## Annual Report 2016-17

(April 1, 2016 - March 31, 2017)





**INDIAN INSTITUTE OF TECHNOLOGY DELHI** 

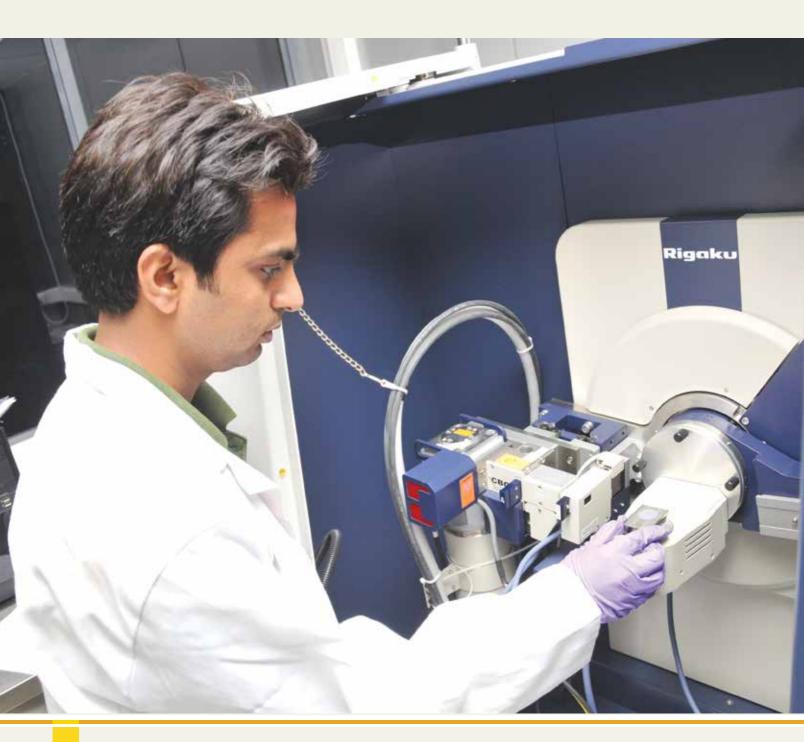
## Annual Report 2016-2017

(April 1, 2016 - March 31, 2017)



## **Our Vision**

To contribute to India and the World through excellence in scientific and technical education and research; to serve as a valuable resource for industry and society; and remain a source of pride for all Indians.



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Director: Prof. V. Ramgopal Rao

IIT Delhi's rank rose 13 places to 172 in the year 2018 from last year's position at 185 in Quacquarelli Symonds (QS) World University Rankings 2018. It has been ranked 401-500 in the world by the Times Higher Education World University Rankings in 2016-2017, 54 in Asia and 32 among BRICS & Emerging Economies University Rankings in 2017. IIT Delhi ranked first among engineering colleges in India by India Today in 2017, as well as by Outlook India. It ranked fourth among engineering colleges by the National Institutional Ranking Framework (NIRF) in 2017 and 5th overall.

## **Director's Report**

IIT Delhi is pleased to release its Annual Report for the year 2016-2017 and I am delighted to share with you the highlights of our major activities, achievements, initiatives and future plans.

At the outset, it is a great pleasure and privilege for me to share that IIT Delhi's rank rose 13 places to 172 in the year 2018 from last year's position at 185 in Quacquarelli Symonds (QS) World University Rankings 2018. The other two Indian institutes in 200 university ranking are IIT Bombay (179) and IISc Bangalore (190). IIT Delhi has been ranked 401-500 in the world by the Times Higher Education World University Rankings in 2016-2017, 54 in Asia and 32 among BRICS & Emerging Economies University Rankings in 2017. In India, IIT Delhi ranked fifth among all universities in 2017 and has given it the top rating "AAAAA" among engineering colleges in 2017 by Careers 360 survey. IIT Delhi ranked first among engineering colleges in India by India Today in 2017, as well as by Outlook India. It ranked fourth among engineering colleges by the National Institutional Ranking Framework (NIRF) in 2017 and fifth overall.

Over the years, at IIT Delhi, we have built a robust research tradition, which can be seen by the inspiring statistics in terms of different research parameters. Specially, we have continuously enhanced on our credentials in research as evidenced by way of publications, citations and Ph.Ds per faculty, which are among the highest for any institution in India and compare favorably with the best in the world. Our target of continuously searching for and significantly increasing the intake of quality candidates into our Ph.D. programmes is on the right course and we have grown to a significant level in this direction over the past few years. Over 60% of the students currently on rolls at IIT Delhi are post-graduate students.

IIT Delhi is committed to provide excellent human resource to meet national needs and global expectations. It is a unique institution and a dream destination for those who wish to be leaders in science, technology and management. IIT Delhi is internationally recognized for delivering excellent education at the undergraduate and postgraduate levels, while endeavoring to become a great research institution.

While excellence has many parameters, setting up of state-of-the-art teaching and research infrastructure does require resources. With the support from the Government of India, industry and the alumni, IIT Delhi has been able to create an excellent infrastructure. While the Government has supported us with generous funding for which we are

grateful, our alumni have extended noteworthy support to the institute.

Ourfaculty is one of the finest in the country and is recognized internationally for their quality of research, teaching and curriculum development. They also contribute greatly for the development of the nation by being associated with a large number of decision making bodies, providing crucial guidance and advice on policy matters and technical issues. Many faculty members received honours/ awards and were elected Fellows of several professional national/ international bodies during the year.

During the period, international bibliographic databases have indexed large number of research articles published by faculty members and researchers of the institute in international journals including 1800 articles indexed in Scopus (upto last convocation), an international indexing service in Science & Technology and Social Sciences. The faculty members have also presented a similar number of papers in national and international conferences. Besides, they have also published many books and conducted several continuing education programmes.

All Departments, Centers and Schools have prepared their vision and the priority areas of research for the next decade. Institute is in the process of preparing the vision document for the period 2018-2025.

IIT Delhi believes in the use of high technologies for improving the quality of life among people living in villages and towns across India. The Centre for Rural Development & Technology has initiated mega programmes namely Unnat Bharat Abhiyan (UBA) and Scientific Validation and Research on Pachagavya (SVAROP). UBA is a flagship programme of Ministry of HRD, Govt. of India. The programme aims to bring a transformational change in rural development by active participation of higher academic institutions with local communities, and reorientation of curricula and R&D design of knowledge institutions. The mission of the programme is to enable participating higher educational institutions to work with people of rural India in identifying developmental challenges and evolving appropriate solutions for accelerating sustainable growth. It also aims to create a virtuous cycle between society and an inclusive academic system by providing knowledge and practices for emerging professions and to upgrade the capabilities of both public and private sectors in responding to developmental needs of rural India. One of the important activities of the participating institutes in UBA programme is to provide knowledge inputs to district administration in preparation of Gram Panchayat Level Development Plan (GPDP) and Village Development Plan (VDP). Under the UBA programme, the participating institutes such as IITs, NITs, IIITs, IIMs, AIIMSs, Central and State Universities, Govt. Engineering Collages, AICTE institutions, etc. are adopting a cluster of five villages in consultation with respective Districts Collectors. During the first phase of the programme in 2016-17, 42nos. of participating institutions have initiated working in about 200 villages of 45 districts in the country. In the year 2017-18, it is expected to bring 500 more participating institutions in the fold of UBA and cover about 300 districts in the country.

As part of our society connect initiative, IIT Delhi jointly with its alumni has started a Women Entrepreneurship & Empowerment (WEE) programme which is helping women from various walks of life to become entrepreneurs. Second batch of WEE students have gone through this programme and many of them have successfully launched their ventures.

Eighteen (18) infant technology startups striving to solve problems in fields ranging from automobiles to health, biotechnology and heritage conservation are incubated at IIT Delhi. The startups founded by IIT alumni get mentoring, infrastructure support and funding at the Foundation for Innovation and Technology Transfer (FITT).

About one hundred and forty virtual laboratories have been set up in the IITs and some partner institutions across India under the Virtual laboratory project which is funded by the ministry of human resource development and coordinated by IIT-Delhi. Students can work in these labs for free. This move also benefits non-IITians, from the partner institutions, who may not have had the chance to work on such projects because of the un-affordability of state-of-the-art equipment.

IIT Delhi has registered around 30% increase in the total number of women candidates admitted this year. As against 70 last year, 93 candidates have been admitted by the end of third round of counselling, including one in top 100. The overall percentage of women candidates admitted through JEE, as against the total admissions so far, has increased from 8% last year to 11% this year.

Student Mentorship Programme (SMP) in association with Student Activity Center (SAC) and Alumni & International Programmes (AAIP) cell has launched a pilot run for its proposed Student-Alumni mentorship programme. Ex-students in various fields will provide valuable guidance to current students. Student will be able to seek guidance from a specific alumnus (mentor) depending on the field in which he/she requires help.

Another outreach activity IIT Delhi is coordinating is the IIT-Professor Assisted Learning (IIT-PAL) which has been

launched under the Swayam Prabha initiative of HRD ministry. All an IIT-JEE aspirant needs is internet connectivity or a DTH setup for TV to access the IIT-PAL content on the Swayam Prabha channels of Govt. of India. From the comfort of their homes, JEE aspirants in the villages/towns/cities can now watch lectures on physics, chemistry, mathematics and biology taught by the selected IIT professors based on the 11th and 12th standard NCERT text books. Over 700 hours of video content is currently available online under the IIT-PAL initiative.

In order to make the research carried out at IIT Delhi reach the society, we have made efforts to engage with industry, various ministries of Govt. of India and other institutions in the country. We have also taken steps to encourage multi-disciplinary activities across the institute leading to prototype development addressing the needs of the society.

The first batch of students for the Executive Programme (under the Continuing Education Programme of IIT Delhi) "Visionary leadership for Manufacturing (PGPEx-VLFM)" has been admitted. The first batch consisting of 17 executives from different industries have joined the one year programme which is jointly run by IIT Delhi and NITIE Mumbai faculty. IIT Delhi faculty will handle the technology and manufacturing aspects while NITIE Mumbai faculty will handle the industrial engineering and operations part.

Under its 'SAMARTH Udyog' initiative, Department of Heavy Industry, Government of India has approved the setting up of a Common Engineering Facility Centre (CEFC) at IIT Delhi in collaboration with Automation Industry Association (AIA) with a total funding of about ₹35 Crore.

IIT Delhi started a new scheme by the name Faculty Interdisciplinary Research Projects (FIRP). Faculty members from two different departments/Centers can come together and write a high quality proposal for which IIT Delhi will provide a seed grant. This year IIT Delhi received about 90 projects and after an external review, IRD Unit of IIT Delhi approved 30 of them. There were projects involving Civil-biochemical, Chemistry-Bio, EE-Mechanical, Humanities-CSE etc. It is expected that each of the FIRP funded faculty members would seek support from external agencies within a year.

The agreement for setting up of DRDO-Joint Advanced Technology Center (JATC) was signed and projects have been approved by DRDO. JATC has started its operations at IIT Delhi involving multiple faculty members, students and academic entities in the institute.

IIT Delhi has started an "Industry Day" from this year. Over 170 industries have participated in the first ever Industry Day held at IIT Delhi on September 23, 2017. This gave an opportunity for the world to know the research that is

happening at IITD. One of the expected outcomes of this initiative is improved placements for Ph.D. students. This will henceforth be a regular calendar event at IIT Delhi.

At IIT Delhi, we have started a new research project initiative called 1-2-3-4 Discover & Learn. Each project group has 4 students consisting of 1st, 2nd, 3rd, and 4th year B.Tech. students. They will work on an interdisciplinary project that has prototype as an output addressing a societal need. Each project has a faculty mentor and it is funded from the internal resources. This way students learn to work in multi-disciplinary groups and also learn to work with each other. When the 4<sup>th</sup> year student graduates, a new first year student will come in. Around 40 such projects are in operation at present in the Institute. Projects have been approved covering the needs of the older people to smart grids for villages to prosthetics.

IIT Delhi Nanoscale Research Facility (NRF) and the Bio-Nano Electronics Research Centre (BNERC) of Toyo University, Japan offers an access to IITD researchers to access some high end facilities in BNERC using a web based interface. IIT Delhi has entered into a similar collaboration with IIT Madras for the Atom Probe Microscope (costing over ₹25 crores) which is set up as a national facility.

In the 194th meeting of the Board of Governors held on 4th Aug'17, IIT Delhi approved the School of Interdisciplinary Research (SIRe) and creation of a new "Department of Design". These two new academic entities which are expected to start their operations in 2018-19 are expected to give a major boost to the interdisciplinary research and product development activities across the institute.

In order to jump start the research activities of newly joined faculty members, the Institute provides seed research funding to the new faculty upon joining the Institute to the tune of ₹50.00 lakhs (or more when necessary). During the year, the Institute sanctioned the New Faculty Research Grant of a total of ₹295.00 lakhs to 27 faculty members out of the total funds of ₹500 lakhs earmarked for this purpose.

The Institute has also made consistent efforts in upgrading its infrastructure to cater to the needs of its expansion plans and for better amenities. Besides planning and building new hostels and additional academic space, the Institute is also engaged in a massive exercise of renovation of old houses, hostels and sports facilities. Some of these initiatives are given below:

- Transfer of 50 Acre land of Jhajjar in favour of IIT Delhi: Haryana Government has allotted 50 Acres of land to IIT Delhi in Jhajjar. The land allotted was taken possession for further development activities.
- Formal approval of Master Plan IIT Delhi received from SDMC: The revised Master Plan of IIT Delhi prepared

by M/s. SGA has been sanctioned by SDMC/DUAC. The revised Master Plan has been prepared taking into consideration the requirements of IIT Delhi for the next 10-15 years. The revised Master Plan was prepared with optimum FAR as per the latest MCD guidelines.

The Growing visibility of the Institute has been steadily leading to a larger role in partnerships. The Institute has been actively involved in collaborative programmes with national and international organizations/universities to remain at the forefront in scientific and technological development and to share the knowledge for mutual benefits. IIT Delhi has currently 93 operational MoUs/Agreements with Foreign Institutions/Organizations and 42 MoUs/Agreements with Indian Institutions/Organizations.

During the year 2016-17 under report, 158 Sponsored Research Projects with a total funding of ₹140.21 crores and close to 370 consultancy jobs with a total value of ₹36.38 crores were undertaken. 18 collaborative projects and 06 consultancies with international funding were also undertaken during the period. Institute is expecting a 50% increase in the sponsored research funding for the year 2017-18 based on the commitments received so far.

For the year 2016-17, the actual recurring expenditure Non-Plan & Plan were to the extent of ₹36200.73 lakhs and ₹4273.05 lakhs respectively and Plan Non-Recurring expenditure was ₹12508.48 lakhs. The Institute generated about 23.89% of the actual recurring expenditure through internal revenue generation from fees, sponsored research, consultancies and continuing education programmes.

During the year 2016-17, the Institute received ₹28,500 lakhs as Non-Plan Grant, ₹10,307.57 lakhs as Plan Grant (Normal Non-Recurring Expenditure) and ₹2,313.44 lakhs as Plan Grant (Normal Recurring Expenditure). The income from internal accrual from the fees, interest and sponsored projects was to the extent of ₹9,667.64 lakhs. Within the financial resources available to the Institute, a number of construction and development activities have been taken up to augment the Institute infrastructure.

Training and Placement is an important activity for the Institute. The T&P Unit is mainly responsible for arranging practical training of the undergraduate students to meet their degree requirement and to provide world class job opportunities to undergraduate and postgraduate students after graduation.

During this period, job requisitions were obtained from 342 Companies for 475 job profiles with selections on 209 profiles as a result of which 709 students were placed making a total of 774 jobs (52 students got multiple jobs). 47 students got selected for opportunities abroad. Approximately 83.5% students who registered for placement got placed through

#### **Director's Report**

T&P. The remaining opted for higher studies / research or preparing for civil services or working on their own startup ideas or got jobs through their own contacts / efforts.

Institute records are now digitized and most of the Institute records like Board of Governors, Finance Committee, Senate, Building & Works Committee (B&WC) minutes are kept for institutional access. The information is available in the following web-link. 10.10.213.214:8080/xmlui. Institute has started a massive effort to implement ERP for all sections across the institute and hopes to paperless in the next one year.

IIT Delhi lays great emphasis on interaction between the alumni and the alma mater and supports the activities of the IIT Delhi Alumni Association. We are proud of our alumni and their achievements. The success of the alumni is one of the most important yardsticks by which we measure our achievements.

The Institute recognizes the outstanding contributions made by the alumni in various areas by conferring the Distinguished Alumni Award each year. This award is the highest honor conferred by the Institute on its alumni to recognize their achievements and outstanding contributions to academics, business, profession and/or public service. In the last Convocation, Distinguished Alumni Awards were conferred on Prof. Chandrajit Bajaj, Mr. Padeep Kumar, Mr. Sahin Bansal and Mr. Sanjeev Kalhan.

"Golden Jubilee Reunion" for the first batch of the Institute (1966 pass-out) was celebrated on 17th December 2016. The event was extremely well attended and it included a number of activities e.g. panel discussions, sharing of memories, presentation of mementoes and cultural programmes by the students followed by Dinner.

"Alumni Day" was celebrated on 18th December 2016. The theme was 'ENVISIONINGTHE FUTURE-TOGETHER'. It was the fourth ever Alumni Day celebration, inviting participation of Alumni of all batches from 1961 to 2016, representing over fifty five years of glorious history. Approximately 200 alumni attended the event which included a number of activities e.g. panel discussions, felicitation function, cultural programme followed by dinner.

During the Alumni Day, institute launched the new Alumni Portal of the Institute. It provides facility to the Alumni to network, connect and search other Alumni by way of batch, location profession etc. It also allows them to post Job offerings for the students and alumni. The Institute has been conducting Donation campaigns on the portal and a number of Alumni have come forward to contribute through the portal. The portal provides online contribution facility by way of wire transfer, International Credit/Debit cards etc. The portal is available at: http://alumni.iitd.ac.in/.

The Silver Jubilee Reunion Batch of 1992 was held on 23-24th December 2016. About 135 alumni from the batch of 1992 attended the event to make it truly memorable.

Pearl Reunion of 1980 and 1981 Batches was held on 5th March, 2017 (Sunday). The Reunion was attended by about 60 Alumni along with their families. During the day long programme, the Alumni interacted with the Director, other senior management and Student representatives of the Institute. A guided Campus tour for the Alumni was conducted and the Director hosted lunch and dinner for the attending Alumni. Postal Stamps carrying individual Alumni Photographs were presented to the Alumni by the Director

A ceremony was held in the Board Room to flag off the team of IIT Delhi Alumni as they embark upon an ambitious expedition starting from Sagartal (diving to touch the depths of Sea) and proceeding to summit the Sagarmatha (Mount Everest). The Director handed over the flag of the Institute to the Institute Alumni and conveyed the best wishes of the Institute.

Many delegations from the Industry, Academia and the Government form several countries visited the Institute to explore the possibilities of mutual interaction. IIT Delhi has also been invited to be a partner in the McDonnel International Scholars Academy launched by the Washington University in St. Louis.

Under the IPR management, Foundation for Innovation & Technology Transfer (FITT) enabled filing of 58 patent applications during the above referred period. Currently, 17 start-up companies are resident in the Technology Business Incubator run by FITT. During the period four start ups have been incubated at IIT Delhi. IIT Delhi is streamlining its patent filing processes and is expected to touch 100 patents/year mark starting from 2017-18.

We would like to acknowledge the support received in abundant measure from the Ministry of Human Resource Development, the various sponsoring agencies, the collaborating industries, institutions and alumni.

I personally acknowledge the support and encouragement I have received from the Chairman and Members of the Board of Governors, and from all my colleagues, and extend my appreciation to the students for their exemplary behavior and their contributions towards enriching the campus life.

Wishing IIT Delhi to reach new heights!

Jai Hind!

Director

Indian Institute of Technology Delhi Email: director@admin.iitd.ac.in

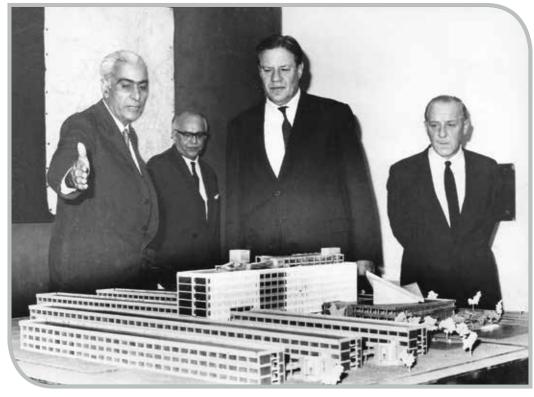
### **Our Mission**

- To generate new knowledge by engaging in cutting-edge research and to promote academic growth by offering state-of-the-art undergraduate, postgraduate and doctoral programmes.
  - To identify, based on an informed perception of Indian, regional and global needs, areas of specialization upon which the institute can concentrate.
  - To undertake collaborative projects which offer opportunities for long-term interaction with academia and industry.
  - To develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions.



## **About us**

#### **Dreaming big.....**



In the formative stages: Prof. R.N. Dogra, the founding director, IIT Delhi detailing the model of the Institute's building

#### **HISTORY**

The concept of the IITs was first introduced in a report in the year 1945 by Shri. N. M. Sircar, then member of Education on Vicerory's Executive Council. Following his recommendations, the first Indian Institute of Technology was established in the year 1950 in Kharagpur. In his report, Shri Sircar had suggested that such Institutes should also be started in different parts of the country. The Government having accepted these recommendations of the Sircar Committee decided to establish more Institutes of Technology with the assistance of friendly countries who were prepared to help. The first offer of help came from USSR who agreed to collaborate in the establishment of an Institute through UNESCO at Bombay. This was followed by the Institutes of Technology at Madras, Kanpur and Delhi with collaborations with West Germany, USA and UK respectively. Indian Institute of Technology, Guwahati was established in 1995 and the University of Roorkee was converted into an IIT in 2001.

The Institute was later declared an Institute of National Importance under the "Institutes of Technology (Amendment)

Act, 1963", re-named as "Indian Institute of Technology Delhi", and accorded the status of a deemed university.

Presently Indian Institute of Technology Delhi is one of the Twenty Three Institutes of excellence for higher education, research and development in science, engineering and technology and in management in India; the others are at Bhilai, BHU (Varanasi), Bhubaneswar, Bombay, Dhanbad, Dharwad, Gandhinagar, Goa, Guwahati, Hyderabad, Indore, Jammu, Jodhpur, Kanpur, Kharagpur, Madras, Mandi, Palakkad, Patna, Roorkee, Ropar, Tirupati.

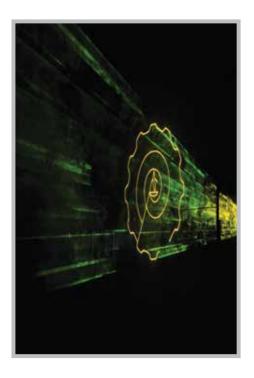
#### **STATUS**

Indian Institute of Technology Delhi is an autonomous statutory organisation of the Government of India functioning within the "Institutes of Technology Act, 1961" as amended by the "Institutes of Technology (Amendment) Act, 1963". It is accorded the status of a deemed university with powers to frame its own academic policy, to conduct its own examinations, and to award its own degrees. The Twenty Three Institutes of Technology are coordinated by an apex body known as IIT Council with the Minister for Human Resource Development of the Government of India as its Chairman.

#### **OBJECTIVES**

The objectives of the Institute include:

- Offering instruction in applied sciences, engineering and technology, and management at a level comparable to the very best anywhere in the world;
- Providing leadership in curriculum planning, laboratory development and examination system;
- Developing programmes for faculty development both for its own staff and for teachers of other engineering institutions;
- Developing close collaboration with industry through exchange of personnel and undertaking consultancy projects;
- Developing strong collaboration links with other academic and research institutions in the country and abroad;
- Developing a continuing education programme for employed engineers and making it available both on campus and by distance learning techniques at off campus locations;
- Preparing manpower for the unorganised sector and for selfemployment.



#### **CAMPUS**

The Institute campus extends over an area of 320 acres. Tastefully laid out with the picturesquelandscape and with numerous buildings of various types and, with clean and wide roads, the campus presents a spectacle of harmony in architecture and natural beauty. The campus area has been divided into four functional zones:

- · Residential zone for students;
- Residential zone for the faculty and other supporting staff;
- Academic zone for academic buildings and workshops; and



IIT Delhi Campus Map

Cultural-cum-social and recreational zone for students.

The site being longitudinal in shape, the academic and social-cum- cultural zones have been located mid-way between the two residential zones in order to reduce walking distance. The campus provides several essential amenities for community living like hospital, shopping centre, banks, post office, community centre, staff club, students activities centre, stadium and playing fields etc.

#### **BOARD OF GOVERNORS AND ITS COMMITTEES**

IIT Delhi is an autonomous organisation of the Government of India. Responsibility for the general superintendence, direction and control of the affairs of the Institute is vested in the Board of Governors. The Board functions through its standing committees — the Finance Committee, the Buildings & Works Committee and other committees which may be constituted to consider specific issues. The compositions of the Board of Governors during the period from April 1, 2016 to March 31, 2017 is as follows:

#### **BOARD OF GOVERNORS**



Kumar Mangalam Birla Chairman

V. Ramgopal Rao Punya S. Srivastava (Ms.) Akshai Aggarwal Shashi Wadhwa (Ms.) S.K. Sopory Vijay Thadani Sanjeev Sanghi M. Balakrishnan/Anurag Sharma Sandeep Chatterjee, Secretary

#### **ADMINISTRATION**

The Director is the principal academic and executive officer of the Institute and is responsible for the proper administration of the Institute and for the imparting of instruction and maintenance of discipline therein. He is assisted in his day to day work by Deputy Director(s), Registrar, Deans, Associate Deans and senior faculty of the Institute. The senior members of the Administration during the period from April 1, 2016 to March 31, 2017 are as follows:

#### **DIRECTOR**



K. Thyagarajan
Officiating Director
(29-01-2016 AN\* to
13-04-2016 FN\*)



V. Ramgopal Rao
Director
(13-04-2016 AN\* to Present)

#### **DEPUTY DIRECTORS**



**Sushil** *D. D. (Operations)*(01-07-2015 to 30-06-2016)



Ashok Gupta
D. D. (Operations)
(01-07-2016 to Present)



**S.K. Koul** *D. D. (Stgy. & Plng.)*(01-07-2012 to 30-06-2016)



M. Balakrishnan
D. D. (Stgy. & Plng.)
(01-07-2016 to Present)

<sup>\*</sup>FN = forenoon; AN=afternoon

#### **DEANS**



**Kushal Sen** Dean, Faculty (01-07-2014 to 15-08-2016)



Sandeep Sen Dean, Faculty (16-08-2016 to Present)



Dean, Infrastructure (01-07-2014 to 15-08-2016)



V.K. Agarwal Dean, Infrastructure (16-08-2016 to Present)



S.K. Gupta Dean, Student Affairs (01-07-2012 to 15-08-2016)



T.R. Sreekrishnan Dean, Student Affairs (16-08-2016 to Present)



Dean, R & D (01-07-2012 to 15-08-2016)



Dean, R & D (16-08-2016 to Present)



**Anurag Sharma** Dean, Academics (01-07-2012 to 15-08-2016)



**Bhim Singh** Dean, Academics (16-08-2016 to Present)



**Shashi Mathur** Dean, AA & IP (01-01-2016 to 15-08-2016)



Sanjeev Sanghi Dean, AA & IP (16-08-2016 to Present)

#### **ASSOCIATE DEANS**



T.C. Kandpal Asso. Dean, Acad. (PGR) (01-07-2014 to 15-08-2016)



**Shantanu Roy** Asso. Dean, Acad. (PGR) (16-08-2016 to Present)



M.R. Ravi Asso. Dean, Acad. (Curri.) (01-07-2012 to 15-08-2016)



**Joby Joseph** Asso. Dean, Acad. (Curri.) (16-08-2016 to Present)



Naresh Bhatnagar Suddhastwa Basu Asso. Dean, R&D (01-07-2014 to 15-08-2016)



Asso. Dean, R&D (16-08-2016 to Present)



P.M.V. Subbarao Asso. Dean, S.A. (H.M.) (01-07-2014 to 15-08-2016)



A.K. Saroha Asso. Dean, S.A. (H.M.) (16-08-2016 to Present)



**Aditya Mittal** Asso. Dean, S.A. (Events) (01-07-2014 to 15-08-2016)



**James Gomes** Asso. Dean, S.A. (Events) (16-08-2016 to Present)



Manju Mohan Asso. Dean, S.A. (Welfare) (01-07-2014 to 15-08-2016)



Sangeeta Kohli Asso. Dean, S.A. (Welfare) (16-08-2016 to Present)



**B.K. Panigrahi** Asso. Dean, Infrastructure



**B.J. Alappat** Asso. Dean, Infrastructure (01-07-2014 to 15-08-2016) (16-08-2016 to 03-07-2017)



**Neeraj Kumar Jha** Asso. Dean, Infrastructure Asso. Dean, Infrastructure (01-07-2014 to 15-08-2016)



**Deepti Gupta** (16-08-2016 to Present)



**Anurag S. Rathore** Asso. Dean, Corporate Relations (16-08-2016 to Present)

#### REGISTRAR



Sandeep Chatterjee

## **Academic Units at IIT Delhi**

(April 1, 2016 - March 31, 2017)

The major academic units of the Institute are the departments, centres and schools. Interdisciplinary research is organized in programmes. The various academic units are listed below. The activities of departments include teaching at all levels and research. The centres focus on interdisciplinary research and some teaching, mostly at the postgraduate level.

	Departments	Interdisciplinary Centres		Schools
1.	Applied Mechanics	1. Applied Research in Electronics	1.	Bharti School of
2.	Biochemical Engineering & Biotechnology	2. Atmospheric Sciences		Telecommunication Technology and Management
		3. Biomedical Engineering	2.	Amar Nath and Shashi
3.	Chemical Engineering	4. Energy Studies		Khosla School of Information
4.	Chemistry	5. Industrial Tribology Machine		Technology
5.	Civil Engineering	Dynamics & Maintenance	3.	Kusuma School of Biological Sciences
6.	Computer Science & Engineering	6. Instrument Design & Development		
7.	Electrical Engineering	Centre		
8.	Humanities & Social Sciences	7. Polymer Science & Engineering		
9.	Management Studies	8. Rural Development & Technology		
10.	Mathematics	9. National Resource Centre for Value Education in Engineering		
11.	Mechanical Engineering			
12.	Physics			
13.	Textile Technology			

IIT Delhi has 13 departments. Each department has its own administration structure with the Head of the Department (HoD) at the top of it. The (HoD) heads the department appointed for a period of three years after which a new head is appointed. Each department offers a program (at the undergraduate or post-graduate level), some departments such as Mechanical Engineering Department, offer two or more undergraduate level programs and some departments collaborate with each other to offer a joint program. An example of the latter is the M.Tech. in Optical Communications program which is offered by the Department of Physics and Department of Electrical Engineering. The DMS (Department of Management Studies), IIT Delhi came into existence in 1993 by an amendment to IIT Delhi statutes. The department offers a two year full time MBA programme with focus on Telecommunication Systems Management and a three year part time (evening) MBA programme with focus on Technology Management.

An interdisciplinary center differs from a department in the fact that it deals with an overlap of two or more disciplines of engineering or science. Similar to the departments the centers also offer programs though they offer these courses only at the post-graduation level.

## **Current Degree Programmes**

(April 1, 2016 - March 31, 2017)

The Institute offers undergraduate and postgraduate programmes in a number of areas leading to the degrees of B.Tech./M.Sc./M.Tech./M.S.(R)/DIIT/M.Des./MBA and Ph.D. in Science, Engineering & Technology and Management. The primary objective of these teaching programmes is to offer instruction in applied sciences, engineering, and management at a level comparable to the very best anywhere in the world. This is achieved through an undergraduate curriculum which places a strong emphasis on the understanding of fundamental principles as well as specialised knowledge, a postgraduate programme, distinguished by its interdisciplinary approach and emphasis on research.

#### **Pedagogy**

Teaching at the Institute incorporates a cohesive, contextual and nurturing environment for learning. The emphasis is on self-motivated learning by using information, experience and practice. The teaching methodology aims at using the inputs from core functional areas to interdisciplinary issues and problem solving. Students undertake classroom and workshop assignments, conduct field observations, make presentations and participate in group discussions and seminars and are encouraged to develop industry linkages.

#### **Evaluation**

The academic year consists of two semesters and a summer term. The education system is organised around a credit

system which ensures continuous evaluation a student's performance and provides flexibility to choose courses of interest and to progress at an optimum pace suited to a student's ability or convenience. Each course is assigned certain number of credits depending upon the class contact hours. A minimum number of credits and CGPA are to be completed satisfactorily in order to qualify for the award of a degree.

The medium of instruction is English.

#### **Curriculum Development**

The Senate of the Institute is constantly engaged in reviewing and approving new courses to improve the curriculum. This year several new minor area programs have been designed with a view to offer a second area of specialization.

Under a new Academic Welfare Scheme introduced by the Institute this year for weak students, a special student advisor is identified in each department for students who need special help, at the beginning of each semester. Special extra classes are being conducted for such students and the student advisor closely monitors the attendance and performance of these students and also provides support to help improve their performance.

The undergraduate and postgraduate programmes are managed by their respective Boards, as follows:

BOARD OF ACADEMIC PROGRAMMES (BAP)				
Prof. Bhim Singh	Prof. A. Ray	Prof. T.S. Bhatti	Mr. Ashochya Agnihotri	
Prof. Shantanu Roy	Dr. Sujeet K. Sinha	Dr. Monika Agarwal	Mr. Prakash Khude	
Prof. Joby Joseph	Prof. Neeraj Khare	Dr. Hariprasad P.	Mr. Kamal Rana	
Dr. Mukul Sarkar	Dr. Kedar Khare	Prof. A.K. Ghosh	Mr. Vaibhav Anand	
Dr. G.V. Prakash	Prof. Apurba Das	Dr. Deepak Kumar	Mr. Jayant Nahata	
Prof. Arvind Nema	Dr. Samrat Mukhopadhyay	Dr. S.K. Atreya	Dr. K.A. Subramanyan	
Prof. S.K. Khare	Dr. Mani Mehra	Mr. P.K. Gupta	Dr. Deepak Kumar	
Prof. I.N. Kar	Prof. N. Chatterjee	Dr. Shouribrata Chatterjee	Dr. J. Jacob	
Prof. K.K. Pant	Prof. T.R. Sreekrishnan	Dr. Parag Singla	Prof. N. Chatterjee	
Dr. Paresh Chokshi	Dr. D. Sundar	Dr. C.S. Dey	Prof. Madhusudan Rao	
Prof. Sanjiva Prasad	Prof. B.P. Patel	Dr. Manav Bhatnagar	Dr. Kushal K. Shah	
Dr. Sorav Bansal	Dr. V. Haridas	Dr. Parag Singla	Prof. Anoop Chawla	
Prof. J.T. Shahu	Dr. Arjun Ghosh	Prof. Anurag Singh Rathore	Mr. Alan V. Sinate	
Dr. Kalaga R. Rao	Prof. S.S. Yadav	Prof. Sanjeev Jain	Mr. Atul Vyas	
Prof. Jayadeva	Prof. Maithili Sharan	Mr. Shobhit Zakhmi		
Dr. A.R. Abhayankar	Prof. Harpal Singh	Mr. Nishant Agarwal		

Below is the list of courses offered currently.

#### **UNDERGRADUATE STUDIES\***

Bachelor of Technology [B.Tech.] Duration: 4 years	Dual Degree Programme [B.Tech. and M.Tech.]  Duration: 5 years
Biochemical Engineering & Biotechnology	B.Tech. and M.Tech. in Biochemical Engineering & Biotechnology
Chemical Engineering	
Civil Engineering	
Computer Science & Engineering	B.Tech. and M.Tech. in Chemical Engineering
Electrical Engineering	
Electrical Engineering (Power and Automation)	
Engineering Physics	B.Tech. and M.Tech. in Computer Science & Engineering
Mechanical Engineering	
Production and Industrial Engineering	
Mathematics & Computing	B.Tech. and M.Tech. in Mathematics & Computing
Textile Technology	

<sup>\*</sup> Admission to the first year of the four year B.Tech., 5-year dual degree programmes is made through a Joint Entrance Examination (JEE) which is common for all the Indian Institutes of Technology.

#### **POSTGRADUATE STUDIES & RESEARCH (MASTERS PROGRAMMES)\*\***

M.Sc.	M.Tech.	M.S. (Research)	M.Des.
2 years	2 years	2 years	2 years
<ol> <li>Chemistry</li> <li>Mathematics</li> <li>Physics</li> </ol>	<ol> <li>Engineering Mechanics</li> <li>Design Engineering</li> <li>Chemical Engineering</li> <li>Molecular Engineering: Chemical Synthesis and Analysis</li> <li>Construction Technology and Management</li> <li>Geotechnical &amp; Geoenvironment Engineering</li> <li>Structural Engineering</li> <li>Water Resources Engineering and Management</li> <li>Rock Engineering of Underground Structures</li> <li>Environmental Engineering and Management</li> <li>Transportation Engineering</li> <li>Computer Science &amp; Engineering</li> <li>Computer Science &amp; Engineering</li> <li>Communications Engineering</li> <li>Power Electronics, Electrical Machines &amp; Drives</li> <li>Computer Technology</li> <li>Integrated Electronics &amp; Circuits</li> <li>Power Systems</li> <li>Thermal Engineering</li> <li>Production Engineering</li> <li>Industrial Engineering</li> <li>Mechanical Design</li> <li>Tele-Communication Technology and Management</li> <li>VLSI Tools and Design</li> <li>Radio Frequency Design &amp; Technology</li> <li>Solid State Materials</li> <li>Applied Optics</li> <li>Atmospheric Oceanic Science Technology</li> <li>Fibre Science &amp; Technology</li> <li>Textile Engineering</li> <li>Energy Studies</li> <li>Industrial Tribology &amp; Maintenance Engineering</li> <li>Polymer Science &amp; Technology</li> <li>Opto-Electronics &amp; Optical Communication</li> <li>Instrument Technology</li> </ol>	<ol> <li>Applied Mechanics</li> <li>Biochemical Engg. &amp; Biotechnology</li> <li>Chemical Engineering</li> <li>Computer Science &amp; Engineering</li> <li>Electrical Engineering</li> <li>Mechanical Engineering</li> <li>Telecommunication Technology and Management</li> <li>Biological Sciences</li> <li>Information Technology</li> </ol>	1. Industrial Design

contd....

#### POSTGRADUATE STUDIES & RESEARCH (MASTERS PROGRAMMES)\*\*

M.B.A.	M.B.A.	D.I.I.T.
2 years Full Time	3 years Part Time	1½ years
1. Management Systems	1. Tashualawi Managamant	1 Naval Canaturation
2. Tele-Communication Systems Management	1. Technology Management	1. Naval Construction

<sup>\*\*</sup>The admission to full- time M. Tech. programmes is made on the basis of performance in the Graduate Aptitude Test in Engineering (GATE) — an All India entrance test-and interview at the Institute. A limited number of students are also admitted on part-time basis from amongst working professionals alongwith the regular full-time students, subject to their satisfying certain academic and experience requirements. The Institute also offers a special M.Tech. programme (evening) in the field of Energy and Environmental Management on a part-time basis catering to the needs of working professionals from R&D organisations, public sector undertakings, government departments and private industries.

#### **DOCTORATE PROGRAMMES**

The Institute offers research opportunities for doctoral research in all its Departments/Centres/Schools. Creative and productive enquiry is the basic concept underlying the research work. In order to overcome any deficiency in the breadth of fundamental training or proper foundation for advanced work, special preliminary or pre-doctoral courses are suggested by each department/centre. The award of Ph.D. is in recognition of high achievements, independent research and application of scientific knowledge to the solution of technical and scientific problems. The Institute lays special emphasis on India-centric research activities.

The following Departments/Centres/School of the Institute offer the Doctorate programme:

Departments / Centres / Schools			
Applied Mechanics	Applied Research in Electronics		
Biochemical Engineering & Biotechnology	Atmospheric Sciences		
Chemical Engineering	Biomedical Engineering		
Chemistry	Energy Studies		
Civil Engineering	Industrial Tribology, Machine Dynamics & Maintenance Engineering		
Computer Science & Engineering	Instrument Design & Development		
Electrical Engineering	Polymer Science & Engineering		
Humanities & Social Sciences	Rural Development & Technology		
Management Studies	National Resource Centre for Value Education in Engineering		
Mathematics	Amar Nath and Shashi Khosla School of Information Technology		
Mechnical Engineering	Bharti School of Telecommunication Technology and Management		
Physics	Konsuma Caba al af Diala siral Caissa		
Textile Technology	Kusuma School of Biological Sciences		

#### **BOARD OF EDUCATIONAL AND RESEARCH PLANNING (BERP)**

Board of Educational and Research Planning is the chief planning and policy making body of the institute for its teaching and research activities. Head of the Planning unit is the Member - Secretary of BERP. The planning unit prepared ground work for all the matters to be considered by BERP. The recommendations of BERP are forwarded to the Senate for approval. BERP is also responsible for the short and long term educational and research planning of the institute. The composition of the Board of Educational and Research Planning as on March 31, 2017 is as follows:

BOARD OF EDUCATIONAL AND RESEARCH PLANNING					
V. Ramgopal Rao, Director (Chairman)	Suneet Tuli / B.R. Mehta, Dean (R&D)	Suhail Ahmad, Nominee of Senate			
S.K. Koul / M. Balakrishnan, Dy. Director (S&P) Sushil / Ashok Gupta,	S.K. Gupta / T.R. Sreekrishnan, Dean (Student Affairs)	A.K. Singh, Nominee of Senate			
Dy. Director (Operations)  Anurag Sharma / Bhim Singh, Dean (Academics)	Mukesh Khare / Sanjeev Sanghi, Dean (AA&IP)	Satyawati Sharma (Ms.), Nominee of Senate			
S.G. Deshmukh / Sandeep Sen, Dean (Faculty)	K.S. Rao / V.K. Agarwal, Dean (Infrastructure)	M.P. Gupta / Sudipto Mukherjee, Profincharge (Plg.). (Member-Secretary)			

# 5. Performance Highlights

#### (April 1, 2016 - March 31, 2017)

•	Performance Statistics	19
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•	Internship & Placement	34
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•	The Year in Perspective	65

## **Performance Statistics**

(April 1, 2016 - March 31, 2017)





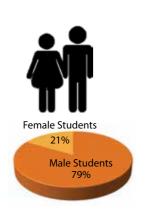


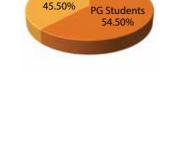












**UG Students** 45.50%





Awards/scholarships/medals given at the Undergraduate and Postgraduate level. In addition, the Institute has a "Loan Scholarship Scheme" which makes it more affordable for the students who take loan from banks.



**PG Admissions** 

848 **UG Admissions** 

2562 **Total Admissions** 



New faculty members joined the institute this year.

511	Faculty and Academic Staff	<b>—</b>
674	Non-academic Staff	-

**Faculty Fellows under CEP** 

**Operational MoUs/Agreements with Foreign Institutions/Organisation** 



158

**New Sponsored Research Projects** with a total funding of ₹140.21 crores.

Consultancy Jobs with a total value

**MoUs/Agreements Indian Institutions/Organizations** 



Research articles published by the faculty members and researchers of the institute in international journals

**Miscellaneous Projects** worth ₹34.60 crores.

of ₹36.38 crores.



Articles indexed in Scopus, an international indexing service in Science & Technology and Social Sciences



Titles of E-books added under the **Central Library Collection** 

**Collaborative Projects/Consultancies** with international funding

**New Courses Proposed/Initiated/** developed by Faculty

**OIP/CEP courses** 

**Major New Equipments installed** 

**Companies visited for Placement** 

**Total Job Offers** 

**Total Placements** 



**504** 

**UG Placements** 



Seminars/Conferences/Workshops/Lectures

**PG Placements** 

(April 1, 2016 - March 31, 2017)

Academic programmes at IITD cover a wide range of science and engineering disciplines. In IITD's Bachelor's programs, which are the most sought after even on global scales, and for which the entry is through the Joint Entrance Examination, the intake has steadily increased for the last few years and during the year 2016-2017, 3,790 UG students were on roll. These figures include 394 female students. The enrolment of postgraduate students during the year 2016-2017 was 4510. These figures include 1,356 female students. There were 60 foreign students from 10 countries pursuing undergraduate and postgraduate education at the Institute during the year 2016-2017. In order to make IIT Delhi of more international in character and to make better use of international intellectual resources, administration is constantly working towards increasing the strength of international students and faculty in the campus.

The Ministry of Human Resource Development, Government of India, has emphasized the need to increase the admission of foreign nationals under the self-financing scheme. The Institute has taken necessary steps in this regard and we hope to increase the strength of the foreign nationals in the coming years.

On the recommendation of the Board of Postgraduate Studies & Research, the Senate has approved starting of a Ph.D. program under the National Resource Centre for Value Education in Engineering (NRCVEE) in the areas such as: Philosophy of Values, Professional Ethics, and Interaction of Science, Technology and Human Values.

#### **ADMISSION PROCEDURE**

#### Undergraduate

Admission to all Undergraduate Programmes listed before are made through the Joint Entrance Examination (JEE). The eligibility for appearing for JEE is as follows:

 The minimum academic qualification is the final examination of 10+2 system or its equivalent. The candidates belonging to the general category and OBC must secure a minimum of 60% marks in aggregate in their Qualifying Examination. Candidates belonging to SC, ST and PD categories must secure a minimum of 55% marks in aggregate in the Qualifying Examination. If any Board awards only letter grades without providing an equivalent percentage of marks on the grade sheet, the candidate should obtain a certificate from the Board specifying equivalent marks, and submit it at the time of counseling.

Those appearing in 10+2 final or its equivalent examination may also appear in JEE for consideration of Provisional admission. All provisional admissions stand cancelled if proof of having passed the qualifying examination (10+2 or equivalent) is not submitted before September 30th of the year in which admission is sought.

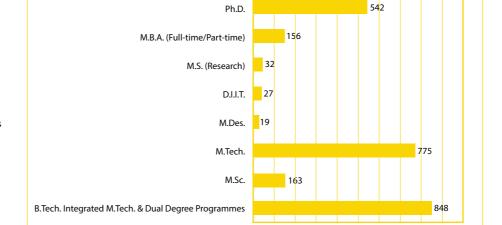
#### **Postgraduate**

The admission to full-time M.Tech. programmes is made on the basis of performance in the Graduate Aptitude Test in Engineering (GATE) — an All India entrance test, and interview at the Institute. A limited number of students are also admitted on part-time basis from amongst working professionals along with the regular full-time students, subject to their satisfying certain academic and experience requirements. The Institute also offers a special M.Tech. programme (evening) in the field of Energy and Environmental Management on a part-time basis catering to the needs of working professionals from R&D organisations, public sector undertakings, government departments and private industries.

Admission to the 2-year M.Des. Programme in Industrial Design is made on the basis of CEED.

All applications are processed by the concerned Department/ Centre/School/Programme and shortlisted applicants are called for a written test and/or interview. The date for test / interview is communicated by the Department/Centre/ School Programme. Selected candidates are given offer letters by the Departments/Centres/Schools after approval of the selection by the Dean, Academics. They are required to pay the first installment of fees by a given date, failing which their admission offer stands automatically cancelled. Seats so released are then offered to wait listed candidates.

100 200 300 400 500 600 700 800 900



Graph on the right gives the programme wise details of total number of admissions in 2016-2017.

#### **COURSES AND ADMISSIONS**

Following tables (I, II, III) give the details regarding the admissions in the given period in different courses offered at IIT Delhi. Table IV and V shows the total number of students enrolled in different departments and centres. Category wise distribution of students in different programmes is given in Table VI.

