राष्ट्रीय प्रौद्योगिकी संस्थान नागालैंड
NATIONAL INSTITUTE OF TECHNOLOGY NAGALAND
Chumukedima, Dimapur-797103
Nagaland

Ref. No. NIT-N/ADVT/Research/0001/2020 dated 12-06-2020

A. Ph.D. PROGRAMME

Applications are invited from qualified candidates for admission to Ph.D. programme (Full Time / Part Time) in the disciplines of CE, EEE, ECE, CSE, EIE, ME, Mathematics, Physics, Chemistry and Sociology. The Departments and areas in which these Programme will be offered are:

SL. NO.	DEPARTMENT	SPECIALIZATION/ AREA OF RESEARCH
1.	Civil Engineering	Structural Engineering, Environmental Engineering, Solid Waste Management
2.	Computer Science and Engineering	Data Analytics, Machine Learning, Deep Learning, Bioinformatics, Online Social Networks, Computer Networks, Wireless Communication and Networks, IOTs, Mobile Communications, Image Processing, Information Security
3.	Electrical and Electronics Engineering	Power Systems, Smart Grids, Demand Side Management, Internet of Things, Electric Vehicles: PEV/PHEV in Smart Distribution grid, Applications of Machine Learning and Deep Learning in Power Systems. Renewable Energy Systems, Micro Grid and Smart Grids, Power Systems, Forecasting / Predictive analytics, Machine Learning and Deep Learning, Internet of Things. IoT based Industrial Automation, Condition Monitoring of Machines, Artificial intelligence & Data Analytics for Electrical Engineering, Artificial intelligence for Educational Systems, Applications of Signal Processing. Control System, Optimization, Biomedical instrumentation and Control, Estimation, Control design for power system, Control design for Microgrid, PV system and Wind energy system, Control design for Power Converters and Filters, Machine Learning and Deep Learning in control perceptive, Control development for robotic vehicles. Power Systems, Power System operation control and Stability, Relay Coordination, Deregulated Power System, Application of IoT and Machine Learning for

		Smart Grid, Service Restoration and Distribution Network Reconfiguration, Grid Integrated Renewable Energy
4.	Electronics and Communication Engineering	Semiconductor device modelling, Optoelectronic devices, Photovoltaic devices, Nanoelectronics, Gas sensors, Memory devices, Speech Processing, Antenna Design and Digital Image Processing.
5.	Electronics and Instrumentation Engineering	Wireless Communication, Control of Smart Structures, WSN, Embedded Systems, MEMS and IOT.
6.	Mechanical Engineering	Micromachining, advanced machining processes, Conventional Machining, CAD/CAM/CIM, Composites, manufacturing, material science, casting, Optimization.
7.	Science (Physics, Chemistry and Mathematics) and Humanities	Nanomaterials, Nanomagnetism, Thin Film Technology, Material science, Physical Chemistry, Environmental Chemistry, Bioinorganic and Biophysical Chemistry, Applied Mathematics, Operation Research, Theoretical Mathematics, Algebra, Sociology, Religion and Culture, Political Ecology.

INTERDISCIPLINARY RESEARCH

SL. NO.	Research Areas	Eligible Disciplines
1.	Communication in Phasor Measurement Unit	Masters degree in Electrical Engg/Electrical and Electronics Engg/ Electrical and Instrumentation
2.	Condition monitoring of Power apparatus	Masters degree in Electrical Engg/Electrical and Electronics Engg/ Electrical and Instrumentation/Computer Science & Engineering
3.	Graph theory in Power System Configuration	Masters degree in Electrical Engg/Electrical and Electronics Engg/ Electrical and Instrumentation
4.	Wireless Sensor Networks	Masters degree in Computer Science and Engineering; Computer Engineering; Information Technology; Electronics and Communication Engineering; Electrical and Electronics Engineering; Electronics and Instrumentation Engineering; Communication Engineering; Artificial Intelligence; (or any other degree relevant to abovementioned disciplines)
5.	Application of Artificial Intelligence and Machine Learning for mechanical systems	Master degree in Mechanical Engineering and Allied discipline

