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NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL Mangalore- 575025, Karnataka State  
INFORMATION BULLETIN Admission to PhD Programme 2015-2016 (December Session) Website:  
www.nitk.ac.in EPABX : 2474000-2474023 Fax : 91-0824-2474033 E-Mail : deanacad@nitk.ac.in

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1 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 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.

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2 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 School of Management. The academic responsibilities are shared by the following Departments and School : 1. Department of Applied Mechanics & Hydraulics 2. Department of Chemical Engineering 3. Department of Chemistry 4. Department of Civil Engineering 5. Department of Computer Science and Engineering 6. Department of Electrical & Electronics Engineering 7. Department of Electronics & Communication Engineering 8. Department of Information Technology 9. Department of Mathematical and Computational Sciences 10. Department of Mechanical Engineering 11. Department of Metallurgical & Materials Engineering 12. Department of Mining Engineering 13. Department of Physics 14. School of Management 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 Engg. 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 Engineering. xii) M.Tech (DP) - Design and Precision Engineering

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3 d) Electronics & Communication Engineering: xiii) M.Tech.(VL) - VLSI Design xiv) M.Tech.(CE) - Communication Engineering e) Chemical Engineering: xv) M.Tech. (PD) - Chemical Plant Design xvi) M.Tech. (PC) - Industrial Pollution Control xvii) M.Tech. (IB) - Industrial Biotechnology f) Metallurgical & Materials Engineering: xviii) M.Tech. (PM) - Process Metallurgy xix) M.Tech. (ML) - Materials Engineering xx) M. Tech. (NT) - Nanotechnology g) Electrical & Electronics Engineering: xxi) M.Tech. (PS) - Power & Energy Systems h) Information Technology: xxii) M.Tech(IT) - Information Technology i) Computer Science and Engineering: xxiii) M.Tech. (CS) - Computer Science and Engineering xxiv) M.Tech. (IS) - Computer Science and Engineering - Information Security j) Mining Engineering: xxv) M.Tech - Rock Excavation Technology and Management. (by Research) k) Mathematical and Computational Sciences: xxvi) M Tech.(CMA) - Computational Mathematics xxvii) M.C.A. (MCA) - Master of Computer Applications l) School of Management xxviii) M.B.A. - Master of Business Administration m) Chemistry: xxix) M.Sc.(CY) - M.Sc. in Chemistry n) Physics: xxx) M.Sc.(PH) - M. Sc. in Physics 7. Minimum Qualification / Eligibility for Ph.D. Programme [Under the category Full-time student on Institute Scholarship]: 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 6.5 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 qualifying degree). However, this prescribed minimum shall be a CGPA of 6.0 or 55% marks in the aggregate for SC/ST/PwD candidates. The prescribed qualifying examination is as follows: a. For PhD in Engineering/Technology – Master’s degree in relevant field. b. For PhD in Science – Master’s degree in relevant field. c. For PhD in School of 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. Also Conversion from Grade point system to Percentage system will not be considered.

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4 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 & Coastal Engg., RS & GIS Applications. 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 & Commn. Communication/VLSI/ Signal Processing 6. Chemical Engineering Process Development, Particulate System, Biotechnology, Environmental Engg. Transfer Operation, Industrial Biotechnology, Energy, Electrochemical Applications, Process Modelling and Simulation 7. Metallurgical & Materials Engineering Welding, Surface Engineering, Corrosion, Nano composites, Nanofibers 8. Mining Engg. Rock Mechanics & Ground Control Engineering, Drilling & Blasting, Mine Planning, Environmental Management 9. Physics Condensed Matter Physics (Experimental), Materials Science. 10. Chemistry Physical, Inorganic, Organic Chemistry 11. School of Management Business Policy, 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 Computational Fluid Dynamics , Wireless Sensor Networks, Reliability Engineering, Graph Theory, Graph Algorithms, Computer Network Security, Real Analysis, Dynamical Systems, Fixed Point Theory, Image Processing, Differential Equations, Numerical Methods. 13. Information Technology Affective Computing, Big Data Analysis, Bio-Inspired Computing, Cloud Computing, Cloud Security, Cyber Security, Computer Networks, Databases, Data Mining, Distributed Computing, Health Care Informatics, High Performance Computing, Internet of Things, Information Security, Multimedia Computing, Network Security, Social Network Analysis, Web Services, Wireless Sensor Networks. 14. Computer Science and Engg. Computer Networks, Software Engineering, Distributed Computing, Data Mining, Information Security, High Performance Computing,

Computer Vision, Cloud Computing, Image Processing, Speech Processing, Mobile computing 8.

Selection Procedure: 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.

