BOARD OF INTERMEDIATE EDUCATION, A.P., HYDERABAD REVISION OF SYLLABUS

Subject - PHYSICS-II (w.e.f 2013-14)

	CHAPTER - 1	PERIODS
Cha	pter ONE: Waves	
1.1	Introduction	12
1.2	Transverse and longitudinal waves	
1.3	Displacement relation in a progressive wave	
1.4	The speed of a travelling wave	and I have
1.5	The principle of superposition of waves	
1.6	Reflection of waves	
1.7	Beats	
1.8	Doppler effect	

	CHAPTER - 2	PERIODS
Chap	oter TWO:	
Ray (OPTICS AND OPTICAL INSTRUMENTS	08
2.1	Introduction	
2.2	Reflection of Light by Spherical Mirrors	
2.3	Refraction	
2.4	Total Internal Reflection	
2.5	Refraction at Spherical Surfaces and by Lenses	
2.6	Refraction through a Prism	
2.7	Dispersion by a Prism	
2.8 2.9	Some Natural Phenomena due to Sunlight OPTICAL INSTRUMENTS	

	CHAPTER - 3	PERIODS
Cha	pter THREE: WAVE OPTICS	
3.1	Introduction	08
3.2	Huygens Principle	
3.3	Refraction and reflection of plane waves using Huygens Principle	
3.4	Coherent and Incoherent Addition of Waves	
3.5	Interference of Light Waves and Young's Experiment	
3.6	Diffraction	
3.7	Polarisation	

	CHAPTER - 4	PERIODS
Cha	pter FOUR: ELECTRIC CHARGES AND FIELDS	
4.1	Introduction	12
4.2	Electric Charges	
4.3	Conductors and Insulators	
4.4	Charging by Induction	
4.5	Basic Properties of Electric Charge	
4.6	Coulomb's Law	
4.7	Forces between Multiple Charges	
4.8	Electric Field	
4.9	Electric Field Lines	
4.10	Electric Flux	
4.11	Electric Dipole	
4.12	Dipole in a Uniform External Field	
4.13	Continuous Charge Distribution	
4.14	Gauss's Law	
4.15	Application of Gauss's Law	

	CHAPTER - 5	PERIODS
Cha	pter FIVE:	
ELEC	TROSTATIC POTENTIAL AND CAPACITANCE	12
5.1	Introduction	
5.2	Electrostatic Potential	
5.3	Potential due to a Point Charge	
5.4	Potential due to an Electric Dipole	
5.5	Potential due to a System of Charges	
5.6	Equipotential Surfaces	
5.7	Potential Energy of a System of Charges	
5.8	Potential Energy in an External Field	
5.9	Electrostatics of Conductors	
5.10	Dielectrics and Polarisation	
5.11	Capacitors and Capacitance	
5.12	The Parallel Plate Capacitor	
5.13	Effect of Dielectric on Capacitance	
5.14	Combination of Capacitors	
5.15	Energy Stored in a Capacitor	
5.16	Van de Graaff Generator	

	CHAPTER - 6	PERIODS
Cha	oter SIX: CURRENT ELECTRICITY	
6.1	Introduction	12
6.2	Electric Current	
6.3	Electric Currents in Conductors	
6.4	Ohm's law	
6.5	Drift of Electrons and the Origin of Resistivity	pol/
6.6	Limitations of Ohm's Law	
6.7	Resistivity of various Materials	
6.8	Temperature Dependence of Resistivity	
6.9	Electrical Energy, Power	
6.10	Combination of Resistors — Series and Parallel	
6.11	Cells, emf, Internal Resistance	
6.12	Cells in Series and in Parallel	
6.13	Kirchhoff's Laws	
6.14	Wheatstone Bridge	
6.15	Meter Bridge	
6.16	Potentiometer	

	CHAPTER – 7	PERIODS
Cha	oter SEVEN:	
Mov	ING CHARGES AND MAGNETISM	12
7.1	Introduction	
7.2	Magnetic Force	
7.3	Motion in a Magnetic Field	
7.4	Motion in Combined Electric and Magnetic Fields	
7.5	Magnetic Field due to a Current Element, Biot-Savart Law	
7.6	Magnetic Field on the Axis of a Circular Current Loop	
7.7	Ampere's Circuital Law	
7.8	The Solenoid and the Toroid	
7.9	Force between Two Parallel Currents, the Ampere	
7.10	Torque on Current Loop, Magnetic Dipole	
7.11	The Moving Coil Galvanometer	

