

# Delhi Technological University



## Admission Brochure

**Ph.D. (Session January 2019)**

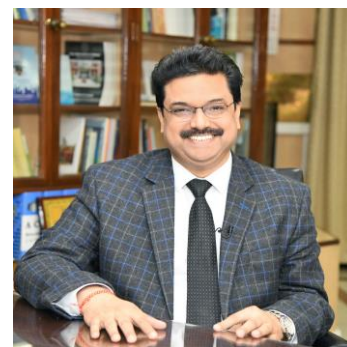
**Govt. of NCT of Delhi**

**DELHI TECHNOLOGICAL UNIVERSITY**

**(Formerly Delhi College of Engineering)**

**Shahbad Daultapur, Bawana Road, Delhi-110042**

**Prof. Yogesh Singh**  
**Vice Chancellor**



## Message

It gives me immense pleasure to announce that the Delhi Technological University is commencing Ph.D. admissions Session January 2019.

Delhi Technological University has a 77- year-old legacy of excellence in education and technology development. Our vision, at DTU, is to be a world class university through education, Innovation and research for the service of humanity. We nurture the young and talented brains of our students to make them successful professionals, strong leaders and thoughtful visionaries. The comprehensive curricula of our university are designed with a international perspective giving multiple opportunities to the students for their holistic development. The diverse extra-curricular activities and the various student societies make learning a joyous experience for our students.

We are focused and committed towards empowering our students with the knowledge and skills that let them open their wings and fly high. The vast group of recruiters visiting our campus and the placement statistics of our university highlight the careful technological and comprehensive grooming that our students receive during their stay at DTU.

I would like to assure you that becoming a part of the DTU student fraternity will help you shape your academic future in a very fruitful way. I hope that this admission brochure shall provide all the needful information about admission procedures, and other related academic activities.

I send my best wishes to the candidates applying for admissions to the Delhi Technological University.

## IMPORTANT DATES

S.NO.	Activity/ Event	Date
1.	Advertisement in newspapers	18.11.2018, Sunday
2.	Opening of website for Online Registration	19.11.2018 from 10:00 AM onwards
3.	Last date for Online Registration and fee deposit	03.12.2018, 12:00 Midnight
4.	Display of list of eligible candidates for written test on DTU website	10.12.2018, Monday
5.	Date of screening test	15.12.2018 and 17.12.2018, Saturday & Monday
6.	Declaration of result on DTU website <a href="http://www.dtu.ac.in">www.dtu.ac.in</a>	17.12.2018, Monday
7.	Dates for Interview	24.12.2018 & 26.12.2018, Monday & Wednesday
8.	Declaration of final result on DTU website	28.12.2018, Friday
9.	Date of admission	31.12.2018, Monday
10.	Last & Spot round of admissions against Vacant seats (Candidates are required to report along with original documents and bank draft for fee deposit)	14.01.2019 at 10:00 am Monday

**DTU Website:** [www.dtu.ac.in](http://www.dtu.ac.in)

**Note:** Candidates are advised to read the brochure carefully and to visit the website [www.dtu.ac.in](http://www.dtu.ac.in) regularly for updates and other details about the entire online admission process.

Delhi Technological University (formerly known as Delhi College of Engineering) is one of the most well-known engineering institutions of India, with over 76 years of glorious tradition behind it. A non-affiliating, teaching and research University, DTU is poised to create an environment of synergetic partnership between academia and industry. It aims to cause a major departure from the conventional system of education and research and aspires to imbibe a culture of scientific research in its technology disciplines and technology temper in its scientific research and education by providing a seamless environment for integration of science and engineering. The University also endeavours to provide the thrill of a corporate R&D environment with a planned focus on industrially relevant projects and technology incubation. DTU has consistently been ranked among the top engineering institutions of the country in reputed surveys.

Currently the University offers 17 Full time UG programs, 20 Full time and Part Time M. Tech. programs, one Full time MBA program and one Executive MBA Weekend program and Ph.D. in various disciplines. Further, teachers from various engineering colleges also join University for the doctoral programmes under Quality Improvement Programme (QIP). The University on an average admits 1800 candidates for the Undergraduate Programmes and about 500 candidates for different Postgraduate programmes and Doctoral programmes every year.

Located in about 164 acres of natural flora and fauna, DTU is one of the greenest residential campuses in the country. It has added the dimension of research and caused innovations in plenty which has received high national and international acclaim. The University has the desired autonomy to excel and shape itself as a world class Technological University.

More information about DTU can be accessed at [www.dtu.ac.in](http://www.dtu.ac.in).

## **Vision**

To be a world class university through education, innovation and research for the service of humanity.

## **Mission**

- To establish centres of excellence in emerging areas of science, engineering, technology, management and allied areas.
- To foster an ecosystem for incubation, product development, transfer of technology and entrepreneurship.
- To create environment of collaboration, experimentation, imagination and creativity.
- To develop human potential with analytical abilities, ethics and integrity.
- To provide environment friendly, reasonable and sustainable solutions for local & global needs.

