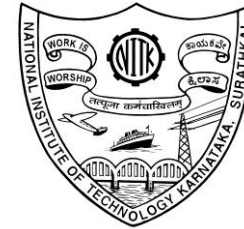


NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL
Mangalore- 575025, Karnataka State

INFORMATION BULLETIN



**Admission to M. Tech, M. Tech (Research) and Ph.D.
Programmes 2020-21**

Website: www.nitk.ac.in
Fax : 91-824-2474033

Phone : 2474000-2474023
E-Mail : deanacad@nitk.ac.in

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NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

1. The Institute:

The National Institute of Technology Karnataka (NITK), Surathkal is rated as one of the top Institutions in India. Since its inception in 1960 as the Karnataka Regional Engineering College, the Institute has established itself as a premier center engaged in imparting quality technical education and providing support to research and development activities. The Government of India as per the NIT Act 2007 declared NIT as Institute of National Importance. The Institute is governed by the rules and statutes of the NIT Act. The Institute has a long tradition of research for several years in both traditional and modern areas of engineering and sciences in all departments. The Institute has been actively involved in application oriented research focussed in resolving problems faced by the society in several areas like environment, water resources, rock mechanics, new structures, VLSI, etc. NITK attracts students from all over the country and abroad. The Institute admits students to the B.Tech degree program on the basis of the Joint Entrance Examination (JEE Mains). Foreign students are admitted on various student exchange programs through MEA, ICCR, etc. and scheme of Direct Admission to Students Abroad (DASA). Scholarship seats for M.Tech programs are awarded on the basis of the Graduate Aptitude Test in Engineering (GATE) and a few seats are available for sponsored students. The institute admits students to MCA Program on the basis of NIMCET, admission to MBA is made on the basis of CAT / MAT/ GATE score and for M.Sc Program admissions are made based upon the JAM scores. Every year the Institute offers 188 Ph.D. fellowships and also admits sponsored/external candidates to the doctoral program. NITK graduates are sought after by top industries/companies and the Institute has been rated as one of the best Institutions in the country with regard to student placements.

2. Location:

NITK is located in Mangalore City along the Kanyakumari-Mumbai National Highway 66. It is well connected by road, rail and by air to major cities in India and a few international destinations. The Institute is located amid 300 acres of sylvan surroundings with the picturesque Western Ghat Mountains on the east and the sun-kissed sands of the Arabian sea to the west. The Mangalore (Bajpe) airport and the Mangalore Railway Station are about 20 km. away from the Campus, while Surathkal Railway Station is about 3 km away from the campus. The campus is located far away from the din and bustle of a city and is very conducive for academic activities. The climate throughout the year is equitable and has temperature range of 18 to 38° Celsius. The campus being on the sea shore, is blessed with clean air and healthy climate.

3. Self-Contained Residential Campus:

The Institute is a residential Institution with adequate hostel facilities for boys and girls. All the students are expected to stay in the Institute hostels. To suit the tastes of the students from different regions, independent messes of various types are run in different hostels. The amenities include 11 Hostel blocks for boys & 8 hostel blocks for ladies with all basic amenities. A good number of faculty quarters provide ample opportunity to draw upon benefits of campus life. Vast stretches of play fields, a swimming pool, a gymnasium, a central library, a well equipped Health Care Centre, post office, branches of State Bank of India and Canara Bank, both with ATM facilities and two canteens are the amenities available. N.C.C. and N.S.S. constitute two more prominent extra-curricular activities in addition to music, photography, web enthusiast and dramatic clubs of the Institute.

4. Computing Facilities and Campus Network:

NITK has a campus wide network spanning the entire campus – academic buildings, guest houses, student hostels and campus residences. Each department has its own LANs connected to this network. These LANs have adequate number of computers to cater to the needs of the departments. The campus network uses 12 core optical fibre cabling for inter building connectivity with 1Gbps speed depending on the number of computers in the end point LANs. Intra departmental and Hostel LANs are fast Ethernet (100 Mbps). Residences on a DSL (broad band) network with ADSL2 technology. The Institute has 24 x 7 Internet connectivity. The journals subscribed through INDEST consortium are available throughout the campus LAN. The Institute's network operations and data centre are in CCC. These are kept functioning round the clock. The Server capacity of the data centre is expanded to support the additional demands. The Institute is part of National Knowledge Network (NKN). The institute hosts the NPTEL video and text lessons in its service for the Campus Network. The present bandwidth is 1 Gbps to NKN and 155 Mbps to BSNL, both shared by the entire campus LAN.

5. Library Facilities:

NITK has a modern Central Library with more than two lakhs of documents consisting of Technical books, reports, standards, CD-ROMS, Audio Visual Educational Cassettes and back volumes of journals including book-bank section.

The Library subscribes to 413 periodicals (print) - 136 Indian; 259 Foreign plus 4000 + e-Journals and 300 + e-Books besides a holding of 7000 + back volumes of journals. The Book-Bank books are for issue to students on monthly basis. The central library is also extending its services to the local industries and educational institutions by giving membership facilities. For the benefit of the users, we are providing the open access facilities, Xerox facility, online database on e-journals and e-books. Library is fully automated and computerized information retrieval service- OPAC (Online Public Access Catalogue) is available at 10 different nodes in the library. Internet and online search facilities are also made available to the end users of the library.

Library has access to 3876 full text Print / online journals and 7156 abstract journals through Indian National Digital Library in Engineering, Science and Technology (INDEST). It coordinate and provide access to these online full text and abstract journals such as IEEE databases, Science Direct, Indian Standards, ASME, ASCE & Nature Journals, etc. Separate digital library unit is established for accessing digital resources. The library has membership with INFLIBNET, DELNET and Mangalore University, thereby facilitate to access to over 5000 additional online resources.

The Institute Library functions from 8.00 A.M to 12.00 midnight from Monday to Saturday, from 8.00 A.M. to 4.00 P.M. on Sunday and from 9.00 to 12.00 noon on General Holidays.

