Indraprastha Institute of Information Technology Delhi

Okhla Phase-III, New Delhi-110020

SELF STUDY REPORT

SUBMITTED TO

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

September 2014

9th September, 2014

Prof Pankaj Jalote
Director, IIIT-D

To,
The Coordinator
NAAC

Sir,

Sub: Submission of Self Study Report for NAAC Accreditation

Ref:

I am submitting the Self Study Report of the Indraprastha Institute of Information Technology Delhi (IIIT-D) to be considered for assessment and accreditation. It would be convenient if your peer team can make arrangements to visit us on early December 2014.

Yours sincerely,
(Prof Pankaj Jalote)

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Information on Indraprastha Institute of Information Technology, Delhi (IIIT-D) for Approval of NAAC Accreditation

Executive Summary

Background.

Indraprastha Institute of Information Technology Delhi is an Institute of higher education, with a strong focus on Education as well as Research and Development. It was created by an Act of Govt of Delhi as a fully empowered State University in April 2008, and started its academic programs the same year. It is an autonomous Institute, with the Board (current Chairman: Mr. Kiran Karnik, who is ex-President, Nasscom) fully empowered to take all important decisions, including student intake and fee structure. The Board is supported by the Academic Senate of the Institute, which is empowered to make all academic policies, and which advises the Board on starting of new academic programs.

Institute's Mission and Vision statements:
The Institute's stated mission is to be a global centre of excellence in Information Technology education, training and research. Its twin aims are:
- To carry out advanced research and development in information and software technologies, and in leveraging IT in specific domain areas.
- To train and educate, at both undergraduate and postgraduate levels, engineers of outstanding ability who can become innovators and new product creators.

The vision of the Institute is to be a world-class R&D-led institute of higher education in IT and allied areas which:
- Is globally respected for research and education
- Offers thriving UG and PG programs
- Is linked globally, Industry-facing, socially relevant

Faculty.

Faculty forms the backbone of any academic Institution. As it is a research-led institute, IIIT-Delhi recruits only PhDs for its regular faculty positions, and has now over 40 faculty members on its rolls. All of them have PhDs, most of them having PhD from US and Europe. These regular faculty members are well supported by about 8 visiting faculty who also help in teaching, and by about 10 adjunct faculty who collaborate in research. The Institute continues to attract top quality faculty to it.

Education Programs.

The institute currently offers B.Tech, M.Tech and PhD programs in Computer Science and Engineering (CSE) and Electronics and Communications Engineering (ECE). Within the MTech program, it has seven different specializations. For the BTech students an option of Minor exists to support interdisciplinary – currently Minors in Economics and Computational Biology are offered. The total student strength of the Institute is around 1000, including about 200 MTech students, and about 80 PhD scholars.

Curriculum

The institute has an innovative curriculum, starting with some engineering courses in the first year itself to excite the students about engineering and to empower them soon with the ability to design and build systems. To encourage engineering, in the first year all students do an Intro to Engg Design course, in which they do a group project of building something involving both hardware and software. Most of the core courses, which impart the foundations in CSE or ECE, are covered in first two years, thereby imparting basic skills in these disciplines within two years. The second half of the BTech program largely comprises of elective courses, some of which can form a stream to provide limited specialization in some sub-area. There is also a strong focus on humanities and social sciences also – all students have to do at least 3 courses in HSS – as well as communication skills with all students doing a basic communication skills course in first year and a technical communication course in second year. Options exist for Independent study, undergraduate research, and BTech project in three categories – research, engineering, and entrepreneurship.

The Mtech is also a credit based program, which has a thesis option as well as a scholarly paper option, catering to those students who want to pursue research oriented careers, as well as those who want to pursue industry careers.

The curriculum is reviewed on an ongoing basis by the faculty and Senate, and adjustments are made as and when needed. New courses in emerging topics are floated as electives regularly – there is a regular defined process for doing this. Every semester more than 50 courses are taught, more than 30 of which are electives. Some electives are also offered in collaboration with industry experts.

Teaching and Learning

Each course has a well-defined learning outcome, called the post conditions. The instruction and assessment plan is consistent with the learning outcomes of the course. All assessment is internal and rigorous. The Institute follows the best practice of continuous evaluation where some assignment or test or quiz is given regularly every one to two weeks, and all these assessments contribute towards the final grade. In advanced courses there are often larger group projects which develop enhanced problem solving capabilities as well as teamwork capability. Students are shown the result and comments of each assessment and if there are any errors they can represent to get them rectified. Overall, the assessment system uses multiple instruments for

evaluating students' learning, and is fully transparent with students having clear visibility in how they are progressing.

Research and Development

Research remains the key focus of the institute. The Institute has already established one of the strongest Ph.D. programmes in Computer Science in the country, as well as a strong PhD program in ECE. The total strength of its PhD scholars have crossed 80 now (in Aug 2014). Many of the PhD scholars been granted prestigious fellowships such as the Prime Minister's Fellowship for Doctoral Research, IBM, and TCS Fellowships. It also has a joint PhD program with QUT Australia, where PhD students will spend approximately equal time in the two Institutions, will have joint guidance from faculty from both the Institutes, and will be granted joint degree.

Its faculty members and students have published in the previous academic year alone over 110 papers in international journals and conference proceedings. They have won various coveted awards, including Best Paper and Poster awards in national and international conferences. Four of our young faculty members are the proud recipients of the DST's Inspire fellowship, while another one has been honored with Adobe's Excellence in Research Award.   In the previous year alone 17 proposals of faculty members have been approved for funding by various agencies for a combined R&D project funding commitment of Rs. 3 crore with top funding agencies being DST, Deity and Media Lab Asia.

The institute remains committed to developing technologies that can be transferred for commercial exploitation or use by other organizations. Last year alone over two dozen tools and technologies were developed which were transferred to 15 organizations /NGO's/ Community. Three start-ups based on technologies and tools developed at IIIT-Delhi have been started – one in the area of energy management, one in education, and one in social networking.

Placement

IIIT-D has witnessed an excellent placement record since its first B.Tech batch graduated in 2012. Companies like Adobe, Citrix, Google, IBM Research, Informatica, Infosys Labs, KPMG, Microsoft, Opera Solutions, PayPal and TCS Research have visited our campus for recruitments. Our students have received an average package of over Rs 8 lakh per annum, with the highest Indian salary being Rs 16.5 lakh per annum. Three startups have also been started by the graduating students. About 10% of our students are going for higher studies abroad – most with Fellowships. This is a remarkable figure, probably close to what the premier Institutions in the country achieve.

Infrastructure.

The Institute's permanent campus in Okhla became operational in August 2012, before which it was functioning from NSIT, Dwarka. The phase-I of the construction of IIIT-D's permanent

campus saw utilization of 30,000 sqm of building space for its functioning, including a Faculty and Research block for 50 faculty members and eight research centres; three big lecture halls with a total capacity of 500, two more which can accommodate a total of 120 students and five smaller ones with an overall capacity of 150; a recreation centre, a boys' hostel and a girls' hostel along with playing areas; and a Service block. The proposal for Phase-II of the construction has been approved by the Delhi government, which will add another 60,000 sqm of building space to cater to 2,500 students and 125 faculty members.

IIIT-D has a campus-wide state of the art computer network of more than 500 Nodes connected by a high speed Ethernet All the hostels, faculty blocks, administrative block, library, classrooms and residences are connected through redundant 10-gigabit fiber backbone network. All the blocks are also connected through layer 2 & 3 switches to provide 1Gbps connectivity at the user end. Every hostel room has a dedicated LAN connection to provide round the clock access to resources on the net. Wireless network with 92 access points is also enabled in the faculty block, library, classrooms and hostel blocks.

IIIT-D has a full-fledged data centre, with over 40 Servers and network unified storage of 45.3TB. The data centre is powered by redundant UPS backup to ensure maximum uptime. The institute Data Centre has an LTO 6 Tape Backup solution deployed for taking onsite and offsite backup of critical data. The Tape Library is directly connected to SAN and provides direct backup from SAN storage, besides allowing us to make any server disk to tape backup through the backup server. For software, the institute mainly focuses on usage of free operating system like Ubuntu etc. However, keeping in view its requirements, the institute also has licenses for Microsoft Windows, RHEL, and Microsoft Office. It also has licenses for specialized software like matlab, synopsis tools, cadence, mentor graphics etc.

The entire Campus is equipped with IP telephony. It has 115 IP phones and more than 100 analog phones. It has videoconferencing facility (Polycom HDX7000 VC System) as well as VPN facility to access resources from outside campus using any Internet connection. The institute has more than 100 laptops issued to its faculty, staff and students. For printing and other facilities, the institute has 91 printers and scanners. In order to facilitate proper teaching aid, all classrooms here are equipped with projectors and audio systems.

For its academic management and record keeping, Institute has an Academic ERP system, on which accounts have been provided to students and faculty. For students, ERP provides the facility to register for courses, add-drop courses and view grades. For faculty, it provides the facility to view the courses they are offering, view list of students enrolled in the courses and enter grades.

Institute has a well-equipped library with books, subscription to digital libraries of ACM, IEEE, Springer, etc., INFLIBNET facility.

B. Profile of the University

1.   Name and Address of the University:

Name	Indraprastha Institute of Information Technology Delhi	
Address:	Okhla Industrial Estate, Phase III, (Near Govind Puri Metro Station)	
City: Delhi	Pin: 110020	State: Delhi
Website: www.iiitd.ac.in		

2.   For Communication:

Designation	Name	Telephone with STD code	Mobile	Fax	E-mail
Director	Prof Pankaj Jalote	O: 011-26907480 R: 011-26907628	9910367608	011-26907405	jalote@iiitd.ac.in
Registrar	Mr. Ashwani Kansal	O:011-26907419 R:011-27321114	9582828002	011-26907405	kansal@iiitd.ac.in
Steering Committee/IQAC Coordinator	Mr. Ashwani Kansal Mr. Kapil Chawla Mr. K.P Singh	O:011-26907419 011-26907418 011-26907422			kansal@iiitd.ac.in kapil@iiitd.ac.in kpsingh@iiitd.ac.in

3.   Status of the University:

State University	Yes, It is state university established by the Government of NCT of Delhi, by IIITD Act 2007.
State Private University	
Central University	
University under Section3 of UGC (Deemed University)	No
Institution of National Importance	
Any other (please specify)	

4.   Type of University:

Unitary	Yes
Affiliating	No, it's non affiliating University

5. **Source of funding:**

Central Government	Yes, University gets some funding from UGC and AICTE under various schemes.
State Government	Yes, Government of NCT of Delhi provides some funds to the University.
Self-financing	
Any other (please specify)	

6. **a**. **Date of establishment of the University:** 10/06/2008 by an ACT of Government of NCT of Delhi

b. Prior to the establishment of the university, was it a/an:
Not Applicable

7. **Date of recognition as a university by UGC or any other national agency:**

Under Section	Dd	Mm	yyyy	Remarks
i. 2f of UGC*	05	01	2010	
ii. 12 B of UGC*	15	01	2013	
iii. 3 of UGC#				
iv. Any other>(specify)				

 *Enclose certificate of recognition. – *Please see **Annexure A***

 #enclose notification of MHRD and UGC for all courses/programs/campus/campuses.–

  Enclose certificate of recognition by any of the national agency/agencies, if any.

8. **Has the university been recognized?**

a. By UGC as University with Potential for Excellence?
No not as of now.
If, yes date of recognition: N/A

b. For its performance by any other government agency?

 Not Applicable

9. **Does the university have off-campus centres?**

No, University does not have any off-campus centre, it is a non-affiliating university.

10.   Does the university have offshore campuses?

No, University does not have any off-campus centre, it is a non-affiliating university.

11.   Location of the campus and area:

	Location *	Campus area in acres	Built up area in sq.mts
I. Main campus area	Urban	25 acres	32508.71 (Already Built Up) and for the phase-II 66,000 sqm has been approved by the Govt of Delhi.
II. Other campuses in the country	Not Applicable		
III.Campuses abroad			

(* Urban, Semi-urban, Rural, Tribal, Hilly Area, Any other (please specify) -----Urban.

If the university has more than one campus, it may submit a consolidate self-study report reflecting the activities of all the campuses.

12.   Provide information on the following: In case of multi-campus University, Please provide campus-wise in formation.

- **Auditorium / Seminar complex with infrastructural facilities**
- **Sports facilities**
- **Playground**
- **Gymnasium**
- **Any other (please specify)**

Yes, the institute is equipped with a number of indoor and outdoor sports facilities. The top floor of the Dining Block houses a gymnasium, table tennis tables, and pool tables, while chessboards and carom boards are available in the hostel common rooms. The institute also has a multi-purpose sports field, two tennis courts, a basketball court, a volleyball field and two badminton courts.

The institute's gym offers facilities like treadmills, cross-trainer, recumbent bike, abdominal machine and dumbbells. For queries pertaining to gym membership, students should contact Officer, Sports and Student Facilities.

- **Hostel**

IIIT Delhi provides accommodation to students wishing to reside in the hostels. At present there are two hostels, one for the boys having 372 seats and another for the girls with 164 seats. Each room in both the hostels is provided with a cot, a table, a chair, a bookshelf, a ceiling fan and also AC, which is functional during night. Internet connectivity too has been extended to the hostels.

There is a common mess for the boys and girls which functions during the working semester. Air conditioning is provided in the mess during lunch time. During the winter and summer vacations, a special mess is run for students who are required to stay in the hostels for pursuing academic, sports or cultural activities. In addition to the common mess, there are two cafeterias, one located in the academic building and the other in the common mess building which cater to the needs of the students and faculty.

HOSTEL ZONE

Girls Hostel

Boys Hostel

Dining Block

Each hostel also has a Hostel Committee which is an advisory body comprising the Dean (Student Affairs) and the elected student representatives as its members. The Hostel Committee also coordinates with the Mess Committee for the running of the mess. Students can relax in the evenings or on holidays, or spend their leisure time in the Common Room which is equipped with a TV, newspapers and magazines. **Any other (please specify)**

Residential facilities for faculty	Yes, 29 Flats are available for the faculty.
Cafeteria	02, out of which main cafeteria is open 24*7.
Health centre- Nature of facilities available – inpatient, outpatient, ambulance, emergency care facility, etc.	Facility for first aid is available and for emergency institute has a tie up with nearby hospitals.
Facilities like banking, post office, book shops, etc.	Yes, multipurpose shop, ATM is available on campus and for routine bank operations bank person visits frequently.

Transport facilities to cater to the needs of the students & staff.	No, institute is very well connected with Delhi Metro and DTC bus service.
Facilities for persons with disabilities	Yes, entire campus is disabled friendly.
Animal house	Not Applicable
Power house	Yes, power backup is also available 24*7
Waste management facility.	Yes, Ours is one on the neatest campus of the town.
Guest House	Institute also has a guest house to accommodate guests on campus. Total facility available is for 7 Rooms with double bed.

13. Number of institutions affiliated to the university

Type of colleges	Total	Permanent	Temporary
Arts, Science&Commerce			
Medicine			
Engineering	N/A		
Education			
Management			
Other (specify& provide details)			

14. Does the University provide for conferment of autonomy (as recognized by the UGC) to its affiliated institutions? To its affiliated institutions? If yes, give the number of autonomous college under the jurisdiction of the university.

No, University is non-affiliating University.

15. Furnish the following information:

Particulars	Number	No of Students		
		2011-12	2012-13	2013-14
a.University Departments				
Undergraduate	2	480	480	532
Postgraduate	2	60	76	176
Research centres on the campus	10	21	39	66

b.Constituent colleges	
c.Affiliated colleges	
d.Colleges under2(f)	
e.Colleges under2(f) and 12B	
f. NAAC accredited colleges	Not Applicable as university is non affiliating university.
g.Colleges with Potential for Excellence (UGC)	
h. Autonomous colleges	
i. Colleges with Postgraduate Departments	
j.Univ. recognized Research Institutes / Centres	

16. Does the university conform to the specification of degrees as enlisted by the UGC?

Yes, all the degrees conform to the specification of degrees as enlisted by the UGC.

17. Academic programmes offered by the university departments at present, under the following categories: (Enclose the list of academic programs offered)

Programmes	Number
UG	2
PG	2
Integrated Masters	N/A (There is a dual-degree option for BTech students to get MTech)
M.Phil.	N.A
PhD	2
Integrated PhD	N.A (There is an option for MTech students to migrate to PhD while taking MTech on the way.)
Certificate	N.A
Diploma	N.A
PG Diploma	N.A

Any other (please specify)	N.A
Total	6

18. Number of working days during last academic year   :   240

19.   Number of teaching days during the past four academic years   : 128X 4 =512

20. Does the university have a department of Teacher Education?

No the University does not have a department of Teacher education, but the University regularly conducts a workshop on effective teaching for week's duration.

21. Does the university have a teaching department of Physical Education?

No there is not any teaching department of Physical education, but Institute has full time sports officer and guest coaches for special assistance for games and Yoga are invited on regular basis.

22. In the case of Private & Deemed Universities, please indicate whether professional Programmes are being offered.

No, this is a State University but professional programmes are being offered.

23. Has the University been reviewed by any regulatory authority? If so, furnish a Copy of the report and action taken there upon.

