



# राष्ट्रीय प्रौद्योगिकी संस्थान अगर्तला

## National Institute of Technology Agartala

OFFICE OF THE DEAN ACADEMIC

F.NITA/5.(6-Acad)/Ph.D/Admn/2023/Jan/ A - 2148

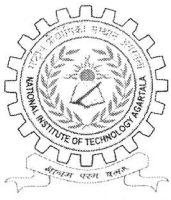
Dated- 02/11/2022

### NOTIFICATION

**Sub:- Notification for Admission to Ph.D Programme for January-June 2023 academic session.**

Applications are invited from the eligible candidates for admission to Ph.D Programme at NIT Agartala for **January-June 2023**, academic session, in the departments as given below:-

Sl. no.	DEPARTMENT	Broad area of research
1.	Civil Engineering	Quality & treatment of water & waste water; Heavy metal removal; solid waste management; ecology; Adsorption modeling; Remote sensing & GIS; membrane filtration; anaerobic design; composting; Dynamic response & stability; Geotechnical Engineering; Field of Transportation Engineering; Water Resource Engineering; Structural Engineering; Liquefaction; Landslide; Slope stability; Geo-environmental study and seismology; Structural Dynamics and EQ Engg; Earthquake Geotechnical Engg; Building Materials and Structures; Pavement materials; Pavement analysis and design; Subgrade stabilization; Seismic performance evaluation of RC structures; Seismic performance evaluation of Masonry structures; Concrete performance against carbon; High performance concrete; Concrete Durability; Geopolymer concrete; Non-destructive Evaluation; Pavement/ Soil; Structural rehabilitation/ Strengthening; Hydro informatics/AI and Data science in water resources development; Environmental Nanotechnology waste water treatment.
2.	Mechanical Engineering	Sustainable energy; Tribology; Bio Tribology; Phase Engine Heat transfer (Boiling & condensation); Refrigeration & Air Conditioning; Air Conditioning; Energy system Analysis; Flow Boiling in Horizontal tube; Fluidflow & Heat transfer in microchannel; Alternative Fuels; Hydrodynamics; Manufacturing Technology; IC engine Alt. fuel and based strategies in IC engine; M00P-IC engine; IC engine; Alt. fuel; Welding Analysis; Composite Materials; Heat transfer; Multiphase flow; CFD; Design Optimization; CAD; Advanced Composites; Advance Manufacturing system; Robotics; Optimization Non-traditional machining.
3.	Electrical Engineering.	Optoelectronics Instrumentation; Industrial Instrumentation; Solid State Lasers and Nonlinear-optics; Fiber Optic Sensors; Integrated Photonic Devices; Fibre optics Communications; Power Systems; High Voltage Engg; Energy & Renewable power; Distributed power generation; Hybrid power system; Energy conservation; Power system planning under smart grid; Demand response; Electric Mobility; Application of Evolutionary Techniques to Deregulated Power system; Power quality; Energy efficient data centers; frequency conversion; Nonlinear optics; Laser & nonlinear optics; Surface Plasmon based sensors & Devices; Multi level inverter topologies; Harmonic elimination techniques; Modular multi level converter for HVDC application; Power electronics application to renewables; Electric vehicle.
4.	Computer Science & Engineering	Wireless Sensor Network; Software Defined Network; IoT; MANET; VANET; Information Retrieval; application of Machine Learning; Deep Learning in text processing; Machine Learning in Visual Inference; Artificial Intelligence and Neural Networks; Cryptography; Steganography; Data Privacy; Cyber Security; Network Security; Data Analytics and Decision making with NLP techniques; Computational Social Science; Code-Mixing; Social Computing; Computational Linguistic with transfer learning; Computer Network; Hybrid Intelligent System; Mobile Robot Navigation

