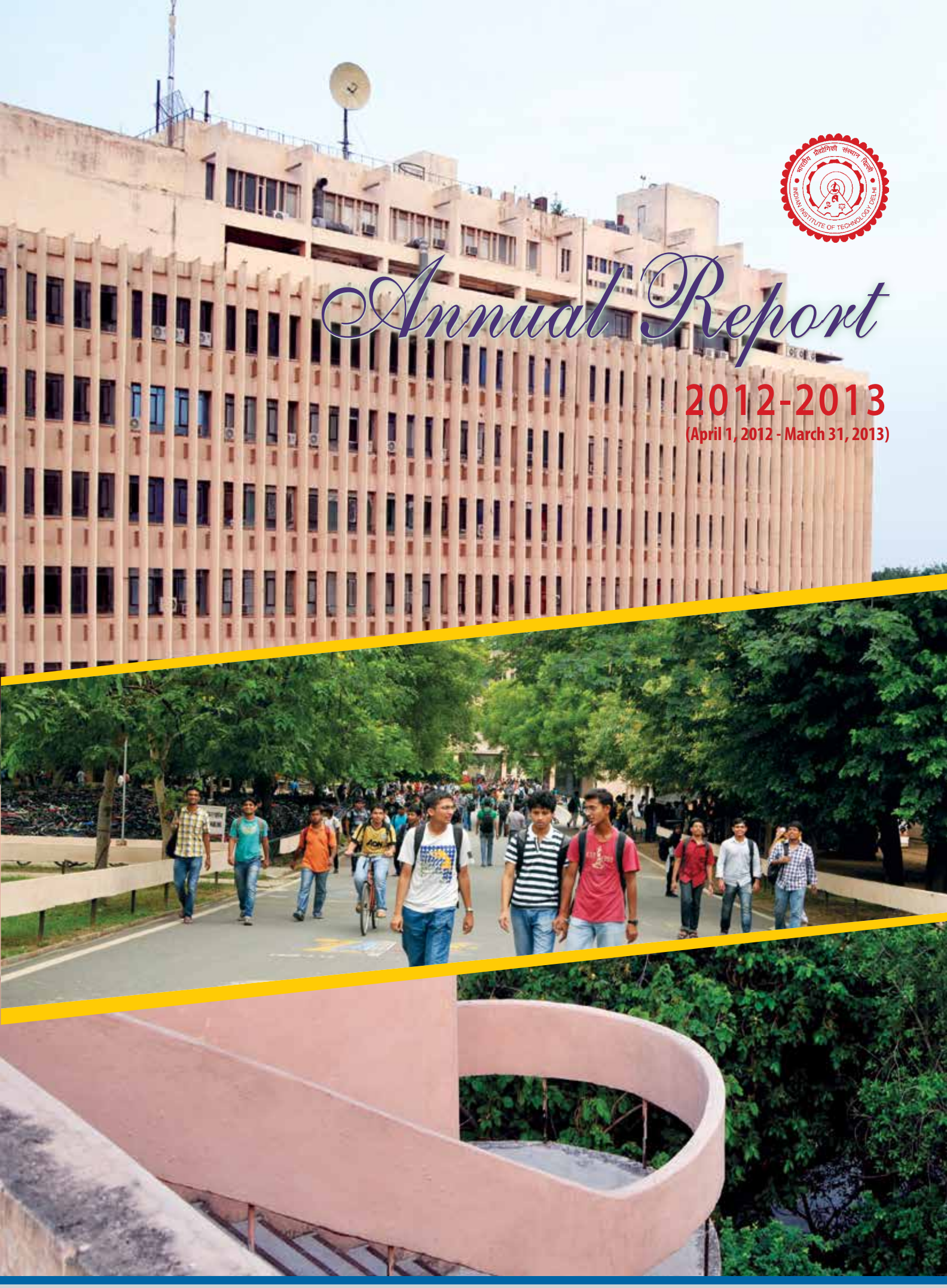


Annual Report

2012-2013

(April 1, 2012 - March 31, 2013)

OUR VISION

To contribute to India and 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.

Contents

Director's Report

"IITD 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. IITD Delhi is internationally recognised for delivering excellent education as the undergraduate and postgraduate levels, while endeavouring to become a great research institution."

Prof. R.K. Shevgaonkar

Director

On the occasion of releasing our Annual Report for the year 2012-13, I am pleased to share with you all the major highlights of our activities, achievements and future plans. At the outset, it is a great pleasure and privilege for me to share with everyone that IIT Delhi continues to enjoy top rankings in the latest surveys conducted by various agencies such QS, India Today, Outlook etc. In the QS World University rankings, IIT Delhi has been ranked at the thirty eighth position amongst the engineering institutions in the World with Electrical and Mechanical Engineering departments being on the top. This achievement has been possible only with the generous support and encouragement received from MHRD, outstanding and excellent academic and research contributions by faculty colleagues, efficient support from our dedicated staff and impressive performance by our students.

IIT Delhi has built a strong research tradition, which can be seen by the impressive statistics in terms of various research indicators. Specially, we have continuously improved on our credentials in research as evidenced by way of publications and citations and Ph.Ds per faculty.

IIT Delhi takes pride in its teaching traditions, and we take our teaching function at all levels very seriously. We take special pride in the traditions that we have built over the years for providing best all round education to our students which not only helps them become great scholars and specialists in their subjects of study, but also transforms them into creative and socially responsive human beings.

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 significant support to the institute. Our alumni have given donations to help us take some of our important projects forward, in addition to instituting Chairs and the Young Faculty Incentive Fellowships, both of which help us to reward our bright faculty for their outstanding performance. The Industry and the alumni of the Institute have extended significant support to the Institute in its academic and research programmes by way of instituting chairs in various fields.

The Institute has been allotted 50 acres of land in Sonepat by the Haryana Government for establishment of its extension campus. Faculty Development Centre, Engineering related Science and Technology Park and High Performance Computing Facility are proposed to be established at this extension center. Institute has also received an allotment letter for additional 50 acres of land from the Haryana Government for establishment of extension campus at Jhajjar. It is proposed to establish a Science Park related to Biological Research activities at this campus. Task Forces have already been constituted for initiating activities at both the extension campuses.

A Mini Science Park at the Institute Campus is also being planned to be setup. The Park is proposed to house inter alia, Technology Business Incubator and Accelerator Facilities, Design Innovation Centre, Fab Lab, Technology Transfer Office, Biotechnology Business Incubator, Specialist Development Program Centres etc.

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 through MOUs Agreements to remain at the forefront in scientific and technological development and to share the knowledge for mutual benefits. The main objectives of collaboration include exchange of students and faculty, joint research, and fellowships for training and research at doctoral and post-doctoral levels. Over the years, the Institute has expanded

its teaching and research interests in a wide range of areas of national importance and current relevance including among others, Atmospheric Sciences, Embedded Systems, Environmental Science & Engineering, Rural Industrialization, Bioinformatics, Nanotechnology, Fibre Optics and Optical Communications, Biotechnology, Bio-catalysis, Smart and Industrial Textiles, Transportation, Photo-thermal 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 and others. Most recently, the Institute has set up the School of Biological Sciences, with a thrust on research in communicable and non-communicable diseases.

The quality of an academic institution largely 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. Many new faculty members have joined the Institute during the period thereby enhancing our competence in several emerging areas, while bringing new energy into our academic endeavors. The people joining us as faculty members, are amongst the finest available globally, and sought after, by all the reputed graduate schools of the developed world.

During the period under report, international bibliographic databases have indexed around 2400 research articles published by faculty members and researchers of the institute in international journals including around 1700 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 programmes. The Institute supported participation of many faculty members in international and national conferences. Faculty Members received financial support from sponsored projects, and other funding agencies to attend and participate in the conferences. The Institute provides seed research funding to the new faculty upon joining the Institute to the tune of Rs.10.00 lakhs (or more when necessary). Apartment from Young Faculty Fellowships being awarded by the Institute, 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 Rs. 268 lakhs to 23 faculty members during the financial year 2012-2013.

Meeting with all the faculty members of the Institute were held on a regular basis to share the vision and initiatives taken and also to have an opportunity to receive feedback and suggestions from faculty members to increase and strengthen their contributions.

The revised administrative structure, as approved by the Board of Governors, to facilitate effective administration and management has been implemented. The revised structure facilitates efficient functioning as well as strategy for future development.

IIT administration, in order to provide good governance and also to ensure prompt service to its community, has introduced a citizen charter for various sections, i.e. Stores, Audit, Accounts, Establishments and Public Information Office providing the time schedule within which a particular service should be delivered. Suggestions have also been invited to incorporate further improvements in the same.

Our academic programmes cover a wide range of science and engineering disciplines. In the Bachelors' programs, which are the most sought after even on global scales, and for which the entry is through the Joint Entrance Examination, our intake has steadily increased over the last few years and during the year 2012-2013, 3590 UG students were on roll. The number of postgraduate students on roll during the year 2012-2013 was 4258. These figures include 1436 women students. There were 78 foreign students from 9 countries pursuing postgraduate education at the Institute during the year. In order to make IIT Delhi more international in character and to make better use of international intellectual resources, we are constantly working towards increasing the strength of international students and faculty in the campus.

The Institute is proud of its graduate school, offering Master of Technology programs in many specializations, besides MBA, M.Des, M.Sc. and Ph.D programs. These programs provide an excellent platform to the students admitted into them, to acquire advanced knowledge in their respective fields. The graduate students are also offered the opportunity to serve as teaching assistants, which enriches their academic experience and enhances their communication skills. The institute has a scheme for grant of partial financial assistance to Ph.D./M.Tech./M.Des./M.S.(R)/ MBA students and post doctoral persons (working in various projects) for attending conferences outside the country.

The Institute also provides full travel assistance to every Ph.D. student of the Institute, for attending at least one international Conference (to present his/her research paper) during their education at IIT Delhi. We believe that such an international exposure will play an important role in improving the quality of our doctoral education and research. 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. A number of steps are underway to review and strengthen the PG programmes.

The Senate of the Institute is constantly engaged in reviewing and approving new courses to improve the curriculum. Several new minor area programs have been designed with a view to offer a second area of specialization of their choice. A revised curriculum structure has been approved by the Senate and implemented in the current year. In order to recognize, nurture and encourage academic achievers among undergraduates, the Institute has established the following pre-graduation awards: (i) Institute Medal for Academic Excellence for obtaining the highest CGPA amongst non-graduating students of each entry year, and (ii) Institute Medal for Consistent Academic Achiever in a program for obtaining consistently high SGPA amongst all students registered for the program in the pre-graduation academic session. Under

a new Academic Welfare Scheme introduced by the Institute for weak students, a special student advisor is identified in each department for students who need special help, at the beginning of each semester. Student advisors closely monitor the attendance and performance of these students and also provides support to help improve their performance.

A Special Orientation Programme for Entry Level students was also conducted with the objective of enhancing their learning skills, English language and communication skills, inter-personal 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.

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 the Undergraduate and Postgraduate levels. In addition, the Institute has a "Loan Scholarship Scheme" which makes it more affordable for the students who take loan from banks.

Curriculum Implementation Committee for Undergraduate Curriculum was constituted in September 2012. A comprehensive review of the postgraduate programs is underway and a workshop has been held to brainstorm on the issue.

The implementation of the Web Based Academic Management System (WBAMS) on the Campus platform of the PeopleSoft ERP system has been in progress since 2010. This task is presently nearing completion and the first level implementation and go live operation of all the modules is expected to be completed soon, and the take over process is simultaneously in progress. Most of the salient modules such as registration, grading, weak student handling, teaching evaluation and feedback, learning management system (Sakai) integration, etc. have been put through wide user testing while other modules are in different stages of development, testing or take over. The system when completely implemented and tested, is expected to make the student academic lifecycle management robust and largely paperless.

IIT Delhi has provided adequate funds from its Corpus to the Departments, Centres and Schools for upgradation of laboratories and creation of new facilities. This has significantly helped in the improvement of quality of teaching and research.

During the year 2012-2013, the Central Library successfully provided increased access to digital collections and resources to its users to support the teaching, research and extension programmes of the Institute.

The faculty, students and researchers at IIT Delhi have access to more than 12,000 electronic journals and 6 bibliographic databases through INDEST-AICTE Consortium. 120 journals subscribed in print and 615 journals are accessible online from the publisher's web site. The initiative taken last year to add electronic books to the Library collection was further strengthened. 35 titles of E-books have been added under Text Book and Book Bank scheme to support undergraduate studies which are highly used by the students/faculty.

The Library houses the headquarters of INDEST-AICTE Consortium which is one of the biggest and most successful consortium initiatives so far taken in Asia. It provides access to electronic resources to its member institutions comprising of more than 257 members including 65 core member institutions, 60 AICTE supported institutions and more than 132 institutions that have joined the consortium under its self-supported category as on March 2013. IIT Delhi Central Library continues to be the headquarters of INDEST activities on behalf of Ministry of Human Resources Development, Govt. of India. During 2012-2013, Prof. B. D. Gupta was the National Coordinator and Prof. R.K. Shevgaonkar, Director IIT Delhi was the Chairman of National Steering Committee of INDEST-AICTE Consortium.

IIT Delhi is the coordinating institute for the Joint INDEST-AICTE Consortium & INFLIBET Project (N-LIST) under centrally sponsored scheme of National Mission on Education through Information and Communication Technology of MHRD. The project provides for cross-subscription to e-resources subscribed by the two Consortia, i.e. subscription to INDEST-AICTE resources for universities and UGC-INFONET resources for technical institutions. Under this programme, IITs, IISERs, few NITs are getting access to Project Muse, Annual Review and Nature (27 titles) and 100 Universities are getting access to Web of Science.

The Central Library has implemented the Radio Frequency Identification (RFID) system. It is the best automated library automation system used worldwide and is an effective way of managing collections of the library and providing enhanced services to the users. RFID plays a vital role in redefining the library processes to make everyone's job easier right from the users to library staff.

The Computer Services Centre provides Computing, IT and Networking facilities to the Institute community of more than ten thousand users consisting of UG students , PG students, Research Scholars, Faculty and Staff. In addition the CSC also participates in the Academic programmes of various departments.The new initiatives taken by the Computer Services Centre include Design and commissioning of a new 10Gbps Campus-wide Network and High Performance Computing (HPC) facility. The National Programme on Technology Enhanced Learning (NPTEL) funded by MHRD was undertaken at ETSC. Under this program, IIT Delhi, together with other IITs and IISc contributed towards development of web and video based educational material for undergraduate courses initially in five disciplines; viz., Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering and Mechanical Engineering.

The Institute has 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 has undertaken a massive exercise of renovation of old houses, hostels and sports facilities. Some of the major infrastructure developments and renovation activities undertaken during the period include renovation of hostels, Senate Room, Board Room, replacement of Lifts, provision of PNG connection to various units of residential and hostel areas, construction of Professors Flats, Recarpeting of roads, construction of new boy's hostels, air-conditioners for faculty offices and high mast lighting system in volley ball courts, tennis courts and athletic track/hockey field with national and international sports standards.

Construction of the new academic complex is nearing completion. The complex would have two lecture theatres of capacity 500 each, three of 300, twelve of 150, 14 of 60 and eight of capacity 30 students each, besides laboratory space for institute core courses on physics, chemistry, biology, computer science, electrical engineering, engineering graphics, material science and experimental techniques.

Major infrastructure initiatives/activities undertaken by the Institute during the period, which are under different stages of planning, construction and completion, are in the following areas:

- Construction of IT School Building
- Lecture Theatre-cum-Lab Complex
- Construction of Clean Room on the GF and FF in Block VI for Nano Scale Research Facilities
- Construction of Institute Activity Centre
- Construction of Boys Hostel 'E'
- Construction of Golden Jubilee G.H. Keshwani Research Centre
- Lifts for physically challenged persons in Academic Area
- Construction of Swimming Pool
- Construction of STP/ETP and network connecting sewer lines to STP/ETP
- Construction of Engineering Blocks

IIT Delhi gives high priority to research and development projects sponsored by outside national and international agencies and user organizations, along with teaching and academic research leading to doctoral degree. The research funding received through competitive bidding from national research agencies also goes a long way in supporting and enhancing academic research. Industrial consultancy is another significant area of activity of the Institute.

During the year under report, 142 sponsored research projects with a total funding Rs.88.63 crores and 348 consultancy projects with a total value of Rs.18.29 crores were undertaken respectively. 29 collaborative projects/consultancies with international funding were also undertaken during the period.

During the last 52 years of its existence, the Institute has not only given due emphasis to investigation of problems of direct relevance to the needs of the country through time-bound sponsored and consultancy projects aimed at solving live industrial problems, but has also given special attention to emerging areas like atmospheric sciences, laser applications, industrial textiles, biotechnology, energy, transportation, microprocessor applications, computer science, optical communication, signal processing, computer aided design & manufacturing, and artificial intelligence and robotics.

Training and Placement is an important activity of 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 for suitable jobs in the industry and various private and public sector organizations. During the year under report, the T & P Unit was not only able to arrange effective summer training for the students but was also successful in obtaining stipends and other facilities for several students. Regarding placement, the T&P Unit invited Senior Executives of major industries/ organisations to give pre-placement talks, hold workshops and participate in panel discussions for the students at the campus which helped them acquire better knowledge about various organisations prior to the commencement of the campus interviews.

Apart from concentrating on academic activities, the Institute also places an emphasis on an all round development of its students. The Institute has, therefore, created excellent infrastructure for a variety of co-curricular and extra-curricular activities such as sports, student publications, Robotics as well as cultural and welfare programmes The Student Affairs Council (SAC) and its five constituent boards plan, organize and manage the various student activities throughout the year.

Over the years, the Institute has expanded its teaching and research interests in a wide range of areas of national importance and current relevance, including among others, Atmospheric Sciences, Embedded Systems, Environmental Science & Engineering, Rural Industrialization, Bioinformatics, Nanotechnology, Fibre Optics and Optical Communications, Biotechnology, Bio-catalysis, Smart and Industrial Textiles, Transportation, Photo-thermal 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 and others. Most recently, the Institute has set up the School of Biosciences, with a thrust on research in communicable and non-communicable diseases.

Faculty members are encouraged to submit proposals for sponsored research and undertake research based consultancies. Continuing education programmes and custom designed programmes for industry are conducted to upgrade knowledge and also generate resources.

For the year 2012-13, the actual recurring expenditure Non-Plan & Plan were to the extent of Rs.24191.61 lakhs and Rs.3085.44 lakhs respectively and Plan Non-Recurring expenditure was Rs.12681.00 lakhs. The Institute generated about 25.95% of the actual recurring expenditure through internal revenue generation including fees, sponsored research, consultancies and continuing education programmes.

During the year 2012-13, the Institute received Rs. 18995.00 lakhs as Non Plan Grant, Rs. 14260.00 lakhs as Plan Grant (Normal Non-Recurring Expenditure) and Rs. 3340.00 lakhs as Plan Grant (Normal Recurring Expenditure). The income from internal accrual from the fees, interest and sponsored projects was to the extent of Rs.6277.02 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.

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 (DAA) each year. This award is the highest honour conferred by the Institute on its alumni to recognize their achievements and outstanding contributions to academics, business, profession and/or public service. Fifty seven alumni have received the award since its inception in 1992.

The Distinguished Alumni Awards were conferred on the following alumni at the 43rd Convocation of the Institute held on 28th October, 2012.

1. Prof. Trilochan Sastry, B.Tech., EE, 1981 – Quantitative Methods & Informational Systems, IIM, Bangalore.
2. Prof. R.C. Budhani, Ph.D., Physics, 1982 – Director, National Physical Laboratory.
3. Dr. Punita Kumar-Sinha, B.Tech., Chemical, 1985 – Founder and Managing Partner, Pacific Paradigm Advisors.
4. Prof. Pawan Sinha, B.Tech., CSE, 1988 – Computational and Visual Neurosciences, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology.

The following major alumni events were held at the Institute during the period:

- Leadership Conclave 2012 was organized by the IIT Delhi Alumni Association on 15th April, 2012. The theme of this Conclave was Vision IIT 2020.
- AGM of IIT Delhi Alumni Association was held on 28th April, 2012. The AGM was followed by a musical performance.
- Silver Reunion of 1988 Batch was celebrated from December 21 to 23, 2012. About 90 alumni participated along with their families.
- Pearl Reunion of 1976 & 1977 Batches was celebrated on March 10, 2013. About 50 alumni participated along with their spouses.

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

- A 2 member delegation led by Dr. Ronan McGrath, Head of School of Physical Sciences, University of Liverpool, UK, visited the Institute on 01 October, 2012.
- A 5 member delegation led by Dr. Hannes Androsch, Chairman, Austrian Council for Research and Tech. Development, Austria, visited the Institute on 03 October, 2012.
- A 11 member delegation led by H.E. Federal CouncilorDr. Alain Berset, Head Federal Department of Home Affairs, Switzerland, visited the Institute on 03 October, 2012.
- A 5 member delegation led by H.E. Mr. Alejandro Cruz, Minister of Science and Technology, Costa Rica, visited the Institute on 15 October, 2012.
- A 3 member delegation led by Mr. Nigel Relph, Pro Vice Chancellor, and Vice President, University of South Australia, Australia, visited the Institute on 20 November, 2012.
- A 3 member delegation led by Prof. Albert Wu, Professor, Chemical and Materials Engg., National Central University, Taiwan, visited the Institute on 24 January, 2013.
- A 13 member delegation led by Dr. Mats Johnsson, Senior Advisor, Ministry of Education and Research, under Indo-Sweden Research Collaboration, Sweden, visited the Institute on 29 January, 2013.
- A 7 member delegation led by Prof. Peter Gregson, Vice Chancellor, Queens University, UK, visited the Institute on 25 February, 2013.
- A 12 member delegation led by Dr. Mary Eileen McMahon, Regional Director, University of California Education Abroad Program, California, USIEF, USA, visited the Institute on 11 March'13.
- A 3 member delegation led by Prof. Donal Dingwell, Secretary General of the European Research Council, Belgium, visited the Institute on 15 March, 2013.
- A 3 member delegation led by Prof. Tan ChorhChuan, President of National University of Singapore, Singapore, visited the Institute on 25 March, 2013.

A more detailed account of the various initiatives, activities and achievements of the Institute made by the Institute during the year 2012-13 has been provided under different major chapters in this Annual Report.

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 behaviour and their contributions towards enriching the campus life.

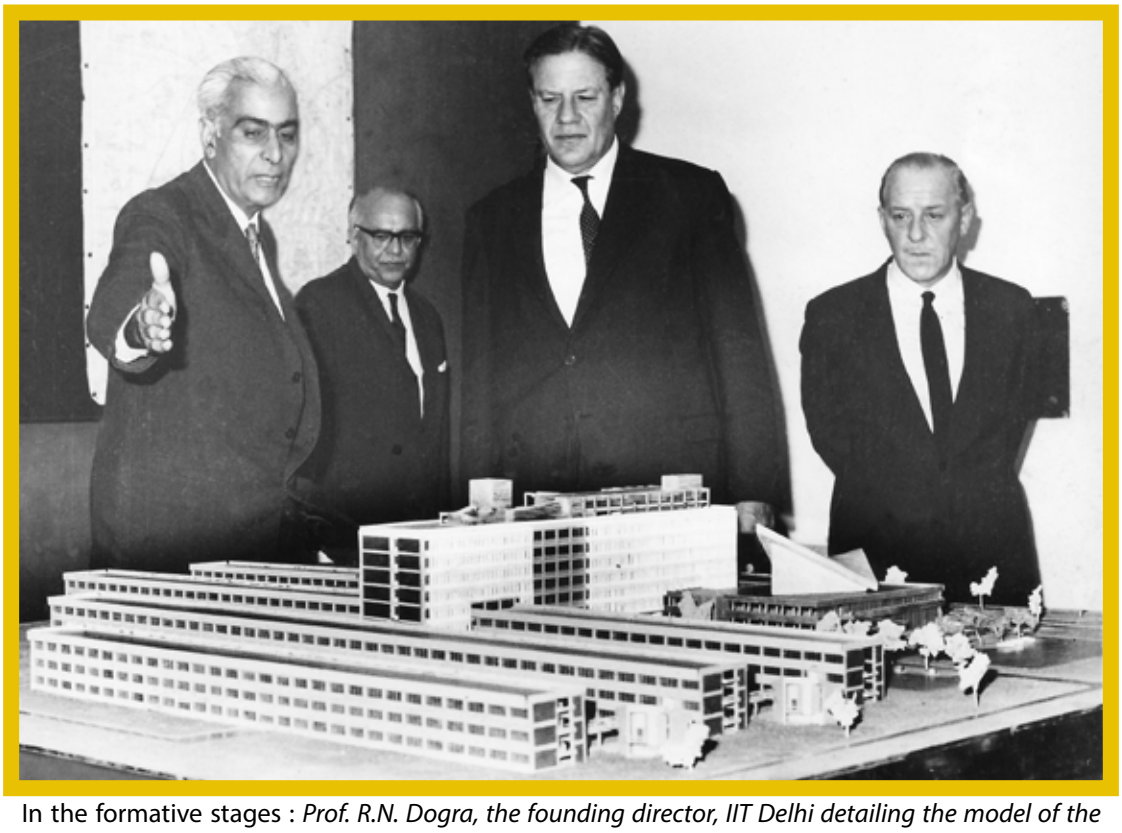
Prof. R.K. Shevgaonkar
Director, Indian Institute of Technology Delhi
Email: director@admin.iitd.ac.in

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 fifteen Institutes of excellence for higher education, research and development in science, engineering and technology and in management in India; the others are at Bhubaneswar, Bombay, Gandhinagar, Guwahati, Hyderabad, Indore, Jodhpur, Kanpur, Kharagpur, Madras, Mandi, Patna, Roorkee and Ropar.

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 fifteen 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

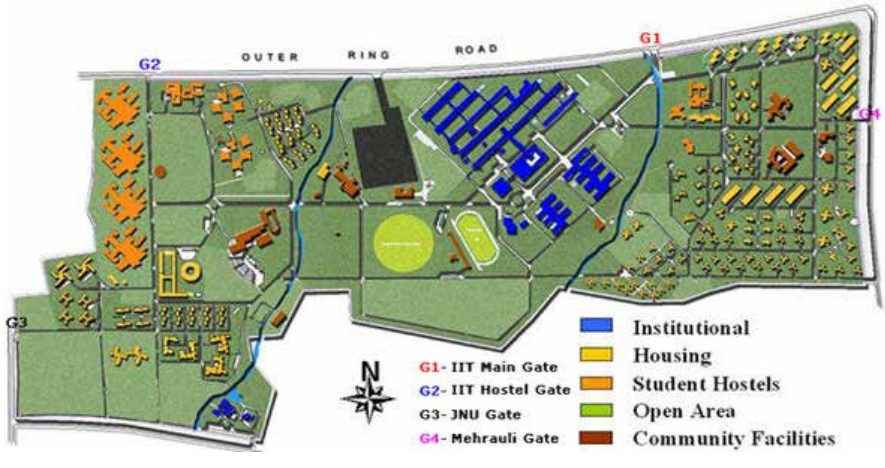
The objectives of the Institute include :

- 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 self-employment.

CAMPUS

The Institute campus extends over an area of 320 acres. Tastefully laid out with the picturesque landscape 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
- Cultural-cum-social and recreational zone for students.



IIT Delhi Campus Map

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 composition of the Board of Governors and its standing committees as on March 31, 2013 is as follows:

BOARD OF GOVERNORS

Vijay P. Bhatkar, Chairman
R. K. Shevgaonkar, Director
Rajendra Kumar
Ashok Mishra
Deepak Pental
Rajendra S. Pawar
T.V. Ramakrishnan
Kushal Sen
S.N. Maiti
Rakesh Kumar, 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 and senior faculty of the Institute. The senior members of the Administration as on March 31, 2013 are as follows:

ADMINISTRATION

R. K. Shevgaonkar
Director

S.N. Singh
Deputy Director, Operations

S.K. Koul
Deputy Director, Strategy & Planning

Sushil
Dean, Faculty

Ashok Gupta
Dean, Infrastructure

S.K. Gupta
Dean, Students

Suneet Tuli
Dean Research & Development

Anurag Sharma
Dean, Academic

Ambuj D. Sagar
Dean, Alumani Affairs & International Programmes

Rakesh Kumar
Registrar

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, 2013 is as follows:

BOARD OF EDUCATIONAL AND RESEARCH PLANNING

R.K. Shevgaonkar, Chairman
S.K. Koul, Dy. Director (S&P)
S.N. Singh, Dy. Director (Operations)
Anurag Sharma, Dean (Academics)
Sushil, Dean (Faculty)
Suneet Tuli, Dean (R&D)
S.K. Gupta, Dean (Student Affairs)
Ambuj D. Sagar, Dean (AA&IP)
Ashok Gupta, Dean (Infrastructure)
Sanjeev Sanghi, Nominee of Senate
R.B. Nair (Ms.), Nominee of Senate
S.C. Kaushik, Nominee of Senate
Sudipto Mukherjee, Prof.-in-charge (Plng)

Academic Units at IIT Delhi

(April 1, 2012 - March 31, 2013)

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

1. Applied Mechanics
2. Biochemical Engineering & Biotechnology
3. Chemical Engineering
4. Chemistry
5. Civil Engineering
6. Computer Science & Engineering
7. Electrical Engineering
8. Humanities & Social Sciences
9. Management Studies
10. Mathematics
11. Mechanical Engineering
12. Physics
13. Textile Technology

Inter-disciplinary Centres

1. Applied Research in Electronics
2. Atmospheric Sciences
3. Biomedical Engineering
4. Energy Studies
5. Industrial Tribology Machine Dynamics & Maintenance
6. Computer Services
7. Instrument Design & Development Centre
8. Polymer Science & Engineering
9. Rural Development & Technology
10. National Resource Centre for Value Education in Engineering

Schools

1. Bharti School of Telecommunication Technology and Management
2. Amar Nath and Shashi Khosla School of Information Technology
3. Kusuma School of Biological Sciences

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 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(D) statutes. The department offers a two year full time MBA programme with focus on Management Systems, a two year full time MBA with focus on Telecommunication Systems Management and a three year part time MBA programme with focus on Technology Management.