Yes University has been reviewed by the regulatory bodies such as UGC and ACITE. UGC has reviewed the university under section 2f and 12B the report under section 12B and approvals under section 2f, 12B are at *Annexure B*

24. Number of positions in the university

Position	Teaching Faculty			Non-teaching staff/others
	Professor	**Associate Professor**	**Assistant Professor**	
Sanctioned by the UGC/University State Govt.	8	15	37	41
Recruited	2	5	29	22
Yet to recruit	6	10	8	19
Number of persons	NA	NA	NA	

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25. Qualification of the teaching staff

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teacher							
PhD	2	Nil	3	2	3	26	36
M.Phil.							
PG							
UG							
Temporary teachers / Contractual							
PhD					1	1	
M.Phil.							
PG					2	7	
UG							

26. Emeritus, Adjunct &Visiting Professors.

	Emeritus	Adjunct	Visiting
Number	0	16	10

27. Chairs instituted by the university:

- No of Chairs -Nil
- No of Faculty Research Fellowships -03

28. Students enrolled in the university departments during the current academic year, with the following details

Students	UG	PG	PhD
From the state where university is located	*M *F 322+131	**M*F** 37+53	**M*F** 38+28
From other states of India	57 +22	53+50	

*M-Male *F-Female

29. **'Unit cost' of education**

(Unit cost= total annual recurring expenditure (actual) divided by total number of students enrolled)
   (a) Including the salary component = Rs. 225840/-
   (b) Excluding the salary component= Rs. 95,000/-

30. **Academic Staff College**

No, University does not have any academic staff college.

31. **Does the university offer Distance Education Programmes (DEP)?**

No University does not offer any Distance Education Programmes but very soon, University is starting Continuing Education Program (CEP).

32. **Does the university have a provision for external registration of students?**

No, there is not any formal mechanism for this, but university allows transfer of credits as agreed.

33. **Is the university applying for Accreditation or Re-Assessment? If Accreditation, name the cycle.**

Yes University is applying for Accreditation, Cycle 1.

34. **Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 & re-assessment only)**

Not applicable.

35. **Does the university provide the list of accredited institutions under its jurisdiction on its website? Provide details of the number of accredited affiliated / constituent/ autonomous colleges under the university.**

Not Applicable.

36. **Date of establishment of Internal Quality Assurance Cell (IQAC) & dates of submission of Annual Quality Assurance Reports (AQAR)**

No, there is not any IQAC cell as such, but Institute has developed its own internal quality audit on monthly basis by inter departmental officers based on departmental parameters such as:

- Service level agreements
- Standard check lists
- Standard operating procedures
- Etc.

37. **Any other relevant data, the university would like to include**

Achievements:
IIIT-D is among the government institutes having the largest student intake in B.Tech. And M.Tech. Courses and also takes pride in having one of the largest Ph.D. programs in Computer Science. With over 10 best paper/poster awards in international conferences, 12 TCS Ph.D. fellowships (both believed to be the highest in the country), and 3 PM's doctoral fellowships (next only to IITB), the IIIT-D has stood out in the academic circles both in India and abroad.

2. Criteria - wise Inputs

CRITERION I: CURRICULAR ASPECTS

1.1   Curriculum Design and Development

1.1.1   How is the institutional vision and mission reflected in the academic programmes of the university?

The mission of IIIT-Delhi is to be a global centre of excellence in Information Technology education, training and research. As such, the university offers B.Tech and M.Tech program in the two main disciplines related to IT, viz. Computer Science & Engineering (CSE) and Electronics & Communication Engineering (ECE). It also offers a two PhD program.

1.1.2   Does the university follow a systematic process in the design and development of the curriculum? If yes, give details of the process (need assessment, feedback, etc.).

Yes. The curriculum is designed by a committee consisting of faculty in the concerned discipline from within the Institute, other Institutions, and experts from industry. Feedback is obtained from a wide range of experts in the discipline (both in India and abroad).

For each course its pre-requisite courses & concepts and learning objectives (which are called "post conditions") are clearly stated, based on which the instruction plan and assessment plan is designed. Periodically, new courses are introduced to address emerging areas.

The faculty body to ensure the continuity course / program also reviews courses.

Course wise feedback is taken from students twice a semester. Once before the mid semester exams and other before the end semester exams. Individual course feedback is collected though an online portal, where each student has to give course wise feedback. The course wise automatically generated summarization report goes to individual instructors which help them look into the student requirements and do the desirable changes. Student feedback points are considered as a basis for rewarding the instructors who are performing well and taking corrective actions wherever desirable.

1.1.3   How are the following aspects ensured through curriculum design and development?

* Employability
* Innovation
*Research

Employability: There is a set of courses which focus on developing, besides deep understanding of concepts, solid hand-on skills for design and development. Such courses also specify in their learning objectives the skills the student is expected to build as a result of the course. Feedback of companies invited for placement of graduating students is used for modifying the curriculum and course delivery.

Innovation: Students at both UG and PG levels are provided numerous opportunities for innovation via internships, projects, undergraduate research, BTech project, course projects, independent study courses, online courses and other initiatives.

Faculty members have the option of offering courses on special topics, which can be of lesser duration (1 month / 2 months) to educate students about innovative advancements in science and technology.

Research: Faculty members are active researchers and involve students in their research projects in various capacities. UG students can participate in research through the option of Undergraduate Research, or BTech project, which can be done under the "research" category. At the MTech level, students do a thesis, and may do projects in their courses.

1.1.4   **To what extent does the university use the guidelines of the regulatory bodies for developing and/or restructuring the curricula? Has the university been instrumental in leading any curricular reform which has created a national impact?**

The university uses the approaches developed by other national level institutes of technology, such as IITs and IIITs for developing its curricula. It also uses guidelines developed by professional bodies such as ACM, IEEE for inputs in the curriculum design. The university is approximately six years old; hence, it is too early to consider leading any curricular reform at national level.

1.1.5   **Does the university interact with industry, research bodies and the civil society in the curriculum revision process? If so, how has the university benefitted through interactions with the stakeholders?**

The Senate is the main body for all academic matters and regularly reviews various aspects of the curriculum. The Senate consists of experts from industry, other academic institutions, and students' representatives. Thus, ensuring the participation of all in curriculum review and enhancement process.

On several occasions, external faculty (from institutions like IIT Delhi, IIT Kanpur, IIIT-Hyderabad, DU, ISB etc.) had been invited in the past to discuss the curriculum and course contents. Such meetings are held regularly as part of curriculum revision process. The ECE curriculum is set up with help of Prof Sumit Roy of the University of Washington, as well as experts from IITK, IITD, and IISc Bangalore.

1.1.6 Give details of how the university facilitates the introduction of new programmes of studies in its affiliated colleges.

Not applicable (unitary university).

1.1.7 Does the university encourage its colleges to provide additional skill-oriented programmes relevant to regional needs? Cite instances (not applicable for unitary universities).

Not applicable (unitary university).

1.2 Academic Flexibility

1.2.1 Furnish the inventory for the following:

∗**Programmes taught on campus**

UG Level
B.Tech. in CSE – 125 intake
B.Tech. in ECE – 50 intake

PG Level
M. Tech in CSE – 80 intake
M. Tech in ECE – 40 intake
Ph.D. in CSE -20 intake
Ph.D. in ECE – 20 intake

Others
B. Tech-M Tech (Dual degree)-10 intake

∗**Overseas programmes offered on campus**

We do not offer overseas programmes on campus. However, a collaborative PhD Programme **by the Indraprastha Institute of Information Technology-Delhi (IIIT-D)** and Australia's Brisbane-based **Queensland University of Technology (QUT) has been started** to promote cooperative educational exchanges. Institute also has started taking foreign students in BTech program through DASA.

∗**Programmes available for colleges to choose from**

Not applicable

1.2.2 Give details on the following provisions with reference to academic Flexibility

a. Core / Elective options

B.Tech Programme

The B.Tech (CSE) program can be divided broadly into two halves. The first half focuses on building the foundations, is highly structured, and consists mostly of core (i.e. compulsory) courses. The second part is for developing the skills and knowledge of the students in various areas depending on their interests, and comprises almost completely of electives.

The Foundation Programme provides the basic knowledge about CSE/ECE through a set of core courses, which are compulsory for all students. The first year, consists of courses in four topics: software, hardware, theory, and systems. Besides these, there are courses in math's and communication skills also as part of the first year.

The B.Tech program starts with computing and electronics courses first, and allows the possibility of doing science courses later. Besides being better suited for developing engineering capabilities, it enables the students see newer applications and provides possibilities of using computing and electronics in these subjects.

The first year of the ECE Programme is common with CSE - this allows flexibility to students in moving from one stream to the other. The second year Programme is mostly discipline based core courses – where students do the remaining foundational courses in ECE or CSE.

In the second half of the program, almost all courses are electives – i.e. students choose from a set of courses. These electives are also organized as streams in special areas (e.g. circuits, security, image processing and theory), allowing students to gain a limited specialization in the area of these streams, (a student can easily do two streams, in addition to other courses). In this second half, students can also take some credits of Independent Study or Undergraduate Research, and can also opt for BTech Project (BTP).

M.Tech Programme

M.Tech program has a small core of three courses – to be done from a basket of courses. Rest of the courses are electives, which may be taken from a specialized area to get a "specialization" – for a specialization, the student has to do some number of courses in that area and do his/her thesis or scholarly paper in it.

M.Tech may be done with a thesis, or without a thesis but with a scholarly paper. In both options, students have to do certain amount of course work. Students pursuing M.Tech *with thesis* will have to do a thesis. Students in *scholarly paper* option will do a scholarly paper, and will have to pursue additional courses.

The overall credit requirement for the M.Tech is 48 credits. Requirements for thesis and scholarly paper options are as follows:

M.Tech with thesis: 32 credits of course work + 16 credits of thesis. At most 4 credits may be earned by doing 300 and 400 level courses.

M.Tech with Scholarly Paper: 40 or 44 credits of course work + 8 or 4 credits for a scholarly paper. At most 8 credits may be earned through doing 300 and 400 level courses.

b. Enrichment courses

IIIT-Delhi has evolved a system for allowing students to take online courses. Students can take advantage of the increasing amount of such courses made available by reputed universities across the world to complement the courses offered in the institute.

c. Courses offered in modular form

Many courses are taught in a modular manner, where one module finishes and assessment is done, before starting the next module.

Continuous assessment: every module is assessed continuously during instruction and once again at the end of the course.

Furthermore, to help further strengthen the foundations of incoming students in some areas, the institute had started special refresher modules during the winter/summer. Some of these modules include "Introduction to C", "Data structures and algorithms", "Java programming", etc. These were conducted in summers of 2013 and 2014, as well as in December 2013.
Some of these modules are treated as a '0' Credit Courses, which show up on students' transcripts.

d. Credit accumulation and transfer facility

The programs at IIIT-Delhi are all credit based – a student's needs to earn some credits, with some constraints, to graduate.

Credit Transfer Facility. There is a provision for allowing the students registered at other institutes/Universities to do courses/Projects at IIIT-Delhi and transfer the credits for the award of Degrees. There is also a provision for students in IIIT-Delhi to do courses (with approval) in other institutions and apply for credit transfer towards his/her degree.

e. Lateral and vertical mobility within and across programmes, courses and disciplines

1. Across Discipline

Branch transfer from CSE to ECE or ECE to CSE is possible after the first year of studies grades declared. A student must make an explicit request to be considered for branch transfer. Rules for branch transfer are:
- The total number of students in CSE and ECE should remain within 10 of their strength before the transfer.
- The students eligible for branch transfer will be ordered in a priority list based on CGPA, and will be granted transfer in order as long as the rule about strength given above is not violated.

2. Across Programs

UG level
IIIT-D runs Dual Degree programs in CSE & ECE under the Dual Degree Programme. A B.Tech student can opt to migrate to dual degree program of the institute any time before the last date of Add/Drop of his/her, 7th semester of the BTech program provided the students CGPA is 7.0 or above at the time of applying are eligible for the program.

In 2012, two students opted to migrate from B.Tech. to Dual Degree Programme of B.Tech and in 2013, three students opted to migrate from B.Tech. to Dual Degree Programme of B.Tech

PG level
IIIT-D allows migration from both M.Tech to PhD and PhD to M.Tech. In addition to above a PhD student may be granted additional M.Tech degree provided he/she fulfills requirements for the same. Many of the students eventually migrate to a PhD program after getting exposure to the rich research led course & project. On the other hand, PG committee may recommend PhD students to migrate to M.Tech program if they are not found to be capable of pursuing a research intensive PhD program.

Over the years, 20 students of MTech have migrated to PhD.

25

1.2.3 Does the university have an explicit policy and strategy for attracting international students?

B.Tech. Programme

Ten supernumerary seats are reserved for foreign nationals for admission to B.Tech programs. Apart from above, there is a provision to allow foreign nationals to do some courses/project as non-degree students for a semester. The credits earned are allowed to be transferred to their institutes. In 2014 we took nine students through DASA program. There is a designated faculty coordinator looking into all this concerning international affairs of students.

1.2.4 Have any courses been developed targeting international students? If so, how successful have they been? If 'no', explain the impediments.

Our programs and courses are very contemporary and in line with what is taught in the best institutions across the world. The text books used are also authored by national & international experts and published by acclaimed publishing houses all over the world. This allows us to participate in global exchange programs, which we are now targeting.

1.2.5 Does the university facilitate dual degree and twinning programmes? If yes, give details.

The institution does offer Dual Degree Program in BTech-MTech. The course duration is of 5 Years. The main motive behind the program is to have some of the UG students of the Institute do their MTech, so the Institute can leverage the training it had provided and the seamless transition into the MTech program to benefit its research activity, as well as reduce the duration for earning the MTech degree. There is also a joint PhD program with QUT Australia, where the student will have to spend time in both institutions to get a degree – stay in QUT is supported by them, while the stay in IIIT-D is supported by the Institute.

1.2.6 Does the university offer self-financing programmes? If yes, list them and indicate if policies regarding admission, fee structure, teacher qualification and salary are at par with the aided programmes

There are no separate self-financing programs or fees. All programs are open and with uniform fee (though we have fee waiver programs based on income). There is uniform and Board defined scale for all teachers.

1.2.7 **Does the university provide the flexibility of bringing together the conventional face-to-face mode and the distance mode of education and allow students to choose and combine the courses they are interested in? If 'yes,' give operational details.**

IIIT-Delhi has evolved a system for allowing students to take a limited number of online courses for credit. Students can take advantage of the increasing amount of such courses made available by reputed universities across the world to complement the courses offered in the institute. Rules regarding the same are given below.

Students can register for online courses which provide a certificate of completion at the end. Appropriate limits have been defined on the number and scope of online courses to maintain a balance between course offered by the faculty member & online courses.

For online courses only S/X grades will be issued (which will not be counted towards computing of CGPA but will be counted towards the number of credits required for degree).

To prevent misuse of this facility registration for online courses requires the permission of the Dean/Chair of UG Committee and also Permission will not be given for courses which are also offered regularly by the institute.

A supervisor faculty is appointed for marking the progress of the students doing the online course. The supervising faculty will decide how the course will be evaluated and will be responsible for assigning a grade.

Also for some courses, lectures are recorded and uploaded on the website. The same can be downloaded and viewed by the students anytime at their convenience. IIITD plans to extend this facility for all courses.

1.2.8 **Has the university adopted the Choice Based Credit System (CBCS)? If yes, for how many programmes? What efforts have been made by the university to encourage the introduction of CBCS in its affiliated colleges?**

Yes, the institute has adopted the Choice Based Credit System (CBCS) for all the programmes i.e. B.Tech (CSE), B.Tech (ECE), M.Tech (CSE) and M.Tech (ECE), Dual Degree in CSE & ECE and PhD (CSE) and PhD (ECE) – as mentioned above, students have a lot of flexibility in deciding what courses they take and have them count towards their graduation credit requirements.

1.2.9 **What percentage of programmes offered by the university follows?**

 ∗ Annual system =0%
 ∗ Semester system= 100%
 ∗ Trimester system= 0%

27

1.2.10 How does the university promote inter disciplinary programmes? Name a few programmes and comment on their outcome.

The Institute actively encourages interdisciplinary. First, all students of CSE and ECE are required to do certain number of courses of the other discipline. Some of the streams are also common, and there are many courses from the HSS stream, which can be opted by the students. This encourages the interdisciplinary between CSE and ECE.

In addition, the Institute has a program of Minors – a student in CSE or ECE can do a Minor in another discipline by doing 5 or more courses in that discipline. Currently two Minors are being offered – in Economic and in Computational Biology. It plans to also start minors in Math and other related areas.

The institute also encourages study of humanities and social sciences – all BTech students are required to do 3 HSS courses in their program, and we offer a variety of courses to choose from including sociology, psychology, philosophy, literature, theatre, etc.

1.3   Curriculum Enrichment

1.3.1   How often is the curriculum of the university reviewed and upgraded for making it socially relevant and/or job oriented / knowledge intensive and meeting the emerging needs of students and other stakeholders?

The senate does all these activities and this body meets at least four times a year. Regular reviews are also done by the Senate, which has external members also from industry and other Institutions. In the past 5 years, at least two significant revisions of the BTech programs have been done.

