Dept. of Physics

Course Outcome

B. Sc. Physics, 3 years (Six Semesters) Course

Students will develop the following concepts –

Semester I

Mathematical Physics - Differential Equations, Vector Calculus, Orthogonal Curvilinear Coordinates, Mechanics - Elasticity, Special Theory of Relativity, Fluid Motion, Surface tension, Special theory of relativity

Semester II

Electricity and Magnetism, Electric Field and Electric Potential, Magnetic Properties of Matter, Network theorems, Ballistic Galvanometer, Waves and Optics, Wave Motion, Fraunhofer diffraction, Fresnel Diffraction,

Semester III

Mathematical Physics II - Special Functions, Theory of Errors, Partial Differential Equations, Thermal Physics - Zeroth and Law of Thermodynamics, Entropy, Thermodynamic potential, Distribution of Velocities, Molecular Collisions, Real Gases, Analog Systems and Applications, Semiconductor Diodes, Bipolar Junction transistors, Amplifiers, Sinusoidal Oscillators,

Semester IV

Mathematical Physics-III - Complex Analysis, Fourier Transforms, Laplace Transforms, Quantum Mechanics, Radioactivity, Laser Digital systems and applications, Boolean algebra, Arithmetic Circuits

Semester V

Quantum mechanics and application -Time independent Schrodinger equation, Atoms in Electric & Magnetic Fields, solid state physics - Crystal Structure, Lattice Vibrations and Phonons; DSE1 - Physics of Devices & Instruments OR Experimental Techniques OR Astronomy and Astrophysics; DSE2 - Advanced Mathematical Physics Or Atmospheric Physics OR Biological Physics

Semester VI

Electromagnetic theory - Maxwell Equations, EM Wave Propagation in Unbounded & bounded Media, Polarization of Electromagnetic Waves, Statistical Mechanics - Classical Statistics, Quantum Theory of Radiation, Bose-Einstein Statistics, DSE3 - Classical Dynamics OR Communication System OR Applied Dynamics