## **1. RESEARCH FACILITIES at DTU**

All the academic departments of the university have well equipped research laboratories and workshop facilities. In addition, there are a number of central facilities such as Central Workshop, Solar Energy Centre, Central Instrumentation, Centres for Advanced Studies & Research in Automotive Engineering, TIFAC-CORE, Central Library and Computer Centre. The Central Library has more than 200,000 books, a large collection of back volumes of periodicals, standard specifications and other literature. It subscribes more than 36,000 current journals in Science, Engineering, Humanities and Social Sciences as e-resources. DTU has a well equipped centralized Computer Centre which provides state of art high-end networked computing facilities to students and staff.

The University has many research collaborations with leading universities and Institutes in Korea, Singapore, France, Florida USA, Africa and China. As part of these collaborations, the students get opportunities to carry out joint research projects with faculty and students from these institutions.

The location of DTU in close proximity to several leading R&D Centres namely NPL, INMAS, FICCI, CSIR, etc. and other major industrial establishments offers excellent opportunities to interact with them and plan research programmes and projects in collaboration with them.

## **2. STUDENTS AMENITIES at DTU**

The University has 9 Boys and 6 Girls hostels in the campus that can accommodate around 1600 students. Each hostel is an independent entity with its own mess facilities, recreation areas, etc. However students are also permitted to have their own arrangements for accommodation outside campus.

Every hostel has its own common room and gymnasium. Additionally every hostel subscribes to the latest magazines and newspapers for the residents. The hostels are connected to the campus via the campus wide wi-fi network and LAN which enables the residents to browse the internet and access the online library resources for their academic and research related work.

A well-planned Students' Welfare societies routinely organize several vibrant extracurricular events. These activities include Sports, Cultural programmes, technical festival and Social Service.

## **3. Ph.D. PROGRAMME**

The University is inspired by talent and driven by innovations and is firmly committed to provide industry-relevant, socially-responsible manpower to meet the challenges of 21st Century. The vibrant culture of research and innovations in DTU campus inspires students from UG level onwards to engage in cutting edge technology development and discover the value and worth of the knowledge acquired by them during their studies.

The University offers Ph.D. programme in a wide range of areas in Engineering, Sciences and Humanities. The academic programme leading to the Ph.D. degree is broad-based and involves a course credit requirement and a research publication leading to thesis submission. Facilities for research work leading to the Ph.D. degree are available in departments of

Mechanical Engineering., Information Technology, Environmental engineering, Electrical engineering, Electronics & communication engineering, Humanities, Delhi school of management, Computer Science & Engineering, Civil engineering, Biotechnology, Applied Physics, Applied Mathematics, Applied chemistry & Polymer Science & Technology.

#### 4. ADMISSION CATEGORIES

The applicant for admission to the Ph.D. programme shall be classified under any one of the following categories which will be decided and recommended by DRC/SRC.

##### 4.1 Full-time Research student/Candidate

- (a) Full Time University Research student/candidate (with scholarship or without scholarship).

**Full-Time students without scholarship can be admitted over and above the seat matrix. The number of such seats will be based on suitability of candidates and availability of slot with prospective supervisors.**

- (b) Full Time Sponsored Research student/candidate fully financed by the Govt./Semi-Government Organizations like QIP, CSIR, UGC, NET, DAE, DST, DBT, NBHM, ICCR, ICAR, ICMR, GPAT, NDF, INSPIRE etc., Govt./ Private funded Research/Development Organisation, Public Sector Undertaking, Educational Institution or a reputed industry etc. **These seats with scholarship from other agencies shall be over and above the seat matrix with University scholarship.**
- (c) Full Time Sponsored Research student/candidate nominated by the organization having MOU with the University, foreign students who apply through Ministry of Human Resource Development or under a Cultural Exchange Scholarship Programme by Government of India.

##### 4.2 Part-Time Research student/candidate

- a) Research student/Candidate working in other organizations which have MOU with Delhi Technological University
- b) Faculty or Scientists from Educational Institutions, R&D organizations, and Govt. Department/Govt. Undertaking, provided that the application possesses the minimum eligibility qualifications for the degree.

##### 4.3 Candidate/ Staff under R & D project

Project staff under projects sponsored by DST/ UGC/ any government agency, industry or centres established from grant in aid from government or international agencies at University.

##### 4.4 Research student/Candidate working as a regular employee

Permanent academic staff of the Delhi Technological University (*including the academic staff of erstwhile Delhi College of Engineering*).

