

COURSE OBJECTIVES AND COURSE OUTCOMES

S. Y. B. Sc. SEMESTER - III

PHYSICS PAPER - I

SUBJECT: MECHANICS AND THERMODYNAMICS (USPH301)

Sr. No.	Course Objectives	Course Outcomes
1)	Understand mechanics of system of Particles	Center of mass, laws of conservation, Application of conservation of momentum
2)	Study Motion of pendulums in detail	Study in detail the compound pendulum. Understand Bessel Function for time period.
3)	Examine Various types of oscillations	Study the SHO with different constraints like damped oscillations, forced oscillations. Write their equation of motions and examine the outcome
4)	Zeroth, First and second law of thermodynamics and their application	Efficiency, Carnot cycle, the working and efficiency of Practical Heat engine like Otto and Diesel engine Maxwell's Thermodynamical equations and their applications
5)	Third law of thermodynamics and Low temperature Physics	Joule Thomson coefficient, Different methods of liquefaction of gases. Solve problems in the topics

COURSE OBJECTIVES AND COURSE OUTCOMES

S. Y. B. Sc. SEMESTER - IV

PHYSICS PAPER - I

SUBJECT: OPTICS AND DIGITAL ELECTRONICS (USPH401)

Sr. No.	Course Objectives	Course Outcomes
1)	Understand and classify different phenomenon of light . .	Huygen's principle, important features of Interference and diffraction. Distinctive features of Fresnel's and Fraunhofer diffraction
2)	Fraunhofer and Fresnel's diffraction	Fresnel's and Fraunhofer diffraction for single and double slit. The conditions for maxima, minima and intensity distribution. Zone plate
3)	Polarization and its application	Different types of polarization, different methods of obtaining polarized light, double refraction
4)	Number system in digital electronics	Learn the binary and hexadecimal number system, their conversion and binary algebra
5)	Latches and flip flops	Study the working and the truth tables of SR,JK flip flops. To draw the output waveform for these flip flops
6)	Registers and counters	The applications of Flip Flops in registers and counters. Design mod counters