Table I: Break-up of Admissions through Joint Entrance Examination during 2016-2017 according to the Various Disciplines

Discipline	Sanctioned Strength	Actual Admissions
B.Tech. in Biochemical Engineering and Biotechnology (BB1)	45	45
B.Tech. in Chemical Engineering (CH1)	75	75
B.Tech. in Civil Engineering (CE1)	105	105
B.Tech. in Computer Science & Engineering (CS1)	68	68
B.Tech. in Electrical Engineering (EE1)	75	75
B. Tech. in Electrical Engineering (Power and Automation) (EE3)	45	45
B. Tech. in Mathematics & Computer Applications (MT1)	36	35
B.Tech. in Mechanical Engineering (ME1)	68	68
B.Tech. in Production Engineering (ME2)	67	67
B.Tech. in Engineering Physics (PH1)	60	59
B.Tech. in Textile Technology (TT1)	105	104
M.Tech. in Mathematics & Computer Applications (5-year Integrated) (MT6)	20	20
B.Tech. and M.Tech. in Computer Science & Engineering (5-year Dual Degree) (CS5)	22	22
B.Tech. and M.Tech. in Chemical Engg. (5-year Dual Degree) (CH7)	45	45
B.Tech. and M.Tech. in Biochemical Engineering and Biotechnology (5-year dual Degree) (BB5)	15	15

Table II: Students Admitted to First Year of the M.Tech./M.Des./M.S.(R)/D.I.I.T./M.B.A./M.Sc. Programmes as on July 31, 2016 (the last date for late registration in 1st Semester 2016-2017)

Programme	Students with Institute Assistantship	Others (including part-time students)	Total		
Master of Technology (M.Tech.)	Master of Technology (M.Tech.)				
Department of Applied Mechanics					
Design Engineering (AMD)	27	2	29		
Engineering Mechanics (AME)	20	3	23		
Department of Chemical Engineering					
Chemical Engineering (CHE)	24	7	31		
Department of Chemistry					
Molecular Engg.: Chemical Synthesis and Analysis (CYM)	11	1	12		
Department of Civil Engineering					
Geotechnical & Geoenvironmental Engineering (CEG)	14	1	15		
Structural Engineering (CES)	21	10	31		
Water Resources Engineering (CEW)	17	0	17		
Rock Engineering & Underground Structures (CEU)	21	3	24		
Construction Engineering and Management (CET)	25	1	26		
Construction Technology and Management (CEC)	0	30	30		
Environmental Engineering and Management (CEV)	20	3	23		
Transportation Engineering (CEP)	14	8	22		

#### Table II, contd.

Department of Computer Science & Engineering (MCS)   35   11   46	Table II, Conto.			
Department of Electrical Engineering	Department of Computer Science & Engineering			
Integrated Electronics & Circuits (EEN)	Computer Science & Engineering (MCS)	35	11	46
Communications Engineering (EEE) 20 5 25 Control & Automation (EEA) 18 5 23 Control & Automation (EEA) 18 5 23 Power Electronics, Electrical Machines & Drives (EEP) 11 4 15 Computer Technology (EET) 17 2 19 Power System (EES) 16 4 20  Department of Mechanical Engineering Thermal Engineering (MET) 27 2 29 Mechanical Design (MEM) 22 6 6 28 Production Engineering (MEEP) 27 2 2 29 Industrial Engineering (MEEP) 9 2 211  Department of Physics  Applied Optics (PHA) 13 0 13 Solid State Materials (PHM) 14 2 16 Department of Prestile Technology Textile Engineering (TTE) 13 2 15 Fibre Science & Technology (TTF) 13 1 1 14  Centre for Applied Research in Electronics Radio Frequency Design and Technology (CRF) 13 11 24  Centre for Atmospheric Science & Technology (AST) 12 2 14 Interdisciplinary Programmes  Energy Studies (JES) 23 5 28 Industrial Tribology & Maintenance Engineering (JIT) 11 3 1 22 Opto-Electronics & Optical Communication (JOP) 22 6 28 VLSI Design Tools & Technology (JPT) 21 1 22 Opto-Electronics & Optical Communication (JOP) 22 6 28 VLSI Design Tools & Technology (JPT) 21 1 22 Opto-Electronics & Optical Communication (JOP) 22 6 28 VLSI Design Tools & Technology (JPT) 21 1 22 Opto-Electronics & Optical Communication (JOP) 22 6 28 VLSI Design Tools & Technology (JPT) 21 1 22 Opto-Electronics & Optical Communication (JOP) 22 6 28 VLSI Design Tools & Technology (JPT) 21 1 22 Opto-Electronics & Optical Communication (JOP) 25 6 28 Mathematics (Mosc.) 19 Master of Science (M.Sc.) Chemistry (CYS) 14 4 42 56 Mathematics (MAS) 8 46 54 Mathematics (MAS) 8 46 Mathematic	Department of Electrical Engineering			
Control & Automation (EEA)  Power Electronics, Electrical Machines & Drives (EEP)  11  4 15  Computer Technology (EET)  17  2 19  Power System (EES)  16 4 20  Department of Mechanical Engineering  Thermal Engineering (MET)  Prover System (EES)  16 28  Production Engineering (MET)  27 2 2 29  Industrial Engineering (MEP)  27 2 2 29  Industrial Engineering (MEP)  Department of Physics  Applied Optics (PHA)  Solid State Materials (PHM)  13 0 13  Solid State Materials (PHM)  14 2 16  Department of Textile Technology  Textile Engineering (TE)  13 2 15  Tibre Science & Technology (TTF)  13 1 1 14  Centre for Applied Research in Electronics  Radio Frequency Design and Technology (CRF)  13 11 24  Centre for Applied Research in Electronics  Radios Frequency Design and Technology (SST)  12 2 2 14  Interdisciplinary Programmes  Energy Studies (JES)  23 5 28  Industrial Tribology & Maintenance Engineering (JIT)  11 3 14  Instrument Technology (JID)  13 3 16  Polymer Science & Technology (JPT)  21 1 2 2  22 6 28  Industrial Tribology & Maintenance Engineering (JIT)  13 3 16  Polymer Science & Technology (JPT)  21 1 2 2  22 6 28  VLSI Design Tools & Technology (JPT)  21 1 1 22  Opto-Electronics & Optical Communication (JOP)  22 6 6 28  VLSI Design Tools & Technology (JPT)  21 0 9 9  Pharti School of Telecommunication Tech. & Mgmt.  Telecommunication Technology and Management (JYM)  21 0 21  Total 618  157 775  Master of Design (M.Des.)  Industrial Design (JDS)  19 0 0 19  Master of Science (M.Sc.)  Chemistry (CYS)  Alt 44  Alt 42 56  Mathematics (MAS)  Alt 46 54  Physics (PHS)  6 47 53  Master of Science (Research)	Integrated Electronics & Circuits (EEN)	13	0	13
Power Electronics, Electrical Machines & Drives (EEP)	Communications Engineering (EEE)	20	5	25
Computer Technology (EET)   17   2   19	Control & Automation (EEA)	18	5	23
Power System (EES)   16	Power Electronics, Electrical Machines & Drives (EEP)	11	4	15
Department of Mechanical Engineering (MET)	Computer Technology (EET)	17	2	19
Thermal Engineering (MET) 27 2 29  Mechanical Design (MEM) 22 6 6 28  Production Engineering (MEP) 27 2 29  Industrial Engineering (MEP) 9 2 111  Department of Physics  Applied Optics (PHA) 13 0 13  Solid State Materials (PHM) 14 2 16  Department of Textile Technology  Textile Engineering (TTE) 13 2 15  Fibre Science & Technology (TTF) 13 1 1 14  Centre for Applied Research in Electronics  Radio Frequency Design and Technology (CRF) 13 11 24  Centre for Atmospheric Science  Atmospheric-Oceanic Science & Technology (AST) 12 2 14  Interdisciplinary Programmes  Energy Studies (JES) 23 5 28  Industrial Tribology & Maintenance Engineering (JIT) 11 3 14  Instrument Technology (JID) 13 3 16  Polymer Science & Technology (JPT) 21 1 1 22  Opto-Electronics & Optical Communication (JOP) 22 6 28  VLSI Design Tools & Technology (JVL) 0 9 9 9  Bharti School of Telecommunication Tech. & Mgmt.  Telecommunication Technology and Management (JYM) 21 0 21  Total 618 157 775  Master of Design (M.Des.)  Industrial Design (JDS) 14 42 56  Mathematics (MAS) 8 46 54  Physics (PHS) 6 47 53  Master of Science (Research)	Power System (EES)	16	4	20
Mechanical Design (MEM)         22         6         28           Production Engineering (MEP)         27         2         29           Industrial Engineering (MEP)         9         2         11           Department of Physics           Applied Optics (PHA)         13         0         13           Solid State Materials (PHM)         14         2         16           Department of Textile Technology           Textile Engineering (TTE)         13         2         15           Eibre Science & Technology (TTF)         13         1         14           Centre for Applied Research in Electronics           Radio Frequency Design and Technology (CRF)         13         11         24           Centre for Atmospheric Sciences           Atmospheric Sciences           Atmospheric Science & Technology (AST)         12         2         14           Interedisciplinary Programmes           Energy Studies (JES)         23         5         28           Industrial Tribology & Maintenance Engineering (JIT)         11         3         14           Instrument Technology (JIV)         13         3	Department of Mechanical Engineering			
Production Engineering (MEP)         27         2         29           Industrial Engineering (MEE)         9         2         11           Department of Physics	Thermal Engineering (MET)	27	2	29
Industrial Engineering (MEE)   9   2   11	Mechanical Design (MEM)	22	6	28
Department of Physics   Applied Optics (PHA)   13   0   13   16   16   16   16   16   16   16	Production Engineering (MEP)	27	2	29
Applied Optics (PHA)         13         0         13           Solid State Materials (PHM)         14         2         16           Department of Textile Technology           Textile Engineering (ITE)         13         2         15           Fibre Science & Technology (TTF)         13         1         14           Centre for Applied Research in Electronics           Radio Frequency Design and Technology (CRF)         13         11         24           Centre for Atmospheric Sciences           Atmospheric Oceanic Science & Technology (AST)         12         2         14           Interedisciplinary Programmes           Energy Studies (JES)         23         5         28           Industrial Tribology & Maintenance Engineering (JIT)         11         3         14           Instrument Technology (JID)         13         3         16           Polymer Science & Technology (JPT)         21         1         22           Opto-Electronics & Optical Communication (JOP)         22         6         28           VLSI Design Tools & Technology (JVL)         0         9         9           Bharti School of Telecommunication Tech. & Mgmt. <td>Industrial Engineering (MEE)</td> <td>9</td> <td>2</td> <td>11</td>	Industrial Engineering (MEE)	9	2	11
Solid State Materials (PHM)	Department of Physics			
Department of Textile Technology   Textile Engineering (TTE)   13   2   15   5   5   5   5   5   5   5   5	Applied Optics (PHA)	13	0	13
Textile Engineering (TTE)         13         2         15           Fibre Science & Technology (TTF)         13         1         14           Centre for Applied Research in Electronics           Radio Frequency Design and Technology (CRF)         13         11         24           Centre for Atmospheric Sciences           Atmospheric-Oceanic Science & Technology (AST)         12         2         14           Interdisciplinary Programmes           Energy Studies (JES)         23         5         28           Industrial Tribology & Maintenance Engineering (JIT)         11         3         14           Instrument Technology (JID)         13         3         16           Polymer Science & Technology (JPT)         21         1         22           Opto-Electronics & Optical Communication (JOP)         22         6         28           VLSI Design Tools & Technology (JVL)         0         9         9           Bharti School of Telecommunication Tech. & Mgmt.           Total         618         157         775           Master of Design (M.Des.)         1         0         19           Industrial Design (JDS)         19         0         19	Solid State Materials (PHM)	14	2	16
Fibre Science & Technology (TTF) 13 1 14  Centre for Applied Research in Electronics  Radio Frequency Design and Technology (CRF) 13 11 24  Centre for Atmospheric Sciences  Atmospheric-Oceanic Science & Technology (AST) 12 2 14  Interdisciplinary Programmes  Energy Studies (JES) 23 5 28  Industrial Tribology & Maintenance Engineering (JIT) 11 3 14  Instrument Technology (JID) 13 3 16  Polymer Science & Technology (JPT) 21 1 2 2  Opto-Electronics & Optical Communication (JOP) 22 6 28  VLSI Design Tools & Technology (JVL) 9 9 9 9  Bharti School of Telecommunication Tech. & Mgmt.  Telecommunication Technology and Management (JYM) 21 0 21  Total 618 157 775  Master of Design (M.Des.)  Industrial Design (M.Des.)  Industrial Design (JDS) 19 0 19  Master of Science (M.Sc.)  Chemistry (CYS) 14 42 56  Mathematics (MAS) 8 46 54  Physics (PHS) 6 47 53  Master of Science (Research)	Department of Textile Technology			
Centre for Applied Research in Electronics         Radio Frequency Design and Technology (CRF)       13       11       24         Centre for Atmospheric Sciences         Atmospheric-Oceanic Science & Technology (AST)       12       2       14         Interdisciplinary Programmes         Energy Studies (JES)       23       5       28         Industrial Tribology & Maintenance Engineering (JIT)       11       3       14         Instrument Technology (JID)       13       3       16         Polymer Science & Technology (JPT)       21       1       22         Opto-Electronics & Optical Communication (JOP)       22       6       28         VLSI Design Tools & Technology (JVL)       0       9       9         Bharti School of Telecommunication Tech. & Mgmt.         Telecommunication Technology and Management (JYM)       21       0       21         Total       618       157       775         Master of Design (M.Des.)         Industrial Design (JDS)       19       0       19         Master of Science (M.Sc.)       14       42       56         Mathematics (MAS)       8       46       54         Physics (PH	Textile Engineering (TTE)	13	2	15
Radio Frequency Design and Technology (CRF)       13       11       24         Centre for Atmospheric Sciences       Atmospheric-Oceanic Science & Technology (AST)       12       2       14         Interdisciplinary Programmes         Energy Studies (JES)       23       5       28         Industrial Tribology & Maintenance Engineering (JIT)       11       3       14         Instrument Technology (JID)       13       3       16         Polymer Science & Technology (JPT)       21       1       22         Opto-Electronics & Optical Communication (JOP)       22       6       28         VLSI Design Tools & Technology (JVL)       0       9       9         Bharti School of Telecommunication Tech. & Mgmt.       3       1       0       21         Telecommunication Technology and Management (JYM)       21       0       21       775         Master of Design (M.Des.)       19       0       19         Industrial Design (JDS)       19       0       19         Master of Science (M.Sc.)       8       46       54         Physics (PHS)       6       47       53         Master of Science (Research)	Fibre Science & Technology (TTF)	13	1	14
Centre for Atmospheric Sciences         Atmospheric-Oceanic Science & Technology (AST)       12       2       14         Interdisciplinary Programmes         Energy Studies (JES)       23       5       28         Industrial Tribology & Maintenance Engineering (JIT)       11       3       14         Instrument Technology (JID)       13       3       16         Polymer Science & Technology (JPT)       21       1       22         Opto-Electronics & Optical Communication (JOP)       22       6       28         VLSI Design Tools & Technology (JVL)       0       9       9         Bharti School of Telecommunication Tech. & Mgmt.         Telecommunication Technology and Management (JYM)       21       0       21         Total       618       157       775         Master of Design (M.Des.)         Industrial Design (JDS)       19       0       19         Master of Science (M.Sc.)         Chemistry (CYS)       14       42       56         Mathematics (MAS)       8       46       54         Physics (PHS)       6       47       53         Master of Science (Research) </td <td>Centre for Applied Research in Electronics</td> <td></td> <td></td> <td></td>	Centre for Applied Research in Electronics			
Atmospheric-Oceanic Science & Technology (AST) 12 2 14  Interdisciplinary Programmes  Energy Studies (JES) 23 5 28  Industrial Tribology & Maintenance Engineering (JIT) 11 3 14  Instrument Technology (JID) 13 3 16  Polymer Science & Technology (JPT) 21 1 22  Opto-Electronics & Optical Communication (JOP) 22 6 28  VLSI Design Tools & Technology (JVL) 0 9 9 9  Bharti School of Telecommunication Tech. & Mgmt.  Telecommunication Technology and Management (JYM) 21 0 21  Total 618 157 775  Master of Design (M.Des.)  Industrial Design (JDS) 19 0 19  Master of Science (M.Sc.)  Chemistry (CYS) 14 42 56  Mathematics (MAS) 8 46 54  Physics (PHS) 6 47 53  Master of Science (Research)	Radio Frequency Design and Technology (CRF)	13	11	24
Interdisciplinary Programmes   23   5   28   28   28   28   28   28   29   29	Centre for Atmospheric Sciences			
Energy Studies (JES) 23 5 28 Industrial Tribology & Maintenance Engineering (JIT) 11 3 14 Instrument Technology (JID) 13 3 16 Polymer Science & Technology (JPT) 21 1 22 Opto-Electronics & Optical Communication (JOP) 22 6 28 VLSI Design Tools & Technology (JVL) 0 9 9 9  Bharti School of Telecommunication Tech. & Mgmt. Telecommunication Technology and Management (JYM) 21 0 21 Total 618 157 775  Master of Design (M.Des.) Industrial Design (JDS) 19 0 19  Master of Science (M.Sc.) Chemistry (CYS) 14 42 56 Mathematics (MAS) 8 46 54 Physics (PHS) 6 47 53  Master of Science (Research)	Atmospheric-Oceanic Science & Technology (AST)	12	2	14
Industrial Tribology & Maintenance Engineering (JIT)       11       3       14         Instrument Technology (JID)       13       3       16         Polymer Science & Technology (JPT)       21       1       22         Opto-Electronics & Optical Communication (JOP)       22       6       28         VLSI Design Tools & Technology (JVL)       0       9       9         Bharti School of Telecommunication Tech. & Mgmt.       Telecommunication Technology and Management (JYM)       21       0       21         Total       618       157       775         Master of Design (M.Des.)       Industrial Design (JDS)       19       0       19         Master of Science (M.Sc.)       Chemistry (CYS)       14       42       56         Mathematics (MAS)       8       46       54         Physics (PHS)       6       47       53         Master of Science (Research)	Interdisciplinary Programmes			
Instrument Technology (JID)	Energy Studies (JES)	23	5	28
Polymer Science & Technology (JPT)         21         1         22           Opto-Electronics & Optical Communication (JOP)         22         6         28           VLSI Design Tools & Technology (JVL)         0         9         9           Bharti School of Telecommunication Tech. & Mgmt.           Telecommunication Technology and Management (JYM)         21         0         21           Total         618         157         775           Master of Design (M.Des.)           Industrial Design (JDS)         19         0         19           Master of Science (M.Sc.)           Chemistry (CYS)         14         42         56           Mathematics (MAS)         8         46         54           Physics (PHS)         6         47         53           Master of Science (Research)	Industrial Tribology & Maintenance Engineering (JIT)	11	3	14
Opto-Electronics & Optical Communication (JOP)         22         6         28           VLSI Design Tools & Technology (JVL)         0         9         9           Bharti School of Telecommunication Tech. & Mgmt.           Telecommunication Technology and Management (JYM)         21         0         21           Total         618         157         775           Master of Design (M.Des.)           Industrial Design (JDS)         19         0         19           Master of Science (M.Sc.)           Chemistry (CYS)         14         42         56           Mathematics (MAS)         8         46         54           Physics (PHS)         6         47         53           Master of Science (Research)	Instrument Technology (JID)	13	3	16
VLSI Design Tools & Technology (JVL)         0         9         9           Bharti School of Telecommunication Tech. & Mgmt.           Telecommunication Technology and Management (JYM)         21         0         21           Total         618         157         775           Master of Design (M.Des.)           Industrial Design (JDS)         19         0         19           Master of Science (M.Sc.)           Chemistry (CYS)         14         42         56           Mathematics (MAS)         8         46         54           Physics (PHS)         6         47         53           Master of Science (Research)	Polymer Science & Technology (JPT)	21	1	22
Bharti School of Telecommunication Tech. & Mgmt.           Telecommunication Technology and Management (JYM)         21         0         21           Total         618         157         775           Master of Design (M.Des.)           Industrial Design (JDS)         19         0         19           Master of Science (M.Sc.)         14         42         56           Mathematics (MAS)         8         46         54           Physics (PHS)         6         47         53           Master of Science (Research)	Opto-Electronics & Optical Communication (JOP)	22	6	28
Telecommunication Technology and Management (JYM) 21 0 21  Total 618 157 775  Master of Design (M.Des.)  Industrial Design (JDS) 19 0 19  Master of Science (M.Sc.)  Chemistry (CYS) 14 42 56  Mathematics (MAS) 8 46 54  Physics (PHS) 6 47 53  Master of Science (Research)	VLSI Design Tools & Technology (JVL)	0	9	9
Total         618         157         775           Master of Design (M.Des.)         Undustrial Design (JDS)         19         0         19           Master of Science (M.Sc.)         Chemistry (CYS)         14         42         56           Mathematics (MAS)         8         46         54           Physics (PHS)         6         47         53           Master of Science (Research)	Bharti School of Telecommunication Tech. & Mgmt.			
Master of Design (M.Des.)           Industrial Design (JDS)         19         0         19           Master of Science (M.Sc.)           Chemistry (CYS)         14         42         56           Mathematics (MAS)         8         46         54           Physics (PHS)         6         47         53           Master of Science (Research)	Telecommunication Technology and Management (JYM)	21	0	21
Industrial Design (JDS)       19       0       19         Master of Science (M.Sc.)         Chemistry (CYS)       14       42       56         Mathematics (MAS)       8       46       54         Physics (PHS)       6       47       53         Master of Science (Research)	Total	618	157	775
Master of Science (M.Sc.)           Chemistry (CYS)         14         42         56           Mathematics (MAS)         8         46         54           Physics (PHS)         6         47         53           Master of Science (Research)	Master of Design (M.Des.)			
Chemistry (CYS)       14       42       56         Mathematics (MAS)       8       46       54         Physics (PHS)       6       47       53         Master of Science (Research)	Industrial Design (JDS)	19	0	19
Mathematics (MAS)       8       46       54         Physics (PHS)       6       47       53         Master of Science (Research)	Master of Science (M.Sc.)			
Physics (PHS) 6 47 53  Master of Science (Research)	Chemistry (CYS)	14	42	56
Master of Science (Research)	Mathematics (MAS)	8	46	54
	Physics (PHS)	6	47	53
Mechanical Engineering (MEY) 1 4 5	Master of Science (Research)			
	Mechanical Engineering (MEY)	1	4	5
Civil Engineering (CEY) 0 2 2	Civil Engineering (CEY)	0	2	2
Amar Nath and Shashi Khosla School of Information Tech. (SIY) 0 3 3	Amar Nath and Shashi Khosla School of Information Tech. (SIY)	0	3	3
Bharti School of Telecommunication Tech. & Mgmt. (BSY) 2 3 5	Bharti School of Telecommunication Tech. & Mgmt. (BSY)	2	3	5
Kuruma School of Piological Sciences (PLV)	Kusuma School of Biological Sciences (BLY)	0	0	0
NUSUURA MUDOLUL DIOLOGOICAL MIEDLES IDLI L	Masama seriodi di biologicai sciences (BEI)	<u> </u>	U	J

#### Table II, contd.

Naval Construction (AMX)  Total	678	27 <b>494</b>	27 <b>1172</b>					
D.I.I.T.								
Telecommunication Systems Management (SMT)	0	22	22					
Management Systems (SMF)	0	72	72					
Technology Management (SMN)	0	62	62					
Master of Business Administration (MBA)								
Biochemical Engineering & Biotechnology (BEY)	5	0	5					
Chemical Engineering (CHY)	0	0	0					
Electrical Engineering (EEY)	3	5	8					
Computer Science & Engineering (CSY)	1	2	3					
Applied Mechanics (AMY)	1	0	1					

Table III: Research Scholars Admitted in both the Semesters of the Session 2016-2017

Department/Centre/School		l Semester					
	Institute Supported Scholars	Scholars Supported from Other Sources	Other Inclg. Part Time Students	Institute Supported Scholars	Scholars Supported from Other Sources	Other Inclg. Part Time Students	Total
Applied Mechanics (AMZ)	6	0	3	5	0	0	14
Biochemical Engg. & Biotech. (BEZ)	7	1	2	2	0	0	12
Chemical Engineering (CHZ)	12	1	17	5	1	9	45
Chemistry (CYZ)	10	6	7	5	1	6	35
Civil Engineering (CEZ)	18	0	14	11	0	13	56
Computer Science & Engg. (CSZ)	12	0	2	3	0	0	17
Electrical Engineering (EEZ)	23	1	19	18	0	17	78
Humanities & Social Sciences (HUZ)	12	0	9	3	0	6	30
Management Studies (SMZ)	8	0	7	8	0	11	34
Mathematics (MAZ)	3	1	0	0	0	1	5
Mechanical Engineering (MEZ)	11	2	4	13	0	11	41
Physics (PHZ)	11	4	13	1	5	10	44
Textile Technology (TTZ)	0	0	8	6	0	3	17
Applied Research in Electronics (CRZ)	4	0	0	6	0	4	14
Atmospheric Sciences (ASZ)	1	0	3	1	0	1	6
Biomedical Engineering (BMZ)	1	0	3	2	0	2	8
Energy Studies (ESZ)	5	0	3	3	0	4	15
Polymer Science & Engg. (PTZ)	3	0	1	1	0	0	5
Rural Development & Tech. (RDZ)	2	1	5	8	0	6	22
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre (ITZ)	2	0	3	1	0	0	6
Instrumentation Design & Development Centre (IDZ)	0	0	0	5	0	0	5
School of Biological Sciences (BLZ)	6	4	4	1	3	3	21
Bharti School of Telecommunication Tech. & Mgmt. (BSZ)	4	0	4	1	0	1	10
Transportation Research & Injury Prevention Programmes (TRZ)	1	0	1	0	0	0	2
Total	162	21	132	109	10	108	542

Table IV: Total number of M.Tech./M.S.(R)/M.Sc./D.I.I.T./M.B.A. Students on Rolls as on July 31, 2016 (the last date for late registration in 1st Semester, 2016-2017)

Programme	Institute Supported Students	Students Supported from Other Sources	Total
Master of Technology (M.Tech.)			
<b>Department of Applied Mechanics</b>			
Engineering Mechanics (AME)	34	9	43
Design Engineering (AMD)	39	7	46
Department of Chemical Engineering			
Chemical Engineering (CHE)	36	7	43
Department of Chemistry			
Molecular Engg.: Chemical Synthesis and Analysis (CYM)	22	4	26
Department of Civil Engineering			
Geotechnical & Geoenvironment Engineering (CEG)	19	6	25
Rock Engineering Underground Structures (CEU)	32	10	42
Structural Engineering (CES)	29	30	59
Water Resources Engineering (CEW)	24	1	25
Environmental Engineering and Management (CEV)	30	7	37
Construction Engineering and Management (CET)	31	2	33
Construction Technology and Management (CEC)	0	58	58
Transportation Engineering (CEP)	18	23	41
Department of Computer Science & Engineering	'		
Computer Science & Engineering (MCS)	56	13	69
Department of Electrical Engineering			
Integrated Electronics & Circuits (EEN)	21	1	22
Communications Engineering (EEE)	29	9	38
Control & Automation (EEA)	20	4	24
Power Electronics, Electrical Machines & Drives (EEP)	21	2	23
Computer Technology (EET)	36	8	44
Power Systems (EES)	19	0	19
Department of Mechanical Engineering			
Thermal Engineering (MET)	24	4	28
Mechanical Design (MEM)	31	0	31
Production Engineering (MEP)	41	2	43
Industrial Engineering (MEE)	13	2	15
Department of Physics			
Applied Optics (PHA)	17	1	18
Solid State Materials (PHM)	28	2	30
Department of Textile Technology			
Textile Engineering (TTE)	22	11	33
Fibre Science & Technology (TTF)	27	3	30

#### Table IV, contd.

lable IV, conta.			
Centre for Atmospheric Sciences			
Atmospheric-Oceanic Science & Technology (AST)	18	2	20
Centre for Applied Research in Electronics			
Radio Frequency Design and Technology (CRF)	25	31	56
Interdisciplinary Programmes			
Computer Applications (JCA)	0	1	1
Energy Studies (JES)	39	1	40
Instrument Technology (JID)	23	1	24
Industrial Tribology & Maintenance Engineering (JIT)	21	3	24
Polymer Science & Technology (JPT)	39	0	39
Opto Electronics & Optical Communication (JOP)	39	7	46
VLSI Design Tools and Technology (JVL)	0	22	22
Energy and Environmental Management (JEN)	0	19	19
Industrial Design (JDS)	37	3	40
Bharti School of Telecommunication Technology & Management			
Telecommunication Technology and Management (JTM)	35	2	37
Total	995	318	1313
Master of Business Administration			
Management Studies (SMZ)	0	251	251
D.I.I.T.			
Naval Construction (AMX)	0	51	51
Master of Science			
Chemistry (CYS)	28	78	106
Mathematics (MAS)	14	89	103
Physics (PHS)	18	87	105
Master of Science (Research)			
Applied Mechanics (AMY)	2	1	3
Biochemical Engineering & Biotechnology (BEY)	11	4	15
Chemical Engineering (CHY)	0	0	0
Computer Science & Engineering (CSY)	4	9	13
Civil Engineering (CEY)	0	4	4
Electrical Engineering (EEY)	9	24	33
Mechanical Engineering (MEY)	4	7	11
Bharti School of Telecommunication Technology & Management (BSY)	3	6	9
Kusuma School of Biological Sciences (BLY)	2	2	4
Amar Nath & Shashi Khosla School of Information Technology (SIY)	0	7	7
Total	1090	938	2028

Table V: Research Scholars on the Institute Rolls as on July 31, 2016 (the last date for late registration in the 1st semester, 2016-2017)

Department/Centre/School	Institute Scholarships	Others Scholarships	Part-Time Students	Total
Applied Mechanics (AMZ)	37	4	44	85
Biochemical Engineering & Biotechnology (BEZ)	29	9	26	64
Chemical Engineering (CHZ)	50	18	75	143
Chemistry (CYZ)	28	51	43	122
Civil Engineering (CEZ)	82	6	166	254
Computer Science & Engineering (CSZ)	18	13	26	57
Electrical Engineering (EEZ)	120	2	223	345
Humanities & Social Sciences (HUZ)	45	6	68	119
Management Studies (SMZ)	34	7	110	151
Mathematics (MAZ)	14	24	21	59
Mechanical Engineering (MEZ)	80	3	113	196
Physics (PHZ)	71	40	94	205
Textile Technology (TTZ)	18	2	37	57
Centre for Applied Research in Electronics (CRZ)	14	0	34	48
Centre for Atmospheric Sciences (ASZ)	23	7	26	56
Centre for Biomedical Engineering (BMZ)	21	7	38	66
Centre for Energy Studies (ESZ)	43	14	51	108
Centre for Polymer Science & Engineering (PTZ)	17	5	22	44
Centre for Rural Development & Technology (RDZ)	21	8	67	96
National Resource Centre for Value Education in Engg. (NRZ)	0	0	6	6
Transportation Research & Injury Prevention Prog. (TRZ)	3	0	5	8
Instrument Design & Development Centre (IDZ)	7	0	14	21
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre (ITZ)	14	0	10	24
Kusuma School of Biological Sciences (BLZ)	20	28	23	71
Bharti School of Telecommunication Tech. & Mgmt. (BSZ)	12	0	38	50
Amar Nath and Shashi Khosla School of IT (ANZ)	11	0	17	28
Total	832	254	1397	2483

Table VI: Category and Gender wise distribution of enrolled students in UG and PG courses

Programme	Gen	eral	OI	ВС	S	ic	S	Т	Р	н	То	tal	Grand Total
	М	F	М	F	М	F	М	F	М	F	М	F	
P.G.	1072	314	306	75	139	44	38	20	14	5	1569	458	2027
Ph.D.	1221	751	238	96	113	44	8	7	5	0	1585	898	2483
Total (a)	2293	1065	544	171	252	88	46	27	19	5	3154	1356	4510
B.Tech. (b)	1609	215	916	73	517	61	276	42	78	3	3396	394	3790
Total (a+b)	3902	1280	1460	244	769	149	322	69	97	8	6550	1750	8300

## **Academic Performance**

(April 1, 2016 - March 31, 2017)

All the IITs follow the credits system of performance evaluation, with proportional weighting of courses based on their importance. The total marks (usually out of 100) form the basis of grades, with a grade value (out of 10) assigned to a range of marks. Sometimes, relative grading is done considering the overall performance of the whole class.

1964 candidates awarded of various degrees and diplomas of the Institute at the 47<sup>th</sup> Annual Convocation held in November 2016. Details of the same are given in the following graph and Tables I, II and III.

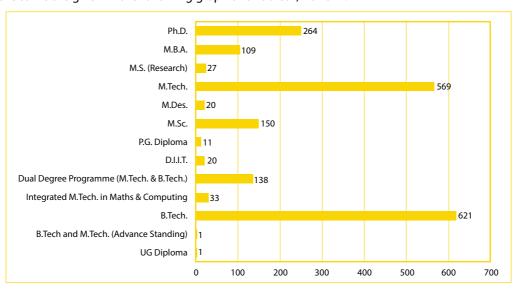


Table I: Number of Undergraduate Students Graduated/Degree Awarded in Convocation 2016

Discipline	No. of Students Passed
5 Year Dual Degree / Integrated	
B.Tech. in Biochemical Engineering & Biotechnology and M.Tech. in Biochemical Engineering & Biotechnology	41
B.Tech. and M. Tech. in Chemical Engineering	44
B.Tech. in Computer Science & Engineering and M.Tech. in Computer Science & Engineering	29
B.Tech in Electrical Engineering and M.Tech in Information and communication	24
M.Tech. in Mathematics and Computing	33
B.Tech. Degree	
Civil Engineering	104
Chemical Engineering	71
Computer Science & Engineering	71
Electrical Engineering	69
Electrical Engineering (Power)	35
Machanical Engineering	96
Production and Industrial Engineering	42
Engineering Physics	60
Textile Technology	73
B.Tech. and M.Tech. (Advanced Standing)	01
Diploma (Undergraduate)	01
Total	794

Table II: Number of Students Awarded of Degrees/Diplomas in 2016

ramme	No. of Degrees Awarded
Master of Technology	
Engineering Mechanics (AME)	23
Design Engineering (AMD)	24
Molecular Engineering: Chemical Synthesis & Analysis (CYM)	11
Chemical Engineering (CHE)	24 (+1)*
Construction Technology & Management (CEC)	23
Geotechnical and Geoenvironmental Engineering (CEG)	4
Structural Engineering (CES)	22 (+2)*
Water Resources Engineering (CEW)	10 (+2)*
Rock Engineering & Underground Structures (CEU)	11 (+1)*
Construction Engineering and Management (CET)	18 (+1)*
Environmental Engineering and Management (CEV)	16
Transportation Engineering (CEP)	10 (+1)*
Computer Science & Engineering (MCS)	36
Control and Automation (EEA)	11
Communications Engineering (EEE)	16
Power Electronics, Electrical Machines & Drives (EEP)	11
Computer Technology (EET)	21
Integrated Electronics & Circuits (EEN)	11
Power Systems (EES)	9 (+1)*
Computer Applications (MCS)	36
Thermal Engineering (MET)	7
Production Engineering (MEP)	7
Industrial Engineering (MEE)	5
Energy and Environmental Management (Evening) (JEN)	23
Atmospheric-Ocean Sciences and Technology (AST)	7
Instrument Technology (JID)	7
Mechanical Design (MEM)	16
Applied Optics (PHA)	10
Solid State Materials (PHM)	14
Fibre Science & Technology (TTF)	10
Textile Engineering (TTE)	9
Radio Frequency Design and Technology (CRF)	28
Energy Studies (JES)	
Industrial Tribology & Maintenance Engineering (JIT)	26 (+1)* 9
Polymer Science & Technology (JPT)	
	21
Opto-Electronics & Optical Communication (JOP)	22
VLSI Design Tools and Technology (JVT)	14
Telecommunication Technology and Mangement (JTM)	9 (+1)*
Computer Applications (JCA)	14
Amar Nath & Shashi Khosla School of IT (SIY)	4
Master of Business Administration	
Management Systems (SMF)	44
Technology Management (SMN)	49
Telecommunication System Management (SMT)	16
D.I.I.T. (2-Year)	
Naval Construction (AMX)	0 (+20)*
Master of Science	150
Master of Science Design (JDS)	20
Master of Science (Research)	
Civil Engineering (CEY)	3
Chemical Engineering (CHY)	1
Biochemical Engineering & Biotechnology (BEY)	6
Applied Mechanics (AMY)	0
Electrical Engineering (EEY)	10
Computer Science and Engineering (CSY)	1
Mechanical Engineering (MEY)	2
Bharti School of Telecommunication Technology & Management (BSY)	0
bharti school of Teleconfindincation reciniology & Management (bs i )	911 (+31)*

<sup>\* (</sup>Diplomas Awarded)

Table III: Number of Ph.D. Degrees Awarded in 2016

Department/Centre/School	No. of Degrees Awarded
Applied Mechanics (AMZ)	6
Biochemical Engineering & Biotechnology (BEZ)	4
Chemical Engineering (CHZ)	14
Chemistry (CYZ)	22
Civil Engineering (CEZ)	25
Computer Science & Engineering (CSZ)	9
Electrical Engineering (EEZ)	27
Humanities & Social Sciences (HUZ)	8
Management Studies (SMZ)	9
Mathematics (MAZ)	13
Mechanical Engineering (MEZ)	24
Physics (PHZ)	21
Textile Technology (TTZ)	5
Centre for Applied Research in Electronics (CRZ)	7
Centre for Biomedical Engineering (BMZ)	6
Centre for Energy Studies (ESZ)	21
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre (ITZ)	7
Instrument Design & Development Centre (IDZ)	7
Centre for Polymer Science & Engineering (PTZ)	4
Centre for Rural Development & Technology (RDZ)	6
Transportation Res. & Injury Prevention Programme (TRZ)	0
Centre for Atmospheric Sciences (ASZ)	5
Bharti School of Telecommunication Technology and Management (BSZ)	6
Kusuma School of Biological Sciences (BLZ)	7
Amar Nath & Shashi Khosla School of IT (ITZ)	1
Total	264



For each semester, the students are graded on a scale of 0 to 10 based on their performance, by taking a weighted average of the grade points from all the courses, with their respective credit points. Each semester evaluation is done independently and then the weighted average over all semesters is used to calculate the cumulative grade point average (known as CGPA or CPI—Cumulative Performance Index). The following table gives the Discipline-wise break-up of CGPA for the two Academic Semesters:

Table IV: Discipline-wise break-up of CGPA for the two Academic Semesters (Undergraduate Courses) [Academic Session 2015-2016 (2012 Entry Students)]

Discipline	10.00-9.00	8.99-8.00	7.99-7.00	6.99-6.00	5.99-5.00	4.99-4.00	3.99-3.00	2.99-2.00	Less than 2.00	Total
First Semester									2.00	
Dual-Degree in Biochemical Engineering & Biotechnology (BB5)*	3	9	6	13	6	4	0	0	0	41
Civil Engineering (CE1)	5	19	36	26	12	5	0	0	0	103
Civil Engineering (CEB)	0	1	0	0	0	0	0	0	0	1
Chemical Engineering (CH1)	7	21	17	16	12	1	0	0	0	74
Dual Degree in Chemical Engg. (CH7)	0	14	17	11	6	3	0	0	0	51
Computer Science & Engineering (CS1)	14	15	13	16	6	2	0	0	0	66
Dual-Degree in Computer Science & Engineering (CS5)	1	5	9	10	6	2	0	0	0	33
Computer Science & Engineering (CSB)	0	0	1	0	0	0	0	0	0	1
Electrical Engineering (EE1)	6	22	22	11	4	1	0	0	0	66
Electrical Engineering (Power) (EE2)	3	11	11	6	2	0	0	0	0	33
Electrical Engineering (EE5)	5	9	6	4	3	0	0	0	0	27
Mechanical Engineering (ME1)	7	32	29	21	11	0	0	0	0	100
Mechanical Engineering (ME2)	1	10	18	13	10	0	0	0	0	52
Mechanical Engineering (MEA)	0	1	0	0	0	0	0	0	0	1
Mathematics and Computing (MT5)	5	8	12	10	9	2	0	0	0	46
Engineering Physics (PH1)	2	12	20	15	9	0	0	0	0	58
Textile Engineering (TT1)	2	15	21	21	16	4	0	0	0	79
Total	61	204	238	193	112	24	0	0	0	832
Second Semester				,						
Dual-Degree in Biochemical Engineering & Biotechnology (BB5)	2	10	5	15	6	3	0	0	0	41
Civil Engineering (CE1)	5	18	34	28	12	6	0	0	0	103
B.Tech. in Civil Engg. & M.Tech. in Geotechnical and Geoenvironmental Engineering (CEB)	0	1	0	0	0	0	0	0	0	1
Chemical Engineering (CH1)	6	21	22	12	13	0	0	0	0	74
Dual-Degree in Chemical Engg. (CH7)	0	13	18	11	7	2	0	0	0	51
Computer Science & Engineering (CS1)	15	14	13	18	4	2	0	0	0	66
Dual-Degree in Computer Science & Engineering (CS5)	1	5	9	9	6	3	0	0	0	33
B.Tech. in Civil Engg. & M.Tech. in Computer Science and Engg. (CSB)	0	0	1	0	0	0	0	0	0	1
Electrical Engineering (EE1)	6	23	21	11	5	0	0	0	0	66
Electrical Engineering (Power) (EE2)	3	10	12	5	3	0	0	0	0	33
Electrical Engineering (EE5)	5	8	7	4	3	0	0	0	0	27
Mechanical Engineering (ME1)	6	32	33	16	13	0	0	0	0	100
Mechanical Engineering (ME2)	0	12	18	10	12	0	0	0	0	52
M.Tech. in Engineering Mechanics & B.Tech. in Mechanical Engineering under Advanced Standing(MEA)	0	1	0	0	0	0	0	0	0	1
Mathematics and Computing (MT5)	4	9	13	10	6	4	0	0	0	46
Engineering Physics (PH1)	2	12	20	15	8	1	0	0	0	58
Textile Engineering (TT1)	2	16	20	21	16	4	0	0	0	79
Total	57	205	246	185	114	25	0	0	0	832

Table V : Academic Performance of 1st year Students of Postgraduate Programmes

Deptartment/Centre/School	Programme	No. of students admitted (2016)	No. of students qualified to continue*
Master of Technology			
Applied Mechanics	Engineering Mechanics (AME)	23	23
Applied Mechanics	Design Engineering (AMD)	29	23
Chemical Engineering	Chemical Engineering (CHE)	31	24
Chemistry	Molecular Engineering: Chemical Synthesis and Analysis (CYM)	12	11
	Construction Technology and Management (CEC)	30	30
	Geotechnical & Geoenvironment Engineering (CEG)	15	11
	Structural Engineering (CES)	31	23
Ct. II Factor at a c	Water Resources Engineering (CEW)	17	8
Civil Engineering	Construction Engineering and Management (CET)	26	19
	Rock Engineering of Underground Structures (CEU)	24	22
	Environmental Engineering and Management (CEV)	23	14
	Transportation Engineering (CEP)	22	19
Computer Science & Engineering	Computer Science & Engineering (MCS)	46	39
	Control and Automation (EEA)	23	12
	Communications Engineering (EEE)	25	21
	Power Electronics, Electrical Machines & Drives (EEP)	15	8
Electrical Engineering	Computer Technology (EET)	19	18
	Integrated Electronics & Circuits (EEN)	13	8
	Power Systems (EES)	20	12
	Thermal Engineering (MET)	29	10
	Production Engineering (MEP)	29	26
Mechanical Engineering	Industrial Engineering (MEE)	11	9
	Mechanical Design (MEM)	28	16
	Solid State Materials (PHM)	16	15
Physics	Applied Optics (PHA)	13	12
Bharti School of Telecomm. Technology and Mgmt.	Telecommunication Technology and Management (JTM)	21	20
Applied Research in Electronics	Radio Frequency Design & Technology (CRF)	24	24
Atmospheric Science	Atmospheric Oceanic Science & Technology (AST)	14	12
To Charalta I	Fibre Science & Technology (TTF)	14	14
Textile Technology	Textile Engineering (TTE)	15	14
	Energy Studies (JES)	28	19
	Industrial Tribology & Maintenance Engineering (JIT)	14	12
	Polymer Science & Technology (JPT)	22	21
Interdisciplinary Programme	Opto-Electronics & Optical Communication (JOP)	28	27
	Instrument Technology (JID)	16	10
	VLSI Design Tools and Technology (JVL)	9	8

#### **Academic Performance**

contd.

Master of Science (Research)					
	Applied Mechanics (AMY)	1	1		
	Amar Nath & Shashi Khosla School of Information Technology (SIY)	3	0		
	Computer Science & Engineering (CSY)	3	2		
	Chemical Engineering (CHY)	0	0		
	Civil Engineering (CEY)	2	0		
	Biochemical Engineering & Biotechnology (BEY)	5	5		
	Bharti School of Telecommunication Tech. & Mgmt. (BSY)	5	5		
	Kusuma School of Biological Sciences (BLY)	0	0		
	Mechanical Engineering (MEY)	5	1		
	Electrical Engineering (EEY)	8	5		
Master of Design					
	Industrial Design (JDS)	19	19		
D.I.I.T. (2 year)					
	Naval Construction (AMX)	27	27		
Master of Science					
	Chemistry (CYS)	56	55		
	Mathematics (MAS)	54	50		
	Physics (PHS)	53	53		
Master of Business Administration					
	Technology Management (SMN)	62	58		
	Management Systems (SMF)	72	71		
	Telecommunication Systems Management (SMT)	22	21		
Total		1172	987		

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<sup>\*</sup>The remaining students either left the Institute or failed to meet the minimum C.G.P.A. requirements to continue in the next semester.



## **Internship and Placement**

(April 1, 2016 - March 31, 2017)

#### **Training & Placement**

Training & Placement activities are guided by an Institute Level Committee consisting of Faculty members and students. The student committees, i.e. Central Committee at the Institute level as well as Nucleus Committees at departmental level, actively participated in the Training & Placement activities.

As in the past, the Training and Placement Unit continued to plan, organise and consolidate the Training and Placement activities for students. It actively interacted with various industrial, technical, management and research organisations in the country. The dual aim of establishing this rapport is to ensure that students are given adequate technical exposure/industrial training and subsequently get employment in organisations which match their aspirations and objectives.

As in previous years, web based placement services were provided using the internal T&P server this year as well. The students got all information on their desktop PCs / laptops, they applied on-line, and could see the progress of their application including the final results. The companies too were issued user name and password for accessing and short-listing CVs and uploading their presentations and files. This considerably reduced the conventional pre-placement talks on the campus. The analysis of the past training and placement activities was presented to the students to help them decide their future course of action. Constant liaison with industries was maintained throughout the year to ensure student placements across sectors.

This office also organised some pre-placement workshops, panel discussions, practice test series and career counselling talks by distinguished persons from reputed technical, industrial, management and research organisations for the benefit of the students. Some of the Institute alumni who are holding very senior positions in private and public sector organisations were also invited to share their personal experiences with the student community of the Institute. Many new initiatives to increase operational efficiency at the ground level were also initiated by this unit during this year like automating student slotting for interviews, changes to entry procedures at interview venues etc. The unit also held a startup intern and job fair in March, 2017 in collaboration with the Entrepreneurship Development Cell (eDC) of IIT Delhi.

#### **Training / Internship**

A personal dialogue with top executives of a large number of industries resulted in better understanding of their functional requirements and training activities. This effort also helped the T&P Unit in the effective planning of summer practical training for 2nd, 3rd and 4th year B.Tech./Dual degree/Integrated M.Tech. students, besides obtaining a good number of stipends and other facilities such as transport, accommodation, etc.

