2017-18

INFORMATION BROCHURE



Ph.D. Admissions

Motilal Nehru
National Institute of Technology Allahabad
Allahabad (India)

Table of Contents

S.N.	Particulars	Page No.
1.	Programmes offered	3
2.	Eligibility for Admission	4
	Ph.D. in Engineering	4
	Ph.D. in Management	4
	Ph.D. in Sciences, Humanities and Social Sciences (HSS)	4
	Ph.D. in Geographic Information System (GIS) Cell	4
3.	Department wise area of research for Ph.D. Programmes	5,6
4.	Department wise maximum available seats in different course categories	6
5.	Fee structure	7
6.	Application Procedure	7
7.	Admission Criteria	8
8.	Documents required	9
9.	Important dates	9,10
10.	Address to send the application form	10

- **The candidates are advised to read information brochure carefully and visit our website https://academics.mnnit.ac.in/admission2017 regularly for updates.**
- **In case of any legal dispute related to admission the jurisdiction will be limited to Allahabad courts only (Lower, District and High Court) and will not be subject to the jurisdiction of any other courts outside Allahabad.**

1. PROGRAMMES OFFERED

The Institute offers following doctoral programmes:

S. No.	Course Category	Course Category
a.	Institute Stipendiary Full- Time Research Scholar	11
b.	Self-financed Full- Time Research Scholar	12
c.	Sponsored Full- Time Research Scholar	13
d.	Faculty/Staff/Sponsored Project Fellow of MNNIT Allahabad Part-Time Research Scholar	14

a. Institute Stipendiary Full Time Research Scholar (Course Category -11):

These scholars shall be eligible for financial assistance in the form of fellowship at the approved rates and guidelines as notified by MHRD from time to time. The fellowship shall be awarded to the students of this category on a Semester–to-Semester basis depending on the satisfactory academic performance of the scholar.

b. Self-financed Full Time Research Scholar (Course Category -12):

Self-financed full-time research scholars are those who support themselves or receive fellowship from other agencies such as UGC, CSIR, DST etc. They shall not receive any financial support from the Institute in any form.

c. Sponsored Full-Time Research Scholars(Course Category -13):

i. Sponsored Full-Time Research Scholars are those who receive financial support from AICTE under QIP scheme OR from Government/Semi-Government Institutions/Government/Semi-Government Organizations under study leave. Such a candidate must be sponsored by his/her employer and must have been in employment with the sponsoring organization for at least two years at the time of admission. Candidates in service are to be released on study leave or extraordinary leave from the organization for full-time research work at the Institute and must furnish a sponsorship along with No-objection certificate from the employer.

ii. Foreign students may be sponsored by their Governments and awarded scholarship by Govt. of India, Indian Council for Culture Relations (ICCR) and other such agencies/organisations.

d. Faculty/Staff/Sponsored Project Fellow of MNNIT Allahabad Part Time Research Scholars (Course Category - 14):

Candidates under this category shall be Faculty/Staff of the Institute/Project Fellow working in the various sponsored research projects undertaken by the Institute. Project Fellow, if admitted, shall be required to pursue his/her Ph. D. research work in the area of research project and with PI and/or Co-PI only.

e. Admission of Indian Nationals Residing Abroad (INRA) and Foreign Nationals:

INRA candidates must have been residing abroad continuously for at least five years at the time of applying for admission. They shall apply for admission through Indian Embassy in their country. Both in terms of qualifications and attainment these candidates shall be comparable with the candidates admitted in the respective categories as explained above.

2. ELIGIBILITY FOR ADMISSION

i Candidates must have minimum marks of 60% aggregate or 6.5 C.P.I. (Cumulative Performance Index in ten point scale) in qualifying examination. For SC/ST candidate's minimum marks will be 55% aggregate or 6.0 CPI.

ii The eligibility conditions given above are the absolute minimum. Departments may prescribe any requirements over and above these.

Ph.D. in Engineering

The applicant with a Master degree in relevant branch of Engineering/Technology with marks not below 60% or CPI 6.5

OR

Applicant with a Bachelor's degree in Engineering or Master's Degree in Science/Applied biological sciences/Computer Application or any appropriate discipline with a minimum of 75% marks or CPI 8.0 shall only be considered.

Ph.D. in Management

Applicant with a Master's Degree in Management/Technology/ Engineering/ Economics/ Commerce / Science / Computer Applications/Social Science with a minimum of 60% marks or equivalent CPI 6.5.

