

# INDIAN INSTITUTE OF TECHNOLOGY KANPUR

## POST GRADUATE ADMISSIONS 2019–2020-I Semester (Commencing from July 2019)



The Indian Institute of Technology, Kanpur is among one of the institutions of national importance, established through an act of Indian Parliament to provide education of internationally recognised excellence in Sciences, Engineering, Technology and Humanities & Social Sciences. The Institute is located on the historic Grand Trunk Road, ten kilometers west of Kanpur. It is a residential campus, planned and landscaped for environmental freedom. Halls of residence, faculty houses, community centres, students' activity centres (indoor/outdoor state of the art Sports Complex, Gymnasium etc.) and parks offer a free and friendly ambience.

From its very inception, IIT Kanpur has striven to develop itself into an institution of excellence in education and research befitting the spirit of modern India. In its quest for excellence, IIT Kanpur has internalized a drive to rise to the contemporary and future demands of need-oriented education. The Institute is now recognized as a major centre of training in engineering, sciences, humanities & social sciences and several interdisciplinary areas. In addition to training students in formal undergraduate and postgraduate programmes, the institute is involved with continuing education, research in basic sciences, engineering, and the humananities and social sciences as well as research and development in areas of value to Industry and Government. The Institute has considerably strengthened its facilities and faculty to participate in a major way in the national scientific and technological endeavours. The Institute has always made special efforts to admit high quality students.

#### RESEARCH PROGRAMMES AVAILABLE FOR 2019-20-I SEMESTER

Ph.D. (Engg.): Aerospace Engineering \* Biological Sciences & Bioengineering \* Chemical Engineering \* Civil Engineering \* Computer Science & Engineering \* Electrical Engineering \* Industrial & Management Engineering \* Materials Science & Engineering \* Materials Science (Interdisciplinary Programme) \* Mechanical Engineering \* Nuclear Engineering and Technology \* Photonics Science & Engineering

Ph.D. (Sciences): Chemistry \* Cognitive Science \* Earth Sciences \* Economic Sciences \* Mathematics \* Physics \* Statistics

Ph.D. (Humanities & Social Sciences): English (Literature, Linguistics and ELT) \* Fine Arts \* Philosophy \* Psychology Sociology

Ph.D. (Management): All areas of Management

Ph.D. (Design): Interdisciplinary Programme in Design

M.Tech.: Aerospace Engineering \* Biological Sciences & Bioengineering \* Chemical Engineering \* Civil Engineering \* Computer Science & Engineering \* Earth Sciences \* Electrical Engineering \* Industrial & Management Engineering \* Materials Science & Engineering \* Materials Science & Engineering \* Materials Science & Engineering \* Photonics Science & Engineering

M.Des.: Interdisciplinary Programme in Design

MS (By Research): Aerospace Engineering \* Chemical Engineering \* Civil Engineering \* Cognitive Science \* Computer Science & Engineering \* Electrical Engineering \* Mechanical Engineering \* Photonics Science & Engineering

### **ELIGIBILITY REQUIREMENTS**

The eligibility conditions given below are the absolute minimum. Departments may prescribe specific requirements over and above these conditions. The "specified minimum" marks/CPI (Cumulative Performance Index), referred to in subsequent sections, implies a minimum of 55 percent marks /5.5 (on a 10 point scale) as long as it is not less than the minimum pass marks/CPI; otherwise, the "specified minimum" marks/CPI implies the minimum pass marks/CPI. Candidates belonging to the Scheduled Castes/Scheduled Tribes who have passed the basic qualifying degree are eligible to apply irrespective of the marks/CPI and will be considered for admission.

Ph. D. in Engineering: Applicants must have a Master's degree in Engineering with marks/CPI not below the specified minimum or a Bachelor's degree in Engineering or science (4 year programme) with a minimum of 75 percent marks/7.5 CPI or a master's degree in science or an allied area while satisfying each of the following three criteria:

(a) A minimum of 65 percent marks/6.5 CPlin the master's degree

(b) First division in bachelor's degree, and(c) JRF/95 percentile or higher in GATE score.