From last year, training rules as per the new curriculum guidelines were implemented. Detailed instructions to students were also issued prior to the commencement of the training programme. A gist of data regarding the summer practical training seats obtained for 2nd, 3rd and 4th year students is given in Tables I, II and III.

Table I: 2nd Year Students Summer Training - 2017

lable 1: 2nd Year Students Summer Training - 2017				
Discipline	Seats Obtained	Abroad	Stipend	Other Facilities
B.Tech./Dual Degree				
Biochemical Engineering and Biotechnology/Dual Degree	12	6	1	1
Chemical Engineering / Dual Degree	37	15	4	0
Computer Science & Engineering / Dual Degree	37	15	6	5
Civil Engineering	27	3	0	2
Electrical Engineering / Power	21	9	6	5
Engineering Physics	9	5	0	0
Mechanical / Production & Industrial Engineering	29	3	1	0
Textile Technology	30	5	2	0
Mathematics & Computing / Dual Degree	16	1	1	0
Total	218	62	21	13

Table II: 3rd Year Students Summer Training - 2017

Discipline	Seats Obtained	Abroad	Stipend	Other Facilities
B.Tech./Dual Degree				
Biochemical Engineering and Biotechnology / Dual Degree	24	10	7	4

#### **Internship and Placement**

#### contd.

Chemical Engineering / Dual Degree	70	4	18	9
Computer Science & Engineering / Dual Degree	91	10	62	34
Civil Engineering	50	3	15	9
Electrical Engineering / Power	99	8	52	24
Engineering Physics	22	7	0	7
Mechanical / Production & Industrial Engineering	76	7	27	16
Textile Technology	77	3	27	10
Mathematics & Computing / Dual Degree	48	3	35	21
Total	557	55	243	134

Table III: 4th year (Dual Degree) Students Summer Training - 2017

Discipline	Seats Obtained	Abroad	Stipend	Other Facilities	
B.Tech./Dual Degree					
Biochemical Engineering & Biotechnology Engg.	6	4	2	1	
Chemical Engineering	4	2	1	1	
Computer Science & Engineering	25	3	6	4	
Engineering Physics	1	1	0	0	
Mechanical / Production & Industrial Engineering	2	0	1	1	
Mathematics & Computing	26	0	3	0	
Total	64	10	13	7	

Back-loggers who had not been allotted a summer training seat due to academic back-logs in their 3rd year and hence could not complete this degree requirement as per the old curriculum guidelines were also assigned training seats. A gist of the data for this set is given in Table-IV:

Table IV: Back-loggers Students Summer Training - 2016

Discipline	Seats Obtained	Abroad	Stipend	Other Facilities	
B.Tech./Dual Degree					
Biochemical Engineering & Biotechnology Engg.	4	0	0	0	
Chemical Engineering	5	0	2	1	
Computer Science & Engineering	2	0	1	1	
Civil Engineering	3	0	0	0	
Electrical Engineering	1	0	0	0	
Engineering Physics	3	0	0	0	
Mechanical / Production & Industrial Engineering	1	0	0	0	
Total	19	0	3	2	

#### **Placement**

A letter of invitation for Campus Interviews was sent to a large number of public and private sector organisations especially to those which visited the Institute for campus interviews during the last three years. A large number of them gave electronic copies of their job profiles which were made available to the students through the internal web server. This vigorous drive resulted in requisitions being obtained from industries from 342 Companies for 475 job profiles with selections on 209 profiles as a result of which 709 students were placed making a total of 774 jobs (52 students got multiple jobs). 47 students were selected for opportunites abroad. Approximately 83.5% students who registered for placement got placed through T&P. The remaining opted for higher studies / research or preparing for civil services or working on their own startup ideas or got jobs through their own contacts / efforts. The sector-wise distribution of profiles opened for placement are given in Table V.

Table V: Sector-wise distribution of Profiles Opened for Placement

Sector	Profiles Opened	Students Placed
Analytics	38	62
Consulting	35	53
Core (Technical)	117	300
Finance	42	57
Information Technology	194	217
Public Sector	7	05
Start-up	25	08
Teaching & Research	17	07
Total	475	709

Ground rules for placement evolved in consultation with the students and faculty members led to a just and equitable distribution of job opportunities amongst the student community.

The discipline wise beak-up of the campus placement position is shown in Table VI and VII.

Table VI : Discipline-wise break-up of On-Campus Placement Position of B.Tech. / Dual degree and 5-year integrated M.Tech. Students during 2016-17

Discipline	No. of Students	No.of Effective	No. of Students with
•	Registered	Placements*	more than one job**
(a) B.Tech.			
Chemical Engineering	54	45	01
Civil Engineering	49	38	01
Computer Science & Engineering	69	66	12
Electrical Engineering	60	59	05
Electrical Engineering (Power)	01	-	-
Electrical Engineering (Power & Automation)	17	16	01
Mechanical Engineering	70	68	04
Industrial & Production Engineering	32	29	02
Textile Technology	49	41	-
Physics Engineering	28	21	-
(b) Dual / 5-Year Integrated M. Tech. Programmes			
Mathematics & Computer Appn.	32	31	05
Biochemical Engineering & Biotechnology	23	15	01
Chemical Engineering Dual	38	30	03
Computer Science & Engineering Dual (CO)	25	25	02
Electrical Dual (EI)	19	19	03
Advanced Standing (CSA, CSB, CSC, CEA)	01	01	-
Total	567	504	40

 $<sup>*</sup>Others \ would \ have \ obtained \ jobs \ via \ off-campus \ mode \ or \ opted \ for \ higher \ studies \ in \ India \ or \ Abroad.$ 

Table VII: On-campus Placement Position of M.Tech. Students during 2016-17

Department / Interdisciplinary Programme	No. of Students Registered	No. of Effective Placements*	No. of Students with More than one job**
Applied Mechanics	17	12	-
Atmospheric Oceanic Science	03	-	-
Chemical Engineering	09	03	-
Molecular Engineering / Chemical Synthesis	11	01	-
Civil Engineering	06	06	-
Computer Science & Engineering	21	21	03
Electrical Engineering	54	44	05
Mechanical Engineering	36	31	02
Physics	02	-	-
Textile Technology	21	16	-
Energy Studies	09	01	-
ITMMEC	07	03	-
Opto-Electronics and Optical Communication	07	04	-
Polymer Science & Technology	16	13	-
Instrument Technology	10	05	-
VLSI	05	05	-
CRF (CARE)	12	10	02
Tele Communications	10	10	-
Total	256	185	12

In addition 12 M.Des., 02 M.Sc., and 08 M.S. Research students also were placed through our campus activities. MBA did their placement separately.

 $Total\ Jobs = B.Tech. + Dual\ Degree + M.Tech. + M.Des. + M.Sc. + M.$ 

<sup>\*\*</sup>This is because more than one company declared the results on the same day.

<sup>\*</sup>Others have got placement via off-campus mode. Some would have gone for higher studies or for Civil Services.

<sup>\*\*</sup>This is because more than one company declared the results on the same day.

# Scholarships, Assistantships and Awards

(April 1, 2016 - March 31, 2017)

The Institute believes in the maxim that no deserving student, however weak in financial backing, should be denied the opportunity of education at IIT Delhi. To encourage and to provide financial incentives to meritorious students and assistance to the needy students of the institute, individuals, trusts and organisations have been instituting scholarships, awards, etc. at the Institute. At present, there are 138 awards/scholarships/medals being given at the Undergraduate and Postgraduate level. This is in addition to more than 1800 awards instituted by the Institute directly in the form of merit-cummeans scholarships, cash prizes and freeships.

In addition, the Institute has a "Loan Scholarship Scheme" which makes it more affordable for the students who take loan from banks. Additional Medals, Awards, Fellowships and Scholarships instituted during the previous year include Sadashiv Shankar Gokhale Scholarship, Akshat Gupta Scholarship, Shri Beni Madho Singh Scholarship, Koul Basu Research Award, Prof. P.K. Katti Award, NRCVEE Best Project and Essay Award, Punita and Jayant Sinha Awards and Shri O.P. Bansal Cash Award, etc.

Below is a summary of cash prizes and merit-cum means scholarships offered to B.Tech. students during the session 2016-2017.

#### Scholarships / Assistantships / Freeships and Awards

Table I: Number of Cash Prizes Merit-cum-Means Scholarships/Freeships offered to B.Tech. Students during the Session 2016-2017

Class	Cash Prizes (SCHII028)	No. of Scholarships Awarded (SCHII035/ SCHII059)	Free Mess Services (SCHII036)	Freeships for General & OBC (SCHOI305)	UG TA (SCHII045/SCHII054/ SCHII057/SCHII058/ SCG11060)	Sponsored Awards/ Fellowships/ Scholarships*
I - Year	64	439	57	0	0	31
II - Year	118	131	42	0	0	16
III - Year	84	134	51	9	0	26
IV - Year	101	135	40	43	75	20
V - Year	63	0	21	1	301	1
Backlog	12	0	0	0	7	0
Total	442	839	211	53	383	94

Table II: Assistantships to Dual Degree and Advanced Standing Students during the Session 2016-2017

Course	No. of Assistantships Renewed (SCHII045/SCHII058/SCHII057)	No. of Assistantships Awarded (SCHII045/SCHII058/SCHII057)
Biochemical Engineering & Biotechnology	17	55
Computer Science & Engineering	14	42
Electrical Engineering	13	41
Chemical Engineering	0	67
Mathematics and Computing	18	56
Advanced Standing	0	7
Total	62	268

Students pursuing M.Tech./M.Des./M.S.(R) are eligible for institute assistantship at the time of admission. However, for continuation of the assistantship they have to maintain a minimum SGPA (semester grade point average) at the end of every semester. The table below shows the assistantship awarded to 2016 entry students and renewed to the existing students. A total of 650 students were awarded assistantship in 2016-17.

Table III: Assistantships Offered to the Students of M.Tech./M.Des./M.S.(R)/M.Sc. Programmes during the Session 2016-2017.

Programme	No. of Assistantships Renewed	No. of Assistantships Awarded (first year) 2016
Master of Technology (M.Tech.)		
Engineering Mechanics (AME)	15	20
Design Engineering (AMD)	12	27
Chemical Engineering (CHE)	12	24
Molecular Engineering: Chemical Synthesis & Analysis (CYM)	11	11
Geotechnical and Geoenvironmental Engineering (CEG)	5	14
Structural Engineering (CES)	8	21
Construction Engineering and Management (CET)	6	25
Environmental Engineering and Management (CEV)	10	20
Rock Engineering and Underground Structures (CEU)	11	21
Water Resources Engineering (CEW)	7	17
Transportation Engineering (CEP)	4	14
Computer Science & Engineering (MCS)	21	35
Power Electronics, Electrical Machines & Drives (EEP)	12	11
Communications Engineering (EEE)	11	20
Control and Automation (EEA)	9	18
Computer Technology (EET)	21	17
Power System (EES)	3	16
Integrated Electronics & Circuits (EEN)	10	13
Thermal Engineering (MET)	12	27
Production Engineering (MEP)	14	27
Industrial Engineering (MEE)	4	9
Mechanical Design (MEM)	9	22
Applied Optics (PHA)	4	13
Solid State Materials (PHM)	14	14
Textile Engineering (TTE)	9	13
Fibre Science & Technology (TTF)	14	13
Atmospheric-Oceanic Science & Technology (AST)	6	12
Radio Frequency Design and Technology (CRF)	14	13

#### **Scholarships, Assistantships and Awards**

contd.....

Energy Studies (JES)	16	23
Computer Application (JCA)	0	0
Industrial Tribology & Maintenance Engineering (JIT)	10	11
Polymer Science & Technology (JPT)	18	21
Opto-electronics & Optical Communication (JOP)	17	22
Instrument Technology (JID)	10	13
Telecommunication Technology and Management (JTM)	14	21
Master of Design		
Industrial Design (JDS)	18	19
Master of Science (Research)		
Biochemical Engineering & Biotechnology (BEY)	6	5
Bharti School of Telecommunication Technology & Management (BSY)	1	2
Amar Nath & Shashi Khosla School of Information Technology (SIY)	0	0
Computer Science & Engineering (CSY)	3	1
Civil Engineering (CEY)	0	0
Electrical Engineering (EEY)	6	3
Chemical Engineering (CHY)	0	0
Mechanical Engineering (MEY)	3	1
Applied Mechanical (AMY)	1	1
Biological Sciences (BLY)	2	0
Total	413	650

List of the merit-cum-means scholarships awarded for M.Sc. is as follows:

Table IV: Merit-cum-means Scholarships Awarded to M.Sc. Students

		2015	2016
Chemistry	l Year	14	14
	II Year	14	14
Mathematics	l Year	14	08
	II Year	12	11
Physics	l Year	13	08
	II Year	10	12
Total		77	67

Twelve M.Tech. students of the Institute had gone to Germany under the DAAD Scholarship Scheme to do part of their thesis research under the Indo-

German collaboration program. The 15<sup>th</sup> batch of 11 students for this year has been selected and they departed in September 2016.

#### STUDENT'S AWARDS/ACHIEVEMENTS/PAPERS

#### **Biochemical Engineering and Biotechnology**

 Team led by UG students won the Silver Medal in the iGEM competition held in MIT, USA.

#### **Chemical Engineering**

- Ph.D. scholar Ms. Rohini Singh, supervised by Prof. Shalini Gupta, awarded 2nd prize in oral presentation (student category) in the international conference ABSMSNW-2017, IIT BHU, Varanasi.
- Ph.D. scholar Ms. Shelaka Gupta, supervised by Prof. M. Ali Haider, got the best oral presenter for "DFT study on the substituent and solvent effect governing ring opening and decarboxylation of biomass derived cyclic esters" (CFD/DFT session) (2017).
- Ph.D. scholar Sonal, supervised by Prof. K.K. Pant, was judged the best oral presenter for "CO adsorption trend over Ru promoted Fe-Co bimetallic catalyst for the production of liquid hydrocarbon via Fischer Tropsch synthesis" (Fuel session) (2017).
- Ph.D. scholar Mr. Rohit Kumar, supervised by Prof. K.K. Pant, got the 3rd place for poster presentation on "Catalytic tri-reforming of methane for synthesis gas generation: Effect of catalyst support" (2017).
- Dr. Jyoti Goel, supervised by Prof. S. Basu, received Dr. A.V. Rama Rao Foundation's Best Ph.D. Thesis Award in Chemical Engineering/Technology (2016).
- Ph.D. scholar Mr. Prasanta Kalita and B.Tech. student Nitish Goel, supervised by Prof. Shalini Gupta, won Gandhian Young Technology Innovation (GYTI) award of Rs. 15 lacs for their technology on endotoxin detection (2016).
- Ph.D. scholars Mr. Kaushal Paramar and Mr. Ejaz Ahmad and Petrotech Research Fellow Rohit Kumar (all supervised by Prof. K.K. Pant), awarded Prime Minister Fellowship (2016).
- Ph.D. scholar Mr. Rohit Kumar, supervised by Prof. K.K. Pant won second price (poster presentation) at International conference on "Energy Innovations – Today and tomorrow" organized by Hindustan Petroleum Corporation Limited (2016).
- Dr. Tarak Modal, supervised by Prof. K.K. Pant, appointed as an Assistant Professor at Indian Institute of Technology, Ropar (2017).
- Ph.D. scholar Ms. Shelaka Gupta, supervised by Prof. M. Ali Haider, received Bioenergy-Awards for Cutting Edge Research (B-ACER) supported by the Department of Biotechnology, Govt. of India, and the Indo-U.S. Science and Technology Forum (IUSSTF).
- Post-doctoral fellow Dr. Md. Imteyaz Alam, working under Prof. M. Ali Haider, got the best oral presentation award in the biomass session at APCAT-7, 2017 event in Mumbai.
- Post-doctoral fellow Dr. Md. Tuhin Suvra Khan, working under Prof. M. Ali Haider, got the best oral presentation award in the methane session at APCAT-7, 2017 event in Mumbai.

- Ph.D. scholar Ms. Uzma Anjum received Conference Attendance Aid Grant for 21st International Conference of Solid State Ionics in Padua, Italy.
- Ph.D. scholar Ms. Shelaka Gupta, supervised by Prof. M. Ali Haider, received Graduate Student Registration Waiver Award from the ACS CATL Division to attend ACS Fall 2017 meeting in Washington DC, 2017.
- Ph.D. scholar Ms. Neetu, supervised by Prof. S. Basu and Prof. M.A. Haider, got the First Prize for Poster Presentation amongst all the posters presented by the Ph.D. students of the Institute in IIT Delhi Open House-2016, given by the IIT Delhi Alumni Association.
- Ph.D. scholar Ms. Uzma Anjum, supervised by Prof. M.A. Haider, got the IIChE-NRC Sponsored Award for first position in poster presentation amongst all the posters presented by Ph.D. students in the Open House - 2016 at Department of Chemical Engineering, IIT Delhi.

#### Chemistry

- Palladacycles of unsymmetrical (N, ō, E) (E = S/Se) pincers based on indole: their synthesis, structure and applications in the catalysis of Heck coupling and allylation of aldehydes, M.P. Singh, F. Saleem, G.K. Rao, S. Kumar, H. Joshi and A.K. Singh, Dalton Trans., 2016, 45, 6718.
- Complexes of (П 5 –Cp\*) Ir (III) with 1 benzyl-2pheylthio/ selenomethyl-1,3-dihydrobenzoimidazole-2-thione/ selenone:catalyst for oxidation and 1, 2- substituted benzimidazole synthesis. Alpesh K. Sharma, Hemant Joshi, Renu Bhaskar and Ajai K. Singh Dalton Trans., 2017,46,2228-2237, DOI:10.1039/C6DT04271F, Paper.
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#### **Scholarships, Assistantships and Awards**

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#### **Civil Engineering**

 Impressive and innovative paper scholarship winner Ms. Sunita Mishra for the paper Hemant Meena, Sunita Mishra, Tanusree Chakraborty, Vasant Matsagar, Pradeep Chandel, Vikas Mangla and Manjit Singh, 2016. High strain rate characterization of Himalayan limestone. ISRM Regional Symposium, ARMS9 - 9 Asian Rock Mechanics Symposium "Harmonizing Rock Mechanics with Sustainable Economic Development", October 18-20, 2016, Bali, Indonesia.

#### **Computer Science & Engineering**

- Four papers accepted in DATE 2017, a top conference in hardware/computer architecture, by students Rahul Jain, Neetu Jindal, Rajshekar K., and Hameedah Sultan, who published their work under the mentorship of Prof. Preeti R. Panda and Prof. Smruti R. Sarangi.
- A paper jointly co-written by Ankit Anand and Aditya Grover (along with Prof. Mausam and Prof. Parag Singla) received the best paper award at STARAI 2016, a premier workshop for research on statistical relational machine learning.

#### **Humanities and Social Sciences**

• Fullbright fellowship awarded to Nivida Chandra, Ph.D. scholar in the Department.

#### **Management Studies**

 Best Paper Award 2nd Prize to Nakul Parameswara, Sanjay Dhir, COSMAR-2016, IISc Banglore (on November 11-12, 2016).

#### **Scholarships, Assistantships and Awards**

- Runner up in Business Presentation at 24 November, 2016
   Devang Mehta Excellence Award 2016 by Bhavya Suri & Arpit Bhatia.
- National Finalist, 3M Invent a New Future Challenge 2017 Shruti Narang.
- Best Women Graduate Award to Muskan Gupta for MBA (Telecom System Management).
- 1st Position in MBA (Telecom System Management) to Apanshu Goel.
- 2nd Position in MBA (Telecom System Management) to Muskan Gupta.
- Esha Srivastava and Narayanan Kannan were selected as Delegates and representing Department of Management Studies IIT Delhi at the London School of Economics-Emerging Markets Forum 2017.
- Esha Srivastava, Rochit Anand and Urvi Gupta from the MBA Batch of 2017 were Campus Winners from DMS IIT Delhi in the National Level Competition - Yes Bank Transformation Series 2016.
- Competition Details for Campus Winners PepsiCo Change the Game Challenge: Esha Srivastava and Rochit Anand from the MBA Batch 2017 were Campus Winners representing DMS IIT Delhi in the National Level Competition - PepsiCo Change the Game Challenge 2016 by PepsiCo India.
- Rochit Anand was selected as a Delegate and represented India at Helsinki, Finland in the prestigious 30th Internal Helsinki Days Seminar organized by Hanken School of Economics, Finland 2017.
- "Mahjabeen mirza Beg was selected by Unilever to represent DMS, IIT Delhi in the event The Premier 30 League Tree 2016 - a unique and first of its kind initiative that Unilever is undertaking for Top Student Leaders of the country." The students from India's top B-School spend two days learning and growing from the HUL leaders.
- Mahjabeen Mirza Beg represented DMS, IIT Delhi at the IWD 2017 organised by Google in partner with Women Techmakers on 25th March 2017 at Google Bangalore which is a part of a global event series. This exciting event featured speaker panels and technical workshops lead by local Googlers as well as external tech leaders. This program provided visibility, community, and resources for women designers, developers, and technology entrepreneurs around the world.

#### **Mechanical Engineering**

 Five Student of the department got Donor's award, Medal and Cash prize for their best B. Tech projects.

#### **Physics**

 Mr. Akash Kumar, received 5000 USD research grant from IEEE magnetic society for his student project "Study of

- Magnetization Dynamics in YIG/IrMn on Si substrate" supervised by Dr. P.K. Muduli.
- Mr. Mandeep Singh received BIRAC-SRISTI Gandhian Young Technological Innovation award at Rashtrapati Bhavan in March 2017 supervised by Kedar Khare.
- Mr. Parswajit Kalita, Raman-Charpak Fellowship supervised by Prof. Santanu Ghosh.
- Ms. Neeti Keswani supervised by Dr. Pintu Das, Best Poster Award in International Conference of Young Researchers on Advanced Materials (IUMRS-ICYRAM, 11 to 16 December, 2016).
- Mr. Pawan Kumar Kanaujia supervised by Prof. G. Vijaya Prakash has been adjudged for ISCAS (Indian Associate of Solid state Chemists and allied Scientists) Endowment medal in the "10th National Conference on solid state chemistry and allied areas" held at Delhi Technological University during July 1-3, 2017.
- Fulbright-Nehru-DR Fellowship (2017) to Mr. Vinod Parmar supervised by Prof. G. Vijaya Prakash
- Ms. Zakiya Shireen was given Best poster award in 2nd International Conference on Soft Materials 12 to 16 December, 2016 supervised by Sujin B. Babu.
- Ms. Zakiya Shireen Best contribution in 1st departmental symposium on "Advances in Physics" organized by the physics Department at IIT Delhi during 18–19 March, 2017 supervised by Sujin B. Babu.
- Dr. Kavita Yadav received DST INSPIRE Faculty Fellowship from Government of India supervised by J P. Singh.
- Dr. Kavita Yadav, received S.S J. Lodha Award supervised by J.P. Singh.
- Ms. Parul Raturi received best poster award at Nano India-2017, IIT Delhi supervised by J.P. Singh.
- Ms. Parul Raturi received best poster award at 1st Departmental Symposium on Advances in Physics - 2017, IIT Delhi supervised by J.P. Singh.

#### **Applied Research in Electronics**

- Priyanka Dwivedi: NTC International IEEE Student Award by IEEE Nanotechnology Council 2017.
- Pankaj Jha has received 2nd prize under post-graduation category from Research and Innovation Award Open House IIT Delhi.
- Dr. Sukomal Dey has received Foundation for Innovation and Technology Transfer (FITT) Ph.D. award.
- Anushruti Jaiswal has received best student paper award in "2016 IEEE Students' Technology Symposium (TechSym), Kharagpur, 2016.

#### **Atmospheric Sciences**

 Mr. Sourangsu Chowdhury (Fulbright-Nehru Doctoral Fellowship for 2017-18).

#### **Biomedical Engineering**

- Neha Mehrotra has received BEST Poster Award at Jamia Hamdard in National Seminar on Biomedical Engineering, Food & Fermentation Technology on March 28, 2017.
- Gandhi Young Technological Innovation-BIRAC-SRISTI Appreciation Grant Award 2016 by Government of India.
- Best Poster: 'Assessment of biodegradable polymersomes encapsulated with SPIONS as efficient drug carriers for brain targeting' in 4th International Imaging Workshop, Biomedical Research Institute, Tsukuba Science City, JAPAN on January 2017.
- Best Poster: 'Click modified amphiphilic graft co polymeric micelles of poly (styrene-alt-maleic anhydride) for combinatorial delivery of doxorubicin and plk-1 siRNA in cancer therapy' in 1st Annual Conference of Indian Society of Nanomedicine held at All India Institute of Medical Science, New Delhi, India from 24-26 November, 2016.
- Best Poster: 'Artificial microenvironment created by nanofibrous composite scaffold stimulates epithelial differentiation of human mesenchymal stem cells (hMSCs) while cultivating in keratinocytes proximity' in 1st Annual Conference of Indian Society of Nanomedicine held at All India Institute of Medical Science, New Delhi, India from 24-26 November, 2016.
- Dogra Educational Endowment Medal 2015-2016 to Sirsendu Bhowmick for best the scientific publication in CBME, IIT Delhi
- Ayan Debnath, Fulbright-Nehru Doctoral Research Fellowships for 2017-18.
- Anirban Sengupta; consolation award, Open House-2016, IIT Delhi.
- Anirban Sengupta; Best poster award in the Conference on Recent Advances in MRI and MRS from 21-23 May, 2017 at Indian National Science Academy (INSA), New Delhi.
- Student stipend awards to Ayan for ISMRM, 2016.
- Student stipend awards to Esha for ISMRM, 2016.
- 3rd Prize for paper presentation at National conference at NEHU, Shillong on 15-16th September 2016 organized by ICMR and DST.
- Best Poster, S. Deshpande and N. Singh "Importance of Cubosome Surface Architecture and its Application in Drug Delivery" at Nanobioteck 2016, All India Institute of Medical Science, New Delhi, India, 24-26 November, 2016.

- Dhyani, V.; Gordon Research Conferences' GRC Carl Storm International Diversity (CSID) Award to attend the 2016 GRC-Bioinspired Materials at Les Diablerets Conference Center, Les Diablerets, Switzerland, 5th-10th June 2016.
- 3rd Place at Department of Chemical Engineering, sponsored by Indian Institute of Chemical Engineers.
   Singh, R.; Patil, S.; Singh. N.; Gupta S. "Surface engineered nanoparticles for theranostics applications" Poster at Open House, at Indian Institute of Technology Delhi, New Delhi, 23rd April, 2016.
- Dr. Shiv Raj Nandan Sinha Medal to Ashish Ranjan for Portable Gait Recorder and Analyser at Indian Institute of Technology Delhi.
- BOSS Award- the best innovative hardcore experimental/ design to Ashish Ranjan for Portable Gait Recorder and Analyser at Department of Electrical Engineering, Indian Institute of Technology Delhi.
- Sarul Malik, Awarded 2nd Best poster award at BHI-2017 IEEE International conference on Biomedical and Health Informatics held during 16-19th February, 2017 at Orlando, Florida.
- P. Swami, Best Presentation Award for Oral Presentation at 19th International Conference on Applied Informatics for Health, Medical and Life Sciences held between 16-17 February, 2017 at London, UK.
- Dr. Pankaj Parashar, 1st Prize in Poster Presentation and 2nd Prize at Pitch fest STARTUP-BIO 2017 at Institute of Bioinformatics and Biotechnology Bengaluru.

#### **Instrument Design & Development Centre**

- M.Des. students participated in many design competitions in India and abroad, designed logos for many government organizations and attended design summer schools abroad.
- Many M.Des. students did their one semester design project/thesis in industries which include Adobe, 3M, Times Internet and Maruti Udyog Limited.
- Piyush Verma, M.Des. student was awarded a semester long internship at University of Sydney, Australia.

# Amar Nath and Shashi Khosla School of Information Technology

 Best paper award awarded to Ms. Aditi Kapoor, Research Scholar, School of IT, Prof. K.K. Biswas & Prof. M. Hanmandlu, Associated Professor, School of IT for paper titled "Unusual human activity detection using markov logic networks" at ISBA 2017 conference. The students pursuing Ph.D. are also eligible for assistantships. This year 164 students were awarded assistantships. Assistantship to existing students continues provided, they show satisfactory progress. The table below gives a discipline wise break-up of assistantships awaited during the period.

Table V: Institute Assistantships Awarded to Research Scholars during the Session 2016-2017

Department/Centre/School	No. of Assistantships Renewed	No. of Assistantship Awarded (2016 entry)
Applied Mechanics (AMZ)	31	6
Biochemical Engineering & Biotechnology (BEZ)	29	6
Chemical Engineering (CHZ)	50	12
Chemistry (CYZ)	28	10
Civil Engineering (CEZ)	82	18
Computer Science & Engineering (CSZ)	18	6
Electrical Engineering (EEZ)	120	23
Humanities & Social Sciences (HUZ)	45	12
Management Studies (SMZ)	34	8
Mathematics (MAZ)	14	3
Mechanical Engineering (MEZ)	80	11
Physics (PHZ)	71	11
Textile Technology (TTZ)	18	0
Centre for Applied Research in Electronics (CRZ)	14	4
Centre for Atmospheric Sciences (ASZ)	23	1
Centre for Biomedical Engineering (BMZ)	21	1
Centre for Energy Studies (ESZ)	43	4
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre (ITZ)	12	2
Industrial Design & Development Centre (IDZ)	7	0
Centre for Polymer Science & Engineering (PTZ)	17	3
Centre for Rural Development & Technology (RDZ)	21	6
Kusuma School of Biological Sciences (BLZ)	35	6
Amar Nath and Shashi Khosla School of Information Technology (ANZ)	11	6
Bharti School of Telecommunication Technology & Management (BSZ)	21	4
Transport Res. & Injury Prevention Programme (TRZ)	3	1
Total	848	164

# **Infrastructure Development**

(April 1, 2016 - March 31, 2017)

#### **MAJOR NEW EQUIPMENT INSTALLED**

#### **Biochemical Engineering and Biotechnology**

 Agilent HPLC 1260 series, Perkin-Elmer Spectrofluorimeter LS-55

#### **Chemical Engineering**

- · Electrical screw compressor
- Digipac perpetual license & digiconcert perpetual license
- 300 Watts RF generator set
- · Spectrophotometer for low pressure liquid chromatograph
- · Microprocessor based gas chromatograph
- Akta cross flow fully automated system for cross flow filtration and process development
- Compact tape casting film coater with dryer, vacuumcheck & adjustable film applicator
- · Planetary ball mill
- Rf-sputtering assembly
- Quartz crystal micro balance
- Inverted optical microscope (Olympus) with a stage for cell incubation; Mulitmode plate reader
- Multigas FT-IR spectrometer configured with liquid N2-MCT detector
- High performance liquid chromatograph (HPLC) with rid detector
- Electrochemical impedance analyzer and battery tester with temperature and pH probe
- Bench scale system for monolith reactors and packed bed reactors
- · Accessories for existing Eppendorf
- Thermo scientific dionex ultimate3000 HPLC system
- Surface plasmon resonance biacore x HPLC 100 processing unit
- · High pressure microwave reactor
- · High pressure Parr reactor
- Optical microscope

#### Chemistry

- Singly Crystal XRD with Microfocus (working)
- · ICP (60 lacs)-arrived & is being installed
- Centrifugal Vaccum Concentrator (Speed Vac) Low temperature Incubator Shaker.

#### **Civil Engineering**

- · Multi speed loading frame for bituminous mixture testing
- X-Ray Flourosence

- Particle size Analyzer Split Hopkinson pressure bar
- · DigiPrep automatic grinding and polishing machine
- Servo-controlled Hydraulic Actuator (100 kN and 50 kN)
- Hydraulic Power Unit (HPU)
- Digital Controller
- Hydraulic Service Manifold (HSM)

#### **Electrical Engineering**

- · High End Computing Server
- Synopsis EDA Tool Bundle
- Software for Computer Aided Design for Optical Communication System
- E Megasim Simulation Software Compatible with Opal RT
- One Time Upgrade Digsilent Power Factory Server PF4R
- UV Ozone Cleaner Compatible with samples of atleast 4" in Diameter
- HIL Controller Interface with PMV Capability
- Power Amplifier Opal RT
- DSO Bandwidth 500 MHz, 4 Channel
- Opal RT E Megasim based Real Time Opal RT Simulator
- DSO 500 MHz, Memory 8M, 4CH, Keysight make
- LS500 Green Fluorescence and Bright Field inverted microscope
- Shamrock Imaging Spectrometer
- 10 KW Programmable DC Power Supply
- NT PXIE 8840 Core, i5-4400E, 2.7GHz, Dual Core WIN7, 64 Bit
- TOBILT 120 with specification as per quotation
- Direct Drive Torque Motor

#### **Applied Research in Electronics**

- Sentaurus TCAD Software
- · Semiconductor parameter analyser
- Four High performance work stations installed for signal processing research activities.

#### **Atmospheric Sciences**

- · Workstation Model: Dell Precision T7810
- A new Storage-cum-data analysis server with data storage capacity of 250 TB was purchased and successfully installed in CAS Computing Lab-II to facilitate high-performance computing requirement of all CAS faculty & students.

#### **Biomedical Engineering**

- Dual source laser machine
- Injection molding (PO released)
- Thermal Evaporator

# Industrial Tribology Machine Dynamics and Maintenance Engineering Centre

- · Acoustic Emission measurement System
- Tribometer

#### **Instrument Design & Development Centre**

• IDDC has acquired new reverse engineering system consisting of 3D scanning system and 3D printer.

#### **Polymer Science and Engineering**

- · Atomic Force Machine
- High performance Liquid Chromatography
- Contact Angle Measurement System
- · 3D Printer

#### Amar Nath and Shashi Khosla School of Information Technology

Vacum Thermo Forming Machine – 01 (Assistech Lab)

#### **Kusuma School of Biological Sciences**

· Protein crystallization facility

#### **EDUCATIONAL TECHNOLOGY SERVICES CENTRE**

The Educational Technology Services Centre (ETSC) is actively engaged in promoting the use of Educational Technology in the Institute and also at the national level. Some of its major activities are:

- Design & Development of Instructional Resources in the form of videos and web based material.
- Provision for and maintenance of Audio/Video equipment for classroom teaching.
- Organize training programs for faculty and professionals across the country.
- Video conferencing for faculty selection interviews and meetings.
- E-learning and distance education.
- Undertake sponsored research and consultancy projects.

#### **Services Offered**

The Centre has a modern video studio with recording and editing facilities. A studio-classroom with seating capacity of 60 is available for on-line recording of courses. Non linear editing set up and Apple Streaming server are available for post production and video streaming. ETSC takes care of the audio-visual needs of faculty and students. ETSC has procured and installed Sony ANYCAST system in the Video Studio and in two lecture theatres for non liner editing and recording. In addition to equipping the classroom with these facilities, ETSC runs a loan service.

State of the art audio visual facilities has been designed for the new lecture hall complex. The facilities include live video recording of lectures, tablets PCs for projection of the written lectures on the screens, document partly visualizers and microphone and speakers in the classrooms. This complex has become partly operational since July 2015. A media reference library with multiple viewing cabins has been set up in the Central Library for the use of students and faculty. The Educational Technology Services Centre has a computer laboratory with modern multimedia capabilities and internet connectivity. Computer Aided Instruction/Computer Aided Learning courses/packages are developed in the computer laboratory. Learning materials generated by ETSC are disseminated at nominal price throughout the country and abroad.

The Centre conducts short courses and modular programmed on different aspects of educational technology for teachers from the Institute and from other educational institutions and industry institutions. These courses are designed to sensitize and guide the faculty to optimize their effort and time for classroom and laboratory instruction as well as professional development.

The Centre has the expertise and experience of undertaking national and international level consultancy and sponsored research projects. It has worked with agencies such as the World Bank, AT&T, AICTE, UNESCO, UNDP Commonwealth of learning, the British Council and Addis Ababa University, Ethiopia.

#### **NPTEL Project**

The NPTEL project funded by MHRD has been successfully completed. Under this program, all the seven IITs and Indian Institute of Science have worked together to develop web and video based educational material for undergraduates courses initially in five disciplines, viz., Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering and Mechanical Engineering. The web courses so developed are available through the various servers authorized by NPTEL. Phase II of NPTEL Project has also been completed where its scope has been further expanded to include more disciplines and advanced/post graduate courses.

The center has been the implementing agency for recording and transmission of IIT PAL lectures and other MOOCs related activities. Till date about 500 hours of IIT PAL lectures have been recorded and 6 MOOCs courses have been conducted and 4 more courses are being recorded. The center also facilitates many QEEE lectures.

#### **Video Conferencing and Outreach**

Video Conferencing facilities have been installed in two lecture theatres and in the Conference Room of ETSC. The facility is being used for faculty interviews, meetings and distance education. For connectivity both ISDN and IP based network connection are used. For classes to Addis Ababa University (AAU), two lecture delivery rooms have been equipped with remote teaching facility. A dedicated two-way video link is also provided for live delivery from IIT Delhi to AAU, Ethiopia.

The new lecture rooms as temporary structures have also been equipped with audio/video, projection, distance education and recording facilities. In addition, three Virtual Classrooms are also being equipped under National Knowledge Network

(NKN). Live classes are run for IIT Ropar, IIT Mandi and Dayalbagh Educational Institute, Agra using NKN.

ETSC is current run by a team of five faculty members. The current core committee of ETSC met on 6.2.2015 it was decided that was current core group may be extended to include the following Faculty members.

- 1. Dr. Kolin Paul, Department of Computer Science & Engineering.
- 2. Dr. S.Chatterjee, Department of Electrical Engineering.
- 3. Dr. Amit Gupta, Department of Mechanical Engineering.
- 4. Dr. Shalini Gupta, Department of Chemical Engineering.

### NATIONAL RESOURCE CENTRE FOR VALUE EDUCATION IN ENGINEERING

The main mandate of this Centre is different from the Teaching and Research activities of other departments and centres. Thus, most of the heads under which the information has been asked are not applicable to us. The information is organized in a format more relevant to the Centre's activities.

#### 1. VEV courses offered by Guest / Institute faculty:

Considering the fact that NRCVEE does not have any full time faculty, the courses offered by the Centre are taught by joint/ associated faculty from other departments/ Centres/ Schools. Two years back 1-credit special modules on broad topics of relevance to NRCVEE were approved and many of them are being taught primarily by guest faculty enriching the material offered to the students. In the period under consideration, the details of the one credit VEV courses offered by the Institute are given below:

- Dr. Kushal Shah (EE) VEV732: Special Module on Inner Development II (Karma Yoga)
- Dr. Kushal Shah (EE) VEV733: Special Module on Leadership I (Socratic Method)
- Dr. R. Balasubramaniam VEV733: Special Module on Leadership II (Exercising in enlightened leadership)
- Prof. P.L. Dhar (ME) VEV731: Special Module on Inner Devt. I (Mindfulness / the key to Inner Development)
- Prof. S.C. Gupta (CSE) VEV732: Special Module on Inner Development II (Discovering Inner Resources)

# 2. Administration of the course on Professional Ethics and Social Responsibility:

The administration of this course takes major share of the time of the NRCVEE staff and the concerned faculty. In the period under consideration, the following were taken up for the PESR course.

- Streamlining the administration of all components of PESR with the help of the part-time staff hired for the purpose.
- NEN300 was offered for the first time in the first semester 2016-17. This course has only 6 hours of contact with 3 sessions of 2 hours each. Each class can have only about 30 students. Thus, it was a challenge to manage the course.

It could be done effectively with the help of 5 resource persons from outside the Institute and one from DMS. The model for conducting this course in different batches is now fairly established which can be followed for all future batches as well.

#### 3. Programmes organized by the Vivekananda Study Circle

- "Science of Yoga" by Swami Ishwarananda [MBBS and MD, in-charge of Yogoda Satsanga Ashram (Noida)], Aug 2016.
- Meditation Workshop by Swami Ishwarananda [MBBS and MD, in-charge of Yogoda Satsanga Ashram (Noida)], October 2016.
- "PROXIMITY AND HEIGHT IN BHAKTI" by Dr. Milind Wakankar (HSS, IITD and author of a book on bhakti), Nov 2016.
- "Sufism: A Path of Love" by Mr. R. K.Gupta [ex-IRS officer, former Chairman of Settlement Commission (Customs and Central Excise) and author of "Autobiography of a Sufi"], January 2017.
- Yoga workshop by Mr. Vijay Kumar [trained Hatha Yoga teacher from Isha Hatha Yoga School under guidance of Sadhguru Jaggi Vasudev], February 2017.
- "Youth and Truth", A talk by Sadhguru Jaggi Vasudev, March 2017.
- **4. Regular Yoga Classes for campus residents:** In August 2104, NRCVEE joined Board for Sports Activities (BSA) for starting regular yoga sessions by trained yoga instructors. To ensure seriousness in the participants, these are paid classes with monthly registration. The evening classes have been running for almost three years.
- **5. Meditation Workshops:** Two one day workshops on "Mindfulness Meditation" were organised during the period in collaboration with SPIC MACAY: In September 2016 and February 2017. These workshops are very well attended by students, staff and faculty and are very well received.
- **6. International Yoga Day (IYD) and Gandhi Jayanti Celebrations:** In the organization of these programmes at the institute level, NRCVEE has been taking the lead. IYD, 2016 was very successful with several participants in the practical yoga sessions as well as in the talks on yoga.
- 7. A Discussion group for faculty inclined towards introspection and inner transformation was started in the end of March 2016 with the special initiative of Dr. Kushal Shah. Now Dr. Amit K Jain is coordinating this group. A series of informal discussions have been held so far on various topics.

#### **COMPUTER SERVICES CENTRE**

The main objectives of the Centre are to:

 provide round the clock computing and networking facilities to serve a user population of more than 10,000 users consisting of UG, PG, Research Scholars, Faculty and Staff of the Institute and provide advice on all the aspects of academic computing. The centre also participates in the Academic programmes of some of the departments and centres.

- Implement and maintain System and Application software.
- Implement and Manage the Institute Network.
- Computational labs facility to students for the conduct of UG/PG Lab courses.
- · Impart Introductory and advanced instructions to users.
- Work on cutting edge technology and provide Services to users based on new technology.
- Provide support to Institute Computerization efforts.
- · Provide training to Institute employees.

#### **General Computing Facilities**

The Centre is equipped with 112 HP/CISCO UCS blade servers out of which 64 Blade Servers are used for Cloud computing with 200 TB of virtualized storage and 48 blade servers with 130 TB of storage for user homes and infrastructure use like email, proxy, web services etc. CSC also has around 450 Desktop computers and ten Dell workstations for Simulation connected over a switched fast Ethernet. Uninterrupted Power Supply is provided through 2x80 KVA MGE UPS system and DG set.

#### **High Performance Computing (HPC)**

The HPC facility in the Data Centre consists of the following:-Compute Nodes: 422 (CPU nodes: 238, GPU nodes: 161 & Xeon Phi co-processors: 23)

**Basic Configuration:** 

GPU: 2x NVIDIA K40 (12GB, 2880 CUDA cores)

Xeon Phi: 2x Intel Xeon Phi 7120P (16GB, 1.238 GHz, 61 cores)

CPU: 2x E5-2680 v3 2.5GHz/12-Core

RAM: 64 GB

8 CPU, 8 GPU and 4 Xeon Phi nodes have 512 GB RAM each Storage:- Home space: 500 TB and Scratch space: 1000 TB In addition there are CUDA based GPU mini-cluster environment of 16 nodes, each with 2x8 core ES-2670 (Sandy bridge) CPU, 128 GB RAM and 2xNvidia K20 GPUs.

#### **Facilities/Services**

- The email facility is provided to all students, staff and faculty with webmail interfaces Roundcube and Squirrelmail using user and mailing list definitions from the IITD LDAP and Kerberos for user authentication.
- Compute facilities for research and projects are provided through Baadal, the Cloud Computing environment.
- The CSC provides Infrastructure Services through virtualization technology.
- The CSC has Microsoft Volume Licensing EES agreement for the Campus under which Microsoft software such as Windows OS, MS Office etc. are available for use.
- The center has the following third party software packages: Matlab-16b, Mathematica, Ansys, Fluent, Labview, etc.
- The center maintains local repositories of several popular open-source and commercial licensed software. The system

- is fully integrated with IITD LDAP and Kerberos.
- The CSC has configured moodle a public domain course management software, for use by faculty and students for the courses running during the semester.
- IIT Delhi is also a part of eduroam, a global Wifi roaming programme across academic campuses through ERNET India.
- Own Cloud, a file and document sharing utility similar to the popular drop box is also provided for user community. The utility supports storing and sharing of files, images, music and documents, contacts, calendars, tasks etc.
- To facilitate downloads of data files through non-standard ports, download Server: download.iitd.ac.in can be used. and to facilitate download of huge data for Research, proxy server xen03.iitd.ac.in (Research proxy) can be used.
- Virtual web hosting facility can be used for securely hosting all websites of the form http://xyz.iitd.ernet.in which are not maintained by CSC.
- User web pages is available for the use of faculty and PhD. students for hoisting their web-pages on the server web.iitd.ac.in
- To provide Internet access to the visitors, the faculty and officers have been authorized to create user account for their visiting faculty/students.
- To facilitate limited access within IITD, CSC has a separate web server privateweb.iitd.ernet.in where users can have their personal web pages.
- VPN facility is provided to the Faculty/Retired Faculty/ Emeritus and Part-time Ph.D. students for accessing IITD internal LAN from outside IIT Delhi.
- Network Time Protocol (NTP) servers are synchronized with standard internet time servers with time drift less than a few milliseconds and can be used by all users.
- The Data Center (DC) consists of Cisco UCS B200 M3: Three chassis with 24 blade servers each with 2x12 Cores Intel(R) Xeon(R) CPU E5-2695 v2@2.40GHz ("Ivy Bridge"Generation) and 128 GB RAM. Each blade has five virtual NICs connected to two Fiber interconnects with redundant paths.
- The Disaster Recovery Data Centre (DRDC) is located in the SIT building. The DRDC has been built by IBM and can support a total IT load of 60 KW. It has redundant UPS power supplies and precision air conditioners in N+N and N+1 configurations respectively.
- MRTG and RRD Health Graphs have been provided to see the Status Reports of the various System activities/ Services.
- Complaint Registration and Monitoring System (SLA ticketing system) has been provided for resolving user problems regarding Network connectivity and Software issues on their systems.

#### **PC Services**

There are five PC Labs in the CSC premises having about 220 Desktop computers under Windows and Linux environment.

#### **Infrastructure Development**

Besides this there are four Computing labs in the new Lecture Hall Complex (LHC) having 235 desktop computers running Ubuntu and Windows. Projection facility is also provided for the UG/PG lab courses of the Institute which are held every semester. The faculty also conducts online minor and major examinations in the labs in LHC and CSC There are ten DELL workstations under windows environment for CAD/CAE/CUDA.

The PC Labs in the Center are open round-the-clock for authorized users.

#### **Network Services**

The Institute LAN is a state of the art switched network with Fiber Optics and enhanced CAT5/CAT6 UTP backbone. It consists of more than 9000 network access points spread over the campus using about 265 Cisco switches and about 75 virtual LANs. Network access is provided to every student, faculty, Doctor, Laboratory and rooms in guest houses. Internet connection has been provided through a router, redundant firewall switching modules, and 2x10 Gbps from NKN.

IIT Delhi is connected to the National Knowledge Network (NKN) with 10 Gbps dual connectivity from PowerGrid and RailTel. This connectivity provides virtual routing service, Internet Connectivity, and connectivity with other Institutes connected on the NKN backbone.

Internet and Intranet access is provided to faculty/officer homes via GPON over fiber (700+ houses) and ADSL connectivity over internal telephone lines.