OR

Applicants with a Bachelor's degree in Engineering with a minimum of 75% marks or CPI 8.0 shall be considered.

OR

A qualified Chartered Accountant having minimum three years of professional experience as practicing Chartered Accountant with a minimum of 60% marks at both graduation level, as well as CA examination.

Ph.D. in Sciences, Humanities and Social Sciences (HSS)

Applicant with a Master's Degree in the relevant subject with a minimum of 60% Marks or CPI 6.5

OR

Applicant with a Bachelor's degree in Engineering/Pharmacy with marks not below 75% or CPI 8.0 shall only be considered.

Ph.D. in Geographic Information System (GIS) Cell

Applicant with M.Tech. or equivalent degree in GIS & Remote Sensing/Civil Engineering/Computer Science and Engineering/ Electronics/Information Technology/Agriculture Engineering/Mining Engineering with minimum marks 60% or CPI 6.5.

OR

Applicant with a M.Sc. or equivalent degree in GIS & Remote Sensing/Applied Geology/ Geophysics/Geography/ Environmental Science/Computer Science or degree in Master of Computer Application with minimum marks 75% or CPI 8.0.

OR

Applicant with a Bachelor's degree in Engineering with a minimum of 75% marks or CPI 8.0

Note:

- **All candidates who are applying for Course category 11 (Full Time Stipendiary) must have valid GATE score (above cut-off of any year) /NET in relevant branch/subject.**
- **Where the eligibility qualification is Master's Degree in Science/Computer Application/Commerce /Economics/English/Management or any subject of Humanities/ Life Sciences or Social Science, NET/ GATE qualification is mandatory for course category 11 and 12.**

3. DEPARTMENT WISE AREA OF RESEARCH FOR Ph.D. PROGRAMMES

S. No.	Department/Cell/School	Area of research
1	Applied Mechanics	Computational Solid Mechanics, Composite Structures, Nano-composites, Analysis of smart laminated composite plates and structures, Finite Element Analysis, Advanced Structural Systems, Damage mechanics, Damage modelling of composite materials, Damage prognosis of materials, Corrosion/wear/fatigue behaviour of severe deformed material, Synthesis and characterization of materials for Electrical/Electronic/Magnetic applications, Acoustic materials, Nano-materials, Sound, noise and vibration, Biomaterials, Computational Fluid Dynamics (CFD), Turbomachines, Aerodynamics, Flow Diagnostics & Condition monitoring, Thermo-Fluids Engineering, Combustor Aerodynamics, Multiphase flows
2	Biotechnology	Agricultural Biotechnology, Bioinformatics, Bioprocess Development, Bio-energy, Environmental Biotechnology, Genetics & Genetic Engineering, Immunology, Medical Biotechnology, Microbiology, Molecular Biology, Nano Biotechnology, Plant Biotechnology.
3	Civil Engineering	Structural Engineering, Geotechnical Engineering, Environmental Engineering, Transportation Engineering, GIS and Remote Sensing, Environmental Geo-technology, Water Resources Engineering, Construction Engineering and Management.
4	Chemical Engineering	Membrane and Reactive Separation Convective Heat Transfer, Chemical Reaction Engineering, Process Modeling and Simulation, CFD, Energy Conservation, Bio-Chemical Engineering, Colloid Science & Engineering, Food Technology, Chemical Thermodynamics, Process Intensification, Pyrolysis & Gasification, Acoustic & Hydrodynamic Cavitation, Polymer Technology, Green Technology, CO_2 Utilization, Waste water treatment, Process Safety & Hazards Management, Advanced Distillation Technology, Biotechnology, Biomedical Engineering, Nanotechnology, Environmental Engineering & technology, Electrochemistry.
5	Computer Science & Engineering	Data Base, Software Engineering, Mobile Computing, P 2 P system, Computer Architecture, Computer Networking, Theoretical Computing, Computer Algorithm, Data mining, Knowledge Based System, Real Time System, Distributed Computing, Formal methods, Cloud based Computing, Wireless Sensor Network, Wireless Network, Evolutionary Computing, Soft Computing and Machine Learning, Image Processing, Biometrics, Pattern Recognition, Embedded Systems, network Security
6	Electrical Engineering	Power Electronics, Control Techniques in Power Electronics, Power Quality, Modern Electrical Drives, High Speed Electrical Machines, Electric Vehicles. Control Systems, Adaptive Control, Optimal Control, Non-linear Systems, Model order Reduction, Intelligent Control, Virtual Instrumentation. Power System, Transmission Systems & FACTs, Distribution System and Custom Power Devices, Distributed Generation & Control, AI Application in Power System, Wireless Sensor Networks Application, Power System Protection, Renewable Energy, Power System Planning.
7	Electronics and Communication Engineering	Data Communication and Networking, Optical Communication, Digital Signal Processing, Image Processing, Mobile and ATM Network, Analog and Digital Circuits, VLSI Design, Semiconductor Device Modeling , Mixed mode IC circuits.
8	Mechanical Engineering	CAD/CAM/CIM/Robotics, Fatigue and Fracture Mechanics , Unconventional Manufacturing Processes, Noise and Vibration, Dynamic design, Production and Operation Management, Rapid Prototyping, Logistics & Supply Chain Management, Mechatronics, Functionally Graded Materials, Composite Materials, Tribology. Thermal Science (Energy Management, Renewable Energy).
9	Chemistry	Polymer Chemistry , Inorganic Nanomaterials for Thernostics
10	Humanities and Social Sciences	Diaspora, Postcolonial Literature, Gender Studies, American and Canadian Literature, British Literature, Indian Writing in English, Post Modernism,