For admission into Ph.D. programme in Biological Sciences and Bioengineering, applicants having master's degree in pharmacy/medicine/veterinary science with marks/CPI not below the specified minimum, or bachelor's degree in pharmacy/medicine/veterinary science with a minimum of 75 percent marks/7.5 CPI, may also be considered.

For admission into Ph.D. in Computer Science and Engineering, applicants with master in computer applications while satisfying each of the above criteria in (a),(b) and (c) may also be considered.

A valid GATE score is required for the candidates with a bachelor's degree in Engineering/Design/Architecture, except in the case of candidates with bachelor's degree in Engineering from the Centrally Funded Technical Institutes (CFTIs). The candidates with master's degree in science must either have a valid GATE score or must have qualified for/in JRF/NET.

Ph.D. in Sciences: Applicants must have a master's degree in the relevant subject or a bachelor's degree in Engineering or science (4 year programme) with marks/CPInot below the specified minimum.

The candidate either must have a valid GATE score or must have qualified JRF. In addition to GATE/JRF, a valid JEST score is also an eligibility criterion for applying to the Ph.D programme in Physics. The requirement of GATE/JRF/JEST is waived for candidates having a master's degree in science from IITs with a minimum CPI of 8.0.

Ph.D. in Economic Sciences: The candidate must have a master's degree in economics or a bachelor's degree in engineering or sciences (4 year programme) or a master's degree in sciences or in an allied field of economics with marks/CPI not below the specified minimum.

The candidate must either have a valid GATE score or must have qualified JRF/NET. The requirement of GATE/JRF/NET is waived for candidates having a master's degree in sciences/arts from IITs with a minimum CPI of 8.0.

Ph.D. in Cognitive Science: Applicants must have a MA/M.Sc/M.Phil/MS/equivalent degree (Cog. Sc./ Psychology/ Linguistics/Philosophy/ Anthropology/ Phy/ Chem/ Math/ Stat/ Biosciences/ related disciplines) with a minimum of 60%/6.0 marks/CPI in the qualifying degree. Applicants should have a valid score/qualification in GATE/ CSIR/ JRF/ NET/ COGJET/ other equivalent exam. Applicants from IITs with a minimum CPI of 8.0 are exempted from the GATE/ CSIR/ JRF/ NET requirement. Applicants with M. Sc. in Cognitive Science are also exempted from the GATE/CSIR/JRF/NET requirement.

M.Tech/ME/MD (any branch) with a minimum of 60%/6.0 marks/CPI in the qualifying degree.

B.Tech/BE (any branch), BS - 4year program (Physics/ Chem/ Math/ Stat/Biosciences/ related sciences), MBBS. Applicant must have a minimum of 75%/T.5 marks/CPI in the qualifying degree. Should have a valid score/qualification in GATE/CSIR/JRF/NET/ COGJET/ other equivalent exam. Applicants from CFTIs (centrally funded technical institutions) with a minimum CPI of 7.5 and those with an MBBS degree are exempted from the GATE/ CSIR/ JRF/NET requirement.

Ph.D. in Humanities & Social Sciences (HSS): Applicants must have a master's degree in the relevant subject or a bachelor's degree in Engineering or science (4 year programme) or a master's degree in sciences or in an allied field of HSS with marks/CPI not below the specified minimum.

The candidate must either have a valid GATE score or must have qualified for/in JRF/NET. The requirement of GATE/JRF/NET is waived for candidates having a master's degree in science/arts from IITs with a minimum CPI of 8.0.

Ph.D. in Management: The applicant must have a master's degree in Management or relevant disciplines in

Engineering/technology with marks/CPI not below the specified minimum or a Bachelor's degree in Engineering or science (4 year programme) with a minimum of 75 percent marks/7.5 CPI or a master's degree in science/arts/commerce/chartered accountancy while satisfying each of the following three criteria:

(a) A minimum of 65 percent marks/6.5 CPI in the master's degree

(b) First division in bachelor's degree, and

(c) JRF/95 percentile or higher in GATE/CAT/GMAT/NET or any other national level examination.