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5 9. How to Apply: The prescribed application form for Ph.D. can be downloaded from the Institute website [www.nitk.ac.in](http://www.nitk.ac.in). The application form can be duly filled and sent to the Asst. Registrar (Academic), National Institute of Technology Karnataka, Surathkal, Srinivasnagar, Mangalore -575 025, Karnataka State on or before the last date prescribed 19.11.2015 along with the D.D. of Rs. 500/- (for SC/ST- Rs.150/-). drawn in favor of the Director, N.I.T.K., Surathkal payable at State Bank of India, or Canara Bank, NITK, Campus Branch, Surathkal. 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 department, he/she should submit separate application along with D.D. Candidates called for interview will have to appear for interview at their own cost. The interview will be held at N.I.T.K., Surathkal. Calendar of Events for admission to Ph.D. Programmes 2015-16. (December Session) Last Date for receiving completed applications 19.11.2015 (Thursday) Applications to be sent to the Departments for processing, on or before 20.11.2015 (Friday) Preparing preliminary merit-list or short-listing 24.11.2015 (Tuesday) Last date for dispatch of call letters to short-listed candidates, and announcement in the website by respective departments. 26.11.2015 (Thursday) Selection Test and/or Interview 14.12.2015 & 15.12.2015 Last date of Sending Recommended List to the office of Dean Academic 17.12.2015 (Thursday) Publication of provisional selection/merit-list on website by Dean Academic 24.12.2015 (Thursday) Last date for Sending admission orders/letters 28.12.2015 (Monday) Reporting Dates for Selection-List Candidates 28.12.2015 – 04.01.2016 Last Date for sending admission orders/letters to waiting-list candidates 08.01.2016 (Friday) Last Date for Reporting, for waiting-list candidates 15-01-2016 (Friday) 10. Intake PhD Programme for 2015-16 (December Session) under the category of Full time student with Institute scholarship Category OC OCPH OBC OBCPH SC SCPH ST STPH TOTAL Intake 8 1 18 1 7 1 6 1 43 OC = Open Category / GM Note: i) Above table shows the unfilled seats during the 2015 July admissions and now available for 2015 December admission. ii) Reserved Seats unfilled due to non-availability of SC/ST candidates will not be filled by candidates from OC/OBC. iii) Reservation for SC/ST/Persons with Disabilities (PWD) shall be as per Central Government rules. iv) Reservation of seats for OBC shall be as per GOI/MHRD norms. 11) Documents to be Produced: A. At the time of counselling/interview: 1. Original marks card of all Semesters/years of qualifying degree examination. 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 31.03.2015. 6. Persons with Disabilities (PWD) certificate, if applicable.

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6 B. Documents to be submitted at the time of admission: 1. Admission order issued by Competent Authority. 2. Original marks cards 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. Degree Certificate or Provisional Pass Certificate issued by the University. 5. Medical Certificate (general fitness). 6. Date of Birth Certificate in original(X Std. or SSLC) 7. Caste Certificate in case of SC/ST. 8. OBC Certificate (if applicable) from the competent authority issued after 31.03.2015. 9. Transfer Certificate 10. Conduct Certificate 11. Persons with Disabilities (PWD) certificate, if applicable. 12. 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) 12. Financial Assistance: 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 next three years on satisfactory progress. 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. 13. Fees and Deposits: FEE STRUCTURE FOR Ph.D. PROGRAMME for the year 2015-16: First Year Second Year Third Year Semester Fees I Sem. Rs. II Sem. Rs. III Sem. Rs. IV Sem. Rs. Odd Sem Rs. Even sem. Rs. Tuition fee 7500 7500 7500 7500 7500 7500 Library Fees 1500 - 1500 - 1500 - Central Computing Facility 750 - 750 - 750 - Student Activities Fee 2575 - 2525 - 2525 - Group Insurance coverage of students (Full Time Candidates only) 350 - 350 - 350 - Thesis Evaluation Fees 5000 One time Security Deposit (refundable) 4000 - - - - - Institute Development Contribution (IDC) 1000 1000 - - - - Convocation Fee 1000 1000 - - - - Swimming Pool Fee 500 500 - - - - Campus Development Fee 500 500 - - - - Alumni Association 1000 - - - - - Hostel Fee (for Hosteller) i) Admission Fee 750 - - - - - ii) Hostel Rent (including water/electricity charges) i) Boys ii) Girls 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 Note: Candidates those who have extended their programme beyond 3 years have to pay the same fee as of III year.

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7 Mess Fees (At Hostel Office) for Hostellers M Tech/Ph.D. 1. Admission Fee 100.00 2. Establishment Charges – per semester 4,500.00 3. Maintenance 900.00 4. Students Extra Curricular 400.00 5. Mess Advance – Every semester 12,000.00 ===== 17,900.00\* ===== 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. \* \* \* \* \*