S. No.	Department/Cell/School	Area of research
		Psychology , Organizational Behavior, General Management, Human Resource Management, Public Policy, Rural Development, Accounting & Financial Management, Financial Inclusion, Economics ,Entrepreneurship, Communication for Development (Development Communication), Business Communication.
11	Mathematics	Soft computing, Modeling, Relativity, Computational fluid dynamics, Numerical Methods, Number Theory, Cryptography and Ramanujam's Mathematics
12	Physics	Nanostructured thin films, functional oxide nanomaterials, carrier transport in thin films, solid state gas sensors. Dynamics of Nonlinear and Damped Systems (Classical and Quantum mechanical approaches), Symmetry and Integrability, Quantum Computing, Entanglement Dynamics. Rapid Solidification, X-ray Absorption Spectroscopy. EXAFS Studies of Superconducting Materials and Intermetallics, Synthesis & Characterization of Nanomaterials. Synthesis and studies on size and shape dependent optical, electrical and magnetic properties of low dimension systems (micro – nano scale). Synthesis and optical, magnetic and electric properties of 2D systems [Graphene, MoS2 and their composites]. Spectroscopic studies on Multi- and Single-walled carbon nanotubes. Surface Enhanced Raman Scattering (SERS) study of biologically important molecules adsorbed on metal surfaces. Spectroscopic investigation on phase transition in liquid crystals.Spectroscopic investigation on molecular association such as; hydrogen bonds and other weak interaction. Density Functional Theory (DFT) studies on charge transfer mechanism in long organic molecules adsorbed on different surfaces. Density Functional Theory studies on calculation of transition states and other thermodynamical properties of biologically important molecules for the understanding of different steps involved in charge transfer between DNA bases. Experimental Condensed Matter Physics [Synthesis of functional oxide nano materials, magnetic and multiferroic materials (Bulk and thin films) and understanding of their Physical (structural, electrical, magnetic and optical) properties. Study of laser produced plasmas and pulsed laser deposition of thin films.
13	School of Management Studies	Marketing Management, Financial management, Human Resource management, information system Management, Entrepreneurship, Strategic Management,
14	GIS Cell	GIS technology, Remote sensing, Image Processing, Mobile Mapping System, GPS Technology, Web GIS, GIS Based Infrastructure Planning and Management and other core and application areas of Geo-informatics

4. DEPARTMENT-WISE MAXIMUM AVAILABLE SEATS IN DIFFERENT COURSE CATEGORIES

Department/School/Cell	Course Category		
	11	12	13
Applied Mechanics Department	07	02	02
Biotechnology Department	06	02	02
Chemical Engineering Department	04	02	02
Civil Engineering Department	12	02	02
Chemistry Department	01	01	01
Computer Science and Engineering Department	07	02	02
Electrical Engineering Department	07	02	02
Electronics and Communication Engineering Department	09	02	02
GIS Cell	05	02	02
Humanities and Social Sciences Department	03	02	02
Mathematics Department	06	02	02
Mechanical Engineering Department	13	02	02
Physics Department	03	02	02
School of Management Studies	03	02	02
Total	86	27	27

- Out of 86 available seats in course category 11, 43 seats are for OPEN category, 23 are for OBC [Non-Creamy layer] category, 13 are for SC and 07 are for ST category candidates and 3% seats under each category are for PH candidates.
- **Reservation will be applied across the Institute in each course category as per GoI norms.**
- Number of seats may vary depending upon availability of Supervisors in particular department and will be decided at the time of interview.