An inter-disciplinary 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, 2012 - March 31, 2013)

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 and 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 rather than 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 inter-disciplinary 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 of student's performance and provides flexibility to choose courses of interest and to progress at an optimum pace suited to 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. A major Curriculum Review is now underway and likely to come up for discussion in the Senate very soon.

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 POSTGRADUATE STUDIES AND RESEARCH

Prof. Anurag Sharma	Prof. Ananjan Basu
Prof. Rajesh Prasad	Dr. V.M. Chariar
Prof. Prashant Mishra	Dr. Jacob Josemon
Dr. (Ms.) Shalini Gupta	Prof. D.S. Mehta
Prof. Ravi Shankar	Prof. J. Bijwe
Prof. B. Bhattacharjee	Prof. Tapan Chaudhuri
Prof. Naveen Garg	Dr. S. Dharmaraja
Prof. (Ms.) G. Bhuvaneshwari	Dr. Vinay Ribeiro
Dr. (Ms.) Pritha Chandra	Prof. N.K. Garg (CE)
Dr. S.P. Singh	Prof. M.R. Ravi
Dr. (Ms.) Anima Nagar	Prof. Bhim Singh
Prof. P.V. Rao	Prof. Mukesh Khare
Prof. Joby Joseph	Mr. Nithyagopal Goswami (Girnar)
Prof. R.S. Rengasamy	Mr. Himanshu Agarwal (Girnar)
Prof. P. Goyal	Mr. Abhishek R. (Girnar)
Prof. Sneh Anand	Shri. Vivek Raman Dy. Registrar (PGS)
Prof. M.G. Dastidar	

(as on 31.3.2013)

BOARD OF UNDERGRADUATE STUDIES

Prof. Anurag Sharma	Dr. Apurba Das
Prof. Sanjeev Sanghi	Prof. S.D. Joshi (EE)
Dr. Atul Narang	Prof. Pankaj Srivastava
Dr. Gaurav Goel	Prof. Bhim Singh
Prof. D. Bandyopadhyay	Prof. M.R. Ravi
Prof. B.R. Chahar	Prof. H.C. Gupta
Dr. Amit Kumar	Prof. D. Ravi Kumar
Prof. J.K. Dutt	Mr. Amit Agarwal (Satpura)
Dr. Arjun Ghosh	Mr. Sagar Joshi (Vindhyachal)
Dr. Mahim Sagar	Mr. Spandan Madan (Vindhyachal)
Prof. (Ms.) B. Chandra	Shri Alan V. Sinate Asstt. Registrar (UGS)
Prof. D. Ravi Kumar	
Prof. Pankaj Srivastava	

(as on 31.3.2013)

Current Degree Programmes

Below is the list of courses offered currently.

UNDERGRADUATE STUDIES*

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

** Admission to the first year of the four year B.Tech., the five- year integrated M.Tech. and 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 (MASTER)**

M.Sc.	M.Tech.	M.S. (Research)	M.Des.
2 years	**2 years**	**2 years**	**2 years**
1. Chemistry 2. Mathematics 3. Physics	1. Engineering Mechanics 2. Design Engineering 3. Chemical Engineering 4. Molecular Engineering: Chemical Synthesis and Analysis 5. Construction Technology and Management 6. Geotechnical & Geoenvironment Engineering 7. Structural Engineering 8. Water Resources Engineering 9. Construction Engineering and Management 10. Rock Engineering of Underground Structures 11. Environmental Engineering and Management 12. Transportation Engineering 13. Computer Science & Engineering 14. Control and Automation 15. Communications Engineering 16. Power Electronics, Electrical Machines & Drives 17. Computer Technology 18. Integrated Electronics & Circuits 19. Power Systems 20. Computer Applications 21. Thermal Engineering 22. Production Engineering 23. Industrial Engineering 24. Design of Mechanical Equipment 25. Tele-Communication Technology and Management 26. VLSI Tools and Design 27. Radio Frequency Design & Technology 28. Solid State Materials29.Applied Optics 30. Atmospheric Oceanic Science Technology 31. Fibre Science & Technology 32. Textile Engineering 33. Energy Studies 34. Energy Studies (Evening Programme) 35. Industrial Tribology & Maintenance Engineering 36. Polymer Science & Technology 37. Opto-Electronics & Optical Communication 38. Instrument Technology	1. Information Tech. 2. Bio-chemical Engg. & Bio-technology 3. Chemical Engineering 4. Computer Science & Engineering 5. Electrical Engineering 6.Civil Engineering 7. Mechanical Engineering 8. Telecommunication Technology	1. Industrial Design

contd. ....

POSTGRADUATE STUDIES & RESEARCH (MASTER)**

M.B.A.	MBA	D.I.I.T.	PG Diploma
2 years Full Time	3 years Part Time	1½ years	1 year
1. Management Systems 2. Tele-Communication Systems Management	1. Technology Management	1. Naval Construction	1. Metro Rail Transport: Technology and Management

***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. A new Ph. D. programme was started in the School of Biological Sciences of the Institute in this period.

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

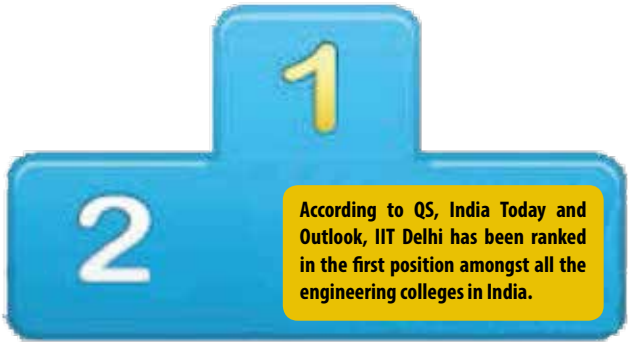
Departments/ Centres/ Schools
Applied Mechanics
Biochemical Engineering & Biotechnology
Chemical Engineering
Chemistry
Civil Engineering
Computer Science & Engineering
Electrical Engineering
Humanities & Social Sciences
Management Studies
Mathematics
Mechnical Engineering
Physics
Textile Technology
Applied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

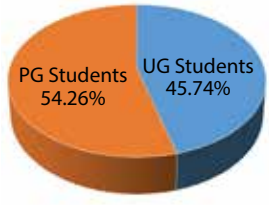
5. Performance Highlights

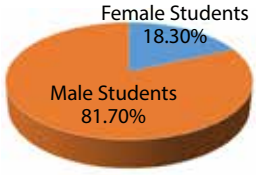
(April 1, 2012 - March 31, 2013)

Performance Statistics

(April 1, 2012 - March 31, 2013)







7848 Total students on roll

3590 UG students on roll

1653 Research Scholars on roll

2605 PG students on roll

1436 Female students

78 Foreign students from 9 countries

188 Scholars received the Ph.D. degree

87 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.

439 Research Scholar Admissions

30 New faculty members joined the institute this year.

1178 PG Admissions

450 Faculty and Academic Staff

856 UG Admissions

850 Non-academic Staff

2473 Total Admissions

70 Faculty fellows under CEP

Performance Statistics

112 Operational MoUs/Agreements with Foreign Institutions/Organisation

60 MoUs/Agreements Indian Institutions/Organizations

2400 Research articles published by the faculty members and researchers of the institute in international journals

1700 Articles indexed in Scopus, an international indexing service in Science & Technology and Social Sciences

21 Books Published by Faculty

35 Titles of E-books added under the Text Book and Book Bank

8 New Courses developed by Faculty

40 QIP/CEP courses

43 Major New Equipments installed

47 Seminars/Conferences

142 New Sponsored Research Projects with a total funding of Rs.88.63 crores.

348 Consultancy Jobs with a total value of Rs.18.29 crores.

45 Miscellaneous Projects worth Rs.6.11 crores.

29 Collaborative Projects/Consultancies with international funding

273 Companies visited for Placement

726 Total Job Offers

797 Total Placements

481 UG Placements

271 PG Placements

8 Ph.D. Placements

Admissions

(April 1, 2012 - March 31, 2013)

Academic programmes at IITD cover a wide range of science and engineering disciplines. 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, intake has steadily increased for the last few years and during the year 2012-2013, 3,590 UG students were on roll. The enrolment of postgraduate students during the year 2012-2013 was 4,258. These figures include 1,436 women students. There were 78 foreign students from 9 countries pursuing postgraduate education at the Institute during the year 2012-13. In order to make IIT Delhi 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.

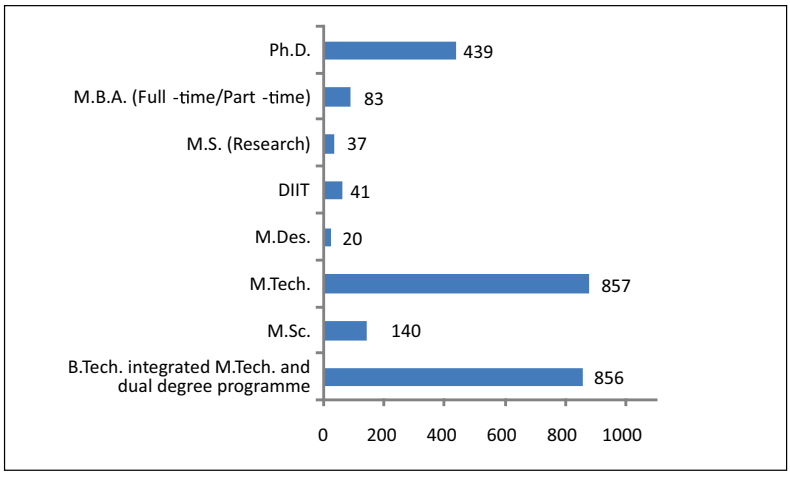
Postgraduate

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 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.

Admission to the 2-year M.Des Programme in Industrial Design is made on the basis of CEED (70% weightage) and test/ interview (30% weightage).

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/ Programme. Selected candidates are given offer letters by the Departments/ Centres/Schools after approval of the selection by the Dean, PGS & R. 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.

Graph on the right gives the programme wise details of total number of admissions in 2012-2013.



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 VII.

Table I : Break-up of Admissions through Joint Entrance Examination during 2012-2013 according to the Various Disciplines

Discipline	Sanctioned Strength	Actual Admissions
B.Tech. in Chemical Engineering	71	72
B.Tech. in Civil Engineering	109	110
B.Tech. in Computer Science & Engineering	63	65
B.Tech. in Electrical Engineering	63	63
B. Tech. in Electrical Engineering (Power)	32	32
B.Tech. in Mechanical Engineering	103	104
B.Tech. in Production Engineering	48	48
B.Tech. in Engineering Physics	63	63
B.Tech. in Textile Technology	93	94
M.Tech. in Mathematics & Computer Applications (5-year Integrated)	48	48
B.Tech. and M.Tech. in Computer Science & Engineering (5-year Dual Degree)	32	32
B.Tech. and M.Tech. in Chemical Engineering (5-year Dual Degree)	52	51
B.Tech. and M.Tech. in Biochemical Engineering and Biotechnology (5-year dual Degree)	48	48
B. Tech. in Electrical Engineering and M.Tech. in Information and Communication Technology (5 year Dual Degree)	26	26

Table II : Students Admitted to First Year of the M.Tech./M.Des./MS(R)/D.I.I.T., M.B.A. & M.Sc. Programmes as on July 31, 2012 (the last date for late registration in Ist Semester 2012-2013)

Course	Students with Institute Assistantship	Others (including part-timers)	Total
Master of Technology (M.Tech.)			
Department of Applied Mechanics			
Design Engineering	27	1	28
Engineering Mechanics	30	3	33
Department of Chemical Engineering			
Chemical Engineering	32	2	34
Department of Chemistry			
Molecular Engineering: Chemical Synthesis and Analysis	13	—	13
Department of Civil Engineering			
Geotechnical Geoenvironmental Engineering	17	3	20
Structural Engineering	19	12	31
Water Resources Engineering	17	9	26
Rock Engineering Under Ground Structures	19	3	22
Construction Technology & Management	—	27	27

Table II, contd.

Construction Engineering and Management	28	14	42
Environmental Engineering and Management	19	1	20
Transportation Engineering	7	8	15
Department of Computer Science & Engineering			
Computer Science & Engineering	49	9	58
Department of Electrical Engineering			
Integrated Electronics & Circuits	12	1	13
Communications Engineering	14	5	19
Control & Automation	7	4	11
Power Electronics, Electrical Machines & Drives	17	5	22
Computer Technology	14	3	17
Power System	12	5	17
Department of Mechanical Engineering			
Thermal Engineering	20	4	24
Design of Mechanical Equipment	17	5	22
Production Engineering	24	3	27
Industrial Engineering	17	3	20
Department of Physics			
Applied Optics	8	4	12
Solid State Materials	13	2	15
Department of Textile Technology			
Textile Engineering	13	—	13
Fibre Science & Technology	13	—	13
Centre for Applied Research in Electronics			
Radio Frequency Design and Technology	15	20	35
Centre for Atmospheric Sciences			
Atmospheric Oceanic Science Technology	13	3	16
Interdisciplinary Programmes			
Computer Applications	13	1	14
Energy Studies	28	3	31
Energy & Environmental Management	—	26	26
Industrial Tribology & Maintenance Engineering	15	1	16
Instrument Technology	15	—	15
Polymer Science & Technology	16	—	16
Opto-Electronics & Optical Communication	18	2	20
Tele-communication Technology and Management	18	1	19
VLSI Tools and Design	—	21	21
Total	**629**	**214**	**843**
Master of Design (M.Des.)			
Industrial Design	20	—	20
P.G. Diploma in Metro Rail Transport	—	21	21
Naval Construction	—	20	20
Master of Science (M.Sc.)			
Chemistry	—	—	47
Mathematics	—	—	49
Physics	—	—	44

Table II, contd.

M.S. (Research)			
Mechanical Engineering	—	1	1
Civil Engineering	—	2	2
Applied Mechanics	—	1	1
Amar Nath Shashi Khosla School of Information Technology	—	3	3
Bharti School of Telecommunication Technology	—	1	1
Computer Science & Engineering	1	—	1
Electrical Engineering	—	7	7
Chemical Engineering	—	2	2
Biochemical Engineering & Biotech	4	—	4
M.B.A.			
Full Time	—	48	48
Part Time	—	35	35
Total	**654**	**354**	**1148**

Table III : Research Scholars Admitted in both the Semesters of the Session 2012-2013

Department/Centre	I Semester		II Semester		Total
	Institute Supported Scholars	Scholars Supported from Other Sources	Institute Supported Scholars	Scholars Supported from Other Sources	
Applied Mechanics	8	12	1	4	25
Biochemical Engineering & Biotechnology	4	2	2	5	13
Chemical Engineering	20	4	3	10	37
Chemistry	16	9	1	11	37
Civil Engineering	32	5	3	17	57
Computer Science & Engineering	11	11	—	—	22
Electrical Engineering	27	7	2	9	45
Humanities & Social Sciences	5	2	1	7	15
Management Studies	13	3	1	6	23
Mathematics	5	2	1	4	12
Mechanical Engineering	19	8	2	13	42
Physics	26	15	3	7	51
Textile Technology	3	2	1	1	7
Centre for Applied Research in Electronics	3	—	—	2	5
Centre for Atmospheric Sciences	3	3	1	4	11
Centre for Biomedical Engineering	8	4	—	3	15
Centre for Energy Studies	31	10	12	5	58
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre	2	1	—	—	3
Instrument Design & Development Centre	2	1	—	2	5
Centre for Rural Development & Technology	12	7	1	5	25
Centre for Polymer Science & Engineering	8	7	—	3	18
Amar Nath and Shashi Khosla School of Information Technology	2	—	2	2	6
School of Biological Sciences	4	2	2	2	10
Bharti School of Telecommunication Technology Management	7	2	1	3	13
Transportation Research & Injury Prevention Programmes	1	1	—	—	2
National Resource Centre for Value Education Engineering.	1	—	—	—	1
Total	**273**	**120**	**40**	**125**	**558**

Table IV : Total number of M.Tech./MS (R)/M.Sc./D.I.I.T.Students on Rolls as on July 31, 2012 (the last date for late registration in Ist Semester, 2012-2013)

Course	Institute Supported Students	Students Supported from Other Sources	Total
Master of Technology (M.Tech.)			
Department of Applied Mechanics			
Engineering Mechanics	55	7	62
Design Engineering	52	3	55
Department of Chemical Engineering			
Chemical Engineering	51	3	54
Department of Chemistry			
Molecular Engineering Chemical Synthesis and Analysis	23	—	23
Department of Civil Engineering			
Construction Technology & Management	2	54	56
Geotechnical & Geoenvironment Engineering	26	5	31
Rock Engineering Underground Structures	32	5	37
Structural Engineering	31	33	64
Water Resources Engineering	24	13	37
Environmental Engineering and Management	26	7	33
Construction Engineering and Management	49	26	75
Transportation Engineering	12	17	29
Department of Computer Sc. & Engineering			
Computer Science & Engineering	81	18	99
Total	**464**	**191**	**655**
Department of Electrical Engineering			
Integrated Electronics & Circuits	29	7	36
Communication Engineering	23	12	35
Control & Automation	16	8	24
Power Electronics, Electrical Machines & Drives	32	16	48
Computer Technology	30	10	40
Power System	27	9	36
Department of Mechanical Engineering			
Thermal Engineering	41	8	49
Design of Mechanical Equipment	35	8	43
Production Engineering	46	8	54
Industrial Engineering	45	8	53
Department of Physics			
Applied Optics	29	5	34
Solid State Materials	36	4	40
Department of Textile Technology			
Textile Engineering	20	1	21
Fibre Science & Technology	29	—	29
Centre for Atmospheric Sciences			
Atmospheric Oceanic Science & Technology	23	7	30
Centre for Applied Research in Electronics			
Radio Frequency Design and Technology	29	38	67
Total	**490**	**149**	**639**

Table IV, contd.

Interdisciplinary Programmes			
Computer Applications	30	7	37
Energy Studies	50	8	58
Energy and Environmental Management	—	84	84
Instrument Technology	31	7	38
Industrial Tribology & Maint. Engineering	25	7	32
Polymer Science & Technology	43	—	43
Opto-Electronics & Optical Communication	41	7	48
Tele-Communication Technology and Management	37	2	39
VLSI Design Tools and Technology	9	26	35
Master of Design (M.Des.)			
Industrial Design	57	—	57
Total	**1277**	**488**	**1765**
M.B.A.	—	249	249
M.S.(Research)			
Applied Mechanics	—	3	3
Amar Nath and Shashi Khosla School of Information Technology	5	9	14
Bio-Chemical Engg. & Bio-Technology	9	—	9
Chemical Engineering	3	3	6
Computer Science & Engineering	4	9	13
Civil Engineering	1	4	5
Electrical Engineering	9	49	58
Mechanical Engineering	1	2	3
Bharti School of Telecommunication Technology	4	3	7
Total	**1313**	**819**	**2132**
P.G. Diploma (D.I.I.T.)			
Naval Construction(1½ year)	—	42	42
Metro Rail Transport: Technology and Management (one year)	—	23	23
Master of Science (M.Sc.) (two years)			
Chemistry	—	105	105
Mathematics	—	123	123
Physics	—	101	101
Grand Total	**1313**	**1213**	**2526**

Admissions

Table V : Research Scholars on the Institute Rolls as on July 31, 2012 (the last date for late registration in the Ist semester, 2012-2013)

Department/Centre/School	Students with Institute Assistantship	Others (including part-timers)	Total
Amar Nath and Shashi Khosla School of Information Technology	12	10	22
Applied Mechanics	28	29	57
Biochemical Engineering & Biotechnology	15	26	41
Chemical Engineering	35	73	108
Chemistry	19	113	132
Civil Engineering	44	122	166
Computer Science & Engineering	25	17	42
Electrical Engineering	53	118	171
Humanities & Social Sciences	10	40	50
Management Studies	17	58	75
Mathematics	15	46	61
Mechanical Engineering	41	101	142
Physics	39	99	138
Textile Technology	21	17	38
Centre for Applied Research in Electronics	12	24	36
Centre for Atmospheric Sciences	14	23	37
Centre for Biomedical Engineering	10	25	35
Transportation Research and Injury Prevention Programme	3	6	9
Centre for Energy Studies	26	74	100
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre	5	11	16
Instrument Design & Development Centre	9	20	29
Centre for Polymer Science & Engineering	23	17	40
Centre for Rural Development & Technology	18	21	39
School of Biological Sciences	8	27	35
Bharti School of Telecommunication Technology & Management	18	15	33
Total	**520**	**1133**	**1653**

Admissions

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

Program	General		OBC		SC		ST		PH		Total		Grand Total
PG	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	
DIIT	46	5	5	-	6	1	2	-	-	-	59	6	65
MBA	143	36	25	5	21	-	1	-	2	-	192	41	233
MDes	14	4	7	-	3	1	3	1	-	-	27	6	33
MSc	106	71	57	22	25	8	7	6	-	-	195	107	302
MSR	63	17	14	-	4	-	1	-	-	-	82	17	99
MTech	825	195	281	40	141	22	26	3	-	-	1273	260	1533
Total PG	**1197**	**328**	**389**	**67**	**200**	**32**	**40**	**10**	**2**		**1828**	**437**	**2265**
PhD	1009	571	190	57	92	37	8	4	5	1	1304	670	1974
Total (a)	**2206**	**899**	**579**	**124**	**292**	**69**	**48**	**14**	**7**	**1**	**3132**	**1107**	**4239**
B.Tech. (b)	**1752**	**211**	**879**	**78**	**458**	**74**	**237**	**47**	**56**	**9**	**3171**	**419**	**3590**
Total (a+b)	**3958**	**1110**	**1458**	**202**	**750**	**143**	**285**	**61**	**63**	**10**	**6303**	**1526**	**7829**

(as on August 2013)

Academic Performance

(April 1, 2012 - March 31, 2013)

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.

1786 candidates qualified for the award of various degrees of the Institute at the 43rd Annual Convocation held in October 2012. Details of the same are given in the following graph and Tables I, II and III.

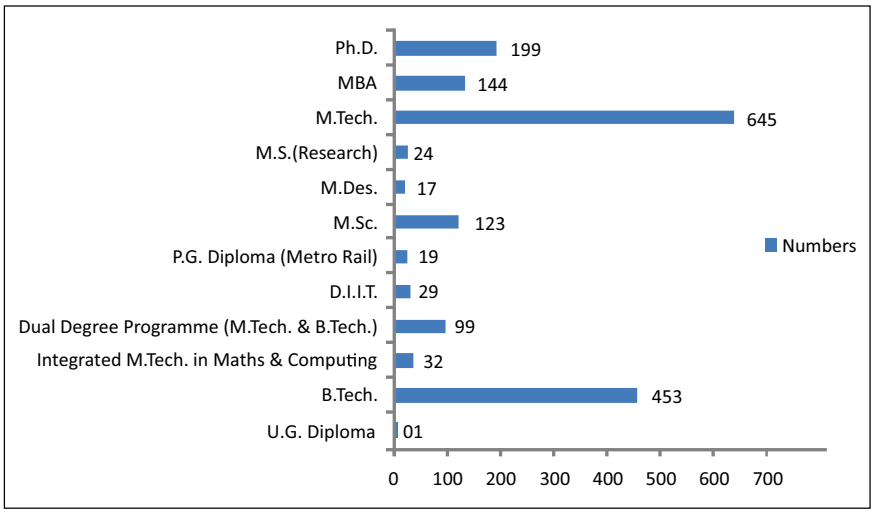


Table I : Number of Undergraduate Students Graduated/Degree Awarded in Convocation 2012

Discipline	No. of Students Passed
5 Year Dual Degree/ Integrated	
B.Tech. in Biochemical Engineering & Biotechnology and M.Tech. in Biochemical Engineering & Biotechnology	30
B.Tech. and M. Tech in Chemical Engineering	14
B.Tech. in Chemical Engineering and M.Tech. in Process Engineering and Design	14
B.Tech. in Computer Science & Engineering and M.Tech. in Computer Science & Engineering	23
B.Tech in Electrical Engineering and M.Tech in Information and communication	18
M.Tech. in Mathematics and Computing	32
B.Tech. Degree	
Civil Engineering	78
Chemical Engineering	53
Computer Science & Engineering	46
Electrical Engineering	50
Electrical Engineering (Power)	22
Machanical Engineering	76
Production and Industrial Engineering	39
Engineering Physics	40
Textile Technology	50
Diploma in Mechanical Engineering	1
Total	**586**

Table II : Number of Students Qualified for the Award of Degrees/Diplomas in 2012

	Programme	No. of Degrees Awarded	No. of Diplomas Awarded
(a)	**M.Tech.**		
	Engineering Mechanics	15	—
	Design Engineering	23	—
	Molecular Engineering: Chemical Synthesis	7	—
	Chemical Engineering	23	—
	Construction Technology & Management	22	—
	Geotechnical and Geoenvironmental Engineering	8	—
	Structural Engineering	22	1
	Water Resources Engineering	1	—
	Rock Engineering & Underground Structures	11	—
	Construction Engineering and Management	21	—
	Environmental Engineering and Management	13	—
	Transportation Engineering	8	—
	Computer Science & Engineering	42	1
	Control and Automation	7	—
	Communications Engineering	19	—
	Power Electronics, Electrical Machines & Drives	12	—
	Computer Technology	18	1
	Integrated Electronics & Circuits	20	—
	Power Systems	13	—
	Computer Applications	20	—
	Thermal Engineering	19	1
	Production Engineering	14	—
	Industrial Engineering	11	—
	Energy and Environmental Management (Evening)	31	—
	Ocean Sciences and Technology	10	—
	Instrument Technology	17	1
	Design of Mechanical Equipment	16	1
	Applied Optics	20	—
	Solid State Materials	13	—
	Fibre Science & Technology	16	—
	Textile Engineering	22	—
	Radio Frequency Design and Technology	18	—
	Energy Studies	26	—
	Industrial Tribology & Maintenance Engineering	9	—
	Polymer Science & Technology	26	—
	Opto-Electronics & Optical Communication	22	—
	VLS M.Tech. VLSI Design Tools and Technology	11	—
	Telecommunication Technology and Mangement	19	—
(b)	**MBA**		
	Management Systems	75	—
	Technology Management	47	—
	Telecommunication System Management	22	—
(c)	**D.I.I.T. (2-year)**		
	Naval Construction	—	23
(d)	**P.G. Diploma in Metro Rail Transport : Technology & Management**	—	**19**
(e)	**M.Sc.**	**123**	—
(f)	**M.Des.**	**17**	—
(g)	**M.S. (Research)**		—
	Amarnath & Shashi Khosla School of Information Technology	4	—
	BioChemical Engineering	6	—
	Mechanical Engineering	1	—
	Applied Mechanics	1	—
	Electrical Engineering	8	—
	Telecommunication Technology and Mangement	3	—
	Total	**952**	**48**

Academic Performance

Table III : Number of Ph.D. Degrees Awarded in 2012

Department/Centre	No.of Degrees Awarded
Applied Mechanics	7
Bio-chemical Engineering & Bio-technology	5
Chemical Engineering	10
Chemistry	19
Civil Engineering	10
Computer Science & Engineering	3
Electrical Engineering	18
Humanities & Social Sciences	10
Management Studies	11
Mathematics	5
Mechanical Engineering	10
Physics	19
Textile Technology	6
Centre for Atmospheric Sciences	7
Centre for Bio-medical Engineering	7
Centre for Energy Studies	27
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre	4
Instrument Design & Development Centre	4
Centre for Polymer Science & Engineering	7
Centre for Rural Development & Technology	7
Applied Research in Electronics	2
Amarnath and Shashi Khosla School of IT	1
Total	**199**

Academic Performance

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 2011-2012 (2008 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										
Dual-Degree in Biochemical Engineering & Biotechnology (BB5)*	1	3	9	9	7	2	0	0	0	31
Civil Engineering (CE1)	4	20	23	12	19	4	0	0	0	82
Chemical Engineering (CH1)	3	12	16	12	7	0	0	0	0	50
Dual Degree in Chemical Engineering (CH7)	0	5	11	8	11	0	0	0	0	35
Computer Science & Engineering (CS1)	13	12	15	1	4	1	0	0	0	46
Dual-Degree in Computer Science & Engineering (CS5)	2	4	5	10	1	0	0	0	0	22
Electrical Engineering (EE1)	4	17	16	7	5	0	0	0	0	49
Electrical Engineering (Power) (EE2)	1	3	5	11	1	1	0	0	0	22
Electrical Engineering (EE5)	4	6	4	2	4	0	0	0	0	20
Mechanical Engineering (ME1)	8	17	24	20	8	3	0	0	0	80
Mechanical Engineering (ME2)	1	10	8	8	6	2	0	0	0	35
Mathematics and Computing (MT5)	0	5	11	12	5	0	0	0	0	33
Engineering Physics (PH1)	1	10	11	13	5	0	0	0	0	40
Textile Engineering (TT1)	1	11	19	11	9	1	0	0	0	52
Total	**43**	**135**	**177**	**136**	**92**	**14**	**0**	**0**	**0**	**597**
Second Semester										
Dual-Degree in Biochemical Engineering & Biotechnology (BE5)	3	2	9	7	8	2	0	0	0	31
Civil Engineering (CE1)	4	22	22	13	17	4	0	0	0	82
Chemical Engineering (CH1)	3	15	13	12	7	0	0	0	0	50
Dual-Degree in Chemical Engineering (CH7)	0	6	12	7	10	0	0	0	0	35
Computer Science & Engineering (CS1)	13	12	14	2	5	0	0	0	0	46
Dual-Degree in Computer Science & Engineering (CS5)	1	6	5	8	2	0	0	0	0	22
Electrical Engineering (EE1)	5	19	15	6	4	0	0	0	0	49
Electrical Engineering (EE2)	1	3	8	8	1	1	0	0	0	22
Electrical Engineering (EE5)	4	6	5	1	4	0	0	0	0	20
Mechanical Engineering (ME1)	7	21	24	16	9	2	0	0	0	79
Mechanical Engineering (ME2)	2	12	7	8	4	2	0	0	0	35
Mathematics and Computing (MT5)	0	7	11	11	4	0	0	0	0	33
Engineering Physics (PH1)	2	9	15	10	4	0	0	0	0	40
Textile Engineering (TT1)	1	12	18	11	9	1	0	0	0	52
Total	**46**	**152**	**178**	**120**	**88**	**12**	**0**	**0**	**0**	**596**

Academic Performance

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

	Programme	No. of students admitted (2012)	No. of students qualifiedto continue*
(a)	**M.Tech.**		
	Engineering Mechanics	33	33
	Design Engineering	28	28
	Chemical Engineering	34	34
	Molecular Engineering: Chemical Synthesis and Analysis	13	13
	Construction Technology and Management	27	27
	Geotechnical & Geoenvironment Engineering	20	20
	Structural Engineering	31	31
	Water Resources Engineering	26	26
	Construction Engineering and Management	42	42
	Rock Engineering of Underground Structures	22	22
	Environmental Engineering and Management	20	19
	Transportation Engineering	15	15
	Computer Science & Engineering	58	58
	Control and Automation	11	10
	Communications Engineering	19	19
	Power Electronics, Electrical Machines & Drives	22	22
	Computer Technology	17	16
	Integrated Electronics & Circuits	13	13
	Power Systems	17	17
	Computer Applications	14	14
	Thermal Engineering	24	21
	Production Engineering	27	27
	Industrial Engineering	20	19
	Design of Mechanical Equipment	22	21
	Telecommunication Technology and Management	19	19
	VLSI Tools and Design	21	21
	Radio Frequency Design & Technology	35	35
	Solid State Materials	15	15
	Applied Optics	12	12
	Atmospheric Oceanic Science Technology	16	16
	Fibre Science & Technology	13	16
	Textile Engineering	13	7
	Energy Studies	31	31
	Energy Studies (Evening Programme)	26	26
	Industrial Tribology & Maintenance Engineering	16	16
	Polymer Science & Technology	16	16
	Opto-Electronics & Optical Communication	20	20
	Instrument Technology	15	15
(b)	**M.S. (Research)**		
	Amar Nath & Shashi Khosla School of In formation Technology	3	1
	Bio-chemical Engg. & Bio-technology	4	4
	Chemical Engineering	2	1

contd.