## 5. ADMISSION ELIGIBILITY

- 1) An applicant possessing a Master's degree in Engineering/Technology/ Sciences/ Management/Humanities and Social Sciences in relevant discipline or equivalent with a minimum 55% marks in aggregate or equivalent Cumulative Grade Point Average (CGPA) as determined by the Delhi Technological University shall be eligible to apply for admission to a Ph.D. programme of the University.
- 2) In exceptional cases applicant with Bachelor's degree in Engineering or Technology having a minimum of 75% marks in aggregate or equivalent CGPA and having proven research capability may also be considered eligible.
- 3) Five percent (5%) relaxation in marks at the level of qualifying degree will be given to SC/ST category students for determining the eligibility conditions to apply for Ph.D admission.
- 4) Part-time applicants will be considered as per 4.2 and will be eligible if
  - the applicant possesses the minimum eligibility qualifications for the degree as given as per 5(1).
  - the applicant is in position to complete mandatory course requirements along with regular counterparts;
  - the applicant proves to the satisfaction of the University that his official duties permits him to devote sufficient time to research;
  - facilities for research are available at the applicant's place of work in the chosen field of research or the applicant can spare sufficient time to pursue research in the Department of the Delhi Technological University on daily basis, residing in the vicinity of the University; and
  - he/she will be required to reside at the Delhi Technological University for a period of not less than 6 months during his admission period for the Ph.D. programme. (This condition of minimum residence will be automatically waived for candidates who are working in National Capital Region (NCR) of Delhi or in organisations/institutions located within a distance of 50 km from the Delhi Technological University).
- 5) The candidate seeking admission to Ph.D. programme as project fellow at Delhi Technological University may be given administrative clearance to seek admission on full time / part time basis subject to recommendations of the concerned Principal Investigator of the said project/centre and approval of the Vice Chancellor, if the candidate is selected in project as project fellow through proper selection. However, he/she must fulfil the minimum eligibility criteria. No relaxation will be given in screening test.
- 6) Permanent academic staff of the Delhi Technological University (*including the academic staff of erstwhile Delhi College of Engineering*) may be given administrative clearance to seek registration on part-time basis subject to recommendations of the concerned head of the department and approval of the Vice Chancellor. However, the applicant must fulfil minimum eligibility criteria.



No relaxation will be given in screening test, except for the special cases as given below at 6(3) in selection procedure.

## 6. SELECTION PROCEDURE

- 1) The short listing of applications possessing the minimum educational qualifications, for the purpose of screening test & interview will be done by respective departments in consultation with the Ph.D. Coordinator nominated by the Vice-Chancellor.
- 2) The cut off for the screening test for short listing the candidates for the interview will be decided by the University. Based on the academic record and the performance of the candidates in the interview, the DRC will recommend the names of candidates to the Dean PG.
- 3) Screening test shall be waived only for **valid** UGC/CSIR/DST/JRF fellowship holders, foreign students who apply through MHRD and foreign students under cultural exchange scholarship programme (ICCR).

**Note: The admission in the above mode (after waiving off the screening test) will be on provisional basis and if at any stage it is found, that the candidate is not able get the scholarship, his/ her admission will stand cancelled. No request in this regard will be entertained. The candidate will have to give an undertaking for the purpose.**

- 4) All the shortlisted candidates on the basis of screening test are required to come along with small power point presentation on the topic of their interest during the interview.

## RESERVATION OF SEATS

- 1) Reservation of seats with fellowships for applicants in each of the categories of the research scholars shall be in accordance with the policies of Govt. of NCT of Delhi. The percentage of reservations for various categories and relaxation in minimum eligibility conditions as applicable for the academic Session January 2019 is tabulated below.

Sl. No.	Category	Seats reserved	Relaxation in Essential Qualification
1	Scheduled Castes (SC)	15%	5%
2	Scheduled Tribes (ST)	7.5 %	5%
3	OBC	27%	-
4	Persons with Disability	5% (Horizontal)	5%

The reservations for persons with disabilities will be implemented department wise. Candidates seeking admission must fulfil the eligibility conditions as detailed earlier. The 5% reservation horizontally in seat matrix for persons with disability may be allocated as follows.

Against the seats identified for each disabilities, of which, one percent each shall be reserved for persons with benchmark disabilities under clauses (a), (b), and (c) and one percent, under clauses (d) and (e).

- (a) Blindness and low vision;
  - (b) Deaf and hard of hearing;
  - (c) Locomotor disability including cerebral palsy, leprosy cured, dwarfism, acid attack victims and muscular dystrophy;
  - (d) Autism, intellectual disability, specific learning disability and mental illness;
  - (e) Multiple disabilities from amongst persons under clauses (a) to (d) including deaf-blindness.
- 2) Physically handicapped applicants are permitted 5% marks or equivalent CGPA relaxation in eligibility requirement in line with the policies of Govt. of NCT of Delhi. They will not be allowed any other relaxation beyond this limit even if they belong to SC/ST category.
  - 3) Detailed seat matrix (i.e., seats with DTU fellowship) indicating seats in various departments under different categories is available at Annexure-1.

