

Core Departments

Department of Physics



The department offers B.Sc. (Hons.) in Physics and has highly active and vibrant faculty committed to impart high quality research standards in pure and applied areas of physics. It trains the students to become competent and motivated physicists.

The department has state-of-the-art research lab, wherein the students build their foundation on the principles of physics thereby enhancing their scientific temperament. It has equipment like He-Ne laser, polarimeter, vacuum coating unit, electrical bridges, oscilloscopes, resistance meters, function generators, power supplies, optical benches, etc. to aid the learning process and meet the practical needs of the students.



Department of Physics

B.Sc. (Hons.) Physics

SEMESTER 1	SEMESTER 2
C-I : Mathematical Physics-I C-I : Lab (Mathematical Physics-I) C-II : Mechanics C-II : Lab (Mechanics) GE-I AECC-I : English/MIL Communication or EVS	C-III : Electricity & Magnetism C-III : Lab (Electricity & Magnetism) C-IV : Waves and Optics C-IV : Lab (Wave and Optics) GE-II AECC-II : EVS or English/MIL Communication
SEMESTER 3	SEMESTER 4
C-V : Mathematical Physics-II C-V : Lab (Mathematical Physics-II) C-VI : Thermal Physics C-VI : Lab (Thermal Physics) C-VII : Digital Systems and Applications C-VII : Lab (Digital Systems and Applications) GE-III SEC-I	C-VIII : Mathematical Physics-III C-VIII : Lab (Mathematical Physics-III) C-IX : Elements of Modern Physics C-IX : Lab (Elements of Modern Physics) C-X : Analog Systems and Applications C-X : Lab (Analog Systems and Applications) GE-IV SEC-II
SEMESTER 5	SEMESTER 6
C-XI : Quantum Mechanics C-XI : Lab (Quantum Mechanics) C-XII : Solid State Physics C-XII : Lab (Solid State Physics) DSE-I DSE-II	C-XIII : Electromagnetic Theory C-XIII : Lab (Electromagnetic Theory) C-XIV : Statistical Mechanics C-XIV : Lab (Statistical Mechanics) DSE-III DSE-IV

C : Core Courses; GE : Generic Elective; AECC : Ability Enhancement Compulsory Course; SEC : Skill Enhancement Courses; DSE : Discipline Specific Elective

Discipline Specific Elective Papers (Credit : 06 each) DSE I-IV (4 papers to be selected : 02 each for Odd Semester and Even Semester as listed below)

Odd Semester

1. Experimental Techniques (4) + Lab (4)
2. Advanced Mathematical Physics (4) + Lab (4)
3. Embedded Systems — Introduction to Microcontroller (4) + Lab (4)
4. Nuclear and Particle Physics (5) + Tutorial (1)
5. Physics of Devices and Communication (4) + Lab (4)
6. Astronomy and Astrophysics (5) + Tutorial (1)
7. Atmospheric Physics (4) + Lab (4)
8. Biological Physics (5) + Tutorial (1)

Even Semester

9. Advanced Mathematical Physics-II (5) + Tutorial (1)
10. Communication System (4) + Lab (1)
11. Applied Dynamics (4) + Lab (4)
12. Verilog and FPGA based system design (4) + Lab (4)
13. Classical Dynamics (5) + Tutorial (1)
14. Digital Signal Processing (4) + Lab (4)
15. Nano Materials and Applications (4) + Lab (4)
16. Physics of the Earth (5) + Tutorial (1)
17. Medical Physics (4) + Lab (4)
18. Dissertation

Skill Enhancement Courses (02 to 04 papers) (Credit : 02 each) SEC-I to SEC-IV

1. Physics Workshop Skills
2. Computational Physics Skills
3. Electrical Circuits and Network Skills
4. Basic Instrumentation Skills
5. Renewable Energy and Energy Harvesting

6. Technical Drawing
7. Radiation Safety
8. Applied Optics
9. Weather Forecasting

Generic Elective Papers (GE) (Minor - Physics) for other Departments/Disciplines (Credit : 06 each)

Odd Semester

1. Electricity and Magnetism (4) + Lab (4)
2. Mathematical Physics (4) + Lab (4)
3. Digital, Analog and Instrumentation (4) + Lab (4)
4. Applied Dynamics (4) + Lab (4)
5. Medical Physics (4) + Lab (4)
6. Waves and Optics (4) + Lab (4)
7. Quantum Mechanics (4) + Lab (4)*
8. Communication System (4) + Lab (4)*
9. Verilog and FPGA based System Design (4) + Lab (4)*
10. Nano Materials and Applications (4) + Lab (4)*

Even Semester

11. Mechanics (4) + Lab (4)
12. Elements of Modern Physics (4) + Lab (4)
13. Solid State Physics (4) + Lab (4)
14. Embedded System : Introduction to Microcontroller (4) + Lab (4)
15. Biological Physics (5) + Tutorials (1)
16. Thermal Physics (4) + Lab (4)
17. Digital Signal Processing (4) + Lab (4)
18. Nuclear and Particle Physics (5) + Tutorials (1)**
19. Astronomy and Astrophysics (5) + Tutorials (1)**
20. Atmospheric Physics (4) + Lab (4)**
21. Physics of the Earth (5) + Tutorials (1)**

* Not offered in 1st Semester ** Not offered in 2nd Semester