TELANGANA STATE BOARD OF INTERMEDIATE EDUCATION: HYDERABAD

ANNUAL ACADEMIC PLAN 2023-24

PHYSICS **II YEAR**

Month/No of Working Days/ no of periods	Topics to be covered	Periods Allotted for Each topic
June (24)	**Advanced supplementary exams-12/06/2023 to 20/6/2023** **"Syllabus dictation and discussion of IPE question paper along with scheme of valuation weightage of marks to each chapter"** **CHAPTER – 1: WAVES** 1.1 Introduction 1.2 Transverse and Longitudinal waves 1.3 Displacement relation in a progressive wave 1.4 Speed of a Travelling Wave 1.5 The principle of superposition of waves, 1.6 Reflection of waves 1.7 Beats 1.8 Doppler Effect **EAMCET Class** **ASSIGMMENT –1**	08 02 13 01
July (23)	**CHAPTER– 2:** **RAY OPTICS AND OPTICAL INSTRUMENTS** 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 Some Natural phenomena due to Sunlight 2.9 Optical Instruments **EAMCET Class**	08

	CHAPTER – 3: WAVE OPTICS 3.1 Introduction 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 **EAMCET Class** **CHAPTER – 4: ELECTRIC CHARGES AND FIELDS** 4.1 Introduction 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' Law **EAMCET Class** **ASSIGNMENT-2** **Unit test 1** **PRACTICAL**: 1. **Velocity of sound by Resonance apparatus** **2.Determination of focal length of concave mirror**	05 08 01 01

AUGUST (25)	**CHAPTER – 5:** **ELECTROSTATIC POTENTIAL AND CAPACITANCE** 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 **EAMCET Class** **CHAPTER – 6: CURRENT ELECTRICITY** 6.1 Introduction 6.2 Electric current 6.3 Electric current in conductors 6.4 Ohm's Law 6.5 Drift Electrons and Origin of Resistivity 6.6 Limitations of Ohms's Law 6.7 Resistivity of various Materials 6.8 Temperature Dependence of Resistivity 6.9 Electric 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 **EAMCET Class** **ASSIGNMENT-3** **Unit test -2** **Practicals**: 3.DETERMINATION OF FOCAL LENGTH OF CONVEX LENS 4.REFRACTIVE INDEX OF PRISM	11 12 **01** **01**

September (22)	**CHAPTER – 7: MOVING CHARGES AND MAGNETISM** 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(Unit) 7.10 Torque on Current Loop, Magnetic Dipole 7.11 The Moving Coil Galvanometer **EAMCET Class** **CHAPTER – 8 MAGNETISM AND MATTER** 8.1 Introduction 8.2 The Bar Magnet 8.3 Magnetism and Gauss's Law 8.4 The Earth's Magnetism 8.5 Magnetisation and Magnetic Intensity 8.6 Magnetic Properties of Materials 8.7 Magnets and Electromagnets **EAMCET Class** **CHAPTER – 9: ELECTROMAGNETIC INDUCTION** 9.1 Introduction 9.2 The experiments of Faraday and Henry 9.3 Magnetic Flux 9.4 Faraday's Law of Induction 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 **EAMCET Class** **ASSIGNMENT 4** **UNIT TEST 3** **PRACTICALS:** 5.meterbridge	07 05 08 01 01

October (18)	**CHAPTER – 10: 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 ,10.9Transformers **EAMCET Class** **CHAPTER – 11: ELECTRO MAGNETIC WAVES** 11.1 Introduction 11.2 Displacement Current 11.3 Electro Magnetic Waves 11.4 Electromagnetic Spectrum **EAMCET Class** ASSIGNMENT -5 **PRACTICALS:** 6.magnetic lines of force 7.ohms law **DUSSEHRA HOLIDAYS:19-10-2023 TO 25-10-2023** **DATE OF REOPENING: 26-10-2023**	09 08 01
November (24)	**CHAPTER–12:DUAL NATURE OF RADIATION AND MATTER** 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 **EAMCET Class**	09

	CHAPTER–13 :ATOMS 13.1 Introduction 13.2 Alpha-particle Scattering and Rutherford's Nuclear model of Atom13.3 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 **EAMCET Class** **HALF YEARLY EXAMINATIONS:20-11-2023 TO 25-11-2023**	09 06
December (23)	**CHAPTER–14 :NUCLEI** 14.1 Introduction 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 14.6 Radioactivity 14.7 Nuclear Energy **EAMCET Class** **CHAPTER–15:SEMICONDUCTOR ELECTRONICS: MATERIALS, DEVICES AND SIMPLE CIRCUITS** 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 Semi conductor 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 **EAMCET Class** **CHAPTER– 16: COMMUNICATION SYSTEMS** 16.1 Introduction 16.2 Elements of 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 **EAMCET Class** **ASSIGNMENT–6** **UNITTEST–4** **PRACTICALS**: 8.Tangent Galvanometer 9.P-N Junction diode 10.Transister Characteristics	08 09 04 01 01

January (23)	**Theory Revision** **SANKRANTRI HOLIDAYS FROM13-01-2024 TO 16-01-2024** **DATEOFREOPENING:17-01-2024** **PREFINAL EXAMINATIONS :** **FROM 22.01.2024 TO 29.01.2024**	17 06
February (23)	**PRACTICALS Revision** **IPE PRACTICALS:2nd week of Feb 2024**	23
March (22)	**I.P. Examinations: Ist week of March 2024** **Last working day: 31-03-2024** **Summer Vacation: 01-04-2024 to 31-05-2024** **Advance Supplementary Exams :** **Last week of May 2024** **Date of Reopening after summer vacation: 01-06-2024**	22

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