## **7. Information about Academic Departments**

### **1. Department of Applied Chemistry**

The department aims to provide state-of-art knowledge and practical skills to the UG and PG students in the diverse subjects of Applied Chemistry, Polymer Science and Chemical Technology. The department runs four year course of B.Tech Polymer Science and Chemical Technology and post graduate course in Polymer Technology. Department has produced nearly 60 Ph.Ds, 230 M. Tech. students and 400 B.Tech students. The Department has well-established laboratories in Applied Chemistry, Polymer Science and Chemical Technology. The department has undertaken and completed successfully large numbers of research and industry projects funded by AICTE, CSIR, UGC, DRDO, DST, BARC etc. Active national and International collaborations for R&D activities in different fields have been established by the department.

**Research Areas:** Chemistry including synthetic organic chemistry, Bio inorganic chemistry, Bio organic chemistry, Inorganic Chemistry, Material Chemistry, Green Chemistry Cheminformatics; Medicinal Chemistry; including gene delivery applications, Bio Materials, Drug Delivery systems; Polymer Science including fiber Technology, Conducting Polymers, Composites, Hydrogels: Chemical Engineering including Reaction engineering, Multi phase reactor systems and design, Pollution abatement technology and gene; Advance materials development, Separation processes, Transport Phenomena, Pharmaceuticals sciences, Food Science.

## 2. Department of Applied Mathematics

The Department runs a four year B. Tech. program in Mathematics & Computing. This program is an amalgamation of Mathematics with Computer Science and Financial Engineering. More than 25 research students are registered in the Department for Ph.D program. The department has a team of committed faculty members from the disciplines of Pure Mathematics, Applied Mathematics, Computer Engineering, Statistics and Operation Research.

**Research Areas:** Information Theory, Graph Theory, Discrete Mathematics, Numerical Analysis, General Relativity and Cosmology, Optimization Technique, Complex Analysis, Mathematical Modelling, Approximation Theory, Stochastic Processes, Fuzzy logic and optimization, Algebra and Mathematical Finance.

## 3. Department of Applied Physics

Applied Physics Department is providing cutting edge research, innovation and education in the emerging areas of science and technology. Department offers the undergraduate Academic Program in Engineering Physics and Post Graduate program in Nanoscience and Technology and one Interdisciplinary M.Tech. program in Microwave and Optical Communication Engineering (MOCE) is offered from the Department in association with Electronics and Communication Engineering Department. The department has well-equipped state of art laboratories for undergraduate, postgraduate and Ph.D students.. Faculties of the department are actively involved in National and International collaborations for R & D activities.

**Research Areas:** Nanotechnology: Carbon Nanotube / Carbon Nanofibre and Graphene. Plasma Physics/Dust plasma/THz Radiation Emission/High power microwave devices, Photonics and Photonic Crystals. Glass Science and Technology Phosphors, Photoluminescence, Organic & Nano-Material, Time-resolved spectroscopy, Semiconductor Devices and Solar Cells-Application Oriented Modeling and Simulation, Waveguide based devices. Fibre and Integrated optics, Luminescent Material, Material science, Experimental Lithium Ion battery, Multiferroic materials, Atomic physics, Gas sensors, Atmosphere Science, Memory Devices.

## 4. Department of Biotechnology

The main objective of the Department is to provide academic training and conduct research in the interdisciplinary areas of biotechnology with particular emphasis on extending the knowledge generated from these studies towards the development of technologies of commercial significance.

The Department is running postgraduate programmes in Biotechnology, Bioinformatics, Biomedical Engineering and Industrial Biotechnology. Department of Biotechnology is also running research oriented Ph.D. programme. The department has undertaken sponsored projects funded by ICMR, CSIR, DST, UGC, etc. The department has 10 state-of-the-art laboratories.

**Research Areas:** Aquaculture, Algal Biotechnology, Bioremediation, Biosensor, Functional Genomics, Genome informatics, Immunology, Immunostimulation, Molecular Neuroscience, Nan biotechnology, Neuro-oncology, Radiation Biology, Water Quality Management.

## 5. Department of Civil Engineering

The Department offers undergraduate program with an intake of about 120. The post graduate programs are offered in Hydraulics and Flood Control, Structural Engineering, Environmental Engineering, and Geotechnical Engineering with the intake of about 90 students. The Department is well equipped with laboratories related to Structure, Concrete testing, Soil Mechanics, Highway Engineering, Experimental Stress Analysis, etc. The department lays greater emphasis on quality research of industrial design and development, Structural Engineering and Structural Dynamics.

**Research Areas:** Structural Engineering, Concrete Technology, Cementitious Materials, Prestressed Concrete, Tall Structures and Rehabilitation of Structures, Geotechnical Engineering, Rock Mechanics, Soil Mechanics, Geo-Environment Engineering, Water Resources Engineering, Pavement Engineering. Hyper Spectral Microwave and LIDAR Remote Sensing.

