

Gokhale Education Society's  
R.N.C. Arts J.D.B. Commerce & N.S.C. Science College Nashik Road-422101

**Department of Physics**

Department of Physics is one of the pioneering departments of the college having the undergraduate course in physics of the SavitriBai Phule Pune University (formerly known as University of Pune). In the three years course of B.Sc. physics one has to undergo 20 theory papers, 4 practical papers and 1 project. At F.Y. B.Sc., student has to study 4 theory papers and practical having semester pattern. S.Y. B.Sc. has 4 theory papers with 2 papers in each semester and semester practical. If student opts for physics as a principal subject he has to undergo 12 theory papers (six papers per semester), 2 practicals and 1 project. Following are the details of the theory papers and the corresponding outcome of the papers, practicals and project.

1	Third Year	Mathematical Methods in Physics-II	Semester-III	In this course students studies curvilinear coordinates, spatial theory of relativity, differential equation and special functions.
2		Solid State Physics		In this course students undergoes the study of the crystalline state, X-ray diffraction and characterization techniques, free electrons and band theory of matte and magnetism
3		Classical Mechanics		In this course student's studies mechanics of system of particles, motion in central force field, scattering of particles and Lagrangian and Hamiltonian formulation with canonical transformation Poisson's bracket.
4		Atomic and Molecular Physics		Atomic structure, electron system, Zeeman effect, X-ray spectroscopy, molecular spectroscopy and Raman Spectroscopy.
5		Computational Physics		Concepts of programming, C-programming, Arrays Pointers in C, graphics in C and computational physics
6		Renewable Energy Sources (Elective-I)		Conventional and non- conventional Energy sources, photo thermal application, photovoltaic systems, energy from biomass and wind energy.
7		Classical Electrodynamics	Semester-IV	In this course students understand Electrostatics, Magneto statics and Electrodynamics
8		Quantum Mechanics		In this course students can studies origin of quantum mechanics, Schrodinger's Equation's and their application, spherically symmetric potential and operators in quantum mechanics.
9		Thermodynamics and Statistical Physics		In this course students studies kinetic theory of gases, Maxwell's relation and application, elementary concept of statistics, statistical distribution of particles, statistical ensembles and quantum statistics.
10		Nuclear Physics		In this course students understand basic properties of nucleus, radioactivity, nuclear forces, particle accelerator and detectors, nuclear reaction and energy.
11		Electronics  OR  Advanced Electronics		In this course students can understand diodes, transistor, amplifier, FET, OPAMP, timer, regulated power supply, combinational circuits and sequential circuit OR Sensors, signal conditioning using OPAMP, digital signal conditioning.

12	LASERs		In this course students can understand concept of LASER, LASER action and oscillator, output and characteristics of LASER, Different types of LASERs and their applications.
13	Practical-I	Annual	Perform the experiments for better understanding of aforesaid physics laws and principles.
14	Practical-II		
15	Project		

