# Department of Physics
# Course Outcome
# Honours

## PART – I

### PAPER – I

**GROUP – A: Mechanics and Oscillations**

**CO1**. To help the students gain the knowledge about vector algebra and its application in mechanics.

**CO2.** Discussion with the students about the properties of laws of motion, rotating frames, collisions and dynamics of rigid bodies.

**CO3**. Sharing with the students the knowledge of Physics behind oscillations.

**GROUP – B: General properties of matter**

**CO1.** To give a brief idea of general properties of matter: Elasticity, Surface tension and Viscosity.

**GROUP – C: Waves and Acoustics**

**CO1.** Distributing the knowledge of different types of waves in media and their characteristics and to make the students understand about acoustics.

## PAPER – II

**GROUP – A: Heat and Thermodynamics**

**CO1**. The focus of this section is to increase the knowledge in thermodynamics, heat and its various kinds of properties.

**GROUP – B: Optics**

**CO1.** To help the students accessing the knowledge in the field of geometrical optics: Application of Fermat's principle, aberration in lenses, optical instruments.

**CO2.** This topic gives the students to increase their knowledge in wave theory of light, interference, diffraction and polarisation of light.

**GROUP – C: Magnetism (Magnetostatics)**

**CO1.** To give the students a brief knowledge to understand the action of magnetic field on a magnet, magnetic potential, field, magnetic dipole etc.

**CO2**. Discussion about the importance of intensity of magnetization, magnetic induction permeability, susceptibility, various magnetic substances.

# PART – II

## PAPER – IV

**GROUP – A: Electrostatics**

**CO1.** Discussion about the physics of electrostatic field : The very important Coulomb's law, Gauss's law and their application in various medium.

**CO2.** To help the students gain the importance of conductor, capacitor, inductor and their properties and applications in the field of electrostatics.

**GROUP – B: Current Electricity**

**CO1.** This part provides the knowledge about steady current through network analysis and magnetic effect of current.

**CO2.** To give the students a core idea about electromagnetic induction, varying currents, alternating current and thermoelectricity.

**GROUP – C: Electronics I**

**CO1.** To help the students gaining the knowledge of semiconductor devices and its applications.

**CO2.** Introducing the students with digital electronics.

**PAPER – IV**

**GROUP – A: Special Theory of Relativity**

**CO1.** The aim of this topic is to give the students a brief idea of special theory of relativity.

**GROUP – B: Atomic and Nuclear Physics**

**CO1.** Discussion with the students about atomic physics.

**CO2.** To give the students a core idea of nuclear physics including radioactivity, cloud chamber, fission, fusion etc.

**GROUP – C: Solid State Physics and Elementary Quantum Mechanics**

**CO1.** Introducing the students with crystallographic physics and to give them a brief idea of magnetic properties of matter.

**CO2.** To help the students understanding semiconductors and superconductors.

**CO3.** To give the students a brief idea of quantum theory of radiation and wave nature of material particles.

# PART – III

## PAPER - VII

### GROUP – A: Electronics II

**CO1.** The aim of this part is to introduce the students with various semiconductor devices and their applications.

**CO2.** Discussing with the students about digital electronics and various kinds of instruments.

### GROUP – B: Machine and Energy Sources

**CO1.** To help the students gaining the knowledge of heat engine, conventional and non conventional energy sources and making them understand the production of high vacuum and measurement of low pressures.

### GROUP – C: Communications and Computers

**CO1**. To make the students understand about the propagation of electromagnetic waves in atmosphere and also transmission of electromagnetic waves through material media

**CO2.** Discussing with them the regarding the fundamentals of computer and C programming.