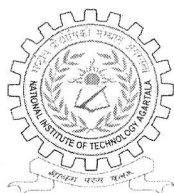


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		Blockchain and Cloud Computing; Pattern Recognition; Computational Biology; Evolutionary Computation; Networks and Optimization; operations research and Image processing.
5.	Production Engineering.	Foundry-Forging; SG Iron; Steel; Al alloy based composite materials; Grain refinement; Manufacturing Technology; Multi Criteria Decision Making (MCDM); Case Based Reasoning (CBR); Advanced Fluidics; Production and Operations management; Non-traditional machining; Financial management; Tribology of Bearings; Asset Management; Machining Technology, Decision Making; Plant Maintenance; Casting; Welding and soft computational approaches.
6.	Electronics & Communication Engineering	Image Processing; Microwaves and Antennas; VLSI Design and Synthesis; Control and Instrumentation; Bio impedance and signal Analysis; Device and material Characterization; Microwave circuits and Antennas, Metamaterial; Superstate; VLSI Semiconductor Device; Nanoelectronics; Optoelectronics Devices; Nanotechnology; VLSI; Hardware Security; Network-on-Chip; Electronic Design Automation (VLSI Design).
7.	Chemical Engineering	Environmental Engineering, Waste water treatment, Adsorption, Bioremediation, Optimization and Design, Computational Fluid Dynamics, Multiphase Flow phenomena, Petroleum & Refinery Engg., Transport Phenomena, Energy, Environment, Chemical & Bio-Chemical Engineering, Microalgae and Cyanobacteria based Biofuels and Bioproducts, Agriculture Waste Management, Metabolic Network Analysis for Biological Systems, Systems Biology, Fermentation Technology Environmental Engineering and Pollution Control, Biotechnology, Electrochemical Technologies, Nanotechnology, Materials Engineering, Polymer Engineering, Reaction Engineering & Catalysis, Renewable Energy & Biofuels, Energy and Fuel Technology, Sustainable Engineering, Waste Utilization, and Biomass valorization, Groundwater and wastewater treatment by membrane and adsorption processes; Utilization of solid waste, Membrane distillation; Assessment of groundwater and surface water quality.
8.	Bio Engineering	Biotechnology, Biochemical Engineering
9.	Electronics & Instrumentation Engineering	Optics & Photonics; Flexible and wearable electronics; IoT; Chemical and Bio Sensors; AI and ML; Sensors & transducer; Instrumentation and Measurement; Embedded system; Robotics; Agricultural Electronics; Medical Signal and Image Processing; Medical Instrumentation and AI in healthcare.
10.	Physics	Liquid Crystal; Biomedical Sensors for Noninvasive Disease Monitoring; SolarCell; Photoelectrochemical Cell; Photodetectors; Low Dimensional Nanostructures (0D, 1D, 2D); Growth and Applications in Electronic and Optoelectronic Devices; Semiconductor physics; Application of low dimensional materials for green energy and sustainable environment; Quantum field theory; Experimental Plasma Physics; Multiferroic; Theoretical Physics; Experimental Condensed Matter Physics; Thin film; Nanotechnology.
11.	Chemistry	Organic Chemistry, Inorganic Chemistry, Organometallic Chemistry, Coordination Chemistry, Carbon and metal nanoparticles; Solar Cells; Water Purification; Biosensors
12.	Mathematics	Inventory Control; Transportation; Fuzzy Optimization; Optimization; MCDM; Topology; Mathematical Modelling, Fuzzy Mathematics, Operation Research, Graph Theory, Linear Algebra, Quantum Computing.
13.	Management, Humanities & Social Sciences	Management ; Social Sciences., Sociology and Economic Geography, Economics , Economics and Rural Management/ Development, Sociology and Geography/ Economic Geography



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### Minimum Qualification for admission to Ph.D programme:-

#### A) Candidates for admission in Ph.D programme in Engineering Departments must satisfy one of the following criteria:-

- I. Master's Degree in Engineering/ Technology or equivalent in an appropriate area with a minimum CGPA of 6.5 out of 10 point grading system or equivalent 65% of marks.
- II. Bachelor's Degree in Engineering/ Technology from a centrally funded Technical Institute with an excellent academic record and with a CGPA of at least 9.0 out of 10 point grading system or equivalent 90% of marks. Candidates must have valid GATE score tenable for the year of admission.
- III. Master's Degree in relevant science discipline with a good academic record and of exceptional merit are eligible for relevant engineering discipline with minimum CGPA of 6.5 out of 10 point grading system or more or at least 65% of marks. Preference will be given to GATE qualified candidates. However, for availing scholarship of MHRD (now MoE), GATE score is mandatory.

### Categories of Scholars under Section- A

1. **Full-time with scholarship:** Candidates under this category will be eligible for fellowship as per MHRD (now MoE)/ Institute norms. **GATE score is a mandatory criterion** for this category of scholars for making themselves eligible for receiving scholarship during the tenure of Ph.D.

Fellowship will be awarded to the scholars who are admitted under this category subject to the availability as stipulated by MHRD (now MoE). The award and/ or renewal of the fellowship will be as per the guidelines issued by MoE, from time to time.

2. **Full time self-financed scholars:** Candidate selected for admission under this category will not be entitled for any scholarship. GATE score is not a mandatory criterion for this category. However, eligibility norms are essential as per **section A (I)** of this notification.

