



# M.SC.PHYSICS

## Recruiters:

Aakash Educational Services  
Jupiter Solar Power Limited  
Topper Academy  
Allen  
TCS  
IBM  
Accenture  
Sri Chaitanya Academy  
Shikha 'O' Anusandhan (SOA)  
Orchids International School  
BYJU'S  
Chegg  
Indag rubber  
Pentair  
SRF

## Alumni

Many alumni have gone to top places in India and abroad for their PhD and other higher studies, for example IIT Kanpur, IIT Guwahati, University of Göttingen, IIT Delhi, University of Sussex, RRI, IIT Madras, TIFR and many are in different fields as Data Science etc.

## Internship 2023:

**Soumyakanti Das**- Selected in SRPF-2023 at JNCSR

**Vansh Kaushik**- selected in visiting student program 2023 in physics at HRI

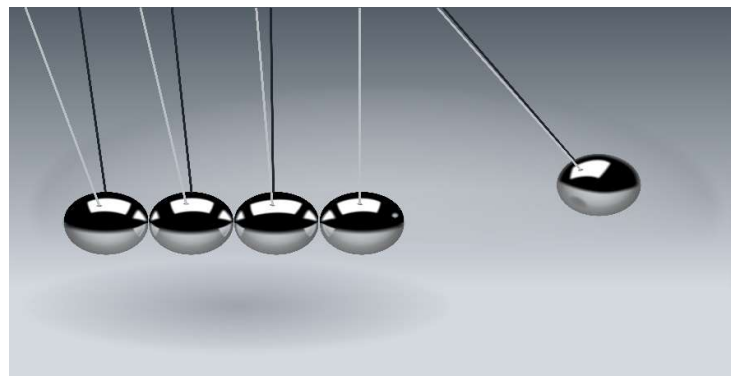
**Gurleen Kaur**- Selected in Women program 2023 in TIFR

## Aims and Objectives

- Attract bright and young minds towards cutting edge research in physics.
- Build a solid foundation in both experimental and theoretical physics.
- Provide a rigorous training in both fundamental and advanced areas of physics.
- Train manpower capable of working in the frontiers of science and technology.

## Salient features

- Opportunity to work in cutting-edge pure physics as well as interdisciplinary research areas during the post-graduate project work.
- Opportunity to be internally shortlisted for Ph.D. at IIT Mandi after satisfying the eligibility criteria.
- Opportunity to take courses from different disciplines as per interest.



## Contact us



### Associated Faculty (Msc Physics)

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### Career and Placement Cell

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## Academic Curriculum

### Semester-1(21 credits)

Mathematical Physics  
Classical Mechanics  
Quantum Mechanics  
Electronics  
Physics Laboratory  
Elective Course

### Semester-2(20credits)

Electromagnetic Theory  
Statistical Mechanics  
Cond. Matt. Physics  
Atom. and Mol. Physics  
Comp. Meth. Physics  
Elective course

### Semester -3(21 Credits)

Special topics in QM  
Seminar and Report  
PG Project-I  
Electronic Lab  
Elective Courses

### Semester-4(18 Credits)

Expt. Res. Techniques  
PG Project-II  
Elective Courses

### Elective Courses:

- Advanced Cond. Matt Physics
- Mesoscopic and Quantum Transport
- General Theory of Relativity
- Quantum Field Theory
- Magnetism and Magnetic Materials
- Molecular Simulations
- Optics and Photonics
- Nuclear and Particle Physics
- Optical Properties of Solids
- X-rays
- Lasers and applications
- Stochastic problems in Physics
- Special Topics courses

Possibility to take elective course from other disciplines as well

# LABS/FACILITIES:

## 1.Special Experiments in the Physics Laboratory:

- Ultrasonic diffraction
- Frank Hertz
- Dispersion and resolving power
- Fourier optics
- Fabry-Perot interferometer
- Zeeman Effect with Electromagnet
- Research Laboratory
- Scanning tunnelling microscopy
- Vibration sample magnetometer

## 2.Research Laboratory (Central facilities):

- Powder X ray diffractometer
- Nuclear Magnetic Resonance Spectrometer
- Transmission Electron Microscope
- Confocal Microscope
- Single crystal x-ray diffractometer
- High resolution mass spectrometer
- Field emission scanning electron microscopy
- Gas Chromatography
- Pump probe system
- Physical property measurement system
- Magnetic property measurement system
- Fluorescence spectrophotometer
- Photo emission spectroscopy
- Gas permeation chromatography
- Fluorescence lifetime measuring system
- Raman Spectrometer
- High performance liquid chromatography
- Thermo gravimetric analysis with differential scanning calorimetry
- Atomic absorption analysis
- Dynamic light scattering
- Fourier-transform infrared spectroscopy
- UV-vis Spectrophotometer
- Optical cum polarising microscope
- Circular dichroism spectrometer
- Cyclic Voltammetry
- Photon emission spectrometry
- Liquid N<sub>2</sub> Plant
- Stereo optical microscope
- UV-VIS-NIR Spectrophotometer
- Differential scanning calorimetry