6. Courses of Study:

The Institute offers undergraduate programmes in 9 disciplines and post-graduate programmes in 31 specialized areas. The Institute also offers facilities for research leading to Ph.D. degrees in various branches of Engineering, Science and Humanities & Social Sciences. The academic responsibilities are shared by the following 14 Teaching Departments:

1. Water Resources and Ocean Engineering (Formerly Applied Mechanics & Hydraulics Department)
2. Chemical Engineering
3. Chemistry
4. Civil Engineering
5. Computer Science and Engineering
6. Electrical & Electronics Engineering
7. Electronics & Communication Engineering
8. School of Management
9. Information Technology
10. Mathematical and Computational Sciences
11. Mechanical Engineering
12. Metallurgical & Materials Engineering
13. Mining Engineering
14. Physics

The Teaching Departments responsible for conducting the 31 postgraduate programmes which include M.Tech, M.Tech by Research, M.Sc, MCA and MBA are shown below. M.Tech (Research) programmes are offered in all the specializations available under M Tech,

a) **Civil Engineering:**

- | | | | |
|------|-------------|---|--|
| i) | M.Tech (ST) | - | Structural Engineering |
| ii) | M.Tech (GT) | - | Geotechnical Engineering |
| iii) | M.Tech (EN) | - | Environmental Engg |
| iv) | M.Tech (TS) | - | Transportation Engineering |
| v) | M.Tech (CM) | - | Construction Technology and Management |

b) **Water Resources and Ocean Engineering (Formerly Applied Mechanics & Hydraulics Department)**

- | | | | |
|-------|-------------|---|--|
| vi) | M.Tech (MS) | - | Marine Structures |
| vii) | M.Tech (WR) | - | Water Resources Engineering and Management |
| viii) | M.Tech (RS) | - | Remote Sensing and GIS |

c) **Mechanical Engineering:**

- | | | | |
|------|-------------|---|---------------------------|
| ix) | M.Tech (TH) | - | Thermal Engineering |
| x) | M.Tech (MF) | - | Manufacturing Engineering |
| xi) | M.Tech (MC) | - | Mechatronics Engineering. |
| xii) | M.Tech (DP) | - | Mechanical Design |

d) **Electronics & Communication Engineering:**

- | | | | |
|-------|---------------|---|--|
| xiii) | M.Tech (VL) | - | VLSI Design |
| xiv) | M.Tech (CE) | - | Communication Engineering & Networks |
| xv) | M.Tech (SPML) | - | Signal Processing and Machine Learning |

e) **Chemical Engineering:**

- | | | | |
|------|-------------|---|----------------------|
| xvi) | M.Tech (CE) | - | Chemical Engineering |
|------|-------------|---|----------------------|

- xvii) M.Tech (EH) - Environmental Science & Technology
- xviii) M.Tech (IB) - Industrial Biotechnology

f) Metallurgical & Materials Engineering:

- xix) M.Tech (PM) - Process Metallurgy
- xx) M.Tech (ML) - Materials Engineering
- xxi) M. Tech (NT) - Nanotechnology

g) Electrical & Electronics Engineering:

- xxii) M.Tech (PS) - Power & Energy Systems

h) Information Technology:

- xxiii) M.Tech (IT) - Information Technology

i) Computer Science and Engineering:

- xxiv) M.Tech (CS) - Computer Science and Engineering
- xxv) M.Tech (IS) - Computer Science and Engineering - Information Security

j) Mining Engineering:

- xxvi) M.Tech - Rock Excavation Technology and Management.
(by Research) only

k) Mathematical and Computational Sciences:

- xxvii) M Tech (CD) - Computational and Data Science
- xxviii) M.C.A. (MCA) - Master of Computer Applications

l) School of Management:

- xxix) M.B.A. - Master of Business Administration

m) Chemistry:

- xxx) M.Sc.(CY) - M.Sc. in Chemistry

n) Physics:

- xxxi) M.Sc.(PH) - M. Sc. in Physics

7. Minimum Qualification / Eligibility:

A. M.Tech. Programme (Common to all M.Tech Programmes):

Admission to a M.Tech Programme shall be open to Indian nationals who have passed the prescribed qualifying examination with a Cumulative Grade Point Average (CGPA) of at least 6.5 in the 0-10 scale grading system, OR not less than 60% marks in the aggregate (taking into account the marks scored in all the subjects of all the public/university examinations conducted during the entire prescribed period for the degree programme). However, this prescribed minimum shall be a CGPA of 6.0 OR 55% marks in the aggregate for SC/ST/PwD candidates. The allotment of seats for scholarship category is done based on GATE score and **M.Tech–2020 admissions is done through CCMT-2020 by MNIT Jaipur.**

Types of student status for M.Tech Programme:

- 1) Full-time student on GATE-scholarship
- 2) Full-time sponsored student under QIP
- 3) Full-time sponsored student from Industry/other organizations/Educational Institutions.

B. M. Tech (Research) Programme: [Common to all M.Tech (Research) Programmes]:

Admission to a M.Tech (Research) Programme shall be open to Indian nationals who have passed the prescribed qualifying examination with a Cumulative Grade Point Average (CGPA) of at least 6.5 in the 0-10 scale grading system, OR not less than 60% marks in the aggregate (taking into account the marks scored in all the subjects of all the public/university examinations conducted during the entire prescribed period for the degree programme). However, this prescribed minimum shall be a CGPA of 6.0 OR 55% marks in the aggregate for SC/ST/PwD candidates. Valid GATE score is essential for scholarship seats.

Student Status: There are four types of student status in the M.Tech (Research) Degree Programme.

- a) Full time student on GATE scholarship.
- b) Full time student sponsored from Industry or other organisation
- c) External Registrants – Student Sponsored from Industry or other Organizations.
- d) Internal Registrants - sponsored institute or project staff of NITK

Student of the type (b & c) shall be sponsored and financed by the sponsoring organization. They are not entitled for Institute scholarship. He/she should produce a sponsorship-cum-clearance certificate in the given format of the Institute along with the

application. The candidate must have minimum of 2 years of full-time work experience in the sponsoring organization, after completing the qualifying examination. External Registrants are expected to carry-out their research work in their parent organisation after fulfilling certain prerequisites in the Institute. External registrants may have an additional Research Guide from the sponsoring organisation. In case of external registrants, residential requirement may be waived. They are expected to complete their course work by opting for (pre-approved by DPGC) certified courses.