The Academic, Hostel area, both Guest houses, RCA and Hospital are also connected through IITD\_WIFI and Secure Wi-Fi (IITD\_Secure\_GUEST). There are 500+ wireless access points. Many network services including mail, web, and domain name, anti-virus are being provided over this network.

IITD has upgraded the routers and switches for internet and the core and distribution network and has replaced the existing multimode fiber with single mode fiber. This has made the backbone 10 Gbps.

#### Activities undertaken during the year 2016-17:

- Six months training in Information Technology (twice a week) provided to the group "D" staff of IIT Delhi.
- Two days workshops on HPC conducted twice a month for the benefit of new HPC users.
- Paperless application module implemented for PG admission including online payment. Institute has received more than twenty five thousand application after implementation.
- Gradation module developed as per new curriculum of 2013 entry UG and 2015 PG students.
- Special modules developed for Counselling Services Unit to maintained student records and for Minor Area.
- Admission portal for UG and PG students online forms filling developed.
- Entry number Generation and Course Registration for IIT Jammu.

- Grading Module developed and implemented for IIT Jammu
- Moodle System setup and support for Students/Faculty Coordinator/Teaching Assistance of IIT Jammu.
- e-Office Lite software (procured from NIC) for Diary dispatch etc. has been implemented.
- Smart Display System installed for display of Information / Events etc. going on in IIT Delhi.
- Online Leave Management System for the faculty.
- Designing & Implementation of
  - Hall Booking System
  - Suggestion Box system
  - Project Seeking system :Ideate-seek-collaborate
  - E-Kiosk System
  - Shops Evaluation System
  - Books Recommendation System for library
  - Works and Estate Project Monitoring System
  - Staff Recruitment for IIT Delhi
  - Estate Complaint Management System
  - Budget Requisition System
  - IIT Jammu website
  - IIT Jammu faculty recruitment
- Commencement of Integrated ERP system Development project
- Implementation of PDA System for faculty
- Complete Accounts related System Support for IIT Jammu
- Pension related transfer of information and coordination and preparation of data as per BANK (3 month Project).

#### NANOSCALE RESEARCH FACILITY

The Nanoscale Research Facility (NRF) has been established with the support from Ministry of Electronics and Information Technology (MeitY) and IIT Delhi to support the interdisciplinary research in the area of nanoscience and nanotechnology. The facility consists of class 100/1000 clean rooms with several state of art fabrication/thin film deposition instruments and characterization facilities. The research programme of NRF has been focused on both thematic areas of national importance and basic research with importance to the development of nanoscience and nanotechnology. More than 50 faculty members from different departments/centers of IIT Delhi are participating in cutting edge research at Nanoscale Research Facility. Using the facilities at NRF, several deliverables related with nanophotonics, nanomagnetics, nanomechanics, nanophotovoltaics, nanoelectronics and biosensing have been successfully demonstrated. The future programme of NRF is to develop nanoscale devices for health, agriculture, security and energy sectors. The emphasis is to develop micro/nanoscale devices which can be given to users. It is also planned to explore new concepts/ strategies for developing future potential nanoscale devices.

#### Objective of the NRF

- To design, build and demonstrate nanoscale structure & devices.
- To investigate new concepts and fundamentals for nanoscale processes.
- To run and maintain different fabrication and characterization facilities.
- To provide exposure to students to the area of nanotechnology.

#### **Facilities available**

NRF has adequate characterization lab facilities with more than 20 equipments like XRD, SEM, RAMAN, PL, AFM, UV-Vis, FTIR, DLS, GCMS, HPLC, AGM, Semiconductors characterizations and others. There is a fabrication lab with EBL, Maskless lithography, Mask aligner and others. These facilities can be accessed through online booking after registration to NRF website (nano.iitd.ac.in). Presently more than 350 users (faculty members and students of different departments and centres) of IIT Delhi are registered for the access to these facilities. These facilities are also open to the other institutes and industries across the country.







#### Seminars, visitors and training

Seminars, visitors and training to the students in the area of use of clean room and various facilities are integrated regular feature of NRF. PhD/ MTech/MSc/BTech students are quite often given exposure to these facilities at NRF through visits and demonstrations and many of them are given hands on training to run the fabrication and characterization facilities. Every week a talk for clean room and clean room entry test is also conducted. The presence of NRF has facilitated several collaborating projects with foreign countries such as UK, Japan, Singapore, Germany, Norway etc. Time to time, delegations and distinguish scientists from national and international universities have been visiting NRF.

#### **CENTRAL LIBRARY**

The IIT Delhi Library System comprises of a Central Library and 18 departmental libraries that collectively support the teaching, research and extension programmes of the Institute. All students, faculty and employees of the Institute are entitled to make use of the Library facilities. The Alumni of the Institute are also entitled to Library services provided they are members of the Institute's Alumni Association. Similarly, industrial establishments can avail the Library services on taking corporate membership of the Library. Library consultation facilities are extended to faculty, students of outside organizations and the wards of IIT faculty and staff on their request. Retired teaching and non-teaching staff members can also avail Library facilities. The Library has over 9500 registered members.

#### **Library Hours**

The Library remains open throughout the year except on six

days, namely; Republic Day, Independence Day, Dussehra, Diwali, Holi, Mahatma Gandhi's Birthday and any other holiday declared as a special holiday. The book stack area at 1st floor and Ground floor is open from 9:00 AM to 9:00 PM (Weekdays) and 10:00 AM to 6:30 PM (Weekends & Holidays). Reading Area at Ground floor and 2nd Floor is open 24x7 hrs.

#### **Library Resources**

#### a. Collection

The Central Library, IIT Delhi has a strong collection pertaining to physical sciences, engineering and technology, biotechnology, computer and information technology, social sciences and management.

As per record, the collection of the Library as on 31st March 2017 is as follows :

Books	1,75,418
Journals (Bound Volume)	1,05,765
Theses	5,176
Video Cassettes	1,800
CDs	5,550
Books in Text Book & Book Bank	23,117
Online Electronic Journals (Direct Subscribed+through Eshodh Sindhu)	20,000
Online Databases	8
CD-ROM Databases	2

#### **Infrastructure Development**

#### b. Video Library

The Library is equipped with video viewing facility and has a collection of more than 2,500 CDs and kept in the Computer Application Division of the Central Library for viewing.

#### c. Reference Collection

The Library maintains a separate reference collection consisting of encyclopedias, dictionaries, handbooks, technical data, almanacs, atlases, bibliographies, etc.

#### d. Hindi Collection

The Central Library has built up a good collection of books in Hindi. Books in Hindi include books on various subjects being taught and researched at the Institute as well as books on literature in Hindi. Books in Hindi are prominently kept near the reference area in the Library to promote its usage. To increase the use of Rajbhasha Hindi, Central library offers borrowing facility of one extra Hindi Book to all its members apart from their entitlement.

#### **Electronic Journals and Online Bibliographic Databases**

The Institute have access to over 20,000 full-text electronic journals and 7 bibliographic databases from a number of publishers and aggregators through the Direct subscription/access through eShodh Sindhu consortium. A-Z list of subscribed journasl are available on Central Library website. The details and links to these electronic journals are available through the Library web site as well through the Library Web OPAC. More than 1 lakh bound volumes of journals are available in print form.

# a. E-Resources avaiable through the Central Library/eShodh Sindhu Consortium

- AAAS Science Online & Science Classics
- ABI / Inform Complete
- ACM Digital Library
- ACS All Web Edition Journals Package
- · AIP Journals
- · American Mathematical Society Journals
- · American Meteorological Society Journals
- · Annual Reviews
- APS Journals
- ASCE Journals
- ASCE Proceedings
- ASME Digital and Archives
- ASME Journals ( + A M R )
- ASTM Standards & Digital Library
- · Cambridge University Press HSS and S&T package
- Capitaline
- · Crisil Research
- EBSCO Business Source Complete
- EBSCO World Textiles

- EBSCO Discovery Services
- EBSCO Textile & Technology Complete
- Economic & Political Weekly (EPW)
- Electrochemical Society Digital Library Package
- Elsevier's Science Direct
- Emerald Full-text
- Euromonitor (GMID)
- I.C.E. Journals
- IEEE / IEE Library Online (IEL)
- InCites
- · Indiastat.com
- INFORMS Current Journals
- IoP Science extra and their Archival collection
- ISID database
- ISI Emerging Markets EMIES
- Jgate+JCCC
- JOVE Biology
- JOVE Physics
- JSTOR
- Lecture Notes in Computer Science, Mathematics and Physics (Vol.1/1969-Vol. 476/1996)
- Manupatra
- MathSciNet
- Nature journals
- NOW Journals
- Online Miscellaneous Journals (8 Journals)
- Optical Society of America (OSA)
- Oxford Journals (Mathematics, Life Science, Humanities and Social Science)
- Project MUSE Journals
- ProQuest Dissertation & Theses Global (PQDT Global)
- RSC GoldOnline
- RSC Journals Archive Titles (1841 2004)
- Sage IMECH Collection
- Sage HSS & Management Journals and their Archives
- Sage Science and Technology Package
- Scientific American
- Scopus
- SIAM Journals and their Archives
- Springer Link
- Taylor & Francis, Current Core Science & Technology Titles+ Chemistry Backfiles
- Wiley Custom Package
- World Scientific Publication Mathematics
- World Textile All Digital Magazines

#### b. Electronic Books

The Central Library has access to eBooks from the following publishers/aggregators which are available through wide access on IP range in the campus:

- · Cambridge University Press
- Degruyter
- · Elsevier Science
- Pearson
- Society for Industrial and Applied Mathematics (SIAM)
- Springer
- Wiley
- · World Scientific Publisher
- E-Text Books (morethan 125 books)
- Lectures Notes in Computer Science, Mathematics and Physics (upto year 1996)

Apart from the above eBooks, following two eBook collections are also available through NAtional Digital Library (NDL):

- World eBook Library
- · South Asian Archives

#### **Computer and Networking Facilities**

The Library has its own sub-LAN, which, in turn, is connected to the Campus LAN. It has over 90 PCs and six servers spread over three floors of the Library. The Library is a part of fibre optic-based campus-LAN. Of 90 PCs in the Library, 35 Internetenabled PCs are exclusively devoted for the Library users. As a member of the DELNET, the users can access databases offered by the DELNET. The Library Home Page provides a link to the DELNET database.

#### a. Computerization of In-house Activities

All in-house activities in the Library including Acquisition, Cataloguing, Circulation and Serials Control are fully computerized using Libsys Software Package. The Online Public Access Catalogue (OPAC) of the Library is operational both on Intranet and Internet. It can be accessed online to search more than 1,75,000 bibliographic records, available in the Library database through a web-based search interface or with a window client of the Libsys on Intranet as well as on Internet. The editing and updation activities are done on regular basis. Besides, the Central Library has two in-house databases for specialized collections. These databases include: Database of Ph.D. theses submitted to the IIT Delhi and Database of research articles by the faculty and researchers of the Institute.

The Library uses bar-code technology for computerized circulation system. Every document in the Library (except reference sources and bound volumes of journals) bear a bar-code tag that facilitates identification of document and the borrower in the circulation process. Similarly, all categories of users have a bar-coded patron cards. The Library has developed in-house facility for bar coding of books and patron cards.

#### b. RFID Technology in the Library

The Library also has the Radio Frequescy IDentification (RFID) based system. It is the best automated library automation system used world wide and is an effective way of managing collections of the library and providing enhanced services to the users having benefits like: self check-out of books, self-check-in (book drop), to control theft, to find misplaced reading material, sorting, inventory accuracy, stock verification procedures, security control, video surveillance, people counter, Smart Card issuance, etc. It is an automatic data capture technology that uses tiny microchips and miniature antennas affixed to documents. RFID plays a vital role in redefining the library processes to make everyone's job easier right from the users to library staff.

#### **Library Services and Facilities**

#### a. Reader's Assistance

The Library provides assistance to its users ranging from location of a book to finding specific information required by a user. A suggestion book is maintained with Incharge, Reader's Services where the users of the Library can suggest measures for improvements in its facilities and services.

#### b. Circulation of Books and Library Membership

The Library members, according to their borrowing category can borrow stipulated number of books at a time against their bar-coded/RFID patron card.

#### c. Inter Library Loan (ILL) and Resource Sharing Facility

The Library arranges books and journals from other libraries in Delhi on Inter Library Loan (ILL). Photocopies of research articles are also arranged from other IITs under a resource sharing agreement signed by all IITs. The Library also facilitates Demand based procurement of research publications, photocopies of research articles, etc. from other IITs and institutions in Delhi as well as from other parts of India on reciprocal basis.

#### d. Database of Ph.D. Theses submitted to the IIT Delhi

The Library has in-house design and developed Ph.D. theses database. Contains approximately 4,500 bibliographic records of Ph.D. theses submitted to the IIT Delhi. In the year 1966 the first Ph.D. has awarded after that number of Ph.D. research has been continuously increasing every year till dated. The Database developed and maintained in MySQL Database and programmed using PHP language to facilitate access on the Intranet and Internet.

#### e. Photocopying Facility

The Library provides photocopying facility within its premises through an external vendor on payment basis.

#### f. Book Bank Facilities

The Book Bank holds multiple copies of selected textbooks for making them available to the students for the entire period of a semester.

#### g. Text Books Facilities (Print and Online)

The text books are most useful collection of the library especially for course/syllabus related reading. The section has approximately 10,000 syllabus related text books. The books for this section are purchased generally on the recommendations from different faculty members through the concerned Heads of the Department. The timings for issuing the books from the Text Book Section are from 2 PM to 5 PM during Monday to Friday and the same are issued for overnight only (for one day). The books of this section may be returned back during 9 AM to 1 PM only. A maximum total of 2 of books are issued from the section at a time. The Central Library also has 38 e-textbooks for undergraduate students and the same are accessible in the campus through library website - http://library.iitd.ac.in/index.php/e-resourc/e-textbooks.

#### h. Theses Consultation Facilities

Central Library receives all the Ph.D. Theses awarded by IIT Delhi in Hard copy along with their CDs. Print copies of theses are housed in Text Book & Book Bank Section located at the ground floor of the library for consultation purpose only. The abstracts of theses are made available through library Online Public Access Catalog (OPAC) - http://libcat.iitd.ac.in:8080/jopacv11/html/ and also through another interface especially designed for searching the theses at: http://library.iitd.ac.in/thesis.

#### **Web-based Computerized Services from the Library**

The Central Library offers the following services to the Institute:

#### a. Network-based CD ROM Search Services

The Library has complete collection of Indian Standards and ASTM Standards on CD ROM that is available on the Campus network. The resources can be accessed on the Intranet at the URLs given below or through library website at http://library.iitd.ac.in:

- Indian Standards http://10.116.2.102/bis/
- ASTM Standards http://10.116.2.102/astm/
- IEC Standards http://10.116.2.102/iec/

# b. Institutional Repository at IIT Delhi (http://eprint.iitd. ac.in/dspace/)

The Eprints @ IIT Delhi has been set-up to host full-text of research publications of faculty and researchers of the IIT Delhi using Dspace, an open source Digital Library software developed by the Massachusetts Institute of Technology. The Dspace supports the Open Archives Initiative's Protocol for Metadata Harvesting (OAI-PMH), an internationally recognized protocol and interoperability standard. The Eprints@IIT Delhi provides a platform for faculty and researchers to deposit, reuse and share their research publications. The repository also has the ability to capture, index, store, disseminate and preserve digital materials created in any part of the Institute. Faculty and

researchers can register themselves with the digital repository and submit their pre-prints (pre-refereed version of an article), post-prints (post-refereed final version) and publisher PDFs (if allowed by the publisher). The repository has around 2,100 full-text research articles and 4500 abstract of Ph.D. Theses.

#### MECHANICAL FABRICATION FACILITY (IDDC)

The Mechanical Fabrication Facility was a Central Facility located at IDDC Centre to cater to the entire post graduate mechanical fabrication needs of the institute. However, it is under reorganization and is being clubbed with Central Workshop.

#### **CENTRAL WORKSHOP**

Central Workshop is one of the pivoting units of the institute which teaches conceptually "how" a product comes to its present form by way of imparting core manufacturing education to all the first year students of IIT Delhi. It also provides product manufacturing support to entire institute community in general and undergraduate students in particular. More than 900 undergraduate students in their first year acquire hands-on manufacturing skills in this Central Workshop. The Central workshop not only introduces art and science of manufacturing but also infuses confidence to take up product design and manufacturing activities in future. Central Workshop is also a place where B.Tech students of Mechanical Engineering and B.Tech students of Production & Industrial Engineering acquire training and knowledge in specialized areas of manufacturing like Metal Casting, Metal Forming, Metal Machining, Welding & Joining, Metal Forging Woodworking, CNC programming and 3D Printing, Plastic Product manufacturing etc. M.Tech. students of Production group also use central workshop facilities for their practical classes in various courses as well as for project and research work.

The Central Workshop is fully equipped with latest power tools, equipments and facilities in all areas of manufacturing technologies. It also caters to the fabrication needs of students doing product design & manufacturing courses, minor projects, B.Tech, project, Masters thesis and Doctoral research. Large numbers of students use this facility to build products and compete at national and international level product building competitions like Formula student car, mini Baja, Robocon etc. The facility can also be used by external agencies for their manufacturing and training needs during the vacation period.

Central Workshop has undertaken efforts to reorganize, modernized and prepare it for continuously changing global manufacturing scenario. Efforts are also on to prepare students for a broader view of manufacturing which involves planning and deploying optimum ways to transformation of raw material into goods by integration of people, capital, processes, systems and enterprises to deliver products of value to the society.

#### IIT HOSPITAL

The Institute has a 12 bedded hospital centrally located in the campus, providing facilities for OPD treatment and

admissions. The Hospital is managed by a team of full time 10 Allopathic Doctors and one Homeopathic doctor. The Hospital is also visited by part time specialists from AlIMS in the field of Orthopaedics, ENT, Opthalmology, Skin disease, Radio-Diagnosis, & Psychiatry. The doctors are assisted by efficient group of Pharmacists, Nurses, physiotherapist and other Paramedical Staff. The hospital is well equipped to take care of primary emergencies and serious patients are carried to All India Institute of Medical Sciences (AlIMS) and Safdarjang Hospital (SJH) in an Ambulance, which is available 24 hours, on all days.

IIT Delhi Hospital is the recognized centre for Pulse polio immunization, Measles, Matri Suraksha Abhiyan and other programmes by the Government. Hospital provides medical aid during sports meets, Rendezvous, culture function etc. Demonstrations in first-aid, AIDS and Cardio – pulmonary Resuscitation (CPR), and other medical problem are conducted for the students and other staff of the Institute. Free educative and health checkup camps are also provided for the IIT community.

Hospital Statistics 20	16-2017
Patients Attended in OPD	92,889
X-Ray	1,963
Ultra Sound	357
Patients Admitted	512
Physiotherapy	4,434
Surgical Dressing	2,590
Dental Treatment	2,870
Pathology Lab Test	42,651
ECG	1,881

#### **Hospital Facilities**

#### a. OPD facility

Hospital has a large new OPD complex with excellent waiting facilities for patients where, prompt OPD services are provided by doctors. There is also a waiting hall with chairs, a TV, public utilities like drinking water and toilets. Wheel chairs, trolleys and attendants are there to help very sick patients.

#### b. Dental facility

Dental surgeon carries out procedures like Dental extractions, scaling /cleaning, extractions, fillings, & RCT.

#### c. Ward/Indoor facility

Patients are kept for observation and admitted for treatment of medical problems like Typhoid, acute Gastroenteritis, COPD, Bronchial Asthma, Malaria, Dengue Pneumonias etc.

#### d. Minor OT

Minor surgical procedure like dressing of lacerated wound, suturing of minor lacerations & resuturing, excision of corns and sebaceous cysts are done.

#### e. Physiotherapy

Physiotherapy services are provided for a wide range of musculoskeletal painful disorders. Modalities available are MWD, SWD, U/S, TENS, IFC laser therapy traction unit, magnolia.

#### f. Laboratory services

Trained laboratory staff are conducting basic blood urine & stool tests during week days. Services of one NABL accredited laboratory are also available for carrying out specialized tests.

#### g. Pharmacy

Well equipped pharmacy (Allopathic & Homoeopathic) provides free reliable quality medicines to beneficiaries on doctor's prescription during OPD hours (8 a.m. to 8 p.m.).

#### h. Radiology / X-ray facility

X-Ray X-Ray pleophos-D, 300 MA Siemens available, X-rays done on all working days during OPD hours. Sonoline G-50 U/s machine Siemens ultrasound is available and ultrasounds are done once a week by visiting specialist.

#### i. ECG Services

24 hours ECG services, including machine report, carried out by trained staff.

#### j. Ambulance Services

24 hours patient transport vehicle available.

#### k. Specialist OPD Services

Expert specialists from AIIMS from various specialities visit the IIT Hospital in the evening 5.30 -7.30 p.m.

#### **HINDI CELL**

During the period (1st April 2016 to 31st March 2017) the following important activities were organized by Hindi Cell:

- Training workshop on "Rajbhasha Hindi Karyanvayan mein Adhunik e-Tools ki Sarthakta" was organized for group 'B', 'C' Staff & Nodal Officers of the Institute, 26 April, 2016.
- 'Hindi Pakhwara' was organized during the 14-29 September, 2016 in which many activities were organized.
- Training workshop on 'Timahi Report Bharne Ki Jankari' was organized for group 'B', 'C' Staff & Nodal Officers of the Institute, 26 September, 2016.
- One day Workshop on "Rajbhasha Hindi Karyanvayan mein Adhunik e-Tools Ki Sartaktha" was organized for 'B', 'C' Staff & Departmental/Administrative Nodal Officers of the Institute, 10 January, 2017.
- "Hindi Book Exhibition" Jointly organized by Central Library & Hindi Cell on 10 January, 2017 at Central Library. 16 Book vendor were participated in this exhibition.

## **New Initiatives**

(April 1, 2016 - March 31, 2017)

#### **NEW COURSES PROPOSED/DEVELOPED/INITIATED**

During the period, the following new courses have been proposed/developed/initiated:

#### **Biochemical Engineering and Biotechnology**

- BBL749 Cell Biology
- · BBL750 Genome Engineering
- · BBL341 Environmental Engineering

#### **Chemical Engineering**

- Molecular biotechnology and in vitro diagnostics CLL779 (3-0-0) UG & PG level.
- Molecular Modelling Using Vienna Ab-Initio Simulation Package (VASP) One credit PG level course.

#### Chemistry

- · CML692 Food Chemistry and Biochemistry
- CYL698 Food Chemistry

#### **Civil Engineering**

 CVL801 Constitutive Modeling in Geotechnics - 3 credit course.

#### **Computer Science & Engineering**

- · Data Mining.
- An Advanced Topics course on Information Extraction, Question Answering and Dialog Systems.

#### **Humanities and Social Sciences**

- HSL800 Research Writing
- $\bullet \quad HSV747\, Data-driven analysis and tools for Linguistic research$
- HSV748 Data analysis for Psycholinguistics using R
- HSL843 Reading and Sentence Processing
- HSL745 Psycholinguistics
- All PG course were revamped (96 revised plus new courses).

#### **Management Studies**

- MSV801 Selected Topics in OB & HR Management
- MSV802 Selected Topics in Finance
- MSV803 Selected Topics in IT Management
- MSV804 Selected Topics in Operations Management

- MSV805 Selected Topics in Economics
- MSV806 Selected Topics in Marketing Management
- MSV807 Advances in OB & HR Management
- MSV808 Advances in Finance
- · MSV809 Advances in IT Management
- MSV810 Advances in Strategy
- MSV811 Advances in Economics
- MSV812 Advances in Operations Management
- MSV813 Advances in Marketing Management
- MSV814 Advances in Telecom Management
- MSV815 Case Study Teaching and Writing
- MSL799 Theories in IS research

#### **Physics**

- PYL759 Computational Optical Imaging.
- A new specialization titled "Theoretical and Computational Techniques" with several courses for Engineering Physics programme have been developed.
- Computational Techniques: Monte Carlo and Molecular dynamics.

#### **Atmospheric Sciences**

· ASL760 Renewable Energy Meteorology

#### **Biomedical Engineering**

• BMV704 Fundamentals of Neuromechanics, Credit (1-0-0).

#### **Polymer Science and Engineering**

• PTV700 Special lectures in Polymers

# Amar Nath and Shashi Khosla School of Information Technology

- Proposal of 1 credit course submitted by Prof. Subodh Kumar for GIAN scheme to be taught by Prof. Dinesh Manocha, Deptt. Of CS, University of North Carolina, USA.
- Proposal of 2 credit course submitted by Prof. Vinay J. Ribeiro for GIAN scheme to be taught by Prof. Ranjan Pal, University of Southern California, USA.
- Proposal for new course on "Introduction to blockchain, cryptocurrency, and smart contracts" submitted by Prof. Vinay J. Ribeiro to IIT for consideration.

#### **QIP/CEP COURSES**

#### **Civil Engineering**

- "Seismic Aspects of Dam Design" held from 17-19 January, 2017. Sponsored by NHPC.
- "Slope Stability and Stabilization Techniques for HydroElectric Projects" held from 21 to 23 November, 2016. Sponsored by NHPC.

#### **Computer Science & Engineering**

 NPTEL MOOC Course on Parallel Programming by Yogish Sabharwal with about 5000 registered students is currently being offered.

#### **Electrical Engineering**

- Short term course under CEP, "Network Security" duration of 5 days from 30 May 2016 to 3 June 2016, Prof. Ranjan Bose.
- Short term course under CEP, "Renewable Energy & Ancillary Services" duration of 5 days from 22-26 October 2016, Prof. Sukumar Mishra.
- Short term course under CEP, "Workshop on Brain Science & Technology: Tools and Techniques to Understand Human Brain" duration of 5 days from 14-18 December, 2016, Prof. Tapan K. Gandhi.
- Short term course under CEP, "Integrated Defence Sciences (IDS)", duration of 5 days from 14-18 February 2017, Prof. Ranjan Bose.
- Short term course under CEP, "Power System Security and Optimization" duration of 5 days from 6-10 March 2017, Prof. A.R. Abhyankar.

#### **Humanities and Social Sciences**

• Indian and Foreign Language Learning Programme.

#### **Management Studies**

- International Finance, Prof. Smita Kashiramka from 21-28 April, 2016.
- Certificate Course on "Business Management", Prof. Harish Choudhry from 23-28 May, 2016.
- SIMAP: Management Skill Formation Program for Entrepreneurial Ventures, Prof. S. K. Jain from 20 June to 30 September, 2016.
- CyberSecurityPolicy,Prof.ArpanKumarKar,1-3August,2016.
- Sales & Marketing, Prof. Harish Choudhry, 20-27 June, 2016.
- Everest Pratibha, Prof. Harish Choudhry, 11-16 July, 2016.
- Certificate course on Business Management, Prof. Harish Choudhry, 17-23 December, 2016.
- · Capacity Building for Interpersonal Effectiveness & Human

- Resource Mgt, Prof. Shuchi Sinha, from 23 January to 17 February, 2017.
- Certificate program on Advanced Perspectives for Management Excellence, Prof. Mahim Sagar, from 6 to 10 February, 2017.
- Strategy & Leadership in VUCA (Volatile, Uncertain, Complex & Ambiguous) Environment, Prof. Sanjay Dhir and Prof. Shuchi Sinha, 4-6 March, 2017.
- Business Management with Special Focus on Digital Marketing Strategies Innovation & Analytics, Prof. Arpan Kar, Prof. Sanjay Dhir and Prof. P. Vigneshwara Ilavarsan, from 5 January to 6 June, 2017.
- Cyber Security Policy, Prof. Arpan Kumar Kar, from 19 to 21 January, 2017.
- 24th SIMAP: Management Skill formation Program for Entrepreneurial Ventures, Prof. S. K. Jain, Prof. Mahim Sagar, from 25 November, 2016 to 5 March, 2017.
- Qualitative & Integrative Research in Management (QIRM),
   Prof. Mahim Sagar, from 15-17 October, 2016.
- Telecom Policy & Regulations, Prof. Mahim Sagar and Prof. Brejesh Lall, BSTTM/DMS, from 1 October to 30 November, 2016 (Weekends).
- Case Study Teaching & Writing, Prof. Mahim Sagar and Prof. Brejesh Lall, DMS/BSTTM from 14-17 April, 2016.
- International Workshop on Cyber Security IOT, Prof. P. VigneshwarallavarsanandProf.RanjanBose,on20March,2017.
- Management Capacity Development, Prof. Kanika and T. Bhal, from 2-4 March, 2017.
- Certificate Course on Business Management, Prof. Harish Choudhry, from 22-28 October, 2016.
- Certificate Course on Business Management, Prof. Harish Choudhry, from 17-23 December, 2016.
- Case Study Teaching & Writing, Prof. Mahim Sagar, from 14-17 April, 2016.
- Curriculum Workshop on Case Study & Teaching Materials,
   Prof. Mahim Sagar, from 13-15 April, 2016.

#### **Atmospheric Sciences**

- International training workshop on "Climate impact on health" in Asia during 5-16 December, 2016 by Dr. Sagnik Dey and Prof. S.K. Dash.
- Indo-Dutch International Conference on "Atmospheric and Climate Science" during 20-21 February, 2017 by Dr. Dilip Ganguly, Dr. S.K.Mishra, Dr. Sandeep Sahany and Prof. S.K. Dash.

#### **Biomedical Engineering**

 Workshop on Recent Trends in Biomaterials, Biodiagnostics, Tissue Engineering, Drug Delivery and Regenerative Medicine; Organized by Prof. Veena Koul and Dr. Neetu Singh; TEQIP-II Workshop from 14-17 April 2016 at IIT Delhi.

#### **Energy Studies**

 A QIP course was organised by Prof. S.C. Kaushik and Dibakar Rakshit, "Energy Conservation and Management in Buildings & HVAC Systems" during June 16-23, 2016 at CES IIT Delhi.

#### Amar Nath and Shashi Khosla School of Information Technology

- CEP workshop on "Refresher Course in Cyber Security" organized by Prof. Kolin Paul held from 23 January to 03 February, 2017.
- CEP workshop on "Embedded Security" organized by Prof. Kolin Paul held from 6-10 March, 2017.

#### **NEW MoUs SIGNED BY THE INSTITUTE**

#### A. Memorandum of Understanding

In order to have close cooperation in the field of Teaching and Research, the Institute has signed MoUs/Agreements with Institutions/organizations in India and abroad. Currently there are 93 MoUs with foreign Institutions/Organizations and 42 MoUs with Indian Institutions/Organizations. The objectives of these MoUs include exchange of students and faculty, joint research activities and fellowships for training at doctoral and postdoctoral level etc.

During the period under report the Institute has signed the MoUs with the following Institutions / Organizations:

#### **National**

- 1. Agreement with Honda Cars India Limited
- 2. MoU with ReNew Power

#### International

- 1. MoU and Implementing Agreement with AmirKabir University of Technology, Tehran
- Erasmus + Programme with Universidad de Santigo de Compostela/Spain
- 3. MoU with University of Manchester
- 4. Implementing Agreements with Graduate School of Engineering, and Graduate School of Information Science and Technology, The University of Tokyo
- 5. MoU with the Governors of the University of Alberta
- MoU with University College, Dublin, National University of Ireland, Dublin

7. MoU with Simon Fraser University, Canada

#### **B.** Institutions of Chairs

The Industry and the alumni of the Institute have extended significant support to the Institute for its academic and research programmes by way of instituting chairs in various fields. As on date, 33 Chairs are functional at the Institute.

#### C. Scholarships/Medals/Awards/Fellowships

To encourage and to provide financial assistance to needy students of the Institute, individuals, trusts and organizations have been instituting scholarships etc. At present there are 138 awards/scholarships/medal stand instituted at Undergraduate and Postgraduate levels. In addition the Institute has a "Loan Scholarship Scheme" which makes it more affordable for the students in comparison to taking loan from the banks.

During the period under report following scholarships have been instituted:

- 1. Shapoorji Pallonji Scholarship
- 2. Sarla Devi Duggal Excellence Award
- 3. Shri Harbans Singh Memorial Award

#### D. New faculty research grant

To encourage the new faculty for developing research facilities in the area of their expertise, during the period under report the Institute allocated a sum of ₹220 lakhs.

#### **BOOK PUBLISHED**

#### **Chemical Engineering**

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- in the Spotlight: Recent Progress in the Understanding of Beneficial and Harmful Microorganisms", Brown Walker Press, 379-384 (2016).
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- N. Bhardwaj and A.N. Bhaskarwar, Application of polymeric sorbents to oil-spill control: Sorption and desorption characteristics, River Publishers, Netherlands (2016).
- M. Pande and A.N. Bhaskarwar, "Nanoparticles: Preparation and Characterization" in the Nanotechnology Collection, Edited by Ashok N. Bhaskarwar, Momentum Press, USA (2016).
- S. Das and A.N. Bhaskarwar, Physical Chemistry, Chapter Apps, Inc., U.S.A., and Guiding Star Digital Publishers LLP, India (2016).
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# MAJOR RESEARCH INITIATIVES/RESEARCH PROJECTS UNDERTAKEN

#### **Biochemical Engineering and Biotechnology**

 CoE on Bioenvironmental Engineering got LOTUS-HR, Indo-Dutch collaborative project from DBT (18 Crore) and EASE-TEC project from DST (1.4 Crore).

#### **Chemical Engineering**

- "Continuous Processing for Production of Biotech Therapeutics" sanctioned under UAY scheme, Ministry of Human Resource Development India, with a project cost of ₹10,89,00,000 (Prof. A.S. Rathore).
- "Extraction of precious metals from E-Waste using chelation technology" sanctioned by Department of Science and Technology, Government of India with a project cost of ₹4,27,00,000 (Prof. K. K. Pant; Prof. K.D.P. Nigam; Prof. Divesh Bhatia; Prof. S. N. Naik).
- "Development of Direct Hydro-carbon Solid Oxide Fuel Cell (SOFC)" sanctioned by Institute of Oil & Gas Production Technology, ONGC India, with a project cost of ₹2,54,61,000 (Prof. S. Basu; Prof. M.A. Haider).
- "Multiscale Modeling, Simulation and Optimization for Energy, Advanced Materials and Manufacturing" under Indo-German Partnership in Higher Education (IGP), University Grants Commission Germany, sanctioned with a project cost of ₹2,80,00,000 (Prof. V.V. Buwa).
- "Reduction of NOx from H2 engines using EGR and aftertreatment Devices" sanctioned by Ministry for New and Renewable Energy, with a project cost of ₹2,09,00,000 (Prof. Divesh Bhatia).
- "Scale-up studies and process development for hydrogen production by catalytic decomposition of natural gas" sanctioned by CHT, HPCL, with a project cost of ₹1,35,00,000 (Prof. K.K. Pant, Prof. S. Roy).
- "Improvement of Electrolytic Gold Refining Process through Optimum Current Efficiency for Gold Deposition and Gold Recovery from Effluent" sanctioned under UAY scheme, Ministry of Human Resource Development India, with a

- project cost of ₹94,25,000 (Prof. S. Basu; Prof. A. Shukla; Prof. A. Verma; Prof. S.K. Pattanayek; Prof. A.K. Saroha; Prof. R. Mohan; Prof. M.C. Ramteke).
- "Characterization of Reservoir Flow Properties through Pore Scale Experiments and Simulations" sanctioned by Institute of Reservoir Studies, Oil and Natural Gas India, with a project cost of ₹79,80,000 (Prof. V.V. Buwa).
- "A Theranostics Approach for Septicemia Management using rTLR4-functionalized Magnetic Nanoparticles" sanctioned by Science and Engineering Research Board, (DST) India with a project cost of ₹69,29,050 (Prof. Shalini Gupta).
- "Development of electrochemical sensor integrated microfluidic system for label free multiplex detection of neurotransmitters in neuronal cell line" sanctioned by Department of Biotechnology, Government of India, with a project cost of ₹23,00,000 (Prof. Shalini Gupta).
- "Stability and processing of high concentration monoclonal antibody products" sanctioned by Biocon Corporation, with a project cost of ₹85,00,000 (Prof. A.S. Rathore).
- "Use of Surface Plasmon Resonance for Characterization of Biosimilars" sanctioned by GE Healthcare, with a project cost of ₹35,00,000 (Prof. A.S. Rathore).
- "Development of a Low-Cost Therapy for Biological Toxins for Rural India" sanctioned by DBT, with a project cost of ₹71,00,000 (Prof. A.S. Rathore).

#### Chemistry

 21 New Post-Doctoral Research Fellows & others have been recruited this year.

#### **Civil Engineering**

- Taking the lead role in India in the development of a new cement known as Limestone Calcined Clay Cement (LC3), as a part of an international initiative.
- Wetland Restoration and Research Centre submitted under DST.
- Undertook "Research Excellence Programme USC India" funded by the University of Santiago de Compostela (USC) in Spain on "Numerical Analysis of Thermo-Mechanical Behavior of Indeterminate Steel/RC Portal Frames under Fire"in the 'Grupo de Investigación enIngeniería Matemática' of the 'Departamento de Matemática Aplicada'.
- Awarded with an international sponsored research project titled "Performance-Based Seismic Design Guideline for Buildings Isolated with Cost-Effective FRP-Based Rubber Bearings" between IIT Delhi and the University of British Columbia in Canada.

#### **Computer Science & Engineering**

- RAVI: Read Accessibility for Visually Impaired. A research initiative in collaboration with IIT Kharagpur and IIT madras got funded under IMPRINT.
- Prof. Mausam received two grants from Google and Bloomberg (one each) totalling US \$ 92,000 for his work in natural language processing.

#### **Humanities and Social Sciences**

- CoE in Science, Technology and Public Policy set up in the Department.
- Prof. Samar Hussain received Research Grant: DST-CSRI Individual Research Proposal on "Prediction processes in sentence processing: Insights from Hindi" (Duration: 2016-2019; Grant money: 47.46 lakhs).
- Meeting with faculty members from Drexel University organized on February 21, 2017 to discuss possibilities for collaboration in the area of history of science and technology, politics, urban and architectural studies, environmental and disaster studies.

#### **Physics**

 Initiated Collaborative work at CERN, (Prof. V. Ravisankar, Prof. B.R. Mehta, Prof. Santanu Ghosh, Prof. Neeraj Khare).

#### **Applied Research in Electronics**

- THz detectors
- MEMS Sensors Development
- Smart Sensors
- IMPRINT project SONAR for under water unmanned vehicles.

#### **Atmospheric Sciences**

- DST Centre for Excellence in Climate Modelling sponsored by DST; PI: Dr. S.K. Mishra; Co-PIs Drs. Sandeep Sahany, Dilip Ganguly, Maithili Sharan, Vimlesh Pant, Somnath Baidya Roy, B.K. Panigrahi, S.K. Dash, Anupam Dewan, and Sagnik Dey; Total Budget: ₹7,18,87,200/- (2017-2022).
- "Heat Island Study in Angul-Talcher Industrial area of Odisha" sponsored by Odisha State Pollution Control Board; Pl: Prof. Manju Mohan, Co: Pls: Dr. Sagnik Dey, Dr. S.K. Mishra; Total Budget: ₹1.98 Crores (2016-2017).
- "Dynamic Downscaling to Study Climate Change Impacts on Water Resources in India.", PI: Dr. Krishna Mirle Achuta Rao, CAS, Co-PI: Dr. Dilip Ganguly, CAS, Funding agency: Ministry of Water Resourses, Govt. of India. Total budget: ₹1,71,38,814; Period: 2016-2018.
- National Carbonaceous Aerosol Program WG III: Global Climate Modeling", Pl: Dr. Dilip Ganguly, CAS, Co-Pl:

- Dr. Sagnik Dey, Prof. S.K. Dash, CAS, Funding agency: Ministry of Environment Forest & Climate Change, Government of India. Total budget: ₹89,98,880; Period: 2016-2021.
- National Carbonaceous Aerosol Program WG III: Regional Climate Modeling", PI: Dr. Sagnik Dey, CAS, Co-PI: Dr. Dilip Ganguly, Prof. S.K. Dash, CAS, Funding agency: Ministry of Environment Forest & Climate Change, Government of India. Total budget: ₹36,19,440; Period: 2016-2021.

#### **Biomedical Engineering**

- In the past one year the reorganization of research facilities/Labs was initiated with following new laboratories being created:
  - Experimental and Computational biomechanics
  - · Device testing laboratory
  - · Fabrication laboratory with laser cutting and 3D printing

#### **Instrument Design & Development Centre**

• IDDC faculty contributed extensively to design and realization of next generation of Electronic Voting Machines for Election Commission of India.

#### Amar Nath and Shashi Khosla School of Information Technology

• Dr. Aaditeshwar Seth's team's work on quality of telecom service has been featured in the media.

#### **Kusuma School of Biological Sciences**

- "Production of a crucial therapeutic protein for Trauma and Accident care in Escherichia Coli system" Funded by IMPRINT (Proposal No. 4192 (Health Care domain), Government of India. (Budget ₹60 Lakhs). Tenure 3 Years May 2017 to May 2020. Pl: Tapan K. Chaudhuri, CO-Pl's: Prof. Amit K. Dinda, AIIMS; Prof. K.J. Mukherjee, JNU New Delhi.
- Nano formulation-Cell penetrating peptide mediated delivery of Riboflavin to ocular cells sanctioned by IMPRINT (Proposal No. 508 Advanced Materials Domain) Budget ₹55.3 Lacs Pl: Archana Chugh, Co-Pl's Dr. Sushmita Shah, Consultant Ophthalmologist, Lilavati Hospital, Mumbai and Dr. Praveen Kumar, Head, Tej Kohli Cornea Institute, LVPEI, Hyderabad.
- Peptide based delivery of antifungal compound for ocular disease management and identification of novel cell penetrating peptides for organelle targeting such as chloroplasts
- Identification of potential molecular interceptors against Chikungunya infection Department of Science and Technology, India ₹45,60,000.
- Working on host pathogen mechanism in Dengue and antivirals for chikungunya.

# **The Year in Perspective**

(April 1, 2016 - March 31, 2017)

### Glimpses of various activities during 2016-17

### **CONVOCATION**

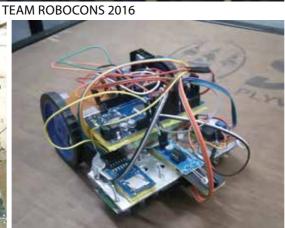


### **ROBOCONS**



GRIPPER







POLE CLIMBER BOMB DISPOSAL MESH FLARE

# fgUhh fnol lekjkg



# RENDEZVOUS



### **BOARD FOR STUDENT PUBLICATIONS**





### **PICTURES OF VISITORS AT NANOSCALE RESEARCH FACILITY**









### **RESEARCH AT THE CORE!**

Lab activities at IIT Delhi













### **SPORTS ACTIVITIES IN THE CAMPUS**



































# 6. Research & Development

#### (April 1, 2016 - March 31, 2017)

•	Academic & Sponsored Research	/2
•	Research Projects and Consultancy	73
•	Foundation for Innovation and	
	Technology Transfer (FIIT)	80

#### **Research Thrust**

Atmospheric Sciences, Embedded Systems, Environmental Science & Engineering, Rural Industrialization, Bioinformatics, Nanotechnology, Fibre Optics and Optical Communications, Biotechnology, Bio-catalysis, Smart and Industrial Textiles, Transportation, Photothermal energy conversion, Material Science, Photo-acoustic Microscopy, Power Technology, Signal processing, Opto-electronics, Computer Science, Computer Aided Design & Manufacturing, Smart Buildings and Infrastructure, Artificial Intelligence and Robotics

### **Academic & Sponsored Research**

(April 1, 2016 - March 31, 2017)

#### **ACADEMIC RESEARCH**

The academic research carried out by the students for the Ph.D. degree, the final semester major project included in the four-year B.Tech. programme, the five-year integrated M.Tech. programmes, and the four-semester M.Tech./M.S.(R)/M.Des. programmes make a significant contribution to the research output.

The principal source of academic research, however, continues to be through Ph.D. research projects. With a total of 2483 students enrolled for a research degree during the year under review, the emphasis on and commitment to academic research is evident. During the two semesters of 2016-2017, 542 candidates were admitted out of which 271 were full-time Institute scholars with the remaining 271 belonging to other categories like sponsored, part-time etc. A total of 264 theses were approved for the award of Ph.D. degree.

IIT Delhi faculty remain engaged in publishing their research results in various journals, Conferences and Seminar proceedings. The number of publication along with citation and h-index for the last 5 years is stated below:

Year	No. of Publications	No. of Citations	h-index
2017*	1626*	440*	5*
2016	1903	3344	17
2015	1,727	2,611	15
2014	1,740	6,112	25
2013	1,633	8,890	31

Source\*: Scopus as on 19 September 2017.

#### **SPONSORED RESEARCH**

Along with teaching and academic research leading to doctoral degree, IIT Delhi gives high priority to research and development projects sponsored by outside national and international agencies and user organizations. The Institute has as one of its cardinal guiding principles continuous, and meaningful interaction with the world of science & technology and industry.

#### INDUSTRIAL RESEARCH AND DEVELOPMENT UNIT (IRD)

The Industrial Research & Development (IRD) Unit has been specifically set up in the Institute to provide specialized administrative and managerial support for the operation of Sponsored Research Projects, Consultancy Jobs and other related R&D activities. Over the years, the institute has set up many modern laboratories and is continuously supporting infrastructure through these projects.

IRD Unit plays an important role by providing a one-time

grant of up to Rupees One Lakh to new faculty member who joins the Institute. This assistance is being given to the new faculty so that they can initiate new projects, which may subsequently be submitted to various funding agencies.

A new initiative 'Faculty Interdisciplinary Research Projects (FIRP)' with the objective of enhancing Interdisciplinary and collaborative research interest in the Institute has been undertaken. Under this scheme 40 projects has been sanctioned in the first phase involving more than 90 Faculty members.

Equipment Matching Grant for new Faculty: IRD provides matching equipment grant to new faculty for the purchase of equipment sanctioned under a project. Faculty can avail this grant within 2 years of joining with a sealing of ₹35 Lacs or an amount equivalent to the funds sanctioned by funding agency for the equipment under the project whichever is lower. Equipment Matching Grants to the tune of ₹97.1 Lacs have been given to 4 new faculty members during the financial year 2016-17.

A New Scheme "Discover and Learn Projects (1-2-3-4)" has been launched to enhance research aptitude among undergraduate students and increase the component of 'learning by research'. Involvement of students at a very early stage of their stay at the institute and working jointly with senior students will expose the students to the excitement of research. In addition, continuous operation of research project on a particular objective for at least 4 years is expected to result in meaningful research output, which will add to profile of the students. Financial support of ₹1 lakh per year has been provided for each project. 20 such projects has been sanctioned in the first phase during 2017.

IRD support for student start up activity in the campus is given under 'Student Start-up Action Scheme'. Students are engaged in start-up actions at different stages and different forms. The objective of this scheme is support this activity by providing a support environment in terms of recognition, initial seed grant and expert advice. Each of the selected project has been given a seed grant of ₹1 Lac. 8 Projects are selected for support under this scheme in the first phase during 2017.

Summer Undergraduate Research Award (SURA): under this scheme, the students are required to submit the project proposals in association with identified Faculty of a Department/Centre to act as an Administrative Facilitator and a Guide.

Assistantships/Fellowships are provided by IRD to the Ph.D. students during their 5th year. IRD provides support in the form of Gap Period Assistantship for both M.Tech./M.S.(R) and Ph.D. students who are drawing their fellowship/assistantship from the projects. These assistantships will be provided to the students once the projects get over and there is no other project to pay their assistantship. M.Tech./M.S.(R) students

### **Research Projects & Consultancy**

(April 1, 2016 - March 31, 2017)

can be supported for a maximum gap period of six months and Ph.D. students would be supported for a maximum gap period of one year.

Institute has been organizing Open House to exhibit an extensive collection of innovative research and product development projects since last ten consecutive years. The eleventh edition of Open House was held successfully on 23rd April, 2016. Open House targets young school kids in NCR region and the footfall is approx. 5000 visitors in a day.

