





Date: 30.04.2026

**Advertisement for Ph.D. (Regular Full Time / Part Time Mode) & M.Tech (Research) (Regular Full Time)
Admission in School of Mathematical and Statistical Sciences, IIT Mandi (August- December 2026)**

School of Mathematical & Statistical Sciences of IIT Mandi invites applications for admission to Doctor of Philosophy (Ph.D.) and M.Tech (Research) programme in a variety of disciplines and interdisciplinary areas under Regular Full-Time mode/ Part time mode.

 Exciting Research Opportunities for Ph.D. & M.Tech Candidates! 

We're offering Ph.D. and M.Tech (R) positions in cutting-edge fields that will shape the future of science, technology, and the environment. Explore our dynamic research areas:

 **Category 1: Statistics, Optimization, and Data Analysis**

(Interested Faculties in this Category: Dr. Rishikesh, Prof. Manoj, Dr. Preeti, Prof. Rajendra, Dr. Vikash, Dr. Mirza, Dr. tanmay)

1. Extreme Value Analysis, Spatio-temporal Modeling, Bayesian Computation

- **Required Knowledge:** Statistics, Bayesian Inference, and Computer Programming (R/Python).

2. Machine Learning and Applications

- This area covers general machine learning techniques, AI/ML-based environmental modeling, statistical inference combined with machine learning, as well as specialized applications in finance.
- **Required Knowledge:** Basics of Statistics, Linear Algebra, Optimization, and strong programming skills (Python, R, or other relevant languages).
- **Preferred:** Exposure to AI/ML frameworks and computational tools, with a focus on applications in finance.

3. Generative AI in Finance

- This area focuses on the application of Generative AI, Machine Learning, and Artificial Intelligence techniques to solve problems in the financial sector, such as risk modeling, fraud detection, algorithmic trading, and synthetic data generation for financial analysis.
- **Required Knowledge:** Knowledge of ML, AI, Generative AI, and good programming skills in Python, C, C++, or R.
- **Preferred:** Familiarity with financial data, modeling techniques, and AI/ML tools used in finance.

4. Deep Learning and Reinforcement Learning Applications

- This area covers deep learning and reinforcement learning techniques and their broad applications across multiple domains, including areas such as data analysis, modeling, and prediction. Applications also include bioinformatics, where these methods are used for analyzing biological data, pattern recognition, and predictive modeling in genomics and related fields.
- **Required Knowledge:** Linear Algebra, Basics of Statistics, Optimization, and good programming skills in Python, C, C++, or R.

5. Mathematical Framework for Neural Network Design and Analysis

- **Required Knowledge:** Linear Algebra, Optimization theory and foundational expertise in programming.

6. Statistical Inference and Machine Learning

- **Required Knowledge:** AI/ML, Probability, Statistics, Linear Algebra, Numerical Analysis and Computer Programming.

7. AI/ML-based Environmental Modelling

- **Required Knowledge:** AI/ML and Computer Programming.

8. Physics Informed Neural Networks for Climate Modelling/Rainfall prediction in Himalayan Region

- **Required Knowledge:** Knowledge of AI/ML, good programming skills in Python, C, or C++, Numerical Methods.
- **Preferred:** Familiarity with Partial Differential Equation, basic knowledge in Numerical Methods, data handling.

9. Graph Algorithms and Data Structures

- **Required Knowledge:** Knowledge of Linear Algebra, Optimization, and the basics of Probability.
- **Preferred:** Data Structure & Algorithms, Algorithm Design and Analysis



Category 2: Differential Equations and Applied Mathematical Modeling

(Interested Faculties in this Category: Dr. Rakesh, Prof. Malik, Prof. Nitu, Prof. Abbas, Dr. Doyel, Prof. Rajendra)

