COURSE OUTCOME OF B.Sc.(N.M.)

Semester-I

Paper-Mechanics (PHY-101)

C0 1.1 : Understanding the basic concepts about the conservation laws and centre of mass equation of motion.

CO 1.2 : Understanding the concepts of generalized coordinates with developing skills of equation of motion.

CO 1.3 : Understanding concepts of rigid bodies with finding he moment of inertia of various bodies.

Paper- Electricity and Magnetism (PHY- 102)

CO 1.1 : Understanding the concepts of Vector calculus ,electric flux, and Gauss’s law applications.

CO 1.2 : Understanding the concepts of Magnetic fields with material magnetism (dia, para, ferro).

CO 1.3 : Understanding the concepts of Maxwell’s equations and propagation of electromagnetic waves (Poynting theorem).

Semester II

Paper- Properties of matter, Kinetic theory and Reltaivity.(PHY 201)

CO 2.1 : Understanding concepts of elasticity i.e. Hooke’s law & elastic constants, cantilever and centrally loaded beams.

CO 2.2 : Understanding various principle of Kinetic theory of gases with derivation of most probable speed, r.m.s. speed and average speed.

CO 2.3 : Understanding concept of theory of relativity with derivation using Lorentz transformaion.

Paper: E.M. Induction & Electronic devices (PHY 202)

CO 2.1 : Understanding the concepts of growth and decay currents with quality factor in LCR circuit.

CO 2.2 : Understanding the concepts of LEDs, Rectifier

and transistors.

CO 2.3 : Understanding the concepts of Transistor Amplifier, and Oscillators.

Semester- III

Paper : Computer programming and thermodynamics (PHY-301)

CO 3.1 : Understanding the concept of Computer programming and flow charts.

CO 3.2 : Understanding the concept of Thermal physics and Carnot engine.

CO 3.3 : Understanding the concept of triple point and development of Maxwell thermodynamic relations.

Paper: Optics-I (PHY-302)

CO 3.1 : Understanding the concept of Fourier Analysis & superposition of waves.

CO 3.2 : Understanding the concept of Ray optics and aberration in lenses.

CO 3.3 : Understanding the concept of wave optics including interference and determining wavelength of sodium light.

Semester: IV

Paper :Statistical Mechanics (PH 401)

CO 4.1 :Understanding the concepts of probability ,macrostate and microstate along with thermodynamical probability.

CO 4.2: Understanding the concept of statistical mechanics,M.B.,B.E. statistical law.

CO 4.3 : Understanding the concept of Fermi Dirac distribution law, specific heat and B.E. condensation.

Paper- Optics-II (PHY-402)

CO 4.1 :Understanding concepts of Interference by division of amplitude,Newton’s ring,Michelson interferometer,Fresnel’s diffraction zone plate.

CO 4.2 : Understanding concepts of Fraunhoffer diffraction, single slit,N slit diffraction grating spectrometer and Rayleigh criteria of resolution.

CO 4.3 : Understanding concepts of Polarisaion, double refraction.

Semester –V

Paper –Solid State Physics(PHY-501)

CO 5.1: Understanding concepts of crystal structure and basic concepts.

CO 5.2: Understanding concepts of Miller indices,X-Ray diffraction methods.

CO 5.3: Understanding concepts of Reciprocal lattice and Reciprocal lattice vectors of sc,bcc and fcc, specific heat of solids.

Paper- Quantum Mechanics (PHY-502)

CO 5.1 : Understanding concept of quantum theory of radiation,Davisson and Germer experiment,Heisenberg Uncertainty principle and related topics.

CO 5.2 : Understanding concept of Schrodinger wave equation and its solution for harmonic oscillator.

CO 5.3 : Understanding solution of Schrodinger wave equation for One dimentional box, potential barrier.

Semester- VI

Paper-Atomic Molecular and laser physics.(PHY-601)

CO 6.1 : To familiarize the students with the concept of vector atom model, LS and jj coupling.

CO 6.2 : To familiarize the students with the concept of Zeeman effect, Stark effect and Raman Effect.

CO 6.3 : To familiarize the students with the important features laser and various applications of laser on the field of medicine and industry.

Paper- Nuclear Physics (PHY-602)

CO 6.1 :Understanding the concept of Nuclear properties ,determination of nuclear mass by Bain Bridge mass spectrograph.

CO 6.2 : To familiarize students with the concept of interaction of radiation with matter.

CO 6.3 : Understanding the concept of Nuclear Reactions, nuclear fission and fusion reactors, particle accelerators and detectors.