On a smaller scale an instructor teaching a course has enough flexibility to incorporate new trends & ideas while teaching. These changes are summarized in a course plan which is then reviewed in the next curriculum meeting.

1.3.2   During the last four years, how many new programmes at UG and PG levels were introduced? Give details.

∗**Inter-disciplinary**
 The following specializations have been introduced
- M.Tech in CSE with specialization in Information Security
- M.Tech in CSE with specialization in Data Engineering
- M.Tech in CSE with specialization in Mobile Computing
- M.Tech in ECE with specialization in VLSI & Embedded Systems

∗programmes in emerging areas

Three programmes have been introduced in the last two years:
- BTech in Electronics & Communications Engineering (ECE)
- MTech in Electronics & Communications Engineering (ECE).
- PhD in Electronics & Communications Engineering (ECE).

1.3.3   What are the strategies adopted for the revision of the existing programmes? What percentage of courses underwent a syllabus revision?

New courses are introduced regularly after being approved. Almost every year a few new courses are introduced. For introducing a course, it has to be designed properly and then is approved by the faculty before being offered to students. Furthermore, every instructor is required to submit his course plan for peer review at the commencement of each semester, and the suggestions are incorporated into the syllabus.

1.3.4   What are the value-added courses offered by the university and how does the university ensure that all students have access to them?

University has an extensive list of value added courses that are provided from time to time and some of them are:

Course Code	Name of the Course
HSS101	Technology and Society
HSS201	Research Methods
HSS202	Perspectives on Knowledge
HSS203	Introduction to the study of Literature
HSS204	Introduction to Psychology
HSS205	Introduction to Sociology
HSS206	Introduction to Film Studies
HSS207	Human Values and Professional Ethics
HSS208	Theory and Practice of Engineering Ethics
HSS209	Music Appreciation
HSS210	History of Indian National Movement
HSS211	Theatre Appreciation
HSS212	Critical Thinking
HSS213	Issues in Contemporary World
HSS214	Indian Society
HSS2CA	Cultural Anthropology

1.3.5 **Has the university introduced any higher order skill development? Programmes in consonance with the national requirements as outlined by the National Skills Development Corporation and other agencies?**

Not applicable.

1.4 **Feedback System**

1.4.1 **Does the university have a formal mechanism to obtain feedback from students regarding the curriculum and how is it made use of?**

Yes the institute has a proper mechanism through which course feedback is taken twice a semester. A feedback form is circulated to each of the student for all the courses he/she has registered for. On completion of the feedback, the course instructors receive summarized feedback for each of their courses, which is also available to the Director for analysis. The points raised by the students for improvement in courses are discussed in Faculty Meetings /UGC/PGC and is further taken in Senate for approval.

1.4.2 **Does the university elicit feedback on the curriculum from national and international faculty? If yes, specify a few methods such as conducting webinars, workshops, online discussions, etc. and its impact.**

On several occasions external faculty (mainly from IIT Delhi and IIT Kanpur) had been invited to discuss the curriculum and course contents. Such meetings will also be held in future. The ECE curriculum is set up with help of Prof Sumit Roy (University of Washington).

Furthermore, faculty are required to carry out a peer review of their course outline prior to the semester; in the case of specialized courses, the peer review is supposed to include external experts, both from India and abroad.

1.4.3 **Specify the mechanism through which affiliated institutions give feedback on curriculum enrichment and the extent to which it is made use of.**

NA

1.4.4 **What is the quality sustenance and quality enhancement measures undertaken by the university in ensuring the effective development of the curricula?**

Regular review of courses, periodic up-gradation of program, and regular introduction of new courses are some of the measures that ensure quality enhancement. Recently, all core courses of CSE and ECE were reviewed by committees.

Any other information regarding Curricular Aspects which the university would like to include.

CRITERION II: TEACHING-LEARNING AND EVALUATION

2.1   Student Enrolment and Profile

2.1.1   How does the university ensure publicity and transparency in the admission process?

Publicity:
IIIT-Delhi conducts admission into its B.Tech. (CSE & ECE) programs every year during May-July. These programs are notified in the leading newspapers all over India. The admission information brochure is also placed on the institute website (www.iiitd.ac.in)

The institute makes adequate publicity in a planned manner. The admission notification is issued as advertisement in leading newspapers. The Information Brochure and webpages contain detailed information about the UG and PG courses, Intake of students, eligibility criteria, process of admission and the facilities provided by the institute. The admission brochure of the institute is released well before time on the website and through social media such as Facebook and twitter handles, regular updates about the admission are sent, in order to motivate the prospective students to join our institute.

Transparency:
The institute admission is done through counseling which is held at the institute itself. The selection of students to the institute is done through the admission committees in the counseling through proper procedure of releasing merit lists (first, second and waiting list). Thus the transparency is maintained all through the process from the start of the notification till the end of admission. Therefore the access, equity social justices are maintained through transparency and adherence to the rules.

The counseling schedule, process of shortlisting and seat matrix is available on the website.

2.1.2   Explain in detail the process of admission put in place by the university. List the criteria for admission: (e.g.: (i) merit, (ii) merit with entrance test, (iii) merit, entrance test and interview, (iv) common entrance test conducted by state agencies and national agencies (v) other criteria followed by the university (please specify).

B.Tech. Program

The admission process underwent a recent change to attract and shortlist better qualified candidates. The process followed for the last admission is detailed below:

Admission will be based on the total marks obtained in Paper 1 of JEE Main 2014 and score in Class 12th or other qualifying exam (60% & 40% weightage respectively). In addition up to 10 bonus marks will be given to candidates as mentioned below:

**1. Olympiads. Indian National Olympiad in Informatics, Maths,
 Physics, Chemistry, and Biology:**
2. Procon Junior programming contest:
3. National Talent Search scholarship
4. Sports.
5. Chess. FIDE rating players:
6. Culture:

M.Tech.
Admission to M.Tech. program is made based on GATE merit as well as Entrance Test held by the institute. Based on the facts furnished in the application, candidates appeared for a competitive entrance process that includes a written test followed by an interview by the panel of faculty members. The list of selected candidates and wait listed candidates was prepared based on the written test/Interview performance.

Shortlisting Criteria for Written Exam for CSE in 2013
- Marks in Class X and Class XII >= 75 percent
- Marks in UG >= 75 percent or CGPA >= 8
- If distinction in UG, then at least 70 percent or 7.5 CGPA
- In CSE the relaxation is 10 percent at all these levels for people belonging to various categories

Shortlisting Criteria for Written Exam for ECE in 2013
- Marks in Class X and Class XII >= 80 percent
- Marks in UG >= 80 percent or CGPA >= 8.5
- If distinction in UG, then at least 75 percent or 8 CGPA
- In ECE relaxation of 5 percent at all these levels for people belonging to various categories.

Ph.D.

Admission to PhD program is based on a rigorous screening process that involves, shortlisting of candidates based on their class X, XII & UG/PG marks, a written test followed by and interview. Gate is not mandatory however the candidate must have:
For CSE/ECE students
- BTech / BE / MTech / MS / ME in CS / IT / ECE / EE
- CGPA at least 7.5 on a scale of 10 (or equivalent). If your institute does not provide CGPA in the transcript, then at least 70% marks is required to be eligible.
- MCA/MSc (CS/IT/ECE/EE and allied areas) degree is considered equivalent to the BTech/BE degree. Such students are also eligible to apply with the condition that they

have BSc in Computer Science or BSc in any other subject with Mathematics as one of the courses. The marks requirement is same as that given above for BTech/BE degrees.

- MSc in Mathematics is also eligible for PhD in CS/ECE who meets the following requirements:
- At least 70% marks in both B.Sc. and M.Sc.
- Strong inclination towards CS/ECE.

Rolling admission to IIIT-Delhi Ph.D. program is open throughout the year. For rolling admissions, an eligible candidate can apply by sending an application to the faculty member of the institute who he/she has been interacting with - the application must include the C.V. and other relevant information. The faculty member may forward it to the standing committee for rolling admissions. The admission committee will then evaluate the candidate's credentials, and, if desired, invite him/her for the selection process, which will be a combination of written test, programming test, and interviews. If the date for the next major admission is nearby, the candidate may be advised to apply through it.

2.1.3 Provide details of admission process in the affiliated colleges and the university's role in monitoring the same.

Not applicable

2.1.4 Does the university have a mechanism to review its admission process and student profile annually? If yes, what is the outcome of such an analysis and how has it contributed to the improvement of the process?

The institute regularly reviews its admission process both at UG and PG levels. The administrative section provides information to the academic heads for review and appropriate steps. The Senate   and the Board reviews its admission policy and makes necessary changes to ensure the quality of intake and standard of education.

Also every year an analysis of admission process is conducted wherein a study is made on applied candidates and admitted students on the basis of the various criteria at entry time (e.g. avg % in class XII, avg marks in math's, rank in JEE/GATE etc.), and their performance in the program.

Because of this analysis in the last six years, the institute has improved its admission process. Some of the actions we have taken over the years are:

- Based on our study of correlations between class XII performance and performance in the Institute, we had introduced weight to Class XII marks in admission before the JEE (mains) started giving the weight.
- We have further broadened the admission criteria by giving weight to outstanding achievement in various categories, to recognize and reward excellence in school
- Earlier we used GATE marks as the only criteria for admission in MTech. Based on our analysis and study, we have made the criteria more broad based and have included more parameters like performance in our test, which focuses on comprehension, and interview.

2.1.5 What are the strategies adopted to increase / improve access for students belonging to the following categories:

∗ SC/ST
Students from Scheduled Castes (SC) and Scheduled Tribes (ST) are allotted seats as per institute policy. A relaxation of 10 percent marks in the eligibility requirements for the seats reserved for them.
Reservation of 15% seats for SC candidates and 7.5% for ST candidates.

∗ OBC
Reservation of 27% seats for OBC candidates. OBC candidates are required to produce a caste certificate from the authorities.

∗Women
No reservation at present.

∗ Persons with varied disabilities
Persons with Disabilities- 3 percent of the total seats are being reserved. A relaxation of 5% marks in the Eligibility requirements for the seats reserved for them.

∗Economically weaker sections
To ensure that the education in the Institute is not denied to any student who gains admission, the Institute launched an income-linked partial fee-waiver/scholarship scheme. In this scheme, based on the income level of the parents, some amount of scholarship/fee-waiver is provided to the student. Currently, the institute provides Income Linked Fee Waiver/ scholarship of 25% or 50% (100% fee waiver is applicable for the wards of BPL families) of fees to students against suitable documents of income disclosure.

∗Outstanding achievers in sports and other extracurricular activities

Admission is on the total marks obtained in Paper 1 of JEE Main 2014 and score in Class 12th or other qualifying exam (60% & 40% weightage respectively). In addition up to 10 bonus marks is given to candidates as mentioned below:

If a student has represented a state in any sport in "priority discipline" (as per terminology used by SGFI), except Chess (as Chess is dealt with separately), in National School Games organized by a School Games Federation of India, under U19 or U17 category (girls or boys):

• 10 marks, if the individual has received a Gold/Silver/Bronze medal (either

As individual or member of a team);

• 6 marks for participation.

• Support Documents needed: Certificate for medal or Certificate of participation issued by School Games Federation of India.

Chess. FIDE rating players:

• 10 marks for those whose FIDE rating is above 1800;

• Support document needed: FIDE ID, Self-attested printout of list of international rated tournaments played as provided by FIDE through their official website. (Later participation certificates for these tournaments will have to be shown)

• 6 marks for those whose FIDE rating is below 1800.

Support document needed: Same as above.

2.1.6 Number of students admitted in university departments in the last four academic years

Categories	Year 1(2013)		Year 2(2012)		Year 3(2011)		Year 4(2010)	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	19	6	20	8	15	8	9	11
ST	1	1	23	15	1	0	1	0
OBC	21	8	0	0	11	4	3	3
General	86	30	69	36	61	17	47	16
Others	3	0	2	0	0	1	4	3

2.1.7 Has the university conducted any analysis of demand ratio for the various programmes of the university departments and affiliated colleges? If so, highlight the significant trends explaining the reasons for increase / decrease.

Year	Programmes	No. of applications	No. of Students admitted	Demand Ratio
	UG(2013)	3128	171	1:18
2013	PG	2109	109	1:19

	Ph.D.	720	28	1:25
2012	UG(2012)	3258	171	1:19
	PG	850	82	1:10
	Ph.D.	582	22	1:26
2011 **2**	UG(2011)	2112	119	1:17
	PG	232	33	1:7
	Ph.D.	212	11	1:19

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2.1.8 Any programmes discontinued/staggered by the university in the last four years? If yes, please specify the reasons.

No

2.2 Catering to Student Diversity

2.2.1 Does the university organize orientation / induction Programme for fresher's? If yes, give details such as the duration, issues covered, experts involved and mechanism for using the feedback in subsequent years.

Yes, the university organizes a 2-day orientation Programme for BTech students. The issues covered include curriculum, academic policies, life on campus, etc. The experts include the Director (Vice-Chancellor), Deans, faculty and staff members. A Student Handbook is provided to freshers to acquaint them with the policies of the institute. Similar orientation is carried out for PG programmes. Schedule of orientation programmes for academic year 2013-14 are attached as *Annexure C*

2.2.2 Does the university have a mechanism through which the "differential requirements of the student population" are analysed after admission and before the commencement of classes? If so, how are the key issues identified and addressed?

At IIIT-D the new M.Tech (CSE) students, coming from a variety of educational systems, were often found facing some difficulties in the initial months. To help further strengthen the foundations of incoming students in some areas, the institute had decided to start special refresher modules from the summer 2013 with the help of some senior students under the overall guidance of faculty members of IIIT-D. Induction program is conducted for all the new joiners.
- In order to motivate as well as to ensure that the interested students participate in the refresher module more seriously, it is proposed to treat Refresher module course as a '0' Credit Course with the following guidelines:

- The Committee will inform the new students (both UG & PG) to register for the Refresher module.
- The credit for the Refresher Module will be 0 (zero)
- There will be three possible grades i.e. O (outstanding), S (satisfactory) and X (unsatisfactory).
- Satisfactory completion of the refresher module will be reflected as footnote in the transcript.

These refresher modules are started to address the students at entry level. Also, if a student is identified as weak in studies in subsequent years, they are provided assistance in core courses like DSA, IP and Programming in C.

2.2.3 Does the university offer bridge / remedial / add-on courses? If yes, how are they structured into the time table? Give details of the courses offered, department-wise/faculty-wise?

Yes. Bridge /remedial courses are offered prior to commencement of semester for incoming students, and also in the December break and in the summer semester. Following courses have been offered:

a) Courses prior to commencement of semester: three 3-week modules in on-line mode are offered on following three subjects: Data Structures and Algorithms (DSA), Operating Systems (OS), and DBMS. Any student may take not more than two courses. The courses are administered by PhD students under the guidance of faculty;

b) Courses in December break: 4-week refresher module on C programming

c) Courses in Summer Semester: 4-week modules on the following four subjects are offered to students whose performance was not satisfactory: Programming C, Operating Systems, Data Structures and Algorithms (DSA), and DBMS.

NB: the subjects are identified by students as those in which the performance was least satisfactory; additional modules may be offered in future.

2.2.4 Has the university conducted any study on the academic growth of students from disadvantaged sections of society, economically disadvantaged, physically handicapped, slow learners, etc.? If yes, what are the main findings?

The institute is aware of the candidates belonging to disadvantaged sections of society, economically disadvantaged, physically handicapped, slow learners, etc. To help these students the institute provides fee-waivers to economically disadvantaged from 50%-

100% depending on the income. It also provides reservations for physically handicapped, SC, ST and OBC in admissions. It has not done any systematic study of academic growth of such students.

2.2.5 How does the university identify and respond to the learning needs of advanced learners?

For advanced learners, the Institute offers an Honors program – this program is available only to students who have a CGPA of 8.0 or above. In the Honors program, the student has to do 12 credits extra, and has to do a BTech Project.

In addition, the university encourages, UG students to focus on select areas of interest and develop research skills. Various avenues have been provided to achieve this. Students may choose any of these options in their 3rd and subsequent years:
> BTP- BTech project
> IS - Independent study
> IP - Independent project
> UR - Undergraduate research.

These options are limited to advanced learners since a student needs to have a CGPA of 7.5 or more to register for them.

The institute has provision for change of programme from BTech to Dual degree, and MTech to PhD for the students of high caliber and with interest to do higher studies.

2.3 Teaching-Learning Process

2.3.1 How does the university plan and organize the teaching, learning and evaluation schedules (academic calendar, teaching plan, evaluation blue print, etc.)?

The academic calendar is prepared by the Academic Administration, discussed in the faculty meeting and approved by the Senate prior to the academic year. The course planning for the year is prepared by the Dean (Academic Affairs), with the input of faculty, undergraduate and postgraduate committees, and informed to students prior to pre-registration for any semester.

The lecture schedule for a particular course depends on the number of credit allotted for a course.