5. FEE STRUCTURE

(a) Institute Fee

Nature of Studentship	1st Semester	All Intermediate Semester(s)		Final Semester
		ODD	EVEN	
For OPEN and OBC Category Students				
Hosteller	₹ 15,276	₹ 11,501	₹ 11,225	₹ 13,425
Day Scholar	₹ 13,901	₹ 10,126	₹ 9,650	
For SC and ST Category Students				
Hosteller	₹ 7,776	₹ 4,001	₹ 3,725	₹ 5,925
Day Scholar	₹ 6,401	₹ 2,626	₹ 2,150	

Note: Day scholars will be required to pay ₹ 1375.00 less in odd semester and ₹ 1575.00 less in even semester.

(b) Mess Fee

Hostel Mess charges for the Ph.D. first semester is ₹ 15,000.00 and required to be deposited **at the time of registration** (in case hostel is allotted) in the form of demand draft drawn in favour of "Chief Warden MNNIT Allahabad" payable at Allahabad. However the mess charges may change and the same will be informed to the students.

6. APPLICATION PROCEDURE

Application Procedure

(i) Applicants are required to submit their application through on-line application system using the portal **https://academics.mnnit.ac.in/admission2017** only. **"No other means of application shall be acceptable".**

(ii) **There are two steps in online application procedure**

Step 1. Register by filling your personal details and pay fee by using payment link

- An application ID will be provided in this step, which will be required in step 2. Application fee is ₹ **1200/-** for OPEN and OBC-NC candidates for each programme. For SC/ST category admission fee is ₹ **600.00** for each programme.
- Fee payment can be made by either online payment mode using credit/debit card, internet banking or offline mode by chalan.
- If **online payment** mode is opted, then after successful payment an **e-receipt will be generated by admission portal. If offline payment is opted, then report any branch of State Bank of India with print out of the generated chalan and deposit application fee. Bank will provide a stamped receipt.** This e-receipt/stamped clalan receipt will be required at the time of sending application form to MNNIT Allahabad.

Step 2. Online filling of application form: Log-in with application ID provided in step 1

- Before starting the online filling of application form, please make sure that you have soft copy of your passport size photograph in **JPEG (up to 30 kb)** format.
- After login, follow the instructions for filling application form.
- Take print out of the form, attach photocopy of all required documents [refer section 8(i)] and send on the address given below so as to reach before the due date:

  Admission Cell
  Office of the Dean (Academic)
  Motilal Nehru National Institute of Technology Allahabad
  Allahabad – 211 004
- Write on the top of envelop the name of the programme in which you are applying, e.g. "Application for Ph.D. in ..... Engineering Department".

Important Notes:

If a candidate is applying in more than one department, then preference of the department shall be clearly mentioned on each application form.

7. ADMISSION CRITERIA

- All applicants will be eligible for written examination and may report for written examination with the condition that candidates have themselves ascertained their eligibility as per the Information Brochure. Institute will verify eligibility only at the time of interview or date of document verification.
- Admission to the Ph.D. Programme of eligible candidates shall be based on interviews and written examination except course category 14. The candidates of category 14 shall be admitted after checking their eligibility criteria as specified on page 4 by selection committee. These candidates shall be exempted from any Test/Interview.
- In case a candidate does not accept the offer by paying the prescribed fee by the specified date, the offer of admission shall stand automatically withdrawn, and the admission may be offered to the candidates in the waiting list, if any.
- The offer of admission shall also stand withdrawn if the candidate fails to register by the last date of registration after accepting the offer of admission.
- Shortlisted candidates after written examination will be allowed for interview only after verification of documents in original.
- Candidates applying admission under course category 11 (Full Time Institute stipendiary) must have valid GATE score/NET in relevant branch/subject. Please refer eligibility criteria given in section 2 and **Note** under Eligibility Criteria (Page 4) for more details.
- All declarations/results will be declared through admission portal www.academics.mnnit.ac.in/admission2017 only. No separate admit card/letter will be sent by the institute for attending the written examination/Interview.