## 6. Department of Computer Science and Engineering

The Department of Computer Science and Engineering endeavors to provide the thrill of a corporate R&D environment with a planned focus on industrially relevant projects and technology incubation. The department has been offering two M.Tech. Degree level Programme in computer science & engineering and software engineering. Department has developed state-of-the-art laboratories in the various fields of Computer Engineering-Computer Architecture Lab, Network Lab, Web Designing Lab, Computation and programming Lab, Operating System Lab, Artificial Intelligence Lab and many others. The Department offers doctoral (Ph.D.) degree programmes in diverse areas and large numbers of problems have been taken up in close collaboration with industries.

**Research Areas:** Software Testing & Quality, Software Metrics, Machine Learning, Software Reliability, High Performance Computing, Soft Computing, Optimization Techniques, Parallel Computing, Web Technology, Image Processing, Soft Computing, Evolutionary Computing, Artificial Intelligence, Information Security.

## 7. Delhi School of Management

DSM aims at extending the seven-decade long legacy of Delhi College of Engineering by incubating and developing techno-managers, who are adept at identifying pertinent and critical business problems and apply their technical skills and competencies in solving those issues. DSM offers dual specialization in MBA programme and offers post doctoral degree program. It focuses on developing a strong foundation and right attitude by teaching general subjects, Technical and Functional area of Management.

**Research Areas:** Managerial themes such as E-Governance, Information Technology Management & Strategy, Marketing Management, Distribution and Retail Management, Organizational Behaviour & Human Resource Management, Corporate governance and Ethics, Public Policy and Governance, Accounting and Finance, Portfolio Management, Mergers and Acquisition and Corporate Restructuring. Knowledge Management.

## **8. Department of Electronics and Communication Engineering**

The vision of the department is to focus on the incubation of innovations in the areas of electronic design/ fabrication, and communication technologies, which are needed to address the growing challenges of tomorrow. The department offers UG and PG programmes with annual intake of 230 students in the B.Tech programme in Electronics and Communication Engineering and the PG programs include M. Tech. in VLSI Design and Embedded Systems; Signal Processing and Digital Design; and Microwave and Optical Communication. The Department has focused attention on quality research and offers Ph. D. programs in the area of Electronics and Communication namely VLSI, DSP, Image Processing, Micro strip antenna design, Sensor Networks, Analog and digital system design.

**Research Areas:** VLSI Design, Computer Vision, Pattern Recognition, Object Tracking, Image Processing, Human Computer Interaction, Wireless Sensor Network, Microwave Engineering, Antenna Design, Digital Signal Processing, Wireless Communication, RF Devices, Nano-electronics, Network Security, and Cloud Computing, Optical Communication, R F Circuit Design.

## **9. Department of Electrical Engineering**

The goal of the department is to provide quality education at undergraduate and postgraduate levels and undertake cutting edge research in various areas of Electrical Engineering. The department also aims to develop active collaboration with various industries in the power sector. The department has an annual intake of 150, 100 and 46 students in the B.Tech programmes in Electrical Engineering and Electrical and Electronics Engineering and B.Tech (Evening) respectively. At the post graduate level, the department is offering two M.Tech programmes in Control and Instrumentation and Power Systems. The department is also running part time (evening) PG program in Power Electronic Systems for DMRC (under MOU) since 2012-13. In addition to the above, the department offers regular Ph. D programs in various areas of specialization in Electrical Engineering. The department is involved in carrying out several sponsored R & D projects funded by national agencies like AICTE, DST, etc.

**Research Areas:** Power system Optimization, AI Techniques, Modeling & Analysis of Electrical machines, Power Electronics & Drives Intelligent control of non linear systems, FACTS, SSR, voltage stability, power Quality Improvement, Grid Integration, Micro grid, smart Grid, BPL Analog Signal processing(Linear & Non Linear), Power system & control, system Engineering, Power system Analysis, Intelligent control, Power electronics, renewable energy, HVDC, Power Quality, power system restructuring, AI in Electricity market forecasting, Wind Energy forecasting, Embedded system, Information security, design of power supply. Electric traction systems. Analog signal processing Energy conversion and micro grid.

## **10. Department of Environmental Engineering**

The Department of Environmental Engineering have been offering M.Tech in Environmental Engineering Degree and B.Tech in Environmental Engineering. The department conducts cutting-edge research, in developing the vital areas that address societal needs for environmentally sustainable life style and offer doctoral degree. In addition to this, the department also provides opportunity to working engineers for upgrading their qualification under Continuing Education Programme on part time basis

for PG level. The departmental laboratories (Water Pollution, Air & Noise Pollution, Microbiology, GIS & Remote Sensing and Solid Waste) for teaching and research are among the best in the nation, providing opportunities for hands-on experience for all students.

**Research Areas:** Water Pollution, Waste Water Treatment, Environment Modelling, Phytoremediation, Water Management, Air Pollution, Geoenvironmental Engineering, Solid Waste Management and Noise Pollution.

