

DEPARTMENT OF PHYSICS

PROGRAMME OUTCOMES		
DEPT. OF PHYSICS		After successful completion of three year degree program in physics students should be able to
Programme outcome	PO1	Demonstrate, solve and an understanding of major concept in all disciplines of physics
	PO2	Solve the problem and also think methodically, independently and draw a logical conclusion.
	PO3	Employ critical thinking & the scientific knowledge to design, carryout, record and analyze the results of physics experiment.
	PO4	Create an awareness of the impact of physics on the society & development outside the scientific community.
	PO5	To inculcate the scientific temperament in the students and outside the scientific community.
	PO6	Use modern Techniques, decent equipments
COURSE		OUTCOMES
Solid State Physics	CO1	Know the principles of structures determination by diffraction.
	CO2	To understand the principles & techniques of X-Rays diffraction.
	CO3	Know the fundamental principles of semi conductors and be able to estimate the charge carrier mobility & density.
	CO4	To give an extended knowledge about magnetic properties like diamagnetic, paramagnetic, fersoma, gnetic ferrites & superconductors.
Classical Mechanics	1)	Understand Newton's laws of motion & their mechanics applications such as projectiles & rocket motion
	2)	Gain the knowledge of motion in central force field.
	3)	Classify elastic & inelastic scattering
	4)	Know the diff between lab & center of mass system
Atomic & Molecular physics	1)	To know the Rutherford expt. of atom
	2)	To understand molecular spectra of Atom
	3)	To study the Zeeman effect.
	4)	To study Raman effect
	5)	To understand quantum number
Classical Electro dynamics	1)	Understand mechanics of system of particles
	2)	Know the motion in central force field
	3)	Elastic & inelastic scattering
Quantum mechanics	1)	Understand Debroflie hypothesis & uncertainty principle
	2)	Derive Schrödinger's time depth & index efficiency
	3)	Get knowledge of rigid rotator

	4)	Understand different operators in Q.M
PROGRAMME SPECIFIC OUTCOME		
PROGRAMME SPECIFIC		OUTCOME
	PS01	Students will acquire a core knowledge in physics including major premises of basic mechanics quantum mechanics. Electro magnetic theory electronics, optics, special theory of relativity & modern physics
	PS02	Students are also expected to develop written and oral communication skills in communicating physics related topics
	PS03	Students should learn how to conduct experiments demonstrating their understanding of the scientific method and processes & able to interpret of analyze the results.
	PS04	Students will develop the proficiency in acquisition of data using a variety of laboratory instruments & in the analysis & interpretation of such data.
	PS05	Students will realize and develop an understanding of the impact of physics and science on society.
	PS06	Discover of physics concepts in other disciplines such as Mathematics, computer science, Chemistry etc.
	PS07	Analyze physical problems & develop correct solutions using natural laws.
	PS08	It bridges the gap between the plus two and post graduate levels of physics by providing a more complete and logical framework in almost all areas of basic physics.
COURSE		OUTCOMES
Mechanics	CO1	Grasped the fundamentals of frames of reference principle of relatively Galilean transformation equations, invariance of laws gain knowledge about fictitious force
	CO2	Learned conservation laws of energy linear momentum and angular momentum and apply them to solve problems.
	CO3	Know how to apply the conservation of rotational motion.
	CO4	Satellite motion, open & closed orbits & motion of rocket
	CO5	Gained knowledge about moment of inertia, theorems. Compound pendulum & its details.
Properties of Matter	CO1	Learn basics of properties of matter how young's modulus, Bulk modulus & modulus of rigidity are defined & evaluated for different shapes of practical relevance.
	CO2	Gain the knowledge about Surface tension. Forces responsible for it & factors affecting surface tension

	CO3	Know about viscosity. Stream line & turbulent motion effect of temp.
Heat & Thermodynamics	CO1	Learn about Kinetic theory of gases maxwells law degrees of freedom principle of efeitpartition of energy.
	CO2	Understand the principle & Laws of thermodynamics & applications
	CO3	Understand the concept of entropy.
	CO4	Gain the knowledge of low thse physics. How it can be attain.
	CO5	Learn about radiation, distributions of energy in block body, the law governing the process & how radiations can be measured.

Waves and Oscillations	CO1	Study general education of wave motion in general and longitudinal waves in gases & transverse waves in stretched strings.
	CO2	Learn fundamentals of harmonic oscillator model including damped and forced oscillators.
	CO3	Familiarize with general terms in acoustics like intensity loudness, reverberation etc & Study the transducers.
Optics	CO1	Provide a good foundation in optics
	CO2	Provide knowledge of the behavior of light
	CO3	Discuss the important & fascinating areas of interference with many experiments associated with it.
	CO4	Differentiate between Fraunhofer & Fresnel diffraction
	CO5	Apply skill to find the wavelength of spectral lines using plane diffraction grating.
	CO6	Production & detection of plane, Circularly & elliptically polarized light
	CO7	Study of quarter & half wave plates & polar meter
	CO8	Gain knowledge about observations & optical instruments & cardinal points
Lasers	CO1	Describe the different types of Lasers its principle, properties of laser beam
Electricity	CO1	Study in depth the response of CR, LC, LR and LCR circuits, which is essential in designing as well as understanding the working of electronic circuits determination of L by using maxwells & Anderson's bridge.
Electrostatics	CO1	Students have gained elaborated knowledge about electrostatics and laws governing the charge distribution
	CO2	Have gained ability to apply Laplace education for calculating potentials
	CO3	To realize importance of application of Biovt Savart amperts law
	CO4	To understand relevance of magnetization and magnetic field.

Vectors		Able to learn scalar & vector fields gradient divergence & curl & their physical significance & vector identities. Knowledge about gauss divergence theorem and stokes theorem.
Electromagnetism	CO1	Know the concepts of physics as it applies principles of electric fields. Faradays law, inductance ampeere's ciscutal law current loop, torque & displacement current.
	CO2	Be able to derive maxwell's field equations, equation of continuity have a knowledge about electromagnetic waves & their production.
	CO3	Understand the relationship between electrical charge, electric field, electrical potential and magnetism
Atomic & Molecular Physics	CO1	
	CO2	Gain a clear picture of nuclear composition and various nuclear models.