Departments, Specialization offered and Qualifying Examinations for M.Tech, M .Tech (Research) are listed below:

S.N	Department	Specialization	Qualifying Examination
1.	Civil Engineering	Structural Engineering	i) B.E./B.Tech/B.Sc.(Engineering) in Civil Engineering /Structural Engineering of any Recognised Indian Universities. ii) AMIE in Civil Engineering.
2.	Civil Engineering	Geotechnical Engineering	i) B.E./B.Tech/B.Sc.(Engineering) in Civil Engineering of any Recognised Indian Universities. ii) AMIE in Civil Engineering.
3.	Civil Engineering	Environmental Engineering	i) B.E./B.Tech/B.Sc.(Engineering) in Civil Engineering / Chemical/Mechanical / Metallurgical / Mining Engg / Environmental Engg/Bio-Chemical Engineering/ Bio- Technology/Agricultural Engg/Biological Science and Bio-Engg/Bio-Sciences &Bio- Engg/Bio-Tech Engineering/Bio Technology & Bio-Chemical Engineering /Chemical &Bio Engineering/Chemical Technology/Civil & Water Management/Civil Engg(Public Health Engg)/Civil Environmental Engg/ /Environment & Pollution Control/Environmental Science & Engineering/Environment Science and Technology Health Science & Water Engg/Mining Technology/Paper & pulp Engineering/Pulp Technology/Sugar Technology/Water Management /Bio-Engg/Chemical & Bio Engg/Bio-Chemical & Biotechnology Engineering ii) AMIE in Civil Engineering/Chemical Engineering iii) MSc in Applied Chemistry/Earth Sciences/Environmental Sciences /Industrial Chemistry /Life Science/Bio-Chemistry/Bio -Technology
4.	Civil Engineering	Transportation Engineering	i) B.E./B.Tech/B.Sc.(Engineering) in Civil Engineering /Highway Engg/Transportations Engg /Civil & Transportation Engineering / Civil & Transportation Technology of any recognised Indian University ii) AMIE in Civil Engineering
5.	Civil Engineering	Construction Technology and Management	i) B.E./B.Tech./B.Sc (Engineering) in Civil Engineering/Civil Engg & Planning /Construction & Project Management /Construction Engineering/Construction Engineering Management/Construction Technology/Construction Technology and Management /Mining Engineering /Transportation Engineering/Environmental Engg/Structural Engineering of any recognized Indian University. ii) AMIE in Civil/Mining Engineering. iv) Bachelors' degree in Architecture (B.Arch. /B.E. or B.Tech. in Architecture of any recognized Indian University).
6.	Water Resources and Ocean Engineering	Marine Structures	i) B.E./B.Tech in Civil Engineering/ B. Sc (Civil Engg)/B.E/B.Tech Ocean Engineering ii) AMIE in Civil Engineering
7.	Water Resources and Ocean Engineering	Water Resources Engineering and Management	i) B.E./B.Tech in Civil Engg /B. Sc (Civil Engg) ii) BE Water Management iii) AMIE in Civil Engineering
8.	Water Resources and Ocean Engineering	Remote Sensing and GIS	i) B.E. / B. Tech or B.Sc (Engineering) in Civil Engineering ii) AMIE in Civil Engineering
9.	Mechanical Engineering	Thermal Engineering	B.E./ B.Tech./AMIE) in Mechanical Engineering /Automobile Engineering/ Aeronautical Engineering/Aerospace Engg/Energy System Engg/Marine Technology/Power Plant Engg/Renewable Energy Engineering
10.	Mechanical Engineering	Manufacturing Engineering	B.E./B.Tech./AMIE in Mechanical Engineering/ Industrial Engineering/ Industrial and Production Engineering/Industrial Engineering and Management/Manufacturing Engineering/ Production Engg/tool Engineering

