# NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

## SILCHAR 788 010, ASSAM, INDIA

ADMISSION INTO **Ph.D. Program** for **JULY-DECEMBER, 2014** session

Applications are invited for admission into **Ph.D. program** in the following departments (**July-December, 2014** session)

| DEPARTMENT | SPECIALISATIONS | |
|---|---|---|
| **Civil Engineering** | ➢ Structural Engineering<br>➢ Water Resource Engineering<br>➢ Earthquake Engineering | ➢ Geotechnical Engineering<br>➢ Environmental Engineering<br>➢ Transportation Engineering |
| **Mechanical Engineering** | ➢ Thermodynamics<br>➢ Heat Transfer<br>➢ Computational Heat Transfer<br>➢ Computational Fluid Dynamics<br>➢ Combustion<br>➢ Refrigeration & Air Conditioning<br>➢ Alternate Fuels<br>➢ Solar Energy<br>➢ Wind Turbines<br>➢ Hydraulic Turbines<br>➢ Spray Combustion | ➢ Non-conventional Energy<br>➢ Tribology<br>➢ Fracture Mechanics<br>➢ Stress Analysis<br>➢ Vibration<br>➢ Micro-machining<br>➢ Advanced Manufacturing Processes<br>➢ Engineering Materials<br>➢ Virtual Manufacturing<br>➢ Composites |
| **Electrical Engineering** | ➢ Renewable Energy Generation & Control (Wind and Solar Photo-voltaic)<br>➢ Power Electronics<br>➢ Distributed Generation and Control<br>➢ Electrical Machine Drives<br>➢ Power Quality<br>➢ Power System Reliability<br>➢ Smart Grid<br>➢ Power System Planning, congestion management, Networking Pricing<br>➢ CNT and Carbon Nanowire Interconnects<br>➢ Application of Signal and Image Processing | ➢ Grid Power and Bus Management<br>➢ Renewable Energy and its Applications<br>➢ Application of Microprocessor/Microcontroller<br>➢ Application of Soft-Computing in Engineering Applications<br>➢ Control Systems<br>➢ Fault detection and diagnosis of dynamical systems<br>➢ Industrial Automation<br>➢ Power system Economics<br>➢ Automatic Generation Control<br>➢ Image Processing<br>➢ Power System Protection |

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| **Electronics & Communication Engineering** | ➢ Microelectronics & VLSI Design<br>➢ Semiconductor Device, Modelling and Simulations<br>➢ MEMS-CMOS Co-design related to Spectrum Sensing in Wireless Technology | ➢ Digital System Design<br>➢ Signal Processing<br>➢ Communication Engineering<br>➢ Power Electronics<br>➢ Ad-hoc & Sensor Networks |
| **Computer Science and Engineering** | ➢ All areas of Computer Science and Engineering | |
| **Electronics & Instrumentation Engineering** | ➢ Emerging fields & Applications of Sensors and Transducers.<br>➢ Industrial and Process Control Instrumentation<br>➢ Power Quality Measurements & Monitoring. | ➢ Biomedical Instrumentation and Signal Processing.<br>➢ Drug Delivery System & Instrumentation<br>➢ Intelligent and Virtual Instrumentation. |
| **Physics** | ➢ Binary oxide for RRAM<br>➢ Thin Films<br>➢ Structural Phase transitions in oxides perovskites | ➢ Multiferroics<br>➢ Semiconductor Nanostructure and Devices |
| **Chemistry** | ➢ Conducting polymer, Nano material, Nano composite<br>➢ Green methods of synthesis of inorganic reagent/catalyst and their application in selective organic transformation | ➢ Synthetic organic chemistry<br>➢ Synthesis of bivalent organosulphur compounds and their applications, synthesis of complexes with ONS donor ligands and their applications |
| **Mathematics** | ➢ Fuzzy Set Theory & Logic<br>➢ Fuzzy Optimization | ➢ Operation Research |

**Minimum Qualifications:**

1 Students for admission into Ph.D. Program in Engineering Departments must satisfy one of the following criteria:

(i) M.E./M.Tech. or equivalent in an appropriate area with a minimum CPI of 6.5 (on a 10 point scale) or equivalent (60% of marks). For SC/ST candidates, a minimum CPI of 6.0 (on a 10 point scale) or equivalent (55% of marks).

(ii) B.E./B.Tech. with an excellent academic record and with a CPI of at least 8.0 (on 10 point scale) or equivalent (75% of marks). For graduate from IITs/NITs, the minimum CPI requirement is 7.0 (on 10 point scale). For SC/ST candidates, there is a relaxation of 0.5 CPI or 5% of marks.

2 Students for admission into the Ph.D. Programs in Science and MBA Departments must have a Master degree in the relevant discipline with a minimum CPI of 6.5 (on a 10 point scale) or equivalent (60% of marks). For SC/ST candidates, a minimum CPI of 6.0 (on a 10 point scale) or equivalent (55% of marks).

3 Students for admission into the Ph.D. Programs in Humanities and Social Sciences (HSS) Department must have a Masters degree in any field a minimum CPI of 6.0 (on a 10 point scale)

or equivalent (55% of marks). For SC/ST candidates, a minimum CPI of 5.5 (on a 10 point scale) or equivalent (50% of marks).

Conversion from CPI to percentage or vice-versa shall not be allowed

**Assistantship** to regular full-time students with valid GATE/NET score **OR** as per Institute rules, the Assistantship may be awarded subject to availability of fund.

**Downloadable application form** is available in the Institute's website: **www.nits.ac.in.** The Filled up Application Form must be accompanied with an Application Fee of Rs**. 500**/- (for General/OBC) **OR** Rs. **300**/- (for SC/ST) in the form of crossed Demand Draft in favour of **Director, NIT Silchar**, cashable at S.B.I., NIT Silchar. Otherwise, the application form will be treated as cancelled.

Application form complete in all respects should reach the **Heads of the respective Department**, **NIT Silchar** within **15th May, 2014 super-scribing "Application for admission into Ph.D. program under _____ Dept" on the envelope. Application must not be sent to Dean (R & C).** Candidates are advised to mention their contact nos/e-mail-ids in the application forms.

Names of the short-listed candidates for attending interview shall be made available in the Institute's website or may be intimated by e-mail by the respective Head of the Department. The session is likely to start from last week of **July, 2014. List of finally selected candidates shall be published by Dean (R & C).**

**Important Dates:**

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|---|---|
| **(a) Last date of submission of completed form** | **: 15/05/2014** |
| **(b) Last date of publication of the list of short listed candidates** | **: 23/05/2014** |
| **(c) Dates of written Test and/or Interview** | **: 9-12 June, 2014** |
| **(d) Last date of publication of the list of finally selected candidates** | **: 27/06/2014** |
| **(e) Date of Admission/Registration** | **: 28-29 July, 2014** |

Necessary applications form is available in the Institute website www.nits.ac.in. The applicable Ph.D. Regulation for the new batch of students is in the process of revision, the revised regulations shall be made available in the Institute website shortly (last week of April 2014). Approximate fee to be deposited at the time of admission is **Rs. 21,226/-** for regular with hostel, **Rs. 8,826/-** for regular without hostel, and **Rs.7,800/-** for part-time Ph.D. students.

**Dean (R & C)**

**NB: No hostel accommodation would be made available for male students**