\*\*\* Conversion of CGPA to percentage and vice-versa will not be allowed.

#### B) Admission to Ph.D programme in Science Departments must satisfy one of the following criteria:-

- I. Master's degree in Sciences with a good academic record and with a minimum of 65% marks (or equivalent or 6.5 CGPA in a 10 point grading system) or 60% of marks (6.0 CGPA out of 10 point grading system) with a GATE score or UGC/CSIR-NET/NBHM tenable for the year of admission. Preference will be given to GATE/NET qualified candidates.



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- II. Master's degree in Engineering/Technology or equivalent is eligible with a good academic record with a minimum CGPA of 6.5 out of 10 point grading system or equivalent or 65% of marks. Preference will be given to GATE qualified candidates.
- III. B.Tech/ B.E degree from a centrally funded technical institute in India with a minimum CGPA of 9.0 in a 10.0 point scale or equivalent of 90% of marks with a valid GATE score.
- IV. Candidates admitted in science departments with eligibility criteria mentioned in B (I to III) are eligible for Institute scholarship under **Full-time with scholarship** category based on availability and decisions of competent authority from time to time. The award and/ or renewal of the fellowship will be as per the guidelines issued from time to time.

**\*\*\* Conversion of CGPA to percentage and vice-versa will not be allowed.**

**C) Admission to Ph.D programme in Humanities & Social Sciences under the Department of Management, Humanities & Social Sciences:-**

- I. Scholars for admission to the Ph.D. program in Humanities and Social Sciences (HSS) must have a Masters degree in relevant discipline with a minimum of 65% marks or equivalent or 6.5 CGPA in a 10 point grading system or 60% or 6.0 CGPA in a 10 point scale with a UGC/CSIR-NET/NBHM tenable for the year of admission. The relevant discipline of research will include English; Economics; Commerce; Finance; Foreign Trade; Business Management; Geography; Rural Management & Development; Sociology and others as per requirement of the Department, which will be notified from time to time. Preference will be given to NET qualified candidates.

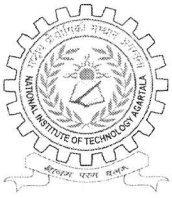
**D) Admission to Ph.D programme in Management under the Department of Management, Humanities & Social Sciences:-**

- I. MBA/P.G. Diploma in Management of 2-year duration with 65% marks or a CGPA of 6.5 in 10 point scale. Preference will be given to GATE / NET qualified candidates.
  - Candidates admitted in MHSS Department for Ph.D programme under **Full-time with scholarship** category will be eligible for Institute scholarship, based on availability and decisions of competent authority from time to time. The award and/ or renewal of the fellowship will be as per the guidelines issued from time to time.

**\*\*\* Conversion of CGPA to percentage and vice-versa will not be allowed.**

➤ **Institute Employees/ Research Scholars under External Registration/ Research scholars under part-time category.**

For Research Scholars of this categories, the minimum educational qualifications are the same as prescribed in **A to D** above for admission to the Ph.D. program in the respective categories. However, GATE score or CSIR/ UGC JRF or Lectureship/ NBHM/ JMET/ CAT/ AIMA or equivalent qualification as applicable for regular full time research scholars may not be required in these cases.



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### ➤ Admission to Ph.D programme for foreign scholars:-

Foreign nationals can only register as regular full-time scholars. Foreign nationals with degree from Indian Universities will be treated at par with Indian nationals for admission purposes. Foreign nationals with foreign degrees must meet the minimum educational requirements as given in **A to D** above and equivalent to an Indian Master's degree in the relevant disciplines. In addition, they should have a valid GRE/ GMAT /GATE /JMET/ CAT/ XAT/ MAT/ ATMA/ UGC or CSIR/NET and a score in TOEFL/IELTS or equivalent examination. This category of scholars are not eligible for any financial assistance from the Institute during the entire tenure of the Ph.D programme.

#### Important note

- Reservation policy will be followed as per Govt. of India norms.
- Scholars admitted under Full time self-financed, Part-time, Institute Staff, Full-time Sponsored and External Registration categories will not be eligible for any financial assistance from the Institute during the entire period of Ph.D programme.