A course may be of 4, 2, or 1 credit. A registered student who passes a course earns the credits assigned for that course.

a) **4-credit course:** The course will have 3 hours of lectures per week, with a total of about 39 hours of lectures (13 weeks). In addition, one hour of 5interaction per week is expected, which may be in the form of structured tutorials. There may also be labs in the course.

b) **2-credit course:** The course will have 1.5 hrs lectures per week for the whole semester, or 3 lectures per week for half the semester. The total lecture hours will be about 20. Intensive short-term courses of 2 credits are also possible, though it is expected that the duration of such a course will not be less than 3 weeks. A 2-credit course may or may not have tutorials and labs.

c) **1-credit course:** The course is likely to be run as a short course on a very specialized topic. Such courses may also be run during vacations. A 1-credit course will have a total of about 10 hours of lecture over a period of, generally, not less than 2 weeks.

2.3.2   Does the university provide course outlines and course schedules prior to the commencement of the academic session? If yes, how is the effectiveness of the process ensured?

Yes. All faculty are required to inform the students of the same not later than commencement of classes. Short abstracts are placed on the website and are always available for perusal.

Student can report diversions from the schedule in their course feedbacks. A student can change the courses that he/she does in a semester by adding and dropping courses till the last date for add/drop as specified in the academic calendar. In addition, a student can withdraw from at most one elective course up to the last date specified in the academic calendar, which will normally be after the mid-semester examination. During the summer term, a student may be permitted to drop one course any time.

2.3.3   Does the university face any challenges in completing the curriculum within the stipulated time frame and calendar? If yes, elaborate on the challenges encountered and the institutional measures to overcome these.

No.

2.3.4   How is learning made student-centric? Give a list of participatory learning activities adopted by the faculty that contributes to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

- Project based learning - this is a common practice in most advanced courses. In this group projects are done by students on using advanced technologies and methods.
- Regular Assignments and continuous assessment. All courses have regular assignments (every 1-3 weeks), which are assessed, and which count towards the final grade. This ensures ongoing learning as well as assessment.
- Active Learning. Most faculty members use active learning techniques – engaging the student in the class itself through short exercises and interventions, as well as outside the class through assignments, projects, presentations, etc.
- Peer learning – many courses allow group work and group projects, enhancing group learning.
- Bookend lectures – most faculty follow this style of lecturing to ensure better learning outcomes. In this style, each lecture starts with objectives of the lecture, and ends with a summary. During the lecture, some active learning exercises are done in the class after every 15-20 mts.
- Technology related clubs – there are some clubs like programming club, robotics club, game development club, which develop important technical skills in an informal setting.
- Self-growth and community work – All UG students have to do 2 credits of self-growth in which they develop some non-academic skill (like a hobby, a foreign language, sports,…), and 2 credits of community work in which they have to contribute to the community – most do it by working through NGOs.
- Independent study – a student can take up to 4 credits of independent study to gain knowledge and proficiency in some specialized topic in which the Institute does not offer regular courses.
- Under Graduate research – through this a UG student can directly participate in research and earn credits for the work.

1. **Academics**

   List of activities adopted by faculty for the above:

   - Some assignment (e.g. reading a chapter/paper, do exercises) given regularly to encourage self-learning
   - Active learning based short exercises involving two-three students in the class
   - Short animations/video/simulation/… to illustrate some point
   - Course projects which will be real industry problems
   - Assignment/project that requires multiple alternatives to be suggested before one is selected (to help develop capability of exploring alternatives)
   - Course projects that require teamwork to complete in the given time
   - Exercises for supporting self-learning

2. **Extra-Curricular** :

   Students are encouraged to participate in various extra-curricular activities. IIIT-D's

PhD scholar Denzil Correa along with his teammate won the first prize in the 'Visualization' category in Delhi during a 31-hour Hackathon event organized by the Planning Commission of India at 10 major centres throughout the country on April 6-7, 2013. Separately, a team of eight students -- Kuldeep Yadav (PhD scholar), Siddhartha Asthana (PhD scholar), Akshit Nanda (BTech CSE), Aman Singhal (BTech ECE), Chirag Gupta (BTech CSE), Lakshay Pandey (BTech CSE), Sanchit Agarwal (BTech ECE) and Umang Arora (BTech ECE) - won Microsoft Research India's prestigious Whodunit? Challenge in record five hours and seven minutes, beating top contestants from all over India, including those from IITs, to clinch the Rs one lakh price in February 2013. In addition, the IIIT-D facilitated its students to launch the first edition of the institute's cultural fest entitled Odyssey. The January 31-February 1, 2014 mega event was full of music, dance, drama and a lot more, with stupendous performances by renowned artistes.

3. Sports:

To ensure overall development of each of its students, the institute provides all the required facilities for sports and recreation. All indoor facilities are provided on the top floor of the Dinning block. This includes a Gymnasium, table tennis tables, pool tables, etc.

The Institute has a multi-purpose sports field, two tennis courts, a basketball court, a volley ball field and two badminton courts. Tennis and basketball courts have flood lights so that students can play even in the night. IIIT Delhi has been regularly organizing various sporting events like football tournament - Joga Bonito, Table Tennis and Pool tournaments. Every year students and faculty from IIIT Delhi take part in Delhi Half Marathon running for a cause. The institute's sports team also participates in the annual Twaran festival, which is attended by colleges from all over the country.

2.3.5 What is the university's policy on inviting experts / people of eminence to deliver lectures and/or organize seminars for students?

The university organizes a weekly seminar which is addressed by an expert (usually external to the university). No other classes are scheduled in the seminar slot so that all students are free to attend the seminar. In addition to the weekly seminar, there are occasional seminars.

List of eminent people who visited the institute in 2012-2013 is attached in the *Annexure D*

2.3.6 Does the university formally encourage blended learning by using e-learning resources?

Since the university specializes in IT, extensive use is made of e-learning resources by individual instructors. Also, the university permits and encourages students to undertake on-line courses for credit (with proper review and approval). Faculty members can, and do, use online resources and lectures as part of their courses. They can also tape their lectures and put them online. Many faculty members use an online learning system developed internally – Backpack – on which they post their presentations and notes, as well as assignments etc. Piazza is also used for online discussions for courses.

2.3.7   What are the technologies and facilities such as virtual laboratories, e-learning, open educational resources and mobile education used by the faculty for effective teaching?

See the response to Q2.3.6 above.

2.3.8   Is there any designated group among the faculty to monitor the trends and issues regarding developments in Open Source Community and integrate its benefits in the university's educational processes?

We do not have any designated group but many faculty members are active followers and users of open source software material. Many use MOOC courses like the ones provided by EdX and Courser, and for most of our software needs, we first explore open source options. Our IT team also explicitly explores open source options for our use.

2.3.9   What steps has the university taken to orient traditional classrooms into 24x7 learning places?

Required assignments are taken home by the students and hence they can work on the assignments whenever they like (either at home or in the laboratories which are kept open 24×7). This practice also establishes some kind of curiosity with students, since the equipment can be used to do other things as well (apart from the assignments).

Many labs, particularly the computing labs are open 24x7, so is the main study area in the library. Student hostels and common spaces have internet facility available to them 24x7, allowing them to access course websites as well as other learning material at any time.

2.3.10 Is there a provision for the services of counsellors / mentors/ advisors for each class or group of students for academic, personal and psychosocial guidance? If yes, give details of the process and the number of students who have benefitted.

The university has engaged the services of a fully qualified, trained counselling - clinical psychologist, with over 20 years of experience in the field, who visits the campus on a weekly basis and is also available on appointment. Apart from the weekly visit routine, students keep in touch via mail/sms on requirement basis and for follow ups. During the orientation program at the commencement of the academic year, there are separate sessions with the UG and PG new entrants. Newsletters are emailed to the students at least once a month on psychological issues which are relevant to them.

In the previous two semesters, approximately 40 students have availed the counselling services on issues related to personal, academic, career concerns. Approximately 90% of the issues pertain to personal problems affecting academics for which they seek counselling intervention.

2.3.11 Were any innovative teaching approaches/methods/practices adopted/put to use by the faculty during the last four years? If yes, did they improve learning? What were the methods used to evaluate the impact of such practices? What are the efforts made by the institution in giving the faculty due recognition for innovation in teaching?

See 2.3.4 for some of the methods used by faculty members are listed there (like active learning, project based learning, etc.) Use of tools is mentioned in 2.3.6. Institute has also organized the two workshops in Teaching and Learning conducted by the International experts.

Faculty members prepare a "course summary" in the end in which they share practices they tried and its impact. These they also discuss with other colleagues through "best practices" sessions that are organized internally within faculty. Faculty themselves try to assess the impact – many of them have collected data and have written teaching research papers/reports on their practices. A feedback from students is also obtained about the same.

Institute recognizes and rewards excellence in teaching through various methods. First, based on student feedback, teaching excellence letters are issued to that faculty who excel. Second, based on teaching performance some "professional grant" is given each year. Institute has also recently instituted "teaching excellence award by graduating batch", which will be given to faculty members based on their contribution during the entire stay of a batch.

2.3.12 How does the university create a culture of instilling and nurturing creativity and scientific temper among the learners?

In many courses, students are encouraged to come up with innovative solutions to existing problems. That ensures that the work done has a practical meaning, and hence the solution could be deployed and/or commercialized after initial start. The ideas for these projects come from students and the projects are self-sustaining. Guidance and financial support are provided, if required.

The Student is also encouraged to register for following in their third and subsequent years:

> BTP- BTech project
> IS - Independent study
> IP - Independent project
> UR - Undergraduate research.
> SP- Scholarly Paper
> MTT- M.Tech Thesis

Institute gives out Best BTP awards in different categories – research, engineering, and entrepreneurship, encouraging and rewarding innovation in these categories. A best M.Tech Thesis award is also given.

2.3.13 Does the university consider student projects mandatory in the learning programme? If yes, for how many programmes have they been (percentage of total) made mandatory?

  ∗ **Number of projects executed within the university**

  ∗ **Names of external institutions associated with the University for Student Project Work**

  ∗ **Role of faculty in facilitating such projects**

In the first year, there is an Intro to Engineering Design course in which students have to do group projects – this is mandatory for all students. Each year about 40 such projects are executed. Most advanced courses have course projects, which all enrolled students have to do – sometimes students hold poster sessions for these courses in the end to show their projects. In addition, students are permitted and encouraged to undertake BTech project as part of the undergraduate degree. There is also the scope for independent project (IP) for credit at both UG and PG levels.

All such projects are guided by faculty. For any thesis, including BTech thesis, external

co-supervisor is permitted. In MTech and PhD levels, there is a strong participation of external co-guides, with about 20 such thesis being done which have external guides from industry (e.g. ST Microsystems, Infosys, and TCS).

2.3.14 Does the university have a well-qualified pool of human resource to meet the requirements of the curriculum? If there is a shortfall, how is it supplemented?

Yes, the university has a well-qualified pool of human resources; all full-time faculty possess PhD degrees. Visiting faculty on short-term full-time contract as well as guest faculty has been used for specialized topics and for fields such as Humanities and Sciences (HSS) in which the university does not have degree programmes. Being located in the NCT, the university has been able to access experts from well-known institutions such as IIT, University of Delhi, etc.

2.3.15 How are the faculty enabled to prepare computer-aided teaching/ learning materials? What are the facilities available in the university for such efforts?

Every faculty is given a personal laptop and other computing equipment's at the time of the joining. Faculty can further purchase any equipment that they need. The institute provides latest software's, e.g. PowerPoint, Adobe, to its faculty to help in creating learning material. All the classrooms are equipped with projectors and A/V systems to enable a faculty in delivering and testing these learning materials. The institute has also installed Wacom Tablets in some classrooms.

Since the Institute specializes in IT education, all faculty have access to individual workstations as well as advanced computing facilities.
All classrooms are equipped with projectors and Tablets.

2.3.16 Does the university have a mechanism for the evaluation of teachers by the students / alumni? If yes, how is the evaluation feedback used to improve the quality of the teaching-learning process?

Yes, student feedback is conducted twice in a semester by the academic administration, and the information is shared with faculty to enable them to improve the teaching-learning process. This effort is supplemented by feedback efforts conducted by individual faculty.

2.4   Teacher Quality

2.4.1   How does the university plan and manage its human resources to meet the changing requirements of the curriculum?

The faculty is very active in research of their respective areas. Every three years a course review is done to accommodate the changing requirements of the curriculum.

2.4.2   Furnish details of the faculty

Highest Qualification	Professors		Associate Professors		Assistant Professors		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers (Tenure Track)							
D.Sc./D.Litt.							
Ph.D.	2		2	2	27	4	37
M.Phil.							
PG							
Temporary teachers							
Ph.D.							
M.Phil.							
PG							
Part-time teachers							
Ph.D.							
M.Phil.							
PG Visiting Adjunct Honorary							12 15 3

2.4.3   Does the university encourage diversity in its faculty recruitment? Provide the following details (department / school-wise).

Department / School	% of faculty from the same university	% of faculty from other universities within the State	% of faculty from universities outside the State	% of faculty from other countries

Nil	3	06	27

2.4.4 **How does the university ensure that qualified faculty is appointed for new programmes / emerging areas of study (Bio-technology, Bio-informatics, Material Science, Nanotechnology, Comparative Media Studies, Diaspora Studies, Forensic Computing, Educational Leadership, etc.)? How many faculty members were appointed to teach new programmes during the last four years?**

The institute follows the various ways listed below for appointing the qualified faculty:-
- It follows the standard process adopted by IIIT
- It follows the standard eligibility criteria for faculty recruitment.
- The institute publishes advertisement for faculty recruitment in International magazines.
- It sends fliers to HODs (CSE, ECE) of all reputed universities of the world
- The recruitment advertisements are put on the institute's website as well
- PhD from the reputed university is the minimum qualification.

2.4.5 **How many Emeritus / Adjunct Faculty / Visiting Professors are on the rolls of the university?**

- Institute Professors (Honorary): 3
- Visiting: 12
- Adjunct: 15

2.4.6 **What policies/systems are in place to academically recharge and rejuvenate teachers (e.g. providing research grants, study leave, nomination to national/international conferences/ seminars, in-service training, organizing national/international conferences etc.)?**

IIIT-D organizes a number of national and international conferences, conducted short courses and workshops in the past academic year.

Our faculty members also attended many national and international conferences and presented their research results, enhancing their professional expertise. Faculty is encouraged to visit other institutions and industry during the vacation periods – and most do. In a given summer, more than half the faculty visit some industry or university.

IIIT-D invites distinguished visitors and conducts various seminars. The aim of inviting distinguished visitors to IIIT-D is to provide opportunity to the faculty to strengthen the collaborative research and enhance their visibility both in academia and industry. Many

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distinguished visitors from academia and industries visit IIIT-D that serves as a venue for exchanging research ideas. The details of all seminars, conferences and trainings are included in our Annual Report each year. A copy of annual report 2012-2013 is available on the google drive

2.4.7 How many faculty received awards / recognitions for excellence in teaching at the state, national and international level during the last four years?

Board of Governors has recently agreed to institute a teaching excellence award at the institute level. Not specific to teaching excellence but our faculty has received many other awards of repute as mentioned below:

Faculty Awards for 2012-2013:
- Angshul Majumdar: DST/INSPIRE Faculty Award/2012 (fellowship)
- Sujay Deb: DST/INSPIRE Faculty Award/2012 (fellowship)
- Pravesh Biyani: DST/INSPIRE Faculty Award/2012
- Shobha Sundar Ram: DST/INSPIRE Faculty Award (fellowship)
- Prof Ashwin Srinivasan: Ramanujan fellowship
- Mayank Vatsa and Richa Singh- Best Poster Award, International Conference on Biometrics: Theory, Applications and System, 2012, September, Washington DC, USA
- Kumaraguru, P: Best Paper Award in Anti-Phishing Working Group e-Crime Researchers Summit (2012). Tier II.
- Kumaraguru P: Best poster award (among 30 posters) at the Security and Privacy Symposium, IIT Kanpur. Feb 28 -- 2 March, 2013.
- P Kumaraguru: 2nd Runner's up prize (among 37 posters) at IBM I-CARE 2012.
- Donghoon Chang and Somitra Kr Sanadhya, (the best poster award of Third Annual Research Showcase of IIIT-Delhi, March 2013)
- Gaurav Gupta received best poster award on work in progress "Mobile Touchscreen Dynamics" at Research Showcase 2013.

Faculty awards for 2011-12
- Kumaraguru P: Hemant Bharat Ram Fellowship to conduct research in the area of security and privacy.
- A Singh:IBM Faculty Award, 2011-12 (One of the three faculty members selected in India)
- Kumaraguru P: Received best poster award on work in progress "Mobile- Based Early Assault Detection and Alert Dissemination" at Research Showcase 2012.
- Kumaraguru P: Received Best Paper Award for Phi.sh/$oCiaL: The Phishing Landscape through Short URLs. Accepted at 8th Annual Collaboration, Electronic messaging, Anti-Abuse and Spam Conference (CEAS 2011).