#### **HIGHLIGHTS (2016-17)**

Some important highlights about research are:

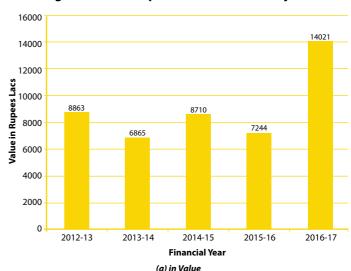
- 158 Sponsored Research Projects with a total funding of ₹140.21 crores and 117 Miscellaneous Projects worth ₹34.60 crores were undertaken.
- 318 Consultancy Assignments worth ₹20.36 crores were undertaken by IRD Unit. Besides, 52 Technology Development Projects/Contract Research Projects worth ₹16.02 crores were undertaken/organized by FITT.
- 40 projects are selected for financial support in the first phase of the new scheme Faculty Interdisciplinary Research Projects (FIRP). An initial grant of ₹5 Lacs has been sanctioned for each project.
- 22 new faculty members who joined the Institute during the year received a research grant of ₹1 Lac each from IRD Unit.
- 20 projects are selected for support under the scheme Discover and Learn Projects (1-2-3-4) in the first Phase during the year 2017.
- 8 projects are selected for support under the scheme Student Start-up Action in the first phase during 2017. Each of the selected project will be given a seed grant of ₹1 Lakh.
- 31 UG Projects have been selected under the Summer Undergraduate Research Award (SURA) scheme for the year 2017.

The trend in research funding and their number for last five years is shown in Table I and in Fig.1 (a) & (b).

**Table I: Statistics of Sponsored Research Project** 

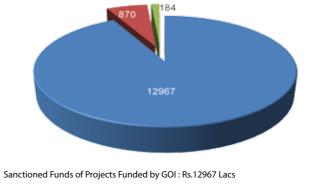
Sponsored Research Projects						
Financial Year	Numbers	Value (Rupees Lacs)				
2012-13	142	8,863				
2013-14	150	6,865				
2014-15	164	8,710				
2015-16	136	7,244				
2016-17	158	14,021				

Fig. 1: Trends in Sponsored Research Projects



200 180 164 158 160 150 142 140 of Projects Sanctioned 120 100 80 60 ŝ 40 20 2012-13 2013-14 2014-15 2015-16 2016-17 Financial Year (b) in Numbers

Fig. 2: Funding agency-wise Breakup of sponsored research projects undertaken during 2016-17



Sanctioned Funds of Inbternationa/Foreign Collaboration Projects: Rs. 870 Lacs Sanctioned Funds of Projects Funded by Private Organizations: Rs. 184 Lacs

#### INDUSTRIAL RESEARCH AND DEVELOPMENT BOARD (2016-17) - As on 31.3.2017

Chairman	Ex-Officio		
Prof. B.R. Mehta	Prof. Suneet Tuli Prof. Sandeep Sen		
	Prof. S. Basu		
Representatives of Department / Centre / School			
Department of Applied Mechanics, Prof. Sawan S. Sinha	Centre for Atmospheric Sciences, Pro	f. S.K. Mishra	
Department of Biochemical Engineering & Biotechnology, Prof. Saroj Mishra	Centre for Biomedical Engineering, P	rof. (Ms.) Veena Koul	
Department of Chemical Engineering, Prof. K.K. Pant	Centre for Energy Studies, Prof. Vams	i Krishna	
Department of Chemistry, Prof. Sidharth Pandey	Centre for Polymer Science & Engine	ering, Prof. B.K. Satapathy	
Department of Civil Engineering, Prof. J.T. Shahu	Instrument Design Development Cer	ntre, Prof. Satish Kumar Dubey	
Department of Computer Science & Engineering, Prof. Prem Kalra	Industrial Tribology Machine Dynam Prof. N. Tandon	ics & Maintenance Engineering Centre,	
Department of Electrical Engineering, Prof. Subrat Kar	Centre for Rural Development & Tech	nology, Prof. V.K. Vijay	
Department of Humanities & Social Sciences, Prof. Ambuj D. Sagar	Computer Services Centre, Mr. K. Nar	ayan	
Department Management Studies, Prof. Ravi Shankar	Educational Technology Services C	entre, Prof. Kolin Paul	
Department of Mathematics, Prof. Niladri Chatterjee	National Resource Centre for Value Education in Engineering, Dr. Nomesh Bolia		
Department of Mechanical Engineering, Prof. S. Mukherjee	Kusuma School of Biological Science	ces, Prof. C.S. Dey	
Department of Physics, Prof. Neeraj Khare	Bharti School of Telecommunication Technology & Management, Prof. Subrat Kar		
Department of Textile Technology, Prof. S.M. Ishtiaque	Amar Nath & Shashi Khosla School of Information Technology, Prof. Sanjiva Prasad		
Centre for Applied Research in Electronics, Prof. Arun Kumar			
Outside Technical Experts From Industry			
Dr. A.K. Saxena, AGM & Head - BHEL, Gurgaon, Haryana	Dr. Rajiv Sharma, Head, Technology Department of Science & Technology New Mehrauli Road, New Delhi – 110	r, Technology Bhawan,	
Mr. Ujjwal Chaudhary, AGM – Operation, NTPC – EOC, Sector 24, Noida	Dr. Satendra Kumar, M/s SWAJAL, 23	0, Udyog Vihar, Phase-I, Gurgaon	
Dr. S. S. V. Ramakumar, Director (R&D), Indian Oil Corporation Ltd. (IOCL), Sector 13, Old Faridabad, Faridabad - 121 006, Haryana		ations Manager, Software Integrated Tower C, Building No. 10, DLF Cyber City	
Dr. S.D. Sherlekar, Sankhya Sutra Labs Pvt. Ltd., C/o Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, Bangalore-560064	Dr. Jai Menon, Group Director, HT Media, 18-20 HT House, K.G. Marg, New Delhi – 110 001		
Managing Director FITT			
Dr. Aanil Wali			
Special Invitee			
Dy./Joint Registrar(Accounts)	Dy./Joint Registrar (Stores)	Assistant Registrar (IRD Accounts)	
Secretary			
Mr. V. K. Vashistha			

contd. ....

Some of the major projects undertaken during the period are listed below:

#### Financial Outlay of Some of the Major Projects during 2016-17 (with sanctioned value 100 Lacs and above)

Project Title	Sponsoring Agency	Sanctioned Funds
Unnat Bharat Abhiyan	Ministry of Human Resource Development	( <b>₹ Lacs</b> ) 2094.00
Continuous Processing for Production of Biotech Therapeutics (under UAY scheme)	Ministry of Human Resource Development	1089.00
Plasmonics Based Highly Sensitive Gas Sensing System (under UAY scheme)	Ministry of Human Resource Development	598.50
Strengthen the research facilities in the Department of Electrical Engineering (under FIST Scheme)	Department of Science & Technology	550.00
Design and Development of Solar PV Based Super Efficient Agricultural Pumps and Hybrid Multidimensional Inverters (under UAY scheme)	Ministry of Human Resource Development	450.08
Design and Development of Bio-resorbable Drug Eluting Coronary Stents (under IMPRINT Scheme)	Ministry of Human Resource Development	399.89
Wide-Area Field of View CMOS Image Sensors for Aerial Surveillance for Defense Applications (under UAY scheme)	Ministry of Human Resource Development	385.06
Development and Field Testing of Panic Switch Based Safety Device for Cars for Aiding Women Safety	Ministry of Electronics and Infor-mation Technology	349.96
Advanced CNC Micromachining System with Integrated Micro Tool Manufacturing	Department of Science & Technology	317.44
Design of Advanced Nano-structured Materials for Novel Applications	Department of Science & Technology	307.06
Low Cost Semiconductor and Optical Sensors based Urban Air Quality Monitoring Network System (SENSurAIR) (under UAY scheme)	Ministry of Human Resource Development	303.88
Improvement of S&T Infrastructure of Civil Engineering Department (under FIST scheme)	Department of Science & Technology	295.00
Multiscale Modeling, Simulation and Optimization for Energy, Advanced Materials and Manufacturing under Indo-German Partnership in Higher Education (IGP)	University Grants Commission	280.00
Energy Efficiency and Occupant Comfort Management in the Built Environment	Department of Science & Technology	261.39
Development of Direct Hydro-carbon Solid Oxide Fuel Cell (SOFC)	Institute of Oil & Gas Production Technology, ONGC	254.61
Development of an Affordable, Automated and Field Deployable, Point of Care and Contained System for Rapid Diagnosis of TB Caused by Mycobacterium Tuberculosis (Under IMPRINT Scheme)	Ministry of Human Resource Development	228.00

Artificial Skin (Bio-inspired Bi-layer Polymeric Hybrid scaf-fold) for Burn Injuries and Trauma Care (under IMPRINT Scheme)	Ministry of Human Resource Development	222.14
Integration and Enablement of 0.18 Micron RF-SOI Technology for Analog Mixed-signal Applications	Department of Science & Technology	217.20
Dynamic Downscaling to Study Climate Change Impacts on Water Resources in India	Ministry of water Resources	156.65
Security in the Internet of Things Space (Centre of Excel-lence in Cyber Systems and Information Assurance)	Department of Science & Technology	144.83
Ensuring A Safe Environment-Treatment of Emerging Contaminants (EASE-TEC)	Department of Science & Technology	140.01
Studies of Fuel Saving and Emission Reduction in Large Size IC Engines using Bio-Inspired Textured Surfaces (Under UAY Scheme)	Ministry of Human Resource Development	127.62
Electrical vehicle charging station as a voltage and frequency regulator within the real time capacity of the EVs available in presence of intermittent renewable energy sources	Department of Science & Technology	124.37
Pilot Project on Development of an Economical, Eco-Friendly and Energy Efficient Process for Production of Ethanol from Lignocellulosic Biomass	Gas Authority of India Limited	115.70
Demonstration and Adaptive Research of Biogas Purification & Bottling Technology for Vehicular Application	Department of Science & Technology	112.98
Development of Lab-on-chip Platforms for Efficient and Automated Farming (LEAF)- Agricultural Sensors	Department of Science & Technology	109.38
From Waste Water to Bioenergy: A Microalgae Biorefinery Approach in Indian and Brazilian Scenario	Department of Biotechnology	104.16

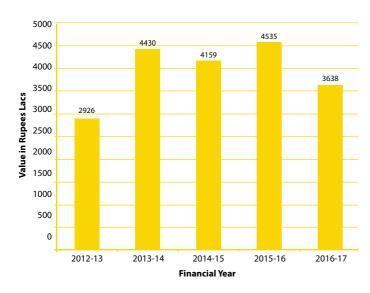
Industrial consultancy is another significant area of activity of the Institute. The nature and extent of the industrial consultancy projects undertaken by the Institute is an index of its credibility with the industry and is symbolic of

the relevance of a centre of excellence in the context of nation's socio-economic development. The consultancy jobs undertaken during last five years is shown in Table II.

**Table II: Statistics of Consultancy Jobs Undertaken** 

Financial Year	Consultan	cy Jobs (IRD)		Technology Development Projects / Contract Research (FITT)		HRD Programmes (FITT)	
	No.	Value in ₹ Lacs	No.	Value in ₹ Lacs	No.	Value in ₹ Lacs	Value in ₹ Lacs
2012-13	348	1829	61	898	48	199	2926
2013-14	430	2731	72	1411	41	288	4430
2014-15	394	2481	96	1678	-	-	4159
2015-16	365	2929	79	1606	-	-	4535
2016-17	318	2036	52	1602	-	-	3638

#### **Research Projects & Consultancy**



#### **COLLABORATIVE RESEARCH**

The Institute is actively involved in collaborative programmes with national and international organizations/ universities to remain at the forefront of scientific and technological developments and to share knowledge. A large number of collaborative Research Projects are under operation with Institutes/Organizations of Austria, Australia, Belarus, Brazil, Canada, Denmark, Ethiopia, European Commission, France, Finland, Germany, Holland, Hungary, Ireland, Israel, Italy, Japan, Korea, Kuwait, Netherland, Nepal, Poland, Portugal, Russia, Slovenia, Sweden, Switzerland, Taiwan, UK, USA, etc. Major research activities have also been undertaken in the areas of national importance.

During the year under report, the Institute has undertaken 18 new Collaborative Sponsored Research Projects with International funding.

#### International Sponsored Research Projects undertaken during the year 2016-17

Project No.	Project Title	Sponsoring Agency/ Collaborating Institute(s)	Sanctioned Funds (₹ Lacs)	Name of Principal Investigator/ Department
RP03331	Accelerated discovery: Microbe Test Case	ExxonMobil Global Services Company USA	13.46	MAYA RAMANATH Dept. of Computer Science & Engg.
RP03300	Joint Research on Global Supply Chain Risk Management	University of Connecticut USA	1.56	RAVI SHANKAR Dept. of Mgmt. Studies
RP03296	Assessing the Value of ICT Based Agro-met Advisories Service to Farmers in Haryana	Swiss Federal Institute of Technology Zurich Switzerland	17.00	UPASNA SHARMA Dept. of Humanities & Social Sciences
RP03288	Hybrid DistMult-Matrix Factorization Models for Open IE Inference	Google Inc. USA	33.90	MAUSAM Dept. of Computer Science & Engg.
RP03276	Rapid Pre-concentration & Detection of Pathogens in Large Volumes via Dual-Nanoparticle Targeting	Asian Office of Aerospace Research & Development (AOARD), USA	43.21	SHALINI GUPTA Dept. of Chemical Engg.
RP03234	Development of kinetic for the methanol to formaldehyde reaction including by-product formation	Haldor Topsoe A/S, Denmark	12.60	KAMAL KISHORE PANT Dept. of Chemical Engg.
RP03199	Practices of Global Supply Chain Management	University of Connecticut USA	1.25	RAVI SHANKAR Dept. of Mgmt. Studies
RP03298	Collaborative Research in Decision Science Business Analytics and Big Data Applications	Loughborough University, leicestershire, United Kingdom	1.72	RAVI SHANKAR Dept. of Mgmt. Studies
RP03321	Security in the Internet of Things Space (Centre of Excellence in Cyber Systems and Information Assurance)	Kyushu University, Japan (through DST)	144.83	RANJAN BOSE Dept. of Electrical Engg.
RP03302	Thio-click Approach for the Synthesis of Stable Glycomimetics and Chiral Oxathiacrown Ethers	University of Debrecen, Hungary (Through DST)	36.82	RANJAN BOSE Dept. of Electrical Engg.

RP03268	Interplay between MgO Oxygen Vacancies and Tunneling Spin Transfer Torque	CNRS, France (through IFCPAR (CEFIPRA))	69.89	PRANABA KISHOR MUDULI Dept. of Physics
RP03258	Magnetic, Transport and Galvano- Magnetic Properties of Thin Films and Ribbons of Novel Heusler Alloys for Magnetic Applications	National University of Science and Technology Moscow, Russia (through DST)	26.60	RATANAMALA CHATTERJEE Dept. of Physics
RP03259	Zero Valent Iron Nano-structured Materials and Nanorust: Applications in (i) Removal of Arsenic from Drinking Water, (ii) Preparing Electromagnetic Wave Absorbers in 2-18 GHz Range	Bay Zoltan Nonprofit Ltd. Applied for Research Hungary (Through DST under Indo-Hungarian Inter- Governmental Science & Technology Co-operation Programme)	19.55	RATANAMALA CHATTERJEE Dept. of Physics
RP03267	Coarse Grain Reconfigurable Embedded Systems Technology (CREST) II Applications	KTH, Sweden (Through DST under Indo-Swedish Joint Research Project programme)	49.98	ANSHUL KUMAR Dept. of Computer Science & Engg.
RP03252	Efficient Method for Development of Meta Material Through Integrating Multiple Processes	Tokyo Institute of Technology, Japan (though DST)	6.09	SIVANANDAM ARAVINDAN Dept. of Mechanical Engg.
RP03214	Dynamics of Binary Flows Relevant to Gasification of Coat and Biomass Experiments and Lattice Boltzmann Simulations	Alexander University, Erlangen Germany (Through DST)	7.21	VIVEK VITTHAL BUWA Dept. of Chemical Engg.
RP03279	Multiscale Modeling, Simulation and Optimization for Energy, Advanced Materials and Manufacturing under Indo-German Partnership in Higher Education (IGP)	University of Erlangen- Nuremberg, Germany (Through UGC under Indo-German Partnership in Higher Education)	280.00	VIVEK VITTHAL BUWA Dept. of Chemical Engg.
RP03197	From Waste Water to Bioenergy: A Microalgae Biorefinery Approach in Indian and Brazilian Scenario	Federal University of Vicosa, Federal University of Sao Carlos, Brazil (Through DBT)	104.16	ANUSHREE MALIK Centre for Rural Development Technology (CRDT)

### CONSULTANCY ASSIGNMENTS WITH INTERNATIONAL ORGANISATIONS

The Institute has been undertaking Consultancy Assignments with International Organizations like: Jaiprakash Associates Ltd., Bhutan; Bulk Testing International, France; Total Marketing Services, France; Japan Automobile Research Institute, Japan; U.S. Air Force Research Laboratory (AFRL), Asian Office of Aerospace R&D, Japan; Nippon Steel & Sumitomo Metal Corp., Japan; LG Electronics Inc, Korea; Panchkanya Plast (P) Ltd., Nepal; Royal Norwegian Embassy, Nepal; G.S. Seismic Control System (P) Ltd., Nepal; Common Fund for Commodities, Netherlands; Energy Research Center of Netherlands; FCG Anzdec Limited, New Zealand;

Escom Research and Innovation Department, South Africa; Uppasala University, Sweden; National Property Board, Sweden; International Institute of Non- Aligned Studies, Switzerland; McLellan and Partners Ltd, UK; Emerald Group Publishing Limited, UK; Marvel Chemicals Ltd, UK; Aquatech International Corp., USA; Fushi Copperweld Inc., USA; PPG Industries Inc., USA; United Technologies Corp./ Pratt & Whitney, USA; McAfee Inc., USA; Safe Water Network, USA; Gulf Coast Technical Service, USA; Corning Inc., USA; Biomorphic VLSI Inc., USA; Institute for the Future, USA; Yardi Systems, USA; Dezaview LLC, USA; Owens Corning Sales, LLC, USA; Ahlstrom Nonwovens LLC, USA; Chapter Apps Incorporated, USA; and Universities/Institutions abroad.

During the year under report, the Institute has undertaken 6 new Consultancy Jobs with International funding.

#### International Consultancy Jobs undertaken during the year 2016-17

Project No.	Project Title	Sponsoring Agency	Sanctioned Funds (₹ Lacs)	Consultant Incharge / Department
CW13790	Visit and Interaction between Electrical and Computer Engineering Students and Faculty at Addis Ababa University	Addis Ababa University, Ethiopia	27.23	BASABI BHAUMIK Dept. of Electrical Engineering
CW13881	General Design Guidelines for FTTx Networks	FTTH Council Asia- Pacific, Singapore	6.00	ABHISHEK DIXIT Dept. of Electrical Engineering
CW13818	Physico-Mechanical Properties of Rock Cores Before and After Grouting from Surge Shaft, UGPH Complex, Mangdechhu H.P., Bhutan	Mangdechhu Hydroelectric Project Authority, Bhutan	5.25	K.S. RAO Dept. of Civil Engineering
CW13820	Study on Inter-State Wage Differential and Internal Migration	International Labour Organization, USA	4.08	JAYAN JOSE THOMAS Dept. of Humanities & Social Sciences
CW13965	Editorial Work at JAMAR Phase - VIII of CW10947	Emerald Group Publishing Limited, United Kingdom	2.51	SURENDRA SINGH YADAV Dept. of Management Studies
CW14024	Professional Advice and Approval of Structure Design of Overhead Corridor in Hospital at Muscat	ARCOP and Partners (Middle East), Oman	1.00	ASHOK GUPTA Dept. of Civil Engineering

#### **OTHER ACTIVITIES**

Besides handling Direct Fellowships sponsored by various funding agencies, sponsored Chairs, PAC/Expert Committee Meetings, new faculty grants, PDF Management, DDF/CDF Management, IRD has also undertaken the following activities during 2016-2017:

- 1. Nano India Meet 2017.
- 2. India-ROK Workshop on Robotics.
- 3. Conference on 'Advances in Robotics 2017'.
- 4. Annual conference on 'Bio-World 2016'.
- 5. Indo-Norway joint workshop on R&D and Innovation (hold at embassy of Norway, New Delhi).
- $6. \quad IIT Delhi-Drexel University Global Class Room Collaboration.$
- 7. Participation in Namami Ganga Project of MHRD.
- 8. National Brainstorming-cum-Consultative workshop on "Validation of Panchgavya and Panchgavya Based products.
- 9. Brainstorming Conference / Workshop on Science, Technology and Innovation (STI) Policy 2013.
- 10. Workshop on "Energy Demand Reduction in the Built Environment'.
- 11. Workshop on 'Urban Air Pollution in Indian and UK Cities : Characterization and Prediction of Chemically Reactive Air Pollutants'.
- 12. Organized one day event 'Understanding Risk' (one of the curtain raiser events of Asian Ministerial Conference on Disaster Risk).
- 13. 'Nuturance Programme for National Talent Search Awardees".

- 14. South and East Asia Conference on Crystal Engineering (SEACCE).
- 15. Workshop on Technical Textiles for M/s. Arvind Group.
- 16. Workshop on Developments in Textiles for MLV Textile & Engineering College.
- 17. National Conference on SOLARIS 2017: Renewable Energy Sources for Sustainable Climate (hold at Varanasi, UP).
- 18. Participation in 'Swayam Prabha' Educational Video Channel Project.
- 19. Central Sector Scheme for Massive Open Online Courses (MOOCs) Compliant e-content Creation (NPTEL Phase IV).
- 20. ONGC Pan IIT Meeting.
- 21. Nano Mission Council (NMC) 25th Meeting and an Award Function to Confer National Research award/Young Career Awards.
- 22. SERB, DST PAC meetings & Expert Committee Meetings.
- 23. DST 2-day Group Monitoring Meeting for Project funded under Nano Mission.
- 24. Engineering Science Meeting of SERB, DST.
- 25. Chair Professorships.
- 26. INSPIRE Faculty Awards.
- 27. Sponsored Post-Doctoral Fellowships.
- 28. Direct Research Associateships.
- 29. Open House.

# Foundation for Innovation and Technology Transfer (FITT)

(April 1, 2016 - March 31, 2017)

The Foundation for Innovation and Technology Transfer (FITT) – an autonomous body, has been in operation as a formal technology transfer organization since 1992 at IIT Delhi. The foundation is mandated to be an effective interface with the industry to promote and sustain commercialization of science and technology. For over two decades now, FITT has been in a mission mode to formulate innovative ways to create partnerships and linkages with business and the community to enable knowledge transfer for societal good and economic development. With the active support of the academic fraternity, Team FITT has enabled successful outreach and extensive S&T collaborations by / at IIT Delhi.

The multifarious roles of FITT include: business partnerships, technology development, consultancy, collaborative R&D, technology commercialization, development programs, corporate memberships etc. These roles are necessitated by the key agenda of the Foundation to showcase the Institute's "intellectual ware" to industry, unlock it's knowledgebase and also inculcate industrial relevance in teaching and research at IIT Delhi.

FITT's gamut of services and activities include:

- Research partnership with industry for technology development and its commercial applications
- Transfer of technology relating to proven R&D outputs
- Intellectual Property Management
- Innovative problem solving consultancy with industry clients
- Information support service to industry and R&D organizations
- Specialist development programmes
- Corporate membership of FITT
- Facilitate funding for the development of innovative ideas of commercial implications

FITT is a DSIR approved Scientific and Industrial Research Organization (SIRO) by virtue of its charter to implement, inter-alia, industrial R&D projects. During FY 2016-17, 52 technology development / transfer projects worth Rs.1602 lakh have been contracted at FITT.

FITT manages the Institute's IPs and IPRs. During the last financial year 62 IPs were filed and 3 licensing deals were closed. To augment its outreach and technology commercialization efforts, FITT engages with specialist

outside agencies. Besides enabling regular industry academia meetings, FITT organized a number of visits by IIT Delhi faculty to industrial units in order to assess their R&D needs so as to initiate industry-relevant R&D programs at the Institute. FITT has been instrumental in organising several visits by overseas companies and delegations enabling dialogue between the visiting delegates and academic community of the institute.

At the Institute, the Professional Candidate Registration (PCR) program has been adopted towards extending the academic courses at the Institute amongst the targeted segments of industry, research and academic establishments. Through this unique program, suitably qualified professionals can undertake relevant semester-long course modules here at IIT Delhi to augment their knowledgebase and skill set. During the academic year 2016-17, 82 candidates participated in this program.

Over the last several years FITT has been strengthening the techno-entrepreneurship activities on the campus. It enabled the establishment and operation of thriving incubators on the campus - Technology Business Incubation Unit (TBIU) and Biotechnology Business Incubation Facility (BBIF). The TBIU is a flagship institute program designed primarily to promote partnership with new technology entrepreneurs and start-up companies, and also serve as a medium of technology transfer. 11 companies are presently resident at the TBIU and 6 in the BBIF. FITT provides co-share equipment facility to bio-tech start-ups. These companies are working in the technology domains of IT, Biotechnology, Engineering design, Cleantech etc. Out of 68 companies admitted so far in the incubator since its inception in the year 2000, 26 companies have started their up-scaling / commercial operation after completing their incubation at the Institute and are reported to be growing at a steady pace

#### Start-up Entries (FY 2016-17)

- · Vecmocon Technologies
- · Botlab Corporation
- NanoDx Healthcare (Virtual)
- · Vizara Technologies
- BROWNBAG Corporates
- Veracitech
- Luminasic
- Aguasense Equipments

#### Foundation for Innovation and Technology Transfer (FIIT)

- · TestRight Nanosystems
- · Nanoclean Global

#### Start-up Exits (FY 2016-17)

- · PLANIN Innovation
- · Kentellus Welding
- · Credext Technologies
- Innovator Lab Consultants
- VM Trans Innovations

FITT has been at the forefront in managing several innovation and entrepreneurship programs in the country. As a nodal agency in several Government schemes, FITT administers programs of - The Ministry of Micro, Small and Medium Enterprises (MSME) for promoting and supporting innovation amongst micro and small enterprises leveraging the knowledge resources at IIT Delhi; Department of Electronic and Information Technology (DietY) seed support in the broad area of ICT is also forthcoming under the "Technology Incubation and Development of Entrepreneurs" (TIDE) scheme; Technology Development Board (TDB)'s scheme for the specific purpose of providing early stage financial support to start-up units incubated at IIT Delhi's TBIU and a Partner of BIRAC (DBT) towards implementing their Biotechnology Ignition Grant (BIG) scheme in the country.

FITT has also partnered with Pfizer for the implementation of the Pfizer IIT Delhi Innovation and IP Program, thereby providing support of upto Rs. 50 lakhs to healthcare based innovators/ start-ups for incubation and Rs. 3 lakhs for IP protection. As a part of the CSR initiatives of POSOCO and Ericsson, FITT has implemented innovation/ incubation support programs. On behalf of IIT Delhi, FITT has been lead implementing partner of The Ministry of Skill Development and Entrepreneurship (MoSDE) in their newly instituted National Entrepreneurship Awards (NEAS) to recognise the efforts and achievements of exceptional entrepreneurs and those individuals and organisations who are working in the field of entrepreneurship development.

Towards women empowerment, FITT has promoted the Women Entrepreneurship and Empowerment (WEE program at IIT Delhi. The program took off from 1st October 2016. During its 1st phase, 40 women were shortlisted after screening over 2000 applications that were received. WEE Mentorship Classes were conducted during the weekend at IIT Delhi with the global industry expert.

FITT has corporate members representing small/medium/ large scale industrial and R&D units. Corporate members receive preferential treatment in matters of collaboration with the Institute in addition to information and technical services that FITT provides.



Lecture on Intellectual Property Rights by Prof. Prabhuda Ganguly, Advisor VISION-IPR (Mumbai), on September 28, 2016 at the Senate Room, IIT Delhi

#### Foundation for Innovation and Technology Transfer (FIIT)



Parliamentary delegation from UK led by Mr Virendra Sharma visited FITT on February 15, 2017



Mr. Rajnath Singh, Minister of Home Affairs and Mr. Rajiv P. Rudy, Minister of MSDE during the award ceremony of NEAS on January 30, 2017



Parliamentary delegation from UK led by Mr Virendra Sharma visited FITT on February 15, 2017



Award ceremony of POSOCO Power System Awards (PPSA) 2017 held at IIT Delhi on March 22, 2017



Award ceremony on the conclusion of the 1st phase of the WEE program at IITD

## 7. Events

#### (April 1, 2016 - March 31, 2017)

•	Convocation	84
•	Conferences/Seminars/Workshops/Lectures	86
•	Interaction with Alumni	95
•	Distinguished Visitors	96

### **Convocation**

(April 1, 2016 - March 31, 2017)

#### DISTINGUISHED ALUMNI AWARD/DISTINGUISHED ALUMNI SERVICE AWARD

IIT Delhi lays great emphasis on a strong and vibrant relationship with its alumni. The Institute is proud of its alumni and their achievements. The success of the alumni is one of the most important yardsticks by which the Institute measure its achievements in academic / professional fields.

The Institute recognizes the outstanding contributions made by the alumni in various areas by conferring the Distinguished Alumni Award each year. This award is the highest honour conferred by the Institute on its alumni to recognize their achievements and outstanding contributions to academics, teaching & research, corporate business development, profession and / or public service. Sixty six alumni have received the award since its inception in 1992. For the year under report, the prestigious award was conferred upon the following at the 47th Convocation of the Institute.



**Prof. Chandrajit Bajaj**Distinguished Alumni Award

B.Tech. Electrical Engg. (1980), at present Professor of Computer Science, Computational Applied Mathematics, Chair in Visualisation & Director, Center for Computational Visualisation, Institute for Computational Engineering and Sciences, The University of Texas at Austin.



Shri Pradeep Kumar

Distinguished Alumni Award

B.Tech. Electrical Engg. (1970), Former Central Vigilance Commissioner (CVC), IAS 1972 Batch, Govt. of India, New Delhi, India.



Shri Sachin Bansal
Distinguished Alumni Award
B.Tech. Computer Science & Engg. (2005), at present Executive Chairman, Flipkart Internet Pvt. Ltd., Bangalore, India.



Shri Sanjeev Kalhan
Distinguished Alumni Award
B.Tech. Electrical Engg. (1983), at present Managing Director and CEO M/s. Communication Media Products (I) Pvt. Ltd.

#### **Medals and Awards Winners at the 47th Convocation**

Following is the list of award winning students at the convocation.

President's **Gold Medal** 



Director's **Gold Medal** 



**Dr. Shankar Dayal Sharma Gold Medal** 





**Silver Medalists** 



Shikhar Tripathi













Rachit Madan











**Archit Shah** 

A.K. Mahalanabis Memorial Medal

Rahul Trivedi

**Abhinav Dhupar Memorial Award** 

Abhinay Bindal Amit Garg Memorial Research Award

Pratibha Goel Prof. A.K. Sinha Cash Prize

T. Sumeet Singh

Dr. Amrik Singh Medal & Prize

Waychal Abhijit Gajanan

**Lt. Arpan Banerjee Award** Saurabh Tripathi

Alok Saxena Memorial Award

Shantanu Singh

Buti Foundation Bodh Raj Gold Medal (for

best women student) Gundavarapu Akhila

**Bimla Jain Medal** Manisha Sihaq

**Boss Award** Rahul Mishra

Archit Rai Ashish Ranjan Shrey Gulati

Abhilasha Kamboj and Aishwarya

Chand Rani-Banarsi Dass Duggal Memorial

Manish Kumar Pandey
Mrs. Chander Kanta Nanda Excellence Award

Kalki Kukreja

Meghank Garg & Kshitij Jain (Jointly)

Dogra Medal Syed Ahmed Usama Dogra Gold Medal

Pooia Kudesia

Excellence Award for Best Project in HV AC & R (Heating Ventilating, Air-Conditioning & Refrigeration)

Nishant Shrivastava

**FITT Award for Best Industry Relevant** 

Project Sukomal Dey Utkarsh Sharma

Harsha Vardhan Dwarkadas Motiwala

**Memorial Award** Manisha Sihag
IEEE-PEDES 96 Award

T. Sumeet Singh **Jagat Ram Chopra Award** 

Shivali Banerjee Divya Goel Ashwin Jayaraman

Javant Sinha Award Meghank Garg Dr. Kewal Krishan Baveja Medal

Shivali Goyal
K.S. Prakasa Rao Memorial Award

Patel Chintan Dalsukh

K. Vasudevan Award Manisha Sihao Laxmi Bai - Lal Chand Khurana Memorial

Aakash Deep Singh

Prof. M.C. Puri Memorial Medal

Prof. M.M. Chawla Gold Medal Shubham Gupta

M.M. Chawla Gold Medal Aakash Deep Singh

NBCC Prize of Excellence

**Mudit Sharma Memorial Gold Medal** Rachit Madan

Baheti Akshay Satishkumar Nayyar Perwez Shahabuddin Medal

Himanshu Patel Dr. Neeraj Srivastava Prize

Debarshi Basu Prof. O.P. Gupta Medal

Shashi Kushan Prof. Pushpa Bajaj Gold Medal Thangapandian V

Parampujya Baba Sant Nagpalji Gold Medal Aleti Siva Krishna

Punita Kumar - Sinha Award for All Rounder Excellence

Pooja Kudesia Padmashri Man Mohan Suri Project Award (U.G.)

Himanshu Patel Rahul Mittal

Padmashri Man Mohan Suri Project Award Kamireddy Harshavardhana Reddy

Mr. & Mrs. Prem Sheel Bhatnagar Award Shubham Sharma

Raiiv Bambewale Trust Cash Award Raghuvansh Raj Saxena

Rajiv Bambawala Cash Prize

Rahul Giri Memorial Gold Medal Chirag Bansal

Rajindra Kumari Malhotra Memorial Prize Chirag Bansal

Dr. Shankar Dayal Sharma (Former President of India) Gold Medal

Kandlagunta Sridhar Reddy Abhinav Yadav Suresh Chandra Memorial Trust Award (U.G)

Ritesh Noothigattu Suresh Chandra Memorial Award (P.G.)

Aleti Siva Krishna

Jain Akshay Ashok Kumar

Mrs. Santokh Gill Award Sudha Yadav

Shri S.L. Duggal Excellence Cash Award Kshitii Jain

Shrimati and Shri H.R. Mittal Cash Award Vivek Yaduwanshi

Suman - Upma Gupta Memorial Gold Medal Manisha Sihag

**Uiial Jeewan Charitable Trust Award** Ashutosh Mishra

(April 1, 2016 - March 31, 2017)

The departments, centres and schools of the Institute organized many conferences, seminars, workshops, lectures and some major of them are highlighted here under:

Departments/Centres/Schools	Title of the Conference / Seminar / Workshop / Lecture
Biochemical Engineering and Biotechnology	"Drug Resistant Tuberculosis and development of new inhibitors" by Dr. Pankaj Kumar, Center for Tuberculosis Research, Department of Medicine, Johns Hopkins School of Medicine, Baltimore, USA on March 21, 2017.
	"Control of DNA Breakage and Repair during Meiosis" by Dr. Viji Subramanian, Department of Biology, New York University, NY, USA on March 17, 2017.
	"Role of bacterial signal molecules in the interaction of beneficial microbes with plant hosts" by Prof. Anton Hartmann, Helmholtz Zentrum Munchen, Neuherberg, Germany on February 23, 2017.
	"Using whole genome sequencing to diagnose resistant bacterial infections" by Prof. Philip W. Fowler, University of Oxford, UK on January 31, 2017.
	"Drug discovery with special reference to NCE and Biologics" by Dr. C.N. Ramchand, CEO, Saksin life sciences Pvt. Ltd. Chennai & San Francisco and CEO, MagGenome technologies Pvt. Ltd., Cochin, Kerala on January 12, 2017.
	"Frequency doubling in cyanobacterial circadian clock" by Dr. Arijit Kumar Das, University of Cambridge, UK on January 06, 2017.
	"Omics approach reveals lysine succinylation and sirtuin 5 as important regulators of cardiac function" By Dr. Sushabhan Sadhukhan, Cornell University, Ithaca, New York on November 18, 2016.
	"Immunity to Mycobacterium tuberculosis" by Dr. Helen Collins, Kings College, London on November 16, 2016.
	Workshop on CRISPR CAS-9 Based on Precision Genome Editing.
	Lecture by David Grahm from Newcastle University, U.K. on 16-27 May.
Chemical Engineering	"Molecular modeling of cellulose pyrolysis" by Dr. Vishal Agarwal, UCSB on 6 April, 2016.
	"Carbon for MEMS and NEMS" by Dr. Swati Sharma, KIT Karlsruhe on 12 April, 2016.
	"The role of hydro processing technologies in meeting environmentally friendly fuels demands" by Dr. Suheil Abdo, UOP LLC on 21 April, 2016.
	"Investigating light induced chemistry of the emerging nanostructures: making efficient solar energy" by Dr. Avishek Saha, University of Erlangen-Nuremberg on 6 May, 2016.
	"Adsorbed Natural Gas for Onboard Storage: Multi scaling from Molecules to Transport" by Prof. Ganapathy Ayappa, IISC on 26 August, 2016.
	"Development of bioprocesses involving nanobiocatalysts as enzyme source for the synthesis of chiral drugs and drug intermediates" by Prof. U.C. Banerjee, NIPER on 2 September, 2016.
	"Clathrate hydrate: A huge energy resource and technology enabler for innovative and sustainable applications" by Prof. Praveen Linga, National University of Singapore on 29 September, 2016.
	"Energy efficient heat exchange and catalysis: the UNIHEAT project" by Prof. Sandro Macchietto, Imperial College London on 7 December, 2016.
	"A novel self-repairable sealing concept for high-temperature solid oxide fuel cells" by Prof. Raj Singh, Oklahoma State University on 9 December, 2016.
	"Development of novel catalysts and adsorbents for hydro processing of gasoil" by Dr. Ajay K. Dalai, University of Saskatchewan on 4th January, 2017.
	"Bio electrochemical enhancement of direct interspecies electron transfer in anaerobic digestion" by Prof. Young-Chae Song, Korea Maritime and Ocean University (KMOU) on 18 January, 2017.
	"Outlook of Bio-Electrochemical System" by Prof. Kyuseon Yoo, Jeonju University on 18 January, 2017.
	"Engineering Complex Catalytic Architectures for the Electro reduction of Carbon Dioxide" by Dr. Sujat Sen, Massachusetts Institute of Technology on 25 January, 2017.
	"History and Structure of Granular Sediments" by Prof Thorsten Poeschel, FAU, Erlangen on 29 March, 2017.
	Centre of Excellence for Biopharmaceutical Technology Course Series 12 to 14 December, 2016 at LHC, IIT Delhi.
	Indo-EU Workshop on Electrochemical Technologies" and review Meeting, funded by Department of Science and Technology (DST), Government of India and European Union in the framework of "New-Indigo" on 2-4 March, 2017.

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#### Chemistry

Courses taught for IIT Jammu IIT-PAL: A national level TV broadcast run by MHRD for mentoring 12th grade students

RICHARD C. REMSING III: The Role of Frustration in Electron Transfer Reactions Confined Between Layered Manganese Dioxide, Institute for Computational Molecular Science, Philadelphia, USA on 1 June, 2016.

Bishwajit Paul: Profiling Aldehyde Decarbonylase through The Scalpels of Small Molecules, Bangalore University on 10-06-2016.

Prasenjit Mahato: Dev. of smart molecular systems and their applications in molecular recognition, self-assembly and solar photon up conversion, Dept. of Chemistry and Biochemistry, Kyushu University, Japan on 16-06-2016.

Ravindra Pandey: Probing Structure and Dynamics at Complex Interfaces, University of Texas at Austin on 02-07-2016.

Ariel Kushmaro: Antibiofilmnano-surfaces for clinical and environmental application, The Ilse Katz Center for MEso and Nanoscale Science and Technology and NIBN Ben-Gurion University, Israel on 20-07-2016.

Manoj B. Gawande: Advanced Nanomaterials-Synthesis and Applications in Catalysis and Organic Chemistry, Regional Centre of Advanced Technologies and Materials, Palacky University, Czech Republic on 01-08-2016.

Prabuddha Mukherjee: Multimodal Imaging in Biological Systems, Beckman Institute of Advanced Science and Technology, University of Illinois at Urbana Champaign on 24-08-2016.

Dr. Snehasis Das chakraborty: Protonation of a Strong Base by Carbonic Acid in Aqueous Solution: Exploration of Charge Transfer Dynamics and Reaction Pathway, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO, USA on 20-09-2016.

Debabrata Goswami: Precise in-situ control and measurement of temperature and viscosity at nanoscale using femtosecond tweezers on 10-10-16.

Nadja Carola Bigall: Colloidal Nanoparticles as Building Units for Functional Hydrogel and Aerogel Materials, Leibniz Universitat Hannover, Germany on 18-11-16.

Mintu Porel: Novel Classes of Supramolecules and Macromolecules: Design, Synthesis and Applications, Cornell University, Ithaca, New York, USA on 05-12-16.

P. Andrew Evans: New Vistas in the Asymmetric Construction of C-C Bonds: Total Synthesis of Complex Bioactive Agents, Department of Chemistry, Queen's University, 90 Bader Lane, Kingston, Ontario K7L 3N6, Canada on 06-12-16.

Guido F. Herrmann: Science of Synthesis – Road show Managing Director, Theme Chemistry on 20-01-2017. Jino George: Light-Matter strong coupling: a molecular perspective, University of Strasbourg, France on 20-02-2017.

Parmajit S. Arora: Mimicry of protein surfaces with peptides and peptidomimetics, New York University, USA on 23-02-2017.

Klaus Banert: Exciting Chemistry of Unusually functionalized azides, Chemnitz University of Technology, Germany on 07-03-2017.

Professor Manfred P. Schneider: Using Biocatalysis: From Bio-Active compounds to the Bioconversion of Renewables, FBC- Bergische Universitat Wuppertal, Germany on 22-03-2017.

Krisztina Schrantz: Removal of persistent organic pollutants (pharmaceuticals and pesticides) from waters using Advanced Oxidation Processes, Department off Inorganic and Analytical Chemistry, University of Szeged, Hungary on 28-03-2017.

Rajarshi Chakrabarti: Diffusion of passive and active tracers in sticky polymeric environment, Department of Chemistry, Indian Institute of Technology Bombay.

#### **Civil Engineering**

"Urban Air Pollution in Indian and UK Cities: Characterisation and Prediction of Chemically Reactive Pollutants" on 28th Nov - 1st Dec 2016, IIT Delhi-British Council-Royal Society of Chemistry-University of Birmingham.

Workshop on SOURCE 2016, organised by IIT Delhi In Collaboration with eWater (Australia), December 14-15, 2016, IIT Delhi, New Delhi.

Workshop on PozzoPro+: A new performance enhancing additive for concrete, developed at IITD.

Organized "Natural Hazards & Risk", a national curtain raiser event during the "Asian Ministerial Conference on Disaster Risk Reduction" (AMCDRR) at Indian Institute of Technology (IIT) Delhi on 26th October, 2016 in association with the National Disaster Management Authority (NDMA).

Conducted two-day Indo-German workshop on "Sensor-Based Security and Emergency Management System for Underground Metro Systems during Disaster Events" on 28th February 2017 and 1st March 2017 sponsored by the Department of Science and Technology (DST), Government of India and the Federal Ministry of Education and Research (BMBF - Bundesministerium fur Bildung und Forschung) in Germany.

#### contd. ....

Workshop on "Landfills and Waste-To-Resources", Organized by Dept. of Civil Engineering, IIT Delhi, with support of Indian Geotechnical Society Delhi Chapter, IFCI Venture Capital Fund Pvt. Ltd., 28 March - 19 April, 2017.

Codification and Design in Regions of Low to Moderate Seismic, Activities: overcoming current challenges lecture by Prof. Nelson Lamon 13 February, 2017 (Monday) 3 PM at Civil Engineering Department Committee Room organized by Civil Engineering Society IIT Delhi.

Phenomenological Modelling of Fluid-Flexible Structure Interactions lecture by Narakorn Srinil on 5th April 2017 3 pm at Civil Engineering Department Committee Room (Block IV 221) organized by Civil Engineering Society IIT Delhi.

#### Computer Science & Engineering

Data-Driven Techniques towards Performance Optimization in Wireless Networks, by Ayon Chakraborty, SUNY Stonybrook.

Adaptivity and Optimization for Physics-Based Animation, by Rahul Narain, Univ. of Minnesota.

Robust Image Feature Description, Matching and Applications, by Shiv Ram Dubey, IIIT Chitoor.

Urban sustainability, preserving privacy, by Rijurekha Sen, Max-Planck Institute-SWS, Saarbrucken.

Fusing Physical and Social Sensors for Situation Awareness, by Mohan Kankanhalli, NUS Singapore.

Multi-biometric Authentication Systems, by Puneet Gupta, TCS Kolkata.

PinDrop: Networking Substrate for High-Quality Real-Time Streaming, by Venkat Padmanabhan, MSR Bangalore.

On Programming Multiprocessors and Reviving Innovation in Hardware Design, by Gagan Gupta, Microsoft Research.

Exploring the Role of Context and Social Media to Enhance the User-Experience in Photography and Image Tag Recommendation, by Yogish Rawat, NUS Singapore.

Applications of Regular quantifiers in Logics, by A.V. Sreejith, Univ. of Warsaw.

Statistically Secure Additions and Restricted Multiplication of Secret Shares, by Dor Bitan, Ben-Gurion University.

Constrained Counting and Sampling: Bridging the Gap between Theory and Practice, by Kuldeep Meel, Rice University.

Local Guarantees in Graph Cuts and Clustering, by Neha Gupta, Stanford Univ.

Pervasive Computing and Communication Techniques for Smart Healthcare, by Vaskar Roy Choudhury, IIT Roorkee.

Orchestrating NFV Symphony, by Puneet Sharma, Hewlett Packard Labs.

What is in a Name, An Access Based Abstraction for Points to Analysis, by Vini Kanvar, IIT Bombay.

On the Single-Pass Streaming Complexity of the Set Cover Problem, by Sanjeev Khanna, University of Pennsylvania.

Synthesizing Heap Manipulations via Integer Linear Programming, by Subhajit Roy, IIT Kanpur.

Empathic Human-Computer Interaction, by Arindam dey, University of South Australia.

Targeted Client Synthesis to Detect Concurrency Bugs, by Dr. Murali Krishna Ramanathan, IIT Delhi.

 $The \ Approximations \ vs. \ Abstractions \ Dilemma \ in \ Pointer \ Analysis, \ Uday \ Khedkar, \ IIT \ Bombay.$ 

Incremental Program Obfuscation, by Omkant Pandey, Stony Brook University.

The Cognitive Era, by Ravi Kothari, IBM Research.

QUADSEAL: A Hardware Countermeasure against Side channel Attacks on AES, by Sri Parameswaran, University of New South Wales, Sydney.

Learning, Games and Sample Complexity, by Arnab Basu, IIM Bangalore.

Legal, Non-legal...and beyond, by Kripabandhu Ghosh, ISI Kolkata.

Breaking the Memory Wall in Multi-core Systems through Prefetch and Compression Engines, by Biswabandan Panda, INRIA Rennes.

Efficient Similarity Search across Top-k Lists under the Kendall's Tau Distance, Koninika Pal, TU Kaiserslautern. Interactive Data Science, by Tim Kraska, Brown University.

Some Perspectives in (Big) Social Data Exploration, by Sihem Amer-Yahia, CNRS, France.

Verifying Security Properties in Modern SoCs Using Instruction-Level Abstractions, by Pramod Subramanyan, Princeton.

Timed Network Games, by Shibashis Guha, Hebrew University.

GPS: An Indispensable Technology, by Pratap Misra, Tufts University.

