



Maulana Azad National Institute of Technology Bhopal

— Department of Physics —

Build Your Future with

M.Sc. Physics

Explore • Understand • Innovate

A gateway to knowledge, research and limitless possibilities.

Why Choose M.Sc. Physics?

- Strong foundation in fundamental & applied physics
- Pathway to Ph.D. and competitive exams (GATE/CSIR-NET/JEST)
- Advanced analytical, problem-solving & computational skills
- Career opportunities in research labs, industries, academia and technology sector
- Exciting research in cutting-edge areas (Semiconductor and Quantum materials, Energy and functional materials, Plasma physics, Astrophysics and High energy physics)
- Interdisciplinary exposure & preparation for emerging technologies
- Hands-on labs, simulations & real-world projects
- Aligns with National Quantum Mission and India Semiconductor Mission

Career Opportunities

- Ph. D. with fellowships from different funding agencies.
- Academia & Research: Path to Lecturer/ Assistant Professor after NET/JEST.
- Industry Collaboration: Exposure through partnerships with top companies and institutes.
- Defence and administrative services through competitive exams like UPSC, MPPSC, CDS, etc.

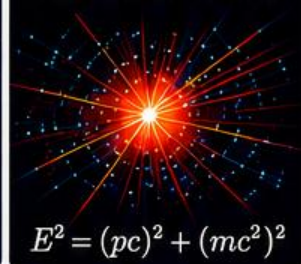


ASTROPHYSICS



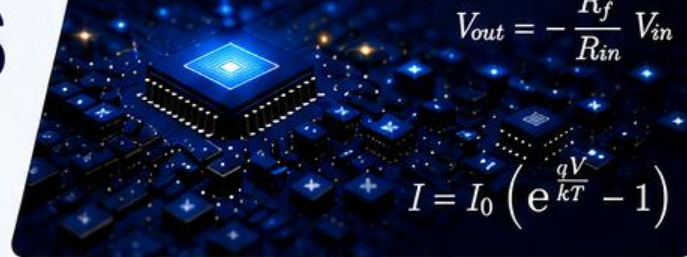
$$L = 4\pi d^2 F$$

HIGH ENERGY PHYSICS



$$E^2 = (pc)^2 + (mc^2)^2$$

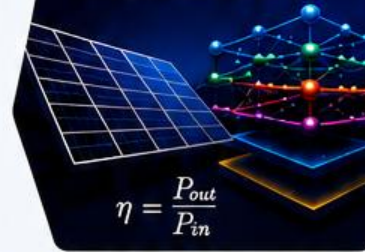
SEMICONDUCTOR PHYSICS AND ELECTRONICS



$$V_{out} = -\frac{R_f}{R_{in}} V_{in}$$

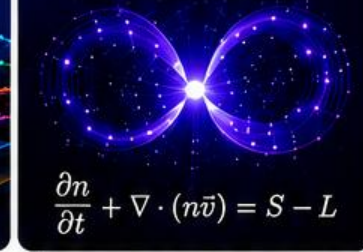
$$I = I_0 \left(e^{\frac{qV}{kT}} - 1 \right)$$

MATERIALS SCIENCE



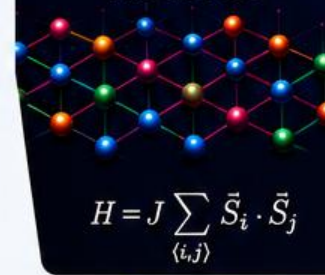
$$\eta = \frac{P_{out}}{P_{in}}$$

PLASMA PHYSICS



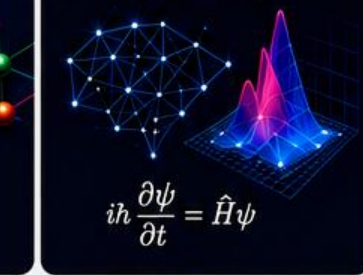
$$\frac{\partial n}{\partial t} + \nabla \cdot (n\vec{v}) = S - L$$

QUANTUM MATERIALS AND DEVICES



$$H = J \sum_{\langle i,j \rangle} \vec{S}_i \cdot \vec{S}_j$$

COMPUTATIONAL PHYSICS AND AI-ML



$$i\hbar \frac{\partial \psi}{\partial t} = \hat{H} \psi$$

About the Programme

The M.Sc. (Physics) programme covers essential physics courses and laboratory practicals. Theory courses are aligned with the GATE/CSIR-NET/JEST syllabus.

The programme is enriched with advanced electives such as Semiconductor Devices, Thin Films, and Solar Photovoltaic Technology, Quantum many-body physics, Quantum Materials, Astrophysics, Plasma Physics, AI/ML in Physics, Quantum Field Theory, General Relativity. These electives align well with the Government of India Semiconductor Mission and National Quantum Mission.

Students undertake a research project in the fourth semester to nurture research aptitude and prepare for future academic and research careers.

APPLY THROUGH CCMN 2026

CENTRALIZED COUNSELING FOR M. Sc. / M. Sc. (TECH.) ADMISSION THROUGH JAM

<https://ccmn.admissions.nic.in/>
Choose

MANIT Bhopal & Program



IMPORTANT DATES

As per CCMN 2026 schedule

*Please visit the official CCMN website for updates

<https://ccmn.admissions.nic.in/>

FOR ADMISSION QUERIES:

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