD: **NEERAJ CHAUBE**



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Monthly lesson plan overview

Session: 2021 - 2022

Subject : **Physics**

Class : 12

Subject coordinator:

HOD: NEERAJ CHAUBE

Book : **S.L. ARORA OR NOOTAN PHYSICS**

No. of periods : **5PW**

Date/Week		Lesson/s to be covered in classroom	Period Count
From	To		
8 Apr, 21	10 Apr, 21	Electric charge, conservation of charge, coulombs law, electric field, superposition principle,	5
12 Apr, 21	17 Apr, 21	Electric field due to point charge, electric lines. electric dipole 21st April – Ram Navami	5
19 Apr, 21	24 Apr, 21	Electric field due to a point charge, electric field lines, electric field due to a dipole, torque on a dipole in uniform electric field.	5
26 Apr, 21	1 May, 21	Electric flux statement of Gauss's theorem and its application to find field due to infinitely long straight wire, charged sheet and spherical shell	5
3 May, 21	8 May, 21	Electric potential, potential difference, electric potential due to a point charge, equipotential surfaces, electric potential energy of a system of twopoint charges and of electric dipole in an electrostatic field 13th May – Eid-ul-Fitr	5
10 May, 21	15 May, 21	Capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium	5
17 May, 21	22 May, 21	Energy Stored in a Capacitor First Test begins from 21st May, 2021	5
24 May, 21	29 May, 21	First Test	5
28 June, 21	30 June, 21	Introduction Electric Current, Electric Currents in Conductors, Ohm's law, Drift of Electrons and the Origin of Resistivity,	2
1 July, 21	3 July, 21	Limitations of Ohm's Law, Resistivity of various Materials, Temperature Dependence of Resistivity, Combination of Resistors — Series and Parallel, Cells, emf, Internal Resistance	3
5 July, 21	10 July, 21	Cells in Series and in Parallel, Kirchhoff's Laws, Wheatstone Bridge, Meter Bridge, Potentiometer	5
12 July, 21	17 July, 21	Introduction Magnetic Force, Motion in a Magnetic Field, Motion in Combined Electric and Magnetic Fields, Magnetic Field due to a Current Element, Biot-Savart Law, Magnetic Field on the Axis of a Circular Current Loop	5

19 July, 21	24 July, 21	Ampere's Circuital Law, The Solenoid and the Toroid, Force between Two Parallel Currents, the Ampere,	5
2 Aug, 21	7 Aug, 21	2nd Test begins from 2 August`2021	5
9 Aug, 21	14 Aug, 21	Torque on Current Loop, Magnetic Dipole, The Moving Coil Galvanometer, Numericals based on MCG, Introduction The Bar Magnet, Magnetism and Gauss's Law	5
16 Aug, 21	21 Aug, 21	The Earth's Magnetism, Magnetisation and Magnetic Intensity, Magnetic Properties of Materials, Permanent Magnets and Electromagnets	5
23 Aug, 21	28 Aug, 21	Introduction of EMI, The Experiments of Faraday and Henry, Magnetic Flux, Faraday's Law of Induction, Lenz's Law and Conservation of Energy, Motional Electromotive Force	5
30 Aug, 21	4 Sep, 21	Eddy Currents, AC Generator, Introduction AC, AC Voltage Applied to a Resistor, Representation of AC Current and Voltage by Rotating Vectors — Phasors, AC Voltage Applied to an Inductor	5
6 Sep, 21	11 Sep, 21	AC Voltage Applied to a Capacitor, AC Voltage Applied to a Series LCR Circuit, Power in AC Circuit: The Power Factor, LC Oscillations, Transformers, Introduction EMW, Displacement Current, Electromagnetic Waves, Electromagnetic Spectrum, Numericals,	5
13 Sep, 21	18 Sep, 21	Half Yearly Examination Start from 13 Sept.`2021	5
20 Sep, 21	25 Sep, 21	Half Yearly Examination	5
27 Sep, 21	2 Oct, 21	Reflection of Light by Spherical Mirrors, Refraction, Total Internal Reflection, Refraction at Spherical Surfaces and by Lenses, Refraction through a Prism	5
4 Oct, 21	9 Oct, 21	Dispersion by a Prism, Optical Instruments, Huygens Principle, Refraction and reflection of plane waves using Huygens Principle, Coherent and Incoherent Addition of Waves, Interference of Light Waves and Young's Experiment	5
11 Oct, 21	16 Oct, 21	Diffraction, Polarisation , Electron Emission, Photoelectric Effect, Experimental Study of Photoelectric Effect, Photoelectric Effect and Wave Theory of Light, Einstein's Photoelectric Equation: Energy Quantum of Radiation	5
18 Oct, 21	23 Oct, 21	Particle Nature of Light: The Photon, Wave Nature of Matter, Davisson and Germer Experiment, Alpha-particle Scattering and Rutherford's Nuclear Model of Atom, Atomic Spectra,	3*
25 Oct, 21	30 Oct, 21	Bohr Model of the Hydrogen Atom, The Line Spectra of the Hydrogen Atom, DE Broglie's Explanation of Bohr's Second Postulate of Quantisation, Atomic Masses and Composition of Nucleus, Size of the Nucleus	5
1 Nov, 21	6 Nov, 21	Nuclear Force, Radioactivity, Nuclear Energy, Classification of Metals, Conductors and Semiconductors, Intrinsic Semiconductor, Extrinsic Semiconductor	2*

8 Nov, 21	13 Nov, 21	p-n Junction, Semiconductor diode, Application of Junction Diode as a Rectifier, Special Purpose p-n Junction Diodes, Optoelectronic devices.	5
15 Nov, 21	20 Nov, 21	Revision	5
22 Nov, 21	27 Nov, 21	Pre-Board I	
29 Nov, 21	4 Dec, 21	Pre-Board I	
6 Dec, 21	11 Dec, 21	Pre-Board I	
13 Dec, 21	18 Dec, 21	Revision	5
20 Dec, 21	25 Dec, 21	Revision	5
27 Dec, 21	1 Jan, 22	Revision	5
3 Jan, 22	8 Jan, 22	Revision	5
10 Jan, 22	15 Jan, 22	Pre-Board 2	
17 Jan, 22	22 Jan, 22	Pre-Board 2	
24 Jan, 22	29 Jan, 22	Revision for practical exams	5
31 Jan, 22	5 Feb, 22	Revision for practical exams	5
7 Feb, 22	12 Feb, 22	Revision	
14 Feb, 22	19 Feb, 22	Revision	
21 Feb, 22	26 Feb, 22	Revision	
28 Feb, 22	5 Mar, 22	Board examination Month	
7 Mar, 22	12 Mar, 22	Board examination Month	
14 Mar, 22	19 Mar, 22	Board examination Month	
21 Mar, 22	26 Mar. 22	Board examination Month	
28 Mar, 22	31 Mar, 22	Board examination Month	