Tracking the Conductance of Rapidly Evolving Topic-Subgraphs, by Sainyam Galhotra, UMass, Amherst.

#### contd. ....

Testing Quantum Devices and Quantum Mechanics, by Umesh Vazirani, UC Berkeley.

Separations and Lower Bounds in Decision Tree Complexity, by Swagato Sanyal, TIFR.

Engineering Software Defined Network (SDN) for Scale, by Deepak Bansal, Microsoft USA.

Lightweight Formal Methods for LLVM Verification, by Santosh Nagarakatte, Rutgers University.

Cheap approximate localization using FM Radio, by Piyush Kumar, Florida State University.

Exploiting Maximal Overlap for Non-Contiguous Data Movement on Modern GPU Enabled Clusters, by ipsankar Banerjee, Ohio State University.

Interactive Machine Learning for Information Extraction, by Sameer Singh, UC Irvine.

Analytics - An insightful enabler across the hydrocarbon value chain, by Steve Cherek and Vinit Verma, Exxon Mobil

Better algorithmic bound for the Komlos discrepancy problem, Shashwat Garg, TU Eindhoven.

Adaptive Broadcast by Fault-Local Self-Stabilizing Spanning Tree Switching, by Sushanta Karmakar, IIT Guwahati.

Automata and logics over infinite alphabets, by Amaldev Manuel, Chennai Mathematical Institute.

Joint Seat Allocations in IITs and Other CFTIs: Impact of an Algorithm, by Surender Baswana, IIT Kanpur (Institute Lecture).

Security Games: Key Algorithmic Principles, Deployed Applications and Research Challenges, by Milind Tambe, Univ. of Southern California (Institute Lecture).

#### **Electrical Engineering**

International Conference on Electromagnetic Emissions and in Mobile Telephony and its Health Impact by Prof. Shankar Prakriya on 7 march, 2016.

Lecture on "Research and Educational Developments in Power Electronics at the University of Minnesota" on 24 March 2017 by Prof. N. Mohan.

Lecture on "Advanced Power Converters for Increased Energy Efficiency in Microgrids" by Dr. Krishna Senai on 14 February, 2017

Lecture on "Experience of Severe Overvoltage in an Interconnected Transmission Subnetwork during Single-Phase Open Period" by Dr. Mukesh Nagpal on 1 February, 2017.

Lecture on "Integration of solar, storage, electric vehicles with distributed energy resource management for a smart gird of the future" by Prof. Rajit Gadh on 28 December, 2016.

Lecture on "Reliability analysis and uncertainty quantification in energy systems-current research at the University of, by Dr. Chris Dent on 14 November 2016.

Lecture on "Smart Building and Infrastructures" by Prof. Saifur Rahman on 2 June, 2016.

### Humanities and Social Sciences

Department held 27 Tuesday Seminars – at which eminent scholars and researchers were invited.

Prof. Richa Kumar organized a Conference on "India's Soils: Science-Policy Practice interfaces for sustainable futures" from Feb 26-28, 2017 DST-CRR project.

Dr. Farhana Ibrahim organized a one day workshop with participants from University of Michigan to explore mutual research interests on 24 February 2017.

Prof. Ambuj Sagar organized one day workshop on "Strengthening publicly-funded incubators" on Sunday, December 4, 2016

Prof. Ambuj Sagar organized Roundtable discussion on "How to introduce activities to support Inclusive innovation in Academic Institutes?", IITD 7-8 January 2017.

Prof. Ambuj Sagar organized workshop (jointly by the IIT Delhi DST-CPR, MIT Tata Centre for Technology and Design and the Tata Trust) "Strengthening Inclusive Innovation through Partnerships during March 17-18, 2017.

Economics Unit of HSS organized a two days CEP workshop on "Economic Theory and Empirical issues" during April 8-9, 2016.

Special events: 'Perspectives on Peace'; Panel discussion organized by Prof. Rukmini Nayar on 26 October, 2016.

 $Panel\ discussion\ on\ Dr.\ Richa\ Kumar's\ book'Rethinking\ Revolutions'\ organized\ by\ the\ Department.$ 

Panel discussion on the UP elections organized by the Department.

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#### **Management Studies**

International Conference in Smart Cities.

15th IFIP Conference on e-Business, e-Services and e-Society.

National symposium on improving eGovernance using Big Data Analytics (IEGBDA) under ICEGOV.

PMI India Research & Academic Conference.

International Conference on Excellence in School Education, IIT Delhi, December - 2016, Conference Coordinator.

Sixteenth Global Conference on Flexible Systems Management, 4–6, 2016, University of Technology, Sydney, Conference Coordinator.

Residential Workshop on 'How to engage in broadband policy and regulatory processes?' IIT Delhi. 16-19 December, 2016, Jointly with LIRNEasia. Funded by the Ford Foundation.

Residential Workshop on 'How to engage in broadband policy and regulatory processes?' IIT Delhi. 19-22 August & 16-20 December, 2016, Jointly with LIRNEasia. Funded by the Ford Foundation.

Digital Business in Rural India: Opportunities & Challenges, on 23 February 2017 at 1345 - 1700 Hrs, DMS, IIT Delhi, NATIONAL, 2017.

Building Knowledge Societies: From Digital Government to Digital Empowerment, 10th International Conference on Theory and Practice of Electronic Governance, from 7-9 March, 2017, Delhi, NATIONAL, 2017.

Information Security and Digital Forensics -2017 from 17-18 March, 2017 at IIT Delhi, NATIONAL, 2017.

IIT Delhi is hosting a National Symposium on improving eGovernance using Big Data Analytics (IEGBDA). 28 February INTERNATION, 2017.

HITLab Innovation Summit 201 on 16 February 2017, NATIONAL, 2017.

International Workshop on Cyber Security Securing IoT, 20 March 2017, INTERNATION, 2017.

International Conference in Smart Cities Swansea University UK.

National symposium on improving eGovernance using Big Data Analytics (IEGBDA) under ICEGOV IIT Delhi.

PMI India Research & Academic Conference IIT Delhi.

Strategies in Volatile and Uncertain Environment for Emerging Markets IIT Delhi.

Sixteenth Global Conference on Flexible Systems Management, from 4–6, 2016 at University of Technology University of Technology, Sydney.

Research Directions & Collaborations opportunity with Operations & Supply Chain Group on 19 January, 2017.

Decision Science Applications in Business Practices on 3 February, 2017.

Interdisciplinary Research (IDR) in Supply Chain Management with Dr. Zach G. Zacharia on 4 February, 2017.

International Conference on Public Health & mobile Technologies: Latest scientific evidence on 23 March 2017.

Public Health & mobile Technologies: Latest scientific evidence from 24-25 March, 2017.

Evidential Reasoning Algorithm Seminar organised under Amar S. Gupta Chair Professor on 13 June, 2017.

Conference on Brand Management (CBM) from April 16-17, 2016.

Residential Workshop on 'How to engage in broadband policy and regulatory processes?' IIT Delhi from 16-19 December 2016, Jointly with LIRNEasia. Funded by the Ford Foundation.

Residential Workshop on 'How to engage in broadband policy and regulatory processes?' IIT Delhi from 19-22 August, 2016 & 16-20 December, 2016, Jointly with LIRNEasia. Funded by the Ford Foundation.

Building India Inc. from 2-3 April, 2016.

Confluence'16 on 17 September, 2016

Parivartan'17 from 17-19 February, 2017.

The Industry Interaction Committee of DMS, IIT Delhi successfully organized Confluence '16, the annual Marketing & Finance Conclave, on September 17, 2016.

The Industry Interaction Committee of DMS, IIT Delhi successfully organized HORIZON'16, the annual HR conclave on October 15, 2016.

The Industry Interaction Committee of DMS, IIT Delhi organized STRATEGIA '16 (Analytics & Consulting Conclave)

The Industry Interaction Committee of DMS, IIT Delhi organized OPERA '16 (Operations Conclave) on 3 September, 2016.

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"Logic will get you from A to B, Creativity will take you everywhere" Department of Management Studies, IIT Delhi invites you to participate in "Creative Cover" on 30 January, 2017.

Department of Management Studies, IIT Delhi is proud to announce that NIVAH, The Social Sector Initiatives Wing is organizing "SAKSHAM'16", the CSR Conclave - A platform for exchanging ideas among the best CSR minds of India on 12 November, 2016.

Department of Management Studies, IIT Delhi is proud to present Thought Leadership Series 2016 in association with IIT Delhi Alumni Association and Entrepreneurship Development Cell which will witness a confluence of leaders from several domains interacting with the torchbearers of the nation on 5 November, 2016 from 2 pm to 4 pm at Lecture Hall Complex, IIT Delhi.

Cyber security policy from 1-3 August, 2016.

Executive Management Programme in Strategic Innovation, Digital Marketing and Business Analytics from 5 January–6 June, 2017.

Cyber Security Policy from 19-21 January, 2017.

Workshop on "SMART CITY TOGETER WITH FIWARE" on 19th September 2016, at Vishwakarma Bhawan, DMS, IIT Delhi, NATIONAL, 2016.

Strategia.

Emerging Role of Technology in Automotive Retailing- CarDekho.com.

Opera.

XOLO's partnership with Liverpool Football Club- Xolo.

Confluence.

How E-commerce is growing in India and what are the various opportunities it is creating, including one of which is Xiaomi- Xiaomi.

Guest Lecture- Mahindra & Mahindra Ltd.

An overview of Investment Banking- Dexter Capital Advisors.

Importance of Kaizen and PDCA in Logistics- Nissan and Datsun.

Differentiated Workforce Management - Aligning Talent Management Strategy with Business Strategy-JKTyre.

100 Smart Cities Mission: The government of India project and Bosch's role in its implementation - Robert Bosch Engineering and Business Solutions.

Make in India strategy and the global perspective- Airbus India.

What makes 'Indigo' the only consistently profitable company in the airline industry-Indigo.

Consulting landscape in the Indian Education Sector-Technopak Advisors.

Building Brands on Digital- United Breweries Ltd.

A Perspective on Excellence - Converting Crisis to Advantage- Daikin Air Conditioning Pvt. Ltd.

Redefining Market- Kokuyo Camlin.

Horizon.

Innovations in Supply Chain Management-The Coca Cola Company.

Importance of Business Information- Dun & Bradstreet.

Marketing in the Digital Age- Hike Messenger.

Managing your career in corporate world- Bristlecone.

Strategy Formulation & Work-Life balance- Cisco.

 $\label{thm:condition} \textit{Keeping Ahead of the Game through Innovation-Rolls-Royce}.$ 

Innovation and creativity in workplace- Pfizer.

Strategic Planning Process- Godfrey Phillips India Ltd.

Smart Supply Chain - What makes them really smart- Exide Industries Ltd.

Role and scope of digitization in an enterprise- CK Birla Group.

Impact of antitrust laws on Business-Vedanta Group.

#### Mathematics

"Rather Critical" "boundary value problem" By Prof. Carlos Escudero, Departamento de Matem & #769; aticas Universidad Aut & #769; onoma de Madrid on 6 April 2016, 4 pm.

Rational ergodicity of "discrepancy" skew products and the asymptotics of affine random walks By Prof. Jon Aaronson, Dept. of Mathematics, Tel-Aviv University, ISRAE on 28 April 2016, 3pm–4:30pm.

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Moser-Trudinger and Adams Inequalities by Prof. K. Sandeep on 18 April, 4 pm at Committee room. Generalized Schwarz triples, Hypergeometric functions and Monodromy by Prof. Eknath Ghate School of Mathematics, TIFR Mumbai on 29th April 2016, 3 pm at Committee room MZ 168. On a few characterizations of the Fourier transform by Dr. R. Lakshmi Lavanya, Indian Institute of Science Education and Research Tirupati on 27 May 2016, 11am. Rigorous Questions in Compressible Euler and Navier-Stokes Equations by Prof. Sivaguru Srithara on 25 July, 10am. Multi-scale modeling in ionic gels and particulate suspensions by Dr. Sarthok Sircar, Adelaide University, Australia on 10 August 2016, 3pm. Generic Dynamics of the Cantor space by Prof. Udayan Darji, Department of Mathematics University of Louisville Louisville, KY 40292, E-Mail:ubdarj01@louisville.edu, presetly visiting Asoka University at Sonepat, India on 12 August 2016, 3pm at LH 606. Derivatives and perturbation bounds for operator functions by Dr. Tanvi Jain, ISI Delhi on 26 September 2016, 3pm at LHC 606. Pricing variance swaps with stochastic volatility by Prof. Song-Ping Zhu School of Mathematics and Applied Statistics University of Wollongong, Northfields Ave, WOLLONGONG, NSW 2522, Australia on 30 September 2016, 10 am at Committee Room. Scientific Computing: A New Way of Looking at Mathematics by Prof. Amiya Kumar Pani, Department of Mathematics, IIT Bombay on 4 October 2016, 3pm at LHC 606. Well-balanced finite volume and discontinuous Galerkin methods for Euler equations with gravity by Dr. Praveen, TIFR-CAM BANGALORE on 26 October 2016, 3pm at Committee Room (MZ168). Convergence Theory and Unified Theory of Compactness and Completeness by Szymon Dolecki, Institut de Mathématiques de Bourgogne CNRS UMR 5584, Université de Bourgogne B. P. 47870, 21078 Dijon, France from 16-17 January 2017, 3:30-4:30 pm at Committee room MZ 168. Upscaling of a System of Semilinear Diffusion-Reaction Equations in a Heterogeneous Medium: Multi-Scale Modeling and Periodic Homogenization by Dr. Hari Shankar Mahato on 13 January 2017, 3:30 pm at Committee Room (Department of Mathematics). Structure and homomorphisms of minimal flows by Prof. Joe Auslander, University of Maryland on 24 January 2017, 3pm at Committee room. Solvable Primitive Extensions by Prof. C.S. Dalawat, HRI Allahabad on 30 January 2017, 3pm at Committee room, Department of Mathematics. Equivalence relations in topological dynamics by Prof. Joseph Auslander, University of Maryland, on 8 February 2017, 3:30pm at Committee room. Irreducibility of Laguerre Polynomials by Prof. T.N. Shorey, Dept of Maths on 17 March 2017, 3 pm at Committee room. Boniface Nkonga, Professeur, Université Côte d'Azur 29 March 2017, 3pm at Committee Room, Department of Mathematics. **Mechanical Engineering** SERB Summer School on Robotics from June 23-28, 2017 by Prof. S.K. Saha. IEEE Workshop on "Robotics and Automation in India" by Prof. S.K. Saha. Third Int. Conf. of The Robotics Society on "Advances on Robotics" by Prof. S.K. Saha. **Physics** NANO INDIA 2017, March 15-16, 2017 followed by nano mission project review meeting on March 17 & 18, 2017. Workshop on Optics and Photonics: Theory & Computational Techniques (OPTCT) from March 4-5, 2017. 1st departmental symposium on "Advances in Physics" organized by the physics department at IIT Delhi by R.S. Dhaka from 18-19 March, 2017. Nurturance programme for National Talent Search (NTS) awardees of NCERT from 29 November to 3 December, 2016, organised by Department of Physics, IIT Delhi, Journal Club talk by Prof. Saikat Ghosh, IIT Kanpur. Physics seminars/Colloquiums on: "Multifunctional materials for solar technologies" by Prof. Federico Rosei, Materials and Telecommunications, INRS, 1650 Boul. Lionel Boulet, Canada. "Studying Charge Carrier Dynamics by Fluctuation Spectroscopy – An Overview" by Prof. Jens Müller from Institute of Physics, Goethe-University Frankfurt, Germany. "Non-equilibrium statistical physics for small quantum systems" by Dr. Bijay Kumar Agarwalla, Department of Chemistry, University of Toronto, Canada.

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"2D materials and hetero-structures: optical characterization and synthesis of the next generation of functional materials" by Dr. Akshay Singh, Laboratory for Nanophotonics and Electronics, MIT.

"Randomly diluted chiral metal" by Dr. Sambuddha Sanyal, International Centre for Theoretical Sciences, Bangalore.

"Leaving the collective: plasmonics from a hot electron's point of view" by Dr. Ravishankar Sundararaman, Department of Materials Science and Engineering in Rensselaer Polytechnic, Institute, NY.

"Construction of Predictive Neuron Models and Applications of Central Pattern Generators to Bioelectronic Medicine" by Dr. Alain Nogaret, University of Bath, UK.

"Carrier transport, recombination, and the effects of grain boundaries in polycrystalline Cadmium Telluride thin films for photovoltaics" by Dr. Mohit Tuteja, University of Illinois, Urbana-Champaign, USA.

"Out-of-the-box design of molecularly-tailored inorganic nanomaterials and interfaces" by Prof. Ganpati Ramanath, Materials Science and Engineering at Rensselaer Polytechnic Institute, Troy, USA.

"KAGRA detector: Large Scale Cryogenic Gravitational Wave Telescope" by Dr. Rahul Kumar, High Energy Accelerator Research Organization, KEK JAPAN.

"Enhancing, Controlling and Probing the Light-Matter Interaction in Graphene" by Dr.Vrinda Thareja, Department of Materials Science and Engineering, Stanford University, USA.

"Secondary Ion Mass Spectrometry (SIMS): Technique and some applications in materials science" by Prof. A. K. Tyagi, Indira Gandhi Centre for Atomic Research, Kalpakkam.

"Flame made structures for advance nanofabrications and smart technologies" by Dr. Yogendra Kumar Mishra, Functional Nanomaterials, Institute for Materials Science, Kiel University, Germany.

"Elementary! IS THIS THE ANSWER?" by Prof. Tiziano Camporesi, Physics Department CERN, Geneva, Switzerland.

"Dynamics of molecular motors and diffusive proteins interacting with polar filaments" by Dr. Debajit Goswami, International Centre for Theoretical Sciences, Bengaluru.

"First-principles investigation on Quantum Materials" by Dr. Subhasish Mandal, Department of Applied Physics, Yale University, USA.

### Applied Research in Electronics

Asia Pacific Microwave Conference 2016 (APMC 2016) December 6-9, 2016.

International Microwave and RF Conference (IMaRC 2016) December 6-9, 2016

ESD Device Design lectured by Prof. Mayank Shrivastava.

#### **Atmospheric Sciences**

Indo-US Workshop on Control of Air Pollution in North India, Prof. Manju Mohan, Dr. Sagnik Dey, Dr. Dilip Ganguly, Dr. S.K. Mishra (with RTI International, USA) sponsored by US department of state; US Embassy

"Modeling the air quality and public health impacts of individual sources sectors in the U.S." by Dr. Saravanan Arunachalam, Research Assoc. Professor, University of North Carolina at Chapel Hill, NC (USA) on 5 August, 2016.

Dr. Joshua Apte, Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin (USA). Title: "Managing India's air quality and health challenge: connecting sources, ambient air quality, and personal exposures" on August 12, 2016.

Dr. Jaya Singh: Title "Weather Data Analytics: Opportunities in Private Sector" on 4 October, 2016.

Professor H. Yamazaki, Tokyo University of Marine Science and Technology on 23 January, 2017.

Dr. R.H. Kripalani, IITM, Pune: Title: Recent trends and tele-connections in monsoon variability over South and East Asia on 2 February, 2017.

Dr. ASKAV Prasad Rao: Title: Impact of GPS Data for the Prediction of Severe Weather Systems on 27 February 2017.

Prof. JCR Hunt, Sir Gilbert Walker Chair Professor, CAS, IIT Delhi Earth Sciences UCL, Trinity College, and House of Lords, Institute Lecture "On Recent Developments in Climate and Environment Science and Global Policy" on February 22, 2017

Dr. W.K. Tao, NASA, USA, on "The impact of mesocale convective systems on global precipitation: A modeling study"

Prof. In-Sik Kang, Seoul National Univ., Korea, on "Climate simulations by the SNU GCM"

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	Prof. Jai-ho Oh, Dept of Environmental & Atmospheric Sciences, Pukyong Nat. Univ, Busan, South Korea, on "Seamless AgMet Information from Seeding to Harvesting" on 12 to 17 February, 2017.
	Dr. Andrew Gentlemen, Boulder, USA, on "Climate simulations by the latest version of NCAR CESM" on 16 to 20 February, 2017.
Biomedical Engineering	International Conference on Biomaterials, Biodiagnostics, Tissue Engineering, Drug Delivery and Regenerative Medicine Organized by Prof. Veena Koul, Prof. Bhuvanesh Gupta, Dr. Neetu Singh on 15 to 17 April, 2016, IIT Delhi.
	Neurolmaging workshop Organised by Dr. Amit Mehndiratta on 12 July, 2016 at National Brain Research Centre, Manersar, Haryana
	Novel Nanoparticle Contrast Agents for X-Ray Imaging (Computed Tomography and Dual- Energy Mammography), speaker Pratap C. Naha, University of Pennsylvania, Philadelphia, USA on 8 December, 2016
	Understanding the role of PER-ARNT-SIM (PAS) homology-domain proteins in carcinogenesis, speaker Prof. Siva Kumar Kolluri on January 24, 2017 at Oregon State University.
Energy Studies	IIT-Finnish University Joint Workshop on Bioenergy at IIT Delhi from May 23-24, 2016.
	IITD – NTU Singapore Joint Symposium on Clean and Advanced Energy Technologies at IIT Delhi from 8 to 9 December, 2016.
	Dr. Akshay Rao, Group Leader at Cavendish Laboratory, University of Cambridge delivered a talk "Singlet Exciton Fission: A Path to Break the Shockley–Queisser Limit on the Efficiency of Photovoltaics" on November 6, 2016.
	Prof. Gary Rosengarten, Head LIFTS, School of Engg., RMIT University Melbourne delivered an expert lecture "Next Generation Solar Thermal/Hybrid Collectors" on November 7, 2016.
	Prof. Rajiv K. Sinha, Associate Professor (Retd.), Griffith University, delivered a talk "SUSTAINABLE DVELOPMENT FOR ECONOMIC PROSPERITY WITH ENVIRONMENTAL SECURITY" on November 28, 2016.
	Dr. Abhishek Kumar (Research Scientist, SERIS, NUS, Singapore) delivered an expert lecture 'PV Cell Research' on 17 February, 2017.
	Prof. Raj Manglik, Dept. of Mechanical Engineering, University of Cincinnati, Ohio, USA delivered lecture, "The Water Energy Nexus: Challenges and Opportunities" on January 13, 2017.
Industrial Tribology Machine Dynamics and Maintenance	A half day workshop was organized on 6 February, 2017 for interaction with Industry and academia for future vision of ITMMEC.
Engineering Centre	Tribology of Soft-Matters: Bio-Tribology, Microsystems and Automotive applications on 7 to 11 November, 2016.
Instrument Design & Development Centre	IDDC organized one day conference "UX Now – Design Conference" on 11 November, 2016. The conference was attended by large design community with special interest user experience design.
	Shri Sudhir Kumar, Founder of SKM Design Pvt Limited delivered a special lecture on 16 February, 2017.
	Dr. NankiNath, Assistant Professor, DOD, IIT Guwahati, Delivered a special lecture on Typography, on 27 December, 2016.
Amar Nath and Shashi Khosla School of Information	"Time and Space Trade Off for Mutual Exclusion" by Prof. Jayanti Prasad, CS Deptt, Dartmouth College held on 16 June, 2016.
Technology	SC2: US-India Smart and Connected Communities Workshop by Prof. Huzur Saran held from 9 to 11 June, 2016.
	IIT Delhi and CUTS International organized a consultation: WHAT, WHY AND HOW: CONSUMER BROADBAND LABELS – EMPOWERING CONSUMER CHOICE, Coordinator - Dr. Aaditeshwar Seth on April 7-8, 2017.
	Ph.D Seminar Series by Research Scholars: Sep 2016 - Himanshu Jain, March 2017 – Rajshekar Kalayappan, February 2017 – Piyus Kedia - PLDI Talk.
Kusuma School of Biological Sciences	The Center of Excellence for Biopharmaceutical Technology (CBT) Training Program (2016) by J. Gomes & Anurag Rathore from December 12 to 14, 2016 at IIT Delhi, New Delhi, India.
Sciences	

### **Interaction with Alumni**

(April 1, 2016 - March 31, 2017)

#### **IITDAA EVENTS & INTERACTION WITH ALUMNI**

- "Golden Jubilee Reunion" for the first batch of the Institute (1966 pass-out) was celebrated on 17th December, 2016. The event was extremely well attended and it included a number of activities e.g. panel discussions, sharing of memories, presentation of mementoes and cultural program by the students followed by Dinner.
- "Alumni Day" was celebrated on 18th December, 2016. The
  theme was 'ENVISIONING THE FUTURE TOGETHER'. It was the
  fourth ever Alumni Day celebration, inviting participation of
  Alumni of all batches from 1961 to 2016, representing over
  fifty five years of glorious history. Approximately 200 alumni
  attended the event which included a number of activities
  e.g. panel discussions, felicitation function, cultural program
  followed by dinner.

During the Alumni Day, the Director launched the new Alumni Portal of the Institute. It provides facility to the Alumni to network, connect and search other Alumni by way of batch, location profession etc. It also allows them to post Job offerings for the Alumni. The Institute has been conducting Donation campaigns on the portal and a number of Alumni have come forward to contribute through the portal. The portal provides online contribution facility by way of wire transfer, International Credit/Debit cards etc.

- The Silver Jubilee Reunion Batch of 1992 was held on 23-24<sup>th</sup> December 2016. About 135 alumni from the batch of 1992 attended the event to make it truly memorable.
- Pearl Reunion of 1980 and 1981 Batches was held on 5th March, 2017 (Sunday). The Reunion was attended by about 60 Alumni and their spouse. During the day long programme, the Alumni interacted with the Director, other senior management and Student representatives of the Institute. A guided Campus tour for the Alumni was conducted and the Director hosted the lunch and dinner for the attending Alumni. Postal Stamps, carrying individual Alumni Photographs, were presented to the Alumni by the Director.
- A Ceremony was held in the Board Room to flag off the team of IIT Delhi Alumni as they embark upon an ambitious expedition starting from Sagartal (diving to touch the depths of Sea) and proceeding to summit the Sagarmatha (Mount Everest). The Director handed over the flag of the Institute to the Institute Alumni and conveyed the best wishes of the Institute.
- Association in association with Department of Management Studies, IIT Delhi and Entrepreneurship Development Cell, IIT Delhi organised "Thought Leadership Series 2016" held on 5th November 2016 at Seminar Hall, IIT Delhi which witness a confluence of leaders from several domains interacting with the torchbearers of the nation.

- Felicitation of IITD Distinguished Alumni Awardees 2016: 6th November, 2016: The IIT Delhi Alumni Association felicitated the four alumni who have attained high distinction in their respective fields and were awarded the IIT Delhi Distinguished Alumni Award & IIT Delhi Distinguished Alumni Service Award for the year 2016.
- **1966-71 Civil Batch Alumni Get-together :** 7th December, 2016.
- The First Batch 1966 celebrated its first Golden Jubilee Reunion: 17th December 2016.
- NAGME'2017, Alumni Musical Evening: 25th February, 2017.
- Open House 2016: IITDAA enhanced the worth of awards ₹1.20 lac for the Open House 2016 which was organized by IIT Delhi on April 23rd April 2016. Presentation of Alumni Research & Innovation Awards `OPEN HOUSE 2016' for best project in various categories of Undergraduate and Postgraduate students "Open House 2016" were presented during the NAGME`17 an Alumni Musical Evening held on 25th February 2017 at Seminar Hall, IIT Delhi.
- "Watch The Road" 2017, an independently organized event by Indian Road Safety Campaign, IIT Delhi Alumni Association, TRIPP IITD and NSS, IIT Delhi in collaboration with Tryst, IIT Delhi held on 26th February, 2017.
- **IITDAA Hyderabad Chapter :** Organized a get-together 8th April 2017.
- Building India Inc BII`17: 15 to 16th April, 2017.
- AGM`17 & Annual Get-together: 29th April, 2017.
- Open House 2017.
- IIT Delhi Alumni Award for Outstanding Contribution to National Development 2017:
  - Mr. Raghu Hari Dalmia, 1972, B.Tech., Mechanical Engg.
  - Ms. Shubha Maudgal, 1979, M.S. in Chemistry
  - Mr. Ashok kumar, 1986, B.Tech., Mechanical Engg.
  - Mr. Somnath Bharti, 1997, M.Sc. in Mathematics
  - Mr. Shashank Kumar, 2008, B.Tech. in Textile Tech.
- Participation of IITDAA for UG & PG students Farewell
   10-11th May 2016.

Office Bearers 2016-2017: The new Office Bearers, IITDAA, for the year 2017–2018 are as follows:

- President Mr. Prabhat Kumar
- Secretary Mr. Vinod Kumar
- Jt. Secretary Dr. Updesh Verma
- Treasurer Mr. Sachidanand Swami (put pics of new office bearers)

(April 1, 2016 - March 31, 2017)

Many delegations from the Industry, Academia and the Government from several countries visited the Institute to explore the possibilities of mutual interaction. Some of these are highlighted below:

- A 7 member delegation led by Mr. Shaimkulov Olzhobai, Vice Rector of the Osh State University, Kyrgyzstan visited the Institute on April 6th 2016 to learn about IT Technology processes in India and study the experience of India on the technology use in the education system.
- A 5 member delegation led by Dame Nicola Brewer, Vice Provost (International) from University College London visited the Institute on April 8th 2016 to explore new links with a view to developing partnerships for Research, Teaching and student exchange.
- A 3 member delegation led by Mr. Alexander Panychev, Rector from Emperor Alexander I St. Petersburg State Transport University, Russia visited the Institute on April 28th 2016 to discuss about double degree programmes.
- A 3 member delegation led by Mr. Milan Tous, Head of Economic Section, Embassy of the Czech Republic visited the Institute on May 3rd 2016 to discuss in the areas of possible cooperation between the Czech Republic and IIT Delhi.
- A 4 member delegation led by Prof. Dolores O'Riordan, Vice-President of Global Engagement from University College Dublin visited the Institute on May 9th 2016 to discuss about collaboration in areas of teaching and research.
- A 2 member delegation led by Dr. Mikhail Bature, Rector, BelarusianStateUnivrsityofInformaticsandRadioelectronics (BSUIR) visited the Institute on May 11th 2016 to discuss about future venues of cooperation/signing of MoU.
- A 5 member delegation led by Prof. Brett Kirk, Associate Deputy Vice Chancellor (Research) from Curtin University visited the Institute on May 11th 2016 to discuss about Joint Supervision of Ph.D. programme.
- A 6 member delegation led by Prof. Alexey Surin, CEO and Founder of Bureau of International Educational Programs "Direct Talk" from Samara State Aerospace University and Siberia Federal University, Russia visited the Institute on May 23rd 2016 to explore possibility of collaboration.
- As a part of Ministry of External Affairs Outreach programme to enhance and understanding of rich heritage of India among the foreign countries, 12 Senior Editor/Journalists from Nepal visited the Institute on May 25th 2016.

- A 6 member delegation of Honda executives visited the Institute on June 1st 2016.
- A 5 member delegation led by Prof. Yong-Hak Kim, President, Yonsel University, Korea visited the Institute on June 20th 2016 to explore possibility of collaboration in the area of student exchange and research.
- A 4 member delegation led by Mr. T.J. Woojnar, President, Exxonn Mobil Research and Engineering Company, New Jersey visited the Institute on June 22nd 2016 to explore possibility of collaboration in the area of student exchange and research.
- U.S. Secretary Mr. John F. Kerry visited the Institute on August 31st 2016.
- A 8 member delegation led by Ms. Rachel Kuo, Assistant Director of TECC, Department of International Affairs, Academia Sinica, Taiwan visited the Institute on September 19th 2016 to mutual discussion between faculty and research scholars from both the sides.
- A 11 member delegation led by H.E. Alexander Ziegler from Thales, France visited the Institute on September 27th 2016 to sign Memorandum of Understanding between IIT Delhi and Thales, France.
- A 4 member delegation led by Mrs. Luciana Mihai, Director, University of Politechnica Bucharest, Romania visited the Institute on September 30th 2016 to explore possibility of collaboration.
- A15 member delegation led by Deputy Director General Jien-Ping Wang, Department of Investment Services, Ministry of Economic Affairs, Taiwan will be visiting the Institute on October 17th 2016 to explore possibility of collaboration.
- A 4 member delegation led by Dr. Srinivas Peeta, professor, Civil Engg. And Director of NEXTRANS Center, Purdue will be visiting the Institute on October 17th 2016 to explore possibility of collaboration.
- A team of 70 Chinese students visited IIT Delhi on November 7th 2016.
- The Honourable John McCallum, Minister of Immigration, Refugees and Citizenship and The Honourable Navdeep Singh Bains, Minister of Innovation, Science and Economic Development visited the Institute on November 7th 2016.
- A group of Chinese Philanthropic delegation led by Mr. Vijay Thadani, member of BOG visited the Institute on November 9th 2016.

- A 4 member delegation from University of Westminster visited the Institute on January 11th 2017 for discussion including Erasmus scheme. It was decided that efforts would be made to further energize student exchange over the MoU. A detailed list of faculty of University of Westminster and their experience etc. has been uploaded on intranet for our faculty to interact with them. Online discussions for further faculty interactions are on.
- A 2 member delegation from MITACS led by Ms. Liss Matyas,
  Director International Relations visited the Institute on
  January 11th 2017 to explore possibility of collaboration
  between IIT Delhi and Mitacs.
- A 5 member delegation from University of Uppsala visited the Institute on January 12th 2017 to explore possible future joint engagements within research and higher education between the Institutes.
- A 23 member delegation from University of DePauw visited the Institute on January 12th 2017 to explore and learn about its mission, areas of focus in science and learn about some of the research projects carried out in the science and technology fields. The delegation was assisted a tour on the Campus. They visited NRF as well as New Lecture Theatre Complex ovr ENACTOS team made a presentation to the contingent after the presentation of Dean (AA&IP).
- A 2 member delegation from University of Newcastle visited the Institute on January 12th 2017 to explore possibility of collaboration in the area of student exchange and research.
   In pursuance of this meeting a concept note of CDT, as prepared by University of Newcastle has been circulated by Dean (AA&IP) amongst the faculty.
- A 3 member delegation from University of Washington led by Ms. Pratim Biswas visited the Institute on January 16th 2017 to explore possibility of collaboration in the area of student exchange and research.
- A 5 member delegation from Simon Fraser University (SFU) visited the Institute on January 17th 2017 for signing the MoU between IITD and SFU and discussions regarding specific activity would follow the MoU and depending on the activity, for example student exchange etc. The MoU has been signed by the Director and handed over to the SFU team for their President's signature.
- A 2 member delegation from Embassy of Japan visited the Institute on January 18th 2017.
- A delegation with Vice Chancellor, Brunnel University visited the Institute on February 8th 2017.

- A 2 member delegation from Mines Nantes, France visited the Institute on February 21st 2017 for signing the MoU between IIT Delhi and Mines Nates.
- A delegation from Drexel University, USA visited the Institute on February 21st 2017.
- A 3 member delegation from Makerere University visited the Institute on February 22nd 2017 and held discussions.
   It also visited some labs and LHC on the Campus.
- A 60 member delegation from IFI, French Embassy visited the Institute on February 24th 2017.
- A 2 member delegation with H.E. Mr. Koji Omi, Founder and Chairman of the Science and Technology in Society (STS) Form as well as former Finance Minister of Japan visited the InstituteonFebruary27th2017fordiscussionaboutSTSforum annual meeting to be held in October 2017 in Kyoto Japan.
- A 3 member delegation with Ms. Joyce Hamilla, Director of International Partnerships, Portland State University, Uganda visited the Institute on March 2nd 2017 to explore possibility of collaboration between IIT Delhi and Portland State University.
- A 8 member delegation from University of Westminster, U.K. visited the Institute on March 3rd 2017 to explore engagement in collaborative research with IIT Delhi and University of Westminster, a video conference meeting has also been arranged.
- A 3 member delegation from Universite de Toulouse visited the Institute on March 3rd 2017.
- A 3 member delegation from UNSW Engineering School, Sydney visited the Institute on March 8th 2017.
- A 1 member delegation from UMIST (Univ. of Manchester) visited the Institute on March 8th 2017.
- A 2 member delegation from University of Newcastle visited the Institute on March 14th 2017.
- A 3 member delegation from University of Maryland visited the Institute on March 20th 2017.
- A 7 member delegation from Tunisia visited the Institute on March 23rd 2017.
- A 8 member delegation from Korea visited the Institute on March 30th 2017 to explore the possible areas of cooperation in technology exchange between Korean SMEs and IIT Delhi.



Mr. Shaimkulov Olzhobai, Vice Rector of the Osh State University, Kyrgyzstan visited the Institute on April 6th 2016.



Prof. Dolores O'Riordan, Vice-President of Global Engagement from University College Dublin visited the Institute on May 9th 2016



Prof. Yong-Hak Kim, President, Yonsel University, Korea visited the Institute on June 20th 2016



U.S. Secretary Mr. John F. Kerry visited the Institute on August 31st 2016



Mrs. Luciana Mihai, Director, University of Politechnica Bucharest, Romania visited the Institute on September 30th 2016.



A 15 member delegation led by Deputy Director General Jien-Ping Wang, Department of Investment Services, Ministry of Economic Affairs, Taiwan visited the Institute on October 17th 2016.



Honourable Navdeep Singh Bains, Minister of Innovation, Science and Economic Development visited the Institute on November 7th 2016.



A 7 member delegation from Tunisia visited the Institute on March 23rd 2017.

#### DISTINGUISHED VISITORS VISITED DEPARTMENT/ CENTRE/SCHOOL

#### **Chemical Engineering**

 Jun Hyoung Park, President, Chemical Performance Unit, Hyosung Corporation, South Korea, delivered seminar on 'Polyketone, New Engineering Plastic' on 21 February, 2017.

#### **Humanities and Social Sciences**

- Professor Amrita Dhillon, King's College London.
- Shri Keki N. Daruwalla (poet), Shri Harish Damodaran (journalist), Dr. Suman Sahai (founder, Gene Campaign), Professor Surinder Jodhka (JNU), Professor Tanika Sarkar (JUN), Professor John Borneman (Princeton University).

#### **Management Studies**

- Prof. Stan Kachnowski, (Ph.D., MPA, CSEP, RSM | Chair HITLAB | IIT New Delhi Adjunct Faculty | Royal Society of Medicine Chair | NYC EDC Digital Health Breakthrough Network).
- Dr. Dennis F. Galletta, (Adjunct Faculty), Katz Business School University of Pittsburgh, (USA).
- Dr. Meenakshi Issar (MBA Carnegie Mellon University, Ph.D., IIT/D).
- Dr. Ranjan Pal (Ph.D., Computer Science, University of Southern California).
- · Dr. Anuj Kumar Srivastava
- · Dr. M.M. Chaturvedi
- · Dr. Dipanjan Goswami
- Mr. Rajat Sharma is the Founder and Chairman of India TV and is the host of the most watched TV show 'Aap ki Adalat'.
- Mr. Rajesh Ramakrishnan, MD-Bangladesh, Perfetti.
- Mr. Rajeev Jain, AVP, DS Group.
- Mr. Akash Deep Batra, Head of Brand Communication, Nestle India.
- · Mr. Ganish Bahl, Head, Digital Marketing, Micromax.
- Mr. Rahul Kumar, Director-Marketing Development, Global Operations, Schneider Electric.
- · Mr. Amit Handa, VP, OgilvyOne Worldwide.
- Mr. Manish Chopra, Co-Founder, Zovi.
- Mr. Lalit Malik, Chief Financial Officer, Dabur India Ltd.
- Mr. Vivek Agarwal, Chief Financial Officer and Whole Time Director, Jindal Realty.
- Mr. Amit Sukhija, Lead, Banking and Capital Markets, KPMG.

- Mr. Nitin Gupta, Associate Director, BMR Advisors.
- Mr. Anil Saxena, Group Chief Financial Officer, Religare Enterprises Ltd.
- Mr. Puneet Khurana, VP & Head HR, Training & Admin, Policy Bazaar.
- Capt. Abhinov Prakash, Lead Learning and Development, Cairn India.
- Mr. Vineet Sehgal, Senior Director Human Capital, PwC.
- Capt. Priya Panjikar, Director of Human Resources, JW Marriott.
- Ms. Ritika Sakhuja, Associate Director-Human Resources, Nielson.
- Mr. Shrikant Lonikar, Chief Human Resources Officer, Pernod Ricard for Gulf, SAARC region and India.
- Ms. Papia Banerjee, Chief Learning Officer and Global Head of Talent Management, Airtel,
- Mr. Sandeep Tyagi, Director Human Resources at Samsung Electronics,
- Mr. Raj Nehru, Director for Human Resources at Schneider Electric,
- Ms. Kannika Sagar, Chief People Officer, HCL Info systems,
- Mr. Dinesh Chandra Kandwal, Director & Head HR, Dr. Reddy's Laboratories.
- Mr. Adil Nargolwala, Senior General Manager HR Head Talent Acquisition Group at WNS Global Services Pvt Ltd.
- Mr. Rupesh Tripathi, Managing Director, Head of HR, IHS Markit, India.
- Dr. T.K. Mandal, Head of HR, JK Paper Ltd.
- Mr. Miraj Godha, Director, Analytics, Airtel.
- Mr. Vishal Agarwal, Senior Director, Data Sciences, Cognizant Technology Solutions.
- Dr. Ravi Kothari, IBM Distinguished Engineer & Chief Scientist, IBM Research – India.
- Mr. Rahul Bajaj, Head of Business Solutions & Analytics, Fortis Healthcare.
- Mr. Kapil Malhotra, Associate Director, PepsiCo.
- Mr. Tariq Mustafa, Head Data Analytics, DIMTS.
- Mr. Sanjay Srivastava, Director, Analytics, American Express.
- Mr. Yogesh Kumar Sharma, Associate Principal, Data Analytics - ZS Associates.
- Mr. Pragyal Singh, Director Ernst & Young LLP.

- Mr. Samrat Bose, Founder & Principal Consultant White Bull Consulting and Services Pvt. Ltd.
- Mr. Ravinder Nath Zaidu, Founder & Principal Consultant -RNZ Consulting.
- Mr. Ashish Gupta, Partner BDO India Risk Consulting.
- Mr. Vicky Bahl, AVP Avalon Consulting.
- Mr. Shalil Gupta, AVP Insights & Consulting, IDC India.
- Mr. Suvojoy Sengupta, Partner McKinsey & Company.
- Mr. Sreenivas Rao, Regional Supply Chain Director- South Asia, Reckitt Benckiser.
- Mr. Baldeep Singh, VP Operations, Snapdeal.
- Mr. Anand Maithani, Head-SCM, Apollo Tyres.
- Mr. Amitabh Prasad, Regional VP-Sourcing, Ericsson.
- Lt. Col. Mr. Atul Holkar, Senior Vice President, Head Merchandise and Supply Chain Management, RJ Corp.
- Mr. Vinod Kumar, Supply Chain Planning Head, Sony India.
- · Mr. Hunny Ghade, AVP, Operations, Delhivery.
- Mr. Sanjeev Singh, Director, Head of Strategic Sourcing and Procurement, Cushman and Wakefield.
- Mr. Dharmesh Srivastava, VP Supply Chain, Agro Tech Foods Ltd.
- Mr. Tridiv Sethi, Director Business Development, DHL Supply Chain India Pvt Ltd.
- Mr. Kamal Deep Ahuja, General Manager and National Operations- Logistics, Lava International.
- Mr. Amit Kumar, Supply Chain Specialist, Amway.
- Mr. K. Jaibhaskar, Regional Operations Manager, Maersk Line.
- Mr. Sanjeev Singh, Director, Head of Strategic Sourcing and Procurement, Cushman & Wakefield.
- Mr. Soumya Kanth Dwivedy, Head Supply Chain, Becton Dickinson and Company.

#### **Mathematics**

- Dr. Carlos Escudero, Spain.
- Prof. K. Sandeep, TIFR, Bangalore.
- Dr. J. Giacomoni, France.
- Dr. Kasushik Bal, IIT Kanpur.
- · Prof. Joseph Auslander, USA.
- · Prof. Boniface, France.

#### **Physics**

- · Prof. Rana Adhikari, Caltech.
- Prof. Tarun Souradeep, IUCAA.
- Prof. Jens Mueller, J. W. Goethe University, Frankfurt (M), Germany.
- Prof. Francesco Sciortino La Sapienza University, Roma, Italy.

#### **Applied Research in Electronics**

Dr. Surendra Pal Vice chancellor DIAT Pune.

#### **Atmospheric Sciences**

- Dr. W.K. Tao, NASA, USA during 16 to 20 February, 2017.
- · Prof. In-Sik Kang, Seoul National Univ., Korea.
- Dr. Andrew Gentlemen, Boulder, USA during 16 to 20 February, 2017.
- Prof. Jai-ho Oh, Dept of Environmental & Atmospheric Sciences, Pukyong Nat. Univ, Busan, South Korea during 12 to 17 February, 2017.
- Dr. Adrian Mark Tompkins, Abdus Salam ICTP, Italy during 5 to 16 December, 2016.
- Dr. Febien Solmon, OMP/LA, Touluse, France during, 5 to 16 December, 2016.
- Dr. Hannah Jo Nissan, New York, USA during 5 to 16 December, 2016.

#### **Biomedical Engineering**

- Pratap C. Naha, University of Pennsylvania, Philadelphia, USA.
- · Prof. Siva Kumar Kolluri, Oregon State University.

#### Industrial Tribology Machine Dynamics and Maintenance Engineering Centre

• Prof. Haim Kalman, University of Ben Gurion, Israel.

#### **Instrument Design & Development Centre**

• Eva Sutton, Professor of Rhode Island School of Design visited IIT Delhi for 3 days during March 2017. She also delivered a lecture on "Bottom-Up Innovation: Examples from Cambodian Squatter Communities".

### Amar Nath and Shashi Khosla School of Information Technology

- Prof. Jayanti Prasad, CS Deptt, Dartmouth College on "Time and Space Trade Off for Mutual Exclusion" held on 16 June, 2016.
- Talk given by Prof. Pratap Misra from Tufts University on "GPS: An Indispensable Technology" in August 2016.

# 8. Faculty

#### (April 1, 2015 - March 31, 2016)

•	Faculty Awards / Recognitions	102
•	Faculty in Position	106
•	New Appointments	110

(April 1, 2016 - March 31, 2017)

The quality of an academic institution primarily depends on its faculty. Our faculty is one of the finest in the country and is recognized internationally for their quality of research, teaching and curriculum development. They also contribute greatly for the development of the nation by being associated with a large number of decision making bodies, providing crucial guidance and advice on policy matters and technical issues. Many of our faculty members serve on the editorial Boards of reputed journals, peer-review papers for publications, serve on committees for recruitment of professionals, and are on the Boards of many institutions and organizations. 27 new faculty members have joined the Institute this year, which has enhanced our competence in several emerging areas, while bringing new energy into our academic endeavors.

Recruitment of bright faculty is one of our most important missions, since therein lies the future of the Institute. Our Board of Governors (BoG) is seized of this issue, and has played a very positive and constructive role in approving policies, which empower the faculty to deliver their best in both teaching and research. We are continuously trying to reach out to the potential faculty members through a variety of means, including round-the-year search and recruitment and on-line submission and processing of applications.

During the period under report, international bibliographic databases have indexed 2070 research articles published by faculty members and researchers of the institute in international journals including 1800 articles indexed in Scopus, an international indexing service in Science & Technology and Social Sciences. The faculty members have also presented a similar number of papers in national and international conferences. Besides, they have also published many books and conducted several continuing education programs. The Institute supported participation of faculty members to international and national conferences this year. Many more participated with financial support from sponsored projects, and other funding agencies. The Institute provides seed research funding to the new faculty upon joining the Institute to the tune of ₹20 lakhs (or more when necessary). During the year, 8 Young Faculty Fellowships have been awarded. To encourage the new faculty for developing research facilities in the area of their expertise, the Institute sanctioned the New Faculty Research Grant of a total of ₹295 lakhs to 27 faculty members during the financial year 2016-2017.