	& In-service Inspection	
6.	Application of Artificial Intelligence in Supply Chain Management, Industrial Management	Master degree in Mechanical Engineering, Electrical Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, All Mechanical and Electrical Allied discipline, Computer Science Engineering, Information Technology and its Allied Branch
7.	Robotics and Automation (Mechanical design, Modeling, Inverse Kinematics, Dynamics and control design)	Master degree in Mechanical Engineering, Electrical Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, All Mechanical and Electrical Allied discipline
8.	Nano Devices modeling, simulation and optimization	Master degree in Electrical Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, All Electrical and Electronics Allied disciplines
9.	Artificial Intelligence in VLSI, Network on Chip, etc	Master degree in Electrical Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, Computer Science Engineering, Information Technology and its Allied Branch, All Electrical and Electronics Allied disciplines
10.	Theoretical and computational study on Magnetism, Nano Magnetisim,	MSc Physics, Master degree in Electrical Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, All Electrical and Electronics Allied disciplines
11.	Portfolio Optimization for Financial and economical model. Decision making on financial and economical model	Master in Business Administration (must have studied mathematics upto graduation level), MSc (must have studied mathematic upto graduation level), MA in economics (must have studied mathematics upto graduation level), Any Engineering Graduate

12.	Machine Learning and its applications	Computer Science and Engineering; Computer Engineering; Information Technology; Electronics and Communication Engineering; Electrical and Electronics Engineering; Electronics and Instrumentation Engineering; Communication Engineering; Aerospace Engineering, Mechatronics Engineering Artificial Intelligence; (or any other degree relevant to abovementioned disciplines)
13.	IoT based Industrial Automation	Master's degree in Engineering / Technology with Bachelor's degree in Engineering / Technology/ MS by Research in Engineering / 5 year integrated Masters/ Dual Degree in Engg. or BS+MS (5-year integrated course) from CFTI. (in areas of EEE/EIE/CSE/IT/ECE/Mechatronics)
14.	Predictive Analytics for Automation Technologies	Master's degree in Engineering / Technology with Bachelor's degree in Engineering / Technology / MS by Research in Engineering / 5 year integrated Masters/ Dual Degree in Engg. or BS+MS (5-year integrated course) from CFTI (in areas of EEE/EIE/CSE/IT/Mechatronics)
15.	Artificial Intelligence for Educational Systems	Master's degree in Engineering / Technology with Bachelor's degree in Engineering / Technology / MS by Research in Engineering / 5 year integrated Masters/ Dual Degree in Engg. or BS+MS (5-year integrated course) from CFTI (in areas of EEE/EIE/CSE/IT)
16.	Data Analytics for Smart Vehicles	Master's degree in Engineering / Technology with Bachelor's degree in Engineering /Technology / MS by Research in Engineering / 5 year integrated Masters/ Dual Degree in Engg. or BS+MS (5-year integrated course) from CFTI in areas of EEE/EIE/CSE/IT
17.	Biosensors and Bioelectronics	MSc/M.tech in material science/Bioelectronics/biotechnology or Masters degree in Biotechnology/Nanotechnology/Electronics and Communication/Electrical / Electrical and Electronics Engineering/ Electronics and Instrumentation Engineering
18.	Solar Photovoltaic cell	Master degree in Electronics and Communication Engineering; Electrical and Electronics Engineering; Electronics and Instrumentation Engineering; Computer Science and Engineering; Computer Engineering; Information Technology; Communication Engineering; (or any other degree relevant to abovementioned disciplines)

Eligibility Criteria for PhD Programme in Engineering

Master's degree in Engineering / Technology with Bachelor's degree in Engineering / Technology/ MS by Research in Engineering / 5 year integrated Masters/ Dual Degree in Engg or BS+MS (5-year integrated course) from CFTI in a relevant area specified above with a minimum First class and CGPA/CPI of 6.5 or above (on scale of 10) or 60 % marks (55% marks for SC/ST candidates).

