NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

Mangalore- 575025, Karnataka State

INFORMATION BULLETIN

Admission to M. Tech, M. Tech (Research) and Ph.D. Programmes 2019-20

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CONTENTS

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 / GMAT / CMAT score and for M.Sc Program admissions are made based upon the academic performance and written aptitude test conducted by the Institute. Every year the Institute offers 150 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 kms. away from the Campus, while Surathkal Railway Station is about 3 kms. 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 department. The campus network uses 12 core optical fibre cabling for inter building connectivity with 1Gbps speed depending on the no. 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 30 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. Applied Mechanics & Hydraulics
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 30 postgraduate programmes are shown below.

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) Applied Mechanics & Hydraulics:
vi)	M.Tech (MS)	-	Marine Structures
vii)	M.Tech (WR)	-	Water Resources Engineering and Management
viii)	M.Tech (RS)	-	Remote Sensing & Geographic Information Systems

c) Mechanical Engineering:
ix)	M.Tech (TH)	-	Thermal Engineering
x)	M.Tech (MF)	-	Manufacturing Engineering
xi)	M.Tech (MC)	-	Mechatronics and Automation.
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)

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. <u>M.Tech. Programme</u> (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, Class X and Class XII / Diploma 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 the admission process will be coordinated by NITK Surathkal. **The seat allotment for M.Tech–2019 admissions will be done through CCMT-2019 by NIT Rourkela.**
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.
    4) Internal Registrants - Sponsored staff of NITK or Project staff of NITK.

B. <u>M. Tech (Research)</u> 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, Class X and Class XII / Diploma 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.

External Registrants are expected to carry-out their research work in their parent organisation after fulfilling certain prerequisites in the Institute. They are not entitled for Institute scholarship. The external candidate shall produce a sponsorship certificate from his employer and submit it along with the application. External registrants need to have an additional Research Guide from the sponsoring organisation.

In the case of Full time/External registrant sponsored student from the industry or other organizations, the minimum of one semester residential requirement may be waived by DRPC, on case to case basis. These students may be allowed to do pre-approved certified MOOCs and also a self-study course, towards 12 credits. Examination will be conducted for such certified courses to award grades, by the department. They also need to do a certified Research methodology course

Full time student sponsored from Industry or other organisation are also required to produce Sponsorship Certificate. They are too not entitled for Institute scholarship.

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

S.N	Department	Course	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.	Applied Mechanics & Hydraulics	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.	Applied Mechanics & Hydraulics	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.	Applied Mechanics & Hydraulics.	Remote Sensing & Geographic Information Systems	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 and Automation	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,.
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	i) B.E./B.Tech./B.Sc. (Engineering) in E & C, Electronics & Telecommunications. ii) AMIETE (Electronics & Telecommunication)
14.	Electronics & Communication Engineering	Communication Engineering and Networks	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	i) B.E./B.Tech./B.Sc. (Engineering) in E & C, Electronics & Telecommunications. ii) AMIETE (Electronics & Telecommunication)
16.	Chemical Engineering	Chemical Engineering	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	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	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	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	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	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	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)

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:

a.   For Ph.D. in Engineering/Technology – Master's degree in relevant field.
b.   For Ph.D. in Physics – Master's degree in relevant field
c.   For Ph.D. in Chemistry - M.Sc. / M. Tech in relevant field including M. Pharma.
d.   For Ph.D. in the Department of Mathematical and Computational Sciences - M.Sc.in Mathematics / M. Tech in relevant field / MCA
e.   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)   Only those applicants having Post-Graduate Degree in Basic Sciences / Social Sciences / Humanities / Management/ Mathematics / Engineering / Technology and have qualified **NET/GATE** are eligible for admission to Ph.D. programme.

iii)   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.

iv)   There are four 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

Specializations in Ph.D. Programme are listed below:

1.	Civil Engineering	Structures, Geotechnical, Transportation, Construction Technology and Management Environment, Earth Sciences
2.	Applied Mechanics & Hydraulics	Water Resources Engg & Management, Marine Structures, Remote Sensing & GIS Applications in Civil Engineering.
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.
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
9.	Physics	Condensed Matter Physics (Experimental)
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.
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, Graph Theory, Algebra, Number Theory, Real Analysis, Dynamical Systems, Differential Equations, Numerical Methods, Functional Analysis, Spectral Analysis.
13.	Information Technology *	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

*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 Rourkela:**
Admission for GATE qualified candidates will be done through CCMT-2019 coordinated by NIT Rourkela. The seats are allotted based on GATE score. The details of seat matrix, application procedure etc can be found at ccmt.nic.in.

ii) **Admission for M.Tech (Non-scholarship), M.Tech (Sponsored seats), M.Tech (Research):**
The admission for M.Tech (Non-scholarship), M.Tech (Sponsored Seats), M.Tech (Research) are done by NITK Surathkal.