- Mayank Vatsa, R Singh: Best Poster Award in International Joint Conference on Biometrics, Washington DC, USA, 2011
- Mayank Vatsa, R Singh: Special Contribution Award in International Conference on Biometrics, New Delhi, India, 2012

Faculty Awards for 2010-11
- Mayank Vatsa and Richa Singh: Best Poster Presentation Award at IEEE International Conference on Biometrics: Theory, Applications and Systems, Washington DC, USA, September 2010

Faculty Awards for 2009-2010

- Prof. Pankaj Jalote: Microsoft Research Software Engineering Innovation Foundation (SEIF) Awards 2010.
- R. Singh& M. Vatsa: Best Poster Award at International Conference on Biometrics: Theory, Applications, and Systems (BTAS 09).
- M. Vatsa& R. Singh: Best Paper Award at the International Conference on Biometrics: Theory, Applications, and Systems (BTAS 09)
- G Gupta: Young Scientist Award at the 97th Indian Science Congress held in Thiruvananthapuram from 3-7 January 2010.

2.4.8 How many faculty underwent staff development programmes during the last four years (add any other Programme if necessary)?

Academic Staff Development Programmes	Number of faculty
Refresher courses	Nil
HRD programmes	Nil
Orientation programmes	Nil
Staff training conducted by the university	02*
Staff training conducted by other institutions	Nil

*INDO-US sponsored four days' workshop was conducted on the "Effective Teaching" in the year 2010 and One week's duration workshop on "Teaching and Learning" was held in the year 2014.

2.4.9   What percentage of the faculty has been invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies?

Our faculty members attended various national and international conferences and were Chair and members of various committees in National & International Conferences. Most of the faculty are members of Editorial Board and reviewers of various National & International Journals. The list is given in *Annexure E*

- Members of Program Committee in various National & Intl conferences   - 23
- Members of Advisory Committee in various National & Intl conferences   - 03
- Chair & Co-Chair in various National & Intl conferences   - 22
- Editor of various Journals   - 08
- Reviewer of various Journals   - 39

∗**participated in external Workshops / Seminars / Conferences recognized by national / international professional bodies?**

∗**presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies?**

Our faculty members attended various National and International conferences and presented their research results, enhancing their professional expertise. The list is given in *Annexure F*

- Papers published / accepted in International Conference   -   96

- Workshop/Demos/Posters in International Conferences   -   33

2.4.10 How often does the university organize academic development programmes (e.g.: curriculum development, teaching-learning methods, examination reforms, content / knowledge management, etc.) for its faculty aimed at enriching the teaching-learning process?

The institute conducts workshops regularly – major workshops every few years, and smaller, in-house workshops to share experiences.

The institute had conducted Indo-US workshop in 2010 and 2012 on Effective Teaching in which external experts from US were invited and who conducted these sessions. The previous session was taped and is being converted into a resource for all incoming faculty.

2.4.11 Does the university have a mechanism to encourage

∗ **Mobility of faculty between universities for teaching?**

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No formal measures have been defined for mobility of faculty between universities for teaching but the institute encourages such mechanism. However, a collaborative PhD Programme has been **initiated by the Indraprastha Institute of Information Technology-Delhi (IIIT-D)** and Australia's Brisbane-based **Queensland University of Technology (QUT)**

Most of the faculty had their Higher education from abroad. During vacation, they keep visiting foreign universities for further research work

2.5 Evaluation Process and Reforms

2.5.1 How does the university ensure that all the stakeholders are aware of the evaluation processes that are in place?

Each faculty member is responsible for the evaluation process for the courses taught by him/her. The process has to conform to the broad guidelines established by the university, which require continuous evaluation. It is mandatory to inform the students of the evaluation process at the commencement of the semester, and the process is also made known to undergraduate and postgraduate committees which are responsible for overseeing the teaching-learning process.

The evaluation processes are contained in the Handbooks and Regulations and the same are placed on the website, which are accessed by the stakeholders.

2.5.2 What are the important examination reforms initiated by the university and to what extent have they been implemented in the university departments and affiliated colleges? Cite a few examples which have positively impacted the examination management system.

The examination system used by the institute is similar to that adopted by well-established technology institutes such as the IIT's. The system has proven to be stable in practice and is flexible, every a process in analyzed as part of work evaluation (5 years since inception).

The institute follows continuous evaluation methods in which weightage is given for various types of assignments, tests, quizzes projects, etc. for the final grade.

2.5.3 What is the average time taken by the University for Declaration of examination results? In case of delay, what measures have been taken to address them? Indicate the mode / media adopted by the University for the Publication of examination results (e.g. website, SMS, email, etc.).

Results are declared within 7 days of the conclusion of the examinations. Students are enabled to log on to the university's educational management system (ERP) to see their individual results.

2.5.4 How does the university ensure transparency in the evaluation process? What are the rigorous features introduced by the university to ensure confidentiality?

Students are given the opportunity to inspect the marks awarded for all components of the evaluation process and to see their examination answer-books prior to declaration of results. Since it is a unitary university on a single campus, confidentiality of the process is the responsibility of the course instructor with the assistance of the academic administration.

2.5.5 Does the university have an integrated examination platform for the following processes?

∗ **Pre-examination processes** – Time table generation, OMR, student list generation, invigilators, squads, attendance sheet, online payment gateway, etc.

∗ **Examination process – Examination** material management, logistics, Etc.

∗ **Post-examination process** – Attendance capture, OMR-based exam result, auto processing, generic result processing, certification, etc.

Being a unitary university with small class sizes, the university does not require an integrated examination platform. Computer-based tools are used for automation of all the relevant processes indicated above as and when required.

2.5.6 Has the university introduced any reforms in its Ph.D. Evaluation process?

The PhD evaluation process is similar to that in IIT Kanpur – set of three external examiners is selected from a panel of names provided by the supervisors and approved by the PG Committee. The thesis is evaluated by these three examiners, at least one of which is normally from overseas.
In the PhD thesis defense we have introduced one major reform – instead of one external examiner attending the defense, as is usually done in all IITs, we require that all examiners attend on telecom/skype. In other words, all the examiners, and not just one, attend the defense.

2.5.7 Has the university created any provision for including the name of the college in the degree certificate?

Not applicable as it is a state university.

2.5.8 What is the mechanism for redress of grievances with reference to examinations?

As indicated above under 2.5.4, the student has the opportunity to inspect all the marks and view the answer-books. A student may first take his/her grievances to individual faculty and further appeal to the Dean – Academic Affairs and the Chairman – Senate

2.5.9 What efforts have been made by the university to streamline the operations at the Office of the Controller of Examinations? Mention any significant efforts which have improved the process and functioning of the examination division/section.

No separate Office of Controller of Examinations is required. The Academic Section, which is headed by Dean (Academics), and others members of the team are Academics In-charge and Assistant Managers & Jr Assistant Managers directly handle all examination-related issues.

2.6. Student Performance and Learning Outcomes

2.6.1 Has the university articulated its Graduate Attributes? If so, how does it facilitate and monitor its implementation and outcome?

IIITD follows a set of Graduate Attributes as defined by NBA.

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Problem analysis: Identify, formulate, research literature, and analyses complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Conduct investigations of complex problems:
The problems
- That cannot be solved by straightforward application of knowledge, theories and techniques applicable to the engineering discipline.
- that may not have a unique solution. For example, a design problem can be solved in many ways and lead to multiple possible solutions.

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- that requires consideration of appropriate constraints/requirements not explicitly given in the problem statement. (Like cost, power requirement, durability, product life, etc.).
- Which need to be defined (modeled) within appropriate mathematical framework?
- that often require use of modern computational concepts and tools.#

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life-long learning: Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

2.6.2 Does the university have clearly stated learning outcomes for its academic programmes? If yes, give details on how the students and staff are made aware of these?

The objectives are spelled out on the university's website. Furthermore, the learning outcomes of each course are a mandatory part of each course outline, and these are

specified on the course web-page.

2.6.3 How are the university's teaching, learning and assessment strategies structured to facilitate the achievement of the intended learning outcomes?

Each course outline indicates how the readings, assignments, and labs contribute to the learning outcomes. The course outlines are reviewed by the undergraduate and postgraduate committees.

2.6.4 How does the university collect and analyse data on student learning outcomes and use it to overcome the barriers to learning?

Student progress is monitored through continuous evalutions and addressed through tutorials and lab excercise. The Institute conducts course feedback among the students twice a semester on the course content, delivery of the course etc. Student feedback, course wise grades and semester wise performance is recorded and analysed. The course feedback outcomes are discussed in faculty meeting and are used for improving the course content, delivery process etc. The performance of the first year B.Tech students is regularly monitored to address initial difficulties due to the transition from school to University. Weak students are invited for special meetings to identify their problems and means to solve them.

The university is at present conducting a detailed statistical study of the impact of various factors on student learning. The results of the study will be used to overcome barriers to learning.

2.6.5 What are the new technologies deployed by the university in enhancing student learning and evaluation and how does it seek to meet fresh/ future challenges?

Since the university specializes in IT, most of the new technologies relate to computer software and other automated tools. The institute mainly focuses on usage of open sources software like Ubuntu, but also has licenses for Microsoft Windows, RHEL, Microsoft Office, and MSDN. It also has licenses for specialized software like matlab, synopsis tools, cadence, mentor graphics etc. Also, it has specific tools like iThenticate: Plagiarism Detection Software to evaluate and prevent assignment and exam copying.

IIIT is one of the few universities, which has a MOOC platform (EdX) deployed in the institute. Besides that, IIIT is also working with Course Master (EdCast.com) in offering courses on MOOC platform. Besides MOOC, the faculty regularly uses other CMS like piazza, Moodle etc. Institute also has subscriptions of Ephorus, TurnItIn and iThenticate to detect plagiarism. All the faculty regularly uses these platforms.

Any other information regarding Teaching, Learning and Evaluation which the university would like to include.

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CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the university have a Research Committee to monitor and address issues related to research? If yes, what is its composition? Mention a few recommendations which have been implemented and their impact.

The Institute has a Dean of Innovation, Research, and Development (IRD), which oversees administrative aspects of R&D. In addition, the Institute also forms review committees to suggest measures to improve R&D in the Institute. The yearly review committee for faculty performance also makes suggestions for improving R&D. Some of the suggestions that came from these and that have been implemented are:

- The contribution to the Professional Development Fund of a faculty member is now based on his/her performance in academics in the previous year. This rewards performance, and we see a steady improvement in performance.
- Special contribution to PDF of a faculty member was recommended for publishing in high impact journals and conferences. This has been implemented to encourage faculty to publish in these venues.
- Part of the overhead from projects is made available to faculty for professional development – this encourages applying for sponsored projects and has resulted in increase in proposal submissions.
- Utilization certificates were causing issues with funding agencies. The procedure has now been streamlined. Similarly, managing project funds has been improved based on inputs.

3.1.2 What is the policy of the university to promote research in its affiliated / constituent colleges?

Not Applicable

3.1.3 What are the proactive mechanisms adopted by the university to facilitate the smooth implementation of research schemes/ projects?

∗**advancing funds for sanctioned projects**
The Institute provides advance upto Rs.5 Lakh as a support to the Faculties who are awarded with project so the works of the research can be continued until the funds are received from the external funding agencies.

∗**providing seed money**
The Institute provides Rs.5 Lakh as Initial Grant to the newly joined Faculty to purchase Equipments for research works and also Rs.2.5 Lakh as Professional Development

Account over and above the Initiation Grant.

∗simplification of procedures related to sanctions / purchases to be made by the investigators
The Faculties are delegated with financial power upto Rs.50 K which they can use to sanctions/ purchase of equipments of their own by following the GFR rules and above that the purchase policy of the Institute is followed which is also a simple procedure. The approval can be taken over Emails which again smoothens the process.

∗autonomy to the principal investigator/coordinator for utilizing overhead charges
The overhead earned from the projects are transferred to the Professional Development Account of the Faculty /Researcher so that it can be used for research work at the discreation of the Individual Researcher/Faculty

∗timely release of grants
The Institute take maximum three days to process any claim and timely release of any grant.

∗timely auditing
Once in every year the Institute conduct its Statutory Audit and also conduct quarterly internal audit.

∗submission of utilization certificate to the funding authorities
The submission of Utilization certificates are done immediately to the Funding Agencies when ever it is required with top priority. Also IIITD has developed an ERP tool for research.

3.1.4   How is interdisciplinary research promoted?

∗between/among different departments /schools of the university and collaboration with national/international institutes / industries.

The Institute has tied up with Australia's prestigious Queensland University of Technology for collaborative PhD programme and also sent a proposal to National Research Development Centre for opening University Innovation Facilitation Centre. The institute has future plans for joint collaboration with other universities in interdisciplinary research.
Institute encourages joint guidance of thesis, and encourages faculty members from different disciplines to guide them together. Its research groups and centers are devoid of department boundaries and can have members from different disciplines, who can jointly guide thesis and projects. The faculty has joint research projects under Indo US, Indo French Collaboration.

3.1.5 Give details of workshops/ training programmes/ sensitization programmes conducted by the university to promote a research culture on campus.

The list of workshops/ training programmes/ sensitization programmes/research seminars conducted by the university to promote a research culture on campus are as follows :

Seminars:

Speaker	Title	Date
Dr. Utpal Bhattacharya (Indiana University), MBA from IIM Ahmedabad and a BTech from IIT Kanpur	The Dark Side of Finance:(an overview of some of his research on financial markets and securities regulation)	July 5th,2013 at 3:30pm
Dr. Ansuman Banerjee, ISI Kolkata	Counterexample ranking using mined invariants.	July 26, 2013 (3 - 4 PM)
Dr. Manik Varma, Microsoft Research India	Multi-Label Learning with Millions of Labels: Recommending Advertiser Bid Phrases for Web Pages	August 8, 2013 (4 - 5 PM)
Prof. Subhashis Banerjee, Department of CSE, IIT Delhi	Space-time super-resolution	August 22, 2013 (4 - 5 PM)
Dr. Vijay Erramilli, Telefonica Research, Barcelona	Economic perspective to online privacy	August 29, 2013 (4 - 5 PM)
Dr. Nalini Ratha, IBM Thomas J. Watson Research Center, Yorktown Heights, NY	Privacy enhancement in biometrics	August 30, 2013 (4:15 - 5:15 PM)
Dr. Kishore Kothapalli IIIT Hyderabad	A Tale of Two Ruling Sets	Sep 5, 2013 (4 - 5 PM)
Dr Ullas Nambiar, Lead Research Scientist & ACM Distinguished Speaker, EMC India COE, CTO Office, Bangalore	From Data to Decisions	Sep 12, 2013 (4 - 5 PM)
Mr. Balkrishna Shetty, Ambassador of India (Retired)	What is Mathematics?	Sep 19, 2013 (4 - 5 PM)
Dr. Santosh Srivastava, IBM IRL	System Immunology of T Cells	Oct 03, 2013 (4 - 5 PM)
Mr. Anadish Pal, Independent Inventor	"Philosophy of science in India -- would another renaissance originate from here?"	Oct 10, 2013 (4 - 5 PM)
Prof. M. Balakrishnan, CSE Department, IIT Delhi	Assistive Technology for the Visually Impaired	Oct 17, 2013 (4:30 - 5:30 PM)
Dr. Swaprava Nath, ISI New Delhi	Mechanism Design for Strategic Crowdsourcing	Oct 24, 2013 (4 - 5 PM)

Dr. Kavitha Telikepalli, TIFR, Mumbai	Small stretch Pair wise spanners	April 11,2013
Dr. Magda El Zarki, University of California, Irvine	Online Game Systems - A Networking Perspective	April 2,2013
Prof. Alan Murray, Edinburgh University	Designing Sustainability	March 19 ,2013
Mr. Rohit Ranja	YES!+ workshop, we thought of introducing with an introductory seminar.	18-Mar-13
Dr. Tony Thomas, Assistant Professor, Indian Institute of Information Technology and Management - Kerala	Cryptographic Primitives, their Security and Trends	March 14,2013
Prof. Anil K. Jain, University Distinguished Professor in the Department of Computer Science at Michigan State University, USA	Biometrics: Technology for Human Recognition	25-Feb-13
Dr. Vinay Ribeiro, CSE IIT Delhi	Rapidly deployable TDMA mesh network with application to disaster management	21-Feb-13
Prof. Robert Tijdeman, Mathematical Institute, Leiden, University, The Netherlands	Discrete Tomography	7-Feb-13
Dr. Gautam Shroff, Vice President and Chief Scientist, TCS Innovation Labs	Enterprise BigData Applications and Research Problems	31-Jan-13
Dr. Krishna Gummadi, Max Planck Institute for Software, Systems, Germany	Extracting Relevant and Trustworthy Information from Microblogs	12-Dec-12
Dr. Ashwin Srinivasan, IIITDelhi	Computers are People Too!	8-Nov-12
Dr. Kaushik Saha, STMicroelectronics	Digital Coding and Compression of High Fidelity Audio	1-Nov-12
Prof. Harish Parthasarathy, ECE division, NSIT	Estimating the transformation connecting blurred image pairs	25-Oct-12
Dr. Raj Minhas, Xerox Research	Xerox Research: Turning Inspirations into Critical Customer Assets	18-Oct-12
Raman Grover, Univ. of California, Irvine	ASTERIX: Scalable Warehouse-Style Web Data Integration	16-Oct-12
Dr. Rajiv Raman, TRDDC, Pune	Maximum feasible subsystems and applications	11-Oct-12
Prof. Narayan B. Mandayam, Rutgers University	Network Coding as a Dynamical System	27-Sep-12
Prof. Manindra Agrawal, IIT Kanpur	Polynomials from a Computational Perspective	20-Sep-12
Dr. Rahul Garg, Opera Solutions	Anonymization of High Dimensional Data Using Nearest Neighbor Clustering and Perturbation	6-Sep-12
Dr. L.Venkata Subramaniam, IBM IRL	Inferring from the Crowd	30-Aug-12

3.1.6 **How does the university facilitate researchers of eminence to visit the campus as adjunct professors? What is the impact of such efforts on the research activities of the university?**

All Adjunct faculty are evaluated by a standing committee, and each faculty has a designated research group or individual as a host. They are required to submit a report of the work. Faculty members are encouraged to promote this and encourage their collaborators in industry and across the world to become adjunct faculty at IIIT-Delhi. This has resulted in about 15 Adjunct Faculty, most eminent faculty and researchers in industry.