	Mechanical Engineering	1	1
	School of Information Technology	3	3
	Computer Science & Engineering	1	1
	Electrical Engineering	7	7
	Bharti School of Telecommunication Technology	1	1
(c)	**M.Des.**		
	Industrial Design	20	20
(d)	**D.I.I.T. (2 year)**		
	Naval Construction	20	20
(e)	**One year P.G. Diploma in Metro Rail Transport: Technology and Management**	**21**	**21**
(f)	**M.Sc.**		
	Chemistry	47	47
	Mathematics	49	49
	Physics	44	44
	Management Studies		
	M.B.A. Programme (Full-time)	48	48
	M.B.A. Programme (Part-time)	35	35
	Total	**1149**	**1135**

**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, 2012 - March 31, 2013)

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 during their pre-final year and subsequently get employment in organisations which match their aspirations and objectives.

As in the previous years, this year too, web based placement services were provided using the internal T&P server. The students got all information on their desktops PCs/laptops, 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 and career counselling talks by distinguished persons from reputed technical, industrial, management and research organisations for the benefit of the graduating 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 experience with the student community of the Institute.

An online interview preparation personality development & career guidance system was also made available to all students of the institute.

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 3rd year B.Tech./Dual degree/Integrated M.Tech. students, besides obtaining a good number of stipends and other facilities such as transport, accommodation, etc.

The T&P unit with the active cooperation of Nucleus Committees of the departments was able to arrange more than the required number of seats for internships but also got 359 stipends and 159 other perquisites. Detailed instructions to students were also issued prior to the commencement of the training programme. A gist of data regarding the pre-final year students training is given in Table-I.

Placement

A letter of invitation for Campus Interviews was sent to a large number of public or 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 348 Companies for 426 profiles. Total 273 companies visited the campus as a result of which 728 students were placed making total jobs of 797 (some students got multiple jobs). The sector-wise distribution of profiles opened for placement are given in Table II.

Table II- Sector -wise distribution of Profiles Opened for Placement

Sector	Profiles Opened	Students Placed
Analytics	16	58
Consulting	48	84
Core (Technical)	126	258
Finance	16	30
Information Technology	75	126
Management	01	-
Other	95	135
Teaching & Research	25	42
Total	**402**	**733**

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 on campus placement position is shown in Table III and IV.

Table 1 - 3rd Year Students Summer Training - 2013

Discipline	Seats- Obtained	Seats- Required	Stipend	Other Facilities
(a) B. Tech/Dual Degree				
Chemical Engg./Dual Degree	123	127	58	10
Comp. Sc.&Engg./ Dual Degree	96	96	85	40
Civil Engineering	118	111	34	3
Electrical Engg/Power/Dual Degree	133	129	78	50
Engineering Physics	55	57	12	6
Mechanical Engineering/ Industrial &Production Engineering	158	153	34	22
Textile Technology	80	71	23	8
(b) 5-Year Integrated M.Tech. Programe				
Bio -Chem. Engg.& Bio-Tech	42	42	6	10
Math & Computer Application	50	50	29	10
Total	**855**	**836**	**359**	**159**

Table III : Discipline-wise break-up of On-Campus Placement Position of B.Tech./Dual and 5-year integrated M. Tech. Students during 2012-13

Discipline	No. of Students Registered	No.of Effective Placements*	No.of Students with more than one job**
(a) B.Tech			
Chemical Engineering	54	46	02
Civil Engineering	78	57	02
Computer Sc. & Engineering	44	44	13
Electrical Engineering	51	47	04
Electrical Engg.(Power)	21	19	02
Mechanical Engineering	79	71	04
Industrial & Production Engg.	34	26	
Textile Technology	50	35	
Physics Engineering	38	33	
(b) Dual / 5-Year Integrated M. Tech Programmes			
Mathematics &Computer Appn.	35	31	05
Bio-chemical Engg. & Bio.Tech..	17	13	
Chemical Engg. Dual	30	23	01
Computer Sc. & Engg.Dual (CO)	21	20	07
Electrical Dual (EI)	18	16	02
Total	**570**	**481**	**42**

**Others would have obtained jobs via off-campus mode or opted for higher studies in India or Abroad.*

***This is because more than one company declared the results on the same day.*

Table IV : On-campus Placement Position of M.Tech. Students during 2012-13.

Department/ Interdiscip. Programme	No. of Students Registered	No.of Effective Placements*	No.of students with More than** one job
M.Tech.			
Applied Mechanics	44	22	01
Atmospheric Oceanic Sc.	09		
Chemical Engineering	11	05	
Civil Engineering	29	13	02
Computer Sc. & Engineering	29	27	04
Electrical Engineering	53	39	05
Computer Application (Maths)	14	12	01
Mechanical Engineering	54	28	
Physics	20	05	
Textile Technology	21	13	
Energy Studies	17	05	
ITMMEC	08	01	
Opto-Electronics and Communication	13	03	
Polymer Sc. & Technology	18	02	
Instrument Technology	12	05	
VLSI	10	10	02
CRF (Care)	14	11	
Tele Communications	16	16	
Total	**392**	**217**	**15**

In addition 14 M. Des., 10 M.Sc., 03 MS Research, and 08 Ph.D. students also were placed through our campus activities. MBA students did their placement separately.

**Others are have got placement via off-campus mode. Some would have gone for higher studies.*

***This is because more than one company declared the results on the same day.*

Total Jobs = B.Tech. & Dual + M.Tech. + M. Des. + M.Sc. + MS Res. + Ph.D. = 378 + 103 + 217 + 14 + 10 + 3 + 8 = 733

Staff Training Programmes

(April 1, 2012 - March 31, 2013)

The Institute continues to take particular care of its staff so that they are properly equipped with the skill/knowledge that is required to keep pace with the developments taking place in both administrative and technical spheres. It deputes its technical, secretarial and ministerial staff to various training institutions in and outside Delhi. During the year under report 178 staff members/officers belonging to administrative and technical cadres were deputed/sponsored for training outside the Institute. Details are as follows.

Staff Training Programmes

Table I : Group A Officers Deputed for Various Staff Training Programmes in 2012-2013

Title of Training	Period of Training	Name / Group
Training Programme on 'Administrative Vigilance-I (Code AV-I)-	28/05/2012 to 01/06/2012	Sh. Kalyan Kr. Bhattacharjee
Workshop on "Autonomous Bodies: Accountability, Governance and Evaluation"	08/08/2012	Sh. M.K. Gulati Sh. R.K. Gupta
Two days Workshop on "Right to Information Act, 2005	17/12/2012 to 18/12/2012	Sh. S.K. Verma Ms. Krishna Pradeep
Management Development Programme on 'Analysis of Financial Statements'	21/11/2012 to 23/11/2012	Sh. Anup Kuksal Md. Shamim
Technical Workshop on "Roster Writing and Reservation in Services Government Policy for SCs, STs and OBC and Physically Handicapped"	19/12/2012 to 21/12/2012	Ms. Neeru Sharma Sh. Suresh Kr. Gohar Sh. Vijay Pal Singh
Training Course on Purchase Management in Govt. (PMG-2)	04/03/2013 to 06/03/2013	Sh. K.K. Bhattacharjee Dr. Vivek Raman
Technical Workshop on "Managing Office and Development"	16/01/2013 to 18/01/2013	Sh. Ramesh Kr. Thareja
Workshop on "Noting & Drafting"	20/05/2013 to 21/05/2013	Sh. Ramesh Kumar
Training Programme on 'Administrative Vigilance-(Code AV-I)	18/03/2013 to 29/03/2013	Sh. Anup Kuksal
"Homeland Security India Conference-2013"	15/03/2013	Sh. B. Kanjilal Sh. S.R. Gothwal

Scholarships, Assistantships and Awards

(April 1, 2012 - March 31, 2013)

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 106 awards/scholarships/medals being given at the Undergraduate and Postgraduate level. This is in addition to more than 1445 awards instituted by the Institute directly in the form of merit-cum-means 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 2012-2013.

Scholarships/Assistantships/Freeships and Awards

Table I : Number of Cash Prizes Merit-cum-Means Scholarships/Freeships offered to B.Tech. Students during the Session 2012-2013

Class	Cash Prizes	No. of Scholarships Awarded	Free Mess Services (basic menu and pocket allowance of Rs 250/- p.m. to S.C./S.T. students)	Freeships for Gen & OBC (w.e.f 2010)
I-Year	71	239	94	83
II-Year	106	180	83	66
III-Year	86	197	84	33
IV-Year	69	154	64	–
V-Year	35	1	10	–
Backlog	7	–	6	–
Total	**374**	**771**	**251**	**182**

Table II : Assistantships to Dual Degree Students during the Session 2012-2013

Course	No. of Assistantships Renewed	No. of Assistantships Awarded
Bio-chemical Engg. & Bio-Tech.	17	24
Computer Science & Engineering	17	20
Electrical Engineering	16	19
Chemical Engineering	15	26
Mathematics and Computing	21	27
Total	**86**	**116**

Assistantships and Awards

Students pursuing M.Tech./ M.Des/ MS (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 2012 entry students and renewed to the existing students. A total of 654 students were awarded assistantship in 2012-13

Table III: Assistantships Offered to the Students of M.Tech., M.Des., MS(R) and M.Sc. Programmes during the Session 2012-2013.

(i) M.Tech./M.Des.		
Course	**No. of Assistantships Renewed**	**No. of Assistantships Awarded**
(a) M.Tech.		
Engineering Mechanics	25	30
Design Engineering	25	27
Chemical Engineering	19	32
Molecular Engineering : Chemical Synthesis & Analysis	10	13
Geotechnical and Geoenvironmental Engineering	9	17
Structural Engineering	12	19
Construction Engineering and Management	21	28
Environmental Engineering and Management	7	19
Rock Engg. and Underground Structures	13	19
Water Resources Engineering	7	17
Transportation Engineering	5	7
Computer Science & Engineering	32	49
Power Electronics, Electrical Machines & Drives	15	17
Communications Engineering	9	14
Control and Automation	9	7
Computer Technology	16	14
Power System	15	12
Integrated Electronics & Circuits	17	12
Computer Applications	17	13
Thermal Engineering	21	20
Production Engineering	22	24
Industrial Engineering	28	17
Design of Mechanical Equipment	18	17
Applied Optics	21	8
Solid State Materials	23	13
Textile Engineering	7	13
Fibre Science & Technology	16	13
Atmospheric-Oceanic Science & Technology	10	13
Radio Frequency Design and Technology	14	15

contd. .....

Energy Studies	22	28
Industrial Tribology & Maintenance Engineering	10	15
Polymer Science & Technology	27	16
Opto-electronics & Optical Communication	23	18
Instrument Technology	16	15
Telecommunication Technology and Management	19	18
(b) M.Des.		
Industrial Design	37	20
(c) MS (Research)		
Bio-chemical Engg. & Bio-Tech.	5	4
Bharti School of Telecommunication Technology & Management	4	—
Amar Nath & Shashi Khosla School of Information Technology	5	—
Computer Science & Engineering	3	1
Civil Engineering	1	—
Electrical Engineering	9	—
Chemical Engineering	3	—
Mechanical Engineering	1	—
Total	**649**	**654**

List of the merit-cum-means scholarships awarded for MSc is as follows:

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

		2011	2012
Chemistry	I year	12	19
	II year	13	19
Mathematics	I year	14	10
	II year	14	10
Physics	I year	14	22
	II year	—	22
Total		**67**	**102**

Other than these, fifteen 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 Eleventh batch of 16 students for this year has been selected and they departed on 1st September 2012.

Student's Awards/ Achievements

Department of Biochemical Engineering & Biotechnology

- Geeta Gahlawat Afifa Anis and Ashok K. Srivastava (2013) "Development of medium recipe for biodegradable polymer poly-β-hydroxy butyrate (PHB) production by Azohydromonas australica using statistical tools" poster presentation in "Advances in bioprocesses for environmental safety and nutritional security" 2nd and 3rd March 2013 at HB Technological Institute, Kanpur -208002 (Awarded 1st Prize).

Assistantships and Awards

Department of Chemistry

- Best Ph.D. Thesis Award by Indian Oil Corporation Limited, 2012 (Shruti Trivedi).

Department of Civil Engineering

- B. Tech. students demonstrated pre-engineered bamboo structure and a multipurpose geodesic dome.
- Best paper award, 2012, to paper, "Early Detection of Corrosion in RC Structures Using EMI Tech." by T. Visalakshi & S. Bhalla, during CORCON 2012, 26-29 Sep. Goa.

Department of Computer Science & Engineering

- Sandeep Bindal awarded Microsoft Research India travel grant of Rs. 80,000/- to present his paper on "Variable and Thread Bounding for Systematic Testing of Multithreaded Programs" at International Symposium on Software Testing and Analysis (ISSTA) 2013.
- Amit Ruhela, PhD student of Dr Aaditeshwar Seth, has been awarded the best presentation in the COMSNETS 2012 PhD forum for his work on online social networks and Internet content distribution.
- The team of Rudradev Basak, Nikhil Garg and Pradeep George Mathis, under the guidance of Prof. Naveen Garg, have secured 18th place in the Association of Computing Machinery's International Collegiate Programming Contest 2012.
- Best poster award for the poster "Roshni:Indoor Navigation System for visually impaired" by Dhruv Jain, Prof. M. Balakrishnan et. al. presented at the 4th IBM Collaborative Academia Research Exchange (I-CARE 2012) held in Bangalore, India during October 2012.
- Best paper award for the paper entitled "Design and user study of an affordable cellphone based indoor navigation system for visually impaired", by Dhruv Jain, Prof. M. Balakrishnan et. al. at the 13th International Conference on "Mobility and Transport for Elderly and Disabled People" (TRANSED 2012)held in New Delhi, September, 2012.
- Best paper award to Shivendra Tiwari, Saroj Kaushik, "Fusion of Navigation Technology and E-Learning Systems for the On-the-Spot Learning " In IET International Conference on Wireless Communications and Applications (ICWCA) 2012 held at Kuala Lumpur, Malaysia during October 2012.

Department of Physics

- Ajanta Barh, Research Scholar in the Physics has been awarded the best student paper award cash prize and a citation by an international Jury for her oral paper "Design of a compact SOI Polarization Rotator for mid-IR application", co-athored with B. P. Pal, R. K. Varshney, and B. M. A Rahman presented at the 5th triennial international conference on Computers and Devices for Communication (CODEC-2012) during Dec. 17-19, 2012 held in Kolkata; the conference was sponsored by several societies of IEEE (USA).
- Winner Best Project Award, IITD Open House I^2 Tech (2013) at IIT-Delhi - "Exchange bias effect in Antiferromagnetic/ Ferromagnetic systems for Spintronics" Himanshu Fulara, Sujeet Chaudhary, Subhash C. Kashyap
- Merit Prize, National Science Day (2013) : "Exchange bias effect in Antiferromagnetic(AF)/Ferromagnetic(FM) systems for Spintronics" (Best Speaker Award to Himanshu Fulara) Himanshu Fulara, Sujeet Chaudhary, Subhash C. Kashyap, National Science Day 2013 at IIT Delhi (28 February 2013).

Department of Textile Technology

- Pratick Samanta, M.Tech. (Fiber Sc.) - 1st prize in 6th Young Research conference, ICT, Mumbai and 2nd prize in Student Project Competition , Pearl Academy, New Delhi
- Sharda, PhD student, received Third prize for Poster presentation at International Conference on Design of Biomaterials, held at Indian Institute of Science, Bangalore, on 11th December 2012

Centre for Applied Research in Electronics

- Lalithendra Kurra, 2nd prize poster presentation, National Science Day.
- OCEANS'12 MTS/IEEE Yeosu, Republic of Korea, May 21-24, 2012. Student Poster Award 3rd place: Sharbari Banerjee.

Centre for Atmospheric Sciences

- Sushant Das (3rd Prize in Student Presentation Category) - IASTA 2012 (Mumbai).

Assistantships and Awards

The students pursuing Ph.D are also eligible for assistantships. This year 116 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 2012-2013

Department/Centre	No. of Assistantships Renewed	No. of Assistantship Awarded (2012 entry)
Amar Nath and Shashi Khosla School of Information Technology	12	—
Bharti School of Telecommunication Technology & Management	16	2
Applied Mechanics	20	8
Biochemical Engineering & Biotechnology	13	2
Chemical Engineering	31	4
Chemistry	10	9
Civil Engineering	39	5
Computer Science & Engineering	14	11
Electrical Engineering	46	7
Humanities & Social Sciences	8	2
Management Studies	14	3
Mathematics	13	2
Mechanical Engineering	33	8
Physics	24	15
Textile Technology	19	2
Centre for Applied Research in Electronics	12	—
Centre for Atmospheric Sciences	11	3
Centre for Biomedical Engineering	6	4
Centre for Energy Studies	16	10
Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre	4	1
I.D.D. Centre	8	1
Centre for Polymer Science & Engineering	16	7
Centre for Rural Development & Technology	11	7
School of Biological Sciences	6	2
Transport and Energy Prevention	2	1
Total	**404**	**116**

Infrastructure Development

(April 1, 2012 - March 31, 2013)

PHYSICAL INFRASTRUCTURE

All infrastructure related activity is managed by the Building and Works Committee as given in Appendix III.

The revised Master Plan of the Institute was approved by MCD / DUAC. The Master Plan is suitably prepared to provide for further expansion plans of the Institute. In the year 2012-13, the Institute has taken up following major projects which are under construction.

1. Lecture Theater –cum- Lab Complex

L.T. Complex which is under construction shall provide lecture halls of 2 No. x 500 Seater, 3 No. X300 Seater and 12 No. x 150 Seater capacity and 9 class rooms of 60 Seater capacity each. The Lab block of the L.T. Complex shall cater for facilities for Physics lab, Language lab, Graphic lab, Chemistry lab, Applied Mech. Lab, Bio Science lab, Electrical Engineering and Computer lab. The RCC structure work in lab block is completed and finishing work is nearing completion. The furniture of above labs has also been finalised by users committee and CPWD has invited tender for the same. The L.T. complex is expected to be completed by Dec - 2013.

2. Construction of Clean room on the ground floor and first floor in block VI for Nanoscale research facilities (NRF)

The renovation work for creating clean room on the ground floor and first floor in block VI for Nano scale research facilities (NRF) is in progress and shall be ready for use by Dec. 2013.

ACADEMIC INFRASTRUCTURE

1. Construction of Institute (Students) Activities Centre

the conceptual design of Institute activities centre has been prepared. The B&WC considered and accepted the conceptual design. The modified drawings are being submitted to MCD/ DUAC for approval. The construction work shall be taken up after obtaining statutory approvals.

2. Construction of Boys Hostel 'E'

Institute is planning for construction of another Boys' Hostel (Hostel 'E'). Architect has prepared conceptual design of Hostel 'E' which was approved by B&WC Committee. The modified drawing has been submitted to MCD/DUAC for approval. The Construction work has been assigned to CPWD. The hostel will cater to 1000 students (approx.). The work shall be taken up for construction after obtaining statutory approvals.

3. Construction of 414 single seated New Girls Hostel

The Institute has assigned the work to Panel Architect. This hostel will accommodate 414 students. The proposed hostel shall be constructed along North Avenue adjacent to Himadri Hostel, which also involves demolishing 2 Blocks in North Avenue in the East campus. The concept design was approved by B&WC. The Architect is arranging to submit building plans to SDMC / DUAC for approval. The Construction work of the hostel has been assigned to CPWD. The work shall be taken up for construction after obtaining statutory approvals.

4. Construction of Golden Jubilee G.H. Keshwani Research Centre

The IITD alumnus Sh. G.H. Keshwani has agreed to donate fund for construction of Golden Jubilee G.H. Keshwani Research Centre at IIT Delhi. Approx. 30,000 sq. ft of area shall be constructed for research facilities at Ground + 6 floors. The Architect has prepared the submission drawings and submitted to SDMC for necessary approval. The work shall be taken up for construction after obtaining statutory approvals.

5. Lifts for physically challenged persons in Academic Area

The Institute has planned for providing 8 Nos. Lifts for physically challenged persons in the academic area. The work has started at site and likely to be completed by 31.03.2014 .

6. Construction of Main swimming and a small swimming pool for children in IITD

The Institute is planning to construct an Olympic size swimming pool and a small pool for the children in the RCA. The BOG has already accorded its approval to the proposal. The work has been assigned to CPWD. The CPWD has invited tenders and awarded the work to the contractor. The work is likely to be completed by March 2014.

7. Construction of STP/ETP and network connecting Sewer Lines to STP/ETP.

The Institute is planning to construct STP/ETP for compliance of the requirements of Environment Clearance accorded by the MoEF. Accordingly it was proposed to construct 3 STP's and 1 ETP in the campus. A consultant has already been

appointed by the Institute and the work on collection of data for design work is being carried out by the consultant. The Consultant has submitted the conceptual design and preliminary estimate which has been approved by B&WC. EOI is being invited to shortlist the contractors/firms for execution of the work of STP in the campus.

8. Renovation works of the Taxila Apartments

In order to renovate and upgrade the specifications of Taxila Apartments, the renovation work has been taken up. The estimated cost of renovation shall be Rs. 4.00 Cr. The work has already started and 10 houses have been handed over after renovation. The work is likely to be completed by December 2013.

9. Construction of Engineering Block 99B and 99C

The conceptual design for the proposed Engineering Block 99B and 99C was placed before the B&WC and the same was accepted and approved. The two blocks shall be constructed on both sides of ongoing project of L.T. cum Lab Complex. The two blocks shall provide additional area for Labs, Workshops, Faculty rooms etc. The available floor area for Engineering Block 99B shall be 32,550 Sq.mt. and for Engineering Block 99C shall be 26,250 Sq. mt.

10. Construction of additional Faculty Flats in West Campus near Vikramshila apartments

The Institute has recently constructed 96 Faculty flats which have been allotted to eligible Faculty members. In order to meet with the increased demand for houses for Faculty, the Institute is considering for construction of more faculty flats. M/s Kothari Associates Pvt. Ltd., Panel Architect was assigned the work for design of faculty flats and the concept design was accepted and approved by the B&WC. Architect is preparing the submission drawing for obtaining necessary approvals.

MAJOR NEW EQUIPMENTS INSTALLED

Department of Biochemical Engineering and Biotechnology

- Motorized upright Microscope with DIC and Optical sectioning capability (Nikon) .
- 2-D electrophoresis set up.

Department of Chemistry

- Confocal Fluorescence Microscope.
- UV-VIS-NIR Absorption Spectrometer.
- Time-resolved Fluorescence Spectrometer.
- Solar Simulator.

Department of Civil Engineering

- Precision LCR meter.
- Dynamic Universal Testing Machine (UTM).
- Fire furnace.
- Air compressor.

Department of Computer Science & Engineering

- Two units Lyrtec SFF Software Defined Radio were installed in the Networks Lab.

Department of Physics

- Time Resolved Photoluminescence.
- Probe station for electrical characterization in different ambience.
- RF Sputtering System.
- DC Sputtering System.

Department of Textile Technology

- Pore Size Analyzer.
- Water Vapor Permeability tester.
- Particle Size Analyzer.

Centre for Applied Research in Electronics

- Mask aligner.
- Compressed Dry Air Unit.
- Spin Coater.
- Antenna testing setup.

Centre for Atmospheric Sciences

- Aethalometer.
- Albedometer.

Centre for Energy Studies

- Solar thermal-photovoltaic hybrid system installation for solar energy utilization.
- Glove Box for preparing Organic Solar cells.
- Metal nanoparticle synthesis techniques like sputtering & Physical Vapor Deposition systems for Plamonic Solar Cells.
- Solar simulator for solar cell efficiency characterization.

Centre for Rural Development and Technology

- Cell Counter
- UV-Visible Spectrophotometer
- Photo-bioreactors
- Five Gas Analyser for Analysis of Vehicle Exhaust Emissions;
- CNG Compressor: Capacity: 5 NM3/Hr
- Multi component Gas Analyzer System
- Fully Automatic Microprocessor based Stack Monitoring System Model PEM – SMS 4
- Particulate Matter Sampling System
- Moisture Analyzer, Model RSMAT-2
- Hot air oven Configuration:

- Digital Bomb Calorimeter with Printer Model RSBT-6

Kusuma School of Biological Sciences

- Next generation sequencer (order placed).
- Cryoelectron microscope (instrument acquired, site preparation is ongoing).
- Flourescence Activated Cell Sorter (Procured, Installed and In Operation).
- 4. MALDI-TOF TOF (Purchased).

EDUCATIONAL TECHNOLOGY SERVICES CENTRE

The Educational Technology Services Centre (ETSC) is actively engaged in promoting the use of Educational Technology at 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 and maintenance of Audio/Video equipment for classroom teaching.
- Organize training programmes 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.
- Transmission of an independent 24 x 7 EKLAVYA technology channel to telecast video courses under NPTEL and other in-house programmes on EKLAVYA.

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.

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 programmes 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 Adis Ababa University, Ethiopia.

NPTEL Project

The NPTEL project funded by MHRD has been successfully completed. Under this programme, 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 started where its scope has been further expanded to include more disciplines and advanced/ post graduate courses.

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 Adis 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 Classroom sare also being equipped under National Knowledge Network (NKN). Live classes ae run for IIT-Ropar, IIT-Mandi and Dayalbagh Educational Institute,Agra using the NKN.

COMPUTER AND INTERNET SERVICE

The main objectives of the Computer Services Centre are to :

- provide round the clock computing and networking facilities to serve a user population of more than 9000 users consisting of undergraduate, postgraduate, research scholars, faculty and staff of institute provide advice on all aspects of academic computing.
- implement and maintain system and application software.
- impart introductory and advanced instructions to users.
- To work on cutting edge technology and provide the user community with services based on new technology .
- implement and manage the Institute Network.
- provide support to Institute computerization efforts.
- do in-house development in IT related areas.

In addition, the center also participates in the Academic programmes of various departments, undertakes Sponsored Research and Consultancy Projects and Conducts CEP Courses in several topical areas of Information Technology.