Important Notes:

(i) **Separate application forms** must be filled for courses offered by different departments along with the prescribed fee. **If a candidate is applying in more than one department then preference of department shall be clearly mentioned in each application.**

(ii) All declarations/results will be displayed on admission portal www.academics.mnnit.ac.in/admission2017 only. No separate letter will be issued for attending written examination/interview.

(iii) Candidates are advised to visit the admission portal for regular updates.

(iv) The selected candidate, who has completed all the pre-requisite examinations including project/thesis examination and the viva voce before the date of registration but is unable to produce the certificate in proof of having passed and secured the minimum specified qualifying marks, may be considered for provisional admission. However, if admitted provisionally, they

will be required to produce the evidence of their having passed the qualifying degree examination before start of Mid Semester Examination, failing which the admission will automatically stand, cancelled.

8. DOCUMENTS REQUIRED

The candidates are required to bring following documents in **original** at the time of interview: [**Please enclose self attested photocopy of following documents with application form**]

a. High School Certificate in original.
b. Mark Sheet/Grade Sheet of qualifying examination in original.
c. Character Certificate issued by the Head of the institution last attended.
d. Certificate of sponsorship (for course category 13 only).
e. No. Objection certificate from employer (for course category 13 and 14 only).
f. OBC/SC/ST/PH certificate, if applicable.
g. Undertaking by OBC candidates
h. Migration certificate (if appearing in qualifying examination then required to be submitted after six weeks of registration)
i. E-receipt / Stamped chalan receipt
j. GATE/NET/JAM Score card (If applicable)

The candidates are required to bring following documents **at the time of registration.**

a. Passport size Photographs (3 Nos.).
b. Admission letter

Note: The institute reserves the right to refuse admission to any candidate without assigning any reason. All disputes related to admission are subject to Allahabad Courts only.

9. IMPORTANT DATES (TENTATIVE)

Start of online application process	01.02.2017
Closing date for online application process	05.04.2017, up to Midnight
Last date for receipt of the printed and signed application form	10.4.2017 up to 5.30PM
* Display of list of candidates for entrance examination	11.04.2017
Written examination for Ph.D. in the department of Mechanical Engineering, Civil Engineering, Computer Science & Engineering, Physics, Electrical Engineering, Humanities and Social Sciences, Biotechnology.	22.4.2017
Written examination for Ph.D. in the department of Applied Mechanics, Mathematics, Electronics and Communication Engineering, Chemistry, School of Management Studies ,GIS Cell and Chemical Engineering	23.4.2017
Declaration of result of written examination	29.4.2017
Interview for Ph.D. in the departments of Mechanical Engineering, Civil Engineering, Computer Science & Engineering, Physics, Electrical Engineering, Humanities and Social Sciences, Biotechnology.	11.5.2017
Interview for Ph.D. in the departments of Applied Mechanics,	12.5.2017

Mathematics, Electronics and Communication Engineering, Chemistry, School of Management Studies and in GIS Cell	
Declaration of Ph.D. admission result	19.05.2017
Last date for submission of Institute fee by candidates selected in Ist round	29.5.2017
Declaration of IInd list of admission (Subject to vacancy) and despatch of admission letter to candidates selected in Ist round	30.05.2017
Physical registration (for all selected candidates) and submission of Institute fee by candidates selected in second round	14.07.2017
Commencement of classes	17.07.2017

Note: Document verification will be done only at the time of interview. Therefore, candidates who will be called for written examination are required to ascertain that they fully meet all the advertised criteria. Further, in case it is found that any candidate who does not fulfill the criteria and yet has appeared in the interview/test or has been offered admission, his/her candidature/admission will be cancelled/ terminated at any stage, without any compensation.

10. ADDRESS FOR SENDING APPLICATION FORM

The filled up and signed application form along-with demand draft should be dispatched/submitted at the following address so as to reach on or before 10.4.2017 up to 05.30 PM:

Admission Cell
Office of the Dean (Academic)
Motilal Nehru National Institute of Technology Allahabad
Allahabad-211004
Phone: Office: (0532)-2271049; Fax: (0532) 2445101
Email ID: admissioncell@mnnit.ac.in