



**OFFICE OF THE DEAN ACADEMIC AFFAIRS  
NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR**

**ADVERTISEMENT NOTICE**

**DATED: May 27, 2022**

Applications are invited for enrolment to tentative 187 fellowships (as per reservation policy in vogue) in Ph. D Programmes in different Departments for the Academic session autumn 2022. Research Specializations and Eligibility Criteria for the Departments are listed below.

**Research Specializations:**

S. No	Department	Research Specialization
1.	Chemical Engineering	Energy and Environment, Biotechnology, Waste Water Treatment, Nanotechnology, Electrochemical Reduction of CO <sub>2</sub> , Polymers, Fuel Cell Technology, Distillation, Process Flow Sheet Design, Process modelling and simulation, Process optimization, Process Control, Micro-channels, Microfuils, Slug Flow, CFD, Modelling and Simulation, Head Transfer, Fluid Flow, Mass Transfer, Waste Water Treatment, Separation Processes Energy, Electrochemical Separation, Reaction, Fluid Mechanics, Rheology, Mass Transfer, Catalysis CO <sub>2</sub> Capture, Environmental Engineering, Biochemical Engineering, Membrane, Separation Processes, Protein Purification, Electro Chemistry, Electro-dialysis, Fuel Cell Technology, Batteries, Heat Transfer, Computational catalysis, microkinetic modeling, heterogeneous catalysis, electro dialysis, Thermodynamic analysis, chemical reaction engineering, renewable energy,
2.	Civil Engineering	<p><u>Structural Engineering:</u> Structural Dynamics and Earthquake Engineering structural behaviour of Reinforced Concrete, Earthquake Engineering. Micro structural Characterization of Concrete, Corrosion Mitigation in RC Structures. Finite Element Modelling, Double skin Tubular Columns, Machine learn applications, Structural system based Evaluation of composite Steel Girder Bridges, Curved and Straight Corrugated Steel Girders, Asset Management and Health Monitoring Concrete Technology, High Performance Concrete, Reactive Powder Concrete, Eco-friendly Concrete Construction Productivity, Contract Management, Building Information Modelling, Construction Project Monitoring, Lean Construction, Alternate Dispute Resolution, Human Factors and Ergonomics ,Prefabrication Technology</p> <p><u>Water Resources &amp; Environmental Engineering:</u> Hydrology, Sediment transport, Climate change Water Resources Engineering, Hydraulics structures, Hydrological Modelling Water Quality Modelling, Solid waste Management, Soft Computing in water Resources Engineering, Water Resources, Sediment Transport, Air water &amp; land pollution, Environmental Engineering, GIS And RS, Hydropower plants, Dams , Penstocks etc, irrigation &amp; flood control, Water Resources systems , Hydrologic extremes, Stochastic hydrology, Fate and removal of pollutants in engineered and natural systems, Water and waste water treatment, Wastewater reuse and public perception</p>