Goals Achieved during the year

The following activities have been undertaken during the year 2012-13

- E-tendering system for the Stores and Purchase Section has been developed.
- Collection of basic information for the RFID card preparation.
- System for evaluation of the shops
- SLA for the Estate and Works section
- SLA for telephone complaints
- SLA for faculty Appraisal system revamped and implemented using php.
- Catered to new reporting requirements in the faculty recruitment site.
- Developed a new system for the senate.
- ERP system for the academic system has been implemented.
- The roundcube webmail interface has been upgraded and is fully integrated with IITD calander Server.
- The disk space quota allocated to the academic users has been enhanced.
- CSC has released a new Wiki Forum, IITDWiki on the popular MediaWiki framework for use by faculty, students and staff.
- MRTG Traffic analysis health graphs for many facilities can be viewed on the csc site.

General Computing Facilities

Following are some of the major computing facilities that the center has at present

- The Centre is equipped with 78 HP blade servers out of which 48 Blade Servers are used for cloud computing with 50 TB of virtualized storage and 28 blade servers with 50 TB of storage for user homes and infrastructure use like email, proxy, web services etc. CSC also has 20 workstations for Simulation facility, 18+1 node dual CPU Sun Linux cluster, 22TB SUN NAS, and about 220 desktops computers

connected over a switched fast Ethernet. Uninterrupted Power Supply is provided through 3x 80 KVA MGE UPS system and DG set.

- Software like Abacus, Silvaco, Atlas, Fluent, MATLAB etc. are being used and supported by CSC for scientific computing along with other Bioinformatics utilities like HIMMER, NCBI BLAST, PHYLIP, Linux Distribution, and GNU utilities etc.
- CSC supports web services provided through Virtual Machines (VMs) hosted in Blade Servers having Linux Operating System. These service are divided into five sections: - global: www.iitd.ac.in, internal: internal.iitd.ac.in, faculty web pages: web.iitd.ac.in, for student activities: paniit.iitd.ac.in and for Computer Centre: www.cc.iitd.ac.in.
- CSC also supports variety of Engineering and technical computing software network licenses like MATLAB, Neural network tool box, Fuzzy logic tool box, Image processing tool box, Genetic Algorithm tool box, statistical tool box etc.

Other Infrastructure support services and Network Services provided by CSC :

PC Services

There are five PC Labs in the Centre having about 220 Desktop computers under Windows 7 / Linux environment. Multimedia projection facility and Plasma screens are provided in three PC Labs for taking practical classes. Lectures can also be taken in the committee room with the aid of plasma screen. Internet access is provided through the use of LDAP and every user has been given a unique user-code and password.

Simulation Lab

The Simulation lab is equipped with 20 Dell workstations under Windows7 for CAD/CAE/CUDA and High Performance Computing (HPC).

Orientation Courses

A number of Matlab Programming Courses were held by the faculty of CSC for the benefit of the student community of IIT during the year.

Summer Faculty Research Program

Under the CEP program, many CSC faculty have mentored SRF fellows during the summer.

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 7500 network access points spread using about 175 Cisco switches and about 75 virtual LANs. The 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, 4x2Mbps leased circuits from VSNL, 1x2 Mbps circuit from ERNET and 1 Gbps (1:4) internet leased circuit from M/S TULIP Telecom Ltd.

Internet and Intranet access is provided to faculty/officer homes using 56 dialup modems, and ADSL connectivity over internal telephone lines. The academic area is also connected through secure Wi-Fi. An independent network has been provided for administrative functions. Many network services including mail, web, domain name, anti-virus are being provided over this network. IIT Delhi is connected to the National Knowledge Network (NKN) with 1Gbps dual connectivity from PowerGrid and RailTel. This connectivity provides virtual routing service for Garuda Network, Internet Connectivity, and connectivity with other Institutes connected on NKN backbone.

IITD has upgraded the routers and switches for internet access, and the core and distribution network and has replaced the existing multimode fiber with new single mode fiber. The Institute network is now migrating to a new 10Gb network backbone.

Future Road Map :

The design /implementation activity on the following has already been started:

- Setting up new Data center and Disaster recovery site
- To set up High performance cluster computing facility
- Enhance the cloud computing capability
- To implement ERP system for administration of IIT Delhi

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. It remains open from 8.45 A.M. to 12.00 mid-night during semester exams; from 8.45 A.M. to 9.00 P.M. from Monday through Friday and from 10.00 A.M. to 6.30 P.M. on Saturdays, Sundays and Public Holidays.

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 on 31st March 2013, the collection of the Library ia as follows :

Books	1,94,471
Journals (Bound Volume)	1,03,942
Standards	26,923
Microfilms	2,261
Theses	4,322
Technical Reports	13,430
Video Cassettes	1,800
CDs	5,550
Books in Text Book & Book Bank	22,128
Online Electronic Journals	10,000
Online Databases	6
CD-ROM Databases	2

b. Video Library

The Library is equipped with video viewing facility and has a collection of more than 2,000 video cassettes which have also been converted to CD format 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 Library subscribes to 714 current journals (print with online) with back volumes running into more than 1,04,681 bound volumes (print) of journals. Of 714 journals subscribed; 614 journals are also accessible online from the publishers' web site. Links to these electronic journals are available through the Library web site as well through the Library Web OPAC.

Besides, the Institute has access to over 10,000 full-text electronic journals and 6 bibliographic databases from a number of publishers and aggregators through the INDEST-AICTE Consortium. The INDEST-AICTE Web Site (http://paniit.iitd.ac.in/indest) hosts search and browse interface to locate these journals and their URLs. Details of resources made accessible to IIT Delhi through the Consortium along with their URLs are given in "Library Guide and Information Leaflets" and on the Library & INDEST websites. Tutorials on e-resources accessible through the INDEST-AICTE Consortium are available on the INDEST-AICTE Web Site and are also published in "Compendium for the Members of the INDEST-AICTE Consortium".

Besides access to current e-journals; the Library has also purchased backfiles of electronic journals from a number of publishers / aggregators from their volume one onwards on "one-time payment and perpetual access basis". The backfies purchased by the Library includes: Elsevier's Science Direct (24 subject collections, 1186 e-journals), Wiley InterScience, (66 Core title and 262 custom collection, 27 e-journals), Springer's Open Journal Archives (11 subject collections, 812 e-journals), JSTOR (7 subject collections, 1548 journals) and Project Muse (296 Journals).

a. E-Resources available through Central Library

- Journal Citation Reports (JCR Online)
- 18 Online Miscellaneous Journals
- Lecture Notes in Computer Science, Mathematics and Physics (Vol.1/1969-Vol. 476/1996)
- Current Science & Technology Package (Taylor & Francis)
- ACS Archives
- American Economic Association Journals
- American Geophysical Union Journals
- American Mathematical Society Journals
- American Meteorological Society Journals and Archives
- ASME Digital and Archives
- Availability of Hindi on the Internet

- Cambridge University Press HSS and S&T package
- E-Books from Textbooks Section
- EBSCO Textile & Technology Complete
- I.C.E. and their Archives
- Imech E Publications Current and Archives
- INFORMS Current Journals
- IoP Science and their Archival collection
- ISI Emerging Markets [Tutorial]
- JSTOR [Tutorial]
- Nature Journals (1980 to 1996)
- Oxford Journals on Mathematics, Life Science, Humanities and Social Science
- Project MUSE Journals
- RSC Journals Archive Titles (1841 - 2004)
- Sage HSS & Management Journals and their Archives
- SciFinder Scholar
- SciFinder Scholar (2007 client version)
- Science (Current and Archives)
- SIAM Journals and their Archives
- Taylor & Francis, Current Science & Technology Package+ Chemistry Backfiles
- Wiley Journal Titles
- World Scientific Publication Mathematics
- World Textiles

b. E-Resources available through INDEST-AICTE Consortium

- ABI / Inform Complete
- ACM Digital Library
- AIP/APS Journals
- ASCE Journals
- ASME Journals (+ A M R)
- ASTM Standards & Digital Library
- Capitaline
- EBSCO Databases
- Elsevier's Science Direct
- Emerald Full-text
- Euromonitor (GMID)
- IEC Standards
- IEEE / IEE Library Online (IEL)
- INSIGHT
- Nature
- Optical Society of America (OSA)
- ProQuest Science
- SCOPUS Database
- Springer Link
- COMPENDEX/INSPEC
- JCCC
- SciFinder Scholar access
- MathSciNet
- Web of Science

c. Electronic Books

The Institute has access to electronic books from the following publishers / aggregators:

- Elsevier Book Series on Chemistry, Business, Management & Economics, Life Sciences and Methods in Enzymology through the Science Direct (http://www.sciencedirect.com)
- Springer's Electronic Books (about 100 e-books) (http://ebooks.springerlink.com)
- Wiley InterScience Electronic Books (about 100 e-books)
- E-brary (29368 books)
- Myilibrary
- E-Text Books (38 books)

Computer and Networking Facilities

The Library has its own sub-LAN, which, in turn, is connected to the Campus LAN. It has over 100 PCs and eight servers spread over three floors of the Library.

The Library is a part of fibre optic-based campus-LAN. Of 100 PCs in the Library, 70 Internet-enabled 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 1,50,000 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 Implementation in the Library

The Library also has the Radio Frequency 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.

c. Database of Research Articles by the Faculty and Researchers of IIT Delhi

The Library maintains a web-enabled database of research articles published by the faculty and researchers of IIT Delhi. The database consists over 18,000 research articles and their abstracts that appeared in international peer-reviewed journals indexed by Science Citation Index/SCOPUS. The database is being updated regularly for new records that are added to the Science Citation Index/SCOPUS.

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 patron card. During the period under report, about 60,000 volumes were borrowed by the members of the Library from general collection.

In addition, consultation facilities were extended to around 5,000 users including students, research scholars and faculty members belonging to other academic institutions. More than Rs. 1 lakh were earned from the corporate membership fee.

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 as detailed below from last year data:

Journal articles/other publications received from other sources in Delhi and outside Delhi 125

Publications lent to other libraries on their request (including Corporate Members) 170

The JCCC interface, made available through the INDEST Consortium that facilitates document delivery amongst IITs and IISc, was used extensively. The IIT Delhi, as headquarters of the INDEST-AICTE Consortium supplied about 4000 articles to the members of the Consortium through JCCC.

d. Photocopying Facility

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

e. 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 against payment of 10% of total cost of book as rental charges or Rs.20 per book, whichever is less. However, students belonging to Scheduled Castes and Scheduled Tribes are exempted from the payment of rental charges.

During the period under reprot, 850 students (including SC/ST students) availed the benefit of the Book Bank Scheme.

f. Text Books Facilities (Print and Online)

The text book collection in the Library consists of books prescribed in the courses of study or those recommended by the Institute faculty. The text books are either issued for overnight or are available only for reference. Students can borrow two books at a time from Text Book section between 2

to 6.30 P.M. The text books can also be reserved seven days in advance. The Central Library has purchased 38 E-Text books for Under graduate students.

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. Home Page of the Central Library, IIT Delhi

The Central Library hosts a comprehensive Home Page as a part of the Institute's web site. The Library Home page serves as an integrated interface for all computer and web-based services available from the Central Library. The interface, available at "http://library.iitd.ac.in/, offers the following computer and web-based services:

- Recent Additions to the IIT Library
- Electronic Resources on the Internet
- Electronic Reference Library (ERL) Services
- CD ROM Databases and CD ROM Search Services
- Web-based Library OPAC
- Access DELNET Databases
- Scanned Images of Old and Fragile Volumes of Journals
- Web Access to Journals subscribed in Print, etc.

c. 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 2,200 full-text research articles.

INDEST-AICTE Consortium

The "Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium" was set-up in 2003 by the Ministry of Human Resource Development (MHRD) on the recommendation of an Expert Group appointed by the Ministry. The IIT Delhi has been designated as the Consortium Headquarters to coordinate its activities. The Consortium enrolls engineering and technological institutions as its members and subscribes to electronic resources for them at discounted rates of subscription and favourable terms and conditions. The Ministry provides funds required for subscription to electronic resources for 62 centrally-funded Government institutions including IITs, IISc Bangalore, NITs, IIITs, IIMs and few other Institutions that are considered as core members of the Consortium. The benefit of consortia-based subscription to electronic resources is not confined to its core members but is also extended to all educational institutions under its open-ended proposition. 60 Govt. / Govt.-aided engineering colleges are provided access to selected electronic resources with financial support from the AICTE and over 100 engineering colleges and institutions have joined the Consortium under its self-supported category. Consortium was re-named as INDEST-AICTE Consortium in December 2005 with the AICTE playing a pivotal role in enrolling its approved engineering colleges and institutions as members of the Consortium for selected e-resources at much lower rates of subscription. IIT Delhi is also the headquarters of the Joint Project of INDEST & INFLIBNET under NME-ICT for Cross-subscription of E-resources, entitled National Library and Information Services Infrastructure for Scholarly Content (N-LIST). Presently, Prof. R.K. Shevgaonkar, Director, IIT Delhi is the Chairman of the National Steering Committee of the INDEST-AICTE Consortium, which formulates guidelines for the Consortium and Prof. B.D. Gupta is National Coordinator, INDEST-AICTE Consortium

MECHANICAL FABRICATION FACILITY (IDDC)

The Mechanical Fabrication Facility is a Central Facility located at IDD Centre and caters to the entire post graduate mechanical fabrication needs of the Institute. At present it has eleven mechanics from seven different workshop trades.

CENTRAL WORKSHOP

Central Workshop is one of the pivoting units of the institute which teaches the "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 850 undergraduate students in their first year acquire

hands-on manufacturing skills in this Central Workshop. The Central workshop not only introduce 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 etc. M.Tech. students of Production group also use central workshop facilities for their practical classes in various courses

The central workshop is fully equipped with 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 periods.

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. The Central Workshop is now looking forward to create a living learning factory to impart world class education & training.

HEALTH SERVICES

The Institute has hospital centrally situated in the campus. It provides facilities for OPD treatment and admissions. The Hospital is well equipped to take care of primary emergencies.

Computerization of IIT Hospital in the areas of OPD registration, stock keeping, intending medicines, managing stores, prescribing and dispensing of medicines, office work has been implemented.

Hospital Statistics 2012-2013	
Patients Attended in OPD	87574
X-Ray	4139
Ultra Sound	279
Patients Admitted	387
Physiotherapy	4774
Sergical Dressing	4510
Dental Treatment	3079
Pathology Lab Test	32068
ECG	1522

OTHER CENTRAL FACILITIES

In addition, several other central facilities during the given period located in various Departments and Centres are as mentioned below :

1. Rapid Prototyping: Can automatically construct physical models of Computer- Aided Design (CAD) data.
2. Super Computing Facility for Bio-informatics & Computational Biology.
3. MALDI/MS-MS:- MALDI/MS-MS houses QSTAR XL Pro system. A quadrupole LINAC collision cell is available in the system which follows the first mass filter and is used for efficient MS/MS fragmentation.
4. SEM:- The SEM Central Facility is equipped with following equipments: • ZEISS EVO Series Scanning Electron Microscope Model EVO 50 • B r u k e r - A X S Energy Dispersive X-ray System (model Quan Tax 200). Ultra-microtome (Leica EM UC6).• Polaron Gold/Silver Sputter Coating unit.
5. High Resolution NMR Spectrometer.
6. ESCA/UPS/AES facility:- ESCA/UPS/AES facility installed in 2007 is used for surface characterization.
7. GC- MS System:- GC-MS System perform Qualitative and Quantitative measurement of organic molecules.
8. Glass Blowing Workshop.

New Initiatives

(April 1, 2012 - March 31, 2013)

IIT HOSPITAL

1. New Dental X-ray has been purchased.
2. New X-ray Digital machine purchase process has been initiated.
3. New Patient transfer vehicle has been ordered.

NEW COURSES PROPOSED/INTRODUCED

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

- "Bioreactor modeling and simulation" (Virtual Lab) (As Principal Investigator) (2010-2014) sponsored by Ministry of Human Resource Development, New Delhi.
- Virtual Lab Useful for the UG/PG course in Biochemical Engineering and Biotechnology students of the country.
- SBL100: Introductory biology for engineers (L-T-P: 3-0-2) - part of the proposed new UG curriculum.
- Chemical and Molecular Foundations of Cell.
- Course on 'Biomimetics'.
- Course on 'Plants and human Health'.
- Virtualization and Cloud Computing, for PG students.
- Fundamentals of Machine Learning, for UG students.

NEW MOUS SIGNED BY THE INSTITUTE

In order to have close cooperation in the field of Teaching and Research, the Institute has signed MoUs/Agreements with Institutions/organization in India and abroad. Currently there are 112 MoUs with foreign Institutions/organizations and 60 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.

A) The Institute has signed MoUs with the following institutions/ organizations :

- **National**

1. Indian Oil Corporation Ltd.
2. Tripartite MoU among IIT Roorkee, IIT Bombay & IIT Delhi
3. National Institute of Calicut
4. NHPC, Faridabad
5. India 4EUI under EMECW

- **International**

1. Toyo University, Japan
2. University Network for Climate and Ecosystems Change Adaptaion Research
3. Institute of Engineering, Tribhuvan University
4. Toyohashi University of Technology, Japan
5. Anil T. Kripalani Vera Kriplani, USA
6. Centre of Excellence in Science for Sustainability in Africa
7. University of Dar es Salaam
8. Tajik Technical University, Tajikistan
9. University of South Australia

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, 40 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 awards/scholarships/medal being given 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.

Following scholarships have been approved during the period under report:

- Class of 89 Innovation Award
- Shrimati Jawala Devi-Sita Ram Kaushiks Award
- Suyash Chandra Memorial Cash Award

D) New faculty research grant

To encourage the new faculty for developing research facilities in the area of their expertise, the Institute has so far allocated a sum of Rs. 268 lakhs as New Faculty Research Grant.

BOOK PUBLISHED

- Kumar Neeraj Jha (2012) "Formwork for Concrete Structures", Tata McGraw-Hill Education, ISBN: 9781259007330.
- Kumar Neeraj Jha (2012) "Construction Project Management", Pearson Education, ISBN: 9788131732496.
- Bhalla, S. and Soh C. K. (2013) "Piezo-Impedance Transducers for Evaluation of Seismic Induced Structural Damage", Earthquakes and Health Monitoring of Civil Structures, Edited by Mihail Garevski, Springer, Heidelberg, pp. 133-148, DOI: 10. 1007/978-94-007-5182-8.
- Soh C. K., Yang, Y. W. and Bhalla, S. (2012), "Smart Materials in Structural Health Monitoring, Control and Bio-Mechanics", Springer- Zhejiang University Press.

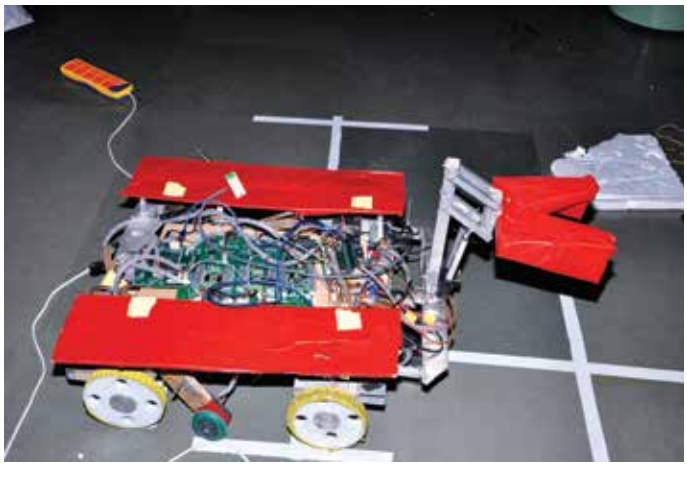
- Chahar, B. R. (2012). Canals: Seepage Analysis and Optimal Design. ISBN: 978-3-8484-2952-3, Lambert Academic Publishing GmbH & Co., Saarbrücken, Germany.
- Sahoo, D. R., (2012), "Seismic Strengthening of Reinforced Concrete Framed Structures-Using Steel Caging and Aluminum Shear Yielding Dampers", Lambert Academic Publishing GmbH & Co. KG, Germany.
- Sahoo, D. R., (2012),"Battened Double-Channel Beam-Columns under Cyclic Load", Lambert Academic Publishing GmbH & Co. KG, Germany.
- Dr. Santanu Ghosh, Growth and Modification of Nanostructured Thin Films: Fundamental and Application Aspects, (Book Chapter), Ch. 11 in Vol 1, Nanotechnology Fundamentals and Applications, Stadium Press, LLC, USA.
- Book Chapter for Atmospheric Aerosols: Regional characteristics - Chemistry and Physics Intech Publishers.
- A.K. Srivastava, Sagnik Dey and S. Tripathy, Aerosol characteristics over the Indian Gangetic Basin : Implication to Regional Climate.
- Hasnain SE, Rashmi, Jha B Sharan. "Biotechnology for Sustainable Development McGraw" Hill Publishers, 2011
- B. Jayaram, Priyanka Dhingra, Goutam Mukherjee, Vivekanandan Perumal, "Genomes to Hits: The Emerging Assembly Line In Silico", Proceedings of The Ranbaxy Science Foundation 17th Annual Symposium on "New Frontiers In Drug Design, Discovery And Development" 2012, Chapter 3, pages 13-35.
- Ram Karan, Sumit Kumar, Rajeshwari Sinha and S.K. Khare, Halophilic microorganisms as source of novel enzymes In: Microorganisms in Sustainable Agriculture and Biotechnology.
- Rajeshwari Sinha and S.K. Khare, Thermostable proteases In: Thermophiles in Environmental and Industrial Biotechnology.
- V.K Vijay, Biogas Production, Upgradation and Slurry Management", pages-126 (Edited Volume) ISBN 978-81-8487-136-4, 2011, Publisher: Narosa Publishing House, New Delhi.
- Dr V M Chariar & S Ramesh Sakthivel, Ecological Sanitation : Practitioner's Handbook, 2011, UNICEF-MoRD.
- V.P. Sharma and Manavanendra Tripathi, "Malaria Anusandhan se rog samadhan".
- M Y Khan & P. K. Jain, Basic Financial Management (3rd Edition) by (TMH).
- Alok Dixit, Surendra S. Yadav and P. K. Jain Derivative Markets in Indian (TMH).
- Sushil, flowing stream strategy: Leveraging Strategic Change with Continuity, Springer, 2013.
- Abhijit Majumdar, Apurba Das, R. Alagirusamy and V. K. Kothari, Process control in textile manufacturing, published by Woodhead Publisher U.K., ISBN 0 85709 0275.

MAJOR RESEARCH INITIATIVES/RESEARCH PROJECTS UNDERTAKEN

- Obama-Singh Knowledge Initiative IIT Delhi Project "Resource building for ecosystem and human health risk assessment with special references to microbial contamination" (PI: Dr. Arun Kumar; Co-PI: Prof. Mukesh Khare, Prof. A. K. Mittal, Prof. A. K. Nema; Prof. J. Gomes, IIT Delhi); IIPH Hyderabad, NEERI Bombay and Nagpur; USA: Dr. Patrick Gurian (Co-PI; Drexel University, USA) and Prof. Charles N. Haas (Co-PI; Drexel University)) (Funding Agency: UGC, India; Duration: 2012-2015; Total amount: Rs. 105. 40 Lakhs).
- DST-funded project "Development of Nanoparticles-related Water Quality ("NP-WQ") Framework for Protecting Source Drinking Water" (PI: Dr. Arun Kumar; CO-PI: Prof. Ashok K. Ganguli and Prof. A. K. Mittal, IIT Delhi) (Funding Agency: Department of Science and Technology, India; Duration: 2012-2013; Total amount: Rs. 10. 00 Lakhs).
- A new, Multi-Hazard Protective Structures (MHPS) Laboratory was inaugurated by the Deputy Director Prof. S. N. Singh on 1st January 2013.
- A multi country collaborative research work under Research collaborative scheme (RCS) of International Atomic Energy Agency (IAEA) has been initiated. IIT Delhi has been recognized as one of the partner institute of RCS, IAEA.
- Ultra Fast Optics.
- Extensive research related to design of all-fiber based mid-IR wavelength (3-6.5 micrometer) sources has been carried out through wavelength translation route that rely on four wave mixing process in a nonlinear fiber under a research project sponsored by Office of Naval Research Global (USA).
- DST Project (RP02509) under FAST TRACK scheme "Understanding evolution of aerosol properties over India in a 3D observational framework using multi sense remote sensing data".
- MoES Project (RP02479) under CTC7 Programme.
- "Understanding microphysical evolution of clouds in the Indian CTC7: Variability & impact of aerosols".
- DST Project (RP02516) on the "Collaboration study on the potential linkage on the monsoon variability of Korea and India by the impacts of Eurasian snow, Pacific and Indian Ocean".
- Several extramural research grants.

New Initiatives

- A CRDT-DBEB collaborative project on "Integrated process development for biogas production from wastewater grown algal biomass (a second generation biofuel feedstock) and, testing of algae mediated biogas conditioning" funded by Ministry of New and Renewable Energy with Dr. Anushree Malik as the PI (Rs. 60 Lakhs).
- A multi-institutional project on "Bioremediation of agrochemicals and heavy metals present in Yamuna and drainage water used for irrigation in urban and peri-urban agricultural areas" funded by Indian Council of Agricultural Research involving DU, IARI and Dr. Anushree Malik as PI at IIT Delhi (Rs. 85 Lakhs) .
- A multi-institutional project on "Evidence based Assessment of Biophysical Determinants of Malaria in the Northeastern States of India & Development of Framework for Adaptation Measures for Malaria Control Under Climate Change Scenario" funded by Indian Council of Medical Research coordinated by National Institute of Malaria Research and Dr. Anushree Malik as PI at IIT Delhi.
- A national network project on "Rural Housing Knowledge Network" funded by the Ministry of Rural Development, Govt of India has been launched in May 2011 at CRDT, IIT Delhi with Dr V M Chariar as the PI. This research project is initially sanctioned for a three year period and will network government, academia, NGOs and practitioners associated with rural housing countrywide.
- Biogas enrichment and bottling mobile unit.
- Biogas production from alternate feed materials.
- Biogas slurry management.
- Biopesticidal potential of Non Edible Oil Cakes against Termites, Nematodes and Wilt diseases and development of green pesticidal formulations.
- Development of Biogas Engine Conversion Kit:
- Evaluation and Standardization of Animal Driven Water Pump:
- Field Evaluation of Community size Biomass Cookstoves in eight different States of the Country.
- Food waste to Biogas.
- R&D project on "Optimization of Perennial Grasses for Biomass Production" funded by European Commission (FP-7).
- Technology Standardization and Development of Testing-cum-Training Facility for Ultra-micro Hydel Power Package for Rural Applications :
- Testing and Evaluation of Domestic size Biomass Cookstoves in the laboratory.
- A new IMPECS (Indo-German Max Planck Center for Computer Science) group at IIT-Delhi on "Effective Querying of Large Knowledge-Bases" has started in collaboration with IIIT-Delhi, IIT-Bombay and the Max-Planck Institute for Informatics in Germany. Maya Ramanath will lead the group at IIT-Delhi.
- The Ford Foundation has funded a rural Internet measurements project with the Appropriate Computing Technologies for Development (ACT4D), to verify the quality of service being provided by 2G/3G telecom providers.
- DeitY has funded the project "SPARC: Spectrum Aware Rural Connectivity" to develop cognitive radio technology to provide rural broadband using TV white spaces. Total funds allocated are Rs. 1.42 crore.
- Technology demonstration initiative entitled 'Development of advanced personal protective system using shear thickening fluid'. The project is being funded by DRDO. Polymer, textile, mechanical, chemical departs of IITD, NCL Pune and TBRL Chandigarh are involved in this project. Coordinators – Dr. Abhijit Majumdar, Dr. B. S. Butola.
- Development of single polymer composite materials as light weight modular systems for temporary structures, Project funded by GAIL, Coordinators – Dr. Samrat Mukhopadhyay, Prof. B. L. Deopura.

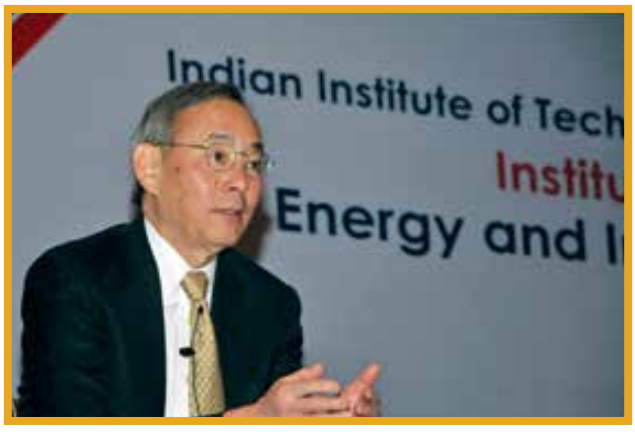


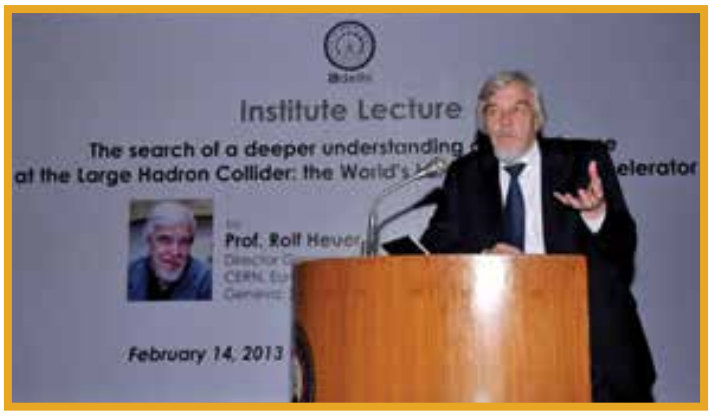
The Year in Perspective

(April 1, 2012 - March 31, 2013)

Glimpses of various activities during 2012-13

Glimpses of various activities during 2012-13



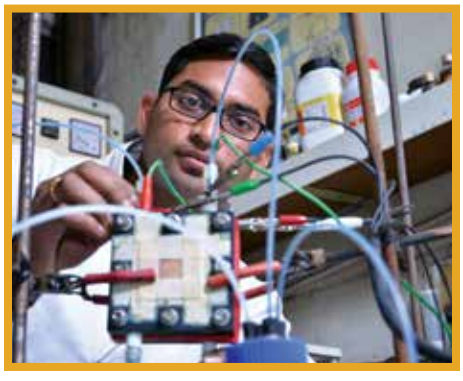


Glimpses of various activities during 2012-13

Glimpses of various activities during 2012-13

Research at the core!