#### (c) Availability of seats for January-June 2023 Academic Session:

Seat Category	OP	OBC-NCL	SC	ST	OPEWS	PH
Availability	√	√	√	√	√	√

### Instructions for Applicants (for online application)

- All applicants must apply online. <https://admission.nita.ac.in/>
- The portal is compatible to Mozilla Firefox. Candidates are advised to use Mozilla Firefox browser only.
- Multiple programmes may be applied by the applicant. Separate registration and application fee is required for each programme.
- After registration, Application ID (to be used as login name) with Password will be sent to the email ID provided by the applicant.
- Using the login credential, applicants must login to the Admission Portal for form filling.
- Application fees must be paid only by online payment portal from this site.
- After completion and submission of the online form, filled in form in PDF format will be generated.
- On the day of selection process, the shortlisted candidates should bring a printed copy of the on-line filled-in form along with all the original of the necessary documents (to support all educational qualification, date of birth, category, GATE/NET score etc.) and a set of photocopy of all such documents, duly self attested.



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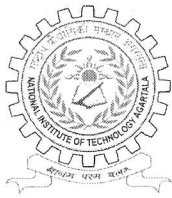
### Documents to be uploaded (Scanned Original):

1. Proof of date of birth (Mandatory).
2. Photo id proof, as per guidelines of GoI (Mandatory).
3. Mark sheet(s) of all semesters of Bachelor's degree(Mandatory).
4. Mark sheets of all semesters of Master's Degree(Mandatory).
5. Pass Certificate of Master's Degree(Mandatory).
6. GATE/ NET etc. score card (if and whichever applicable). Fellowship will not be considered if required score card is not uploaded under applicable categories mentioned above.
7. Migration Certificate issued by the Institution last attended(Mandatory).
8. Conduct/ Character Certificate issued by the Institution last attended(Mandatory).
9. Recent colour photograph as per specifications (strictly formal photograph, preferably white/sky blue background) (Mandatory)
10. Passport (for foreign scholar)
11. SC/ST/PwD/OBC-NCL/EWS certificate (if and whichever applicable).

**The OBC-NCL/ EWS certificate must be issued by Competent Authority on or after 01/04/2022. Admission under PwD category will be based on the recommendation of Medical Board of NIT Agartala.**

### Important Note:

- **Migration Certificate and Conduct/ Character Certificate are mandatory during provisional admission.**
- **Full-time Sponsored and Part time candidates including Institute Staff must submit Sponsorship and No-Objection certificate, as the case may be, in prescribed format, without which there will be no admission (formats attached).**
- Candidate should apply for Ph.D. program through online mode only. Requisite non-refundable application fee to the extent of Rs. 500/- for OP/OBC-NCL/EWS candidates and Rs. 300/- for SC/ST/PwD candidates has to be submitted online payment portal only. **Offline hand written, or printed application will not be entertained.**
- Incomplete application will be summarily rejected.
- Admission category (Full-time with scholarship, Full-time self-financed, Part-time scholar etc. categories) for which a candidate is willing to take admission in Ph.D programme mentioned in the application form **may not be allowed to change/ convert** to any other category at later stage of selection, once final submission of online application is submitted.
- **NIT Agartala will not be responsible for any failure on the part of the candidates in making payment of application fee online or any other reasons.**



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### Selection Procedure:-

On submission of online application the candidates fulfilling eligibility conditions as per section **A to D** will be provisionally short-listed by the respective department. The provisionally short-listed candidates will be required to appear for the written test to be conducted by the Institute. The candidates qualifying the written test will appear for interview. Provisional selection will be made on the basis of academic performance of the candidates, publication and availability of seats.

- **Admission and Academic fees will be displayed in the Institute website at appropriate time.**
- **For all hostel related matters, candidates may contact the Office of the Chief Warden.**

### Important Dates for Ph.D

Sl.no.	EVENT	DATE	DAY
1	Start of online application with fee payment	04/11/2022	Friday
2	Last date of online payment (non-refundable)	21/11/2022	Monday
3	Last date for submission of online application	23/11/2022	Wednesday
4	Publication of short listed candidates	29/11/2022 (Tentative)	Tuesday
5	Written Test and /or Interview	06/12/2022 and 07/12/2022 (Tentative)	Tuesday and Wednesday
6	Publication of short listed candidates for provisional admission	14/12/2022 (Tentative)	Wednesday
7	Provisional admission on payment of requisite fees	26/12/2022 to 30/12/2022 (till 4 pm) (Tentative)	Monday to Friday

- Schedule in the above table from sl. no. 5 to 7 are tentative and may change depending on the circumstances.
- No request for extension of the above mentioned dates will be considered.

**NB- Full-time Sponsored and Part time candidates including institute staff must submit Sponsorship and No-Objection certificate as the case may be in prescribed format without which there will be no admission.**

### GENERAL TERMS AND CONDITIONS:

1. Seats may be increased or decreased with the approval of the Authority.
2. The Institute reserves the right to cancel the candidature without assigning any reason thereof.
3. The prescribed qualifications are minimum and mere possession of the same does not entitle candidates to be called for written test and/ or interview.
4. Candidates must produce all original documents during verification, as per date notified by NITA.