### **11. Department of Humanities**

The Department of Humanities offers courses in Communication Skill, English, Economics and Accountancy for engineering and management students in an effort to train them for the global economic environment of the 21st Century. Besides giving them in-depth understanding of the labour market in which they are expected to work as well as emerging employment trends among engineers, students are sensitized towards the specific technological needs of urban slums and rural areas and socio economic impact of engineering projects on the masses. The Department has competent faculty members with a high degree of excellence who keeps pace with the current developments in their fields of specialization for the fulfilment of its teaching and research goals.

**Research Areas:** Women Education and Inclusive Growth, Banking and finance, International Trade and other areas of economics.

**English:** Diaspora Literature, Comparative Literature, Post-modern fiction, South-Asian Fiction, Cultural Studies.

### **12. Department of Information Technology**

Department offers an undergraduate B.Tech. Course in Information Technology with an intake of 75 students every year. Also, to meet the growing demands of present day technologies, DTU has started post graduate studies in Information Systems. Designed in a way so as to provide the students with fundamental concepts and tools related to the field, the courses emphasizes on all basic subjects such as operating systems, computer architecture and design, software development, networking, multimedia and graphics, analog and digital communication and computer Communications. Specialized knowledge on analysis and design of Information system, information security, mobile communication, soft computing, artificial intelligence, digital signal processing, computer vision and expert systems, web engineering is also imparted. The department provides well-equipped and well-connected state of the art laboratories in the areas of RF engineering and Web Engineering, Computer Networking, Advance Signal Processing, Information Security, Biometric lab, etc.

**Research Areas:** Pattern Recognition, Soft computing, Biometric security system, Neural Networks/ Deep learning, Fuzzy- Neural Networks, Computer Vision, Big data Analytics Web Mining Internet Technologies, Data Mining Social Networks Machine learning Human behaviour, Multimedia Systems Human Computer interaction, Image processing, Evolutionary Computing.


### **13. Department of Mechanical Engineering**

The department of Mechanical engineering also offers undergraduate and Post Graduate courses with specialization in Thermal Engineering and Production Engineering. Ph.D Programs in all fields of Mechanical Engineering are also offered. The department possesses modern laboratories equipped with latest experimental set-ups and research facilities for instrumentation, experimental stress analysis, strength of materials, fluid mechanics, etc, engines, automotive engineering, robotics, heat transfer, solar energy, flexible manufacturing system, computational fluid dynamics supported by Software like view-flex, CAD-CAM and I.e. engine design. Cad lab has Softwares like NX-LAD, NXCAM, AUTOCAD Inventor, Katia, Techomatix , Abus, Icad, NX-Narran, Hyper mesh, hyper works, MDADAMS, Dynaform etc. The department has many research projects which are sponsored by different government organizations.

**Research Areas:** Turbo Machinery, Fluid Mechanics, Power Plant Engineering, I.C. Engines, Automobile Engineering, Refrigeration and Air conditioning, Computational Fluid Dynamics, Solar Energy, Bio Fuels, Power Plant, Industrial Engineering & Supply Chain Management, Robotics, CAD/CAM, Welding, Production Engineering, System Dynamics, Structural Vibration, Modeling & Simulation, Automation, Advanced Manufacturing Process, Human Factor Engineering, Quality Engineering.

## 8. Fee and Documents to be submitted

The selected candidates will be required to pay the admission fee as per the details given below:.

S.No.	Particulars	Annual Fee				
		At the time of Admission			2 <sup>nd</sup> year onwards	
	Code 	A	B	C,D,E, F	A,B	C,D,E,F
1.	Tuition Fee	Nil	7500	15000	Nil	5200
2.	<b>Non Govt. Component</b>					
2.1	Student Welfare Fee (Co-curricular activities, Training & placement, Extra Curricular Activities, Annual Gathering, Students welfare, Institutional Development, outsourcing, conference, seminar, workshop, innovative projects, skill development activities and, Misc. Expenditure on Unspecified Items)	5000	5000	5000	2800	2800
2.2	Facilities & Services Charges (Research initiatives, training programmes, Awards, automation, facilities, entrepreneurship activities and any misc. expenditure on unspecified items)	1500	1500	1500	500	500
2.3	Economically weaker section fund	1000	1000	1000	1000	1000
2.4	Examination fee (Examination Infrastructure strengthening, expenditure on examination activities, confidential printing etc.	2000	2000	2000		
2.5	Premium amount for mediclaim of student (per-annum)	500	500	500	500	500
	<b>GRAND TOTAL</b>	<b>10000</b>	<b>17500</b>	<b>25000</b>	<b>4800</b>	<b>10000</b>

S.No.	Particulars	Code
1.	The academic staff of DTU DCE staff (R.19.1)	A
2.	Project staff pursuing Ph.D as in R.19.11	B
3.	Self financial Students / Candidates from DST, CSIR, NPL and other Govt. organization, Govt. Institution, Public sector undertakings	C
4.	Self financed Students / Candidates from private organization R&D Laboratories under MoU with DTU	D
5.	Self financed regular faculty members of the private Educational Institution.	E
6.	Other Full Time / Part Time candidates	F



## 8.1 Refund Policy

S. No.	Percentage of Refund of aggregate fee*	Point of Time when Notice of admission is served to HEI
1.	100%	15 days before the formally notified last of admission i.e. 14.01.2019.
2.	80%	Not more than 15 days after the formally notified last date of admission.
3.	50%	More than 15 days but less than 30 days after formally notified last date of admission.
4.	00%	More than 30 days after formally notified last date of admission.