Lab activities at IIT Delhi



6. Research & Development

(April 1, 2012 - March 31, 2013)

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, Photo-thermal 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, 2012 - March 31, 2013)

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 1653 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 2012-2013, 558 candidates were admitted out of which 313 were full-time Institute scholars with the remaining 245 belonging to other categories like sponsored, part-time etc. A total of 199 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
2013	1589	1611	12
2012	1350	611	08
2011	1339	2098	12
2010	1153	4460	24
2009	1201	6097	29

Source: Scopus as on 21st March 2013

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 specialised 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 supporting infrastructure through these projects.

During April 1, 2012 to March 31, 2013, 142 new sponsored research projects with a funding of about Rs. 88.63 crores were undertaken. In addition, 348 consultancy jobs worth Rs. 18.29 crores and 45 miscellaneous projects worth Rs. 6.11 crores were also undertaken.

Under the scheme called Summer Undergraduate Research Award (SURA), the students are required to submit the project proposals in association with identified Faculty of the Department/Centre to act as an Administrative Facilitator and a Guide. During the year 2013, 36 SURA projects have been selected to be undertaken by the undergraduate students during the summer vacations of 2013.

IRD Unit plays an important role by providing a one-time grant of upto 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.

Assistantships/Fellowships are provided by IRD to the Ph.D. students during 5th year. It has now been decided to extend such support in the form of Gap period assistantship for both M.Tech./MS(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 them assistantship. M.Tech/MS(R) students 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.

All Research scholars can be awarded a travel grant under "Research Scholar Travel Award" (RSTA) upto a maximum of 80,000/- from Research Promotion Fund, subject to the following:

- The assured grant would be available to research scholars to attend and present a paper in an international conference of repute once during their stay at IIT Delhi; based on the proof that they have already applied to at least two other funding agencies for supporting their travel.
- The assured grant implies that in case they do not get grant from other agencies, they would still be able to claim reimbursement for travel and other conference related expenses subject to a maximum of Rs. 80,000/- per awardee.
- The Institute would support 100 such conference travels in one financial year through this scheme.
- This would also imply support to 100 students under the RSTA scheme.

Research Projects & Consultancy

(April 1, 2012 - March 31, 2013)

IRD Unit offers "IRD Fellow" positions to those superannuated Professors/CSO/CDE(SG) of the Institute who have been actively engaged in research, development & teaching programmes of the Institute in the preceding years, to enable them to pursue active R&D in their field of specialization and participate in R&D programmes and development of new programmes at the Institute within their field of competence. The modalities and other terms and conditions of appointment of "IRD Fellow" are similar to those applicable to the Institute Emeritus Fellows.

HIGHLIGHTS (2012-13)

Some important highlights about research are:

- 142 Sponsored Research Projects with a total funding of Rs. 88.63 crores and 45 Miscellaneous Projects worth Rs. 6.11 crores were undertaken.
- 348 Consultancy Assignments worth Rs. 18.29 crores were undertaken by IRD Unit. Besides, 61 Technology Development Projects/Contract Research Projects worth Rs. 8.98 crores and 48 HRD Programmes with a value of Rs. 1.99 crores were undertaken/organized by FITT.
- 29 International Sponsored Research Projects and Consultancy Jobs were undertaken.
- 36 UG Projects have been selected under the Summer Undergraduate Research Award (SURA) scheme for the year 2013.
- 22 faculty members who joined the Institute during the year received a research grant of upto Rs. 1 lakh each under the Research Grant for New Faculty (RGNF) scheme of IRD.
- Scholarship is provided by IRD, in exceptional cases, to the Ph.D. scholars after completion of 4 years and until the end of 5th year. IRD spent Rs. 68.68 lakh (approx.) on these scholarships during the year 2012-13.

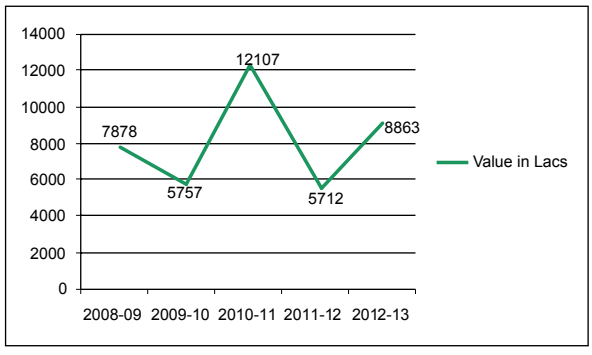
The trend in research funding and their number for last five years is shown in Table I & Fig. I.

Table I: Statistics of Sponsored Research Project

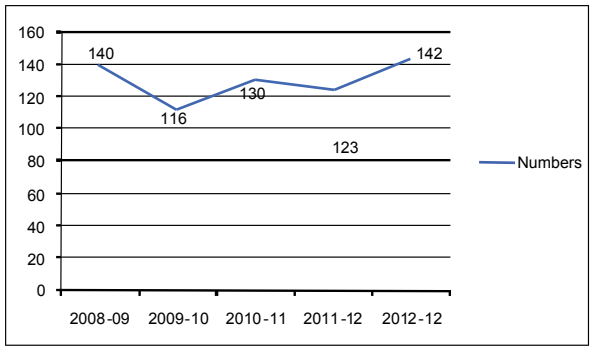
Financial Year	Sponsored Research Projects	
Year	Numbers	Value in Rs. Lacs
2008-09	140	7878
2009-10	116	5757
2010-11	130	12107
2011-12	123	5712
2012-13	142	8863

Fig. I: Trends in Sponsored Research Projects

(a) in Value

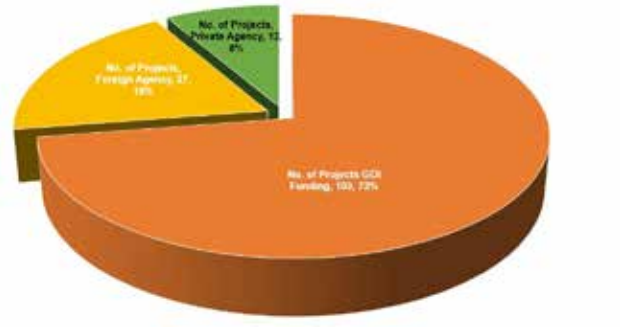


(b) in Numbers



Funding agency wise break-up of Sponsored Research Projects is given in Table II. A pie chart showing distribution of research projects is given below:

Fig. II: Funding Agency-wise Break-up of Sponsored Research Projects undertaken during 2012-13



Below is the list of members of Industrial Research and Development Board.

INDUSTRIAL RESEARCH AND DEVELOPMENT BOARD (2012-13) - As on 31.3.2013

Suneet Tuli, Chairman	Bhim Singh	N. Karmakar Gohil (Ms.)	Avinash Gupta
S.N. Singh	Purnima Singh (Ms.)	T.S. Bhatti	G.S. Kapur
S.K. Koul	Mahim Sagar	B.K. Satpathy	D.N. Singh
S.V. Veeravalli	Aparna Mehra (Ms.)	A.K. Agarwala	Ajay Pradhan
Saroj Mishra (Ms.)	Anjan Ray	Jayashree Bijwe (Ms.)	Mukesh Mohania
Ratan Mohan	Neeraj Khare	Satyawati Sharma (Ms.)	J.S. Saini
A.J. Elias	B.K. Behera	Pragya Jain (Ms.)	Anil Wali
A.K. Jain	Ananjan Basu	Salil Singhal	V.K. Vashistha, Secretary
Prem Kalra	P. Goyal (Ms.)	Anand Srivastava	

Table II : Funding agency-wise Break Up of Sponsored Research Projects Undertaken During 2012-13

Funding Agency	No. of Projects	Amount (`Lacs)
Aeronautics Research & Development Board	1	45.56
All India Council for Technical Education	1	30.00
Arial Delivery Research & Development Establishment	1	10.00
Toyo University, Japan	1	120.60
Board of Research in Nuclear Sciences (DAE)	5	117.14
British Council Division	1	2.66
Calypto Design System (I) Pvt. ltd.	1	5.00
Central Council for Research in Ayurveda & Siddha	1	33.60
Centre for Marine Living Resources and Ecology	1	85.75
Council of Scientific & Industrial Research	9	59.37
Cypress Semiconductors India Private Limited	1	2.06
Defence Materials & Stores R & D Establishment	2	19.39
Department of Biotechnology	6	503.67
Department of Information Technology	2	110.40
Department of Science & Technology (DST)	40	1706.05
Ecole Polytechnique Federale de Lausanne, Switzerland	1	39.52
Energy Centre, ONGC	2	28.34
GAIL (India) Limited	2	198.52
Global Alliance for Clean Cookstoves, USA	1	38.01
Human Settlement Management Institute	2	40.81
Indian Council of Medical Research	2	31.04
Indian Council of Social Science Research	1	5.61
Indian Institute of Management, Ahmedabad	1	6.00
Instruments Research & Development Establishment	2	107.30
Intel Corp.	1	10.00
International Atomic Energy Agency, Vienna	1	2.80
International Division, Department of Science & Technology	12	374.50
Jindal Saw Ltd.	1	6.00
Liquid Propulsion Systems Centre, ISRO	1	24.46
Institute of Nuclear Medicine and Allied Sciences	1	15.37

Ministry of Defence	1	9.90
Ministry of Communications & Information Technology	2	206.33
Ministry of Environment & Forests	1	21.53
Ministry of Human Resource Development	1	4000.00
Ministry of New and Renewable Energy	1	81.79
NetApp India Pvt Ltd	2	25.50
NFBSRA, Indian Council of Agricultural Research	1	84.57
National Board for Higher Mathematics	1	1.87
National Technical Research Organization (NTRO)	1	122.41
Naval Physical & Oceanographic Laboratory	1	9.60
Planning Commission	1	24.89
Rajiv Gandhi National Drinking Water Mission	1	32.08
SCERT Haryana	1	59.88
Science and Engineering Research Board	6	85.92
Shastri Indo-Canadian Institute, University of Regina, Canada	1	1.48
Simulator Development Division, Indian Army	1	35.00
Space Application Centre (Dept. of Space)	1	22.48
Telecommunications Consultants India Ltd.	1	15.00
The Centre for Internet & Society	1	10.20
U.P. Sugar Mills Association	1	1.39
UK-India Education & Research Initiative (UKIERI)	7	99.28
United Nations Children's Fund (UNICEF)	1	2.75
University Grants Commission	1	105.40
University of Connecticut	1	1.11
Total	142	8862.52

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

Table III: Financial Outlay of Some of the Major Projects during 2012-13

Name of the Project	Sponsoring Agency	Financial Outlay in Rs. Lacs
Creation of Common Computing Infrastructure	Ministry of Human Resource Development	4000.00
To Strengthen the Research Facilities in the Area of Ultra Fast Optics in the Department of Physics, IIT Delhi	Department of Science & Technology (DST)	650.00
Programme Support for Microbial Production of Designer Bio-Polymers from Renewable Resources (Main Project)	Department of Biotechnology	274.52
Development of an Indian Human Body Finite Element Human Body Model for use in Impact, Textile and Medical Applications	Ministry of Communications & Information Technology	149.98
Advanced Information System Security Laboratory (Phase - II)	National Technical Research Organization (NTRO)	122.41
Design & Development of CNC Magnetorheological Finishing (MRF) System	Department of Science & Technology (DST)	122.39
Collaborative Research and Education under IIT Delhi- BNERC, Toyo University Joint Bio-Nano Mission Program	Bio-Nano Electronics Research Centre, Toyo University, Japan	120.60
Safeguarding Water Resources in India with Green and Sustainable Technologies (SWINGS)	DST (AIMEN Technological Centre, Spain)	115.24

Foundations for Trusted and Scalable 'Last Mile' Healthcare	Department of Information Technology	110.40
Resource Building for Ecosystem and Human Health Risk Assessment with Special Reference to Microbial Contamination in the Community Development Theme under Indo-US21st Century Knowledge Initiative pro	University Grants Commission	105.40
Development of Single Polymer Composite Materials as Light-Weight Modular Systems for Temporary Structures	GAIL (India) Limited	100.00
Design and Fabrication of Photovoltaic/Fuel Cell (PV/FC) Hybrid System	GAIL (India) Limited	98.52
2D Photonic Crystals Template Fabrication by UV Interference Lithography	Instruments Research & Development Establishment	98.00
Mind the Gap - Jumping the Hurdles Limiting Polymer Fuel Cell Performance and Commercialisation	DST-RCUK (Indo-UK Collaborative Research Initiative in Fuel Cells)	92.90
Designer Biodegradable Copolymers from Renewable Resources : Evaluation of Properties and Applications	Department of Biotechnology	88.02
Sonic Characterization of Marine Species	Centre for Marine Living Resources and Ecology	85.75
Bioremediation of Agrochemicals and Heavy Metals Present in Drainage Water Used for Irrigation in Urban and Peri-Urban Agricultural Areas	NFBSRA, Indian Council of Agricultural Research	84.57
Analysis, Design and Control of Power Electronic Converters for Grid Interfaced Solar Power Generation	Department of Science & Technology (DST)	83.18
Development and Demonstration of Hydrogen Fuelled Multi-Cylinder Spark Ignition Engine-Generator Set for Stationary Power Generation	Ministry of New and Renewable Energy	81.79

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 IV.

Table IV: Consultancy Jobs Undertaken During Last Five Years (2008-09 to 2012-13)

Financial Year	Consultancy Jobs (IRD)		Technology Development Projects/ Contract Research (FITT)		HRD Programmes (FITT)		TOTAL
	No.	Value in Rs. Lacs	No.	Value in Rs. Lacs	No.	Value in Rs. Lacs	Value in Rs. Lacs
2008-09	699	1934	65	799	38	152	2885
2009-10	557	1875	82	991	36	153	3019
2010-11	519	2250	71	872	46	145	3267
2011-12	420	2110	83	936	50	112	3158
2012-13	348	1829	61	898	48	199	2926

COLLABORATIVE RESEARCH

The Institute is actively involved in collaborative programmes with national and international organization/ 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, Brazil, Canada, Denmark, Ethiopia, European Commission, France, Germany, Holland, Hungary, Ireland, Israel, Italy, Japan, Korea, Kuwait, Portugal, Russia, Slovenia, Sweden, Switzerland, 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 29 Collaborative Projects/Consultancies, with International funding. Ongoing International Sponsored Projects and Consultancies from the following countries during the year are:

Country	Nos.	Country	Nos.
Austria	1	Germany	5
Australia	2	Holland	1
Brazil	3	Hungary	1
Canada	3	Ireland	3
Denmark	1	Israel	1
Ethiopia	1	Italy	4
European Commission	1	Japan	4
France	4	Korea	3
Kuwait	1	Sweden	2
Portugal	1	Switzerland	3
Russia	2	UK	32
Slovenia	2	USA	14
Spain	1	**Total**	**96**

Some of the major International Sponsored Research Projects undertaken during the year 2012-13 are:

1. "Mind the Gap" - jumping the hurdles limiting Polymer Fuel Cell Performance and Commercialisation – DST-RCUK (Indo-UK Collaborative Research Initiative in Fuel Cells)
2. Design of Ventilated Helmets – British Council (UKIERI – Imperial College, UK)
3. Low-cost Organic-Inorganic Hybrid Electroluminescent Devices - British Council (UKIERI – University of Cambridge, UK)
4. Physical Simulation of Ambient Dispersion of Respirable Suspended Particulate Matter namely PM_{10} and $PM_{2.5}$ in Urban Environment - British Council (UKIERI – University of Surrey, UK)
5. Interactive Systems and Coatings for a Sustainable Built Environment - British Council (UKIERI – University of Bath, UK)
6. Models and Algorithms for Computing in Presence of Uncertainties – DST (Indo-German Joint Research Project - Max Planck Institut Informatik and University of Göttingen)
7. Green Sensor Networks for Air Quality Support – Ministry of Communications & Information Technology (DIT-NSF Indo-US PC3 Programme - Northeastern University and University of Rochester)
8. On-Line H Detection and In-situ Structural Investigation of Silicon Nitride Based Solar Cell with Pelletron Accelerator - International Atomic Energy Agency, Austria
9. Split Site Ph.D. and Student Exchange Research Programme on Nano Self-Assembled Photonic Systems - British Council (UKIERI – University of Cambridge, UK)
10. Preparation of Textile Filters for Selective Filtration of Waste Waters – DST (Indo-Slovenian Bilateral Scientific Cooperation – University of Maribor, Slovenia)
11. Development of Body Armour Materials using Silica Nanoparticles – DST (Politecnico di Torino, Italy)
12. Photovoltaic/Thermal Solar Collectors with Inherent Thermal Management of Photovoltaic Output and Thermal Storage – DST (Dublin Institute of Technology, Ireland)
13. Natural Anisotropic Materials: From Micro-level Composition to Macro-level Response - British Council (UKIERI – University of Edinburgh, UK)
14. Development, Characterization and Modeling of Flexible Fibre Based Nanogenerators – TET – DST (Bay Zoltan Foundation for Applied Research, Institute for Materials Science & Technology, Hungary)
15. G1WP1 - eAgriculture - Crop Disease Mitigation and Management System - DST-RCUK (Indo-UK Advanced Technology Centre)

16. G1WP4 - Internet of Things - eHealth - DST-RCUK (Indo-UK Advanced Technology Centre)
17. India-UK Advanced Technology Centre (Phase-2) of Excellence in Next Generation Networks Systems and Service - DST-RCUK (Indo-UK Advanced Technology Centre)
18. Transit, Tracking, Pipeline, Safety and Human Communication – Shastri Indo-Canadian Institute (University of Regina, Canada)
19. Safeguarding Water Resources in India with Green and Sustainable Technologies (SWINGS) – DST (AIMEN Technological Centre, Spain)
20. Collaborative Research and Education under IIT Delhi- BNERC, Toyo University Joint Bio-Nano Mission Program – Toyo University, Japan
21. Structural, Magnetic and Transport Properties of NiMnAl Alloys and Melt-Spun Ribbons – DST (National University of Science & Technology "MISiS", Russia)
22. Joint Research on Study of Retail Supply Chain: A Comparative Study of India & USA – University of Connecticut, USA
23. Next Generation Sustainable Freight - British Council (UKIERI – UK-US-India Trilateral Research in Partnership – University of Sheffield, UK)
24. Novel Approach for Processing Hazardous Electronics Waste – DST (University of New South Wales, Australia)
25. Enhancing Capacity of Regional Testing and Knowledge Centers – Global Alliance for Clean Cookstoves, USA
26. UK-India Faculty Curriculum and Network Development Project for Climate and Carbon Management – British Council (Knowledge Economy Partnerships programme - Queens University Belfast, UK)
27. Low Carbon Cement - École Polytechnique Fédérale de Lausanne, Switzerland

CONSULTANCY ASSIGNMENTS WITH INTERNATIONAL ORGANISATIONS

The Institute has been undertaking Consultancy Assignments with International Organisations like Bulk Testing International, France; Japan Automobile Research Institute, Japan; U.S. Air Force Research Laboratory (AFRL), Asian Office of Aerospace R&D, Japan; LG Electronics Inc, Korea; Panchkanya Plast (P) Ltd., Nepal; Common Fund for Commodities, Netherlands; Escom Research and Innovation Department, South Africa; Uppasala University, Sweden; Marvel Chemicals Ltd, UK; 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 and Universities/ Institutions abroad.

Foundation for Innovation and Technology Transfer (FITT)

(April 1, 2012 - March 31, 2013)

FITT is a technology transfer organization established by and at the Indian Institute of Technology Delhi (IIT Delhi) as a Registered Society on July 9, 1992. FITT is mandated to be an effective interface with the industry to foster, promote and sustain commercialization of science and technology. For twenty years now, FITT has been in a mission mode towards devising innovative ways to create partnerships and linkages with business and the community to enable knowledge transfer for common good. The team at FITT and the Institute academics have been largely responsible for our successful outreach and extensive S&T collaborations.

The roles of FITT include: working with business, fostering technology development, technical consultancy, collaborative R&D, technology commercialization, professional HR development programs, event participation, corporate membership etc. These roles are necessitated by the key agenda of the Foundation to showcase and transfer the Institute's "intellectual ware" to industry and also inject industrial relevance in teaching and research at IIT Delhi.

- Since early days, FITT has secured the status as a Scientific and Industrial Research Organization (SIRO) from the Government by virtue of its charter to implement, inter-alia, industrial R&D projects. During FY 2012-13, 63 technology development / transfer projects worth Rs.898.29 lakh have been contracted at FITT.
- FITT manages the Institute's IP and IPRs. During the aforementioned FY, 64 invention disclosures were processed, out of which 22 cases were approved for filing patents and 3 licensing deals were closed. To augment its outreach and technology commercialization efforts, FITT has entered into MoUs / Agreements 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 also instrumented the visits of several overseas companies / delegations which helped in fruitful exchanges between the visiting delegates and the academic community of the Institute.
- FITT addresses capacity building needs in the industry. During this period, 49 Professional Development Programs were organized, primarily for industry participants for a gross value of Rs. 204.30 lakh.
- The "Professional Candidate Registration" has been adopted towards outreaching the academic courses at the Institute amongst the targeted segments of industry, research and academic establishments. Through this program, suitably qualified professionals can undertake relevant semester-long course modules here at IIT Delhi and thus enhance their knowledge and skill set. 85 candidates participated in this program during the two semesters of the academic year 2012-13.
- As an avenue towards techno-entrepreneurship, FITT has enabled the establishment and operation of a thriving Technology Business Incubation Unit (TBIU) on the campus. It is a flagship institute program. The objective of the TBIU is primarily to promote partnership with new technology entrepreneurs and start-up companies, and also serve as a medium of technology transfer. 12 companies are presently resident at the TBIU. Out of 37 companies admitted so far in the incubator since its inception in the year 2000, 14 companies have started their commercial operation after completing their incubation at the Institute and are reported to be growing at a steady pace. The TBIU companies are working in the technology domains of IT, Biotechnology, Engineering design, Cleantech etc. Of late, FITT is collaborating with Wallonia Trade and investment Agency (AWEX) of Belgium towards internationalization of innovation led technology start-ups in the country.

FITT has also been recognized as a TePP (Technopreneur Promotion Programme) Outreach Centre by DSIR (Government) towards fostering technology entrepreneurship amongst individual innovators and start-ups. The Ministry of Micro, Small and Medium Enterprises (MSME), Government of India has also extended grants to FITT for promoting innovation amongst micro and small enterprises leveraging the knowledge resources at IIT Delhi. Seed support in the broad area of ICT is also forthcoming under the Department of Information Technology (DIT) program – "Technology Incubation and Development of Entrepreneurs" (TIDE) scheme in operation at FITT. FITT is also a beneficiary of the grant assistance of Rs.1.00 cr. from the Technology Development Board (TDB) for the specific purpose of providing early stage financial support to start-up units incubated at TBIU. More recently, FITT has secured the coveted status of a BIG Partner of BIRAC (DBT) towards implementing their Biotechnology Ignition Grant (BIG) scheme in the country.

FITT has on its roll over 100 corporate members representing small/medium/large scale industrial and R&D units. These members receive preferential treatment in matters of collaboration with the Institute in addition to information and technical services

that FITT provides through the Institute's resources. FITT's gamut of services and activities include:

- Transfer of technology relating to proven R&D outputs
- Research partnership with industry for technology development and its commercial applications
- Innovative problem solving consultancy with industry clients
- Information support service to industry and R&D organizations
- Access to any array of specialized equipment and central facilities
- HRD programmes
- Corporate membership of FITT
- Facilitate funding for the development of innovative ideas of commercial implications

Team Zumble from IIT Delhi during Samsung Innovation Award-2012

Examples of R&D Collaborators:

BHEL, Bangalore
Corning Inc., USA
PALL Corporation, France
GAIL (India) Ltd., New Delhi
ABB Global Industries & Services Ltd., Bangalore
Applied Membrane Technology Inc., USA
Nagarjuna Fertilizers and Chemicals Ltd., Hyderabad
Dr Reddy's Laboratories Ltd., Ranga Reddy

Industry Academia Interaction Session organized by FITT-2013

Partners: Innovation / Entrepreneurship

Samsung Electronics
Department of Information Technology (DIT), Govt. of India
Department of Scientific and Industrial Research (DSIR), Govt.of India
Technology Development Board (TDB)
Ministry of Micro, Small and Medium Enterprises (MSME), Govt. of India
Indian Angle Network (IAN)
ICICI - Trinity program

Star-up Success 2012-2013

Innovative Mechatronix Systems Private Limited (IMSPL)

- A venture promoted by Dr. Sunil Jha, Assistant Professor, Department of Mechanical Engineering, IIT Delhi to develop products in embedded electronics based automation solutions, new manufacturing processes and machines for micromachining, industrial process monitoring and controls, instrumentation and Machine to Machine (M2M) communications. IMPSL has successfully developed i3 CNC MRF Machine as their first product during incubation and is ready for demonstration/sales.

Faros Technologies Private Limited (FTPL)

- The start-up company promoted by Mr. Ravi Kapoor, IIT Delhi Alumnus and Professor S. Mukherjee, from the Department of Mechanical Engineering, aims at pooling research and resources in developing simulator sub components. Faros Technologies has developed and successfully commercialized driver training simulators for various Indian automobiles, including Maruti, Tata Motors and Ashok Leyland vehicles. Recently, it has developed a simulator for a two wheeler on Hero motorcycle and this is ready for commercialization.

Workshop on Developments in Renewable Energy Sources-2013

7. Events

(April 1, 2012 - March 31, 2013)

Convocation

(April 1, 2012 - March 31, 2013)

Distinguished Alumni Award

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 honour conferred by the Institute on its alumni to recognize their achievements and outstanding contributions to academics, business, profession and / or public service. For the year under report, this prestigious Award has been conferred upon the following at the 43rd Convocation.

Prof. Trilochan Sastry

Prof. Trilochan Sastry

Distinguished Alumni Award

(B.Tech., Elect. Engg., 1981) Professor, Quantitative Methods & Information Systems at IIM Bangalore.

Prof. R.C. Budhani

Prof. R.C. Budhani

Distinguished Alumni Award

(Ph.D., Condensed Matter Physics, 1982) Director of National Physical Laboratory, New Delhi.

Dr. Punita Kumar-Sinha

Dr. Punita Kumar-Sinha

Distinguished Alumni Award

(B.Tech., Chemical Engg., 1985) Founder and Managing Partner, Pacific Paradigm Advisors.

Prof. Pawan Sinha

Prof. Pawan Sinha

Distinguished Alumni Award

(B.Tech., Comp. Sc. & Engg., 1988) Computational and Visual Neuroscience in the Department of Brain and Cognitive Sciences at MIT.