1. **Deep Learning Methods for ODE/PDE, Controllability of Differential Equations, and Inverse Problems**
 - Application of ML/PINNs (Physics-Informed Neural Networks) for approximate solutions of ODE/PDE problems with applications.
 - **Required Knowledge:** ODE, PDE, Functional Analysis, and Computing fundamentals.
 - Controllability and Optimal Control of Differential Equations
 - **Required Knowledge:** ODE, PDE, a strong foundation of Functional Analysis, basic computing, and control systems knowledge, preferred but not mandatory.
 - Inverse Problems and PINNs
 - **Required Knowledge:** ODE, PDE, and a strong foundation of Functional Analysis
2. **Dynamics of Complex Networks**
 - Focus on synchronization phenomena, especially in Kuramoto-type oscillator models. Includes multilayer networks and chimera states with the coexistence of coherent and incoherent behaviors.
 - Computation Neuroscience is an area where we study the dynamics of interconnections of neurons using mathematical models, specifically analyzing how these nonlinear interactions give rise to emergent phenomena such as limit cycles, bifurcations, and chaotic trajectories that govern network behavior.
 - **Suggested Knowledge:** Dynamical systems, nonlinear systems, and network theory. Functional Analysis
3. **Ecological Modeling using ODE/PDE and Machine Learning / Deep Learning Techniques**
 - Aim to bridge the gap between traditional modeling and data-driven approaches.
 - **Suggested Knowledge:** ODE/PDE modeling, familiarity with ML/DL methods.
4. **Higher Order Accurate Numerical Schemes for Fluid Flow and Heat Transfer**
 - **Required Knowledge:** Good knowledge in PDEs, Numerical Techniques, Fluid Mechanics, and Computer Programming.
5. **Image/video Processing using Diffusion Models/ Variational Models/ PINNs**
 - **Required Knowledge:** Good knowledge in PDEs, Numerical Techniques, and Computer Programming.
6. **Microfluidics modeling and its application**
 - **Required Knowledge:** PDEs, Numerical Techniques, and Computer Programming.
7. **Qualitative theory of differential equations**
 - **Required Knowledge:** ODE, PDE, Real and functional analysis

Category 3: Pure Mathematics

(Interested Faculties in this Category: Dr. Saswata, Dr. Samir)

1. Applied Topology

- Particular focus on graph complexes and their interactions with data, geometry, and combinatorics. Graph complexes arise naturally in areas such as topological data analysis, network science, and algebraic topology and provide a powerful framework for encoding higher-order structures in discrete systems. We will focus on foundational questions concerning the structure and topology of graph complexes.
- **Suggested Knowledge:** Strong foundation in topology and linear algebra; familiarity with algebraic topology is preferable.

2. Study of harmonic analysis problems related to the fractional Fourier transform and its generalization

- The fractional Fourier transform is a linear transform that extends the classical Fourier transform's capabilities by enabling the processing of a signal to any intermediate state between the time and frequency domains. Numerous generalizations of the fractional Fourier transform have been studied in various contexts, where the classical Fourier transform is substituted with a more generalized version. Examples include the fractional Dunkl transform, the fractional Hankel transform, the fractional Jacobi transform, the fractional Jacobi-Dunkl transform and the fractional Opdam--Cherednik transform.
- **Required Knowledge:** Strong foundation in Measure Theory and Functional Analysis; Basic knowledge in Fourier Analysis is preferable.

Minimum Eligibility Criteria for Admission to M.Tech (Research) Programs

General Eligibility Requirements:

1. Bachelor's degree in Engineering/Technology or equivalent with a valid GATE score # **OR**
2. Master's or equivalent degree in Science/Arts/Commerce/Management (or allied subjects) with a valid GATE score # **OR**
3. Master's or equivalent degree in Engineering/Technology.

Exemptions from mandatory requirements of Valid GATE score:

1. B.Tech/B.E./B.S. (or equivalent) degree from CFTI (Centrally Funded Technical Institute)/ any of the top 100 institutes according to NIRF ranking (overall category) at the time of application/ any Himachal Pradesh Govt. institution or universities with CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.



2. BS-MS/M.Sc/MA/MBA/equivalent from IITs, IISERs, IISc, IIMs or any of the top 100 institutes according to NIRF ranking (overall category) at the time of application with a CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.
3. NIRF Ranking (within top 100) should be in the overall category granted for the year during which admission is sought.

B. Financial Support: Students joining the M.Tech. (Research)/MA (Research)/MS (Research) Regular program may be considered for the HTRA Fellowship (subjected to availability of fund) based on the above admission norms, if recommended by the selection committee.

