Handique Girls' College

Department of Physics

COURSE OUTCOME

FYUGP SEM II

Name of Paper: **Mathematical Physics & Electricity and Magnetism**

Paper Code: **PHY0200104**

Course Outcome: After completing the course successfully, students will have good foundation on how to apply and solve various differential equations appearing in different physical problems. Through matrix algebra special techniques to compare various matrix operations required for solving physical problems will be learnt by the students. Also enough knowledge on electric field, magnetic field in matter, dielectric properties of matter, magnetic properties of matter, Kirchhoff's laws and its applications in different circuits along with application of network theorem in different circuits will be gathered by the students.

FYUGP SEM II

Name of Paper: **Research and Technical Writing**

Paper Code: **SEC0209703**

Course Outcome: On successful completion of the course, students will be able to identify and write different parts of technical reports, write article, thesis, and presentation in latex, create chart in Microsoft Excel, use different formats of charts based on need, plot data from different sources using Origin Plot.

FYUGP SEM IV (MAJOR)

Name of Paper: **Classical Mechanics**

Paper Code: **PHY0400104**

Course Outcome: After completing this course, students will have a basic understanding of the mechanics of a single particle according to Lagrangian formulation and Hamiltonian formulation. They will also have a basic grounding on the Special Theory of Relativity. Students will be able to analyze simple systems in classical mechanics by the end of this course. They will be able to apply the laws of classical dynamics to physical problems of motion of particles and fluids.

FYUGP SEM IV (MAJOR)

Name of Paper: **Quantum Mechanics-I**

Paper Code: **PHY0400204**

Course Outcome: After successful completion of this course, the students will be able to understand the new set of rules followed by microscopic particles as well as light, which show dual characters of both particles and waves. They will be able to understand that unlike the macroscopic particles, the microscopic and the subatomic particles do not have certainty in their physical characteristics. They will also be able to use Shrodinger equations , both its time independent and the time dependent variations to various microscopic systems and see the unique behaviour of such systems. They will also be able to use operators in physical systems.

FYUGP SEM IV (MAJOR)

Name of Paper: **Analog Electronics**

Paper Code: **PHY0400304**

Course Outcome: Students who successfully complete the course will be able to comprehend the physics of semiconductors and the behaviour of semiconductor devices such as p-n junctions, bipolar junction transistors, transistor biasing and stabilization circuits, the idea of feedback in amplifiers, and oscillator circuits. They will also have an understanding of operational amplifiers and their uses.

FYUGP SEM IV (MAJOR)

Name of Paper: **Mathematical Physics**

Paper Code: **PHY0400404**

Course Outcome: After successfully completing the course, students will be able to use the residue theorem to solve complex integrals, solve differential equations using Fourier and Laplace transforms, and understand the properties of tensors such as transformation of coordinates, contravariant and covariant tensors, and index rules for combining tensors. The students will develop a fundamental understanding and receive basic training to apply the mathematical methods in several other branches of Physics.

FYUGP SEM IV (MINOR)

Name of Paper: **Quantum Mechanics-I**

Paper Code: **PHY0400204**

Course Outcome: After successful completion of this course, the students will be able to understand the new set of rules followed by microscopic particles as well as light, which show dual characters of both particles and waves. They will be able to understand that unlike the macroscopic particles, the microscopic and the subatomic particles do not have certainty in their physical characteristics. They will also be able to use Shrodinger equations , both its time independent and the time dependent variations to various microscopic systems and see the unique behaviour of such systems. They will also be able to use operators in physical systems.

FYUGP SEM IV (MINOR)

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