The admission fee must be paid in the form of a DD issued in favour of **“Registrar, DTU Ph.D. New Admission”** payable at Delhi.

### **Original Documents to be submitted for verification at the time of Admission**

- (a) Printed copy of online registration application
- (b) All the semesters Mark sheet/grade card / provisional / degree certificates beginning from first degree towards proof of qualification.
- (c) Caste Certificate in the case of SC/ST/OBC-NCL candidates issued by the respective State Government as per format annexed at 2.
- (d) Authorised Doctor’s Certificate with disability descriptions in the case of Person with Disabled (PwD) candidates as per format annexed at 3.
- (e) Copy of GATE score or Original UGC - JRF/NET/CSIR/ DAE-JEST or other fellowship award.
- (f) Project Co-ordinator’s certificate in the prescribed format
- (g) Date of Birth Proof
- (h) two passport sized recent photographs

## **IMPORTANT INSTRUCTIONS**

- 1) The candidates are advised to read each and every instruction given in this Information Brochure very carefully before applying Online.
- 2) All entries should be carefully made while applying online. DTU will not be responsible for wrong entries. Candidates shall be sole responsible for the correctness and authenticity of the information / documents provided in the online application.
- 3) Online application found incomplete in any form will be summarily rejected. No correspondence / communication will be entertained in this regard.
- 4) The last date for submission of online application shall not be extended. Accordingly, no request shall be entertained for accepting the application after the last date. Therefore, candidates are advised to submit their application well in advance and not to wait for the last moment.
- 5) The University has the right to cancel, at any stage, the admission for the candidate who is found admitted to a course to which he/she is not entitled, being unqualified or ineligible in accordance with the statues and regulations in force.
- 6) The list of the shortlisted candidates for screening test, interview and finally selected for admissions to Ph.D. program will be displayed on the DTU website: [www.dtu.ac.in](http://www.dtu.ac.in) .
- 7) Candidates have to bring a valid photo-identity card for the purpose of written test along with the printed application form.
- 8) There is no need to send any part of application form to DTU by post.
- 9) Incomplete applications are likely to be rejected.
- 10) No separate call letter will be dispatched.
- 11) The candidates are advised to make their own arrangements for travelling and lodging accordingly. They must come prepared for admission (in case they are selected) as per the schedule.
- 12) Candidate should check the Institute website for results / important announcements.
- 13) Candidates called for the interview should bring with them (i) Photo ID Card, (ii) Printed copy of the application submitted online, (iii) Thesis / dissertation / report / publications (iv) copy of certificates and mark-sheets.
- 14) The candidates may contact faculty members/Head of the concerned academic departments for selecting their area of research work.

**Annexure- 1**

<b>Seat matrix for full time Ph.D. admission with University Scholarship ( Session January-2019)*</b>						
Name of the department	Code of the deptt.	General	OBC	SC	ST	Total
Applied chemistry & Poly. Tech.	AC	1	-	-	-	1
<b>PWD</b>		-	-	-	-	
Applied Physics	AP	4	2	1	1	8
<b>PWD</b>		-	-	-	-	
Applied Mathematics	AM	3	1	1	1	6
<b>PWD</b>		-	-	-	-	
Biotechnology	BT	2	-	1	-	3
<b>PWD</b>		-	-	-	-	
Civil engineering	CE	-	-	1	-	1
<b>PWD</b>		-	-	-	-	
Computer Science & Engg	CoE	4	5	1	2	12
<b>PWD</b>		-	-	-	-	
Electronic & communication engineering	EC	2	1	2	-	5
<b>PWD</b>		-	-	-	-	
Electrical engineering	EE	3	1	1	1	7
<b>PWD</b>		-	-	-	1	
Environmental engineering	EN	-	1	-	-	1
<b>PWD</b>		-	-	-	-	
Mechanical engineering	ME	8	3	1	1	13
<b>PWD</b>		-	-	-	-	
Delhi school of management	DSM	1	-	1	-	2
<b>PWD</b>		-	-	-	-	
Humanities	Hum	1	-	-	-	1
<b>PWD</b>		-	-	-	-	
Information Technology	IT	1	3	1	-	5
<b>PWD</b>		-	-	-	-	
USME		4	1	2	2	9
<b>Total:</b>		<b>34</b>	<b>18</b>	<b>13</b>	<b>9</b>	<b>74</b>

## Annexure-2

### AUTHORITIES WHO CAN ISSUE CASTE/TRIBE CERTIFICATE

SC/ST/OBC candidates should submit certificate issued by any of the following authorities:

District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/Deputy Collector/1st Class Stipendiary Magistrate/City Magistrate/Sub-Divisional Magistrate/Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner/Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate/Revenue Officer not below the rank of Tehsildar/Sub-Divisional Officer of the area where the candidate and/or his/her family normally resides/Administrator/Secretary to Administrator/Development Officer (Lakshadweep Island).