S. No	Department	Research Specialization
		<p><u>Geotechnical Engineering:</u> Ground improvement, Environmental Geotechnics and Constitutive modelling of soils, Pavement Materials, Foundations, Rock Mechanics Geotechnical Earthquake Engineering, Liquefaction, Dynamic Properties of Soils, Characterizations of Geomaterials, Experimental Geotechnics.</p> <p><u>Transportation Engineering:</u> Pavement Engineering, Material Characterization, Traffic Engineering</p> <p><u>Geology and Rock Mechanics / Geosciences</u> Rock Mechanics, Engineering Geosciences, Remote Sensing &amp; GIS</p>
3.	Computer Science Engineering	IoT and Security, Reconfigurable Computing, Cloud computing, Big Data, Cyber Security and Blockchains, Machine Learning, Information Retrieval, Natural Language processing.
4.	Electrical Engineering	<p><u>Power &amp; Energy Systems:</u> This covers the following areas of research:- Power System Dynamics &amp; Control, Stand Alone power System, Power system operation &amp; Optimization, Renewable energy systems (solar, wind and Hybrid), Probabilistic Power System, Uncertainty quantifications, Deregulation, Distributed Generation, Applications of Energy Storage Devices to Power System. Flexible AC Transmission System, Energy System Planning &amp; Auditing, Loss Allocation, Power Systems Stability &amp; Control.</p> <p><u>Power Electronics &amp; Electrical Drives:</u> Power Electronics, Power Quality, Improved Power Quality Convertors, Custom Power Devices (DSTATCOM,DVR &amp; UPQC), Active Power Filters, Multi-level converters, Matrix converters, Electric Drives, Flexible AC Transmission System, Isolated Bidirectional DC-DC converters, AC – DC Micro grids, Smart Grids, Special Machines &amp; Control, Modulation Techniques, Electric Vehicles, Control of Renewable Energy Systems, Variable frequency transformer.</p> <p><u>Control &amp; Automation:</u> Control Theory, Model Order Reduction of Linear, Non Linear and Parametric systems, Finite Element modelling of Distributed Parameter systems, efficient Algorithms for fast simulation of power electronics circuits &amp; power systems, vector control of electric drives, Disease Modelling, Artificial Intelligence and Deep Learning.</p>
5.	Electronics & Communication Engineering	<p>Digital Image Processing, Biometrics, IOT, Network security, Wireless sensor networks, Optical Fibre Communication System, Semiconductor Optoelectronic devices, RF Communication System, Wireless Communications, Cognitive Radio, Machine Learning for Wireless Communication, Cyber-Physical System, Quantum computing, Biomedical signal processing, Wavelets &amp; filter banks, Architectural Design of DSP systems VLSI Signal Processing Architectures, FPGA based Design, Reconfigurable Computing, VLSI memory circuit design, Analog CMOS, and Bipolar Circuit Design, Semiconductor device physics &amp; simulation, Novel Semiconductor Microelectronics Devices, Semiconductor Device modelling &amp; Circuit simulation, Compact device modelling for the Industry, RF Characterization and Modelling, Emerging Nanoelectronic technologies, Organic / Molecular Electronics, Inorganic / Organic photovoltaic's, Application of Machine learning in Semiconductor devices.</p>

S. No	Department	Research Specialization
6	Information Technology	Sensor Networks, Internet of Things, Artificial Intelligence, Communication Networks, Network and Data Science, and Distributed Computation, High Performance Computing, On-Chip Security, Intelligent systems based on Machine learning, On-chip networks, Data Analytics, Data Algorithms, Fog Cloud Computing, and Big Data, Data mining and Fuzzy Logic Swarm based algorithms and Machine Learning
7.	Mechanical Engineering	Materials Tribology, Bearing Tribology and Synthesis and Analysis of Mechanism, Wear modelling, Tribology of advanced ceramics & Nano Ceramics, Life Cycle Engineering. Bio material, Friction Material, Condition monitoring, Nano lubrication, Smart Structures, Mathematical modelling, Material Characterisation, Machining, Optimization and Modelling, Computational Mechanics, FEM, Thermo elasticity and Second Sound Fracture Mechanics and Material Fatigue, Aircraft wing vibration, Smart Structures, Finite elements, Material Characterisation, Experimental Fluid Mechanics, Heat Transfer Augmentation, Design of Thermal Systems, Engine Design To Meet Future Emission Norms, Turbo-charging And Downsizing Of Spark Ignition Engines. Alternative Fuels For I C Engines. Computational Fluid Dynamic Applications In Engine Design, Haptics and Control Systems, MEMS Modelling and Simulation, Robotics, Multibody Dynamics, Mechatronics, Fuel Cells (DMFCs) and Membrane synthesis, Industrial Engineering and Operations Management, Value Engineering, Project management, Quality control, Decision Sciences, Ergonomics, Innovations and Entrepreneurship, Data mining and Manufacturing Strategies, Utilization of Biofuel in I C Engine. Engine Performance, Emission and Combustion Thermal Energy Systems, Welding, Materials Processing, Machining, Optimization, Production., Composite Materials, Computational Methods, Experimental Fluid Mechanics, Machinability of Metal Matrix Composites; Conventional and non-traditional machining of composite materials, Water Generation from Atmospheric air, Desiccant Materials, Low and Medium Temperature Applications of Solar Energy, Bio-fuel in IC Engine.
8.	Metallurgical and Materials Engineering	Physical Metallurgy, Thermo-Mechanical processing of Structural metallic materials, Light weight alloys, High Entropy Alloys, Nanostructured Materials, Materials Characterization, Powder metallurgy, Nanomaterials, Bio materials, Thermodynamics, Composite materials , Coating, Materials Engineering, Process Metallurgy, Mechanical Metallurgy, Nanostructured materials for hydrogen storage, Refrigeration and air conditioning using metal hydrides, Electrometallurgy, Recycling of Industrial waste, corrosion, Electro-dissolution, Electro-deposition, Steels, Hard metals, NDT, Thermo-chemical Surface Treatment Processes, Mathematical Modelling of Metallurgical Processes, Heat Treatment of Alloys, High temperature materials processing, Slag engineering, Nanocomposite solder materials, Epitaxy.
9.	Chemistry	Physical Chemistry/Organic Chemistry/Inorganic Chemistry/Analytical Chemistry/Materials Chemistry/Natural Product Chemistry/Synthetic Organic Chemistry/Essential oils/ Organic thin films/Green fuels and catalysis / Nanomaterials for energy and catalytic applications/Electrochemistry of energy storage and conversion systems / Surface Chemistry/Advanced Nanomaterials Patterning/ Soft Materials / Bioinspired Surfaces and Materials/ synthetic Porphyrin