Or

M.Sc. (with valid GATE score) from any Recognized University / Institute with a minimum First class and CGPA/CPI of 6.5 or above (on scale of 10) or 60 % marks (55% marks for SC/ST candidates)

Eligibility Criteria for PhD Programme in Science and Humanities

Master's degree in Science/Humanities/ME/M.Tech or MS by Research in Engineering/ BS+MS (5-year integrated course) from CFTI or equivalent degree, with minimum First class and CGPA/CPI of 6.5 or above (on scale of 10) or 60 % marks (55% marks for SC/ST candidates)

B. INTEGRATED Ph.D. PROGRAMME

Applications are also invited from qualified candidates for admission to Integrated Ph.D. Programme in the disciplines of CE, EEE, EIE, ECE, ME and CSE for the above mentioned specialization/area.

Eligibility Criteria for Integrated Ph.D. Programme:

Bachelor's degree in Engineering / Technology or equivalent in the disciplines of Civil Engineering, Electrical and Electronics Engineering, Electronics and Instrumentation Engineering, Electronics and Communication Engineering, Mechanical Engineering and Computer Science and Engineering with a minimum CGPA of 8.0 or above (on scale of 10) or 75 percent of marks and a valid GATE score. If the qualifying B.E. / B.Tech. degree is from an IIT / NIT or any Centrally Funded Technical Institute (CFTI) with CGPA 8.5 or 80 percent of marks, then the valid GATE score requirement shall be exempted but scholarship will be provided to only to candidates with valid GATE score.

Note*: Candidates awaiting their final year results are also eligible to apply for all the programs subject to the submission of passing certificates meeting all the above eligibility criteria of the institute at the time of physical document verification, reporting and admission at the institute.*

GUIDELINES FOR FILLING ONLINE APPLICATION:

- Candidates applying for Ph.D. Programme/Integrated Ph.D. Programme shall apply only in online mode through the link provided in the institute website: https://nitnagaland.in/.
- Integrated Ph.D. Programme is only applicable for all the engineering departments only in full-time mode.
- During online form filling process, any required information in the online portal may be **left vacant** which may not be applicable to the candidate.
- If anyone requires applying for more than one specialization, he / she should apply separately for each specialization with the same application fee.
- If the candidate is applying for full-time Ph.D. and he / she is employed, relieving certificate from the employer should be produced at the time of admission.
- Preference will be given to those candidates who are having valid GATE / NET score.
- The Institute will not be responsible for any error in application process.
- The date and time of written test/interview for the shortlisted candidates will be uploaded in the institute website. So, the candidates are requested to check the website regularly for any updates
- No separate intimation will be given to the individual applicant.
- Candidates need to upload all the grade cards of UG and PG degree merged as a single PDF file in the sections of graduation and post graduation respectively.
- A non-refundable application fee of Rs. 500/- (SC / ST / PH candidates are exempted from application fee) by means Online transaction must be made to the following account:

  Account Name: **IRG NIT Nagaland**,
  Account Number: **35747839287**
  IFSC Code: **SBIN0007543**
  Branch: **SBI, Chumukedima, Dimapur**

- The online transaction receipt if applicable must be uploaded in the online portal.
- The generated online application form (PDF file) along with all the relevant scanned documents must be emailed to phdadmission@nitnagaland.ac.in without which the application will be considered as incomplete.
- For any queries regarding filling up the online form, the candidate may contact the following email: phdadmission@nitnagaland.ac.in

The Rules and Regulations of Ph.D. Programme and Integrated Ph.D. Programme can be downloaded from the Web address: http://nitnagaland.ac.in/index.php/academics/rules-and-regulations

Note:

- **Only full-time candidates with GATE score/UGC NET including lectureship (Assistant Professorship) in order of merit will be considered for institute scholarship subject to the availability of funds from MHRD. Others are not eligible for scholarships.**
- Last date for filling the online application is **within 30 days from the date of lifting of lockdown by the Government of Nagaland.**

REGISTRAR