#### **FACULTY AWARDS/RECOGNITIONS**

Our distinguished faculty colleagues continue to make a difference to the world of Science, Engineering, Humanities and Management, and continue to earn recognition and awards, which bring glory to the Institute. Many of them

have been bestowed with honours/awards and elected as Fellows of several professional national/international bodies during the year 2016-2017. Some of these recognitions are highlighted below:

#### **Biochemical Engineering and Biotechnology**

 Spin-off from DBEB "Valetude Primus Health Care Pvt. Ltd." received Longitude Prize Discovery award in 2016.

#### **Chemical Engineering**

- Prof. Jayati Sarkar, Biographical profile for inclusion in the new Who's Who in the World® 2016.
- Prof. S. Basu, Award for research excellence'in Indo-American Education Summit 2016 by the INDUS Foundation, India & USA.
- Prof. S. Basu, Member of National Committee on 'Grievances of the Chemical Industry in India', Ministry of Chemicals and Fertilizers; 2016-present.
- Prof. S. Basu, Member of Lovraj Kumar Memorial Trust (LKMT), New Delhi; 2016-present.
- Prof. K.K. Pant, Editorial Board Member of 'PetroFed Journal' (2016).
- Prof. S. Gupta, Gandhian Young Technological Innovation Award (GYTI 2016) from SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institution) entailing a research grant award of ₹15 lakhs (Student name: Prasanta Kalita).
- Prof. S. Basu, Herdillia Award for Excellence in Basic Research in Chemical Engineering on December 27, 2016 in the inaugural session of Chemcon 2016 held at AC Tech, Anna University organised by IIChE.
- Prof. K.K. Pant appointed member of editorial board for International Journal of Thermodynamics and Catalysis (OMICS Group), Journal of Chemistry and Chemical Engineering and PetroFed Journal (2016)
- Prof. Shantanu Roy appointed Associate Editor of Advanced Powder Technology (Elsevier).
- Prof. Anurag S. Rathore appointed Member of Scientific Expert Committee, National Institute of Biologicals, Government of India.
- Prof. Shantanu Roy appointed for a second term as Member of Scientific Advisory Committee (SAC) of the Ministry of Petroleum and Natural Gas (MoPNG), Government of India.
- Prof S. Basu, in the expert committee 'National R&D program for Chemical Sector' Ministry of Chemicals and Fertilizers (2016)

- Prof. Anurag S. Rathore appointed Member of Management Advisory Committee for BIRAC Bio-Incubator at NCR Biotech Science Cluster Faridabad, BIRAC, Department of Biotechnology.
- Prof. M.A. Shaik: Invited Keynote Speaker, "Control-theoretic approaches for integration of planning, scheduling and rescheduling", National Conference on Process Automation and Control (NCPAC), 28-29 May 2016, MNIT Jaipur, India.
- Prof. Shantanu Roy invited to deliver keynote lecture in the 24th International Symposium on Chemical Reaction Engineering (ISCRE 24), Minneapolis, MN, USA.
- Prof. Shantanu Roy appointed as Core Member, Project Advisory Committee (PAC) of Science and Engineering Research Board (SERB), Department of Science and Technology, Govt. of India.
- Prof. Anil Verma, Delivered an Invited talk on "Overview of Fuel Cell" and Session Chairman in: "National Workshop on Hydrogen and Fuel Cell" at National Institute of Solar Energy (NISE), Gurugram, 23-24 January, 2017.
- Prof. Anil Verma, Member Advisory Committee, "Industry Institute Interaction Programme" held during 21-22 October, 2016 at NIT Hamirpur, HP.
- Prof. Anil Verma, Delivered an Invited Talk on "Direct Electrochemical Reduction of CO2 to Value Added Products", IIChE-CRC, Jadavpur Kolkata, during 24-25 Feb 2017. National Seminar on Carbon Sequestration and Utilization Technologies.
- Prof. Anil Verma, Delivered an Invited Talk on "Cathode Materials of Microbial Fuel Cell", in Indo-EU Workshop on Microbial Fuel Cell, Organized by IICT, Hyderabad during 17-18 February, 2017.
- Front cover illustration in the issue of Wiley Interdisciplinary Reviews: Energy and Environment by Prof. S. Basu and Prof. Anil Verma's group on "Electrocatalytic Conversion of Carbon Dioxide to Fuels: A Review on the Interaction between CO2 and the Liquid Electrolyte".
- Prof. A.S. Rathore appointed as Member, NITI Aayog Committee for Evaluation of NIPERs.
- Prof. A.S. Rathore appointed as Editor-in-Chief, Preparative Biochemistry and Biotechnology, a Taylor and Francis Journal.
- Prof. K.K. Pant nominated as Member, the Governing Council of FIPE (PETROFED/PETROTECH SOCIETY), 2016.
- Prof. K.K. Pant nominated as Member, Expert committee of Petroleum conservation Research Association (PCRA), 2017 - present.
- Prof. K.K. Pant nominated as Member, SERB Young Scientist Scheme (YSS) committee, for evaluation of Project, 2016 - present.

- Prof. K.K. Pant nominated as Expert Member, for policy making in Fertilizer and Chemicals.
- Prof. K.K. Pant, Delivered an Invited Talk on "Green Catalytic process for conversion of Natural Gas to liquid hydrocarbons over bifunctional metal catalysts", IIT Guwahati, Frontier Energy Research with Industry- Academia Partnership.
- Prof. K.K. Pant, Delivered an Invited Talk on "Catalytic Conversion of Hexoses to 5 Hydroxylmethylfurfural over Sulfate ion Promoted Zirconia Catalyst", KIT Kyoto, Japan, APS-16.
- Prof. K.K. Pant, Delivered an Invited Talk on "Smart Tailored Bio Refinery: An Integrated Approach to Increasing Economic Value of Downstream Oil and Minimizing Environmental Aspects", New Delhi, on 22nd April 2016, Petrofed Conference.
- Prof. M. Ali Haider, Delivered an Invited Graduate Seminar on "Opportunities and Challenges in Molecular Heterogeneous Catalysis for Biorenewable Chemicals", Department of Chemical and Petroleum Engineering, University of Kansas, USA, March 2017.

#### Chemistry

- ISCB Young Scientist Award, 2017 in Chemical sciences -Dr. Ravi P. Singh.
- CRSI Bronze Medal (2016) Prof. Siddharth Pandey.

#### **Civil Engineering**

- Prof. Mukesh Khare: Independent Director, Board of Directors, Engineers India Limited (EIL), New Delhi.
- Prof. Mukesh Khare: Independent Director, Board of Director, Certification Engineers International Ltd. Delhi.
- Prof. Mukesh Khare: Independent Director, Board of Directors, Pure Earth (Blacksmiths), India.
- Prof. Mukesh Khare: Centralized Monitoring Committee, National Green Tribunal (NGT), Delhi.
- Prof. MukeshKhare: Member, Board of Governors, Indian Institute of Forest Management (IIFM), Bhopal.
- Prof. Mukesh Khare: Member, Board of Governors, Indian Institute of Forest Management Society (IIFMS), Bhopal, Madhya Pradesh.
- Prof. Mukesh Khare: Chairman, Stakeholder Committee, Engineers India Limited (EIL), New Delhi.
- Prof. Mukesh Khare: Chairman, State Environmental Impact Assessment Committee(SEAC), Government of Delhi NCT.
- Prof. Mukesh Khare: Commissioner, Global Commission on Pollution + Health + Development, Blacksmiths, USA.
- Dr. Vasant Matsagar: "Teaching Excellence Award" for 2016 in recognition of the contributions to teaching.

- Dr. Vasant Matsagar: "Humboldt Research Fellowship for Experienced Researchers" by the Alexander von Humboldt Foundation in Germany at the Technische Universitätin München and Berlin, Germany.
- Suresh Bhalla and Diwaker Bhagat: Best Paper Award,2016, during Civil Engineering Research in Ireland (CERI) 2016 Conference, 29-30 August, 2016 for paper "Flexible Response of Bamboo-Epoxy Frames", by Roger West,.
- Swati Rani, Manoj atta, A.K. Nema, Amit Kumar, 2016 Excellent Paper Award, "Assessment of Additional Land Area Required for MSW Landfills /Dumps in Million Plus Cities", 6th International Conference on Solid Waste Management, Jadavpor University, Kolkata, November, 2016.

#### **Computer Science & Engineering**

- Prof. Naveen Garg awarded 2016 Shanti Swarup Bhatnagar award for Mathematical Sciences.
- Prof. Sanjiva Prasad (jointly with Sujata Ghosh) is PC co-chair of the ICLA 2017 Conference
- Prof. S. Arun-Kumar was General Chair of COMPUTE 2016 (the Ninth ACM India Conference) in Gandhi Nagar, October 2016.
- Prof. Mausam was invited to deliver a talk at the "Early Career Spotlight Track" at International Joint Conference on Artificial Intelligence (IJCAI 2016) held in New York.
- Prof. Mausam was elected as a councillor for the Association of Advancement in Artificial Intelligence (AAAI).

#### **Electrical Engineering**

- Prof. Sukumar Mishra: Fellow, The Institute of Engineers, India 2016.
- Prof. R.K. Mallik: Khosla National Award of IIT Roorkee 2016.
- Dr. Manav Bhatnagar: NASI Scopus Young Scientist Award 2016 in the Engineering Category.
- Prof. Manav Bhatnagar: Om Prakash Bhasin Award for Science & Technology.
- Dr. Manav Bhatnagar: Institution of Electronics and Telecommunication Engineers (IETE) Fellowship, 2016.
- Dr. Swades De elected as Fellow of Indian National Academy of Engineering 2016.
- Dr. Manan Suri selected as IEI Young Engineers Award 2016-2017.

#### **Humanities and Social Sciences**

- Prof. S. Sahoo was invited as Visiting International Fellow, Wales Institute of Social and Economic Research, Data & Methods (WISERD), University of Cardiff, Wales, UK, 16 October - 29 October 2016.
- Prof. Reetika Khera was awarded Sulaiman Mutawa Associate Chair Professor.

- Prof. Simona Sawhney and Prof. Milind Wakankar received IIT Delhi Teaching Excellence Award for II Sem. 2015-16 and I Sem. 2016-17.
  - Prof. Rajakrishnan Rajkumar was invited as Visiting Professor at Saarland University, Saarbrucken, Germany from August 1, 2016 to December 25, 2016.
  - Prof. Jayan Jose Thomas invited to work as non-minister member of State Planning Board, Government of Kerala from 1-1-17 to 31-12-17
  - Prof. V. Upadhyay received Distinguished Achievement Award in Political Economy for the Twenty-First Century given by the World Association for Political Economy, 2016.
  - Prof. Angelie Multani invited to be a member of the Local Organising Committee of the International Federation of Modern Languages and Literatures (FILLM) UNESCO International Conference from March 14-17, 2017.
- Prof. Ravinder Kaur invited as Global Expert at EU-UN Expert Group Meeting on "Gender-biased harmful practices: A long term comprehensive approach to accelerate abandonment and achievement measurable results by 2030", Brussels, Belgium, May 30-31, 2016.

#### **Management Studies**

- DMS, IIT Delhi ranked in Super League 2 category by Business Standard B-School Survey 2017.
- Eduniversal Best Masters 2017 ranked DMS, IIT Delhi 8th in Central Asia for MBA Full Time.
- Eduniversal Best Masters 2017 ranked DMS, IIT Delhi 8th in Central Asia for Executive MBA.
- Certificate of Excellence to Department of Management Studies, IIT Delhi as A+++ Category B-School Survey 2017 by CHRONICLE (All India B-School Survey 2017).
- DMS, IIT Delhi secured 1st position in Research and Professional Practice category by National Institutional Ranking Framework (NIRF) 2017.
- DMS, IIT Delhi secured 6th position in India Rankings 2017 by National Institutional Ranking Framework (NIRF).
- GHRDC has ranked 4th among top government B-Schools of India, 2016- DMS, IIT Delhi.
- Outlook has ranked 6th among the top 10 B-schools in India 2016- DMS, IIT Delhi.
- DMS IIT Delhi: "Education Futurist Award by the Business World- RICOH Education Excellence award".
- DMS IIT Delhi receives the award for the "Best Autonomous Management Institute in North India" at the "National Education Excellence Awards 2016" from Brands Academy.

- Prof. Sushil of DMS, IIT Delhi is at 1st position or rank, 68 citations credited to his 12 research papers as per Indian Citation Index 2016.
- Prof. Ravi Shankar received "UGC-UKIERI Thematic Partnership Award" on 7th April 2017 by British Council for his International Research Project with Loughborough University UK on "Advanced Analytics for Green and Resilient Supply Chain Decision Making." His another project (with Dr. S.P. Singh and Prof. Surendra S. Yadav) got this award for their research partnership with Newcastle University UK in the area of "Container Supply Chain".
- Award for "PMI Young Research Scholar Award 2016" by Project Management Institute, USA, for recognizing academicians below 40 with outstanding contributions in education, training, consultancy and advocacy in project management, New Delhi, India. (Prof. Arpan Kumar Kar).
- Fellow, AGBA (Academy for Global Business Advancement), USA (Dr. Sanjay Dhir).
- Certificate of excellence in peer review by the South Asian Journal of Human Resources Management (Sage) (Dr. Shuchi Sinha).
- Sabita Karunes award for best major project in Human Resource Management area awarded to the major project supervised for 2015SMF6591 – Rochit Anand - Enablers of High-Performance Supply Chain Management Teams won the. The project was interdisciplinary in nature and was co-supervised by Prof Ravi Shankar and Dr. Shuchi Sinha.

#### **Mechanical Engineering**

 Sansthan Incentive Awards for 2016 to two staff members of the department (Mr. S. Babu and Mr. Ayodhya Prasad).

#### **Physics**

- DAE Young Scientist Research Award (Bhaskar Kanseri).
- DST-SERB Young Scientist Scheme project (Bhaskar Kanseri).
- High Resolution Digital Holographic Microscope technology developed at IIT-Delhi was selected for display at the exhibition of innovations held at Rashtrapati Bhavan in March 2017 (Kedar Khare, Joby Joseph).
- DST-SERB Young Scientist Scheme project (Brajesh Kumar Mani).
- UMD-Asia collaborative project in 'Third generation solar cell' (Profs. Santanu Ghosh & pankaj Srivastava).
- DST-SERB EMR project (Joyee Ghosh).
- DST-SERB ECR project (R.S. Dhaka).
- FIRP IITD project (R.S. Dhaka).
- Indo-Australia Early and Mid-career Researchers (EMCR) Fellowship-2017, by DST (administered by INSA), INDIA (R.S. Dhaka).

- MRSI Annual Award in Material Science (B.R. Mehta).
- DST-SERB Young Scientist Scheme project (Saswata Bhattacharya).

#### **Atmospheric Sciences**

- Fulbright-Nehru Academic and Professional Excellence fellowship for 2017-18 to Dr. Sagnik Dey.
- SERB Early Career Research Award to Dr. Sandeep Sahany.

#### **Biomedical Engineering**

- Dr. Anup Singh received E.K. Zavoisky Award by the International Society for Magnetic Resonance in Medicine (ISMRM), May 2016, Singapore.
- Industrial Tribology Machine Dynamics and Maintenance Engineering Centre
- INCE Young Professional Award, awarded to Dr. S. Fatima (INSPIRE Faculty) in InterNoise 2016 at Hamburg, Germany, July 2016.

#### **Instrument Design & Development Centre**

 Prof. Chandra Sakhar. Emeritus Professor in IDDC has been awarded Galileo Galilei Medal by International Commissions for Optics.

#### **Polymer Science and Engineering**

- Prof. A.K. Ghosh- Associate Editor, Journal of Packaging, Technology and Research, Springer Publications.
- Dr. Sampa Saha Member in the Editorial Board, Journal of Packaging, Technology and Research, Springer Publications.

### Amar Nath and Shashi Khosla School of Information Technology

- Prof. Parag Singla and Prof. Mausam awarded Young Faculty Fellowship under Visvesvaraya Ph.D. Scheme of DeitY, Govt. of India.
- Sanjiva Prasad visited Dartmouth College (USA), McGill University, Montreal (Canada), University of Goettingen (Germany), University of Ulm (Germany), Max-Planck Institute of Software Systems (Germany), University of Saarland (Germany), and Technical University of Munich (Germany) as well as attended Dagstuhl Seminar 16251 on "Information-centric Networking and Security" in May-June 2016. He gave talks on "From ABC to a LiTTLe Logic for mobile networks" at Goettingen, Ulm and Munich and on "Program Execution on Reconfigurable Multicore Architectures" at McGill and Saarbruecken.
- Social impact: Dr. Aaditeshwar Seth's team's work on quality of telecom service has been featured in the media.
- Social impact: Dr. Aaditeshwar Seth and Ph.D. student Dipanjan Chakraborty's work on grievance redressal was featured by UNDP in its internal innovation challenge and has gotten accepted for scaleup funding.

### **Faculty in Position**

(April 1, 2016 - March 31, 2017)

	Department of Applied Mechanics			
Pi	rofessor and Head			
S.V. Veeravalli, Ph.D.				
Pı	rofessors			
Pι	uneet Mahajan, Ph.D.			
S. Ahmed, Ph.D.				
A	nupam Dewan, Ph.D.			
Ra	ajesh Prasad, Ph.D.			
Sã	anjeev Sanghi, Ph.D.			
S.	N. Singh, Ph.D.			
Sã	antosh Kapuria, Ph.D.			
A	ssociate Professors			
Ва	adri Prasad Patel, Ph. D.			
Μ	aloy K. Singha, Ph.D.			
A	ssistant Professors			
Aj	jeet Kumar, Ph.D.			
Μ	l.R. Cholemari, Ph.D.			
Ja	yant Jain, Ph.D.			
S.	Pradyumna, Ph.D.			
A	namika Prasad, Ph.D.			
Ва	alaji Srinivasan, Ph.D.			
Sā	awan Suman, Ph.D.			
Vi	krant Tiwari, Ph.D.			
Si	tikantha Roy, Ph.D.			
Sã	amaresh Das, Ph.D.			
A	rjun Sharma, Ph.D.			
Sι	uresh Neelakantan, Ph.D.			
	djunct Faculty (Naval onstruction Wing)			
C	dr. R. Vijaya Kumar			
Lt	. Cdr. Amit Ray			
	apt. V.K. Satyam Officer-in-charge)			
D	haram Singh			
LT	. Cdr. S.K. Rao			
Eı	meritus Fellow			
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Position				
Department of Biochemical Engineering				
& Biotechnology				
Professor and Head				
Atul Narang, Ph.D.				
Professors				
P.K. Roychoudhury, Ph.D.				
Sunil Nath, Ph.D.				
Prashant Mishra, Ph.D.				
Saroj Mishra (Ms), Ph.D.				
A.K. Srivastava, Ph.D.				
T.R. Sreekrishnan, Ph.D.  Associate Professor				
Ritu Kulshreshtha, Ph.D.				
D. Sundar, Ph.D.				
Shilpi Sharma, Ph.D.				
Preeti Srivastava, Ph.D.				
Assistant Professors				
Ravi Krishnan Elangovan, Ph.D. Ashish Misra, Ph.D.				
Shaikh Ziauddin Ahammad				
Emeritus Fellow				
G.P. Agarwal, Ph.D.				
Subhash Chand, Ph.D.				
M.N. Gupta, Ph.D.				
Department of Chemical				
Engineering				
Professor and Head				
Rajesh Khanna, Ph.D.				
Professors				
A.N. Bhaskarwar, Ph.D.				
Vivek V. Buwa, Ph.D.				
S.K. Gupta, Ph.D.				
S. Basu, Ph.D.				
Ratan Mohan, Ph.D.				
K.K. Pant, Ph.D.				
Anurag Singh Rathore, Ph.D.				
Anupam Shukla, Ph.D.				
Shantanu Roy, Ph.D.				

Associate Professors
Paresh P. Chokshi, Ph.D.
Shalini Gupta, Ph.D.
Shaik Abdul Munawar, Ph.D.
Sudip K. Pattanayek, Ph.D.
Jayati Sarkar, Ph.D.
Sreedevi U., Ph.D.
Assistant Professors
Gaurav Goel, Ph.D.
Jyoti Phirani, Ph.D.
M.A. Haider, Ph.D.
M.K.C. Ramteke, Ph.D.
Divesh Bhatia, Ph.D.
Vikram Singh, Ph.D.
Emritus Fellow
K.D.P. Nigam, Ph.D.
<b>Department of Chemistry</b>
Professor and Head
Ravi Shankar, Ph.
Professors
A.K. Singh, Ph.D.
D.K. Bandyopadhyay, Ph.D.
Anil Jacob Elias, Ph.D.
N.D. Kurur, Ph.D.
S.K. Khare
B. Jayaram, Ph.D.
Siddharth Pandey, Ph.D.
Nalin Pant, Ph.D.
A. Ramanan, Ph.D.
N.G. Ramesh, Ph.D.
A.K. Ganguli, Ph.D. (on lien)
Jai Deo Singh, Ph.D.
Associate Professors
Pramit K. Chowdhury, Ph.D.
Shashank Deep, Ph.D.
V. Haridas, Ph.D.
S. Nagendran, Ph.D.
Ravi P. Singh
Sameer Sapra, Ph.D.
Nidhi Jain, Ph.D.
Assistant Professors
G.S. Lahu, Ph.D

P.P. Ingole **Tanmay Dutta Department of Civil Engineering Professor and Head** Manoj Datta, Ph.D. **Professors** B.J. Alappat, Ph.D. Suresh Bhalla, Ph.D. B. Bhattacharjee, Ph.D. Bhagu Ram Chahar, Ph.D. A.K. Jain, Ph.D. N.K. Garg, Ph.D. Ashok Gupta, Ph.D. V.R. Guntari, Ph.D. K.C. Iyer, Ph.D. R.R. Kalaga, Ph.D. Deo Raj Kaushal, Ph.D. A.K. Keshari, Ph.D. Mukesh Khare, Ph.D. Shashi Mathur, Ph.D. A.K. Gosain, Ph.D. Alok Madan, Ph.D. A.K. Nema, Ph.D. K.S. Rao, Ph.D. Geetam Tewari, Ph.D. J.T. Shahu, Ph.D. Rakesh Khosa, Ph.D. **Associate Professors** R. Ayothiraman, Ph.D. Shashank Bishnoi, Ph.D. G.S. Benipal, Ph.D. Tanusree Chokrabarty, Ph.D. Arun Kumar, Ph.D. Kumar Neeraj Jha, Ph.D. Bappaditya Manna, Ph.D. Vasant Matsagar, Ph.D. Dipti Ranjan Sahoo, Ph.D. **Assistant Professors** Supratic Gupta, Ph.D.

Hemant Kumar Kashyap

D.K. Sehgal

Anil K. Saroha, Ph.D.

Gazala Habib, Ph.D.	Professors	B. Bhowmik (Ms.), Ph.D.	Upasana Sharma, Ph.D.	
J. Uma Maheshwari, Ph.D.	Ranjan Bose, Ph.D.	P.R. Bijwe, Ph.D.	Varsha Singh	
Abhijit Ganguli, Ph.D.	G. Bhuvaneswari (Ms.), Ph.D.	V. Chandra, Ph.D.	English Language	
Dhanya C.T., Ph.D.	S. Chaudhury, Ph.D.	Devi Chadha, Ph.D.	Instructor	
Arvind K. Swamy, Ph.D.	Swades K. De, Ph.D.	V.K. Jain, Ph.D.	Rajiv Ranjan Mahto, Ph.D.	
Sumedha Chakma	Jayadeva, Ph.D.	R.K. Patney, Ph.D.	Anuradha Vashisth, Ph.D.	
Emeritus Fellow	I.N. Kar, Ph.D.	Surendra Prasad, Ph.D.	Department of	
K.G. Sharma, Ph.D.	Subrat Kar, Ph.D.	Department of Humanities &	Management Studies	
Senior Programmer	M.J. Kumar, Ph.D.	Social Sciences	Professor and Head	
M. Malikharjuna Rao, M.E.	R.K. Mallik, Ph.D.	Professor and Head	M.P. Gupta, Ph.D.	
Department of Computer	Sukumar Mishra, Ph.D.	Ravinder Kaur (Ms), Ph.D.	Professors	
Science & Engineering	B.K. Panigrahi, Ph.D.	Professors	Kanika T. Bhal (Ms.), Ph.D.	
Professor and Head	Shankar Prakriya, Ph.D.	Bijoy H. Boruah, Ph.D.	Ravishankar, Ph.D.	
Saroj Kaushik, Ph.D.	Bhim Singh, Ph.D.	V. Sanil, Ph.D.	Sushil, Ph.D.	
Professors	M. Veerachary, Ph.D.	R.B. Nair (Ms.), Ph.D.	S.S. Yadav, Ph.D.	
Amit Kumar, Ph.D.	Associate Professors	Ambuj D. Sagar, Ph.D.	Associate Professors	
Anshul Kumar, Ph.D.	Manav Bhatnagar, Ph.D.	Purnima Singh, Ph.D.	Mahim Sagar, Ph.D.	
S. Arun Kumar Ph.D.	Shouribrata Chatterjee, Ph.D.	C.A. Tomy, Ph.D.	S.P. Singh, Ph.D.	
M. Balakrishnan, Ph.D.	Brijesh Lal, Ph.D.	Associate Professors	Seema Sharma (Ms.), Ph.D.	
S. Banerjee, Ph.D.	Mashuq-un-Nabi, Ph.D.	Vibha Arora, Ph.D.	P. Vigneswara Ilavarasan, Ph.D.	
Naveen Garg, Ph.D.	Anuj Dhawan, Ph.D.	Reetika Khera, Ph.D.	Shveta Singh, Ph.D.	
Prem Kumar Kalra, Ph.D.	Sumantra Dutta Roy, Ph.D.	Arjun Ghosh, Ph.D.	Harish Choudhary, Ph.D.	
Subodh Kumar, Ph.D.	Nilanjan Senroy, Ph.D	Angelie Multani, Ph.D.	Assistant Professors	
Kolin Paul, Ph.D.	Madhusudan Singh	M. Wakankar, Ph.D.	Jitendra Madan, Ph.D.	
Huzur Saran, Ph.D.	Umesh Kumar, Ph.D.	Bharati Puri, Ph.D.	A.K. Kar, Ph.D.	
Preeti Ranjan Panda, Ph.D.	Abhijit R. Abhyankar, Ph.D.	J.J. Thomas, Ph.D. (on lien)	Shuchi Sinha (Ms.), Ph.D.	
<u> </u>	Shubhendu Bhasin, Ph.D.	Kamlesh Singh, Ph.D.	Smita Kashiramka	
Sanjiva Prasad, Ph.D.	Abhisek Dixit, Ph.D.	Farhan Ibrahim, Ph.D.		
Sandeep Sen, Ph.D.	S. Janardhanan, Ph.D.	Simona Sawhney	Sanjay Dhir	
Associate Professors	Saif Khan Mohammed, Ph.D.	Pritha Chandra, Ph.D.	A.K. Dube, Ph.D.	
Amitabh Bagchi, Ph.D.	Mukul Sarkar, Ph.D.	Richa Kumar, Ph.D.	Emeritus Fellow	
Mausam, Ph.D.	Saunak Sen, Ph.D.	Debasis Mondal, Ph.D.	P.K. Jain, Ph.D.	
Vinay Joseph Ribeiro, Ph.D.	Assistant Professors	Sarbeswar Sahoo, Ph.D.	Department of Mathematics	
Smruti R Sarangi, Ph.D.	T.P. Gandhi, Ph.D.	<b>Assistant Professors</b>	Professor and Head	
Aaditeshwar Seth, Ph.D.	Abhishek Dixit, Ph.D.	Ankush Agarwal, Ph.D.		
Assistant Professors	Jun Bae Seo, Ph.D.	Arudra Venkata Burra, Ph.D.	K. Sreenadh, Ph.D.	
Ragesh Jaiswal, Ph.D.	Sumeet Agarwal, Ph.D.	Divya Dwivedi, Ph.D.	Professor	
Sorav Bansal, Ph.D.	Anand Rup Das, Ph.D.	Saptarshi Mukherjee, Ph.D.	N. Chatterjee, Ph.D.	
Maya Ramanath, Ph.D.	Amit Kumar Jain, Ph.D.	Naveen Thayyil Kamaluddin,	S. Dharmaraja, Ph.D.	
Parag Singla, Ph.D.	Bhaskar Mitra, Ph.D.	Ph.D.	Subiman Kundu, Ph.D.	
Subodh Vishnu Sharma, Ph. D.	S. Srirangarajan, Ph.D.	Stuti Khanna, Ph.D.	Aparna Mehra, Ph.D.	
Department of Electrical	Manan Suri, Ph.D.	Samar Husain, Ph.D.	B.S. Panda, Ph.D.	
Engineering	R. Maheshwari, Ph.D.	Saurabh Bikas Paul, Ph.D.	R.K. Sharma, Ph.D.	
Professor and Head	Emeritus Fellow	Rajakrishnan Rajkumar, Ph.D.	S.C. Sekhara Rao	
S.D. Joshi, Ph.D.	R.K.P. Bhatt, Ph.D.	Paroma Sanyal, Ph.D.	A. Tripathi	

#### **Faculty in Position**

Associate Professors
Anima Nagar, Ph.D.
Mani Mehra, Ph.D.
Assistant Professors
Harish Kumar, Ph.D.
N. Shravan Kumar, Ph.D.
Amit Priyadarshi, Ph.D.
Sivnathan Sampath, Ph.D.
Anuradha Sharma, Ph.D.
V.V.K. Srinivas Kumar, Ph.D
P.V. Viswanathan, Ph.D
Department of Mechanical
Engineering
Professor and Head
S.K. Saha, Ph.D.
Professors
Naresh Bhatnagar, Ph.D.
Anoop Chawla, Ph.D.
Ashish K. Darpe, Ph.D.
S.G. Deshmukh, Ph.D.
J.K. Dutt, Ph.D.
Sanjeev Jain, Ph.D.
Sangeeta Kohli, Ph.D
D. Ravi Kumar, Ph.D.
Sudipto Mukherjee, Ph.D.
Sunil Pandey, Ph.D.
P. Venkateswara Rao, Ph.D.
P.V. Madhusudhan Rao, Ph.D.
M.R. Ravi, Ph.D.
Anjan Ray, Ph.D.
S.R. Kale, Ph.D.
S.P. Singh, Ph.D.
P.M.V. Subbarao, Ph.D.
Harish Hirani, Ph.D.
S. Aravindan, Ph.D.
S.V. Modak, Ph.D.
Pulak Mohan Pandey, Ph.D.
Prabal Talukdar, Ph.D.
R.K Pandey, Ph.D.
Sujit Kumar Sinha, Ph.D.
Associate Professors
Sudarsan Ghosh, Ph.D.
Sunil Jha, Ph.D.
Nomesh B. Bolia, Ph.D.
Amait Counts Db D

B. Premachandran, Ph.D. **Assistant Professors** Subhra Datta, Ph.D. Naresh Varma Datla, Ph.D. Jitendra P. Khatait, Ph.D. Supreet Singh Bahga, Ph.D. Devendra Kr. Dubey, Ph.D. **Emeritus Fellow** Kiran Seth, Ph.D. **Visiting Faculty** A.D. Gupta, M.Tech. **Department of Physics Professor and Head** Anurag Sharma, Ph.D. **Professors** Versha Banerjee (Ms.), Ph.D. Mukesh Chander, Ph.D. R. Chatterjee (Ms.), Ph.D. Sujeet Chaudhary, Ph.D. Sankalpa Ghosh, Ph.D Joby Joseph, Ph.D. Ajit Kumar, Ph.D. H.K. Malik, Ph.D. Neeraj Khare Ph.D. B.R. Mehta, Ph.D. Dalip Singh Mehta, Ph.D. G.V. Prakash, Ph.D. G.B. Reddy, Ph.D. M.R. Shenoy, Ph.D. J.P. Singh, Ph.D. Aloka Sinha (Ms.), Ph.D. R.K. Soni, Ph.D. A.K. Shukla, Ph.D. R.K. Varshney, Ph.D. Pankaj Srivastava, Ph.D. P. Senthil Kumaran, Ph.D. V. Ravishankar, Ph.D. **Associate Professors** Shantanu Ghosh, Ph.D. Amrita Mishra (Ms.), Ph.D. Rajendra Singh, Ph.D. **Assistant Professors** Kedar Khare, Ph.D.

Pranaba Kishor, Ph.D.

Amartya Sengupta, Ph.D. Joyee Ghosh, Ph.D. Pintu Das, Ph.D. R. Suresh Marthe, Ph.D. Sujin B. Babu, Ph.D. R.S. Dhaka, Ph.D. S. Bhattacharya, Ph.D. Sunil Kumar, Ph.D. Bhaskar Kanseri, Ph.D. Rohit Narula, Ph.D. Brajesh Kumar Mani, Ph.D. **Emeritus Fellow** Arun Kumar, Ph.D. B.D. Gupta, Ph.D. D.K. Pandya, Ph.D. **Department of Textile** Technology **Professor and Head** B.K. Behera, Ph.D. Professors Ashwini K. Agrawal, Ph.D. R. Alagirusamy, Ph.D. R. Chattopadhyay, Ph.D. Apurba Das, Ph.D. Bhuvanesh Gupta, Ph.D. Deepti Gupta (Ms.), Ph.D. S.M. Ishtiaque, Ph.D. Manjeet Jassal (Ms.), Ph.D. Mangla Joshi (Ms.), Ph.D. Kushal Sen, Ph.D. R.S. Rangasamy, Ph.D. **Associate Professors** Dipayan Das, Ph.D. B.S. Butola, Ph.D. Sourabh Ghosh, Ph.D. S. Mukhopadhyay, Ph.D. Abhijit Majumdar, Ph.D. Bhanu Nandan, Ph.D. Amit Rawal, Ph.D. Rajiv K. Srivastava, Ph.D. **Assistant Professors** Md. S. Wazid Ali, Ph.D.

**Emeritus Fellow** V.K. Kothari, Ph.D. Centre for Applied **Research in Electronics Professor and Head** Ananjan Basu, Ph.D. **Professors** R. Bahl, Ph.D. Arun Kumar, Ph.D. S.K. Koul, Ph.D. Suneet Tuli, M.Tech. (Sabbatical leave) **Associate Professors** Monika Aggarwal (Ms), Ph.D. **Assistant Professors** Mahesh P. Abegaonkar, Ph.D. Prabhu Babu, Ph.D. Ankur Gupta, Ph.D. **Emeritus Fellow** Pushpraj Singh, Ph.D. **Centre for Atmospheric** Sciences **Professor and Head** Manju Mohan (Ms.), Ph.D. **Professors** Maithili Sharan, Ph.D. A.D. Rao, Ph.D. **Associate Professors** Sagnik Dey, Ph.D. Krishna Achuta Rao, Ph.D. Somnath Baidya Roy **Assistant Professor** Sandeep Sahnay, Ph.D. Vimlesh Pant, Ph.D. Saroj Kanta Mishra, Ph.D. Dilip Ganguly, Ph.D. **Emeritus Fellow** S.K. Dash, Ph.D. Senior Scientific Officers-I P. Agarwal (Ms.), Ph.D. **Centre for Biomedical Engineering Professor and Head** Veena Koul (Ms.), Ph.D.

Amit Gupta, Ph.D.

Professors	Associate Professors	Emeritus Fellow	Bharti School of
Harpal Singh, Ph.D.	K. Vamsi Krishna	D.T. Shahani, Ph.D.	Telecommunication Technology and
Assistant Professors	Ramesh Narayanan, Ph.D.	A.L. Vyas, Ph.D.	Management
S.K. Jha, Ph.D.	K.A. Subramanian, Ph.D.	Chandra Shakher, Ph.D.	Professor & Coordinator
Neetu Singh, Ph.D.	S.K. Tyagi, Ph.D.	Centre for Polymer	Ranjan Bose, Ph.D.
Anup Singh, Ph.D.	R. Uma, Ph.D.	Science & Engineering	Amar Nath and Shashi
Amit Mehndiratta, Ph.D.	Assistant Professors	Professor and Head	Khosla School of
S.M.K. Rahman, M.Tech.	Sandeep Kumar Pathak, Ph.D.	A.K. Ghosh, Ph.D.	Information Technology
Dinesh Kalyanasundaram, Ph.D.	Dibakar Rakshit, Ph.D.	Professor	Professor & Coordinator
Computer Services Centre	Ashu Verma, Ph.D.	Josemon Jacob, Ph.D.	Sanjiva Prasad, Ph.D.
Professor and Head	Emeritus Fellow	Associate Professor	School of Biological
Huzur Saran, Ph.D.	L.M. Das, Ph.D.	Bhabani Kr. Satapathy, Ph.D.	Sciences
Arun Kumar S., Ph.D. (Associate Head)	M.G. Dastidar, Ph.D.	Brijkumar Tripathi, Ph.D.	Professor & Co-ordinator
Subhashish Banerjee, Ph.D.	A. Ganguly, Ph.D.	Assistant Professor	Tapan Kr. Choudhari, Ph.D.
Sr. System Programmers	S.C. Kaushik, Ph.D.	Sampa Saha, Ph.D.	Professors
Pravanjan Kumar Baboo, Ph.D.	D.K. Sharma, Ph.D.	Leena Nebhani, Ph.D.	James Gomes, Ph.D.
Pradeep Kumar Gupta	Industrial Tribology,	Emeritus Fellow	C.S. Dey, Ph.D.
Sriram Hegde	Machine Dynamics & Maintenance Engineering	Veena Choudhary, Ph.D.	Seyed E. Hasnain, Ph.D.
Pragya Jain (Ms.) Ph.D.	Centre	S.N. Maiti, Ph.D.	· ·
K. Narayanan	Professor and Head	Centre for Rural	Aditya Mittal, Ph.D.
Ajay Guleria	Jayashree Bijwe, Ph.D.	Development &	Associate Professors
Manish Agarwal	Professors	Technology	Bishwajit Kundu, Ph.D.
Gaurav Munjal	Naresh Tandon, Ph.D.	Professor & Head	Archna Chug, Ph.D.
Senior Programmers	V.K. Agarwal, Ph.D.	V.K. Vijay, Ph.D.	Vivekanandan Perumal, Ph.D.
Rajesh Bhat, Ph.D.	Design Engineer	Professors	Assistant Professors
R.K. Chauhan, M.C.A.	R.K. Rai, M.Tech.	V.M. Chariar, Ph.D.	Manidipa Banerjee, Ph.D.
Jaya, M.Tech.	Assistant Professors	Anushree Malik (Ms.), Ph.D.	Ashok Kumar Patel, Ph.D.
Sunil Kak, M.Tech.	Deepak Kumar, Ph.D.	S.N. Naik, Ph.D.	Interdisciplinary /
Ram Lal, M.Sc.	Emeritus Fellow	Satyawati Sharma (Ms.), Ph.D.	Transportation Research
Gopal Krishan, M.Sc.	O.P. Gandhi, Ph.D.	Associate Professor	and Injury Prevention Programme (TRIPP)
Senior Manager	Instrument Design &	Vivek Kumar, Ph.D.	Professor and Co-ordinator
N.C. Kalra, M.Tech.	Development Centre	Assistant Professors	
Educational Technology	Chief Design Engineer		S.R. Kale, Ph.D.
Services Centre	(SG) and Head	Hariprasad P., Ph.D.	Central Workshop
Professor & Head	P.V. Madhusudan Rao, Ph.D.	Kavya Dashona, Ph.D.	Professor & Head
Sanjeev Sanghi, Ph.D.	Assistant Professors	Emeritus Fellow	Naresh Bhatnagar, Ph.D.
Centre for Energy Studies	Jyoti Kumar, Ph.D.	Rajendra Prasad, Ph.D.	Interdisciplinary
Professor and Head	Gurfan Sayeed, Ph.D.	National Resource Centre	Opto-Electronics & Optical
Viresh Dutta, Ph.D.	Sumer Singh, Ph.D.	for Value Education in	Communication Research Programme
Professors	Satish Kumar Dubey, Ph.D.	Engineering  Defense 2 Countries	Professor and Co-ordinator
T.S. Bhatti, Ph.D.	ChiefDesignEngineers(SG)	Professor & Coordinator	
T.C. Kandpal, Ph.D.	S.K. Atreya, D.I.I.T.	Sangeeta Kohli, Ph.D.	M.R. Shenoy, Ph.D.

## **New Appointments**

(April 1, 2016 - March 31, 2017)

27 new faculty members have joined the Institute this year. These new additions to our faculty have enhanced our competence in several emerging areas, while bringing new energy into our academic endeavours.

#### **New Appointments**

New Faculty Joined					
Sushma Santapuri, Applied Mechanics	Debabrata Dasgupta, Mechanical Engineering				
Kuntal Manna, Chemistry	Bahni Ray, Mechanical Engineering				
Manoj M., Civil Engineering	Javed N. Sheikh, Textile Engineering				
Nezamuddin, Civil Engineering	Ankur Gupta, CARE				
Sayan Ranu, Computer Science & Engineering	Pushparaj Singh, CARE				
Deepak Umakant Patil, Electrical Engineering	Ajay Guleria, Computer Services Centre				
Debanjan Bhowmik, Electrical Engineering	Manish Agarwal, Computer Services Centre				
Lalan Kumar, Electrical Engineering	Gaurav Munjal, Computer Services Centre				
Yashpal Ashok Rao Jogdand, Humanities & Social Sciences	S.K. Tyagi, Energy Studies				
Neeru Chaudhary, Management Studies	Satish Kumar Dubey, IDDC				
Prosenjit Roy, Mathematics	Bijay Kumar Tripathi, Polymer Science				
Vikas Vikram Singh, Mathematics	Vivek Kumar, CRDT				
Kamana Porwal, Mathematics	Kavya Dashora, CRDT				
Mayank Kumar, Mechanical Engineering					

# 9. Student Activities

#### (April 1, 2016 - March 31, 2017)

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### **Student Activities**

(April 1, 2016 - March 31, 2017)

Considerable efforts are made to see that students lead a balanced campus life in harmony with their teachers and fellow students. To ensure that freshers settle down in their new surroundings comfortably, a Freshers' Orientation Programme was organized at the beginning of the academic session. Counselling Service provides counselling to students on adjustment problems or for the problems arising from financial hardship, and emotional/psychological problems affecting academic pursuits.

Outside the classrooms, facilities for a variety of cocurricular activities, sports, games, student publication etc. are provided for the overall growth and development of students' potentialities and initiative with an emphasis on responsible student leadership.

The pace and mode of student life on the campus is planned and implemented by the following student bodies:

- 1. Students Affairs Council (SAC) and its five Boards, i.e.,
  - (a) Board for Hostel Management (BHM)
  - (b) Board for Recreational & Creative Activities (BRCA)
  - (c) Board for Sports Activities (BSA)
  - (d) Board for Student Publications (BSP)
  - (e) Board for Student Welfare (BSW)
- 2. National Service Scheme (NSS)
- 3. National Cadet Corps (NCC)
- 4. Student Counselling Service (SCS)
- 5. Student-Teacher Interaction Committee (STIC)
- 6. National Sports Organization (NSO)
- 7. Departmental Professional Societies.

#### 1. STUDENT AFFAIRS COUNCIL (SAC)

The Students Affairs Council has been quite active. Regular meetings took place between the various representatives of SAC, to ensure that all facts of student issues were discussed. SAC representatives also interacted with student member of senate and other SAC committees to ensure wider participation of students in the affairs of the institute. Many student related issues were discussed. Maintenance problems of hostels and the institute, the no dues process for students, library and computer related issues, as well as safety and security issues were also resolved. Openness in the decision making process of various boards and improvements in the student election process were other matters that were discussed. Another important issue that was raised at SAC was the need for improved student teacher interaction. A student Mentorship Programme to provide consulling of first year students was enhanced. The process of restructring of Boards and constitution review of the student bodies was also started by SAC. The two standing committees of the SAC, namely the Coordination Committee and the Executive Committee contributed as usual in tackling of various issues referred to them.

#### a. Board for Hostel Management (BHM)

The Board for Hostel Management is an important Board in the SAC to decide the students issues directly.

There are eleven hostels for boys, six with a capacity in the range of 400-450, two with a capacity of 1000 and the others in the range 300-350 each; two hostels for girls students with a capacity of about 500 each. In addition, there is also very limited accomodation for married students. Each hostel has a House Working Committee which decides the pace and pattern of its life. The Board for Hostel Management, with the Dean of Students as the ex-officio president, coordinates the working of all hostels. The Dean of Students is the head of hostel organization. He is assisted in his administrative responsibilities by the Associate Deans of Hostel Management, Students Welfare, Events and the Assistant Registrar (Student Affairs). The BHM has representation from all the hostel and takes decisions on all problems of common interest. The warden is the administrative head of each hostel. He/ She is a faculty member of the Institute. The House Working Committee of each hostel is chaired by the House Master who is a professor of the Institute. The committee consists of the Warden, the House Secretary, the Mess Secretary, the Sports Secretary, the Cultural Secretary, the Maintenance Secretary, and the representatives from all classes.

Right from the beginning of this academic year, hostel maintenance problems were undertaken. A number of meetings with the Dean of Students, wardens, hostel functionaries, Institute Engineer and engineering staff were held. For proper implementation of maintenance schedules, long-term and short-term problems were identified and engineering staff visits to each hostel for monitoring work. Special efforts were made towards the cleaning of common areas.

Security problems in each hostel were reviewed and detail discussion with the wardens, students and security personnel's was held. CCTV monitoring has been done.

Considerable efforts were made for providing accommodation to all students.

Continuing dialogue between the mess staff, student representatives and authorities has resulted in better work environment. Regular meetings with the staff improved their punctuality.

This year was devoted to improve the food quality in hostel mess. Regular meetings with Dean of Student, Hostel Representatives and Mess Supervisors were held for the same purpose. Modifications assured for Scheme (MAO) is being implemented for BHM staff.

The Wardens / House Masters during 2016-17

Hostel	Warden
Aravali	Prof. R. Abhijit Abhyankar
Jwalamukhi	Prof. Ravi P. Singh
Kailash	Prof. Joyee Ghosh
Karakoram	Prof. M.C. Ramteke
Kumaon	Prof. R. Dhaka
Nilgiri	Prof. D. Kalayansundram
Shivalik	Prof. B. Sujin Babu
Vindhyachal	Prof. Ashok Patel
Himadari	Prof. Paroma Sanyal (Ms.)
Satpura	Prof. S.K. Pattanayek
Zanskar	Prof. Saif K. Mohammed
Girnar	Prof. D. Sundar
Udaigiri	Prof. S.R. Sarangi
Nalanda	Prof. P. M.V. Subbarao

A BHM dinner was organized during the Student's Week. Each hostel immaculately arranged its counters at a central place. Faculty and students attended with enthusiasm. The cultural programme was a big attraction for the evening. The BHM trophy and BHC trophy was given for their excellent outstanding work.

BHM also arranged the stay and messing for all the delegates of Rendezvous' 2016 and TRYST' 2017 events very successfully.

To simplify the recovery of dues from students, a regular monitoring system has been introduced involving simplified system of payment, by which the students sign a declaration form and the amount is automatically deducted from their bank account, avoiding any personal bank transaction on this account. Use of computers for maintenance of hostel accounts has been in existence from past six years and the staff working in the hostels was encouraged to undergo training in the use of PCs.

Each Hostel was in the forefront in initiating and hosting the celebration on the independence Day and the Republic Day functions at the Institute level.

Hostel Mess Secretaries put in considerable efforts in controlling food wastage and thus were able to keep a check and balance of galloping mess bills. By proper coordination between the students and the wardens, the supply system was improved and new supplies were identified and added.

There were surprise checks by canteen cells for institute canteens. Manopoly of supplies has been reduced by attaching 2-3 suppliers to each hostel.

