



V.V.GIRI GOVT. KALASALA

DUMPAGADAPA, W.G. Dist., (via) AKIVIDU - 534 235

Accredited by NAAC @ B+

College Code : **AKNU323**



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PHYSICS DEPARTMENT

COURSE OUTCOMES (CO'S)

SEMESTER - 1:

CO1: Understand the physical significance of gradient of scalar field, divergence and curl of vector field. Applications of Gauss's & Green's theorems.

CO2: Understand the working of multi stage rockets, collisions in 2D & 3D. Concept of Rutherford's scattering experiment and its importance

CO3: Knowing and applying Euler equations. Analysis of precessional velocity of symmetric top.

CO4: Basic understanding of central force with examples. Verification of Kepler's laws, application to Planetary system

CO5: Understanding the concepts of relativity, frame of reference, Lorentz transformations, length contraction and time dilation

SEMESTER - 2:

CO1: Analyzing the Simple Harmonic Motion, characteristics. Determination of acceleration due to gravity "g" by Compound pendulum & rigidity modulus by Torsion pendulum.

CO2: Apply the concept of damping to determine logarithmic decrement & quality factor. Differential equation of forced harmonic oscillator and its equation and applied in daily life.

CO3: Analyze the periodic functions like square wave, Sawtooth wave by using Fourier's theorem.

CO4: Figure out the formation of harmonics and overtones in a stretched string

CO5: Basic understanding of Ultrasonics, different production methods and applications

SEMESTER - 3:

CO1: The students will be able to understand the concept of aberrations, their importance in cameras and other lens systems.

CO2: Understand the phenomenon of interference of light and its formation in Lloyd's Single mirror due to division of wavefront and Newton's rings and Michelson interferometer due to division of amplitude.

CO3: distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of single slit and diffraction grating

CO4: Explain the various methods of production of plane, circularly, and elliptically polarized light and their detection and the concept of optical activity.

CO5: Understand the basic principle of laser, the working of He-Ne Laser and Ruby laser and their applications in different fields.

SEMESTER – 4:

CO1: Understand the concept of low temperature Physics and its applications.

CO2: Gain knowledge on the basic concepts of thermodynamics, the first and the second law of thermodynamics

CO3: Knowledge of diffraction and basic understanding of Holography

CO4: Understanding the polarization and different methods of conversion of unpolarized light into polarized light. Basics of Fiber optics.

CO5: Examine the nature of black body radiation and the basic theories.

SEMESTER – 5: (PAPER VA)

CO1: Understand Gauss's law and its applications of electrostatics & basics of dielectrics.

CO2: Analyze the electric & magnetic fields and understand the Biot savart's law and apply it to long straight wire & solenoid.

CO3: Review the basic laws of electricity and magnetism, derivation of Maxwell equations and analyze the production of electromagnetic waves

CO4: Understand the basic concepts of electronics, working of p-n junction diodes and analysis of transistor configurations.

CO5: Understand the technology process of Ocean, thermal and tidal energy conversion

SEMESTER – 5: (PAPER VB)

CO1: Understand the evolution of atomic model spectra of different elements, the effect of electric and magnetic field on the spectra.

CO2: Understand the properties of the nucleus and the models associated with it.

CO3: The theories behind the alpha and beta decays. Different detectors used to detect alpha, beta & gamma radiations.

CO4: Basic understanding of the crystal structure and also experimental study of it.

CO5: Understanding the basic theories of superconductivity.