11.	Mechanical Engineering	Mechatronics Engg	<ul style="list-style-type: none"> i) B.E / B. Tech/ AMIE in Mechanical Engineering ii) B.E / B. B.E / B. Tech/ AMIE in Electronics & Comm. Electrical & Electronics, Instrumentation. Control Engg/Electronics & Instrumentation Engineering B.E / B. Tech/ AMIE in Mechatronics/ Industrial Production/ Production Engg/Manufacturing Engg/Industrial Engg/Aeronautical Engg, Automobile Engg,.
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12.	Mechanical Engineering	Mechanical Design	i) B.E / B. Tech/ AMIE in Mechanical Engineering, Automobile Engg, Manufacturing Engineering, Aeronautical Engineering/Aerospace Engineering
13.	Electronics & Communication Engineering	VLSI Design	<ul style="list-style-type: none"> i) B.E./B.Tech./B.Sc. (Engineering) in E & C, Electronics & Telecommunications / Instrumentation / Telecommunication/ E&E / Computer Science Eng / Electronics/ Telecommunication / Electronics & Control Engineering ii) AMIETE (Electronics & Telecommunication)
14.	Electronics & Communication Engineering	Communication Engineering and Networks	<ul style="list-style-type: none"> i) B.E./B.Tech./B.Sc. (Engineering) in E & C, Electronics & Telecommunications. ii) AMIETE (Electronics & Telecommunication)
15.	Electronics & Communication Engineering	Signal Processing and Machine Learning	<ul style="list-style-type: none"> i) B.E./B.Tech./B.Sc. (Engineering) in E & C, Electronics & Telecommunications/Instrumentation Technology/E&E / Computer Science & Engineering / Electronics / Telecommunication / Electronics & Control Engineering ii) AMIETE (Electronics & Telecommunication)
16.	Chemical Engineering	Chemical Engineering	<ul style="list-style-type: none"> i) B.E./B.Tech. in Chemical Engg / Polymer Technology /Ceramic and Cement Technology/ Bio-Chemical Engineering/Biotechnology / Petrochemical Engg ii) AMIE (Chemical Engineering)/A.M.I.I.Ch.E.
17.	Chemical Engineering	Environmental Science & Technology	<ul style="list-style-type: none"> i) B.E./B.Tech. in Chemical Engg/Mechanical /Mining Engineering/Polymer Technology/Ceramic and Cement Technology/Environmental Engineering/Bio-Chemical Engineering/Biotechnology / Petrochemical Engineering ii) AMIE (Chemical Engineering)/A.M.I.I.Ch.E.
18.	Chemical Engineering	Industrial Biotechnology	<ul style="list-style-type: none"> i). B.E./B.Tech. in Biotechnology ii). B.E./B.Tech. in Chemical Engineering iii). B.E./B.Tech. in Biochemical Engg iv). M.Sc. in Biotechnology.
19.	Metallurgical & Materials Engineering	Process Metallurgy	<ul style="list-style-type: none"> i) B.E./B.Tech./B.Sc.(Engineering) in Metallurgical Engineering/Industrial & Production Engg/Metallurgy/ Metallurgical & Materials Engineering/ Metallurgical Engg & Materials Science/ Metallurgical & Materials Technology/Mechanical Engg/ Chemical Engg/Production Engineering/Ceramics Engineering. ii) AMIE in Metallurgical Engineering / Mechanical Engineering (by Examination) iii). Associate Member of the Indian Institute of Metals (by examination) -A.M.I.I.M. iv). M.Sc. Chemistry (Physical /Analytical /Industrial /Applied Inorganic) v). M.Sc. (Materials Science) vi). Master Degree in Mineral Beneficiation / Mineral Processing / Ore Dressing.
20.	Metallurgical & Materials Engineering	Materials Engineering	<ul style="list-style-type: none"> i) B.E./B.Tech./B.Sc Engineering in Metallurgy /Mechanical Engineering /Chemical Engineering /Industrial Production/Polymer Technology/ Ceramic & Cement Technology/ Manufacturing Engineering/Industrial & Production Engg/Metallurgical & Materials Engineering/Metallurgical Engineering/ Metallurgical Engg & Materials Science/Polymer Science & Technology/ Polymer Science & Rubber Technology/Metallurgy & Materials Technology/Production Engineering. ii) AMIE in Mechanical/Metallurgical Engineering by examn. iii) AMIIM (by examination) of Indian Institute of Metals. iv) M.Sc (Materials Science / Physics / Chemistry (Physical /Analytical /Industrial/ Applied/ Inorganic)
21.	Metallurgical & Materials Engineering	Nanotechnology	<ul style="list-style-type: none"> i) M. Sc. In Physics, Chemistry, Materials Science, Bio-Technology. Nanoscience /Nanotechnology ii) B. Tech/AMIE in Civil, Mechanical, E & E, E & C, Instrumentation, Chemical, Metallurgy, Mining Engineering, Metallurgical & Materials Engineering. iii) Associate member of the Indian Institute of Metals (by examination) – AMIIM.
22.	Electrical & Electronics Engineering	Power and Energy Systems	<ul style="list-style-type: none"> i) B.E./B.Tech./ B. Sc (Engg) in Electrical Engineering or Electrical & Electronics Engineering ii) AMIE in Electrical Engineering

23.	Information Technology	Information Technology	i) B.E./B.Tech. in Computer Engineering, Computer Science, Computer Science & Engineering, Computer Science & Information Technology, Computer Technology, Information Technology, Computer & Communication Engineering, Computer Engineering & Application, Computer Networking, Computer Science & Systems Engineering, Computer Science & Technology, Computing in Computing, Computing in Multimedia, Computing in Software, Electronics and Computer Engineering, Information & Communication Technology, Information Engineering, Information Science, Information Science & Engineering, Software Engineering, Electrical & Computer Engineering, Information Science & Technology, Information Technology and Engineering ii) AMIE in Computer Science & Engineering (by Examination) iii) AMIETE in Computer Science & Engineering and Information Technology (by Examination)
24.	Computer Science and Engineering	Computer Science & Engineering	B.E. / B.Tech. in Computer Science / Engineering, Computer Science & Engg, Information Science & Engg / Technology, Information Science, Information Engineering & Information Technology.
25.	Computer Science and Engineering	Computer Science & Engineering - Information Security	B.E. / B.Tech. in Computer Science / Engineering, Computer Science & Engg, Information Science & Engg / Technology, Information Science, Information Engineering & Information Technology.
26.	Mathematical & Computational Sciences	Computational and Data Science	B.E./B.Tech./B.Sc (Engineering) any branch; M.Sc. (Mathematics), M.Sc.(Statistics), M.Sc. (Physics) M.C.A.(Master of Computer Applications)
27.	Mining Engineering	Rock Excavation Technology & Management	B.E/B.Tech/AMIE in Mining Engineering

C. Ph.D. Programme

- i) Admission to a Ph.D. Programme shall be open to Indian Nationals who passed the qualifying degree in relevant field with a Cumulative Grade Point Average (CGPA) of at least 6.0 in the 0-10 scale grading system, or not less than 60% marks in the aggregate (taking into account the marks scored in all the subjects of all the public/ university examinations conducted during the entire prescribed period for the qualifying degree). However, this prescribed minimum shall be a CGPA of 5.5 or 55% marks in the aggregate for SC/ST/PwD candidates. The prescribed qualifying examination is as follows:
- For Ph.D. in Engineering/Technology – Master’s degree in relevant field.
 - For Ph.D. in Physics – Master’s degree in relevant field
 - For Ph.D. in Chemistry - M.Sc. / M. Tech in relevant field including M. Pharma.
 - For Ph.D. in Mathematics - M.Sc.in Mathematics / M. Tech in relevant field / MCA
 - For Ph.D. in Humanities, Social Science and Management – Master degree in relevant field, CA along with undergraduate degree.

If the evaluation system in qualifying degree is in both CGPA and Marks, CGPA value will be considered. In such cases, conversion from Grade point system to Percentage system will not be considered.