S. No	Department	Research Specialization
		Chemistry / Dye Sensitized Solar Cells / Supramolecular Chemistry / Anionic Sensors.
10	Mathematics	Wavelet Analysis & Frame Theory, Complex Polynomial Theory, Sequences Spaces, Summability Theory and Measures of Non-Compactness, Operations Research, Discrete Mathematics and Linear Algebra, Complex Function Theory, Wavelet analysis and Mathematical Physics, Computational Fluid Dynamics.
11.	Humanities, Social Sciences and Management	Marketing Management, Technology Marketing, Innovation Management, General Management, Entrepreneurship, Strategic Management, Financial Management, Financial Econometrics, Human Resource Management and OB, HR Analytics, Business Anthropology.
		African American Literature, Narratology, Cognitive Literary Studies, Cultural Memory and History, Post-Colonial Literature, Post Modern Fiction, Literature and Culture.
12.	Physics	Theoretical High Energy Physics, Experimental Condensed Matter Physics, Materials, Nanoscience, Nanotechnology, Semiconducting material

**The research specializations are not limited to above only, and it is not also necessary that all the above listed specializations will be offered for research.**

**Eligibility Criteria:**

S. No	Branch	Eligibility Criterion
1.	Chemical Engineering	ME /M. Tech in relevant field of Engineering with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.
		OR
		BE / B. Tech with valid GATE score above the prescribed cut off level or UGC / CSIR NET in relevant specialization. The candidates shall have a minimum CGPA of 8.0 or not less than 75% for General /OBC/EWS Category and for SC/ST minimum CGPA of 7.5 or not less than 70% at BE/B Tech level
		OR
		M. Sc with a minimum of 60 % marks or 6.5 CGPA in the Master's Degree and with a valid GATE Score or UGC / CSIR NET in relevant specialization tenable for the year of registration.
		Relevant degrees
	B.E. / B. Tech M.E. /M. Tech	Agricultural Engineering Biochemical Engineering Chemical Engineering Civil Engineering Environmental Engineering Food Engineering Metallurgy or Metallurgical and Materials Engineering Mechanical Engineering Nanotechnology

S. No	Branch	Eligibility Criterion
		<p>Petroleum Engineering Petrochemical Engineering Pharmaceutical Engineering OR Any other relevant branch / specialization</p> <p>M. Sc. Biochemistry Biotechnology Chemistry (Organic/Physical/Inorganic/Analytical/Industrial) Environmental Science Food Science Nanotechnology Pharmaceutical Science Pharmacy OR Any other relevant degree / specialization</p>
2.	Civil Engineering	<p>ME/ M. Tech in relevant field of Engineering with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.</p> <p>OR</p> <p>BE/B. Tech (4-year) with valid GATE score above the prescribed cut off level / NET in relevant specialization. The candidates shall have a minimum CGPA of 8.0 or not less than 75% for General /OBC/EWS Category and for SC/ST minimum CGPA of 7.5 or not less than 70% at BE/B Tech level</p> <p>In addition to above, following qualifications are also eligible for Engineering Geology and Geo-Science Specializations only: Master's degree in Applied Geology/ Geology/ Earth Sciences or an allied area satisfying each of the following criteria: A minimum of 65% marks or 6.5 CGPA in the Master's degree, and First division in Bachelor's degree,</p> <p>AND</p> <p>Valid GATE score or UGC / CSIR NET in relevant specialization tenable for the year of registration.</p>
3.	Computer Science & Engineering	<p>BE/ B. Tech (4-year) in Computer Science &amp; Engineering / Information Technology / Electronics &amp; Communication Engineering /or other relevant branch</p> <p>AND</p> <p>ME /M. Tech in Computer Science &amp; Engineering/ Information Technology / Electronics &amp; Communication Engineering or other relevant specialization, with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level.</p>
4.	Electrical Engineering	<p>ME/ M. Tech in relevant field of Engineering with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other</p>

