

# Department of Physics

## Sarojini Naidu College for Women

### Name of the Academic Program: B. Sc.(Hons) in Physics

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#### Program Specific Outcomes (PSO)

After successful completion of B.Sc. (Hons.) in Physics, students gain the knowledge of the following:

- PSO1:** Students acquire knowledge of the fundamental principles of Classical Mechanics, Mathematical Physics, Electromagnetic Theory, Optics, Heat and Thermodynamics, Statistical Mechanics, Solid State Physics, Nuclear Physics, Modern Physics, Quantum Mechanics, Electronics.
- PSO2:** Students should have the skill of applying appropriate basic principles in the formulation of different physical problems. They develop the ability of analytical and logical thinking.
- PSO3:** Students can use mathematics to formulate experimental results. They can solve Ordinary differential equations with initial value problems using python programming language and linear system of equations by numerical methods.
- PSO4:** Physics needs proper blending of both theory and experiment. Students should learn how to conduct an experiment, demonstrate, interpret, analyze results and draw conclusions as supported by their data.
- PSO5:** The students will learn an effective communication skill to prepare laboratory notebook, project work, poster presentation, wall magazines and models.
- PSO6:** Students will be able to describe flow phenomena, turbulence and compare the evolution of dynamical systems obtained by stability analysis with that of analytical solutions. They can evaluate equations of motion for dynamical systems.
- PSO7:** Students can implement different physical laws in Astrophysics to get knowledge about stellar objects and can evaluate temperature, distance, age of stars from the available information.
- PSO8:** Students will be able to recognize different accelerators and detectors which are used for advanced scientific research.
- PSO9:** The students should learn to sketch and fabricate digital circuits using ICs for unknown problems, calculate the circuit components required to perform experiment and learn the physics of satellite and Mobile communication systems.
- PSO10:** Students set their foundation to pursue higher education in physics and develop an attitude of doing research in small projects of various Internships offered by reputed National Research Institutes.
- PSO11:** The students will develop computational skill using open source software packages such as Python, Numpy, Scipy, Matplotlib, Octave, LaTeX,

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Fortran, Gnuplot in both Linux and Windows operating systems. This will help them for various kinds of jobs in IT sector and other industries.

**PSO12:** After completing the program students can pursue higher studies in subjects other than physics, as they develop interdisciplinary approach.