Medals and Awards winners at the 43rd Convocation

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

President's Gold Medal

Ankur Gupta

Director's Gold Medal

Shruti

Vivek Kumar Dwivedi

Rohit Goyal

Puneet Yadav

Aashish Mittal

M Uma Parthavi

Arsh Sood

Anurag Garg

Shretima Tandon

Aditya Joshi

Paarth Gupta

Gaurav Rakheja

Jalaj Bhandari

Nishant Dogra

Saranshu Singla

Dr. Amrik Singh Medal & Prize
Kamble Ankush Anandrao
Lt. Arpan Banerjee Award
Abhishek Kumar Tewari
Dogra Medal
S. Mridul Naidu
Dogra Educational Endowment Medal
Kanchan Bala
Prof. O.P. Gupta Medal
Sombuddha Hazra Chaudhury
Prof. Pushpa Bajaj Gold Medal
Radhika Vaid
Parampujya Baba Sant Nagpalji Gold Medal
Ankur Vijay
Prof. M.M. Chawla Gold Medal
Mohan Rao Mynam
Prof. M.C. Puri Gold Medal
Sweety Thomas
Dr. Neeraj Srivastava Prize
Mehar Bhatnagar
Mrs. Santokh Gill Award
Sweety Thomas
Prof. A.K. Sinha Cash Prize
Papiya Dattaray
NBCC Prize of Excellence
Amit Agarwal
Jagat Ram Chopra Award
Madhurima Nath, Adhip Agarwala and Mona (Jointly)
Padmashri Manmohan Suri Memorial Award for the Best Hardware Project in Mech. Engg.
Gaurav Singh
Chand Rani-Banarasi Dass Duggal Memorial Award
Amit Suresh Chimanpure
K. S. Prakasa Rao Memorial Award
Papiya Dattaray
IEEE-PEDES 96' Award
Soumik Kumar Mandal
FITT Award for Best Industry Relevant Project
Krishnendu Chatterjee and M.V.R.K. Sharma (Jointly)
Ramesh Krishnan R
Shrimati and Shri H.R. Mittal Cash Award
Vijay Kumar Bilare
Excellence Award for Best Project in HVAC&R
Amit Kakkar
Rajiv Bambawale Cash Prize
K. Vishwanath Rao & P. Narasimha Sripad (Jointly)
Harsha Vardhan Dwarkadas Motiwala Memorial Prize
Saranshu Singla
Buti Foundation Bodh Raj Gold Medal (for best women student)
Mona
K. Vasudevan Award
Saranshu Singla
Alok Saxena Memorial Award
Mohit Khatri
Suresh Chandra Memorial Trust Award for best software project
Aseem Garg & Ujjaval Kumar Singh (Jointly)
Anurag Goyal & Shashank Chaudhry (Jointly)
Padmashri Manmohan Suri Project Award
Jatin Bansal, Narendra Kumar Chinia & Pankaj Rao (Jointly)
ICIM Stay Ahead Award
Jatin Batra & Nishita Agarwal (Jointly)
Jayant Sinha Award
Satvik Dudeja
Punita Kumar - Sinha Award
Shruti
Dogra Medal
Nikita Rathi
Bimla Jain Medal
Sumedha Roy & Abhilasha Sinha (Jointly)
Rahul Giri Memorial Medal
Karan Kohli
Dr. Kewal Krishan Baveja Gold Medal
Mohit Khatri
Laxmi Bai-Lal Chand Khurana Memorial Award
Arsh Sood
Mudit Sharma Memorial Gold Medal
Nishant Dogra
Prof. M.M. Chawla Gold Medal
Arsh Sood
BOSS Award
Mehta Ravikumar Ramesh
Anurag Garg
Karan Kohli
Abhishek Minz & Jatin Dev (Jointly)
Keshav Rathi & Nipun Agarwal (Jointly)
Paras Ajay, Puneet Singhal & Achin Jain (Jointly)
Pooja Sharma & Nitin K Lohar (Jointly)
Inayat Goyal & Nistha Jain (Jointly)
Mr. & Mrs. Prem Sheel Bhatnagar Award
Saakshi Mahajan
Suman - Upma Gupta Memorial Gold Medal
Shretima Tandon
Nayyar Perwez Shahabuddin Medal
Shashank Chaudhry
Abhinav Dhupar Memorial Award
Nikita Rathi
Mrs. Chander Kanta Nanda Excellence Award
Mohit Khatri & Pallavi Khare (Jointly)
S.L. Duggal Excellence Cash Award
Azeez Gupta
Amit Garg Memorial Research Award
Piyush Anant
Shri Jaidutt Shrimati Saraswati Sodha Research Award
Animesh Kuley
Ujjal Jeewan Charitable Trust Award
Sumedha Roy
Rajiv Bambawale Cash Award
Ankur Gupta
Alumni Association IIT Delhi Prize
Annie Lalnunfeli Sailo
Rajindra Kumari Malhotra Memorial Prize
Animesh Agarwal
Class of 89 Innovation Award
Anshul Singhal & Pranay Jain (Jointly)

Conferences/ Workshops/ Seminar

(April 1, 2012 - March 31, 2013)

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

Departments/Cetres/Schools	Title of the Conference/Seminar/ Workshop
Biochemical Engineering and Biotechnology	A short term course on Bioinformatics was organized during October 22-23, 2012. This workshop was supported by the Department of Biotechnology (DBT), Govt. of India. Dr. D. Sundar was the Coordinator for this workshop.
	Biocatalysis-state of the Art and Challenges during February 8-9, 2013. This workshop was supported by the Department of Biotechnology (DBT), Govt. of India. Profs. Saroj Mishra, Subhash Chand, E. Ravikrishnan and Praveen Kaul were the Coordinators for this workshop.
Chemistry	New Directions in Chemical Sciences (NDCS-2012), December 7 – 9, 2012.
Civil Engineering	Training program on "Modern Formwork and Scaffolding", 4-6 October 2012, Dr. K. N. Jha.
	Workshop on Experimental Dynamics, Structural Health Monitoring and Non-Destructive Evaluation, 9th March 2013 conducted by Dr. Suresh Bhalla.
	2012 International SWAT (Soil and Water Assessment Tool) Conference and Workshops was held during July 16th - 20th, 2012 at India Habitat Centre, New Delhi, India organized by Prof. A. K. Gosain.
	Symposium: Identification of Issues for Sustainable Urban Built-Environment through Symposium of Indo-German Experts ("SustainUBE"), 29-31 October, 2012, Coordinators: Arun Kumar, Vasant Matsagar sponsored by (a) Federal Ministry of Education and Research (BMBF - Bundesministerium for Bildung und Forschung), Government of Germany; (b) Indian National Science Academy (INSA); and (c) Wipro Limited, India.
	The Indian Geotechnical Conference (IGC2012) on Advances in Geotechnical Engineering was held during 13th to 15th December, 2012 at IIT Delhi.
	Seminar on "Future Aspects of Power Generation in India" by the Chairman and Managing Director of the National Thermal Power Corporation (NTPC) Dr. Arup Roy Choudhury, CMD of National Thermal Power Corporation (NTPC), India.
	3rd IGS Ferroco Terzaghi Oration 2012 on "Design and Construction of Barrier System to Minimize Environmental Impacts Due to MSW Leachate and Gas" by Prof. Kerry Rowe, Queens University, Canada on 5th October 2012, at Seminar Hall, IIT Delhi.
	Prof. Dr.-Ing. Jürgen Stamm, Professur für Wasserbau at Technische Universitat (TU) Dresden in Germany delivered seminar on "Research Activities of the Institute of Hydraulic Engineering and Technical Hydromechanics at Technische Universitat Dresden in Germany" on Thursday, 29th November 2012.
	Energy Harvesting from Civil Infrastructure using Piezo Transducers by A. P. R. Vittal, Nanyang Technological University, Singapore on 20th December 2012.
	Lime Based Binders for Construction Industry by Prof. Richard Ball, Department of Architecture and Civil Engineering, University of Bath, UK on 8th January 2013.
	A seminar titled "Inspiring the Next Generation, Innovation in Design and Construction and Informing Society" was delivered by the President of the Institution of Civil Engineers (ICE), UK, Mr. Barry Clarke on Thursday, 17th January 2013.
	"Design of Cities in the 21st Century: from Mobility to Wellbeing" delivered by Prof. Nick Tyler, Head of Department for Civil, Environmental and Geomatic Engineering and Pro-Provost for South Asia region for University College of London on Tuesday, 26th February, 2013.
	Dr. Marian V.I. Muste on University of Iowa's Winterim Program 2013 under 'International Perspectives in Water Resources Science and Management' by IIHR-Hydroscience & Engineering (IIHR), College of Engineering at the University of Iowa (UI).
Computer Science and Engineering	National Conference on Communications (NCC) 2013, Feb. 15-17, 2013, I.I.T. Delhi. Dr. Vinay J. Ribeiro was publications chair for this conference.
	ACM DEV 2013, Jan 13-14, Bangalore. Aaditeshwar Seth, PC co-chair.
	Exhibition of Assistive Devices for the Visually Impaired developed in the department on 18th March, 2013.
Physics	Schlumberger – IIT-Delhi Meeting, September 2012
	Bio-Imaging and Signal Processing (Sponsored by General Electric) - 12/10/2012
Textile Technology	Young Researcher's Symposium on emerging trends in Polymers/Fibers/Textiles, 7-9th March 2013, Dr. Bhanu Nandan, Dr. Rajiv Srivastava .
	Seminar series on Selected topics in Textiles and Fibers by distinguished professors from Technical university of Liberec- Czech Republic and University of Minho- Portugal, 15-17th April 2013, Prof. B. K. Behera.
Applied Research in Electronics	IEEE MTTS Colloquium on Microwaves and Millimeter Waves Integrated Circuits, 5th October 2012.
Atmospheric Sciences	Future Directions for Weather and Climate Research in the Tropics, 3-5 December, 2012, Prof. S.K. Dash.
	Brain Storming meeting for Establishing Network Program on "Climate Modelling & Human Health in the context of Climate Change, 24-25 May, June 1, 2012, Prof. S.K. Dash and Dr. Sagnik Dey.
Biomedical Engineering	Seminar on Hindi (Hindi Week) Jointly organized by Hindi Cell & CBME, 28.09.2012.
	Invited Lecture in "Nano-Pico Pharmaceuticals & Invivgensome Seminar" held at Amity University, NOIDA on 27th December, 2012.
	Brain Storming Session on "Setting up of Diagnostic Domes/Bio-Booths", IIT Bombay on 28th February, 2013.
	Invited lecture in National Seminar on "Role of Neurosciences in Instrumentation" at Galgoatias College of Engineering & Technology, Greater NOIDA on 11th April, 2012.
	Lecture on "Biomedical Instrumentations", Pre-Seminar Workshop on Biosensors and Materials at Jamia Millia Islamia, New Delhi, 11th March, 2013.
Energy Studies	A Workshop was organised by Prof. D.K. Sharma on " Developments in Renewable Energy Sources (Biomass, Solar etc.)" from February 27-28, 2013 at CES IIT Delhi.
	A Workshop was organised by Prof. D.K. Sharma on " Developments in Biomass Derived Fuels – Bioenergy based Bioeconomy (including third generation biofuel-algal biofuels)" from Aug. 1 to 2, 2012 at CES IIT Delhi.
	A HRD Programme was organised by Prof. T.C. Kandpal on "Economics of Renewable Energy Based Power Generation" from May 29 to June 1, 2012.

Instrument Design & Development Centre	"Measurement of Temperature of an Axi-symmetric Flame of Butane Torch Burner using Digital Holographic Interferometry", oral presentation in Renewable Energy and the Environment © OSA 2012, Eindhoven, Netherlands, 11th– 15th November 2012, Shobhna Sharma, Gyanendra Sheoran, A.L.Vyas and Chandra Shakher.
	"Efficient PV Micro-inverter With Isolated Output", (IICPE), IEEE 5th India International Conference on Power Electronics, 6-8 Dec. 2012, Pandya,V, Agarwala A.K.
	"Diagonal PV Micro-inverter With Isolated Output", (IICPE), IEEE 5th India International Conference on Power Electronics, 6-8 Dec. 2012, Pandya,V, Agarwala A.K.
Rural Development and Technology	Capacity Building for Adoption of Biogas Technology, 29 March,2011 at IIT Delhi.
	Two days Workshop and Training Programme on Biomass Cookstoves, 16-17 April 2011 .
	Two days Workshop and Training Programme on Biomass Cookstoves, 24-25 January 2012 .
	National Convention on "Current and Emerging Trends in Indian Biogas & Biofertilizer Development (CETIBBD) 2012, 15-17 September, 2012.
	National Training on "Biogas Production, Purification and Bottling Technology, 7-9 September, 2011.
	National Training on "Biogas Production, Purification and Power Generation, 1-3 March, 2012.
	Trainers training programme on "Value addition of Mahua flowers, March, 2012.
	Training workshop on "Bamboo Treatment and Bamboo-Ferrocement Products, 23-27 April, 2012.
	Biodiversity workshop at JNV, Mothuka Vill., Faridabad, September, 2011.
	Management Development Programme for Rural Enterprises. A nine days Management Development Program for Rural Enterprises.
	Regional Workshop Rajasthan held on December 26-27, 2011 at College of Technology and Engineering, Maharana Pratap University of Agriculture & Technology, Udaipur.
	Regional Workshop Uttar Pradesh held on September 14-15, 2011 at State Institute of Rural Development, Lucknow.
	Southern Regional Workshop on Rural Housing was organized between 1-2 March 2012 at Thiruvananthapuram with IIT Delhi as the main organizer and HUDCO/HSMI and Laurie Baker Centre for Habitat Studies as partner organizations. Workshop Coordinator Dr V M Chariar.
	Workshop at waste management sanitation and rapid composting at Vill. Mubarikpur, Block Farrukhnagar, Haryana, December, 2011.
Kusum School of Biological Sciences	Bioworld 2012.

Web Designing Workshop

Interaction with Alumni

(April 1, 2012 - March 31, 2013)

Leadership Conclave 2012 was organized by the IIT Delhi Alumni Association on 15th April, 2012. The theme of this Conclave was Vision IIT 2020.

Annual General Body Meeting of IIT Delhi Alumni Association was held on 28th April, 2012. The AGM was followed by a musical performance.

A Table Tennis & Badminton Tournament was organized on 2nd September, 2012 at the Student Activity Centre.

REUNIONS

Silver Reunion of 1988 Batch was celebrated from 21-23, 2012. About 90 alumni participated along with their families.

Pearl Reunion of 1976 & 1977 Batches was celebrated on March 10, 2013. About 50 alumni participated along with their spouses.

DISTINGUISHED SPEAKERS

The Dean, AAIP office also organized talks by several distinguished international speakers including:

- Institute lecture on "S&T and Diplomacy in the 21st Century" by Dr. William E. Colglazier, science and Technology Adviser to the U.S. Secretary of State on 21 Jan, 2013.
- Institute lecture on "The search of a deeper understanding of our universe at the Large Hadron Collider: the World's Largest Particle Accelerator" by Professor Rolf-Dieter Heuer on 14 Feb, 2013.

Distinguished Visitors

(April 1, 2012 - March 31, 2013)

- Many delegations from the Industry, Academia and the Government form several countries visited the Institute to explore the possibilities of mutual interaction. Some of these are highlighted below:
- A 6 member delegation led by Dr. Shams Kassim Lakha, Former Minister of Education, Science & Technology, Indo-Pak Sub-Committee on Education and Skill Development, Pakistan, visited the Institute on 12 April 2012.
- A 7 member delegation led by Prof. Hu Haiyan, President, Beijing Institute of Tech., & Member of the China Academy of Science, Beijing Institute of Technology, Beijing, visited the Institute on 20 April 2012.
- A 5 member delegation led by Prof. John Hepburn, Vice President, Research and International, University of British Columbia, Canada, visited the Institute on 30 May, 2012.
- A 3 member delegation led by Prof. Luda Kopeikina, Visiting Professor, Division of Eng. & Technology Management, National University of Singapore, Singapore, visited in the Institute on 6 July 2012.
- A 5 member delegation led by Prof. Dr. Bhangy Cassy, Vice Chancellor, University of Zambeze, Republic of Mozambique, visited the Institute on 16 July 2012.
- A 5 member delegation led by Prof. Robert Duncan, Vice Chancellor for Research, University of Missouri, US, visited the Institute on 26 July 2012.
- A 6 member delegation led by Prof.Kalle Tammemae, Vice-Rector of Academic Affairs, Tallinn University of Technology, Estonia, visited the Institute on 27 Sep, 2012.
- A 2 member delegation led by Dr. Ronan McGrath, Head of School of Physical Sciences, University of Liverpool, UK, visited the Institute on 01 Oct, 2012.
- A 5 member delegation led by Dr. Hannes Androsch, Chairman, Austrian Council for Research and Tech. Development, Austrian Council for Research and Tech. Development, Austria, visited the Institute on 03 Oct, 2012.
- A 11 member delegation led by H.E. Federal Councilor Dr. Alain Berset, Head Federal Department of Home Affairs, Switzerland, visited the Institute on 03 Oct, 2012.
- A 5 member delegation led by H.E. Mr. Alejandro Cruz, Minister of Science and Technology, Costa Rica, visited the Institute on 15 Oct, 2012.
- A 3 member delegation led by Mr. Nigel Relph, Pro Vice Chancellor, and Vice President, University of South Australia, Australia, visited the Institute on 20 Nov, 2012.
- A 3 member delegation led by Prof. Albert Wu, Professor, Chemical and Materials Engg., National Central University, Taiwan, visited the Institute on 24 Jan, 2013.
- A 13 member delegation led by Dr. Mats Johnsson, Senior Advisor, Ministry of Education and Research, under Indo-Sweden Research Collaboration, Sweden, visited the Institute on 29 Jan, 2013.
- A 7 member delegation led by Prof. Peter Gregson, Vice Chancellor, Queens University, UK, visited the Institute on 25 Feb, 2013.
- A 12 member delegation led by Dr. Mary Eileen McMahon, Regional Director, University of California Education Abroad Program, California, USIEF, USA, visited the Institute on 11 Mar, 2013.
- A 3 member delegation led by Prof. Donal Dingwell, Secretary General of the European Research Council, Belgium, visited the Institute on 15 Mar, 2013.
- A 3 member delegation led by Prof. Tan Chorh Chuan, President of National University of Singapore, Singapore, visited the Institute on 25 Mar, 2013.

H.E. Mr. Alejandro Cruz, Minister of Science and Technology, Costa Rica receiving a souvenir from Director, IIT Delhi. HE Mr. Alejandro Cruz visited the Institute on 15 Oct, 2012.

Prof. Hu Haiyan, President, Beijing Institute of Tech., & Member of the China Academy of Science, Beijing, signing MoU with IIT Delhi. Prof. Hu Haiyan visited the Institute on 20 Apr, 2012.

Prof. Tan Chorh Chuan, President of National University of Singapore, presenting a souvenir to Director, IIT Delhi. Prof. Tan Chorh Chuan visited the Institute on 25 Mar, 2013.

Prof. Donal Dingwell, Secretary General of the European Research Council, Belgium in a meeting. Prof. Donal Dingwell visited the Institute on 15 Mar, 2013.

8. Faculty

(April 1, 2012 - March 31, 2013)

Faculty Awards/ Recognitions

(April 1, 2012 - March 31, 2013)

It is a cliché to say that the quality of an academic institution largely 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. 30 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. The people joining us as faculty members, are amongst the finest available globally, and sought after, by all the reputed graduate schools of the developed world. Offers of appointment have been issued to 20 selected candidates who are expected to join soon.

Searching and recruitment of bright faculty is one of our most important missions, since therein lies the future of the Institute. Our Board of Governors 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. On our part, we are 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 2484 research articles published by faculty members and researchers of the institute in international journals including 1696 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 programmes. The Institute supported participation of 185 faculty members to international conferences and 106 faculty members for 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 Rs. 10.00 lakhs (or more when necessary). During the year, 29 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 Rs. 268 lakhs to 23 faculty members during the financial year 2012-2013.

On the initiative of the Director, a meeting with all the faculty members of the Institute is held on a regular basis once in every semester to share the vision and initiatives taken and also to have an opportunity to receive feedback and expectation from faculty members. With the approval of Board, the various faculty designations, status, eligibility, limit, duration etc. in respect of faculty other than regular cadre has been implemented.

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 2012-2013. Some of these recognitions are highlighted below:

- Dr. Ajeet Kumar;
  1. Young Faculty Incentive Fellowship, IIT Delhi (Nov 2012 – present).
  2. Invited to chair a session "Buckling and instability in rods and sheets" at ASME Congress, Houston, USA (Nov 2012)
- Dr. Balaji Srinivasan, Excellence in Teaching Award (Jan 2013).
- Dr. Vikrant Tiwari, aIndo-Danish Workshop 2012, Future Composite Technologies for Wind Turbine Blades.
- Prof. Suhail Ahmad, National Chair, ACMFMS-2012 held at IIT Delhi (Dec. 5-8, 2012). Third Asian Conference on Mechanics of Functional Materials and Structures, New Delhi (ACMFMS 2012). 2010-2012.
- Dr. Amit Kumar, Department of Computer Science & Engineering, has been awarded INSA Young Scientist Medal (2011).
- Prof. S. Kapuria;
  1. General Chair, ACMFMS-2012 held at IIT Delhi (Dec. 5-8, 2012). Third Asian Conference on Mechanics of Functional Materials and Structures, New Delhi (ACMFMS 2012). 2010-2012.
  2. Member, National Advisory Committee, ICSMS-2012, Dec 9-12, 2012 .4th Int. Congress on Computational Mechanics and Simulation (ICSMS-2012), Hyderabad.

3. Member, International Scientific Committee. Tenth International Congress on Thermal Stresses to be held in Nanjing, China. 2013.
4. Editor of Proceedings on Mechanics of Functional Materials and Structures. ACMFMS-2012, Narosa Publisher. 2012
5. Developed following new Laboratory Facilities used for teaching and research: Set up for Excitation and Sensing of Lamb Waves in thin walled structures using piezoelectric sensing and actuation. It is a 64 channel set-up with a maximum actuation potential of 130 V (peak to peak) and 1MHz frequency was tailor-made by Acellent Technology, USA for IITD.

- Sushant Das, (3rd Prize in Student Presentation Category) - IASTA 2012 (Mumbai).
- Prof. A.K. Srivastava, "Centre of excellence (Program support) for microbial production of designer polymers from renewable resources" (As PI & Coordinator) (2012 -2017) Rs 420.46 Lakhs sponsored by Department of Biotechnology, New Delhi.
- Prof. Saroj Mishra, Inducted as a Task Force member on DBT Task Force on `Environmental Biotechnology and Biodiversity Conservation'.
- Dr. D. Sundar;
  1. Dr. D. Sundar has been selected for the National Bioscience Award for Career Development of the Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India for the year 2012. This award is instituted by the DBT for scientists below the age of 45 years, who have made outstanding contributions in frontier areas of biological sciences. The award carries a Cash Prize of Rs. 1 Lakh, a trophy along with a citation and financial support for a research grant for three years.
  2. Dr. D. Sundar has been selected for the Prof. Umakant Sinha Memorial Award of the Indian Science Congress Association (ISCA) for the year 2012-2013. This annual award is instituted by the ISCA to recognize and reward one young Indian scientist (below 40 years of age), who has carried out significant original research as evidenced by independent published work in New Biology (including Biochemistry, Biophysics, Molecular Biology and Biotechnology). The recipient delivered the Award Lecture during the 100th session of the Indian Science Congress [Centenary year 2012-2013] held in Kolkata during January 3-7, 2013).
- Citation of paper in Neuropharmacology 2011, 60:910. by Dr. James Watson (Nobel Laureate) in his lecture on the occasion of "60 years of discovery of DNA structure" at University of California Los Angeles, during March, 2013.
- Paper published in Molecular Biology of Cell (2012), 23(19):3882-98: Most-Read Articles during Dec 2012.
- Molecular Biology of Cell (2012), 23(19):3882-98: the paper has received recommendation of FACULTY of 1000 with 6 points.
- S. E. Hasnain;
  1. Chairman of the Peer Review Committee,Government of India, Defence Research and Development Organization, Delhi.
  2. Organizing Committee Member, Biometrics-2013,OMICS Group Conferences, USA.
  3. External Expert, Institutional Biosafety Committee, LEPRA India-Blue Peter Public Health & Research Center (BPHRC), Hyderabad.
  4. Member, Scientific Advisory Committee CBMR (Centre of Biomedical Magnetic Resonance), Lucknow.
  5. External Expert, Defence Research & Development Orgn., Directorate of Personnel (Pers-5), New Delhi.
  6. Member of Selection Committee Council Section (Unit – IA) Indian Institute of Science, Bangalore.
  7. Member,40th Scientific Advisory Committee of National Institute for Research in Tuberculosis, Chennai.
- Prof. S. K. Koul, elected member of IEEE MTTS Administrative Committee.
- A.K. Ganguli, Fellow, National Academy of Sciences, Allahabad, 2012.
- S.K. Khare, Fellow, Biotech Research Society of India, 2012.
- A.J. Elias, INSA Teachers Award, 2012.
- A.K. Ganguli, CNR Rao National Prize for 2012-13 given by the Chemical Research Society of India (CRSI).
- Sudip Pattanayek, Excellence in Teaching Award by IIT Delhi, 2012.
- Dr. Anushree Malik;
  1. Inducted as Editorial Board Member of "Frontiers in Food Microbiology" (Switzerland).
  2. Chaired a session "New approaches to Industrial Biotechnology" at Third World Congress on Biotechnology at Hyderabad, September 2012.

3. Chaired a session at Second International Conference on Recycling and Reuse of Materials (ICRM 2011) in August 2011, Kerala.

- Dr. V M Chariar ;
  1. Chosen as a Member of the Sectoral Innovation Council set up by the Ministry of Drinking Water and Sanitation, Government of India.
  2. Awarded the Fulbright-Nehru Visiting Lecturership 2012-2013 and would be teaching the course "Design for the Developing World" at College of Technology and Innovation, Arizona State University during the Fall Semester 2012.
- Prof. V.P. Sharma;
  1. ICMR Chair for Public Health Research.
  2. Chairman, Vector Science Forum.
  3. Editor-in-Chief, Journal of Parasitic Diseases (Springer).
- Amitabha Bagchi and Maya Ramanath, received an Unrestricted Gift from the Faculty Research and Engagement Program of Yahoo.
- S. Arun-Kumar, Sorav Bansal and Amitabha Bagchi , received an IIT Delhi's excellence in teaching award for the year 2012.
- Sorav Bansal, received a Faculty Award of USD 10,000/- from IBM.
- Prof. P. K. Jain, Best Professor Award in July 2012 by World Education Congress and CMO Asia at Singapore.
- Prof. P. K. Jain, Amar Ujala B-School Excellence Award, Best Teacher in Financial Management (23/11/2012).
- Prof. Surendra S Yadav, Amar Ujala Best Teacher in Management (23/11/2012).
- Prof. Kanika T Bhal, National Education Award (Best Professor in Management) by Headlines Tody on 14th December 2012.
- Prof. M. P. Gupta, Best Professor Award in July 2012 by World Education Congress and CMO Asia at Singapore.
- Dr. Seema Shama, Best Professor Award in November 2012 in the area of Economics by Dewang Mehta Business School Awards at Bombay.
- Dr Sourabh Ghosh, has received MAHE award during Conference of Society of Biomaterials and Artificial Organs, at Indian Institute of Science, Bangalore, 11th December 2012.
- Dr. Abhijit Majumdar, is selected as Associate Editor of Journal of the Institution of Engineers (India), Series E, Chemical and Textile Engineering, Published by Springer.
- Dr. Kedar B. Khare. Young Faculty Teaching Excellence Award.
- Prof. Neeraj Khare, Chief-Editor of Global science Technology Forum (Singapore), Journal of Physics and Application
- Prof. Neeraj Khare, Awarded British Council UKIERI Project on 'Nano Oxide composite for novel applications' with Cambridge University
- Prof. S.C. Mullick & Prof. T.C. Kandpal were received Teaching Excellence Awards from IIT Delhi during Foundation Day Celebrations 2013.
- Dr. Bappaditya Manna, received the SGSIT National Award for Best Research Work done by Young Teachers of Engineering College 2012-2013, sponsored by Indian Society for technical Education (ISTE).
- Dr. Dipti Ranjan Sahoo, has been conferred with the INAE Young Engineers Award, Indian National Academy of Engineering (INAE), India.
- Dr. Bappaditya Manna and Dr. Dipti Ranjan Sahoo, have been conferred with the IEI Young Engineers Award, The Institution of Engineers (IEI), India.
- Dr. Dipti Ranjan Sahoo and Dr. Bappaditya Manna, has been conferred with the DAE Young Scientist Research Award, Department of Atomic Energy (DAE), India.
- Dr. Tanusree Chakraborty, Dr. Bappaditya Manna and Dr. Vasant Matsagar, DAAD Fellowships for conducting research in Germany awarded by the Deutscher Akademischer Austausch Dienst, the German Academic Exchange Programme in the year 2012.

Faculty in Position

(April 1, 2012 - March 31, 2013)

Department of Applied Mechanics

Professor and Head

S. Ahmed, Ph.D.

Professors

Anupam Dewan, Ph.D.
Puneet Mahajan, Ph.D.
Rajesh Prasad, Ph.D.
Sanjeev Sanghi, Ph.D.
D.K. Sehgal, Ph.D.
S.N. Singh, Ph.D.
S.V. Veeravalli, Ph.D.
Santosh Kapuria, Ph.D.

Associate Professors

Badri Prasad Patel, Ph. D.
Maloy K. Singha, Ph.D.

Assistant Professors

Ajeet Kumar, Ph. D.
M.R. Cholemari, Ph.D.
Jayant Jain, Ph.D.
S. Pradyumna, Ph.D.
Anamika Prasad, Ph.D.
Balaji Srinivasan, Ph.D.
Sawan Suman, Ph.D.
Vikrant Tiwari, Ph.D.
Sitikantha Roy, Ph.D.

Adjunct Faculty (Naval Construction Wing)

Cdr. R. Vijaya Kumar
LT. Cdr. Amit Ray
Capt. V.K. Satyam (Officer-in-charge)
Dharam Singh
LT. Cdr. S.K. Rao

Emeritus Fellow

R.K Mittal, Ph.D.
R.K. Pandey, Ph.D.
P.K. Sen, Ph.D.
V. Seshadri, Ph.D.

Department of Biochemical Engineering & Biotechnology

Professor and Head

T.R. Srikrishnan, Ph.D.

Professors

G.P. Agarwal, Ph.D.
V.S. Bisaria, Ph.D.
P.K. Roychoudhury, Ph.D.
Prashant Mishra, Ph.D.
Sunil Nath, Ph.D.
Saroj Mishra (Ms), Ph.D.
Subhash Chand, Ph.D.
A.K. Srivastava, Ph.D.

Associate Professor

Atul Narang, Ph.D.

Assistant Professors

Ravi Krishnan Elangovan, Ph.D.
Praveen Kaul, Ph.D.
Ritu Kulshreshtha, Ph.D.
Preeti Srivastava, Ph.D.
D. Sundar, Ph.D.
Shilpi Sharma, Ph.D.

Department of Chemical Engineering

Professor and Head

Ashok N. Bhaskarwar Ph.D.