S. No	Branch	Eligibility Criterion
		<p>equivalent qualification recognized by the Institute.</p> <p style="text-align: center;">OR</p> <p>BE/B. Tech (4 year) with valid GATE score above the prescribed cut off level or NET in relevant specialization. The candidates shall have a minimum CGPA of 8.0 or not less than 75% for General /OBC/EWS Category and for SC/ST minimum CGPA of 7.5 or not less than 70% at BE/B Tech level</p>
5.	Electronics & Communication Engineering	<p>ME/M. Tech in relevant field of Engineering with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.</p> <p style="text-align: center;">OR</p> <p>BE/B. Tech (4-year) with valid GATE score above the prescribed cut off level / NET Qualification. The candidates shall have a minimum CGPA of 8.0 or not less than 75% for General /OBC/EWS Category and for SC/ST minimum CGPA of 7.5 or not less than 70% at BE/B Tech level.</p>
6.	Information Technology	<p>BE/B. Tech (4-year) in Computer Science &amp; Engineering / Information Technology/Electronics &amp; Communication Engineering / or other relevant branch</p> <p style="text-align: center;">AND</p> <p>ME/M. Tech in Computer Science &amp; Engineering/ Information Technology/ Electronics &amp; Communication Engineering / or other relevant specialization with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level</p>
7.	Mechanical Engineering	<p>ME/M. Tech in relevant field of Engineering with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.</p> <p style="text-align: center;">OR</p> <p>BE/B. Tech (4-year) with valid GATE score above the prescribed cut off level or NET in relevant specialization. The candidates shall have a minimum CGPA of 8.0 or not less than 75% for General /OBC/EWS Category and for SC/ST minimum CGPA of 7.5 or not less than 70% at BE/B Tech level</p>
8.	Metallurgical & Materials Engineering <sup>8</sup> .	<p>ME/ M. Tech in relevant field of Engineering with a minimum CGPA of 6.5 or not less than 60% for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.</p> <p style="text-align: center;">OR</p>

S. No	Branch	Eligibility Criterion
		<p>M. Sc Nanotechnology with minimum of 60% marks or 6.5 CGPA for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 or not less than 55% marks</p> <p style="text-align: center;">AND</p> <p>Bachelor's Degree (4 year) or any other equivalent qualification recognized by the Institute in Metallurgical and Materials Engineering/ Metallurgical Engineering/ Materials Science Engineering/ Production Engineering/ Manufacturing Engineering/ Ceramics Engineering/ Industrial Metallurgy/ Chemical Engineering/ Nanotechnology with minimum of 60% marks or 6.5 CGPA for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 or not less than 55% marks</p> <p style="text-align: center;">AND</p> <p>Possessing a valid GATE Score or NET in relevant specialization tenable for the year of registration.</p>
9.	Chemistry	Masters Degree in relevant field of Science with a valid NET or GATE Qualification in relevant specialization and a minimum CGPA of 6.5 or not less than 60% marks for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.
10.	Mathematics	Masters Degree in relevant field of Science with a valid NET or GATE Qualification in relevant specialization and a minimum CGPA of 6.5 or not less than 60% marks for General /OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.
11.	Humanities, Social Sciences, and Management	Masters Degree in relevant field with a valid NET or GATE Qualification in relevant specialization with minimum CGPA of 6.5 or not less than 60% marks for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level.
12.	Physics	Masters Degree in relevant field of Science with a valid NET or GATE or JEST Qualification in relevant specialization and a minimum CGPA of 6.5 or not less than 60% marks for General/OBC/EWS Category and for SC/ST minimum CGPA of 6.0 Or not less than 55% marks at Master's level or any other equivalent qualification recognized by the Institute.