3.1.7 **What percentage of the total budget is earmarked for research? Give details of heads of expenditure, financial allocation and actual utilization.**

On an average 5 crores is earmarked for research.
Total Expenditure : Rs. 21 Crore

- Establishment (47%)-Rs.10 Crore
- Exp. on Research Projects (17%)-Rs.3.50 Crore
- Electricity and Power (11%)-Rs.2.27 Crore
- FMS (07%)-Rs.1.40 Crore
- Security (04%)-Rs.0.87 Crore
- Others (14%)-Rs.2.96 Crore

3.1.8 **In its budget, does the university earmark funds for promoting research in its affiliated colleges? If yes, provide details.**

Not Applicable

3.1.9 **Does the university encourage research by awarding Post Doctoral Fellowships/Research Associateships? If yes, provide details like number of students registered, funding by the university and other sources.**

Yes, presently one student has been awarded Post Doctoral Fellowship in IIITD.

Mr. Dukjae Moon from Center for Information Security Technologies, Korea University, Anam-dong, Seonbuk-gu, Seoul, Korea has been registered for the position of Post-Doctoral Research at IIIT Delhi . He is working for the research under the guidance of Dr. Somitra Sanadhya on the topic related to "Design and Analysis of Cryptographic Primitives"

Name of the Student	Source /Project
Shraddha Jain	DeiTy
Niranjan Kumar	DST & DeiTy
Hareesh Ravi	DeiTy
Rakshit Wadhwa	DeiTy
Mayank Gupta	DeiTy
Saheb Chabra	DeiTy
Prabjeet Kaur	DeiTy
Archit Garg	DeiTy
Sakshi Tiwari	DeiTy
Manaswi Saha	DeiTy
Sudeep Gupta	DST
Nilaksh Das	DeiTy
Apoorv Saini	DeiTy
Sameer Sawhney	DeiTy
Ishan Nigam	DeiTy
Paritosh Mittal	DeiTy
Soumyadeep Ghosh	DeiTy
Rohan Jain	DeiTy
Ravi Sharma	DST
Prakhar Chatterjee	DRDO
Ajay Shankar	DRDO
Shubham Saini	DeiTy
Ankush Vashistha	Institute
Shubha Sharma	Institute

3.1.10 What percentage of faculty have utilized the sabbatical leave for pursuit of higher research in premier institutions within the country and abroad? How does the university monitor the output of these scholars?

Following faculty members have utilized their leave for pursuit of higher research in premier institutions within the country and abroad.

1. Dr. Ashish Surekha, visiting Siemens Research
2. Dr. Vikram Goyal, visited Georgia Institute of Technology
3. Dr. Gaurav Gupta, visited Georgia Institute of Technology

In the vacation the faculty is required to provide details of the output in their annual repost which is then evaluated at the institute level

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3.1.11 Provide details of national and international conferences organized by the university highlighting the names of eminent scientists/scholars who participated in these events.

The following table carries these details:

Sl No	Title of the Project	Duration of the Workshop	Participants from
1	Atmel XMEGA and ARM based SAM4L Microcontrollers: Atmel University Program In Cooperation with Department of Computer Science IIIT-Delhi	18-19th July,2013	Various Industries
2	Training on Using online social media for Intelligence Purpose	29-31st July,2013	Indian Police Personnel
3	Training on Using online social media for Intelligence Purpose	30st August, 2013	Various Government Organizations
4	NORAD Seed Funding Confernce	25-26 Jan 2013	SAARC Nations
5	Training programme in Cryptanalysis of Symmetric System	28th Feb 2013 to Match 7th 2013	DRDO

3.2 Resource Mobilization for Research

3.2.1 What are the financial provisions made in the university budget for supporting students' research projects?

The Institute sponsors one foreign travel for the PhD Scholar to present paper beyond providing contingencies for research works. UG and MTech students are also provided partial support for presenting papers. Support for projects also comes from the support provided to faculty members.

3.2.2 Has the university taken any special efforts to encourage its faculty to file for patents? If so, how many have been registered and accepted?

Yes the Institute always welcomes its Faculty to file for patents. It has also entered into an MOU with Intellectual Ventures through which any faculty member can patent an idea on a royalty basis. As of now one patent has been filed the details of which is given below:

Patent Title	System and Method for Verifying Credentials
Publication Number	US20130275753 A1

Publication type	Application
Application Number	US13/492,870
Publication Date	October 17,2013
Filing date	June 10,2012
Priority date	13-Apr-12
Inventors	Dr.Ashish Sureka, Mr. Denzil Correa
Original Assignee	Indraprastha Institute of Information Technology Delhi
External Links	USPTO , USPTO Assignment, Espacenet

3.2.3 Provide the following details of ongoing research projects of faculty

Current Financial Year

Sl No	Title of the Project	Name of the PI	Funding Agencies	Total Sanction Amount Rs.	Status
1	Consultancy for Lab Equipments and Audio Video, Public Announcement Systems and setting up of Library sustems and Computing Equipments for IIIT-Raipur	Abir Bhattacharya	NTPC Ltd	900,000.00	ongoing
2	Route Planning for Low Flying Aircraft Through the Terrain."	Dr.P.B.Sujit	DRDO	9,96,000.00	ongoing
3	Research on Multimodal Context Switching Using Multispectral Face, Periocular and Iris Recognation at a Distance	Dr.Mayank Vatsa	DeiTy	12,055,000.00	ongoing
4	Small Cell WiFi Networks For The Enterprise	Dr.Sanjit Kaul	DeiTy	4,000,000.00	ongoing
5	Design Innovation Centre	Prof.Pankaj Jalote	MHRD-IITD	13,000,000.00	ongoing
6	DST-INRIA programme" Proposal Personalized Mobility Service for Urban Travellers"	Dr.Pushendra Singh	DST	514,722.00	ongoing
				16,955,000.00	

Financial Year 2013-14

Sl No	Title of the Project	Name of the PI	Funding Agencies	Total Sanction Amount Rs.	Status
1	EMC: Development of distributed algorithms for incremental Sensing Communication	Dr.Amarjeet Singh	EMC Data Storage System India Pvt. Ltd	960,000.00	ongoing
2	Human Sense: Towards contex aware sensing,inference and	Dr.Amarjeet Singh	ITRA	12,860,000.00	ongoing

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Sl No	Title of the Project	Name of the PI	Funding Agencies	Total Sanction Amount Rs.	Status
	actuation for applications in Energy and Healthcare				
3	StandFord University	Dr.Pushpendra Singh	Stand Ford University	791,960.00	ongoing
4	Smartphone-Based Anolalous Human Activity Detection & Prediction	Dr.Sanjit Kaul	DST	19,84,800.00	ongoing
5	Construction of Secure and Efficient Sigma-LFSR	Dr.Somitra Kr.Sanadhya	DRDO	978,000.00	ongoing
6	DST/INSPIRE Faculty Award/2013	Dr.Shobha Sundar Ram	DST	3,500,000.00	ongoing
7	Dynamical Analysis on the Functional relationship between circadian rlythms & memory formation to understand post-traumatic memories in human	Dr.Sriram K	DST	1,589,000.00	ongoing
8	Robert Bosch Engineering and business Solutions Limited	Dr.Amarjeet Singh	Robert Bosch Engineering and business Solutions Limited	600,000.00	ongoing
9	Consultancy for Design and development of Stream Ciphers for the use in Cryptographic products	Dr.Somitra Kr.Sanadhya	DRDO	930,000.00	ongoing
10	Smart Electrical Energy Disaggregation using machine learning Approaches.	Dr.Amarjeet Singh	TCIL	250,000.00	ongoing
11	Programmable System for Monitoring of Electrical Parameters and Intelligent Control of Electrical Appliances	Dr.Amarjeet Singh	TCIL	250,000.00	ongoing
12	VOX-Fp&POL-Violent Online Political Extremism "Networking of Researchers for a High Level Multi-Organisational & Cross-Border Collaboration – Network of Excellence"	Dr.Ponnurangam Kumaraguru	UK	363,258.00	ongoing

21,772,218.00

Financial Year 2012-13

Sl No	Title of the Project	Name of the PI	Funding Agencies	Total Sanction Amount Rs.	Status
1	DST/INSPIRE Faculty Award/2012	Dr.Agshul Majumder	DST	3,500,000.00	ongoing
2	Pervasive Sensing and Computing Technologies for Energy and Water Sustainability in Buildings.	Dr.Amarjeet Singh	DeIT	1,24,20,000.00	ongoing

3	How Should I Fix Bug?-Investing Text Analytics and Social network Analysis Based Approaches to Support a Practitioner in Bug Fixing	Dr.Ashish Sureka	DST	342,000.00	ongoing
4	Design & Development of System for Detecting Digitized Document Frauds	Dr.Gaurav Gupta	DeIT	8,112,000.00	ongoing
5	Analyzing & Measuring Trustworthiness of User-Generated Content & Users on Multiple Online Social Media to Counter Cybercrime	Dr.Ponnurangam Kumaragure	DeIT	7,500,000.00	ongoing
6	DST/INSPIRE Faculty Award/2012	Dr.Pravesh Biyani	DST	3,500,000.00	ongoing
7	Design & Development of a Mobile Device Centric environment Healthcare Delivery	Dr.Pushpendra Singh	DeIT	4,680,000.00	ongoing
8	Development and Evaluation of Mobile Learning Techniques for Indian Masses	Dr.Pushpendra Singh	DST	511,000.00	ongoing
9	Recognizing Surgically Altered Face Images for Security Application	Dr.Richa Singh	DST	1,369,000.00	ongoing
10	CAIR: Working out Indistinguishability Metrics for short Sequence Generation System	Dr.Somitra Kr.Sanadhya	DRDO	950,000.00	closed
11	MAX Planck Partner Group:Search and Mining over Large Scale Graphic	Dr.Srikanta Bedathur Jagannath	DST	4,050,000.00	closed
12	Correlating Differential Power with Program Behaviour: An analysis of Side Channel in Smart Card	Dr.Subhasis Banerjee	DRDO	1,416,000.00	ongoing
13	DST/INSPIRE Faculty Award/2012	Dr.Sujay Deb	DST	3,500,000.00	ongoing
14	User Controlled information Dissemination for Security and Privacy in Location Based Services	Dr.Vikram Goel	DST	516,000.00	ongoing

39,946,000.00

Financial Year 2011-12

Sl No	Title of the Project	Name of the PI	Funding Agencies	Total Sanction Amount Rs.	Status
1	An Inter-Disciplinary Approach Toward building Ontology for Online Extremism	Dr.Ponnurangam Kumaragure	DST	684,000.00	ongoing
2	Design and cryotanalysis of some Cryptographic primitives	Dr.Somitra Kr.Sanadhya	Naval Research Board	2,520,000.00	ongoing

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| 3 | Research and Exploration in Support of the proposed Project Title Use of cell phone for detecting and Controlling Infectious Diseases from National Geographic Society | Dr.Vinayak Nayak | National Geographic Society | 986,960.00 | ongoing |

4,190,960.00

Also, the institute receives Fellowships and contingency grants from TCS for PhD students. At present, there are 15 PhD students who are getting TCS fellowship for a period of 4 years (at the rate of 23,000 per month for first two years and 25,000 per month for the last two years + Rs. 1,00,000 towards contingency per student) students are getting Prime Minister fellowship at the rate of 48,400 per month.

3.2.4 Does the university have any projects sponsored by the industry / corporate houses? If yes, give details such as the name of the project, funding agency and grants received.

The list of the Industry based project of the Institute are as follows:

Sl. No	Title of the Project	PI	Funding Agency	Sanctioned Amount
1	EMC: Development of distributed algorithms for incremental Sensing Communication	Dr.Amarjeet Singh	EMC Data Storage System India Pvt. Ltd	960,000.00
2	Robert Bosch Engineering and business Solutions Limited	Dr.Amarjeet Singh	Robert Bosch Engineering and business Solutions Limited	600,000.00
3	Consultancy Services provided for Investigation of letters/envelops for authorship analysis.	Dr.Gaurav Gupta	National Highway Authority Of India	60,000.00
4	Mining Software Repositories	Dr.Ashish Sureka	Accenture India Pvt Ltd	120,000.00
5	Time and Presence Based Energy Control and Management	Dr.Amarjeet Singh	Telecommunication Consultants India Pvt Ltd	200,000.00

3.2.5 **How many departments of the university have been recognized for their research activities by national / international agencies (UGC-SAP, CAS; Department with Potential for Excellence; DST-FIST; DBT, ICSSR, ICHR, ICPR, etc.) and what is the quantum of assistance received? Mention any two significant outcomes or breakthroughs achieved by this recognition.**

DST-FIST has accepted the application for an amount of Rs. 3 crore/ Level 1 funding. For which a presentation has been made and decision is pending.

3.2.6 **List details of**
  a. research projects completed and grants received during the last four years (funded by National/International agencies).

Financial Year 2013-14

Sl No	Title of the Project	Name of the PI	Funding Agencies
1	EMC: Development of distributed algorithms for incremental Sensing Communication	Dr.Amarjeet Singh	EMC Data Storage System India Pvt. Ltd
2	Human Sense: Towards contex aware sensing,inference and actuation for applications in Energy and Healthcare	Dr.Amarjeet Singh	Media Lab Asia
3	StandFord University	Dr.Pushpendra Singh	Stand Ford University
4	Smartphone-Based Anolalous Human Activity Detection & Prediction	Dr.Sanjit Kaul	DST-SERB
5	Construction of Secure and Efficient Sigma-LFSR	Dr.Somitra Kr.Sanadhya	DRDO-CAIR
6	DST/INSPIRE Faculty Award/2013	Dr.Shobha Sundar Ram	DST
7	MPG Partnergroup funds.	Dr.Srikanta Bedathur Jagannath	MPG-DST
8	Dynamical Analysis on the Functional relationship between circadian rlythms & memory formation to understand post-traumatic memories in human	Dr.Sriram K	DST
9	Robert Bosch Engineering and business Solutions Limited	Dr.Amarjeet Singh	Robert Bosch Engineering and business Solutions Limited
10	Consultancy for Design and development of Stream Ciphers for the use in Cryptographic products	Dr.Somitra Kr.Sanadhya	DRDO

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Financial Year 2012-13

Sl No	Title of the Project	Name of the PI	Funding Agencies
1	DST/INSPIRE Faculty Award/2012	Dr.Agshul Majumder	DST
2	Pervasive Sensing and Computing Technologies for Energy and Water Sustainability in Buildings.	Dr.Amarjeet Singh	DeiTy
3	How Should I Fix Bug?-Investing Text Analytics and Social network Analysis Based Approaches to Support a Practitioner in Bug Fixing	Dr.Ashish Sureka	DST
4	Design & Development of System for Detecting Digitized Document Frauds	Dr.Gaurav Gupta	DeiTy
5	Analyzing & Measuring Trustworthiness of User-Generated Content & Users on Multiple Online Social Media to Counter Cybercrime	Dr.Ponnurangam Kumaragure	DeiTy
6	DST/INSPIRE Faculty Award/2012	Dr.Pravesh Biyani	DST
7	Design & Development of a Mobile Device Centric environment Healthcare Delivery	Dr.Pushpendra Singh	DeiTy
8	Development and Evaluation of Mobile Learning Techniques for Indian Masses	Dr.Pushpendra Singh	DST
9	Recognizing Surgically Altered Face Images for Security Application	Dr.Richa Singh	DST
10	CAIR: Working out Indistinguishability Metrics for short Sequence Generation System	Dr.Somitra Kr.Sanadhya	DRDO
11	MAX Planck Partner Group:Search and Mining over Large Scale Graphic	Dr.Srikanta Bedathur Jagannath	DST
12	Correlating Differential Power with Program Behaviour: An analysis of Side Channel in Smart Card	Dr.Subhasis Banerjee	DRDO
13	DST/INSPIRE Faculty Award/2012	Dr.Sujay Deb	DST
14	User Controlled information Dissemination for Security and Privacy in Location Based Services	Dr.Vikram Goel	DST

Financial Year 2011-12

Sl No	Title of the Project	Name of the PI	Funding Agencies
1	An Inter-Disciplinary Approach Toward building Ontology for Online Extremism	Dr.Ponnurangam Kumaragure	DST
2	Design and cryotanalysis of some Cryptographic primitives	Dr.Somitra Kr.Sanadhya	Naval Research Board
3	Research and Exploration in Support of the proposed Project Title Use of cell phone for detecting and Controlling Infectious Diseases from National Geographic Society	Dr.Vinayak Nayak	National Geographic Society

Financial Year 2010-11

Sl No	Title of the Project	Name of the PI	Funding Agencies
1	Statistical Evaluation and Recognition of Simultaneous Latent Fingerprint Impression	Dr.Mayank Vatsa	DST
2	International Development Research Centre,Canada and Privacy International,UKPrivacy In India.	Dr.Ponnurangam Kumaragure	Privacy International
3	Analyzing Online Content using Data Mining Techniques to Counter Cyber Crime-Under Cyber Security grant-in Aid programme.	Dr.Ponnurangam Kumaragure	DeiTy
4	Analysis of Ad-hoc Networks	Dr.Pushpendra Singh	DRDO
5	Reengineering existing Application for Multicore Services	Dr.Subhasis Banerjee	DST

3.3   Research Facilities

3.3.1   What efforts have been made by the university to improve its infrastructure requirements to facilitate research? What strategies have been evolved to meet the needs of researchers in emerging disciplines?

