

Physics Department

Course Outcome

2019-20 Onwards

1 Department of Physics

Course Outcomes Department : PHYSICS

Semester : B.Sc. I

Subject Name & Code : 1.1: Mechanics and Theory of Relativity

Students are able to learn & understand the following concepts

CO1. Simple harmonic motion and characteristics of SHM.

CO2. Laws of motion and conservation of linear, angular momentum and energy and Applying to the phenomenon like satellite motion.

CO3. Rigid body dynamics and properties of the materials like Elasticity

CO4. Lorentz transformation equations.

2 Department : PHYSICS

Semester : B.Sc. II

Subject Name & Code : 2.1 Electricity & Magnetism:

Students are able to learn & understand the following concepts

CO1. Studying about vector analysis.

CO2. Gradient, divergence and curl of vectors.

CO3. Maxwell's equations.

CO4.. Statement and mechanism of Biot-Savarts law.

CO5. Uses of B.G.

CO6. Gauss law in dielectrics & Impedance and current in LCR circuit.

3 Department : PHYSICS

Semester : B.Sc. III

Subject Name & Code : 3.1: GEOMETRICAL OPTICS AND ELECTRICITY I

Students are able to learn & understand the following concepts

CO1. Cardinal points of an optical system.

CO2. Spherical and chromatic aberrations.

CO3. Dynamics of a charged particle in electric and magnetic field.

CO4. Gauss law in dielectrics

CO5. Statement and mechanism of Biot-Savarts law.

CO6. Uses of C.R.O. & B.G.

4 Department : PHYSICS

Semester : B.Sc. IV

Subject Name & Code : 4.1: PHYSICAL OPTICS AND ELECTRICITY II

Students are able to learn & understand the following concepts

- CO1. Interference of light and Michelson's Interferometer.
- CO2. Diffraction of light, Zone plate, Fresnel, Fraunhofer diffraction and polarization.
- CO3. Impedance and current in LCR circuit.
- CO4. Thomson, Peltier & Seebeck effects.
- CO5. Gradient, divergence and curl of vectors.
- CO6. Maxwell's equations.

5 Department : PHYSICS

Semester : B.Sc. V

Subject Name & Code : 5.1 PAPER-I: CLASSICAL MECHANICS, ELECTRONICS & RELATIVITY

Students are able to learn & understand the following concepts

- CO1. Generalized coordinates, Degrees of freedom, Configuration space and Lagrange's equation of motion.
- CO2. D'Alembert's principle.
- CO3. Kepler's laws of planetary motion.
- CO4. Lorentz transformation equations.
- CO5. Quantum computing and single electron transistor.
- CO6. Lorentz transformation equations, Thevenin's and Norton's theorem.
- CO7. FET construction working and characteristics.
- CO8. Amplifiers, feedback amplifier and oscillator.

6 Department : PHYSICS

Semester : B.Sc. V

Subject Name & Code : 5.2 PAPER-II: QUANTUM MECHANICS AND SPECTROSCOPY

Students are able to understand and implement the following concepts

- CO1. Heisenberg's Uncertainty principle.
- CO2. Davisson and Germer experiment.
- CO3. Schrodinger time independent Wave equation.
- CO4. Vector atomic model of an atom.
- CO5. Normal and anomalous Zeeman effect using quantum theory.
- CO6. Raman effect based on quantum theory.
- CO7. Legendre, Bessel's & Hermit's Polynomials.

7 Department : PHYSICS

Semester : B.Sc. VI

Subject Name & Code : 6.1 PAPER-I: SOLID STATE PHYSICS, NUCLEAR PHYSICS, ENERGY SOURCES, DIGITAL ELECTRONICS AND SPECIAL MATERIALS

Students are able to understand and implement the following concepts

CO1. Structure, composition and thermal properties like thermal capacity thermal conductivity and electrical conductivity of the solid materials.

CO2. Different models of the atoms, structure of the nucleus and elementary particles.

CO3. Renewable and non renewable energy Sources.

CO4. Advantages and disadvantages of renewable and non renewable energy Sources.

CO5. Liquid crystals and its applications.

CO6. Demorgans theorem and different truth tables.

CO7. Design logic gates using NOR and NAND gates.

CO8. Applications of Polymers.

8 Department : PHYSICS

Semester : B.Sc. VI

Subject Name & Code: 6.3 PAPER-II: INTEGRAL TRANSFORMS, OPTOELECTRONICS, COMMUNICATION, PROGRAMMING AND INTEGRATED ELECTRONICS

Students are able to learn and implement the following concepts

CO1. Fourier and Laplace transform.

CO2. Photodiode. opto-coupler and working of LED.

CO3. Applications of optical fibers and LASER diode.

CO4. Wave propagation and Modulation.

CO5. Algorithm, flow chart, constants ,variables and C-tokens.

CO6. Applications of IC and OP-amps.