(Certificate issued by any other authority will not be accepted.)

### Prescribed Format for OBC Certificate

#### FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES

This is to certify that Shri / Smt. / Kum.

\_\_\_\_\_ Son /

Daughter of Shri / Smt. \_\_\_\_\_ of  
Village/Town

\_\_\_\_\_ District/Division \_\_\_\_\_ in the

State belongs to the \_\_\_\_\_ Community which is  
recognized as a backward class under:

- (i) Resolution No. 12011/68/93-BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No. 186 dated 13/09/93.
- (ii) Resolution No. 12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
- (iii) Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated 25/05/95.
- (iv) Resolution No. 12011/96/94-BCC dated 9/03/96. (v) Resolution No. 12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96.
- (vi) Resolution No. 12011/13/97-BCC dated 03/12/97.
- (vii) Resolution No. 12011/99/94-BCC dated 11/12/97.
- (viii) Resolution No. 12011/68/98-BCC dated 27/10/99.
- (ix) Resolution No. 12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
- (x) Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated 04/04/2000.
- (xi) Resolution No. 12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 21/09/2000.
- (xii) Resolution No. 12015/9/2000-BCC dated 06/09/2001.
- (xiii) Resolution No. 12011/1/2001-BCC dated 19/06/2003.
- (xiv) Resolution No. 12011/4/2002-BCC dated 13/01/2004.
- (xv) Resolution No. 12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 16/01/2006.

Shri / Smt. / Kum. \_\_\_\_\_ and / or his family ordinarily reside(s) in the \_\_\_\_\_ District / Division of \_\_\_\_\_ State. This is also to certify that he/she does not belong to the persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 08/09/93 which is modified vide OM No. 36033/3/2004 Estt.(Res.) dated 09/03/2004.

Dated: \_\_\_\_\_

District Magistrate / Deputy Commissioner / Competent Authority

Seal

NOTE:

(a) The term 'Ordinarily' used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.

(b) The authorities competent to issue Caste Certificates are indicated below:

(i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / Ist Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of Ist Class Stipendiary Magistrate).

(ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.

(iii) Revenue Officer not below the rank of Tehsildar' and

(iv) Sub-Divisional Officer of the area where the candidate and / or his family resides.

**Declaration/undertaking - for OBC Candidates only**

I, \_\_\_\_\_ son/daughter of Shri \_\_\_\_\_ resident of \_\_\_\_\_ village/town/city \_\_\_\_\_ district \_\_\_\_\_ State \_\_\_\_\_

hereby declare that I belong to the \_\_\_\_\_ community which is recognized as a backward class by the Government of India for the purpose of reservation in services as per orders contained in Department of Personnel and Training Office Memorandum No.36012/22/93- Estt. (SCT), dated 8/9/1993. It is also declared that I do not belong to persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the above referred Office Memorandum, dated 8/9/1993, which is modified vide Department of Personnel and Training Office Memorandum No.36033/3/2004 Estt.(Res.) dated 9/3/2004.

Signature of the Candidate

Place: \_\_\_\_\_

Date: \_\_\_\_\_

**Annexure-3**

**Certificate for Person with Disability To be issued by Medical Board from Government Hospital**

Name of the candidate: Mr./Ms.\*.....  
Father's Name: .....  
Permanent Address: .....  
Percentage loss of earning capacity (in words): Whether the candidate is otherwise able to carry on the studies and perform the duties of an engineer/architect satisfactorily:.....  
Name of the disease-causing handicap: .....  
Whether handicap is temporary or permanent: .....  
Whether handicap is progressive or non-progressive: .....  
The candidate is FIT / UNFIT to pursue further studies.  
(\*Strike out whichever is not applicable)

**Member**

**Member**

**Principal Medical Officer  
(Orthopaedic Specialist)**

Date:

Seal of Office :

NOTE: 1. The medical board must have one orthopaedic specialist as its member.

2. Candidate having temporary or progressive handicap will not be considered against the seats.

**Dean Academic (PG) / DR (PG)**

Delhi Technological University  
Shahbad Daultpur, Bawana Road, Delhi-110042

Website: [www.dtu.ac.in](http://www.dtu.ac.in)

Helpdesk Email ID: [phdcoordinator@dtu.ac.in](mailto:phdcoordinator@dtu.ac.in)