Institute has following facilities:
- Internet Access: 1 GBPS leased line from NKN with a backup connection of 100 MBPS running in failover mode. 10 gigabit fiber backbone network.
- Data Centre: 40 Servers and network unified storage of 45.3TB. Tape Library Backup Solution for onsite and offsite backup. SAN storage solution.

- HPC: 92 CPU cores and 441 GB RAM with a therotical TFLOP rating of 1.79. It is highly scalable setup and is targeted to reach around 1000 cores in near future.
- Software: UBUNTU, Microsoft windows, RHEL, Microsoft Office, MATLAB, Synopsis tools, Cadence, Mentor Graphics.
- Others: IP Telephony, Cisco Webex, SSL VPN, ERP, Table Library Backup solution, IP Address V4 and IPV6, more than 100 laptops and 91 printers and scanners.

3.3.2 Does the university have an Information Resource Centre to cater to the needs of researchers? If yes, provide details of the facility.

The university has a separate Information Resource Centre Block.It has a full time officer manning it. It also subscribes to various digital libraries and resources.

3.3.3 Does the university have a University Science Instrumentation Centre (USIC)? If yes, have the facilities been made available to research scholars? What is the funding allotted to USIC?

NA.

3.3.4 Does the university provide residential facilities (with computer and internet facilities) for research scholars, post-doctoral fellows, research associates, summer fellows of various academies and visiting scientists (national/international)?

There are two furnished apartments on campus for visiting faculty/researchers. Hostel facilities are available for Post Docs and other visitors.

3.3.5 Does the university have a specialized research centre/ workstation on-campus and off-campus to address the special challenges of research programmes?

Yes, the Institute has many research labs 24 hours open in which advanced students and research staff work. It also has some common labs for MTech and BTech students to pursue their research work. A focused Cybersecurity Education and Research Centre (CERC) was inaugurated to support research in Cyber Security.

3.3.6 Does the university have centres of national and international recognition/repute? Give a brief description of how these facilities are made use of by researchers from other laboratories.

Yes

3.4   Research Publications and Awards

3.4.1   Does the university publish any research journal(s)? If yes, indicate the composition of the editorial board, editorial policies and state whether it/they is/are listed in any international database.
NA

3.4.2   Give details of publications by the faculty:
- **Number of papers published in peer reviewed journals (national /international)**
- **Monographs**
- **Chapters in Books**
- **Books edited**
- **Books with ISBN with details of publishers = 4**
- **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, EBSCO host, etc.)**
- **Citation Index – range / average**
- **SNIP**
- **SJR**
- **Impact Factor – range / average**
- **h-index**

S.No.	Name of the faculty members	Name of the book	Publication name	Year of Publication
1	Dr.Angshul Majumdar	A Sparsity Based Approach Towards Fast MRI Acquisition: Software Based Acceleration Approach	LAM Lambert, 2012	Published in 2012
2	Dr.Angshul Majumdar	Compressive Classification for Face Recognition: A New Approach	VDM Verlag, 2009	Published in 2009

Research publications of the Faculty is being provided:
Year 2014

- Neslihan Kose, Jean-Luc Dugelay, Richa Singh, and Mayank Vatsa, Recognizing Face Images With Disguise Variations, In Face recognition in adverse conditions Ed. by M. De Marsico, M. Nappi, M. Tistarelli, 2014 (In Press)
- P. Agrawal, M. Vatsa, R. Singh, Saliency based Mass Detection from Screening Mammograms, Signal Processing, Elsevier, Vol 99C, pp. 29-47, 2014.
- G. Goswami, B.M. Powell, M. Vatsa, R. Singh, and A. Noore, FaceDCAPTCHA: Face Detection based Color Image CAPTCHA, Future Generation Computer Systems - Special Issue on Human-Involved Computational Systems, Elsevier, Vol. 31, pp. 59-68,

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Feb 2014.

- M. Mittal and A. Sureka, MIMANSA: Process Mining Software Repositories from Student Projects in an Undergraduate Software Engineering Course, 36th International Conference on Software Engineering, Software Engineering Education and Training (SEET) Track (ICSE SEET 2014) [PDF].

- A. Rastogi and A. Sureka, Does Contributor Characteristics Influence Future Participation? A Case Study on Google Chromium Issue Tracking System, 10th International Conference on Open Source Systems (OSS 2014) [PDF].

- D. Correa, A. Sureka, Chaff from the Wheat : Characterization and Modeling of Deleted Questions on Stack Overflow, 23rd International World Wide Web Conference (WWW 2014) [PDF].

- A. Sureka, Requirements Prioritization and Next-Release Problem under Non-Additive Value Conditions, 23rd Australasian Software Engineering Conference (ASWEC) [PDF].

- A. Rastogi and A. Sureka, SamikshaViz: A Panoramic View to measure Contribution and Performance of Software Maintenance Professionals by Mining Bug Archives, Seventh India Software Engineering Conference (ISEC), 2014 [PDF].

- M. Gupta and A. Sureka, Nirikshan: Mining Bug Report History for Discovering Process Maps, Inefficiencies and Inconsistencies,   Seventh India Software Engineering Conference (ISEC), 2014 [PDF].

- Astrid Kiehn, Pranav Raj, Pushpendra Singh, "A Causal Checkpointing Algorithm for Mobile Computing Environment", to appear in 15th International Conference on Distributed Computing and Networks (ICDCN), 2014.

- P. Agrawal, M. Vatsa, R. Singh, Saliency based Mass Detection from Screening Mammograms, Signal Processing, Elsevier, Vol 99C, pp. 29-47, 2014.

- G. Goswami, B.M. Powell, M. Vatsa, R. Singh, and A. Noore, FaceDCAPTCHA: Face Detection based Color Image CAPTCHA, Future Generation Computer Systems - Special Issue on Human-Involved Computational Systems, Elsevier, Vol. 31, pp. 59-68, Feb 2014.

- RQ-RDF-3X: Going Beyond Triplestores, Jyoti Leeka and Srikanta Bedathur in DESWEB 2014 (to appear)

- Towards Generating Text Summaries for Entity Chains, Shruti Chhabra and Srikanta Bedathur in ECIR 2014 (to appear)

- Garvit Bansal, Anshul Gupta, Utkarsh Pyne, Manish Singhal and Subhasis Banerjee. A Framework for Performance Analysis and Tuning in Hadoop Based Clusters, Workshop on Smarter Planet and Big Data Analytics (SPBDA 2014) held in conjunction with ICDCN 2014.

- Kalapriya Kannan and Subhasis Banerjee "FlowMaster: Early Eviction of Dead Flow on SDN Switches" to appear 15th International Conference on Distributed Computing and Networking, Coimbatore, INDIA (ICDCN 2014)   pdf.

Year 2013

- H. Mehrotra M. Vatsa, R. Singh, and B. Majhi, Does Iris Change Over Time?, PLoS ONE 8(11): e78333, 2013. Impact Factor - 3.730.
- H.S. Bhatt, S. Bharadwaj, R. Singh, and M. Vatsa, Plastic Surgery and Face Recognition, Encyclopedia of Biometrics, 2nd Edition (To appear).
- R. Singh, Recognizing Altered Appearances Due to Aging and Disguise, Signal and Image Processing for Biometrics Under Uncontrolled data Acquisition Conditions (Book Editors: Jacob Sharcanski, Hugo Proença and Eliza Y. Du), Springer-Verlag (To appear).
- M. Vatsa, Quality Induced Multiclassifier Fingerprint Verification using Extended Feature Set, Signal and Image Processing for Biometrics Under Uncontrolled data Acquisition Conditions (Book Editors: Jacob Sharcanski, Hugo Proença and Eliza Y. Du), Springer-Verlag (To appear).
- H.S. Bhatt, S. Bharadwaj, R. Singh, and M. Vatsa, Recognizing Surgically Altered Face Images using Multi-objective Evolutionary Algorithm, IEEE Transactions on Information Forensics and Security, Vol.8, No.1, pp.89-100, Jan. 2013. Also available as Technical Report.
- M. Tistarelli, D. Yadav, M. Vatsa, and R. Singh, Short- and Long-Time Aging Effects in Face Recognition, In Age Factors in Biometric Processing, Edited by Michael Fairhurst, IET Publisher, 2013 (To appear).
- P. Agrawal, M. Vatsa, R. Singh, HEp-2 Cell Image Classification: A Comparative Analysis, MICCAI Workshop - MLMI, September, 2013. (Supplementary material)
- A. Sankaran, M. Vatsa, R. Singh, Automated Clarity and Quality Assessment for Latent Fingerprints, International Conference on Biometrics: Theory, Applications and Systems, 2013, Received the Best Poster Award.
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- Generating Text Summaries of Graph Snippets Shruti Chhabra and Srikanta Bedathur in COMAD 2013.

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- Label Constrained Shortest Path Estimation (Poster) Ankita Likhyani and Srikanta Bedathur in CIKM 2013.

- Temporal Diversifaction of Search Results Klaus Berberich and Srikanta Bedathur in TAIA: SIGIR 2013 Workshop on Time Aware Information Access -- colocated with SIGIR 2013.

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- Computing n-gram Statistics in MapReduce arXiv TR Klaus Berberich and Srikanta Bedathur in EDBT 2013.

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- V. A. Bohara, A. H. Mazen, and O. Venard, "A parameter identification algorithm for multi-stage digital predistorter," accepted to European microwave conference (EuMC), Nuremberg, Germany, 2013.
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No. of Citations and h Index of the Institute for 2012-13

No. of CS/IT Publications in year 2012	296
No. of CS/IT Publications in year 2013	365
Total Publications	661
No. of Citations in year 2012	431
No. of Citations in year 2013	185
Total Citations	616
h Index of the Institute based on year 2012-13	10

	From Scopus	From Web-of-Science
Year	**No. of Publications**	**No. of Publications (Approx)**
2009	9	8
2010	29	13
2011	31	8
2012	54	29
2013	92	46
2014	17	8
Total	**232**	**112**

3.4.3 Give details of
  ∗ **faculty serving on the editorial boards of national and international journals**
  ∗ **faculty serving as members of steering committees of international conferences recognized by reputed organizations / societies**

Following are the details covering both points:

Mohammad Hashmi
- Associate Editor for the special edition of "International Journal of Microwave Science and Technology" published in May 2013. The focus of the edition was *Advanced RF and Analog Integrated Circuits for Fourth Generation Wireless Communications and Beyond*

Richa Singh
- Publications Chair, International Conference on Biometrics: Theory, Applications and Systems, Washington DC, September, 2013
- Editorial Board Member, Journal of Information Fusion, Elsevier
- Member, Biometrics Committee on Immigration, Visa and Foreigner's Registration and Tracking, Ministry of Home Affairs and National Information Center
- Member, UID Standards Sub-Committee for Face Recognition

Ashwin Srinivasan
- Board of Studies member of the South Asian University.

3.4.4 Provide details of
  ∗ **research awards received by the faculty and students**
  ∗ **national and international recognition received by the faculty from reputed professional bodies and agencies**

Ayatullah Maktoomi, M Hashmi	Best paper award at IMPACT 2013
Anush, Mayank and Richa	Received best poster award at BTAS 2013
Gaurav, Samarth, Mayank and Richa	Received best poster award at BTAS 2013
Srishti (Mtech) & Niharika (PhD)	For receiving 1st and 3rd best poster awards at IITK Security & Privacy Symposium.
Pandarasamy Arjunan	For receiving the IBM Ph.D. Fellowship Award for 2013-2014.
Kuldeep, Siddhartha, Lakshay, Akshit, Chirag, Sanchit, Umang, Aman	For winning The Whodunnit? Challenge by Microsoft Research India.
Madhur Hasija and Monika Gupta (PhD 1st year)	For Prime Minister's Fellowship

Samarth Bharadwaj	Won 3rd prize at the IDRBT Doctoral Colloquium, 2012
Anupama, Ashwin, and PK	Received Best Paper Award at seventh IEEE APWG eCrime Researchers Summit (eCRS) their paper "PhishAri: Automatic Realtime Phishing Detection on Twitter"
Aditi, Akshit and PK	Received third prize (among 37) for their poster "Twit-Digest: A Web based Tool to Analyze and Visualize Twitter in Real Time." at IBM I-CARE 2012
Anupama, Robin, Nipun and Madhvi	Selected for TCS Research Scholarship
Sunpreet, Richa and Mayank	Received best poster presentation award at BTAS2012 for their paper "On Iris Camera Interoperability".
Kuldeep Yadav	For Google best presentation award at Ph.D. Forum, 2012 ACM MobiSys
Ayushi Rastogi and Niharika Sachdeva	For TCS Research Scholarship
Amarjeet Singh	For receiving IBM Faculty award.
Shishir Nagaraja	For receiving Google Faculty Research award.
Shishir Nagaraja	For receiving IBM Faculty award.

3.4.5 Indicate the average number of successful M.Phil. and Ph.D. scholars guided per faculty during the last four years. Does the university participate in Shodhganga by depositing the Ph.D.

2 in total. No the university does not participate in Shodhganga by depositing the Ph.D.

3.4.6 What is the official policy of the university to check malpractices and plagiarism in research? Mention the number of plagiarism cases reported and action taken.

Institute has strict policy to check mal practices and Plagiarism. Institute has several test tools eg. Tutntin, Ephorus etc. to check plagiarism. Initial policy is to reduce one grade in the joint instance and 'F' grade of repeated offender. The student is given an opportunity to appeal to DAC.

3.4.7 Does the university promote interdisciplinary research? If yes, how many interdepartmental / interdisciplinary research projects have been undertaken and mention the number of departments involved in such endeavours?

As mentioned above, the Institute promotes interdisciplinary work between CS and EE, and also between CS/EE and disciplines like Computational Biology and Economics. Many faculty members are working on projects which have PIs from different groups, in particular CS/EE and Computational Biology.

3.4.8 Has the university instituted any research awards? If yes, list the awards.

Institute has Best BTP (research) and Best MTech thesis awards. It also has faculty research fellowships (FRF), which are to be given to faculty members with strongest research contributions in the previous three years.

3.4.9 What are the incentives given to the faculty for receiving state, national and international recognition for research contributions?

Each year faculty's research contributions are assessed, and based on that assessment, some professional grant is given which varies based on how well the faculty member has performed. The faculty also receives some portion of the overheads of the research fund into their Professional Development Account.

3.5 Consultancy

3.5.1 What is the official policy of the University for Structured Consultancy? List a few important consultancies undertaken by the university during the last four years.

The official policy of the Institute for Structured Consultancy are as follows:

Consultancy Projects
A consultancy project is one where some faculty members and research staff provide help and inputs to some organization.
A faculty member can spend at most 1 day per week (seven days) on consultancy project/work, including time spent within the Institute on such projects.

The Institute's policy on consultancy fees is as follows: in a FY the first Rs. 5 Lakh consulting fee/honorarium has no sharing, and the entire consultancy fees will go to the consultants. Thereafter, half of the fees will come to the Institute, and half will go to the consultants.

Sl. No	Title of the Project	PI	Funding Agency
1	**EMC: Development of distributed algorithms for incremental Sensing Communication**	Dr.Amarjeet Singh	EMC Data Storage System India Pvt. Ltd
2	**Robert Bosch Engineering and business Solutions Limited**	Dr.Amarjeet Singh	Robert Bosch Engineering and business Solutions Limited
3	**Consultancy Services provided for Investigation of letters/envelops for authorship analysis.**	Dr.Gaurav Gupta	National Highway Authority Of India

4	**Mining Software Repositories**	Dr.Ashish Sureka	Accenture India Pvt Ltd
5	**Time and Presence Based Energy Control and Management**	Dr.Amarjeet Singh	Telecommunication Consultants India Pvt Ltd
6	**Update on health monitoring and reporting using cellphone**	Dr. Vinayak Naik	Nokia
7	**Location based service project**	Dr. Vinayak Naik	Nokia
8	**Consultancy for IT and related Infrastruture**	Mr Abir	NTPC / IIIT Raipur
9	**Crypto Reseacrh**	Dr Somitra	DRDO

3.5.2 **What is the mode of publicizing the expertise of the university for consultancy services? Which are the departments from whom consultancy has been sought?**

Website is the main means through which information is disseminated. In addition, we regularly have visitors from industry with whom groups discuss possibilities of collaboration and joint work.