A valid GATE score is required for the candidates with a bachelor's degree in Engineering, except in the case of candidates with bachelor's degree in Engineering from the Centrally Funded Technical Institutes (CFTIs). The candidates with master's degree in science/arts/commerce must either have a valid GATE/CAT/GMAT score or must have qualified for/in JRF/NET.

Ph.D. in Design: Applicant must have a master's degree in Engineering/Design with marks/CPI not below the specified minimum. Those applicants may also be considered who have bachelor's degree in Engineering/Design/Architecture or science (4 year programme) with a minimum of 75 percent marks/7.5 CPI or a master's degree in science or an allied area while satisfying each of the following three criteria:

(a) A minimum of 65 percent marks/6.5 CPI in the master's degree,

(b) First division in bachelor's degree, and

(c) JRF/95 percentile or higher in GATE/CEED.

A valid GATE/CEED score is required for the candidates with a bachelor's degree in Engineering/Design/Architecture except in the case of candidates with bachelor's degree in Engineering from the Centrally Funded Technical Institutes (CFTIs).

M.Tech.: The applicant must have a bachelor's degree in engineering or science (4 year programme) or a master's degree in science with marks/CPI not below the specified minimum.

A valid GATE score is required for admission to the M.Tech. programme in the case of regular (non-sponsored) candidates. The requirement of GATE score is waived off for the B.Tech/B.S (Four Year) graduates from IITs with a minimum overall CPI of 6.5 and a minimum CPI of 8.0 in the last two years in B.Tech/B.S (Four Year).

M. Des.: Applicant must have a bachelor's degree in Engineering or Science (4 year programme), Design or Architecture with marks/CPInot below the specified minimum. Candidates holding degree in Fine Arts or Interior Design are not eligible to apply.

A valid GATE/CEED score is required for admission to the M. Des. Programme in the case of regular (non-sponsored) candidates. The requirement of GATE score is waived off for B.Tech. graduates from IITs with a minimum overall CPI of 6.5 and minimum CPI of 8.0 in the last two years of B. Tech.

MS (By Research) 2 Years Programme: For Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Science & Engineering and Photonics Science & Engineering: Applicants must have a Bachelor's degree in Engineering or science (4 year programme) or a Master's degree in science with marks/CPI not below the specified minimum.

For Electrical Engineering & Mechanical Engineering: Applicants must have a bachelor's degree in Engineering or science (4 year programme) with marks/CPInot below the specified minimum.

For Cognitive Science: Applicants must have a: (i) B.Tech/BE (any branch), BS - 4year program (Physics/ Chem/ Math/ Stat/Biosciences/ related sciences), MBBS. An applicant must have a minimum of 60%/6.0 marks/CPI in the qualifying degree. All regular applicants must have a valid score/qualification in GATE/ CSIR/ JRF/ NET/ COGJET/ other equivialent exam Applicants with B.Tech from IITs with an overall CPI of 6.5 and a minimum CPI of 8.0 in the last two years and those with an MBBS degree are exempted from the GATE/ CSIR/ JRF/ NET requirement; or, (ii) MA/M.Sc/equivalent degree (Psychology/ Linguistics/ Philosophy/ Anthropology/ Phy/ Chem/Math/ Stat/ Biosciences/ CS/ related disciplines) with a minimum of 60%/6.0 marks/CPI in the qualifying degree. An applicant must have a valid score/qualification in GATE/CSIR/ JRF/ NET/ COGJET/ other equivalent exam. Applicants from IITs with a minimum CPI of 8.0 and those with an MBBS degree are exempted from the GATE/ CSIR/JRF/ NET requirement.

MS (By Research) 3 Years Programme: For Computer Science & Engineering and Photonics Science & Engineering: Applicants with B.Sc. (3-year) or equivalent with a minimum of 75%/7.5 marks/CPI may also be considered.

For Cognitive Science: Applicants with 3-year BA/B.Sc/equivalent degree in (Psychology/ Linguistics/ Philosophy/ Anthropology/ Phy/Chem/ Math/ Stat/ Biosciences/ CS/ related disciplines) with a minimum of 60%/6.0 marks/CPI in the qualifying degree may also be considered.