- ii) There are five types of student status for Ph.D. program:
1. Full-time students on Institute Scholarship
 2. Full-time sponsored students under QIP
 3. Full-time/External Registrants - sponsored from Industry or other organizations including Educational Institutions.
 4. Internal Registrants - sponsored institute or project staff of NITK
 5. Full-time – Non-sponsored /Non-scholarship students
- iii) Students of type (a) must have passed GATE/UGC–CSIR exam/ DAE-JEST to be admitted to Ph.D programme
- iv) In the case of External registrant sponsored from the industry or other organizations, the minimum of one semester residential requirement may be waived. They are expected to complete their course work by opting for (pre-approved by DRPC) certified MOOCS courses.
- v) Pursuant to the 48th Senate vide Item No. 48.3.2.1, in case of Ph.D admissions, out of sanctioned seats, if some seats remain vacant, they may be offered to Non-GATE /Non-NET/Non-CSIR candidates in the respective Departments in

which the vacancies exist. However, the selection of Non-GATE /Non-NET/Non-CSIR candidates for such vacant seats is through institute level selection test scores as well as based on their qualifying degree performance.

- vi) Only those applicants having Post-Graduate Degree in Basic Sciences / Social Sciences / Humanities / Management/ Mathematics / Engineering / Technology and who have qualified through **NET/GATE** are eligible for fellowship as per Institute's norms.
- vii) Employed professionals having experience and proven competence aspiring for Ph.D. Programme will be considered under External Registration and will be allowed to pursue their research at their own location of work.

Specializations in Ph.D. Programme are listed below:

- | | | |
|-----|---|--|
| 1. | Civil Engineering | Structures, Geotechnical, Transportation, Construction Technology and Management Environment, Earth Sciences |
| 2. | Water Resources and Ocean Engineering | Water Resources Engg & Management; Surface Water Hydrology, Ground Water Hydrology, Hydrological modelling,, Artificial Intelligence in water resources, Urban Hydrology, Urban water management, Sediment Transport, Ocean and Coastal Engineering, Offshore Renewable Energy, Computational Hydrodynamics, Structural Dynamics, Offshore Engineering, Marine Structures, Isotropic Elasticity in Marine Structure Analysis, Finite Element Analysis of marine and hydraulic structures, Softcomputing Applications in Civil Engineering , Geo-informatics Applications in Civil Engineering: Hyperspectral Remote Sensing, Microwave Remote Sensing , Disaster management using advance surveying , GIS and UAV. |
| 3. | Mechanical Engg | Renewable Energy, Alternative Fuels, IC Engine & Combustion, Refrigeration and Air-conditioning, Heat Transfer, Fluid Dynamics, Fracture Mechanics and Fatigue, FEM, Stress Analysis, Tribology, Machine Dynamics and Vibration, Advanced Materials, Advanced Manufacturing, Mechatronics, MEMS, Nanotechnology, Robotics and Control, Product Design, Structural Acoustics, Polymer Nano-Composites, Precision Manufacturing. |
| 4. | Electrical and Electronics Engineering | Adaptive and Distributed Signal Processing for Sensing and Image Applications; Control System; Electrical Machines and Machine Diagnosis; High Voltage Engineering and Field Computations; Power Electronics and Drives; Power Systems; Renewable Energy Technologies; Smart Grid Technologies, Machine learning |
| 5. | Electronics & Communication | Communication/VLSI/ Signal Processing |
| 6. | Chemical Engineering | Process Development, Particulate Systems, Environmental Engineering, Transfer Operations, Industrial Biotechnology, Energy, Modelling and Simulation, Computational Fluid Dynamics, Nanosciences / Nanotechnology, Polymer nanocomposites, Process dynamics and control |
| 7. | Metallurgical & Materials Engineering | Physical Metallurgy, Mechanical Metallurgy, Extractive Metallurgy, Beneficiation of Minerals, Welding, Surface Engineering, Corrosion, Polymer Nanocomposites, Ceramic and Polymeric Nanofabrics, Energy conversion and storage, Thin films & coatings, Advanced Materials, Heat transfer studies. |
| 8. | Mining Engineering | Rock Mechanics & Ground Control Engineering, Drilling & Blasting, Mine Planning, Environmental Management, Slope Stability, Design and stability of civil Excavations, Waste Management, Mineral beneficiation. Computer Applications in Mining, Mine health & Safety Engineering |
| 9. | Physics | Condensed matter- Theory and Experiment, Cosmology and High energy physics, Nonlinear Dynamics, and Material Science |
| 10. | Chemistry | Inorganic, Materials, Physical and Organic Chemistry |
| 11. | School of Management | Strategic Management, International Business, Technology Management, Organizational Behaviour, Human Resource Management, Marketing, Corporate Finance, Capital Markets, Behavioural Finance, Development Economics, International Economics, Agricultural Economics, Rural Development, Applied Econometrics, Operations Management, Information Systems, E-Governance, English and Comparative Literature, and Other related areas.
* M.Phil degree will not be considered. |
| 12. | Mathematical and Computational Sciences | Computer Stream: Computer Vision, Computer Network Security, Graph Algorithms, Image Processing, Machine Learning, Cloud Computing, Cryptography, Wireless Sensor Networks.
Mathematics Stream: Computational Fluid Dynamics, Reliability Engineering, |

- | | | |
|-----|----------------------------------|--|
| 13. | Information Technology * | Graph Theory, Algebra, Number Theory, Real Analysis, Dynamical Systems, Differential Equations, Numerical Methods, Functional Analysis, Spectral Analysis. Affective Computing, Big Data Analytics, Blockchain Technologies, Cloud/Edge/Fog Computing, Cloud Security, Computer Networks, Cyber Security, Databases, Data Mining, Deep Learning Applications, Distributed Computing, Future Internet Architecture, Healthcare Informatics, High Performance Computing, Information Retrieval, Information Security, Internet of Things, Mobile Software Engineering, Natural Language Processing, Network Security, Semantic Web Technology, Social Multimedia/Social Network Analysis, , Software Engineering , Web Services, Wireless Sensor Networks. |
| 14. | Computer Science and Engineering | Computer Networks, Software Engineering, Distributed Computing, Data Mining, Information Security, High Performance Computing, Computer Vision, Cloud Computing, Image Processing, Speech Processing, Mobile computing, Cloud system, Internet of Things (IoT), Blockchain Applications, Computer Architecture, Machine Learning and Artificial Intelligence, Networks-on-Chip, Formal Verification, Cyber-Physical Systems, Data Science, Precision agriculture and farming, Social Computing, Graph Theory, Big Data analytics, Network Function Virtualization, Information Centric Networking, 5G Core, Underwater Communication, Cryptography |

*Candidates with M.Sc/MCA/MBA degree etc. will not be considered and candidate with 1 year PG degree (M.S / M.Tech.) will also be not considered.

