

DEPARTMENT OF PHYSICS

Semester wise Course outcomes

General

Semester I		
Sr. No.	Name of the Course	Outcomes
1.	DSC-1A: Mechanics DSC-1A:Mechanics Lab	<ul style="list-style-type: none">➤ Provides basic knowledge regarding Fundamentals of Dynamics, Work and Energy, Collisions, Rotational Dynamics, Elasticity, Fluid Motion, Gravitation and Central Force Motion, Oscillations, Non-Inertial Systems, Special Theory of Relativity.➤ The ability to formulate, conduct, analyzes and interprets experiments in physics.➤ The ability to use modern physics techniques and tools, including mathematical techniques, graphs and laboratory instrumentation.
Semester II		
1	DSC-1B - Electricity and Magnetism DSC-1B– Electricity and Magnetism (Lab)	<ul style="list-style-type: none">➤ This course aims to enlighten the students on the Electric Field and Electric Potential, Dielectric Properties of Matter, Magnetic Field, Magnetic Properties of Matter, Electromagnetic Induction, Electrical Circuits, Network theorems.➤ Student's skills about performing experiments on series RC Circuit, Potentiometer, Carey Foster's Bridge, Series LCR circuit.
Semester-III		
1	DSC-1C: Thermal Physics and Statistical Mechanics DSC-1C: Thermal Physics and Statistical Mechanics Lab	<ul style="list-style-type: none">➤ Imparts knowledge about Laws of Thermodynamics, Thermodynamical Potentials, Kinetic Theory of Gases, Theory of Radiation, Statistical Mechanics etc.➤ Updates students about some experiments on Thermal Physics and Statistical Mechanics.
2	SEC1T – Physics Workshop Skill	<ul style="list-style-type: none">➤ Provides hands-on experience on Mechanical Skill, Electrical and Electronic Skill, prime movers etc.
	SEC1T: Computational Physics	<ul style="list-style-type: none">➤ To develop knowledge about Scientific

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	SEC1P: Practical	<p>Programming, Control Statements, Scientific word processing: Introduction to LaTeX, Visualization etc.</p> <ul style="list-style-type: none"> ➤ To motivate students to perform hands on exercise with Fortran, Gnuplot and Python.
Semester-IV		
1	DSC-1D- Waves and Optics DSC-1D – Wave and Optics Lab	<ul style="list-style-type: none"> ➤ Provides basic knowledge regarding Superposition of Collinear Harmonic oscillations, Velocity of Waves, Interference, Interferometer, Diffraction and Holography. ➤ Provides the knowledge regarding experiments Lissajous Figures, Michelson’s interferometer, spectrometer, Fresnel Biprism, Newton’s Rings, diffraction grating.
2	SEC2T: Electrical Circuits and Network Skills	<ul style="list-style-type: none"> ➤ Provides ideas on Basic Electricity Principles, Understanding Electrical Circuits, Electrical Drawing and Symbols, Generators and Transformers, Electric Motors, Solid-State Devices, Electrical Protection etc.
Semester-V		
1	DSE-1: Quantum Mechanics and Applications DSE-1: Quantum Mechanics and Applications Lab	<ul style="list-style-type: none"> ➤ To learn about Schrodinger equation, General discussion of bound states in an arbitrary potential, Quantum theory of hydrogen-like atoms, Atoms in Electric & Magnetic Fields, Atoms in External Magnetic Fields, Many electron atoms etc. ➤ To solve Schroedinger equation problems for different systems using Python programming. ➤ To perform experiments on Electron spin resonance, Zeeman effect, tunnel diode etc.
	DSE-1: Elements of Modern Physics DSE-1: Elements of Modern Physics Lab	<ul style="list-style-type: none"> ➤ Familiarizes students learn Problems with Rutherford model, Planck’s quantum, Two slit interference experiment, One

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		<p>Dimensional infinitely Rigid Box, Size and structure of atomic nucleus and its relation with atomic weight, Radioactivity, Fission and fusion.</p> <ul style="list-style-type: none"> ➤ The ability to use modern physics techniques and tools, including mathematical techniques, graphs and laboratory instrumentation.
	DSE-1: Mathematical Physics DSE-1: Mathematical Physics Lab	<ul style="list-style-type: none"> ➤ Creates understanding about Fourier Series, Frobenius Method and Special Functions, Special Integrals, Variational calculus, Partial Differential Equations etc. ➤ Enables writing Python programs to solve different mathematical problems.
	DSE1T: Medical Physics DSE1P: Medical Physics Lab	<ul style="list-style-type: none"> ➤ Provides an practical approach learn Physics of the Body, Acoustics of the body, Electrical system of the body, Physics of Diagnostic and Therapeutic Systems, Radiation Physics, Medical Imaging Physics, Radiation Oncology Physics, Radiation and Radiation Protection etc.
2	SEC3T: Renewable Energy and Energy Harvesting SEC3P: Practical	<ul style="list-style-type: none"> ➤ To develop knowledge about Fossil fuels and Alternate Sources of energy, Solar energy, Wind Energy harvesting, Ocean Energy, Geothermal Energy, Hydro Energy, Piezoelectric Energy harvesting, Electromagnetic Energy Harvesting etc. ➤ To demonstrate and perform experiments with solar energy, wind energy, piezoelectric materials etc.
Semester-VI		
1	DSE-2: Solid State Physics DSE-2: Solid State Physics Lab	<ul style="list-style-type: none"> ➤ Provides basic ideas about Crystal Structure, Elementary Lattice Dynamics, Magnetic Properties of Matter, Dielectric Properties of Materials, Elementary band theory, Superconductivity etc. ➤ To perform experiments on Magnetic susceptibility, piezoelectric crystal, Dielectric Constant, Surface Plasmon resonance, Ferroelectric Crystal etc.

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	DSE2T:Nuclear and Particle Physics	<ul style="list-style-type: none">➤ To give the students knowledge about General Properties of Nuclei, Nuclear Models, Radioactivity decay, Nuclear Reactions, Interaction of Nuclear Radiation with matter, Detector for Nuclear Radiations, Particle Accelerators, Particle physics etc.
2	SEC4T: Weather Forecasting	<ul style="list-style-type: none">➤ Students learn about Introduction to atmosphere, Measuring the weather, Weather systems, Climate and Climate Change, Basics of weather forecasting etc.➤ Perform corresponding experiments.