A valid GATE (GATE/ CSIR/ JRF/ NET/ COGJET/ other equivalent exam in case of Cognitive Science programme) score is required for admission to the MS (Research) programme in the case of regular candidates (non-sponsored/non-project candidates). The requirement of GATE (GATE/ CSIR/ JRF/ NET/ COGJET/ other equivalent exam in case of Cognitive Science programme) score is waived for the B.Tech/B.S (Four Years) graduates from IITs with a minimum overall CPI of 6.5 and a minimum CPI of 8.0 in the last two years in B.Tech/B.S (Four Year).

### **CAMPUS FACILITIES**

Residence: There are Sixteen Hostels that provide on campus accommodation for about 5938 male and 997 female students. Some students (especially those in early years of their programme) are provided hostel rooms on twin sharing basis. One Hundred Forty (140) Single Bed Room Apartments (SBRA) have been earmarked for allotment to the married students. The married students are,however, advised to bring the family only after allotment of an SBRA, which may take a few months.

Computational Facilities: The Computer Centre functions round the clock and is divided into various zones that host computing and other servers, parallel clusters for different projects, office automation services, mail services, internet services, and soft switch based telephone services. The institute Computer Centre has two High Performance Computing setups, which have ranked 369 and 130 in top 500 lists (www.top500.org), in the November 2010 and June 2013 lists respectively. The second cluster became ranked 118 in the top 500 lists in June 2014 with the addition of extra nodes. Together, these setups have 1373 nodes.

The Institute has a fully managed Local Area Network of more than 20000 nodes, connecting all the hostel rooms, offices and residences over wired as well as wireless network. The computational infrastructure hosts a wide variety of general as well as specialized application software in areas like simulation, modeling, data management & processing, CAD/CAM, computer graphics, and word processing. Several software are also hosted on central servers for use by students and faculty on their own computers.

P. K. Kelkar Library: Library is housed in three storeys having a collection of more than 5 lakh books, journals and reports. The library is enabled with Wi-Fi access and it is fully automated and uses Koha (open source) library management software. Library resources and services are available through the web link: http://pkklib.iitk.ac.in. SMS and email alert services are provided for check in, checkout, renewal, new arrival and overdue alerts etc. Other services like inter library loan, photocopying and online reference services are also provided on demand. Users can access the library e-resources from outside the campus through a virtual private network. Library is a core member of e-Shodh Sindhu consortium through which thousands of digital resources are accessible to the users. Theilbrary remains open on all days of the year except seven national holidays. It is also kept open round the clock during examinations.

Placement: Indian Institute of Technology Kanpur is well known for its academic excellence and is considered as the 'first stop' for a large number of leading organizations of both National and International repute for campus recruitment, and offer excellent career opportunities to the graduating students.

Sports & Recreation: IIT Kanpur has several facilities for indoor and outdoor games. There are other recreational facilities as well. The institute has an Olympic size swimming pool, a vibrant music club and several other active clubs that are run by the Students' Gymkhana

Health Centre: The Institute has a well-equipped Health center, and a team of highly qualified Doctors. Institute's Health Centre is having OPD, Indoor facilities (with 34 beds) Pathology Testing facility, X-ray and Physiotherapy Lab. In addition to regular doctors, specialists from various domains visit the Health Centre for OPD services. Special clinics are arranged for students in hostels.

### **GENERAL INFORMATION**

- Candidates who are in the final year of qualifying degree and are likely to graduate by July 15, 2019 may also apply. Such candidates may be considered for admission to 2019-20-l academic session commencing on July 24, 2019.
- The institute, being residential, requires that all registered students reside in the campus.
- Financial Aid (Research/ Assistantships/ Fellowships/ Scholarships) are available to M.Tech. & Ph. D. Students. Some MS (By Research) students may also be provided financial aid. Several attractive Fellowships from Industry/ Department of Atomic Energy (DAE/DST/INSPIRE etc.) are also available.
- For information brochure containing details of various PG programmes, visit the online application portal: http://www.iitk.ac.in/doaa/pgadmission.htm
- The online applications portal will be available from 15-03-2019 to 05-04-2019.
  Reservation shall apply as per Govt. of India norms.