M.Tech (Non-Scholarship): The non-scholarship seats for M.Tech program are the **vacant seats** existing in the scholarship category seats. Selection of candidates for admission will be based on 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 to be advertised in the Institute website later after completion of CCMT – 2019.

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.

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 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)** through SBI e-Collect.

The hardcopy of the completed application form with payment receipts and copy of necessary documents is to be sent to the Assistant Registrar (Academic), National Institute of Technology Karnataka, Surathkal, Srinivasnagar, Mangalore - 575 025, Karnataka, on or before the last date, i.e. **24.05.2019 (Friday).** 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. Candidates called for interview will have to appear for written test and/or interview at their own cost. The written test and/or interview will be held at N.I.T.K., Surathkal.

Calendar of Events for Admission to M.Tech (Sponsored/Research) and Ph.D. Programmes 2019-20.

Last Date for Online Submission of Ph.D. Admissions	23.05.2019 (Thursday)
Last Date for receiving completed applications	24.05.2019 (Friday)
Preparing preliminary merit-list or short-listing	31.05.2019 (Friday)
Last date for dispatch of call letters to short-listed candidates, and announcement in the website by respective departments.	3.06.2019 (Monday)
Selection Test and/or Interview	17.06.2019 & 18.06.2019
Last date for sending Recommended list to the office of **Dean(Academic)**	21.06.2019 (Friday)
Publication of provisional selection/merit-list on website by **Dean(Academic)**	24.06.2019 (Monday)
Last date for Sending admission orders/letters	25.06.2019 (Tuesday)
Reporting Dates for Selection-List Candidates	08.07.2019 – 12.07.2019
Last Date for sending admission orders/letters to waiting-list candidates	15.07.2019 (Monday)
Last Date for Reporting, for waiting-list candidates	22.07.2019 (Monday)

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

1) **M. Tech .Programme for 2019 – 20:**

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 and Automation-(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 Applied Mechanics & Hydraulics-(AH)	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 2019-20

Category	OC	OC-PWD	EWS	EWS-PWD	OBC	OB- PWD	SC	SC- PWD	ST	ST- PWD	Total
No. of Seats	24	1	3	0	14	1	8	1	3	0	55

3) Ph.D. Programme for 2019-20:

Category	OC	EWS	OBC	SC	ST	Persons with disability (PWD)					Total
						OC	EWS	OBC	SC	ST	
Intake	72	13	39	21	11	4	1	2	1	1	165

OC = Open Category / GM
Note: Foreign Nationals are admitted to Ph.D. program under the ICCR Scheme.
Note:
   i)   Reserved Seats unfilled due to non-availability of SC/ST candidates will not be filled by candidates from OC/OBC.
   ii)   Reservation for SC/ST/Persons with Disabilities (PWD) shall be as per Central Government rules.
   iii)   Reservation of seats for OBC shall be as per GOI/MHRD norms.
   iv)   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:
   1. Original marks card of all Semesters/years of Engineering/Degree
   2. Date of Birth Certificate in Original (SSLC/X Std.)
   3. Course Completion certificate from college (if qualifying degree exam results are awaiting)
   4. Caste Certificate if belonging to SC/ST (original)
   5. Caste certificate as per prescribed format for OBC candidates. (if applicable) from the Competent Authority issued after 31.03.2019.

6. GATE/NET Score Card in original (For M. Tech/Ph.D.)
7. Sponsorship Certificate, if applicable
8. Pass certificate for A.M.I.E. candidates (M Tech.)
9. Persons with Disabilities (PWD) certificate, if applicable.