Professors

S. Basu, Ph.D.
S.K.Gupta, Ph.D.
Rajesh Khanna, Ph.D.
Ratan Mohan, Ph.D.
K.K. Pant, Ph.D.
Anurag Singh Rathore, Ph.D.
Shantanu Roy, Ph.D.
Anil K. Saroha, Ph.D.

Associate Professors

Vivek V. Buwa, Ph.D.
Shaik Abdul Munawar, Ph.D.
Sudip K. Pattanayek, Ph.D.
Anupam Shukla, Ph.D.
Sreedevi U., Ph.D.
Sanat Mohanty, Ph.D.

Assistant Professors

Jayati Sarkar, Ph.D.
Shalini Gupta, Ph.D.
Gaurav Goel, Ph.D.
Paresh P. Chokshi, Ph.D.

Emritus Fellow

A.K. Gupta

Department of Chemistry

Professor and Head

A.K. Singh, Ph.D.

Professors

D.K. Bandyopadhyay, Ph.D.
C. Chakravarty (Ms), Ph.D.
H.M. Chawla, Ph.D.
Anil Jacob Elias, Ph.D.
N.D. Kurur, Ph.D.
S.K. Khare
M.N. Gupta, Ph.D.
B. Jayaram, Ph.D.
P.S. Pandey, Ph.D.
Siddharth Pandey, Ph.D.
Nalin Pant, Ph.D.
R.N. Ram, Ph.D.
A. Ramanan, Ph.D.
N.G. Ramesh, Ph.D.
Ravi Shankar, Ph.D.
Jai Deo Singh, Ph.D.

Associate Professors

Pramit K. Chowdhury, Ph.D.
Shashank Deep, Ph.D.
V. Haridas, Ph.D.
S. Nagendran, Ph.D.
Sameer Sapra, Ph.D.

Assistant Professors

Nidhi Jain, Ph.D

Department of Civil Engineering

Professor and Head

A.K. Gosain, Ph.D.

Professors

B.J. Alappat, Ph.D.
B. Bhattacharjee, Ph.D.
Bhagu Ram Chahar, Ph.D.
Manoj Datta, Ph.D.
N.K. Garg, Ph.D.
Ashok Gupta, Ph.D.
V.R. Guntari, Ph.D.
K.C. Iyer, Ph.D.
A.K. Jain, Ph.D.
A.K. Keshari, Ph.D.
Mukesh Khare, Ph.D.
Shashi Mathur, Ph.D.
Alok Madan, Ph.D.
A.K. Mittal, Ph.D.
A.K. Nema, Ph.D.
K.S. Rao, Ph.D.
K.G. Sharma, Ph.D.
Geetam Tewari, Ph.D.
Anil Sawhney, Ph.D.

Associate Professors

R. Ayothiraman, Ph.D.
Suresh Bhalla, Ph.D.
G.S. Benipal, Ph.D.
R.R. Kalaga Das, Ph.D.
S.K. Deb, Ph.D.
Kumar Neeraj Jha, Ph.D.
Rakesh Khosa, Ph.D.
Deo Raj Kaushal, Ph.D.
Vasant Matsagar, Ph.D.
J.T. Shahu, Ph.D.

Assistant Professors

Supratic Gupta, Ph.D.
GazalaHabib, Ph.D.
J. Uma Maheshwari, Ph.D.
B. Munwar Besha Ph.D.
Bappaditya Manna, Ph.D.
Shashank Bishnoi, Ph.D.
Arun Kumar, Ph.D.
Tanusree Chokrabarty, Ph.D.
Dipti Ranjan Sahoo, Ph.D.
Abhijit Ganguli, Ph.D.
Dhanya C.T., Ph.D.
Arvind K. Swamy, Ph.D.

Emeritus Fellow

T.K Datta
A.K. Nagpal, Ph.D.

Senior Programmer

M. Malikharjuna Rao, M.E.

Department of Computer Science & Engineering

Professor and Head

Huzur Saran, Ph.D.

Professors

Amit Kumar, Ph.D.
Anshul Kumar, Ph.D.
S. Arun Kumar Ph.D.
M. Balakrishnan, Ph.D.
S. Banerjee, Ph.D.
Naveen Garg, Ph.D.
S.K. Gupta, Ph.D.
B.N. Jain, Ph.D.
Prem Kumar Kalra, Ph.D.
Saroj Kaushik, Ph.D.
S.N. Maheshwari, Ph.D.
Preeti Ranjan Panda, Ph.D.
Sanjiva Prasad, Ph.D.
Sandeep Sen, Ph.D.
Pankaj Jalote, Ph.D.

Associate Professors

Amitabh Bagchi, Ph.D.
Subodh Kumar, Ph.D.
Kolin Paul, Ph.D.

Assistant Professors

Rajesh Jaiswal, Ph.D.
Sorav Bansal, Ph.D.
Smruti R Sarangi, Ph.D.
V.J. Ribeiro, Ph.D.
Maya Ramanath, Ph.D.
Aaditeshwar Seth, Ph.D.
Parag Singla, Ph.D.

Emritus Fellow

K.K. Biswas, Ph.D.

Department of Electrical Engineering

Professor and Head

B. Bhowmik (Ms.), Ph.D.

Professors

R.K.P. Bhatt, Ph.D.
R.K. Patney, Ph.D.
P.R. Bijwe, Ph.D.

Faculty in Position

Ranjan Bose, Ph.D.
G. Bhuvaneshwari (Ms.), Ph.D.
Devi Chadha (Ms.), Ph.D.
Vinod Chandra, Ph.D.
S. Chaudhary, Ph.D.
M. Hanmandlu, Ph.D.
V.K. Jain, Ph.D.
Jayadeva, Ph.D.
S.D. Joshi, Ph.D.
I.N. Kar, Ph.D.
Subrat Kar, Ph.D.
M.J. Kumar, Ph.D.
R.K. Malik, Ph.D.
Sukumar Mishra, Ph.D.
Shankar Prakriya, Ph.D.
Surendra Prasad, Ph.D.
K.R. Rajagopal, Ph.D.
Bhim Singh, Ph.D.
M. Veerachary, Ph.D.
G.S. Visveswaran, Ph.D.

Associate Professors

Manav Bhatnagar, Ph.D.
Shouribrata Chatterjee, Ph.D.
Swades K. De, Ph.D.
Brijesh Lal, Ph.D.
Mashuq-un-Nabi, Ph.D.
B.K. Panigrahi, Ph.D.
Sumantara Dutta Roy, Ph.D.
Nilanjan Senroy, Ph.D

Assistant Professors

Abhijit R. Abhyankar, Ph.D.
Sumeet Agarwal, Ph.D.
Shubhendu Bhasin, Ph.D.
Anuj Dhawan, Ph.D.
Amit Kumar Jain, Ph.D.
S. Janardhanan, Ph.D.
Umesh Kumar, Ph.D.
Saif Khan Mohammed, Ph.D.
Mukul Sarkar, Ph.D.
Saunak Sen, Ph.D.
Kushal Kumar Shah, Ph.D.

Emeritus Fellow

H.M. Gupta, Ph.D.

Department of Humanities & Social Sciences

Professor and Head

V. Sanil, Ph.D.

Professors

Bijoy H. Boruah, Ph.D.
Ravinder Kaur (Ms), Ph.D.
R.B. Nair (Ms.), Ph.D.
Ambuj D. Sagar, Ph.D.
Purnima Singh, Ph.D.
A. Srinivasan (Ms.), Ph.D.
C.A. Tomy, Ph.D.
V. Upadhyay, Ph.D.

Associate Professors

Vibha Arora, Ph.D.
Angelie Multani, Ph.D.
Bharati Puri, Ph.D.
Kamlesh Singh, Ph.D.

Assistant Professors

Ankush Agarwal, Ph.D.
Arudra Venkata Burra, Ph.D.
Pritha Chandra, Ph.D.
Divya Dwivedi, Ph.D.
Arjun Ghosh, Ph.D.
Farhana Ibrahim, Ph.D.
Naveen Thayyil Kamaluddin, Ph.D.
Stuti Khanna, Ph.D.
Reetika Khera
Richa Kumar, Ph.D.
Debasis Mondal, Ph.D.
Saurabh Bikas Paul, Ph.D.
Rajakrishnan Rajkumar, Ph.D.
Sarbeswar Sahoo, Ph.D.
Paroma Sanyal, Ph.D.
Upasana Sharma, Ph.D.
Jayan Jose Thomas, Ph.D.

English Language Instructor

M.S. Bharti Shokeen, Ph.D.
Rajiv Ranjan Mahto, Ph.D.

Visiting Faculty

Girish Agarwal
Snehlata Jaswal

Department of Management Studies

Professor and Head

Sudhir K. Jain, Ph.D.

Professors

Kanika T. Bhal (Ms.), Ph.D.
M.P. Gupta, Ph.D.
P.K. Jain, Ph.D.
Ravishankar, Ph.D.
Sushil, Ph.D.
S.S. Yadav, Ph.D.

Associate Professors

Mahim Sagar, Ph.D.
Seema Sharma (Ms.), Ph.D.
P. Vigneswara Ilavarasan, Ph.D.

Assistant Professors

Harish Choudhary, Ph.D.
Jitendra Madan, Ph.D.
Ruchi Sharma (Ms.), Ph.D.
Surya Prakash Singh, Ph.D.
Shuchi Sinha (Ms.), Ph.D.
Shveta Singh (Ms.), Ph.D.

Emritus Fellow

D.K. Banwet, Ph.D.
Vinayshil Gautam, Ph.D.

Department of Mathematics

Professor and Head

B.S. Panda, Ph.D.

Professor

B. Chandra, Ph.D.
R.K. Sharma, Ph.D.

Associate Professors

N. Chatterjee, Ph.D.
S. Dharmaraja, Ph.D.
Subiman Kundu, Ph.D.
Aparna Mehra, Ph.D.
Anima Nagar, Ph.D.
S. C. Sekhara Rao, Ph.D.
K. Sreenadh,Ph.D.
A. Tripathi, Ph.D.

Assistant Professors

Hirish Kumar, Ph.D.
N. Shravan Kumar, Ph.D.
Mani Mehra, Ph.D.
Amit Priyadarshi, Ph.D.
Sivnathan Sampath, Ph.D.
Ritumoni Sarma, Ph.D.
Anuradha Sharma, Ph.D.
V.V.K. Srinivas Kumar, Ph.D

Emeritus Fellow

Suresh Chandra

Department of Mechanical Engineering

Professor and Head

S.R. Kale, Ph.D.

Professors

Naresh Bhatnagar, Ph.D.
Anoop Chawla, Ph.D.
S.G. Deshmukh, Ph.D.
J.K. Dutt, Ph.D.
Kshitij Gupta, Ph.D.
Sanjeev Jain, Ph.D.
Sangeeta Kohli, Ph.D
D. Ravi Kumar, Ph.D.
Sudipto Mukherjee, Ph.D.
Sunil Pandey, Ph.D.
P.V. Rao, Ph.D.
P.V. Madhusudhan Rao, Ph.D.
M.R. Ravi, Ph.D.
Anjan Ray, Ph.D.
S.K. Saha, Ph.D.
Kiran Seth, Ph.D.
S.P. Singh, Ph.D.
P.M.V. Subbarao, Ph.D.

Associate Professors

S. Aravindan, Ph.D.
Ashish K. Darpe, Ph.D.
Sudarsan Ghosh, Ph.D.
A.D. Gupta, M.Tech.
Harish Hirani, Ph.D.
Sunil Jha, Ph.D.
M.S. Kulkarni, Ph.D.
S.V. Modak, Ph.D.
Pulak Mohan Pandey, Ph.D.
Prabal Talukdar, Ph.D.
R.K Pandey, Ph.D.

Assistant Professors

Nomesh Bolia, Ph.D.
Subhra Datta, Ph.D.
Amit Gupta, Ph.D.
Vipul Jain, Ph.D.
B. Premachandran, Ph.D.

Emeritus Fellow

T.K. Kundra, Ph.D.

Department of Physics

Professor and Head

H.C. Gupta, Ph.D.

Professors

Ajit Kumar, Ph.D.
Arun Kumar, Ph.D.
R. Chatterjee (Ms.), Ph.D.
Sujeet Chaudhary, Ph.D.
B.D. Gupta, Ph.D.
Joby Joseph, Ph.D.
Neeraj Khare Ph.D.
Bodh Raj Mehta, Ph.D.
Dalip Singh Mehta, Ph.D.
D.K. Pandya, Ph.D.
V. Ravishankar, Ph.D.
B.P. Pal, Ph.D.
G.B. Reddy, Ph.D.
Anurag Sharma, Ph.D.
M.R. Shenoy, Ph.D.
R.K. Soni, Ph.D.
Pankaj Srivastava, Ph.D.
K. Thyagarajan, Ph.D.
V.D. Vankar, Ph.D.
P. Senthil Kumaran, Ph.D.

Associate Professors

Versha Banerjee (Ms.), Ph.D.
Mukesh Chander, Ph.D.
Sankalpa Ghosh, Ph.D
Shantanu Ghosh, Ph.D.
Hitendra Kumar Malik, Ph.D.
Amrita Mishra (Ms.), Ph.D.
G.V. Prakash, Ph.D.
J.P. Singh, Ph.D.
Rajendra Singh, Ph.D.
Aloka Sinha(Ms.), Ph.D.
A.K. Shukla, Ph.D.
R.D. Tarey, Ph.D.
R.K. Varshney, Ph.D.

Assistant Professors

Kedar Khare, Ph.D.
Pranaba Kishor, Ph.D.
Amartya Sengupta, Ph.D.

Faculty in Position

Emeritus Fellow
Vikram Kumar, Ph.D.
S.C. Kashyap, Ph.D.

Department of Textile Technology
Professor and Head
Kushal Sen, Ph.D.
Professors
Ashwini K. Agarwal, Ph.D.
R. Alagirusamy, Ph.D.
B.K. Behera, 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.
V.K. Kothari, Ph.D.
R.S. Rangasamy, Ph.D.
Associate Professors
Dipayan Das, Ph.D.
Sourabh Ghosh, Ph.D.
Abhijit Majumdar, Ph.D.
Assistant Professors
B.S. Butola, Ph.D.
S. Mukhopadhyay, Ph.D.
Bhanu Nandan, Ph.D.
AmitRawal, Ph.D.
Rajiv K.Srivastava, Ph.D.
Emeritus Fellow
B.L. Deopura, Ph.D.
M.L. Gulrajani, Ph.D.

Centre for Applied Research in Electronics
Professor and Head
Arun Kumar, Ph.D.
Professors
R. Bahl, Ph.D.
Ananjan Basu, Ph.D.
Sudhir Chandra, Ph.D.
S.K. Koul, Ph.D.
B.S. Panwar, Ph.D.
Suneet Tuli, M.Tech.
Associate Professors
Monika Aggarwal (Ms), Ph.D.
Manish Sharma, Ph.D.
Assistant Professors
Mahesh P. Abegaonkar, Ph.D.

Centre for Atmospheric Sciences
Professor and Head
S.K. Dash, Ph.D.
Professors
Pramila Goyal (Ms.), Ph.D.
Maithilisharan, Ph.D.
O.P. Sharma, Ph.D.
U.C. Mohanty, Ph.D.
Manju Mohan (Ms.), Ph.D.
A.D. Rao, Ph.D.
Associate Professors
Krishna Achuta Rao, Ph.D.
H.C. Upadhyay, Ph.D.
Assistant Professor
Sagnik Dey, Ph.D.
Vimlesh Pant, Ph.D.
Saroj Kanta Mishra, Ph.D.
Dilip Ganguly, Ph.D.
Senior Scientific Officers-I
P. Agarwal (Ms.), Ph.D.

Centre for Biomedical Engineering
Professor and Head
A.R. Ray, Ph.D..
Professors
Sneh Anand (Ms), Ph.D.
Veena Koul (Ms.), Ph.D.
Harpal Singh, Ph.D.
Associate Professor
Nivedita K. Gohil (Ms.), Ph.D.
Senior Design Engineer
S.M.K. Rahman, M.Tech.
Emeritus Fellow
Dinesh Mohan, Ph.D.

Computer Services Centre
Professor and Head
Subhashish Banerjee, Ph.D.
Sr. System Programmers
Pravanjan Kumar Baboo
Savita Goel (Ms.), D.I.I.T. (IITD)
Pradeep Kumar Gupta
Sriram Hegde
Pragya Jain (Ms.) Ph.D.
Rajeshwari Raghvan (Ms.)
K. Narayanan
Senior Programmers
Rajesh Bhat, Ph.D.
R.K. Chauhan, M.C.A.
Jaya, M.Tech.
Sunil Kak, M.Tech.
Ram Lal, M.Sc.
Gopal Krishan, M.Sc.
Jayashree Santosh (Ms.), M.Tech.
Senior Manager
N.C. Kalra, M.Tech.

Educational Technology Services Centre
Professor & Head
Prem K. Kalra, Ph.D.

Centre for Energy Studies
Professor and Head
R.P. Sharma, Ph.D.
Professors
T.S. Bhatti, Ph.D.
R.P. Dahiya, Ph.D.
L.M. Das, M.Tech.
M.G. Dastidar (Ms.), Ph.D.
Viresh Dutta, Ph.D.
A. Ganguly, Ph.D.
T.C. Kandpal, Ph.D.
S.C. Kaushik, Ph.D.
D.K. Sharma, Ph.D.
G.N. Tiwari, Ph.D.
Associate Professors
K.A. Subramanyan, Ph.D.
Assistant Professors
K. Vanshi Krishna
Ramesh Narayan, Ph.D.
R. Uma, Ph.D.
Ashu Verma, Ph.D.
Senior Scientific Officers-I
Sat Narain, Ph.D.
Subodh Kumar, Ph.D.
Emeritus Fellow
S.C. Mullick, Ph.D.

Industrial Tribology, Machine Dynamics & Maintenance Engineering Centre
Professor and Head
Naresh Tondon, Ph.D.
Professors
Jayashree Bijwe, Ph.D.
O.P. Gandhi, Ph.D.
Chief Design Engineer (SE)
V.K. Agarwal, Ph.D.
Design Engineer
R.K. Rai, M.Tech.

Instrument Design & Development Centre
Chief Design Engineer (SG) and Head
N.K. Jain, Ph.D.
Professors
D.T. Shahani, Ph.D.
Chandra Shakher, Ph.D.
A.L. Vyas, Ph.D.
Associate Professors
I.P. Singh, Ph.D.
Assistant Professors
Jyoti Kumar, Ph.D.
Gurfan Sayeed, Ph.D.
Sumer Singh, Ph.D.
Chief Design Engineers (SG)
A.K. Agarwala, M.S.
S.K. Atreya, D.I.I.T.

Centre for Polymer Science & Engineering
Professor and Head
S.N. Maiti, Ph.D.
Professors
Veena Choudhary, Ph.D.
A.K. Ghosh, Ph.D.
Associate Professor
Josemon Jacob, Ph.D.
BhabaniSatapathy, Ph.D.
Emeritus Fellow
A.K. Gupta, Ph.D.

Centre for Rural Development & Technology
Professor & Head
S.N. Naik, Ph.D.
Professors
Rajendra Prasad, Ph.D.
Santosh Satya, Ph.D.
Satyawati Sharma (Ms.) Ph.D.
V.K. Vijay, Ph.D.
Associate Professors
V.M. Chariar, Ph.D.
Anushree Malik (Ms.),Ph.D.

National Resource Centre for Value Education in Engineering
Professor & Coordinator
Sangeeta Kohli, Ph.D.

Bharti School of Telecommunication Technology and Management
Professor & Coordinator
Ranjan Bose, Ph.D.

Amar Nath and ShashiKhosla School of Information Technology
Professor & Coordinator
Sanjiva Prasad, Ph.D.

School of Biological Sciences
Professor & Co-ordinator
B. Jayaram, Ph.D.
Professors
Tapan Kr. Choudhary, Ph.D.
C.S. Dey, Ph.D.
James Gomes, Ph.D.
Seyed E. Hasnain, Ph.D.
Aditya Mittal, Ph.D.
Associate Professors
Bishwajit Kundu, Ph.D.
Assistant Professors
Manidipa Banerjee, Ph.D.
Archna Chug, Ph.D.
Vivekanandan Perumal, Ph.D.

Interdisciplinary / Transportation Research and Injury Prevention Programme (TRIPP)
Professor and Co-ordinator
S.R. Kale, Ph.D.

Central Workshop
Professor & Head
Naresh Bhatnagar, Ph.D.

Interdisciplinary Opto-Electronics & Optical Communication Research Programme
Professor and Co-ordinator
M.R. Shenoy, Ph.D.

New Appointments Retirements etc.

(April 1, 2012 - March 31, 2013)

14 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.

Table II : New Appointments

Assistant Professors:
Anamika Prasad, Applied Mechanics
Jayant Jain, Applied Mechanics
Ajeet Kumar, Applied Mechanics
Saroj Kanta Mishra, Atmospheric Science
Vimlesh Pant, Atmospheric Science
Dilip Ganguly, Atmospheric Science
Ashu Verma, Energy Studies
Amit Kumar Jain, Electrical Engineering
Saif Khan Mohammed, Electrical Engineering
Kushal Kumar Shah, Electrical Engineering
Shaunak Sen, Electrical Engineering
Sumeet Agarwal, Electrical Engineering
Upasna Sharma, Humanities & Social Sciences
Arudra Venkata Burra, Humanities & Social Sciences
Naveen Thayyil Kamaluddin, Humanities & Social Sciences
Sourabh Bikas Paul, Humanities & Social Sciences
Divya Dwivedi, Humanities & Social Sciences
Rajakrishnan Rajkumar, Humanities & Social Sciences
Paroma Sanyal, Humanities & Social Sciences
Ankush Agrawal, Humanities & Social Sciences
Jitendra Madaan, Management Studies
Ruchi Sharma, Management Studies
Shuchi Sinha, Management Studies
Harish Kumar, Mathematics
Amit Priyadarshi, Mathematics
N. Shravan Kumar, Mathematics
Sivananthan Sampath, Mathematics
Amartya Sengupta, Physics
Pranaba Kishor Muduli, Physics

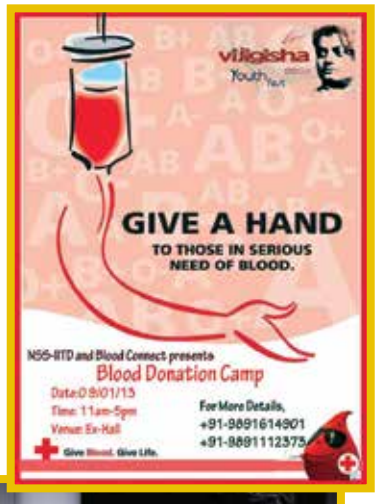
The list of faculty who resigned or retired or expired in the given period is given below (Table: III):

Table III : Retirements/ Resignations/ Bereavements

Retirements
J.P. Subramanyam, Mechanical Engineering
Madan Gopal, Electrical Engineering
G. Jayaraman, Atmospheric Science
Jagdish Arora, Librarian
D.K. Sehgal, Applied Mechanics
S.N. Maheshwari, Computer Science & Engineering
V.D. Vankar, Physics
S.K. Dube, Atmospheric Science
I.P. Singh, IDDC
L.M. Das, Energy Studies
R.K.P. Bhatt, Electrical Engineering
R.K. Patney, Electrical Engineering
V.K. Tripathi, Physics
R.C. Raghava, Atmospheric Science
Resigned
Dwaipayan Chakrabarti, Chemistry

9. Student Activities

(April 1, 2012 - March 31, 2013)



Student Activities

(April 1, 2012 - March 31, 2013)

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. National Sports Organization (NSO)
5. Student Counselling Service (SCS)
6. Student-Teacher Interaction Committee (STIC)
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 sarted by SAC in 2012. 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 Hostel Management, Students Welfare, Associate Dean, 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.

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. Five BHM employees were rewarded by special awards for the hard work and excellent services rendered to the Organization. This Award was given on Independence Day during the flag hoisting function. This has been a morale booster for the workers. Regular meetings with the staff improved their punctuality.

The Wardens/House Masters during 2012-13

Hostel	Warden	House Master
Aravali	Dr. B.K. Panigrahi	Prof. K.Gupta
Jwalamukhi	Dr. Shashank Deep	Prof. S.M. Ishtiaque
Kailash	Dr.(Ms)Seema Sharma	Prof. (Ms.) Manju Mohan
Karakoram	Dr. M.S. Kulkarni	Prof. Anurag Sharma
Kumaon	Dr. P.M. Pandey	Prof. Ashok Gupta
Nilgiri	Dr. Abhijit Majumdar	Prof. Shashi Mathur
Shivalik	Dr. Dipayan Das	Prof. Bhim Singh
Vindhyachal	Dr. Diptiranjan Sahoo	Prof. Viresh Dutta
Himadari	Dr. (Ms.) S. Upadhayaulu	Prof. (Ms) Sneh Anand
Satpura	Dr. S.K. Pattanayek	Prof. S.N. Singh
Zanskar	Dr. Prabal Talukdar	Prof. Kushal Sen
Girnar	Prof. T.R. Srikrishnan	Prof. R. Chattopadhyaya
Udai Giri	Dr. Harish Hirani	Prof. B.R. Mehta
Nalanda	Prof. P.M.V. Subbarao	

This year was devoted to improve the food quality in hostel mess. Regular meetings with Dean of Student, Hostel Representatives and Mess Supervisors have been held for the same purpose . Modifications assured for Scheme (MAO) is being implemented for BHM staff.

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 Kailash and Kumaon Hostel was given BHM trophy and BHC trophy to Kumaon Hostel for their excellent outstanding work.

BHM also arranged the stay and messing for all the delegates of Rendezvous' 2012 and TRYST' 2013 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 Cultural Activities (BRCA)

The Board for Recreational and Cultural Activities was founded with the aim to provide students with an opportunity to develop their skills and discover their talent in the field of music, dramatics, debating, quizzing and other creative activities.

Clubs

BRCA consists of 10 clubs, which promote a wide range of cultural activities among the students all round the year. These are-

- English Debating and Literary Club
- Hindi Samiti
- Dance and Dramatics Club
- Film Series Committee
- Photography and Hobbies Society
- Fine Arts Club
- Music club
- Quizzing Club
- Indoor Sports Club
- Spic Macay

The above clubs organize various competitive inter-hostel and non-competitive events throughout the year. Team of students compete in events like Group Dance, Stage Play, Street Play, Debates, Extempore, Ad making, Movie making, Photography, Carrom, Western Song, Eastern Song, Rock Nite and various types of quizzes. The FSC club also organizes various movie screenings for the students in Dogra Hall. EDLC Club is also involved in organizing the inter-college debating competition called the DPL (Debating Premiere League). This year BRCA events saw the participation from a newly constructed hostel Girnar.

The hostels are awarded points according to the yearlong events and the BRCA trophy is awarded to the hostel with maximum points on the BHM night. For this year, the BRCA trophy was shared between Kumaon and Shivalik Hostel, with Vindhyachal and Karakoram being the runners-up. Individual club winners are also awarded on BRCA night.

Apart from the above-mentioned events, BRCA also organized the annual cultural festival of IIT Delhi titled Rendezvousfrom22nd to 25th of October 2011. The largest cultural festival of North India, Rendezvous, featured a wide variety of events including Inter College competitions such as choreography, Indian and Western music, group dance competitions, quizzes and debates (English, hindi) and several professional cultural events including HasyaKaviSammelan, a classical Music Concert and Professional Play. Professional Bollywood artists like Javed Ali and Rabbi Shergil performed on Dhoom, the closing night of Rendezvous.

c. Board for Sports Activities (BSA)

Sports and games are essential components of human resource development, helping to promote good health and spirit of healthy competition, which, in turn, has positive and deep impact on the holistic development of personality of the Youth- a potential source of energy, enthusiasm and inspiration. Sports being practical way of education, facilitate recreation, foster social harmony, inculcate discipline and dedication in general life. Board for Sports Activities (BSA) had been looking after this important component for the development of sports environment in the campus.

Introduction

The Board for Sports Activities is a constituent body of the Student Affairs Council. It is responsible for the coordination of the various sports activities in the institute. It ensures that

adequate facilities are given to sportspersons and provides a forum for the students and staff to discuss and formulate policy towards the betterment of sports activities in the campus. The BSA consists of the following members

- President, BSA
- Vice-President, BSA
- Game/Club Presidents.
- All Institute Team Captains and Vice-Captains.
- All Club Secretaries.
- Sports Officer
- Sports Secretaries of Student Hostels.
- General Secretary, BSA.
- Deputy General Secretary, BSA.
- Immediate past General Secretary, BSA.

Facilities

Well laid out fields are available on the campus. A cricket field, four cricket practice pitches, floodlighted hockey and football ground, three floodlighted volleyball and two basketball courts one of which is ultra cushioned, eight floodlighted tennis courts having four synthetic and four clay courts, tennis practice wall, three squash courts, one badminton hall, table tennis hall with synthetic flooring, one weight lifting hall, a swimming pool, multi-gym, a floodlighted stadium with 400 meters athletics track, jogging track and ancillary arrangements for all the games are available to the students. Construction of new swimming pool with kid's pool and floodlighting of four cricket practice pitches is in progress and will be available in one year. A team of sports officer, physical training instructors, ground staff and part-time coaches help the students in their pursuit to greater sporting performances.

