

ANNUAL ACADEMIC PLAN 2023-24

SUBJECT: PHYSICS

Subject Code:- 241

SECOND YEAR

Month/No. of Working Days/Periods	Topics to be Covered	Periods allotted to each topic
JUNE (24)	CHAPTER – I WAVES 1.1. Introduction 1.2. Transfers and Longitudinal Waves 1.3. Displacement relation in a Progressive Wave 1.4. Speed of traveling Wave 1.5. The Principle of Super position of Waves 1.6. Reflection of Waves 1.7. Beats 1.8. Doppler Effect AP EAPCET/NEET ASSIGNMENT CHAPTER – II 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 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 CHAPTER – III WAVE OPTICS 3.1. Introduction 3.2. Huygens's Principle 3.3. Refraction and Reflection of Plane Waves using Huygens's Principle 3.4. Coherent and Incoherent addition of Waves 3.5. Interference of Light Waves and Young's double slit experiment 3.6. Diffraction 3.7. Polarization AP EAPCET/NEET	10 08 06

	ASSIGNMENT - 1 Practical: 1. Velocity of Sound by Resonance apparatus	01
JULY (22)	CHAPTER – IV ELECTRIC CHARGES AND FIELDS 4.1. Introduction 4.2. Electrical 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. Applications of Gauss’s Law AP EAPCET/NEET ASSIGNMENT CHAPTER – V 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 Polarization 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 Capacitor 5.16. Van De Graff Generator AP EAPCET/NEET	11 10

	UNIT TEST – I From 26-07-2023 to 28-07-2023 ASSIGNMENT Practical: 2. Determination of Focal length of a Concave Mirror 3. Determination of Focal length of a Convex Lens	01
AUGUST (25)	CHAPTER – VI CURRENT ELECTRICITY 6.1. Introduction 6.2. Electric Current 6.3. Electric Currents in Conductors 6.4. Ohm’s Law 6.5. Drift of Electrons and Origin of Resistivity 6.6. Limitations of Ohm’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 AP EAPCET/NEET ASSIGNMENT CHAPTER – VII MOVING CHARGES AND MAGNETISM 7.1. Introduction 7.2. Magnetic Force 7.3. Motion in a Magnetic Field 7.4. Motion in a 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. Amperes circuital Practical: 4. Refractive index of Prism Material (I-d curve) 5. Meter Bridge UNIT TEST – II From 24-08-2023 to 26-08-2023	12
	7.8 The solenoid and the toroid	07

10.3.Representation of A.C current and voltage by Rotating vectors – phasors

07

OCTOBER (18)	DUSSEHRA HOLIDAYS FROM 19-10-2023 TO 25-10-2023 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 AP EAPCET/NEET ASSIGNMENT <u>CHAPTER-XI</u> <u>ELECTRO MAGNETIC WAVES</u>	
	11.1.Introduction 11.2.Displacement current Practical's: 7.0hm's law 8.Tangent Galvanometer 11.3.Electromagnetic waves 11.4.Electromagnetic spectrum AP EAPCET/NEET ASSIGNMENT <u>CHAPTER-XII</u> <u>DUAL NATURE OF RADIATION AND MATTER</u>	08
	12.1.Introduction 12.2.Electron emission 12.3.Photo electric effect 12.4.Experimental study of photo electric effect 12.5.Photo electric effect and wave theory of light 12.6.Einstein's photo electric 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 AP EAPCET/NEET ASSIGNMENT <u>CHAPTER-XIII</u> <u>ATOMS</u> 13.1 Introduction 13.2 Alpha- particle scattering and Rutherford's nuclear Model of atom 13.3 Atomic spectra	06 08

NOV (25)	13.4. Bohr model of hydrogen atom 13.5. The line spectra of the hydrogen atom 13.6. De Broglie's explanation of Bohr's second Postulate of quantization AP EAPCET/NEET ASSIGNMENT CHAPTER-XIV 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 UNI TEST-IV From 23-11-2023 to 25-11-2023	08
DEC 24	Practical's 9. Junction diode, 10. Transistor characteristics 14.7. Nuclear Energy AP EAPCET/NEET ASSIGNMENT CHAPTER-XV SEMI CONDUCTOR ELECTRONICS; MATERIALS, DEVICES AND SIMPLE CIRCUITS 15.1. Introduction 15.2. Classification of metals, conductors and Semi-Conductors 15.3. Intrinsic semiconductors 15.4. Extrinsic semiconductors 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 EAMCET/NEET ASSIGNMENT CHAPTER-XVI	09

	<u>COMMUNICATION SYSTEMS</u> 16.1.Introduction 16.2.Elements of communication system 16.3.Basic terminology used in electronic communication system 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 AP EAPCET/NEET ASSIGNMENT HALF YEARLY EXAMINATIONS FROM 18-12-2023 TO 23-12-2023	04
JAN 20	SANKRANTHI HOLIDAYS FROM 11-01-2024 TO 17-01-2024 PRE FINAL EXAMINATIONS FROM 19-01-2024 TO 25-01-2024	20
FEBRUARY 24	REVISION I.P.E PRACTICALS 2023 2 nd Week of FEB 2024 (TENTATIVE)	
MARCH 21	REVISION I.P.E THEORY EXAMINATIONS 1 st Week of MARCH 2024 (TENTATIVE) LAST WORKING DAY FOR THE ACADEMIC YEAR 2023-24 IS 21-04-2023	
APRIL & MAY	SUMMER VACATION 29-03-2024 TO 31-05-2024	