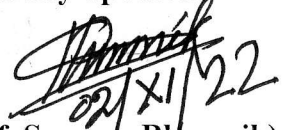


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5. Candidates facing any issue regarding filling online application or payment of fees, may write to [help.phdadmnnita@gmail.com](mailto:help.phdadmnnita@gmail.com). The email id will remain activated till the completion of the Ph.D admission process. For any technical issues, candidates may also write to [nitmisagt@gmail.com](mailto:nitmisagt@gmail.com).
6. Candidates are advised to visit the Institute website regularly for any updates.

  
02/11/22  
(Prof. Swapan Braumik)  
Dean (Academic Affairs)

Copy to:

1. PS to the Director, NITA for kind information of the Director.
2. All Deans, for kind information.
3. The Registrar, NITA, for kind information.
4. All Head of Academic Departments, for kind information and necessary action.
5. Faculty In-charge, MIS, for kind information and necessary action.
6. System Administrator, NITA, with a request to upload the same in the Institute website.

  
02/11/22  
Dean (Academic Affairs)  
NIT Agartala





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**Sponsorship Letter**

**Form NITA/ACAD/Ph.D./1(A)**

(This should be typed on the letter head of the sponsoring organization)

Reference No.

Date:

To  
The Director  
National Institute of Technology, Agartala.

**Sub: Sponsoring an Employee for Ph.D. Programme as a full-time scholar.**

Dear Sir,

We hereby sponsor the candidature of Mr./ Mrs./ Ms. \_\_\_\_\_  
\_\_\_\_\_ who is an employee in our organization, for joining Ph.D.  
programme in the Department of \_\_\_\_\_ at your institute  
as a full-time student.

It is certified that he/ she has completed 2(two) years of continuous service in our  
organization/ institute as a regular employee, after completion of qualifying  
degree, required for admission in Ph.D programme.

We shall relieve him/ her from his/ her duties in the organization during the first  
three years of the Ph.D. Programme.

**Signature and Seal of the Sponsoring Authority.**



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**Form NITA/ACAD/Ph.D./1(B)**

(This should be typed on the letter head of the sponsoring organization)

Reference No.

Date:

To,  
The Director  
National Institute of Technology, Agartala.

**Sub: No-Objection Certificate for admission in Ph.D programme as a part-time Scholar.**

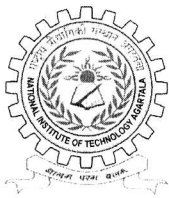
Dear Sir,

We have no objection if Mr./ Mrs./ Ms. \_\_\_\_\_  
\_\_\_\_\_ an employee in our organization, is admitted to the Ph.D.  
Programme in the Department of \_\_\_\_\_ at your  
institute as a PART-TIME student.

It is certified that he/she has completed 2(two) years of continuous service in our organization/ institute as a regular employee, after completion of qualifying degree, required for admission in Ph.D programme.

We shall grant him/ her leave of absence to attend classes/research works at NIT Agartala during the Ph.D. Programme.

**Signature and Seal of the Sponsoring Authority.**



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### Form NITA/ACAD/Ph.D./2

(This should be typed on the letter head of the sponsoring organization)

### Sponsorship Certificate of External Registration

To,  
The Director  
National Institute of Technology, Agartala.

Reference No.  
Date:

### **Sub: Sponsoring an Employee for Ph.D. Programme for External Registration.**

We sponsor an employee of our organization whose details are given below for joining Ph.D programme at your institute.

1. Name of the sponsoring organization:
2. Address:
3. Designation of the applicant:
4. Present status of the applicant:
5. List of Division/Section where research work is proposed to be done:
6. List of available local supervisor(s):

(Bio-Data of local supervisor(s) to be enclosed giving details of designation, qualification, research experience with area of research etc. along with their consent for research guidance)

It is certified that he/she has completed 2(two) years of service in our organization/institute as a regular employee.

If Mr./Mrs./Ms. \_\_\_\_\_ is admitted to the Ph.D. programme, we agree to relieve him/her to enable him/her to be available at NIT Agartala to attend classes for completion of his/her course works relating to the Ph.D. programme.

Mr./Mrs./Ms. \_\_\_\_\_ will be permitted to carry out research leading to the Ph.D. degree, at our organization under the guidance of selected local supervisor. The necessary facilities will be provided for the purpose.

**Signature and Seal of the Sponsoring Authority.**