B. Documents to be Submitted at the Time of Admission:
1. Admission order issued by Competent Authority.
2. Original marks card of qualifying examinations (Ist 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).
3. Course Completion certificate from college (if qualifying degree exam results are awaiting)
4. Original GATE Score Card.
5. Degree Certificate or Provisional Pass Certificate issued by the University.
6. Medical Certificate (general fitness).
7. Relieving Certificate in the case of Sponsored Candidates
8. Date of Birth Certificate in original(X Std. or SSLC)
9. Caste Certificate in case of SC/ST.
10. OBC Certificate (if applicable) from the competent authority issued after 31.03.2019.
11. Transfer Certificate
12. Conduct Certificate
13. Sponsorship Certificate (if sponsored)
14. Aadhar card copy
15. Persons with Disabilities (PWD) certificate, if applicable.
16. 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_)**

In case result of qualifying degree is awaited, provisional admission will be given subject to meeting eligibility requirements latest by **15th September, 2019**.

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. 25,000/- pm for the first two years and Rs. 28,000/- pm for the remaining two years on satisfactory progress. 150 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 certificate from his employer and submit it along with the application. A minimum of one semester residential requirement is to be completed by all external registrants.

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 (I & II YEAR) for the year 2019-20**

Semester Fees	First Year		Second Year	
	I Sem. Rs.	II Sem. Rs.	III Sem Rs.	IV Sem Rs.
Tuition fee #	35000	35000	35000	35000
Institute Admission Fee	1000	-	-	-
Library Fee	3000	-	3000	-
Development Fee	2000	2000	-	-
Security Deposit(**refundable**)	5000	-	-	-
Alumni Association	2000	-	-	-
Career Development Fee	1500	-	1500	-
Convocation Fee	2000	-	-	-
Health Care Facility	1000	-	-	-
Students Activities Fee	4000	-	3425	-
Swimming Pool Fee	1000	-	-	-
Campus Amenities	1000	-	-	-
Group Insurance coverage of students **(For Full time candidates only)**	426	-	426	-
Central Computing Facility Fee	3000	-	2500	-
Hostel Fee (For Hosteller)				

Hostel Rent (including water/electricity charges) (i) Boys	6000	6000	4000*	4000*		
(ii) Girls	6000	6000	4000*	4000*		

*single room accommodation.

Tuition fee for the candidates admitted under DASA Scheme per sem is US $ 2000 (SAARC Country US $1000)
Tuition fee to be paid as Demand Draft in favour of "Director NITK Surathkal" payable at Mangalore in US DOLLARS.

Fee Structure for the Internal Part Time candidate

Tuition fee = Rs.7, 500/- per year
Institute Development Contribution = Rs.10, 000/- Ist year
Alumni Association = Rs.1, 000 (one-time payment at the time of admission)

(ii)   FEE STRUCTURE FOR Ph.D. PROGRAMME for the year 2019-20:

Semester Fees	First Year		Second Year		Third Year	
	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	2000	-	-	-	-	-
Library Fee	3000	-	1500	-	1500	-
Development Fee	2000	2000	-	-	-	-
Thesis Processing Fee	5000	-	-	-	-	-
Thesis Evaluation Fees	15000	-	-	-	-	-
Security Deposit (**refundable**)	5000	-	-	-	-	-
Alumni Association	2000	-	-	-	-	-
Career Development Fee	1500	-	-	-	-	-
Convocation Fee	2000	-				
Health Care Facility	1000	-	-	-	-	-
Students Activities Fee	4000	-	2525	-	2525	-
Swimming Pool Fee	1000	-	-	-	-	-
Campus Amenities	1000	-	-	-	-	-
Group Insurance coverage of students** (**Full Time Candidates only**)	426	-	426	-	426	-
Central Computing Facility	5000	-	750	-	750	-
Hostel Fee (for Hosteller)						
Hostel Rent (including water/electricity charges) (i) Boys (Shared room) accommodation) (ii) Girls (Shared room accommodation)	6000 6000	6000 6000	5000 5000	5000 5000	5000 5000	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 internal candidate for Ph.D. programme. (Part time candidates)
Tuition fee = Rs.5000 per year (Rs. 2500 per year for admitted 2008-09 or earlier)
Institute Development Contribution = Rs.6000 first year
Alumni Association = Rs.1000 (one-time payment at the time admission)

Mess Fees (At Hostel Office) for Hostellers

	M Tech/Ph.D.
1. Hostel Admission Fee	100.00
2. Establishment Charges – per semester	7,500.00
3. Maintenance	2,500.00
4. Students Extra Curricular	500.00
5. Mess Advance – Every semester	15,000.00
	============
	25,600.00*
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Mess Fee structure is tentative subject to revision.

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.