Activities

The Institute lays considerable emphasis on student's participation in various outdoor and indoor games. The Institute is in constant contact with the local associations in almost all the games to give outlet to the students for participation in different games outside the campus. With participation in these activities, students are able to use their leisure time in a desirable manner. In these activities, emphasis is laid on mass participation by the students. The students take part in the Fresher's event for incoming first year students, friendly matches with the local colleges, inter-hostel events, the annual IIT Delhi inter-collegiate event 'Sportech' and the annual inter-IIT sports meet.

Inter Hostel matches were organized in Football, Volleyball, Swimming, Water Polo, Wt. Lifting, Hockey, Squash, Badminton, Table Tennis, Tennis, Athletics, Basketball, Tug of War and Cricket. Kumaon hostel was declared the winner and Vindhyachal hostel was declared runners up in the men's section. Kailash hostel was declared winner in the women's section.

Sportech, which over the years has carved a niche for itself

with regards to the scale at which it is organized and the kind of varied participation it enjoys was organized from 2nd March to 5th March 2012. All the major games and sports were organized in this four days event. About eighty teams of various colleges took part this year.

49th Inter IIT Sports Meet was held at IIT Roorkee in the months of October and December 2012. IIT Delhi contingent consisting of 115 boys and 33 girls participated in the sport meet. Miss Bharti singhla, member of IIT Delhi athletics team broke the Inter IIT sports Meet record in 800 meters. Inter IIT Staff Sports Meet was also organized in IIT Roorkee. IIT Delhi contingent consisting of 50 men and 6 women participated and won the overall general championship.

Those who excel in any sports activities like inter IIT sports meet are given various certificates, prizes and awards including IIT Delhi Blazers & Blues, etc. This year as recognition of the student's talent in sports and their persistent effort for the development of sports environment, thirteen students were awarded Blazers, twenty three students were awarded Colours in different games and other awards were also given. Ms. Rupjyoti Basumatary was awarded Outstanding Sportsperson of the year award. Cricket team was awarded with best team of the year award.

Sports is included in the curriculum at IITD. National Sports Organization (NSO) activities are organized by the sports unit as an alternative to NCC and NSS. Around Five hundred undergraduate students are register in this every year and get specialized training in games and sports as well as physical fitness. Regular classes are conducted for these students by the physical education staff of the Institute for four days a week in each semester. Regular participation in these activities not only improve the general physical fitness level of the students but also helps in developing psychological attributes like leadership qualities, stress management and group dynamics.

d. Board for Student Publications (BSP)

The basic goals and objectives of the B.S.P. as recognized by the Student Affairs Council (SAC) are:

- To identify and support literary talent through literary activities into the campus;
- To create community awareness about issues which concern students in any way in the perspective of their campus life;
- To create Public opinion on issues of importance to the students community through constructive journalism and reporting; and
- To play supportive role to the other boards.

BSP is involved in bringing out various publications and organizing events for nurturing the literary and journalistic talent of the student community. All BSP publications are attractively designed and formatted by the students themselves using the latest publishing and designing tools.

During the year under report, the board (BSP) published the following issues:

- **Campus Rumpus**: regular campus magazine which provides an excellent forum for expression of student opinion about a wide spectrum of issues, reflections on the campus life and literary creations. Interviews and surveys are regular features of this publications. It has both Hindi and English sections and is now being made available electronically on the web page of BSP.
- **Cornucopia**: an anthological compendium on interesting topics. It also highlights the research and development taking place in the institute.
- **Contact**: an annual bilingual magazine distinguished by the richness of its contents and imaginative representation.
- Orientation newsletter for freshers called **IITD ke Fundae**, published by BSP helps to kick start their campus life.

Workshops as well as competitive events were organized by BSP from time to time to explore the creative potential of students and also to extend a worthy platform to nurture their literary calibre.

BSP online journalism portal (www. Infintyiitd.og) continues to boast its popularity online with more than 10,000 hits per month which speaks volumes about the enthusiasm with which people follow the e-magazine. The website has a plethora of cartoon strips, pictures, blogs, articles and access to e-version of IITD magazines. With selected internship experiences shared on the site, it has become a god source of internship guidance. The website and facebook page of Infinity IITD is regularly updated to bring out all the news form IIT and for IIT.

The news letter **Instinct** serve as a medium to inform, educate, and entertain the entire campus community by maintaining a timely, comprehensive, and diverse flow of information, ideas and analysis to quench the reading needs of all and keep them clued up about the latest activates and happenings across the campus.

To add the plethora of enriching events is the **'Literati'** – the signature literary festival of the IITD. Organized annually by the BSP, it witnessed participation form thousands of students fulfilling its aim to inculcate, preserve and develop a culture of reading and writing. Its 2-3 days of complete magic for the literary enthusiasts with various innovative writing skills competitions, word games, etymology workshops and enriching sessions conducted by eminent personalities like Prabhu Chawla, Ajay Upadhay, Vijay Simha to celebrate creativity.

Campus Diaries Story Hack: an online writing event held as a part of Literati 2012 explored creative potential of the students providing them a platform to show their writing skills and tell their stories to the world.

e. Board for Student Welfare (BSW)

The Board for Student Welfare (BSW), IIT Delhi carries out socially and academically relevant activities required for building an egalitarian society. This board is truly of the students, for the students and by the students. The students of this board works through the year to create well rounded individuals who are well equipped to face societal challenges. Various programmes, events, and workshops are conducted by BSW. Some of these are mentioned below:

Initially to start with BSW organized self enrichment program which was conducted by CREST (Centre for Research and Education for Social Transformation) for helping the fresher to improve their speaking skills, remove inhibitions and develop overall confident personality. A combination of events such as theatre, writing and speaking were conducted for the purpose. About 100 fresher's attended and got benefited by this program. An initiative to make sure that the transition of fresher into IIT life is smooth and they can make informed decision in their life at IIT Delhi, every fresher was assigned a mentor who would be a friend and guide for the fresher's stay at IIT Delhi and will help him analyze various options at different stages of IIT life. The BSW helped the freshers in their registration work, providing them with their time table, prospectus, students diary etc. and organized campus for mattress, cycles, books etc. These campus provided things at subsidized prices making them available inside the campus. It also included interactive sessions of the freshers with the Deans and the Director. Numerous workshops were organized by the BSW such as personality building workshops, SCS workshops, NRCVEE workshops etc. These workshops helped the freshers in a great deal during their period in IIT Delhi by providing them loads of knowledge and wisdom. The board also organized trips to Akshardham, Auto Expo, Book Fair, Rashtrapati Bhawan etc.

BSW also organized annual socio-welfare youth fest of Indian Institute of Technology Delhi called Speranza from 21st to

23rd Sept. 2012. In the course of a three day period, it achieved its mission of holistic development of individuals through various workshops, talk shows, interactive sessions, a mélange of cultural activities. New initiatives were taken to improve student teacher interaction. Student Counseling Service organized various useful workshops for freshers. It provides a confidential environment where a student can explore and express aspects of himself/herself that may be painful or uncomfortable. BSW also runs a student cooperative society that arranges for stationary items, notebooks, greetings cards, T-shirts and souvenir of IITD.

Student Counseling Service: Counseling Service provides a confidential environment where a student can explore and express aspects of himself that may be painful or uncomfortable. Dr. RupaMurgai helps the students in gaining their own insights, and making and acting on their own choices, thereby enabling them to resolve their issues.

Scoops: BSW runs a student cooperative society that arranges for stationary items, notebooks, greeting cards, T-shirts and souvenir of IITD.

National Service Scheme (NSS), National Cadet Crops (NCC) and National Sports Organization (NSO)

IIT Delhi is one of the very few technology institutions in the country where NSS, NCC and NSO are a part of academic curriculum (B. Tech.). It is offered as a course, and the students are required to complete certain requirements in 2 semesters. An "S" grade is awarded after this requirement is fulfilled satisfactorily.

2. NATIONAL SERVICE SCHEME (NSS)

A wide variety of activities were organized by NSS IIT Delhi in the academic year 2011-12. Orientation of NSS students was carried out in August 2012 and Gandhi Jayanti was celebrated on 2nd October 2012. NSS IIT Delhi implemented projects in which a team of volunteers worked towards a specific target. Noteworthy NSS Projects which have been completed this year include Slum Teaching for Underprivileged Children, Paper Conservation and Recycling. An ongoing project is Renovation of Biogas plant at Jwalamukhi Hostel.

Survey and Campaign to create awareness about ill-effects of smoking was carried out and a campaign to motivate Blood Donation was organized.

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 readingactivities, 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 Student counseling service (SCS) under the aegis of Board for Student Welfare aims at assisting students in sorting out their difficulties and dilemmas in a confidential environment. Students seek counseling for a variety of reasons, such as difficulties in adjusting to campus life, personality problems, relationships and academic pressures.

Counseling services entails use of cognitive Behavioral, Rational Emotive, Supportive and Interpersonal therapies to assist students and staff with problems. It offers psychoeducation for students, staff and parents. The Service also offers workshops and lectures for specific areas for personal growth and self actualization to the students. The centre maintains a small library for students with books of their interest in areas of personality development, self-esteem and confidence. Relaxation techniques are provided for immediate relief to a highly disturbed student.

SCS also conducts workshops and lecturers for students by inviting professionals from outside and Orientation for parents and students. Hostel visits, Mentor training, Confidence Building, Alcohol and Drug abuse, Cognitive behavior and relationships, Stress Management are major activities done by SCS.

10. Social Responsibility

(April 1, 2012 - March 31, 2013)

Social Responsibility

(April 1, 2012 - March 31, 2013)

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	71/2	71/2	71/2	71/2	71/2
OBC	27	27	27	27	27
PD	3	3	3	3	3

Seats reserved for SC/ST/PD candidates that remain unfilled cannot be filled by applicants belonging to other categories and thus remain vacant.

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.

Urban exposure Trip

"We expect to see the same enthusiastic participation from our volunteers in future."

SCHOLARSHIPS AND FINANCIAL ASSISTANCE

All SC/ST students are given scholarships and financial assistance as detailed below:

- All SC/ST Students are exempted from payment of tuition fee.
- 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 is less than 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.

"Enthusiastic Volunteers went to Munirka to distribute the gifts among the girls from our Teaching Project"

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 undergraduate students 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
A	-	-	01	-	01
B	-	01	-	-	01
C	02	-	01	-	03
D	-	-	-	-	-

**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, 87 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, inter-personal 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. The Institute has also conducted special orientation programmes for the entire class of 2012.

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 under-privileged. Voluntary blood donation and tree planting are undertaken.

IIT Volunteers at work for flood affected people.

11. Alumni Contribution

(April 1, 2012 - March 31, 2013)

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
Pearl Award (Batches 1965 to 1969)	**25,000/-**	**V.C. Bedi**
Amit Ji Memorial Trust	**50,000/-**	**Amit Garg Memorial Award**
Vera Kripalani & Anil Kripalani	**80,00,000/-**	**"Tolaram and Sunita Kripalani Applied Technology Laboratory" in Amar Nath & Shashi Khosla School of IT and naming of Seminar Hall as "Sirish Chandra & Vidya Mathur Seminar Hall" (Dedication ceremony for these facilities was held on 22 Feb, 2013)**

12. Financials

(April 1, 2012 - March 31, 2013)

The Institute is financed by the Department of Higher Education, Ministry of Human Resource Development, Government of India. During 2011-2012, the Institute received a grant of Rs. 31,900.00 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. Ist April to 31st March. The accounts of the Institute are annually audited by the Director General of Audit & Central Revenue of India. The 105th Finance Committee of the Institute (shown in the box on the side) in its meeting held on 15-02-2013 recommended Plan (Normal) Revised Estimates for Rs. 17,400.00 Lakh for the year 2012-2013 and Budget Estimates for Rs. 23,900.00 lakhs for the year 2013-2014 respectively and Non- Plan Revised Estimates for Rs. 24,205.97 lakhs for the year 2012-13 and Budget Estimates for Rs. 27,900.00 for the year 2013-14.

The following are the details for the financial year 2011-2012 and 2012-2013:

FINANCE COMMITTEE

(As on 31.3.2013)

Vijay P. Bhatkar, *Chairman*

R. K. Shevgaonkar

Rajendra Kumar

Kushal Sen

Amita Sharma (Ms.)

Navin Soi

Rakesh Kumar, *Secretary*

PLAN

Detailed Statement showing the Actual Receipt and Expenditure for 2011-2012 along with Revised Estimates 2012-2013 and Budget Estimates 2013-14

Particulars	Previous Year Actual 2011-2012 *(in Rs Lakhs)*	Revised Estimate 2012-2013 *(in Rs Lakhs)*	Budget Estimates 2013-2014 *(in Rs Lakhs)*
A. Receipt			
Normal Plan Grant from MHRD carryforward	648.18		
Normal Grant from MHRD (Normal)	15,400.00	17,400.00	23,900.00
OSC Non-Recurring Grant from MHRD Carryforward	368.27	--	--
Grant Due from MHRD	673.54	--	--
Total A	**17,089.99**	**17,400.00**	**23,900.00**
B. Expenditure			
Normal Development Activities & Increase of Students Intake (including new hostel)New Courses Modernisation & Thrust Areas			
(i) Non-Recurring	15,278.44	15,400.00	21,400.00
(ii) Recurring	1,811.55	2,000.00	2,500.00
Commitments against L.C.'s for the year 2011-2012			
Plan (Normal)	--	--	--
Total B	**17,089.99**	**17,400.00**	**23,900.00**

PLAN

Budget Estimates 2013-2014

Head of Expenditure	Actual 2011-2012 *(in Rs Lakhs)*	Revised Estimate 2012-2013 *(in Rs Lakhs)*	Budget Estimates 2013-2014 *(in Rs Lakhs)*
A. Developmental Activities & Increased Intake of Students (Normal)			
Major Works (including On going, Fresh Schemes)	**8,835.48**	**9,200.00**	**14,200.00**
Repair & Maintenance on Buildings	**157.26**	**600.00**	**1,500.00**
Teaching Equipment/Computerisation	**4,979.03**	**4,000.00**	**4,000.00**
Office General & Hospital Equipment/Furniture	**252.56**	**300.00**	**300.00**
Research Funds, Central Facilities & Thrust Areas	**180.04**	**300.00**	**400.00**
Library Books & Journals	**874.07**	**800.00**	**800.00**
Web Based Academic Systems	**-**	**200.00**	**200.00**
Institute Scholarships	**1,811.55**	**2,000.00**	**2,500.00**
Total	**17,089.99**	**17,400.00**	**23,900.00**

NON-PLAN

Detailed Statement showing the Actual Expenditure for 2011-2012 alongwith Revised Estimates 2012-2013 and Budget Estimates 2013-2014

Head of Expenditure	Actual 2011-2012 *(in Rs Lakhs)*	Revised Estimate 2012-2013 *(in Rs Lakhs)*	Budget Estimates 2013-2014 *(in Rs Lakhs)*
Institute Income	6,615.28	4,850.00	5,000.00
Grant from M.H.R.D.	16500.00	19355.97	22900.00
Total	**23115.28**	**24205.97**	**27900.00**

NON-PLAN

Detailed Statement showing the Actual Expenditure for 2011-2012 alongwith Revised Estimates 2012-2013 and Budget Estimates 2013-2014

Head of Expenditure	Previous Year Actual 2011-2012 *(in Rs Lakhs)*	Revised Estimate 2012-2013 *(in Rs Lakhs)*	Budget Estimates 2013-2014 *(in Rs Lakhs)*
A. Pay & Allowances	14,931.40	17,300.00	20,135.00
B. Academic Expenses	979.56	1,100.00	1,300.00
C. Educational Expenses	1,058.35	1,300.00	1,400.00
D. Estate Maintenance	2,796.52	3,280.97	3,725.00
E. Office Contingencies, Misc. & Commitments/ Provisions	1,102.27	1,225.00	1,340.00
Total	**20,868.10**	**24,205.97**	**27,900.00**

INCOME

Detail Statement showing the Actual Income for 2011-2012 alongwith Revised Estimate 2012-2013 and Budget Estimates 2013-2014

Sources of Income	Previous Year Actual 2011-20112 *(in Rs Lakhs)*	Revised Estimates 2012-2013 *(in Rs Lakhs)*	Budget Estimates 2013-2014 *(in Rs Lakhs)*
Academic Receipts	2,062.04	2,000.00	2,100.00
Receipt-Central Administration			
Interest on Investments	661.38	500.00	500.00
Charges for use of Staff Cars and Buses	6.04	5.00	5.00
Application Fee (Academic Receipt)	97.44	70.00	70.00
Sponsored Project/Consultancy	281.45	350.00	350.00
Cenvat Credits	--	100.00	100.00
Works & Building			
Licence Fee	182.99	125.00	150.00
Seat Rent	68.96	70.00	70.00
Water & Electricity	234.86	180.00	200.00
Hospital & Medical	0.33	1.00	1.00
Guest House	299.58	250.00	250.00
Joint Entrance Exam	1,032.08	430.00	450.00
GATE	1,561.94	650.00	650.00
Joint Admission Test for M.Sc.	27.52	50.00	30.00
Misc./ Other Receipts (including sale of obsolete equipments)	98.67	69.00	74.00
Total	**6,615.28**	**4,850.00**	**5,000.00**

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.1/12/2011) 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. Out of 53 auditable units 34 units were internally audited during the financial year 2012-13.

Appendix I

SENATE

(As on 31.3.2013)

R.K. Shevgaonkar, Chairman (Director)	Tapan Kumar Chaudhuri	M. Hanmandlu	N.D. Kurur
A.K. Agarwala	Santanu Chaudhury	S.E.Hasnain	Alok Madan
Ashwini Kumar Agarwal	P. V. Rao	S.M. Ishtiaque	J.P. Subrahmanyam
G.P. Agarwal	Sujeet Chaudhary	K.C. Iyer	Puneet Mahajan
V.K. Agarwal	Veena Chaudhary (Ms.)	A.K. Jain	Ranjan Kumar Mallik
R. Alagirusamy	Anoop Chawla	B.N. Jain	Manju Mohan (Ms.)
Sneh Anand (Ms.)	H.M. Chawla	N.K. Jain	Ratan Mohan
Anshul Kumar	Apurba Das	P.K. Jain	S.N. Maheshwari
Amit Kumar	L.M. Das	S.K. Jain	B.R. Mehta
S.K. Atreya	R.P. Dahiya	Sanjeev Jain	D.S. Mehta
Babu J. Alappat	S.K. Dash	V.K. Jain	S.N. Maiti
R. Bahl	M.G. Dastidar (Ms.)	Manjeet Jassal (Ms.)	Shashi Mathur
M. Balakrishnan	Manoj Datta	Mangla Joshi (Ms.)	Maithili Sharan
R. Balasubramanian	J.K. Dutt	Jayadeva	Prashant Mishra
D.K. Bandhopadhyay	Viresh Dutta	B. Jayaram	Saroj Mishra (Ms)
S. Banerjee	S.G. Deshmukh	Girija Jayaraman (Ms)	Sukumar Mishra
Kanika T. Bhal (Ms.)	B.L. Deopura	M. Jagadesh Kumar	A.K. Mittal
Ananjan Basu	Anupam Dewan	Joby Joseph	Aditya Mittal
S. Basu	Chinmoy Sankar Dey	S.D. Joshi	U.C. Mohanty
B.K. Behera	S.K. Dube	S.R. Kale	Sudipto Mukherjee
A.N. Bhaskarwar	Anil Jacob Elias	N.C. Kalra	S.S. Murthy
B. Bhattacharjee	O.P. Gandhi	Prem Kumar Kalra	S.N. Naik
R.K.P. Bhatt	A. Ganguli	Santosh Kapuria	R.B. Nair (Ms)
Bhim Singh	A.K. Ganguly	T.C. Kandpal	Sunil Nath
Naresh Bhatnagar	N.K. Garg	Ravinder Kaur (Ms.)	A.K. Nema
T.S. Bhatti	Naveen Garg	I.N. Kar	B.P. Pal
B. Bhowmik (Ms.)	Anup K. Ghosh	Subrat Kar	B.S. Panda
Bhuvneshwari G. (Ms.)	James Gomes	S.C. Kaushik	Preeti Ranjan Panda
Jayshree Bijwe (Ms.)	Pramila Goyal (Ms.)	Saroj Kaushik (Ms.)	P.S. Pandey
P.R. Bijwe	A.K. Gosain	A.K. Keshari	Sunil Pandey (on lien)
V.S. Bisaria	Ashok Gupta	Rajesh Khanna	D.K. Pandya
Ranjan Bose	B.D. Gupta	Mukesh Khare	K.K. Pant
Bijoy H. Boruah	Bhuvanesh Gupta	Neeraj Khare	Nalin Pant
Devi Chadha (Ms.)	Deepti Gupta (Ms.)	S.K. Khare	B.S. Panwar
Charusita Chakravarty (Ms.)	H.C. Gupta	Sangeeta Kohli (Ms.)	R.K. Patney
Chandra B. (Ms.)	K. Gupta	V.K. Kothari	Shankar Prakriya
Chandra Shekhar	M.N. Gupta	Veena Koul (Ms.)	Rajendra Prasad
B.R. Chahar	M.P. Gupta	S.K. Koul	Rajesh Prasad
Sudhir Chandra	S.K. Gupta (AM)	Ajit Kumar	Sanjiva Prasad
V. Chandra	S.K. Gupta (Ch.E.)	Arun Kumar (Phy.)	Surendra Prasad
Ratnamala Chatterjee (Ms.)	S.K. Gupta (CSE)	Arun Kumar (CARE)	K.R. Rajagopal

contd. ...

R. Chattopadhyay	V.R. Gunturi	S. Arun Kumar	R.N. Ram
A. Ramanan	Anil Kumar Saroha	Satyawati Sharma (Ms.)	G.N. Tiwari
N.G. Ramesh	Santosh Satya (Ms)	M.R. Shenoy	Geetam Tiwari (Ms.)
A.D. Rao	Anil Sawhney	A.K. Singh	K. Thyagarajan
K.S. Rao	D.K. Sehgal	Harpal Singh	C.A. Tomy
Alok Ray	Kushal Sen	Jai Deo Singh	V.K. Tripathi
Anurag Singh Rathore	Sandeep Sen	Purnima Singh (Ms.)	Suneet Tuli
M.R. Ravi	P. Senthikumaran	S.N. Singh	V. Upadhyay
Ravi Kumar D.	Kiran Seth	S.P. Singh	V.D. Vankar
Anjan Ray	D.T. Shahani	T.R. Sreekrishnan	M. Veerachary
Rengasamy R.S.	Jagdish T. Shahu	A.K. Srivastava	S.V. Veeravalli
G.B. Reddy	Ravi Shankar (Chy.)	Pankaj Srivastava	V.K. Vijay
Shantanu Roy	Ravi Shankar (DMS)	Amrit Srinivasan (Ms.)	G.S. Visweswaran
P.K. Roychoudhury	Anurag Sharma	P.M.V. Subba Rao	A.L. Vyas
Subir Kumar Saha	D.K. Sharma	P.V. Madhusudhan Rao	S.S. Yadav
Sanil V.	K.G. Sharma	R.K. Soni	Rakesh Kumar (Secretary).
Ambuj D. Sagar	O.P. Sharma	Suhail Ahmad	
Sanjeev Sanghi	R.K. Sharma	Sushil	
Huzur Saran	R.P. Sharma	N. Tandon	

EXECUTIVE COMMITTEE OF THE SENATE (ECS)

(As on 31.3.2013)

R.K. Shevgaonkar, Chairman	S.R. Kale
M.Balakrishnan	K. Thyagarajan
S.K. Koul	A.K. Jain
S.M. Ishtiaque	Huzur Saran
S.N. Singh	Basabi Bhaumik
Sushil	Sanil V.
Shashi Mathur	R. Chattopadhyay
S.K. Gupta	Arun Kumar
K .Gupta	(Ms.) Sneh Anand
Anurag Sharma	Sanjeev Sanghi
Santanu Chaudhury	S. Arun Kumar
Ashok Gupta	R. P. Sharma
Ambuj D. Sagar	O.P. Gandhi
SuneetTuli	S.K. Dash
Suhail Ahmad	D.T. Shahani
T.R. Sreekrishnan	(Ms.) Veena Choudhury
S. Basu	(Ms.) Satyawati Sharma
A. Ramanan	(Ms.) Sangeeta Kohli
Kanika T. Bhal	Naresh Bhatnagar
B.S. Panda	B.D. Gupta
	Registrar, Member Secretary

Appendix II

ADMINISTRATIVE AND OTHER STAFF

(As on 31.3.2013)

Administration	
Rakesh Kumar	Registrar (on deputation)
M.K. Gulati	Deputy Registrar (Accounts)
P. G. Basak	Deputy Registrar (E-I)
Nanak Chand Chauhan	Deputy Registrar (RTI Cell, Estate office & Legal Cell)
K.K. Bhattacharjee	Deputy Registrar (SP Section & R&I)
Vivek Raman	Deputy Registrar (PGS)
Atul Vyas	Deputy Registrar (AA&IP and Director's Office)
N. Bhaskar	Assistant Registrar (CDN, Plng, Pub and Transport)
R.K. Gupta	Assistant Registrar (Audit)
V.K. Vashistha	Assistant Registrar (IRD)
Anup Kuksal	Assistant Registrar (IRD A/c)
Ram Parsad	Assistant Registrar (SAS)
Alan V. Siante	Assistant Registrar (UGS)
Mohd. Shamim	Assistant Registrar (Accounts)
Ramesh Kumar Thareja	Assistant Registrar (E-II & Manpower Training)
V.U. Jayendran	Assistant Registrar (Hostel & Main A/c)
G.K. Taneja	Executive Engineer & Offtg. Institute Engineer
K.M. Vijay Kumar	Executive Engineer
Anuj Gaur	Executive Engineer
Sanjeev Kumar	Executive Engineer (on deputation)
Rafat Jamal	Assistant Executive Engineer
V. K. Bharaj	Assistant Executive Engineer
Hitendra Govil	Assistant Executive Engineer
K.P. Mishra	Assistant Executive Engineer
S. Mohan	Assistant Executive Engineer
Prem Kumar	Assistant Executive Engineer
Brahm Prakash	Assistant Executive Engineer
Ashok Kumar	Assistant Executive Engineer
Raju Ram Parihar	Assistant Executive Engineer
Administrative Computerisation Support Service	
S. Arun Kumar	Head
R. Raghavan (Ms.)	Senior System Programmer
K. Narayanan	Senior System Programmer
P.K. Baboo	Senior System Programmer
Pardeep Kumar Gupta	Senior System Programmer

Student Counselling Service	
Saroj Kaushik	Head
Rupa Murghai	Counsellor
Professors-in-Charge of Different Sections	
Sudipto Mukherjee	Professor-in-Charge (Planning & Publication)
Naresh Bhatnagar	Professor-in-Charge (Transport)
O.P. Sharma	Professor-in-Charge (Guest Houses)
Kushal Sen	Professor-in-Charge (Training & Placement)
Hindi Cell	
Santosh Satya	Head
Library	
B.D. Gupta	Chairman
J. P. Srivastava	Dy. Librarian
Nabi Hasan	Dy. Librarian
IIT Hospital	
Lily Khosa (Ms.)	Head Hospital Services
S.K. Aggarwal	Chief Medical Officer (SS)
Renu Misuriya (Ms.)	Medical Officer (SS)
Ajay Kumar Jain	Medical Officer (SS)
Mahesh Kumar Sagar	Medical Officer (SS)
Anila Khosla (Ms.)	Medical Officer (SS)
P. K. Rajesh	Medical Officer (Homeo)
Md. Ashafaque Hussain	Medical Officer

Appendix III

OTHER COMMITTEES

(As on 31.3.2013)

BUILDING AND WORKS COMMITTEE

R.K. Shevgaonkar, Chairman	K.N. Rai
Ashok Gupta	M.N. Joglekar
S. Ramanujam	K.J. Singh
Jose Kurian	S.N. Singh
Sanjay Gupta	Rakesh Kumar, Secretary.

ADVISORY COMMITTEE FOR LIBRARY

B.D. Gupta, Chairman	Anupam Dewan
Prashant Mishra	K.K. Pant
S.K. Khare	G.V. Raman
Huzur Saran	Jayadeva
Debasis Mondal	S.K. Jain
Aparna Mehra (Ms.)	S.P. Singh
Mangala Joshi (Ms.)	Arun Kumar
R.C. Raghava	Nivedita K. Gohil
A.K. Ganguli	R.K. Rai
Mahesh P. Abegaonkar	Jaya Srivastava (Ms.)
V.M. Chariar	B.K. Satapathy
S.K. Atreya	Rajesh Prasad
Subrat Kar	Mangala Joshi (Ms.)
Abdul Qyyum	Mohit Taak
Nikhil Goyal	Aditya Khandelwal
Santosh Satya (Ms.)	B.D. Gupta, Member Secretary

COMPUTER USERS' COMMITTEE

S. Arun Kumar, Chairman	B.P. Patel
A.K. Srivastava	Ratan Mohan
Nalin Pant	N.K. Garg
Maya Ramanath	Subrat Kar
Debasis Mondal	S.P. Singh
Mani Mehra	P.M.V. SubhaRao
Sujeet Chaudhary	R. Chattopadhyay
K.M. Achuta Rao	S.M.K. Rahman
R.P. Sharma	R.K. Rai
R. Bahl	Jyoti Kumar
Anushree Malik (Ms.)	Savita Goel (Ms.)
Gopal krishanan	K. Narayanan
S. Seetharaman	Rishab Kumar
Nikitha Pathak (Ms	Gaurav Yadav
Saroj Kaushik (Ms.)	Pragya Jain (Ms.) , Member-Secretary