8. Selection Procedure:

1. M. Tech:

- i) **Common Admission for M.Tech Fulltime Program (for scholarship seats) by NIT MNIT Jaipur:** Admission for GATE qualified candidates will be done through CCMT-2020 coordinated by MNIT Jaipur. The seats are allotted based on GATE score. The details of seat matrix, application procedure etc can be found at ccmt.nic.in.
- ii) The admission for M.Tech (Sponsored Seats), M.Tech (Research) are done by NITK Surathkal.
- iii) **M.Tech (Sponsored):** Selection of candidates for admission will be based upon academic performance in qualifying examination or / and written aptitude test or / and Interview etc as decided by the DPGC of the Concerned Department offering the programme. The candidates must have minimum of two years of full- time work experience in the sponsoring organization after completion of qualifying degree.
- iv) **M.Tech (Research):** Selection of candidates for admission will be based upon GATE score or in some of the programmes selection will be based on at least 70% weightage to GATE score and the remaining 30% weightage to academic performance in qualifying examination or / and written aptitude test or / and Interview etc as decided by the DPGC of the Concerned Department offering the programme.

2. **Ph.D.:** Selection of candidates for admission to Ph.D. programme will be based upon the GATE score, academic performance in the qualifying examinations, written aptitude test, presentation on a research topic and interview as specified by the concerned departments.

9. How to Apply:

The Information Bulletin, Seat Matrix and Online Application portal for admission to M Tech (Sponsored/Research) and Ph.D. programmes is available on the Institute website www.nitk.ac.in. The applicants need to register online with the portal. The registered candidates have to complete Online Application form and pay prescribed application fee, i.e. **Rs 500 (OC/OBC) and Rs 150 (SC/ST/PwD)** through IRIS portal on or before **17-8-2020 (Monday)**.

Candidates sponsored by the Educational Institutions/Industries must get their applications forwarded through proper channel. Applications which are incomplete / defective / received late are liable to be rejected summarily and no correspondence will be entertained on such applications.

Note: If a candidate desires to apply to more than one course [M. Tech (Sponsored/Research)/Department (Ph.D.) he/she should submit separate ONLINE APPLICATION along with Payment Receipt of Application fee for each program.

Calendar of Events for Admission to M.Tech (Sponsored/Research) and Ph.D. Programmes 2020-21.

Last Date for Online Submission of applications	17-8-2020 (Monday)
Last date for dispatch of call letters to short-listed candidates, and announcement in the website by respective departments.	27-8-2020 (Thursday)
Online Selection Test and/or Interview	7-9-2020 (Monday) 8-9-2020 (Tuesday)
Publication of provisional selection/merit-list on website	14-9-2020 (Monday)
Last date for Sending admission orders/letters	16-9-2020 (Wednesday)
Online Reporting and Fee Payment Dates for Selection-List Candidates	17-9-2020 (Thursday) to 25-9-2020 (Friday)
Last Date for sending admission orders/letters to waiting-list candidates	30-9-2020 (Wednesday)
Last Date for Online Reporting and Fee Payment, for waiting-list candidates	5-10-2020 (Monday)
Physical Reporting at the Institute/Class start dates	To be announced later

10. Intake for M.Tech , M.Tech (Research) and Ph.D. Programmes:

1) Intake for M. Tech (Sponsored .Programme) for 2020 – 21

Serial No.	Department	M.Tech Program	Sponsored
1.	Department of Mathematical & Computational Sciences-(MC)	Computational and Data Science-(CD)	1
2.	Department of Chemical Engineering-(CH)	Chemical Engineering-(CE)	1
3.	Department of Civil Engineering-(CE)	Construction Technology and Management-(CM)	1
4.	Department of Electronics & Communication Engineering-(EC)	Communication Engineering and Networks-(CX)	1
5.	Department of Chemical Engineering-(CH)	Environmental Science & Technology-(EH)	1
6.	Department of Civil Engineering-(CE)	Environmental Engineering-(EV)	1
7.	Department of Civil Engineering-(CE)	Geotechnical Engineering-(GE)	1
8.	Department of Chemical Engineering-(CH)	Industrial Biotechnology-(IB)	1
9.	Department of Information Technology-(IT)	Information Technology-(IT)	1
10.	Department of Mechanical Engineering-(ME)	Mechatronics Engineering-(M3)	1
11.	Department of Mechanical Engineering-(ME)	Mechanical Design-(M4)	1
12.	Department of Metallurgical & Materials Engineering-(MT)	Materials Engineering-(ML)	1
13.	Department of Applied Mechanics & Hydraulics-(AH)	Marine Structures-(MR)	1
14.	Department of Mechanical Engineering-(ME)	Manufacturing Engineering-(MU)	1
15.	Department of Metallurgical & Materials Engineering-(MT)	Nanotechnology-(NT)	1
16.	Department of Metallurgical & Materials Engineering-(MT)	Process Metallurgy-(PM)	1
17.	Department of Electrical & Electronics Engineering-(ET)	Power & Energy Systems-(PX)	1
18.	Department of Applied Mechanics & Hydraulics-(AH)	Remote Sensing & Geographic Information Systems-(RG)	1
19.	Department of Electronics & Communication Engineering-(EC)	Signal Processing and Machine Learning-(SB)	1
20.	Department of Civil Engineering-(CE)	Structural Engineering-(SU)	1
21.	Department of Civil Engineering-(CE)	Transportation Engineering-(TE)	1
22.	Department of Mechanical Engineering-(ME)	Thermal Engineering-(TI)	1
23.	Department of Electronics & Communication Engineering-(EC)	VLSI Design-(VN)	1

24.	Department of Water Resources and Ocean Engineering	Water Resources Engineering & Management-(WM)	1
25.	Department of Computer Science & Engineering-(CT)	Computer Science & Engineering (Information Security)-(XF)	1
26.	Department of Computer Science & Engineering-(CT)	Computer Science & Engineering-(XG)	1
Total			26

2) **M. Tech (Research) for 2020-21**

Category	OC	OC-PWD	EWS	EWS-PWD	OBC	OBC-NCL PWD	SC	SC- PWD	ST	ST- PWD	Total
No. of Seats	25	1	6	0	16	1	9	0	5	0	63

3) **Ph.D. Programme for 2020-20 : Regular PhD Programme under Institute's Scholarship**

Category	OC	EWS	OBC-NCL	SC	ST	Persons with disability (PWD)					Total
						OC	EWS	OBC-NCL	SC	ST	
Intake	72	18	48	27	14	4	1	2	1	1	188

OC = Open Category / GM EWS = Economically weaker Section OBC =Other Backward Caste SC=Scheduled Caste
ST=Scheduled Tribe

Note: Foreign Nationals are admitted to Ph.D. program under the ICCR Scheme.