The candidates have to apply online using the link <https://admission.nitsri.ac.in>.

Candidates are required to pay application processing fee per specialization of Rs: 1500 (One Thousand and Five Hundred only) for General/OBC-NCL and Rs.750 (Rs Seven Hundred and Fifty Only) for SC/ST/EWS/PwD through online mode.

Applications will be screened by concerned Departments and list of eligible candidates will be made available on Institute website: [www.nitsri.ac.in](http://www.nitsri.ac.in). Only primary mode of evaluation (CGPA or

percentage) as mentioned in the qualifying degree certificate / marks sheet shall be considered while verifying eligibility.

All announcements related to admissions will be made through our website. All candidates are advised to keep in touch with the Institute website till the process of enrolment is complete.

**Admission Categories:**

- |                         |   |
|-------------------------|---|
| 1. Full Time:           | Institute Fellowship  |
| 2. Full Time Sponsored: | Sponsored by any National recognized Organization   |
| 3. Part Time Sponsored: | Sponsored by any National / International Organization  |
| 4. Full Time:           | UGC/ CSIR / DST / INSPIRE / or any other fellowship   |
| 5. Part Time Sponsored: | Tenure based Project fellows / Research Assistant / JRF / SRF already appointed / working in other government recognized; R&D / Institutions / organizations. |

**Documents (As Applicable) to be uploaded along with application:**

1. Matriculation (DoB) Certificate
2. B. Tech / B. E Degree and Marks Sheet
3. M. Tech. / M.E. Degree and Marks Sheet
4. M Sc / MBA / MA or any other equivalent Degree and Marks sheet
5. GATE / NET / JEST / JRF / INSPIRE /NBHM etc. document
6. Migration / Transfer Certificate
7. Schedule Caste / Schedule Tribe / Physically Handicapped Certificate / OBC (NCL) Certificate / EWS certificate.
8. In case of OBC-NCL/GEN-EWS category, the certificate must have been issued on or after April 01, 2022.
9. The authorities competent to issue Category/Caste Certificates are indicated below:  
District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner/ Deputy Collector/ First Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of 1<sup>st</sup> Class Stipendiary Magistrate), Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate, Sub-Divisional Officer of the area where the candidate and / or his family resides, Revenue Officer not below the rank of Tehsildar
10. No Objection cum Service Certificate from the employer (in case of sponsored candidates) (The format may be downloaded from Institute website)
11. Nature of employment, Research experience, publication or any other related additional detail.
12. Candidates whose final year result is yet to be declared are also eligible to apply, however they have to submit their certificate / marks card at the time of enrolment if selected. They should enter 00 in the Percentage/CGPA field. They should also upload the complete transcript of marks / grade up to last but one semester / year.

**Sponsored Full Time / Part Time candidates have to produce the following documents at the time of Enrolment.**

1. No Objection Certificate & Sponsorship Certificate from the employer.
2. Proof of 02 years regular services.
3. Deputation order from employer for 06 months for completing course work for part time candidates.

**Exemptions:**

1. All Sponsored Candidates are exempted from NET / GATE / JEST.
2. Internal sponsored candidates are exempted from appearing in written test and deputation order by this Institute.
3. Admission categories under S. No. 4 and 5 are exempted from appearing in written test.



4. Sponsored part time under admission category S No 5 are exempted for producing proof of 2 years regular service at the time of enrolment.

**Important assertions:**

1. Hostel accommodation is not available to the PhD students, and students have to arrange their own accommodation outside the Campus.
2. The candidates who have passed their M. Tech. from NIT Srinagar under sponsored category can apply for PhD programme only after 2 academic year sessions, from the date of completion of M Tech degree.

**Help Line:** 7006089593

**Important Dates:**

1. Activation of Link for filling online applications: June 01, 2022
2. Last date to submit application forms: June 20, 2022
3. Date of Entrance test: Will be notified on Institute website

Sd/-

**(Najeeb-Ud-Din)**

**Dean Academic Affairs**

No.NIT/DAA/2022/335

Dated: May 27, 2022