	CHAPTER – 8	PERIODS
Cha	pter EIGHT: MAGNETISM AND MATTER	
8.1	Introduction	08
8.2	The Bar Magnet	
8.3	Magnetism and Gauss's Law	
8.4	The Earth's Magnetism	4
8.5	Magnetisation and Magnetic Intensity	
8.6	Magnetic Properties of Materials	
8.7	Permanent Magnets and Electromagnets	

	CHAPTER – 9	PERIODS
Cha	pter NINE: ELECTROMAGNETIC INDUCTION	(2)
9.1	Introduction	08
9.2	The Experiments of Faraday and Henry	
9.3	Magnetic Flux	
9.4	Faraday's Law of Induction	
9.5	Lenz's Law and Conservation of Energy	
9.6	Motional Electromotive Force	
9.7	Energy Consideration: A Quantitative Study	
9.8	Eddy Currents	
9.9	Inductance	
9.10	AC Generator	

CHAPTER – 10	PERIODS
Chapter TEN: ALTERNATING CURRENT	
 10.1 INTRODUCTION 10.2 AC Voltage Applied to a Resistor 10.3 Representation of AC Current and Voltage by Rotating Vectors — Phasors 10.4 AC Voltage Applied to an Inductor 10.5 AC Voltage Applied to a Capacitor 10.6 AC Voltage Applied to a Series LCR Circuit 10.7 Power in AC Circuit: The Power Factor 10.8 LC Oscillations 10.9 Transformers 	08

	CHAPTER – 11	PERIODS
Cha	oter ELEVEN: ELECTROMAGNETIC WAVES	
11.1	Introduction	08
11.2	Displacement Current	
11.3	Electromagnetic Waves	
11.4	Electromagnetic Spectrum	

	CHAPTER – 12	PERIODS
Cha	pter TWELVE:	
DUA	NATURE OF RADIATION AND MATTER	08
12.1	INTRODUCTION	
12.2	Electron Emission	
12.3	Photoelectric Effect	
12.4	Experimental Study of Photoelectric Effect	
12.5	Photoelectric Effect and Wave Theory of Light	
12.6	Einstein's Photoelectric Equation: Energy Quantum of	
	Radiation	
12.7	Particle Nature of Light: The Photon	
12.8	Wave Nature of Matter	
12.9	Davisson and Germer Experiment	

CHAPTER – 13	PERIODS
Chapter THIRTEEN: ATOMS	
13.1 INTRODUCTION13.2 Alpha-particle Scattering and Rutherford's Nuclear Model of Atom	08
13.3 Atomic Spectra	
 13.4 Bohr Model of the Hydrogen Atom 13.5 The Line Spectra of the Hydrogen Atom 13.6 DE Broglie's Explanation of Bohr's Second Postulate of Quantisation 	

CHAPTER – 14		P	ERIODS
Cha	pter FOURTEEN: NUCLEI		
14.1	Introduction		08
14.2	Atomic Masses and Composition of Nucleus		
14.3	Size of the Nucleus		
14.4	Mass-Energy and Nuclear Binding Energy		
14.5	Nuclear Force	and the second	
14.6	Radioactivity		
14.7	Nuclear Energy		

	CHAPTER – 15	PERIODS
SEMI	oter FIFTEEN: CONDUCTOR ELECTRONICS: ERIALS, DEVICES AND SIMPLE CIRCUITS	08
15.1	Introduction	
15.2	Classification of Metals, Conductors and Semiconductors	
15.3	Intrinsic Semiconductor	
15.4	Extrinsic Semiconductor	
15.5	p-n Junction	
15.6	Semiconductor diode	
15.7	Application of Junction Diode as a Rectifier	
15.8	Special Purpose p-n Junction Diodes	
15.9	Junction Transistor	
15.10	Digital Electronics and Logic Gates	
15.11	Integrated Circuits	

CHAPTER – 16		PERIODS
Chap	oter SIXTEEN: COMMUNICATION SYSTEMS	
16.1	INTRODUCTION	04
16.2	Elements of a Communication System	
16.3	Basic Terminology Used in Electronic Communication Systems	
16.4	Bandwidth of Signals	
16.5	Bandwidth of Transmission Medium	
16.6	Propagation of Electromagnetic Waves	
16.7	Modulation and its Necessity	
16.8	Amplitude Modulation	
16.9	Production of Amplitude Modulated Wave	
16.10	Detection of Amplitude Modulated Wave	