Note:

- Reserved Seats unfilled due to non-availability of SC/ST candidates will not be filled by candidates from OC/OBC.
- Reservation for SC/ST/Persons with Disabilities (PWD) shall be as per Central Government rules.
- Reservation of seats for OBC shall be as per GOI/MHRD norms.
- The above intake is excluding QIP seats allotted by AICTE / MHRD and seats earmarked for Indian Navy.

11. Documents to be Produced:

A. At the time of counselling/written test/interview:

- Original marks card of all Semesters/years of Masters /Bachelor's degree
- Date of Birth Certificate in Original (SSLC/X Std.)
- Degree Certificate or Course Completion certificate from college (if qualifying degree exam results are awaiting)
- Caste Certificate if belonging to SC/ST (original)
- EWS Category Certificate issued by the Competent Authority on or after 1-4-2020.
- OBC certificate as per prescribed format for OBC candidates. (if applicable) from the Competent Authority issued on or after 1-4-2020.
- GATE/NET Score Card (if applicable)
- Sponsorship Certificate, if applicable
- Pass certificate for A.M.I.E. candidates (M Tech.)
- Persons with Disabilities (PWD) certificate, if applicable.

B. Documents to be Submitted at the Time of Admission:

- Admission order issued by Competent Authority.
- Original marks card of qualifying examinations (1st to Final Year) with two sets of duplicate copies. (The spelling and order of the name should be same in all the years of marks card, degree certificate and Migration Certificate).
- Course Completion certificate from college (if qualifying degree exam results are awaiting)
- Original GATE / NET Score Card (if applicable).
- Degree Certificate or Provisional Pass Certificate issued by the University.
- Sponsorship Certificate (if sponsored)
- Medical Certificate (general fitness).
- Relieving Certificate in the case of Sponsored Candidates
- Date of Birth Certificate in original (X Std. or SSLC)
- Caste Certificate in case of SC/ST.

11. OBC Certificate (if applicable) from the competent authority issued on or after 1-4-2020.
12. EWS Category Certificate issued by the Competent Authority on or after 1-4-2020
13. Transfer Certificate
14. Conduct Certificate
15. Aadhar card copy
16. Persons with Disabilities (PWD) certificate, if applicable.
17. Migration Certificate.

Note:

- OBC candidates have to furnish the OBC certificate as per prescribed format. **Candidate can download the prescribed format for OBC Certificate from the NITK website (i.e. www.nitk.ac.in)**
- EWS candidates have to furnish the EWS certificate as per prescribed format. **Candidate can download the prescribed format for EWS Certificate from the NITK website (i.e. www.nitk.ac.in)**
- Sponsored candidates/External registrants should produce a sponsorship-cum-clearance certificate in the given format of the Institute.
- Internal Registrants shall produce a sponsorship-cum-clearance certificate from the Director, NITK.

In case result of qualifying degree is awaited, provisional admission will be given subject to meeting eligibility requirements latest by 30th September 2020.

12. Financial Assistance:

A. M. Tech. / M. Tech. (Research) Programs – GATE Scholarship

A candidate will become eligible for GATE scholarship in M.Tech / M.Tech (Research) programme on possessing a valid GATE score. Only Indian Nationals are eligible for this scholarship.

A student is eligible to receive GATE scholarship at the rate Rs.12, 400/- per month if he/she accepts the following conditions:

- i) It will be obligatory for every post graduate student to undertake 8 to 10 hours (per week) of work related to teaching and research activities as assigned to him/her by the Institute. This could include tutorials, laboratory classes, development and maintenance of laboratories, assistance in research and development activities undertaken by faculty members, maintenance and operation of computers and other central facilities.

Student should have registered and passed in all courses listed in the suggested plan for study for I semester and secured a SGPA not less than 6.0 at the end of I semester in order to be eligible for the continuation of full GATE stipend. However, students who have passed in all courses with SGPA less than 6.0 at the end of I semester will be awarded 50% of the entitled stipend for II semester and the full GATE stipend will be restored if the candidate secures a CGPA of 6.0 at the end of II semester.

Student should have registered and passed in all courses listed in the suggested plan for study for I & II semesters and secured a CGPA not less than 6.0 at the end of II semester in order to be eligible for the continuation of full GATE stipend. However, students who have passed in all courses with CGPA less than 6.0 at the end of II semester will be awarded 50% of the entitled stipend for the remaining duration of study.

In case of M Tech (Research), a student at any stage should have passed in all the registered courses with a SGPA/CGPA not less than 6.0 in order to be eligible for the continuation of GATE stipend.

- ii) A student shall be required to give an undertaking to the effect that he/she would not leave the course midway or appear in any competitive examinations, etc, not related to engineering or technology, in order to be eligible to receive this scholarship.

A student receiving the scholarship shall not receive any other emoluments like salary, stipend from any other sources. In no case will the scholarship be allowed for more than 24 months.

Scholarship meant for SC/ST candidates will not be granted to the students under OP/OBC category.

