# MAHAMAYEE MAHILA MAHAVIDYALAYA
# DEPARTMENT OF PHYSICS
## Course Outcomes
## Core Courses

| Core Courses | Course Outcomes |
|---|---|
| CC – 1 Mathematical Physics - I | 1. To acquire knowledge of divergence, curl, gradient vector fields & to understand application of calculus which is integral partof physics. <br> 2. To develop problem solving ability. |
| CC – 2 Mechanics | 1. To understand laws of motion, rotational dynamics, planetary motion, central force & modulus of important objects. <br> 2. To knows the basics of motion which is the fundamental part of physics. |
| CC – 3 Electricity and Magnetism | 1. To know about basic concepts of electrical currents, dielectrics, conductance, network theorems, nature of magnetism. |
| CC – 4 Waves and Optics | 1. To learn about waves & propagation, understanding physical & geometrical optics. <br> 2. To gain knowledge of interference, diffraction, polarization. |

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| CC – 5 Mathematical Physics - II | 1. Solving Fourier Series, differential equation (Frobenius method)<br>2. Learning functions & properties, application of probability & different distribution function. |
| CC – 6 Thermal Physics | 1. To understand the basic principle of thermodynamics, entropy and application to various systems.<br>2. Obtain knowledge about microscopic behavior of systems. |
| CC – 7 Analog Systems and Applications | 1. To know about Semiconductor diodes & it's application, Transistors, Amplifiers & it's classification.<br>2. Study Operational amplifier & its application.<br>3. To motivate the students to apply the principle of electronics in everyday life. |
| CC – 8 Mathematical Physics - III | 1. Understanding complex analysis, Fourier transform, convolution theorem.<br>2. Laplace equation & its application to harmonic oscillator, simple electrical circuits. |
| CC – 9 Elements of Modern Physics | 1. To explore about inadequacy of classical mechanics, concepts of Schrodinger equation and application.<br>2. Learn about alpha decay, beta decay. |
| CC – 10 Digital Systems and Applications | 1. To learn about Boolean Algebra, different logic gates, truth table, K-map, CRO & application.<br>2. Basic ideas of data processing circuits, IC timer, Binary addition & substraction.<br>3. Understanding ROM, RAM & Counters. |
| CC – 11 Quantum Mechanics and Applications | 1. Understanding Schrodinger equation and application, operator formalism, behavior of atoms in electric and magnetic fields. |
| CC – 12 Solid State Physics | 1. Understanding crystal structure, lattice dynamics, elementary band theory.<br>2. To know about superconductivity and LASER System. |
| CC – 13 Electromagnetic theory | 1. Understanding Maxwell's equation in time varying fields. EM Waves in bounded and unbounded media.<br>2. Studying polarization electromagnetic waves. |
| CC – 14 Statistical Mechanics | 1. To understand statistical properties of matter related to thermodynamics, classical & quantum approach. |

# Discipline Specific Elective (DSE)

| DSE Subjects | Course Outcomes |
|---|---|
| DSE – I  Classical Dynamics | 1. To know about generalized coordinates, Lagrange's equation & applications, Hamilton's equation. <br> 2. To obtain knowledge about special theory of relativity. |
| DSE – II  Nuclear and Particle Physics | 1. To gather knowledge about properties of nucleus, nuclear models, classification of elementary particles. |
| DSE – III Nano Materials and Application | 1. To understand Nano scale System, its synthesis, characterization & applications. |
| DSE – IV Project | 1. Students acquire advanced knowledge doing a project work with an advisory support by faculty member, enhancing their skill, employability & entrepreneurship. |

# Practical / LAB

| Practical Topics | Course Outcomes |
|---|---|
| C-2, C-3, C-4, C-6, C-7, C-9, C-10, C-12, C-13, (LAB) <br> Practical of Mechanics, Thermodynamics, Electricity & Magnetism, Waves, Optics, Modern Physics, Solid State Physics. | 1. Students learned the theories verified in practical classes. |
| C-1, C-5, C-8, C-11, C-14, (LAB) <br> Practical's based on computation and programming (C, C'', Sci. Lab) | 1. Students learn how to write algorithm, iteration techniques, plotting different types of graphs. |

HOD

PRINCIPAL
MAHAMAYEE MAHILA MAHAVIDYALAYA
Principal.