Minimum eligibility criteria for Ph.D. Admission in all Schools/Centres

Qualifying Degree:

1. Master's or equivalent degree in Engineering/Technology # **OR**
2. Bachelor's degree in Engineering/Technology or equivalent* # **OR**
3. Master's or equivalent degree in Science/Arts/Commerce/Management (or allied subjects) *

***For qualifying degree listed under (2) & (3) candidates must also fulfil ONE of the following additional requirements:**

1. Qualified GATE / NET including lectureship (Assistant Professorship) or any other equivalent National level examination.
2. Selected through a National level examination conducted by MoE or its agencies /Institutions such as UGC/ IIT/ IISc. / IISER/ IIT etc.
3. Minimum of TWO years of professional experience (acquired after obtaining the qualifying degree and completed before the starting of the semester in which admission is sought)

***Exemptions from mandatory requirements of valid GATE or National Level examination:**

1. B.Tech/B.E./B.S. (or equivalent) degree from CFTI (Centrally Funded Technical Institute)/ any of the top 100 institutes according to NIRF ranking (overall category) at the time of application/ any Himachal Pradesh Govt. institution or universities with CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent
2. BS-MS/M.Sc/MA/MBA/equivalent from IITs, IISERs, IISc, IIMs or any of the top 100 institutes according to NIRF ranking (overall category) at the time of application with a CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.
3. NIRF Ranking (within top 100) should be in the overall category granted for the year during which admission is sought.

B. Financial Support: Students joining the Ph.D. Regular program may be considered for the HTRA Fellowship (subject to availability of funds) based on the above admission norms, if recommended by the selection committee.



Important Note:

The eligibility criteria listed above are the minimum requirements for admission. The institute reserves the right to impose additional eligibility criteria based on the number of applications received.

For full details of the minimum eligibility criteria, please visit the following link:

[Link to Eligibility Criteria](#)

1. For more details about Ph.D./ Part Time Ph.D. Programme at IIT Mandi, please visit:

https://www.iitmandi.ac.in/pdf/ordinances//Ordinances_Ph.D.pdf

2. For more details about M.Tech (Research) Programme at IIT Mandi, please visit:

[https://iitmandi.ac.in/pdf/ordinances/Ordinances_MTech\(R\).pdf](https://iitmandi.ac.in/pdf/ordinances/Ordinances_MTech(R).pdf)

3. Qualification for Admission to get the HTRA fellowship:-

<https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/Acad/Senate/2023/2196-2201>

4. In addition, the reservation criteria, as per GoI norms:-

<https://insite.iitmandi.ac.in/circulars/show.php?ID=IITMandi/SM-44/2024/456-462>

How to Apply:-

Interested candidates are encouraged to fill the online application form available in the following link:

SAMARTH PORTAL: - <https://iitmandiadm.samarth.edu.in/admission/index.php>

Mode of Interview: The interview will be in offline mode only.

- Reservation policies as per prevailing GOI rules will be followed.
- IIT Mandi reserves the right to admit / not admit for any of the advertised areas and apply appropriate criteria for shortlisting.
- The decision of the competent authority in all matters relating to the eligibility of the candidate, written test/Interview and admission would be final and binding on all the candidates. In case of any dispute/ ambiguity that may occur in the process of admission, the decision of the Institute shall be final.
- All the details furnished in the online application will be treated as final and no changes shall be entertained. Non-submission of valid/required documents and/or incomplete applications shall be summarily rejected.



Indian Institute of Technology Mandi Kamand, Himachal Pradesh - 175075
भारतीय प्रौद्योगिकी संस्थान मंडी कमांद, हिमाचल प्रदेश - १७५०७५



Application Fee is not refundable:-

Category	Amount in ₹
General/EWS/OBC/OBC(NCL)/Transgender/Foreign Nationals	200
Women/SC/ST/PD	100

Mode of Payment: Online only.

For any problems regarding filling up of online applications, please contact it_helpdesk@iitmandi.ac.in .
For any other queries regarding Ph.D. program in SMSS, please contact SMSS Office via the following email smss_admissions@iitmandi.ac.in

Employed candidates seeking admission to Ph.D. must have to submit a “No Objection Certificate” from their current employer at the time of interview.

Note: Industrial or Academic Institute Sponsored or Part-time M. Tech (Research)/ Ph.D. candidates are not eligible for MHRD/HTRA scholarships.

Important Dates:

Start of online application:	Thursday, 30th April, 2026, 9:00 AM (IST)
Deadline for online application	Wednesday, 20th May, 2026, 05:00 PM (IST)
Announcement of shortlisted candidates list	Monday, 25th May, 2026
Tentative Interview	Monday, 15th and Tuesday 16th June 2026

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