DEPARTMENT OF PHYSICS

PROGRAMME OUTCOME

B.Sc. PHYSICS

After successful completion of three year degree programme in physics student should be able to;

PO1- To enhance the student's academic abilities personal qualities and transferable skills which will give them an opportunity to develop as responsible citizens?

PO2- To define the basic laws involved in physics.

PO3- To understood the significance of the various physical phenomena.

PO4- To understood the concepts.

PO5- To carry out experiments to understood the laws and concepts of physics.

PO6- To apply the theory learnt and skills acquired solve time problems.

PO7- Solve the problem and also think methodically and draw a logical conclusion.

PO8- To include the scientific temperament in the scientific community.

PROGRAMME SPECIFIC OUTCOME

PSO1- Gain knowledge of physics through theory and practical's.

PSO2- Understand good laboratory practices and safety.

COURSE OUTCOME

B.SC. 1ST YEAR

PAPER-I

PH. MECHANICS:

CO1- Know laws of motion, coordinate system (Cartesian cylindrical and spherical.)

CO2- To study system of particles, centre of mass, conservation of energy.

CO3- To understanding kepler's laws, Gravitational laws and field.

PH. OSCILLATIONS:

CO1- To understanding oscillations, simple harmonic oscillations.

CO2- To study two simple harmonic motion of the same frequency.

CO3- Know Lissajous figures, cases and applications.

CO4- To study damped and driven harmonic oscillations.

ELECTRIC FIELD AND MAGNATIC FIELD:

CO1- To study motion of charged particles in E. field and M. field.

CO2- To study mutually parallel electric and magnetic fields.

CO3- To study CRO.

PH. PROPERTIES OF MATTER

CO1- Know the elasticity.

CO2- To study Hook's laws

CO3- To understanding cantilever experimentally.

CO4- To understanding surface tension and surface energy.

PH MATHEMATICAL BACKGROUND

CO1- To study scalars and vectors, dot and cross products, reciprocal vectors.

CO2- To study divergence and curl of vector fields line, surface and volume integrals.

CO3- To study gauss divergence theorem.

CO4- To study stock's theorem.

CO5- To study flux of the electric field.

CO6- To study dielectric. Dielectric constant polarization.

CO7- To understanding steady current.

CO8- To study biot and sevart's law.

CO9- To study ampere's law, torque on a current loop.

PH. ELECTROMAGNATIC THEORY:

CO1- Know electromagnetic wave introduction, characteristics.

CO2- To understanding faraday's laws electromagnetic force.

CO3- To study mutual and self-inductance.

CO4- To study transformers.

CO5- To study Maxwell's equations

CO6- To study poynting vector.

COURCE OUTCOME

B. Sc.II PHYSICS

PAPER-I

Course: After completion of these courses students should be able to:

PH. THERMODYNAMICS:

CO1- Know the concept of path function.

CO2- To study first, second, third law of thermodynamics.

CO3- To understand the Entropy concept.

CO4- To study change in entropy in simple cases.

CO5- To study thermodynamics relationship.

PH. KENETIC THEORY:

CO1- To study Maxwell relations.

CO2- To study Maxwell distributions of R.M.S. and most probable speed value depending on temperature and pressure.

PH. STATISTICAL PHYSICS:

CO1- Understanding statistical distribution of system of particles.

CO2- To study the elementary concept of statistics.

CO3- To study Bose-Einstein theory.

CO4- To study partition function.

CO5- To study black-body radiation and its applications.

CO6- To study Fermi-Dirac statistics.

PAPER- II

WAVES:

CO1- To study waves; characteristics speed and nature.

CO2- To study reflection, reflection and diffraction of sound wave.

PH. ACCOUSTICS AND OPTICS:

CO1- To study interference of light.

CO2- To study Fermat's principle.

CO3- To study principle of sonar system ranging.

PH. LASER:

CO1- Know the coherence spontaneous and stimulated emission.

CO2- To study Einstein's A and B coefficients.

CO3- To understanding principle of laser and condition required for laser action.

CO4- To study optical pumping, population inversion and its applications.

COURCE OUTCOME

B. Sc. III PHYSICS

CO1- After determination of these course students should be able to:

PAPER-I

PH. RELATIVITY:

CO1- Know the reference system, Galilean invariance, conservation laws.

CO2- To understand the special theory of relativity.

CO3- Discuss the Michelson-Morley experiment.

CO4- Discuss about Compton Effect.

CO5- Know and discuss about Zero rest mass etc.

PH. QUANTAM MECHANICS:

CO1- Understand De-Broglie hypothesis and uncertainty principle.

CO2- Understand the concept and derive Schrodinger time dependent and independent.

CO3- Get knowledge of photoelectric effect.

CO4- Know different operators in quantum mechanics.

PH.ATOMIC AND MOLECULAER PHYSICS:

CO1- To study the Raman spectra.

CO2- To study the Zeeman Effect.

CO3- To understand molecular spectra of atom.

PAPER-II

PH.SOLID STATE PHYSICS:

CO1- To study the amorphous and crystalline solid.

CO2- To study Miller indices.

CO3- To study Einstein and Debye theories.

CO4- To study Bragg's law.

PH.SOLID STATE DEVICE AND ELECTRONICS:

CO1- To study Kronig-penny model.

CO2- To study about insulator, conductor.

CO3- To understand special purpose diode.

CO4- To study Zenor diode.

CO5- To study half and full wave rectifier.