#### b. Board for Recreational and Creative Activities (BRCA)

The year 2016-17 saw the conversion of BRCA into a non-competitive board with the scrapping of the BRCA trophy. The move was a highly appreciated one as it not only reduced an undue workload on students but also promoted healthy

competition and fairplay. Various club events were organised throughout the year and saw humongous participation.

**BRCA Orientation** – The BRCA orientation for the incoming freshers (UG & PG) was held where all clubs presented performances to showcase the talent they possess and demonstrate their club activities. The event was a huge success and aptly played its role of introducing the freshers to all the cultural clubs as well as inculcating interest in the same.

**Penny for Thoughts** – A creative blog by the name of 'Penny For Thoughts' was launched by BRCA to provide an open platform to the students of IITD to showcase their creativity as well as to provide them with an outreach to a wider audience. The Blog saw a thumping success as entries kept pouring every week.

**Rendezvous 2016** – It was the biggest yet in terms of budget, variety and number of international as well as national artists. IIT hosted names like Vishal-Shekhar, Euphoria, Teri Miko, Drowning Pool as well as a lot of other world famous celebrities known for their finesse in their art. We witnessed a footfall of more than 70,000 with more than 600 colleges participating in the various events held during the 4-day long carnival. The decoration and the organisation of the event was highly praised by the guests and the participants. The festival had various competitions and fun activities to cater to the taste of everyone in the campus.

Inter IIT Cultural Meet – IIT Delhi put up a remarkable performance at the first inter-iit cultural meet held at IIT Bombay, with many students bagging podium positions.

**New Initiatives** – Various workshops were organised in every club to help students hone their skills and learn the tricks of the trade. Literary, Dance, Drama, Debating, Quizzing, Hindi Samiti, PFC and Music club were all actively involved in organising workshops and informal events throughout the year. The music club pioneered Wings Project, a new social initiative to train autistic and economically weak students. The PFC started an initiative called Weekend Getaways while the literary club organised Slam Blues, the first ever intercollege poetry slam at IITD.

**All Boards Night** – It was during the All Boards Night that various clubs and the people associated with them were felicitated for their outstanding contribution to their clubs and to BRCA. The Music club was adjudged as the best club and Literary Club as the second best. Abhay Balyan (Secretary, Hindi Samiti, 2016-17) was recognised as the Best Secretary. Nikhil Chaturvedi was conferred with the highest honour of the night, the Pride of BRCA.

#### c. Board for Sports Activities (BSA)

#### Sports 51st Inter IIT Sports Meet (December 2016):

The IIT Delhi contingent was placed Second in the General Championship (GC) for men and Third in the General Championship for women.

For the first time, the concept of Overall Championship (OC) for combined boys and girls was introduced. IIT Delhi was placed Second in the OC.

#### Notable Achievers of the contingent in the Inter-IIT meet:

- Dileep Pudi (Athletics Men): 3 Gold Medals, one in each of 100 m, 200 m and 400 m sprint. Broke records in each. He was hailed as the Best Athlete of the inter-IIT sports meet.
- Rahul Jhajharia (Athletics Men): 3 Gold Medals, one in each of 800 m, 1500 m, and 5000 m races.
- Bhakti Agarwal (Swimming, Women): Best Swimmer of Inter-IIT
- Rutha Shenoy (Captain Volleyball, Women): Best Player of Inter-IIT
- · Kumar Sahaj (Cricket): Best Player of Inter-IIT
- · Amit Kothari (Badminton, Men): Best Player of Inter-IIT
- · Athletics Team (Men): Gold
- Hockey Team : Gold
- · Volleyball Team (Women): Gold
- Squash: Silver
- Cricket Team: Silver
- Swimming (Women): Silver
- · Athletics Team (Women): Bronze
- Swimming (Men): Bronze
- Badminton (Men): Bronze
- · Table Tennis (Women): Bronze

#### Inter Hostel Sports 2017 (January-February):

The Inter hostel General Championship went down to the wire, just like last year. This time too Jwalamukhi won the GC for men with a close victory over Girnar Hostel. The Inter Hostel general championships once again saw tight competition and high standards of game play. Similar was the case in the girls hostel sports championship as well where both hostels ended with equal points after the competitions across eight sports. In the end, Himadri and Kailash shared the BSA trophy.

#### Sportech 2017 (February):

Sportech this year was the proud host of 45 colleges, 160 teams, 1500 participants.

The biggest milestone that Sportech achieved this year was hosting four matches of the T20 World Cup 2017 for the Blind in collaboration with the World Blind Cricket Council. Despite having minor exams, the spectator turnout for the same was truly spectacular. The very idea of promoting sports for the 'differently abled' and increasing the social sensitivity and acceptance for the cause was heartwarming.

Sportech 2017 was seen to promote a number of unconventional sports. Women's Football Exhibition Match between the women's teams of Ashoka University and Vasant Valley School was met with great appreciation. The spectators even got to witness the Indian National Rugby team in an exhibition match against the CRPF and Delhi Rebels Rugby club.

IIT Delhi also left it's mark in Sportech by performing extraordinarilywellandensuringagoodandhealthytournament for all. IIT Delhi won laurels across nine sports, a high in itself.

#### Achievements at the National Level:

Dileep Pudi won Gold medals in 100 m, 200 m, and 4x400 m

races at 28th North Zone Junior Nationals Athletics meet held at Meerut.

One of our athletics coaches, Mr. Lalit Kumar won Gold in High Jump with a jump of 1.85 m and Bronze in Triple Jump with a jump of 11.59 m in the recently concluded Masters National Athletics Meet held at Hyderabad.

#### d. Board for Student Publications (BSP)

The year 2016-17 marked a change in the vision of BSP. The publications board began to focus more on creative expression and facilitating interaction within the IIT Delhi community. In an attempt to go beyond the team boundaries, students and faculty from outside the board were involved through various events, competitions and online series.

The Board attempted to knit the entire IITD community together through print and online media. The Journalism Wing worked with the aim of investigating issues relevant to the student community, in order to bring student concerns to the administration. The Creative Wing restructured itself to increase its outreach to the students and worked to enhance the involvement of the PG students in the Board's activities. The Design and Video Team helped in the photographic and video coverage of events on campus. It also helped in increasing outreach through trailer videos for publications.

For BSP, which is still in its nascent stages, the year 2016 was a year of firsts. Listed below are some of the major new initiatives from last year:

#### • To enhance student-faculty interaction:

BSP worked to bridge the gap between the two sides of the podium in our classrooms by evolving initiatives like 'The First Conversation' and the online series, 'Prof Next Door'.' The First Conversation', held with professors Ambuj Sagar and Narayanan Kurur last year, acted as a great platform for the students to get to know the professors more and interact with them on issues that are beyond the confines of lecture halls.

#### ii) Magazine Design Competition:

Aone-of-its-kind Inter-Hostel Magazine Design Competition 'Gazettale' was conceptualized and conducted for the first time. It gained wide popularity as the participants came up with beautiful and very creative magazines. In another initiative to increase participation of the student community at large, the final publication of the board, Muse 2.0 was solely composed of entries from outside the BSP team. It gave students a platform to showcase their talent, in both Hindi and English.

#### Print Publications:

In print, the board published two newsletters and four magazines during the year.

BSP worked on improving the quality of research for the newsletter articles and sought responses from outside the team through surveys and comments from students, administration and faculty. On the creative side, BSP renamed its technical magazine—the new name is Elemental—and launched it in an all new avatar. A new diary format was implemented for the creative magazine Muse, which presented a collection of several diary entries through different eras of time.

#### • To increase accountability and improve efficiency:

To increase accountability within student bodies on campus, BSP developed a review meter, 'GSec Miles' to check whether the manifesto promises were actually being fulfilled by the respective General Secretaries or they remained just tall claims.

Collaborations with other boards led to increase in efficiency. Inter IIT Meet held in Kanpur was extensively covered for the first time; Institute Convocation was covered in collaboration with CAIC.

#### Literati 2016: Cerca Trova

The first flagship event of the year was Literati which saw several renowned journalists, authors, and publishers come together in a span of three days. The renowned writer Amit Chaudhari, the singer Rajshekhar, veteran journalist Prabhu Chawla, and Ananth Padmanabhan, the CEO of Harper Collins, were among the invited speakers.

The IIT Delhi I-Can Conference was renamed as The Negotiation Table (NeT) and it went on to become a huge success. The Negotiation Table created a virtual world wherein the participants took on the roles of Journalists, Politicians and Corporates and held negotiations regarding the problem given to them as they would in the real world, in sessions spanning 3 days.

Other than this, enriching workshops and competitions were also organized during Literati.

#### e. Board for Student Welfare (BSW)

The Board for Student Welfare, IIT Delhi is a student body set up with an intention to look after the Welfare of the Student Community. BSW has always been dedicated towards helping the Student Community in every aspect of life in IIT Delhi. The Board adheres to a principle of making itself the organisation of the Students, for the Students, and by the Students. The constituent bodies of BSW have three permanent committees viz., 1. Finance Committee; 2. Public Relations Committee; 3. Mentorship Committee

Financial Committee is responsible to take care of all issues pertaining to financial aid, its payment and its recovery. It also looks after Loans & Scholarships which are provided by BSW to the needy and the deserving students.

Public Relations Committee handles all aspect of the Board related to Welfare activities, Publicity and Grievance-redressal. It is directly responsible to come up with new schemes from time to time in the benefit of the Student Community.

Student Mentorship Programme (SMP) is a program under the aegis of Mentorship Committee, which intends to help the freshers in IIT to make informed decisions and grow positively when facing the College life for the first time. Every fresher joining IIT Delhi is assigned a mentor who will be a friend and guide for the fresher's stay here and will help them analyse various options at different stages of IIT life.

BSW also runs a Student Cooperation Society (SCOOPS) which runs on a no profit-loss philosophy. Located near Block I, its duty is to provide students access to buy good-quality subsidised stationary items, note books and related services. Student Teacher Interaction Council (STIC) is another welfare activity carried on by BSW, to strengthen the Student-Teacher, the foundation pillar of any Educational Institution.

Student Counselling Service (SCS) under BSW provides a confidential environment where a student can explore and express aspects of one's self that may be painful or uncomfortable. Counsellor helps the students in gaining their own insights, and making and acting on their own choices, thereby enabling them to resolve issues. Currently BSW has createdaSelfHelppageandaSeriesofanimatedpostsandvideos enabling the student to solve problem at an individual level.

#### Orientation

Board for Student Welfare have been constantly involved in the Orientation and Registration of every new Batch. Everytime it handles 850+ UG entries and over 800+ PG entries. Apart from the usual registration processes, BSW also provides the students with a Catalogue containing BSW Diary, Newsletter, Mentor letter and Publications of various other Boards.

Along with this Registration process, BSW also organises several Camps mainly Mattress, Cycle & Cooler for freshers at Discounted prices, so that they don't have to roam around in this new city in search of such daily use things.

#### 2. NATIONAL SERVICE SCHEME (NSS)

NSS IIT Delhi is the IIT Delhi chapter of the National Service Scheme, institutionalized under the Ministry of Youth Affairs & Sports Govt. of India. Our sole aim is to motivate students at IITD to indulge in nation building activities through various events and projects which are aimed towards the benefit of people in and around IIT Delhi. We share the belief that such activities are almost always means of great satisfaction and joy. NSS IITD has a volunteer base of around 2000 students belonging to various disciplines and degrees of IIT Delhi, 40+ ongoing projects and collaboration with 20+ student bodies and NGOs. We work on a diverse range of social issues broadly under five domains - Education, Environment, Health, Social Innovation and Society.

To fly high, just like Blood Connect did, two of our initiatives STREE and Indian Road Safety Campaign became independent of us. IRSC: Initially being part of NSS it was only known in Delhi but now it has expanded its horizon to over 35+ cities and working with organization like MoRTH, UN with manifold increase in impact.

NSS IITD successfully organised its social extravaganza, Kaizen: IITD for Society, comprising of -

- Social Convention, first ever and one of its kind platform provided by IIT Delhi for having several NGO's and Student Bodies on board and share various problems and ideas that create social impact.
- Two workshops on Leadership and Poverty by Community for Youth Collective and Pradan NGO attended by students from several colleges in Delhi.

- Ayan, success stories by two phenomenal gentlemen, Mr. Girish Kulkarni (Founder, Snehalaya) and Mr. Himanshu Patel (Winner, The Best Gram Sabha Award), who motivated the audience with the struggle which they faced and the impact which they are creating now.
- 20+ Stalls put up by several NGO's and research units like Pradan, DNiP Care, Assistech and RuTAG working towards social impact.

#### 3. NATIONAL CADET CORPS (NCC)

The NCC unit at IIT Delhi is affiliated to 7 Delhi Battalion NCC. The NCC unit IIT Delhi organized the following activities during the preceding year:

- Regular training in foot, arms and ceremonial activities.
- · Regular parade drills.
- Parade on the Republic Day, where the Director of IIT Delhi undertook the inspection of the NCC cadets.
- Award for the Best Cadet and the Most Disciplined Cadet were conferred to two of the cadets.
- A winter camp was organized on the IIT Delhi premises in December that involved weapons training, map reading activities, physical fitness and hygiene, firefighting lectures. Cadets were sent to attend annual training camps that were organized by 7 Delhi NCC Battalion, outside the IIT campus, and the cadets participated with full enthusiasm and zeal. Some cadets were given preparation guidelines for the B- and C- certification examinations which they plan to undertake in the current year.

#### 4. STUDENT COUNSELLING SERVICES (SCS)

The aim of Student Counselling Services (SCS) of IIT-D is to support the students to enhance their efficiency and output to perform better and to cope with various distresses they experience and to address and satisfy issues of parents regarding their wards and addressing problems of any IITD faculty and staff as per their requirement. There are three components of SCS- firstly, the initial problem which is to be addressed by the counsellors which is subsequently followed by support through psychological therapies and assessment done by the counselors and the referrals by the counselors to a psychiatrist and other medical intervention if required and thirdly, the follow up sessions with the students and staff. Counselling in SCS involves therapies based on cognitive, behavioral, rational, emotive, supportive, existential and interpersonal and intrapersonal and personality domains of an individual.

#### **Common Psychological problems brought at SCS:**

The primary problems that individuals come up with and the SCS deals with, that disturb the individual's emotional, psychological, mental and physical well-being, thus leading to poor coping are as stress and anxiety, academic concerns, depression, eating disorders, anger and low self-esteem, adjustment problems (at personal, family, friends and social levels), relationship issues, peer pressures, time management,

coping with issues, problem solving, decision making, personality orientation of self and that of others (social schemas), interpersonal and Intrapersonal communication skills, suicide ideations, addictions (smoking, alcohol, drugs, video gaming), cyber bullying, somatoform disorders, issues pertaining to body image and sexuality amongst many others.

#### SCS Activities from July 2016 till February 2017:

• Orientation Programme: Programme was held for two days in the month of July, 2016.

Day 1:- SCS provided a Counselling session with parents sensitizing them about potential problems their wards may face in initial few months.

Day 2:- SCS provided information to students regarding their adjustment to IITD campus life and hostel environment and adjustment issues they might face in initial few months.

Hostel visits by counselors in the month of August and September, 2016

Awareness was created in all hostels about the existence and services of SCS and about privacy and confidentiality clause of SCS with student interaction.

• Mentorship training by counselors in September 2016:

This training was meant for the core group mentors. Mentors were trained to identify students facing problems and help students at the elementary stage of their problem and make referrals to SCS.

#### Lectures and workshops conducted by SCS:

A number of NEN Lectures were conducted from January 2017 till March 2017. Primary focus of the NEN lectures are on ethics, awareness on substance abuse, relationship and adjustment issues, Personality development and other psychological problems leading to distress and maladjustment.

#### **Recent Developments:**

- Follow-up with weak students after the two PTM's done in IIT-D in September 2016 and February 2017.
- The students in new Vindhyachal apartments, those referred by SCS has been followed up and reviewed.
- Now three Counsellors are part of SCS. 1 permanent Counselor and 2 on contract counsellors-full day. Now with an increase in the number of counsellors, SCS is able to deal with the increasing number of students having concerns more effectively, with more time and greater efficiency towards therapy and students psychological assessment. Waiting time for students too has decreased to see a counsellor.

#### **5. STUDENT-TEACHER INTERACTION COMMITTEE (STIC)**

STIC (Student-Teacher Interaction Committee) made available funds for Student-Teacher Interactions organised by individual faculty for their respective courses. Also many departments organised dinners involving all their students and faculty by utilizing STIC funds for various courses.

# 10. Social Responsibility

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## **Social Responsibility**

(April 1, 2016 - March 31, 2017)

#### RELAXATIONS TO SC/ST/OBC/PD STUDENTS AND STAFF

IIT Delhi is sensitive to the need of the students belonging to the SC/ST community and to those who are having disabilities. Special care and attention are paid to them.

#### **Relaxation in Admissions**

Admission to the first year of the four-year B.Tech., dual degree and the 5-year integrated M.Tech. programmes is made through the Joint Entrance Examination (JEE) which is held in April and is common for all the IITs and the Institute of Technology, BHU, Varanasi.

- The minimum qualifying marks for SC/ST candidates are specially prescribed at a lower level than those for the general category of students.
- The age limit is also relaxable in their case by five years.
- Candidates declared successful in this category are paid second class railway fare to and fro from the place of their normal residence to the counsellingcentre.

#### **Reservation of Seats**

At IIT Delhi, the percentage of seats reserved for SC/ST/OBC/PD candidates is as follows:

	B.Tech. Dual Deg. & Int. M.Tech.	M.Sc.	M.Tech.	M.Des.	M.B.A.
Scheduled Castes	15	15	15	15	15
Scheduled Tribes	7½	7½	71/2	71/2	7½
OBC	27	27	27	27	27
PD	3	3	3	3	3

#### Persons with Disabilities (PD)

For any category of disability (viz., locomotor, visual, speech and hearing), benefit is given to those candidates who have at least 40% permanent physical impairment in relation to a body part/ system/ extremity/extremities/ whole body etc. The candidates in this category are required to be certified by a Medical Board. The Medical Board decides the following:

- Whether the Candidate qualifies for the benefits under this category, and
- if the disability is likely to interfere in his/her studies.

The Medical Board duly constituted for this purpose meets at the time of counselling. The decision of the Medical Board is held final.

#### **SCHOLARSHIPS AND FINANCIAL ASSISTANCE**

All SC/ST students are given scholarships and financial assistance as detailed below:

- AllSC/STStudentsareexemptedfrompaymentoftuitionfee.
- Free messing (basic menu) and a pocket allowance of Rs. 250 per month in lieu of the merit-cum-means scholarship for the students having annual family income upto 4.5 lacs. In addition, they are exempted from payment of Hostel seat rent.
- All eligible SC/ST students, while on training or doing courses during semester breaks or required to stay in the Institute during semester breaks or exempted from taking meals from hostels due to medical reasons etc. are given payment of 70 per month and a per diem allowance in lieu of free messing on the basis of prevalent average rate of messing charges as applicable from time to time.
- SC/ST students who fail in the examination for the first time continue to receive the free messing subject to a maximum limit of five years.
- SC/ST students are loaned books upto a value of 500 from the book bank without payment of any loan fee. The books are, however, required to be returned at the end of each semester.

#### **Master of Science**

Merit-cum-means scholarship of 1,000 per month and free tuition are permissible to M.Sc. students to the extent of 25% of the sanctioned strength subject to a maximum of five in each department. Only those students are eligible whose parents' gross income upto Rs. 4.5 lacs per annum for all categories of students, including SC/ST students. The terms and conditions of the award of scholarship including conditions for continuation are laid down in the Rules and Regulations and are subject to change from time to time.

#### **PREPARATORY COURSE**

A one-year preparatory course is also run for SC/ST/PD candidates. Candidates admitted to this programme are amongst those who appeared for the JEE but were unsuccessful in qualifying for admission. The number admitted to this programme varies from year to year depending upon the number of SC/ST/PD candidates who were successful in gaining regular admission with the total number of candidates admitted to the regular B.Tech.

Dual Degree Integrated M.Tech. programmes as well as the preparatory course being limited to the above indicated percentage. Preparatory course students undergo zero level courses in Physics, Chemistry, Mathematics and English.

Candidates who successfully complete the preparatory course are eligible to seek admission during the following academic year against the vacant SC/ST/PD seats of the current year. Alternately, in case they desire a discipline of their choice, they must reappear for the JEE in the subsequent year. SC/ST Preparatory course students are also eligible to receive free messing and pocket allowance on the basis of the same norms as for regular under graduates tudents belonging to SC/ST category.

#### **OTHER FACILITIES**

- Reduction in the academic load in subsequent semester in case they do not maintain the required semester grade point average (SGPA).
- Tutorial type remedial courses with half the normal credits.
- Special courses during the summer vacations to make up for the credit requirements due to reduced load during the regular semesters.
- Counselling service to help such students to better adjust to campus life and environment.

#### **CONCESSIONS ALLOWED TO STAFF**

I.I.T. Delhi follows the Government of India rules governing reservation for Scheduled Castes/Scheduled Tribes, OBC and Physically Handicap persons. Appointments made in respect of these categories during the year under report are given below:

No. of Candidates Appointed*							
Groups	Scheduled Castes	Scheduled Tribes	OBC	PD	Total		
Α	0	0	0	0	0		
В	02	0	0	0	02		
С	07+01*	01	07	0	15+01*		
D	0	0	0	0	0		

\*Note: These include contract appointments.

#### SUMMER RESEARCH FELLOWSHIP PROGRAMME

The main objectives of this programme are - to help inculcate research culture among the faculty members of educational institutions outside the IIT system, to provide orientation towards research through interaction with the mentors and other research students and exposure to the facilities and labs, with a view to eventually motivate them to undertake higher studies and research activities within or outside IIT Delhi. The feedback received from both the fellows and the mentors so far has been quite positive and encouraging. Under the Summer Faculty Research Fellowship Programme of the Institute organized under the CEP, 104 faculty fellows joined this year and they come from 68 different colleges/institutes representing 15 states of the country. They have been associated with a total of 40 faculty mentors. They spent about six weeks during the summer and worked with IIT faculty mentors.

#### **COMMITMENTS IN SUSTAINABILITY**

The solar energy park was established in the year 1996 with research funding received from various Government Ministries. In solar energy park, there are low cost mud house, 5 kWpstand alone PV system, underground water pumping, various design of solar still, evacuated solar water heater, integrated PV hybrid active solar still, water heater, air heater, conventional and green house crop dryer, greenhouse cultivation system. Energy and ExergyAnalysis of Solar Thermal devices and systems, PV-T hybrid systems, HVACR Systems and thermal power plants (including combined cycle and Co-generation Power Plants) is being undertaken by CES and some pioneering work has been carried out by CES which is well cited at international level.

#### **ENVIRONMENT**

A new "Biogas Development and Training Centre" (BDTC) started in IIT Delhi in the year 2008 and engaged in research and development of biogas related technologies. BDTCs are supported by Ministry of New and Renewable Energy (MNRE) under National Biogas and Manure Management Programme (NBMMP) for providing technical training and publicity support for quality implementation of biogas programme.

BDTC, IIT Delhi is engaged in research and development of biogas related technologies and its applications. In broader terms, BDTC, IIT Delhi is to provide technical support for National Biogas Manure Management Program (NBMMP) on decided areas with Ministry of New and Renewable Energy and coordinate R&D and consultancy work on biogas technology with expertise available in IIT Delhi.

Services of BDTC IIT Delhi:

- R&D related to bio-methanation
- Training and Human Resource Development
- Consultancy services related to biogas technology
- Technical guidance

#### COMMUNITY

For the second time this year, a 10-day Special Orientation Programme for Entry Level students was conducted for about 120 participants with the objective of enhancing their learning skills, English language and communication skills, interpersonal relationships and motivation. This programme was conducted with the help of Centre for Research and Education for Social Transformation (CREST), Calicut, Kerala. All those who participated in it appreciated the program. The SC Commission had a special word of praise for the Institute's initiative to help students from weaker sections of society through this self-enrichment program.

A group named ASSISTECH was formed at IIT Delhi to design and develop assistive devices for the visually impaired. ASSISTECH was formed more than two years back with the clear objective of "Making a difference in the lives of million plus visually impaired people by the year 2015". At any one time it is an active association of 12 to 15 students who contribute both through academic projects as well as other activities. Specifically the group is working on the following four projects for the visually impaired:

- · Smart Cane: An aid for assisting safe mobility
- Bus Identification Device: An aid for assisting use of public buses
- Braille Tutor: A Braille and language learning device
- Disha Indoor Navigation Device: An aid for independent mobility within the public buildings
- IIT Delhi also encourages students to take part in service of humanity, working for the education of the underprivileged. Voluntary blood donation and tree planting are undertaken.

## 11. Alumni Contribution

(April 1, 2016 - March 31, 2017)

The Alumni are a very valuable resource for the Institute, and increasingly, they have started to make a difference to the way things are done at IIT Delhi. The Alumni have directly contributed for instituting Chair Professorships, Young Faculty Incentive Fellowships and Student Awards and even for Infrastructure Development.

Some of the contributions from the Alumni in the previous year are listed below and are gratefully acknowledged:

Contributor	Contribution in Rs.	Contribution For		
Multi-donor	12,500.00	Stay Con 2016		
Multi-donor	6,40,400.00	IITD CS&E Research Acceleration Fund		
Multi-donor	1,61,300.00	Wellness Fund-Phase 1		
Multi-donor	3,50,000.00	R.K. Mittal Excellence Award		
Multi-donor	12,10,000.00	Chair Professor		



## 12. Financials

(April 1, 2016 - March 31, 2017)

The Institute is financed by the Department of Higher Education, Ministry of Human Resource Development, Government of India. During 2015-2016, the Institute received a grant of ₹39,701.17 lakhs from the Ministry of Human Resource Development to meet its yearly expenses. The Institute receives funds for sponsored research projects and for consultancy assignments being undertaken by the Institute from several funding agencies and Industries. The financial year of the Institute corresponds with that of Govt. of India i.e. 1st April to 31st March. The accounts of the Institute are annually audited by the Director General of Audit & Central Revenue of India. The 113<sup>th</sup> Finance Committee of the Institute (shown in the box on the side) in its meeting held on 05-11-2016 recommended Plan (Normal) Revised Estimates for ₹45,500 lakhs for the year 2016-2017 and Budget Estimates for ₹50,500 lakhs for the year 2017-2018 respectively and Non-Plan Revised Estimates for ₹45,050 lakhs for the year 2016-17 and Budget Estimates for ₹54,000 lakhs for the year 2017-18.

The following are the details for the financial year 2015-2016 and 2016-2017:

#### **FINANCE COMMITTEE**

(As on 31.3.2017)

Kumar Mangalam Birla, Chairman

V. Ramgopal Rao

Tripti Gurha (Ms.)

**Ashok Maheshwari** 

Punya S. Srivastava (Ms.)

Sanjeev Sanghi

Sandeep Chatterjee, Secretary

#### **PLAN**

## Detailed Statement showing the Actual Receipt and Expenditure for 2015-16, 2016-17 along with Revised Estimates and Budget Estimates 2017-18

Head of Expenditure	Actuals 2015-2016 (in ₹ Lakhs)	Budget Estimates 2016-2017 (in ₹ Lakhs)	Revised Estimates 2016-2017 (in ₹ Lakhs)	Actuals 2016-2017 (in ₹ Lakhs)	Budget Estimates 2017-2018 (in ₹ Lakhs)	
A. Receipt						
Plan Grant from MHRD carryforward	383.10	-	-	(-)1,060.34	-	
Plan Grant from MHRD (Normal)	15,501.17	56,700.00	45,500.00	12,621.00	62,900.00	
Grant Receivable from MHRD	1,028.31	-	-	5,220.87	-	
Total A	16,912.58	56,700.00	45,500.00	16,781.53	62,900.00	
B. Expenditure						
Normal Development Activities & Increase of Students Intake (including new hostel) New Courses Modernisation & Thrust Areas	Students Intake (including new hostel) New Courses					
(i) Non-Recurring	12,304.77	50,500.00	40,300.00	12,508.48	56,700.00	
(ii) Recurring	4,607.81	6,200.00	5,200.00	4,273.05	6,200.00	
Commitments against L.C.'s for the year 2016-2017 Plan (Normal)	-	-	-	-	-	
Total B	16,912.58	56,700.00	45,500.00	16,781.53	62,900.00	

## Detailed Statement showing the Actual Receipt and Expenditure for 2015-16, 2016-17 alongwith Revised Estimates and Budget Estimates 2017-18

Head of Expenditure	Actuals 2015-16 (in ₹ Lakhs)	Budget Estimates 2016-17 (in ₹ Lakhs)	Revised Estimates 2016-17 (in ₹ Lakhs)	Actuals 2016-17 (in ₹ Lakhs)	Budget Estimates 2017-18 (in ₹ Lakhs)
Major Works	( : ==)	()	()	()	(,
On Going Schemes	4,452.84	20,000.00	12,500.00	6,888.19	20,000.00
Repair & Maintenance on Buildings	296.73	1,000.00	1,000.00	208.51	1,000.00
Fresh Schemes/Projects	-	20,000.00	20,000.00	-	22,500.00
Teaching Equipment/Computerization	6,094.99	6,000.00	3,200.00	2,347.27	3,500.00
Office General Equipments, Hospital Equipments/ Furniture and Fixtures & Institute Level Network	863.60	1,700.00	1,500.00	892.50	1,700.00
Motor Vehicles	-	-	-	38.24	-
Research Funds, Central Facilities & Thrust Areas	229.21	300.00	300.00	136.49	300.00
Library Books & Journals	367.40	1,500.00	1,800.00	1997.28	1,500.00
Web Based Academic Systems	-	-	-	-	-
Institute Level Network	-	-	-	-	-
Institute Scholarships	4,588.77	6,000.00	5,000.00	4,260.39	6,000.00
Centres of Excellence	19.04	200.00	200.00	12.66	200.00
Total	16,912.58	56,700.00	45,500.00	16,781.53	62,900.00

#### **NON-PLAN**

## Detailed Statement showing the Actual Receipt and Expenditure for 2015-16, 2016-17 along with Revised Estimates and Budget Estimates 2017-18

Head of Income		Budget	Revised		Budget
	Actuals	Estimates	<b>Estimates</b>	Actuals	Estimates
	2015-16	2016-17	2016-17	2016-17	2017-18
	(in ₹ Lakhs)	(in ₹ Lakhs)	(in ₹ Lakhs)	(in ₹ Lakhs)	(in ₹ Lakhs)
Institute Income	8,581.42	9,182.00	9,408.00	9,667.64	9,633.00
Grant from MHRD	24,200.00	31,878.00	35,642.00	28,500.00	38,167.00
Total	32,781.42	41,060.00	45,050.00	38,167.64	47,800.00

#### **NON-PLAN**

## Detailed Statement showing the Actual Receipt and Expenditure for 2015-16, 2016-17 along with Revised Estimates and Budget Estimates 2017-18

Head of Expenditure	Actuals 2015-16 (in₹ Lakhs)	Budget Estimates 2016-17 (in ₹ Lakhs)	Revised Estimate 2016-17 (in ₹ Lakhs)	Actuals 2016-17 (in₹ Lakhs)	Budget Estimates 2017-18 (in ₹ Lakhs)
Pay & Allowances	15,639.14	21,000.00	22,700.00	16,159.27	24,700.00
Pension & Pensionary Benefits	7,933.02	9,080.00	10,500.00	8,507.42	11,600.00
Academic Expenses	1,043.57	1,500.00	1,400.00	1,205.77	1,500.00
Educational Expenses	881.04	1,000.00	1,000.00	1,003.10	1,000.00
Estate Maintenance	5,867.30	6,700.00	7,550.00	7,187.79	7,200.00
Office Contingencies, Misc. & Commitments/ Provisions	1,649.11	1,780.00	1,900.00	2,137.38	1,800.00
Total	33,013.18	41,060.00	45,050.00	36,200.73	47,800.00

INCOME

Detail Statement showing the Actual Income for 2015-16, 2016-17 along with Revised Estimates and Budget Estimates 2017-18

Head of Income	Actuals 2015-16 (in₹ Lakhs)	Budget Estimates 2016-17 (in ₹ Lakhs)	Revised Estimates 2016-17 (in ₹ Lakhs)	Actuals 2016-17 (in₹Lakhs)	Budget Estimates 2017-18 (in ₹ Lakhs)
Academic Receipts	3,448.34	3,500.00	3,500.00	3,860.63	3,700.00
Receipt-Central Administration Interest on Investments/Savings Account Charges for use of Staff Cars and Buses Application Fee Sponsored Project/Consultancy and CEP	957.25 5.91 104.72 352.60	1,200.00 6.00 125.00 400.00	1,200.00 6.00 100.00 400.00	1,576.41 16.94 79.81 37.13	1,200.00 6.00 125.00 400.00
Works & Building Licence Fee Seat Rent Water & Electricity Hospital & Medical	252.33 599.60 394.93	250.00 500.00 500.00	250.00 600.00 500.00	305.84 617.90 420.99 2.34	250.00 600.00 500.00 2.00
Guest House	236.53	250.00	250.00	226.30	250.00
Joint Entrance Exam GATE	303.06 1,683.01	350.00 1,800.00	500.00 1,800.00	365.00 1,902.04	500.00 1,800.00
Joint Admission Test for M.Sc.	106.32	100.00	100.00	135.20	100.00
Misc./Other Receipts (including sale of obsolete equipments)	135.09	200.00	200.00	121.11	200.00
Total	8,581.42	9,182.00	9,408.00	9,667.64	9,633.00

#### **INTERNAL AUDIT**

Internal Auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operation. Internal Audit Section is functioning independently as per Revised Audit System (w.e.f.01/12/2011) directly under the control of the Director, supported by Assistant Registrar (Audit). The section conducts the Internal Audit of the Departments/Centres/Sections etc. within the Institute Internal Control System. The Internal Audit Section also renders advise on various financial as well as administrative/service matters as per needs of the Institute. During the financial year 2016-17, 40 units have been internally audited.



## Appendix I

## **SENATE**

(As on 31.03.2017)

V. Ramgopal Rao (Director)	Tapan Kumar Chaudhuri	Jayadeva	D.S. Mehta
Ashok Gupta (Dy. Director)	Anoop Chawla	Mangla Joshi (Ms.)	Saroj Mishra (Ms.)
M. Balakrishnan (Dy. Director)	Ashish K. Darpe	S.D. Joshi	Sukumar Mishra
Ashwini K. Agrawal	Apurba Das	R.R. Kalaga	Prashant Mishra
G.P. Agarwal	Manoj Datta	S.R. Kale	Aditya Mittal
V.K. Agarwal	S. Dharmaraja	Prem Kumar Kalra	Subodh V. Modak
Babu J. Alappat	S.G. Deshmukh	T.C. Kandpal	Ratan Mohan
R. Alagirusamy	Swades K. De	Santosh Kapuria	Manju Mohan (Ms.)
S. Aravindan	Anupam Dewan	I.N. Kar	Sudipto Mukherjee
S.K. Atreya	Chinmoy Sarkar Dey	Subrat Kar	Atul Narang
Anshul Kumar	J.K. Dutt	Ravinder Kaur (Ms.)	K. Narayanan
R. Bahl	Viresh Dutta	Dev Raj Kaushal	R.B. Nair (Ms.)
D.K. Bandhopadhyay	Anil Jacob Elias	Saroj Kaushik (Ms.)	S.N. Naik
S. Banerjee	Naveen Garg	A.K. Keshari	Sunil Nath
Varsha Banerjee (Ms.)	A.K. Ganguly	Rajesh Khanna	Arvind K. Nema
Ananjan Basu	Anup K. Ghosh	Mukesh Khare	Pulak Mohan Pandey
S. Basu	Santanu Ghosh	S.K. Khare	Raj Kumar Pandey
Kanika T. Bhal (Ms.)	N.K. Garg	Neeraj Khare	B.K. Panigrahi
Suresh Bhalla	Rahul Garg	Rakesh Khosa	B.P. Patel
A.N. Bhaskarwar	James Gomes	Veena Koul (Ms.)	Sanjiva Prasad
B. Bhattacharjee	A.K. Gosain	Sangeeta Kohli (Ms.)	B.S. Panda
T.S. Bhatti	V.R. Gunturi	Subodh Kumar	Preeti Ranjan Panda
Naresh Bhatnagar	Bhuvanesh Gupta	S. Kundu	Raj Kumar Pandey
B.K. Behera	B.D. Gupta	Ajit Kumar	Sunil Pandey
Bijoy H. Boruah	Deepti Gupta (Ms.)	Amit Kumar	Siddharth Pandey
Vivek Vithal Buwa	M.P. Gupta	Arun Kumar (Phy.)	K.K. Pant
B. Bhowmik (Ms.)	S.K. Gupta (Ch.E.)	Arun Kumar (CARE)	Nalin Pant
G. Bhuvaneswari (Ms.)	S.E. Hasnain	S. Arun Kumar (CS&E)	G.V. Prakash
Jayashree Bijwe (Ms.)	Sriram Hegde	S.K. Koul	Shankar Prakriya
V.S. Bisaria	Harish Hirani	N.D. Kurur	Rajesh Prasad
Ranjan Bose	S.M. Ishtiaque	Brejesh Lall	A. Ramanan
B.R. Chahar	K.C. lyer	Alok Madan	N.G. Ramesh
Mukesh Chander	Josemon Jacob	Puneet Mahajan	A.D. Rao
V.M. Chariar	A.K. Jain	Anushree Malik	K.S. Rao
N. Chatterjee	Sanjeev Jain	Hitendra K. Malik	P.M.V. Subba Rao
Ratnamala Chatterjee (Ms.)	V.K. Jain	Ranjan Kumar Mallik	P.V. Rao
R. Chattopadhyay	M. Jagadesh Kumar	Shashi Mathur	P.V. Madhusudan Rao
Santanu Chaudhury	Manjeet Jassal (Ms.)	Aparna Mehra (Ms.)	S.C.S. Rao
Sujeet Chaudhary	B. Jayaram	B.R. Mehta	Anurag Singh Rathore

#### contd. ....

D. Ravi Kumar	Anil Kumar Saroha	Alok Sinha	Sushil
M.R. Ravi	Santosh Satya (Ms.)	Sujeet K. Sinha	N. Tandon
V. Ravishankar	P. Senthilkumaran	Bhim Singh	Prabal Talukdar
Anjan Ray	Jagdish T. Sahu	A.K. Singh	Geetam Tiwari (Ms.)
G.B. Reddy	Kushal Sen	Harpal Singh	Amitabha Tripathi
R.S. Rengasamy	Sandeep Sen	Jai Deo Singh	Suneet Tuli
P.K. Roychoudhury	Ravi Shankar (Chy.)	J.P. Singh	C.A. Tomy
Shantanu Roy	Ravi Shankar (DMS)	Purnima Singh (Ms.)	V. Upadhyay
Subir Kumar Saha	Maithili Sharan	S.N. Singh	R.K. Varshney
Dipti Ranjan Sahoo	Anurag Sharma	S.P. Singh	M. Veerachary
Ambuj D. Sagar	R.K. Sharma	R.K. Soni	S.V. Veeravalli
Sanjeev Sanghi	Satyawati Sharma (Ms.)	K. Sreenadh	V.K. Vijay
Mukul Sarkar	M.R. Shenoy	A.K. Srivastava	S.S. Yadav
Sanil V.	Anupam Shukla	Pankaj Srivastava	Sandeep Chatterjee
Huzur Saran	A.K. Shukla	T.R. Sreekrishnan	(Secretary)

## **EXECUTIVE COMMITTEE OF THE SENATE (ECS)**(As on 31.03.2017)

V. Ramgopal Rao, Chairman	S. Dharamaraja	Sandeep Chatterjee
M. Balakrishnan	S.K. Saha	Registrar, Member-Secretary
Ashok Gupta	Anurag Sharma	
Bhim Singh	B.K. Behera	Special Invitees
Sandeep Sen	Ananjan Basu	Ashwini K. Agarwal
B.R. Mehta	Veena Koul (Ms.)	Suddhastwa Basu
Sanjeev Sanghi	Kolin Paul	James Gomes
T.R. Sreekrishnan	Huzur Saran	A.K. Saroha
V.K. Agarwal	Viresh Dutta	Sangeeta Kohli (Ms.)
S.V. Veeravali	Jayashree Bijwe (Ms.)	Joby Joseph
Atul Narang	Manju Mohan (Ms.)	Shantanu Roy
Rajesh Khanna	A.K. Ghosh	B.J. Alappat
Ravi Shankar	V.K. Vijay	Deepti Gupta (Ms.)
Manoj Datta	Sangeeta Kohli (Ms.)	Anurag Singh Rathore
S. Arun Kumar	P.V.M. Rao	Nalin Pant
S.D. Joshi	Brejesh Lall	K.C. lyer
Ravinder Kaur (Ms.)	Prem Kumar Kalra	K.K. Pant
M.P. Gupta	Tapan K. Chaudhuri	Anil Wali

## Appendix II ADMINISTRATIVE AND OTHER STAFF

(As on 31.03.2017)

	Administration
Sandeep Chatterjee	Registrar
M.K. Gulati	Joint Registrar (Accounts) (on deputation at CBSE)
Nanak Chand Chauhan	Joint Registrar (on deputation at TIFAC)
K.K. Bhattacharjee	Deputy Registrar (SP Section and Director's Office)
Vivek Raman	Deputy Registrar (Conference, CDN, R&I, RTI & Hindi Cell)
Atul Vyas	Deputy Registrar (PG & Publication Cell)
N. Bhaskar	Assistant Registrar (E-1 & Health Unit)
V.K. Vashistha	Assistant Registrar (IRD)
Alan V. Siante	Assistant Registrar (UGS)
Mohd. Shamim	Assistant Registrar (R&D Accounts)
Raj Kumar Gupta	Assistant Registrar (Accounts)
Mukesh Chand	Assistant Registrar (SAS)
Ramesh Kumar Thareja	Assistant Registrar (E-II & Manpower Training)
S.N. Tiwari	Assistant Registrar (Public Grievances, Vigilance, Gender, Grievances Legal)
Debranjan Mukherjee	Assistant Registrar (Accounts)
Sanjay Pande	Assistant Registrar (Plg, Alumni, Transport)
Amitabh Mukherjee	Assistant Registrar SAS (Audit)
G.K. Taneja	Executive Engineer & Offtg. Institute Engineer
K.M. Vijay Kumar	Executive Engineer
Anuj Gaur	Executive Engineer
Rafat Jamal	Assistant Executive Engineer
V.K. Bharaj	Assistant Executive Engineer
Hitendra Govil	Assistant Executive Engineer
K.P. Mishra	Assistant Executive Engineer
Prem Kumar	Assistant Executive Engineer
Brahm Prakash	Assistant Executive Engineer
Ashok Kumar	Assistant Executive Engineer
Raju Ram Parihar	Assistant Executive Engineer
Pradip Karmarkar	Assistant Executive Engineer
Anishya Obhrai Madan (Ms.)	Industrial Liaison Officer
Deepak Negi	Sports Officer
Shachi Mathur (Ms.)	Student Counsellor
Sandeep Sharma	Security Officer (on contract)

contd.....

Administrative Computerisation Support Service		
Huzur Saran	Head	
R. Raghavan (Ms.)	Senior System Programmer	
K. Narayanan	Senior System Programmer (SG)	
P.K. Baboo	Senior System Programmer	
Pardeep Kumar Gupta	Senior System Programmer	

Student Counselling Service	
Manju Mohan (Ms.) Head	

Professors-in-Charge of Different Sections		
I.N. Kar	Professor-in-Charge (Training & Placement)	
K.C. lyer	Professor-in-Charge (Planning)	
Rakesh Khosa	Professor-in-Charge (Guest Houses & Halls)	
Nalin Pant	Professor-in-Charge (EHLS Unit)	
S. Nagendran	Officer-in-Charge (EHLS Unit)	

Hindi Cell	
S.S. Yadav	Head

Library	
B.D. Gupta/K.K. Pant	Chairman
Neeraj Kumar Chaurasia	Dy. Librarian

IIT Hospital		
Brahm Prakash	Head, Hospital Services (on contract)	
Lily Khosa (Ms.)	Chief Medical Officer (SAG)	
Ajay Kumar Jain	Chief Medical Officer (SAG)	
Renu Misuriya (Ms.)	Chief Medical Officer (SAG)	
Mahesh Kumar Sagar	Chief Medical Officer (NFSG)	
Anila Khosla (Ms.)	Chief Medical Officer	
P.K. Rajesh	Senior Medical Officer	
Md. Ashafaque Hussain	Senior Medical Officer	
Sayed Yasmeen Raunaq	Medical Officer	
L. Pangerlemba	Medical Officer	
Navin Mishra	Medical Officer (Dental) (on contract)	
Rajlaxmi Borah	Medical Officer (on contract in PB-3)	

## Appendix III OTHER COMMITTEES

(As on 31.03.2017)

BUILDING AND WORKS COMMITTEE	
V. Ramgopal Rao, Chairman	S. Ramanujam
Jose Kurien	G.K. Taneja
K.N. Rai	V.K. Agarwal
K.J. Singh	Sandeep Chatterjee, Secretary
ADVISORY COMMITTEE FOR LIBRARY	
B.D. Gupta / K.K. Pant - Chairman	K. Narayanan
Anupam Dewan	P. Hari Prasad / J.K. Sahu
Atul Narang	Santosh Satya (Ms.)
Jayati Sarkar	Veena Choudhary (Ms.) / Sampa Saha
A. Ramanan	Amit Gupta
Kolin Paul / Rahul Garg	Sumer Singh
I.N. Kar	Uday Khankhoje
Richa Kumar (Ms.) / Divya Dwivedi (Ms.)	Smruti Ranjan Sarangi / Aaditeshwar Seth
Ravi Shankar	Aditya Mittal
R. Barman / S. Sivananthan	Saif Khan Mohammed / Seshan Srirangarajan
J.K. Dutt / S.P. Singh	Ranjan K. Malik
Rahul S. Marathe	Karan Singh / Shreyansh Datta
Amit Rawal / Mangala Joshi (Ms.)	Soham Banerjee / Paidi Krish Pradeep
Poornima Agarwal (Ms.)	Anshi Jindal(Ms.) / Priyanshi (Ms.)
Anup Singh	Hari Gopal Rastogi / Paryull Jain
A. Ganguli / T.S. Bhatti	S.S. Yadav
N. Tandon	B.D. Gupta / K.K. Pant, Member-Secretary
Ananjan Basu / Samaresh Das	
COMPUTER USERS' COMMITTEE	
Huzur Saran, Chairman	Ramesh Narayanan
Sawan Suman	V.K. Agarwal
D. Sundar	Mahesh Abegaonkar
Jayati Sarkar	James Gomes
Hemant Kashyap	Rahul Garg
J.T. Shahu	R.P. Sharma
Subodh Sharma	J.K. Sahu
Kushal Shah	Leena Nebhani
Rajakrishnan Rajkumar	Vinay Joseph Ribeiro
Ravi Shankar	Gopal Krishan
S.P. Singh	K. Narayanan / P.K. Gupta
Harish Kumar	Shubham Yadav / Ridam Maheshwari
D. Dube	Rahul Mishra / Shivam Saxena
Sujin Babu	Priyal Motwani (Ms.) / Tarun Gupta
Samrat Mukhopadhyay	Prakhar Sinha / Shivalik Goel
Vimlesh Pant / Dilip Ganguly	Manju Mohan (Ms.) / Sangeeta Kohli (Ms.)
S.M.K. Rahman	Pragya Jain (Ms.) / Sunil Kak, Member-Secretary

#### **Our Values**

- Academic integrity and accountability.
- \* Respect and tolerance for the views of every individual.
- \* Attention to issues of national relevance as well as of global concern.
- \* Breadth of understanding, including knowledge of the human sciences.
- Appreciation of intellectual excellence and creativity.
- An unfettered Spirit of exploration, rationality and enterprise.



### Indian Institute of Technology Delhi

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