The scholarship holders are governed by the leave rules as prescribed from time to time. If an awardee remains absent for the class / programmes without proper sanction of leave, he/she will be liable to forfeit the scholarship. Leave is sanctioned subject to the conditions stipulated in the leave rules of the Institute

B. Ph.D. Programme:

- a) Full time research scholars are eligible for a fellowship of Rs. 31,000/- pm for the first two years and Rs. 35,000/- pm for the remaining two years on satisfactory progress. Pursuant to the directives of MHRD Government of India, the revision in PhD scholarship will be effected. 188 Institute's fellowships are available at the Institute level which is flexible for department-wise allocation. The Research scholars have to assist in teaching and laboratory work assigned by the department and are eligible for 30 days' vacation leave per year.
- b) Full-time sponsored candidates may receive complete financial support including stipend, contingency grants and project expenses from the sponsoring organizations.

- c) Internal Registrants (Institute Faculty/Staff, Project staff) are expected to work for their Ph.D. Programme while fulfilling their normal duties.
- d) External Registrants are expected to carry out their Research work in their parent organization after fulfilling certain pre-requisites in the Institute. They are not entitled to Institute scholarship. The external candidate shall produce a sponsorship and clearance certificate from his employer and submit it along with the application.

13. Sponsored Candidates:

- i) Preference would be given to those candidates who are GATE qualified for M Tech programs. Sponsored candidates will not be eligible to receive scholarship, even if they are admitted based on GATE score.
- ii) The candidates must have a minimum two years of full-time work experience, after completion of qualifying degree, in a registered firm/company/industry/educational and research institutions/any Government Departments or Government Autonomous Organisations in the relevant field in which admission is being sought.
- iii) In case of contract faculty sponsored from other NITs for Ph.D program. the two year full time work experience requirement is waived.
- iv) There will not be any age restriction. However, preference should be given to those who are below 45 years of age.
- v) A letter from the employer must be furnished stating that the candidate is being sponsored with full salary. The employer should also indicate that the candidates will not be withdrawn midway till the completion of the course.

14. Admission under DASA Scheme:

Non-resident Indians and other foreign nationals may apply for M. Tech & MBA Programme of the Institute under Direct Admission for Students Abroad (DASA) Scheme coordinated by the Institute. The details on the admission procedure is available in the www.dasanit.org.

15. Fees and Deposits:

(i) **FEE STRUCTURE FOR M.Tech & M.Tech (Research) PROGRAMME for the year 2020-21:**

Semester Fees	First Year (2020-21 Fresh Batch)		Second Year (2019-20 Batch)	
	I Sem. Rs.	II Sem. Rs.	III Sem Rs.	IV Sem Rs.
Tuition fee #	35000	35000	35000	35000
Institute Admission Fee	1050	-	-	-
Library Fee	3150	-	3000	-
Development Fee	2100	2100	-	-
Security Deposit (refundable)	5250	-	-	-
Alumni Fee	2100	-	-	-
Career Development Fee	1575	-	1500	-
Convocation Fee	2100	-	-	-
Health Care Facility	1050	-	1000	-
Students Activities Fee	4200	-	4000	-
Swimming Pool Fee	1050	-	1000	-
Campus Amenities	1050	-	1000	-
Group Insurance coverage of students ** (For Full time candidates only)	430	-	430	-
Central Computing Facility Fee	3150	-	3000	-
Hostel Rent (For Hosteller)				
Hostel Rent (including water/electricity charges)				
(i) Boys	6300	6300	7500	7500
(ii) Girls	6300	6300	7500	7500

(ii) **FEE STRUCTURE FOR Ph.D. PROGRAMME for the year 2020-21:**

Semester Fees	First Year (2020-21 Fresh Batch)		Second Year (2019-20 Batch)		Third Year (2018-19 Batch)	
	I Sem. Rs.	II Sem. Rs.	III Sem Rs.	IV Sem Rs.	V Sem Rs.	VI Sem Rs.
Tuition fee #	7500	7500	7500	7500	7500	7500
Institute Admission Fee	2100	-	-	-	-	-
Library Fee	3150	-	3000	-	1500	-
Development Fee	2100	2100	-	-	-	-
Thesis Processing Fee	5250	-	-	-	-	-
Thesis Evaluation Fees	15750	-	-	-	-	-
Security Deposit (refundable)	5250	-	-	-	-	-
Alumni Fee	2100	-	-	-	-	-
Career Development Fee	1575	-	1500	-	-	-
Convocation Fee	2100	-				
Health Care Facility	1050	-	1000	-	-	-
Students Activities Fee	4200	-	4000	-	2525	-
Swimming Pool Fee	1050	-	1000	-	-	-
Campus Amenities	1050	-	1000	-	-	-
Group Insurance coverage of students** (Full Time Candidates only)	430	-	430	-	430	-
Central Computing Facility	5250	-	5000	-	750	-
<u>Hostel Fee (for Hosteller)</u>						
Hostel Rent (including water/electricity charges)						
(i) Boys (Shared room) accommodation)	6300	6300	7500	7500	5000	5000
(ii) Girls (Shared room accommodation)	6300	6300	7500	7500	5000	5000

Note: Candidates who have extended their programme beyond 3 years have to pay the same fee as of III year.

Fee structure for the internal candidate for Ph.D. programme. (Part time candidates – For regular staff of the Institute)

Tuition fee = Rs.5000 per year

Institute Development Contribution = Rs.6000 first year

Alumni Fee = Rs.1000 (one-time payment at the time admission)

Convocation fee = Rs. 2000/- (1st Sem Rs.1000/-- & 2nd Sem Rs.1000)

Thesis Evaluation Fees = Rs.5000/- (One time at the time of admission)

Mess Fees (At Hostel Office) for Hostellers

	<u>M Tech/Ph.D.</u>
1. Hostel Admission Fee	100.00
2. Establishment Charges – per semester	7,500.00
3. Maintenance	3,000
4. Students Extra Curricular	500.00
5. Mess Advance – Every semester	18,000.00
	=====
	29,100.00*
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Mess Fee structure is tentative subject to revision.

Detailed fee structure is available in the Institute website -www.nitk.ac.in

Note: Refund of fees and deposits paid for Institute admission:

Any student who withdraws admission before the closing date of admission is eligible for the refund of all the fees and deposits, after deduction of a processing fee of Rs.1000 /- (Rupees One Thousand Only)

Ragging: If any incident of ragging comes to the notice of the authority, concerned student shall be given liberty to explain and if his explanation is not found satisfactory, the authority would expel him / her from the institution.