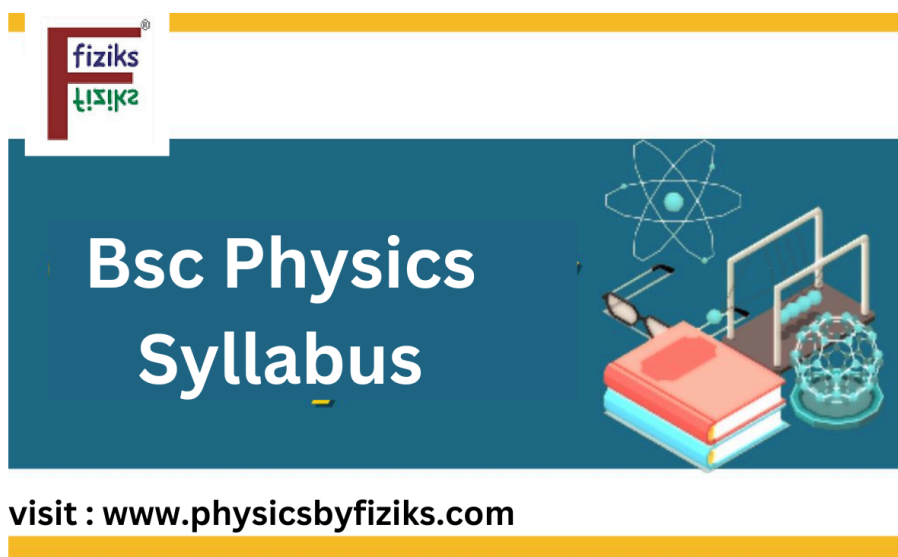


■ Complete Guide to BSc Physics Syllabus: Year-Wise Breakdown

Presented by Physics by Fiziks

Embarking on a **BSc in Physics** is the first step toward understanding the universe through the lens of science and mathematics. Whether you aim for research, teaching, or competitive exams like **IIT JAM**, **GATE**, or **CSIR NET**, having a structured overview of the [BSc Physics syllabus](https://www.physicsbyfiziks.com) can shape your preparation strategy.



🔬 First Year: Foundations of Physics

Core Concepts Covered:

- **Mechanics**
 - Newtonian mechanics, systems of particles, conservation laws
 - Rotational dynamics and gravitation
- **Waves and Oscillations**
 - Simple harmonic motion, wave equation, superposition principle

- Doppler effect and resonance phenomena
- **Mathematical Physics I**
 - Vector calculus, differential equations, and complex numbers
 - Use of Mathematica/Matlab for basic modeling

Lab Work:

- Experiments based on mechanics and simple circuits
- Introduction to error analysis and lab reporting



Second Year: Deeper into Physical Realms

Key Modules:

- **Thermal Physics & Statistical Mechanics**
 - Laws of thermodynamics, kinetic theory
 - Introduction to entropy and distribution functions
- **Electricity and Magnetism**
 - Electrostatics, Gauss's Law, AC/DC circuits
 - Magnetic fields, inductance, and Maxwell's equations
- **Mathematical Physics II**
 - Fourier series, Laplace transforms, special functions
 - Numerical analysis using Python or C++

Practical Skills:

- Use of CRO, function generators, and measuring instruments
- Thermocouple calibration and bridge circuits

Third Year: Modern and Applied Physics

Advanced Courses:

- **Quantum Mechanics**
 - Schrödinger equation, operators, and tunneling
 - Hydrogen atom, spin, and angular momentum
- **Solid State Physics**
 - Crystal structure, band theory, semiconductors
 - X-ray diffraction and material properties
- **Nuclear & Particle Physics**
 - Radioactivity, nuclear models, and detectors
 - Introduction to particle physics and cosmic rays

Project & Seminars:

- Optional minor projects or presentations
- Prepares students for MSc entrance and competitive physics exams

Final Thoughts

At **Physics by Fiziks**, we believe a strong grasp of the **BSc physics syllabus** is essential for academic success and research readiness. Our coaching bridges the gap between textbook knowledge and exam excellence.

Ready to master physics year by year? Join us and build your foundation the right way.