Currently both CSE and ECE faculty members are involved in providing consultancy.

3.5.3 **How does the university utilize the expertise of its faculty with regard to consultancy services?**

It uses the expertise to build relationships with industry and get projects – bot funded research projects as well as thesis projects with joint supervision.

3.5.4 **List the broad areas of consultancy services provided by the university and the revenue generated during the last four years.**

The areas of consultancy are Computer & Electrical Science and the revenue earned for the last four years is Rs.24 Lakh.

3.6 **Extension Activities and Institutional Social Responsibility (ISR)**

3.6.1 **How does the university sensitize its faculty and students on its Institutional Social Responsibilities? List the social outreach programmes which have created an impact on students' campus experience during the last four years.**

Students are encouraged to give back to the society through compulsory community work credits. Almost every student is involved with various NGOs all over the country. The institute also has a Community Work Club called Communitas - Opere, which organizes blood donation camps and facilitates student partnerships with NGOs. The list of

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Community Work projects for previous year is available at http://cw.iiitd.edu.in:8089/student/home/

Also, students arrange a procon Junior programming contest at the institute wherein students from various schools participate.

3.6.2 How does the university promote university-neighbourhood network and student engagement, contributing to the holistic development of students and sustained community development?

As mentioned above all students have to do 2 credit of community work.

3.6.3 How does the university promote the participation of the students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International programmes?

Mostly, such participation is encouraged through the mandatory Community Work requirement – all students participate in this details are available at http://cw.iiitd.edu.in:8089/student/home/ Inter institute games and sports are also encouraged and Institute teams participate in inter-IIITD Sports meet in Gwalior.

3.6.4 Does the university have a mechanism to track the students' involvement in various social movements / activities which promote citizenship roles?

Yes, 2 credits are devoted to social work/activities and the university maintains a record of students' activities in this – these activities are also shared with others through a poster session and a website.

3.6.5 Bearing in mind the objectives and expected outcomes of the extension activities organized by the university, how did they complement students' academic learning experience? Specify the values inculcated and skills learnt.

Such activities help students understand society and its needs better, which will help them become better engineers, and compliments the academic education being provided for developing engineering skills.

3.6.6 How does the university ensure the involvement of the community in its outreach activities and contribute to community development? Give details of the initiatives of the university which have encouraged community participation in its activities.

This is done through community work undertaken by the students as a part of their academic programs

3.6.7 Give details of awards received by the institution for extension activities and/contributions to social/community development during the last four years.

Institute faculty and students are closely involved with several leading NGOs in the areas of healthcare, education etc. and their effort is recognized by these organizations. The Delhi govt. 181-Women-in-distress helpline is also managed by IIIT-Delhi team.

3.7 Collaboration

3.7.1 How has the university's collaboration with other agencies impacted the visibility, identity and diversity of activities on campus? To what extent has the university benefitted academically and financially because of collaborations?

Industry officials visit the campus to conduct seminars /workshops & teach courses. All these activities have academically benefited our students to understand & learn new cutting edge technologies & trends in the market.

3.7.2 Mention specific examples of how these linkages promote
* **Curriculum development.**
  SAP offers a course on Testing at IIIT-Delhi named as Secure Coding & STTE.
  IBM faculty offered course on Mining.

* **Internship**
  We have partnership with ST Microsystems for VLSI and Embedded System program, all the students do a summer program in ST where they were taught by ST faculty and use their facilities and tools.

* **On-the-job training**
  The students after receiving Job offers from the companies do on-job-training for a period of 2 to 3 months.

* **Faculty exchange and development Research**
  A number of IIITD faculty has visited other university/institutes and benefitted from the same.

* **Publication**
  The number of publications have increased gradually.

*Consultancy
  The number of consultancies and findings have increased.

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* **Extension**
The institute has started Self Growth and Community work of 2 credits each.

∗ **Student placement**
IIITD provides placement opportunities to all bonafide students .The Indian compensation ranges between 16 to 4 lacs .Average salary ranges between 8 to 10 lacs. 03 Batches have graduated from the campus so far.

∗**Any other (please specify)**

3.7.3 Has the university signed any MoUs with institutions of national/international importance/other universities/ industries/corporate houses etc.? If yes, how have they enhanced the research and development activities of the university?

IIIT-D has signed a statement of understanding with Australia's Queensland University of Technology for cooperative educational exchanges under which the two institutions aim to develop joint venture projects, supervise doctoral students jointly and organize joint academic and scientific activities.

IIIT-D has joined hands with Korea University's Graduate School of Information Security (GSIS) and University of Nebraska-Lincoln to carry out educational exchanges and strengthen mutual relationships.

3.7.4 Have the university-industry interactions resulted in the establishment / creation of highly specialized laboratories / facilities?

The university-industry interactions resulted in establishment of CERC.
Indraprastha Institute of Information Technology, Delhi (IIIT-D) has opened its first Center of Excellence in Cybersecurity, which involves high-level education, technical training and research in this critical area with an aim to help various stakeholders like the government, industry and general public.

Any other information regarding Research, Consultancy and Extension, which the university would like to include.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1   Physical Facilities

4.1.1   How does the university plan and ensure adequate availability of physical infrastructure and ensure its optimal utilization?

The university is guided by the BOG with the broad vision of its management headed by the Director through its Sub Committee –Project Monitoring Review Committee headed by the President of the Council of Architecture, eminent members as former DG of CPWD, members as reputed Prof from IIT in Civil Engg, Reputed Engineers from Govt and Pvt Sector such as TCS. The Committee advises the Institute on the planning and design of the Infrastructural facilities through reputed Architects to create state of the art facilities.

4.1.2   Does the university have a policy for the creation and enhancement of infrastructure in order to promote a good teaching-learning environment? If yes, mention a few recent initiatives.

The Construction was taken up after selection of reputed Architects and Contractors in Phase-I with built up area of around 32000sqm to create State of the Art facilities and further enhancement thereof by embarking upon the next Phase of construction after a full fledged architectural competition and quality based selection process to come up with large scale infrastructure with built up area of around 60000sqm to increase the uptake by more than twice. All architectural plans are reviewed, besides by experts, by a panel of academicians from different institutions to ensure that the spaces being created are conductive to learning and growth.

4.1.3   How does the university create a conducive physical ambience for the faculty in terms of adequate research laboratories, computing facilities and allied services?

The entire campus is sprawling with peripherals of the DDA greens and has well maintained infrastructure and lush green open areas with adequate interaction spaces and well-furnished and equipped laboratories. There are adequate   numbers of laboratories separately- 9 number for research and 12 numbers of computing laboratories and another equal nos have been planned in the Phase II. The buildings and infrastructure are energy efficient with green building features reducing energy footprint to optimum levels and

instill energy conservation consciousness among the student community. All plans are actively reviewed by faculty to ensure that they help develop a conducive learning environment.

4.1.4   Has the university provided all departments with facilities like office room, common room and separate rest rooms for women students and staff?

All departments have independent faculty rooms, meeting rooms and separate rest rooms.

4.1.5   How does the university ensure that the infrastructure facilities are disabled-friendly?

All the buildings irrespective of their height /nos of stories are provided with approach ramps, lifts and handicap toilet facilities.

4.1.6   How does the university cater to the requirements of residential students? Give details of

∗ **Capacity of the hostels and occupancy (to be given separately for men and women)**

It has well-equipped and furnished hostel facilities with following capacity:
Capacity of Girls Hostel: 164 beds
Capacity of Boys Hostel: 372 beds
In the next Phase of construction the hostel facilities are likely to be tripled.

∗ **Recreational facilities in hostel/s like gymnasium, yoga centre, etc.**
A separate block with full fledged recreational facilities like well equipped gymnasium , art and music room , café and mess for dining and student activities rooms has been created .

∗ **Broadband connectivity / wi-fi facility in hostels.**
All hostels have broad band connectivity in the rooms and wi-fi facility in the common areas.

4.1.7 Does the university offer medical facilities for its students and teaching and non-teaching staff living on campus?

The Institute has a medical sick bay area infrastructure facility at the Dining cum student activity block, first aid facilities. It has also entered into MOU with neighboring hospitals of reputed for medical treatment of the students. It has also provisions of OPD reimbursement and medical insurance cover for its teaching and non teaching staff living on and off campus.

4.1.8 What special facilities are available on campus to promote students' interest in sports and cultural events/activities?

The Sports infrastructure is provided in the dining cum student activities centre with TT and snooker room, open air multipurpose field, volley ball, basketball courts and two tennis courts. The courts are equipped with State of the Art night lighting equipment and sports facilities. In the next phase it is proposed to add a full-fledged sports block with swimming pool, squash courts, yoga centre gymnasium etc.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of the committee. What significant initiatives have been taken by the committee to render the library student/user friendly?

Yes, the Library and Information Centre of the Institute, hereinafter referred as Centre, has an Advisory Committee for advising on the matters concerning development of the Centre. The Committee consists of seven members as below:
1 Chairperson (Assistant Professor – CSE Department)
3 Members (Assistant Professor – One is from ECE Department and other two are from CSE Department)
2 Members (from Student Council)
1 Member Secretary (Assistant Manager from Library and Information Center)

Some of the initiatives of the Committee are:
- Installation of Library automation using Koha ILS with RFID
- EM Security system for securing the Library resources
- Installation of Institutional Repository
- Open access Library system

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- Making available latest learning resources,
- Augmenting facilities of the Centre,
- Providing learning atmosphere
- 24x7 access to Centre's resources, etc.

4.2.2   Provide details of the following:

∗ **Total area of the library (in Sq. Mts.) -** 1240.82 SqMtrs

∗ **Total seating capacity -** Around 140

∗ **Working hours (on working days, on holidays, before examination, during examination, during vacation)**

On Working days	08:30 AM to 08:00 PM
On Holidays	09:00 AM to 05:30 PM
Before Examination	08:30 AM to 08:00 PM
During examination	08:30 AM to 08:00 PM
During Vacation	09:00 AM to 05:30 PM

∗ **Layout of the library (individual reading carrels, lounge area for browsing and relaxed   reading, IT zone for accessing e-resources) –**

The Centre is spread over two floors-Ground and First Floor

- There are 3 scholars' cabins at Ground floor.
- There is an Open Reading Hall at Ground floor.
- PCs are installed at First floor for accessing the e-resources. Also, the Center is fully Wi-Fi enabled for internet connectivity.

∗ **Clear and prominent display of floor plan; adequate sign boards; fire alarm; access to differently-abled users and mode of access to collection-**

- The Center has a clear floor plan and the layout is fixed on notice board
- Fire alarm devices have been installed in the whole Center building and these work fine.
- Access to Centre is differently-abled friendly. Centre has two entry points viz. through stairs and Lift. Entry through main gate of the Centre is through ramp and stairs.
- Mode of access to Center's collection is Open Access.

4.2.3   Give details of the library holdings:

a) **Print (books, back volumes and theses) -** 4408 (print books), 18 (print magazines/journals)
b) **Average number of books added during the last three years -**1248 per year
c) **Non Print** (Microfiche, AV) 176 (CDs/DVDs)
d) **Electronic (e-books, e-journals)** 12602 (e-Journals, Transactions, LNCS)
e) **Special collections (e.g. text books, reference books, standards, patents)-** 3391 (textbooks), 1017 (reference books)
f) **Book Banks-** NA
g) **Question Banks-**Nil

4.2.4   What tools does the library deploy to provide access to the collection?

* **OPAC -**Yes
* **Electronic Resource Management package for e-journals**
* **Federated searching tools to search articles in multiple databases**
* **Library Website -**Yes
* **In-house/remote access to e-publications-** Yes

4.2.5   To what extent is ICT deployed in the library? Give details with regard to

* **Library automation**
  Fully automated with RFID and EM Security system and wi-fi enabled.
* **Total number of computers for general access**
  07
* **Total numbers of printers for general access**
  01
* **Internet band width speed**
  1GBps
* **Institutional Repository**
  IIITD Repository using DSpace
* **Content management system for e-learning**
  Yes, using Moodle
* **Participation in resource sharing networks/consortia (like INFLIBNET)**
  Yes, under UGC InfoNet Digital Library Consortium

4.2.6   Provide details (per month) with regard to

* **Average number of walk-ins**
    3750
* **Average number of books issued/returned**
    1072
* **Ratio of library books to students enrolled**
    5:1
* **Average number of books added during the last four years**
    930 per year
* **Average number of login to OPAC**
    Open for all users
* **Average number of login to e-resources**
    NA - IP based access, login not required
* **Average number of e-resources downloaded/printed**
    4407
* **Number of IT (Information Technology) literacy trainings organized**
    Every year at the beginning of the academic session the Centre conducts an Orientation Program for the batch joining in. The Program focuses on the resources available in the Centre. On periodic basis the Centre plans to organize IT Literacy program for all the stakeholders**.**

4.2.7   Give details of specialized services provided by the library with regard to
* **Manuscripts** yes (all thesis & project reports)
* **Reference** yes (many digital libraries, journals, e-books)
* **Reprography/Scanning Available through outsourced agency**
* **Inter-library Loan Service :** Yes, through Library Network
* **Information Deployment and Notification -**Yes, notified on time to time.
    OPACS Accessible to all users on Intranet and Internet
    Internet Access Available through wire and Wi-Fi
* **Downloads :** Center downloads the selected resources on request
* **Printing**- service is available through outsourced agency
* **Reading list/ Bibliography compilation -**Providing on request
* **In-house/remote access to e-resources**- E-Resources is accessible
* **User Orientation -**Organizing user orientation program at the beginning of
        new academic session
* **Assistance in searching Databases -**Assisting on request
* **INFLIBNET/IUC facilities-** Yes, availing

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4.2.8 Provide details of the annual library budget and the amount spent for purchasing new books and journals.

Annual Library Budget: Rs.139.22 lakhs for the year 2013-14. Amount spent for purchasing new books and journals: Rs10 lakhs approx. (1st April 2013 to till date)

4.2.9 What initiatives has the university taken to make the library a 'happening place' on campus?

- Established separate Library and Information Center building with centralized AC
- Organizing book exhibition for book selection in the Library and also for its users' (i.e. Faculty, Staff, Students and Research Scholars)
- Created Silent Reading zone, Open Reading Hall, and Scholars' Cabins
- Library and Information Center has procured many worlds' bestselling books on the basis of students' request.
- Procured Kindle e-book readers for reading eBooks.
- Enabled 24x7 Wi-Fi internet connectivity for accessing e-resources

4.2.10 What are the strategies used by the library to collect feedback from its users? How is the feedback analysed and used for the improvement of the library services?

The Center has a set of Standard Operating Procedures (SoPs). As part of defined Procedures the Centre is required to obtain Feedback from the users, for which a Format is kept at Circulation Desk. In addition, feedback is obtained through online mode.

4.2.11 List the efforts made towards the infrastructural development of the library in the last four years.

- Established separate Library and Information Center building with centralized AC.
- Procurement of new furniture for the Library i.e. Open Access Book Racks, Circulation Desk, Reading Tables, Chairs, Desktop PCs, RFID System, EM Security System, Users Property Counter.
- High speed Wi-fi Internet connectivity for the Library users.

4.3   IT Infrastructure

4.3.1   Does the university have a comprehensive IT policy with regard to

- **IT Service Management** Yes
- **Information Security** Yes
- **Network Security** Yes
- **Risk Management** Yes
- **Software Asset Management** Yes
- **Open Source Resources** Yes
- **Green Computing** NA

4.3.2   Give details of the university's computing facilities i.e., hardware and software.

- **Number of systems with individual configurations**
  400 PCs with core2 duo and above configurations
- **Computer-student ratio**
  1:2
- **Dedicated computing facilities**
  LAN facility
  Proprietary software MATlabs, Synopsis tools, Cadence, Mentor Graphics, etc
- **Number of nodes/ computers with internet facility -** All
- **Any other (please specify)**
  Total PHD labs: - 9
  Research servers: - 34
  Institute servers: - 37
  Storage: - 45 TB
  Desktops: - 400
  Internet: - 1 Gbps form NIC and 100Mbps from sify.
  Ipv4 and Ip v6:- The institute has its own /24 public IPV4 and /48 IPv6 address block
  Software: - The institute mainly focuses on usage of free operating system like Ubuntu etc. But keeping in view its requirements, the institute also has licenses for Microsoft Windows, RHEL, and Microsoft Office- Its also has licenses for specialized software like matlab, synopsis tools, cadence, mentor graphics etc

  Video Conferencing: Polycom HDX7000 VC System is available with optional ISDN line & also connected with Internet.

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IP Telephony: Our entire Campus is equipped with IP telephony. It has 115 IP phones and more than 100 analog phones

Internet connection range :- by both Lan and Wi-Fi is given all blocks inclusive of residence, academic dinning and hostels.

VPN :- is given for connection to our network from outside campus using any internet connection.

Printing and other facilities:- the institute has 91 printers and s   canners

Ups:- we have 100Kva redundant and 20 kVa (Dedicated) Ups powering the critical IT infrastructure

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

We plan to upgrade our firewall to high availability mode, want to purchase more switches, indoor access points and outdoor access points. We are setting up our own high performance computing environment and our own redundant telephone exchange server.

4.3.4 Give details on access to on-line teaching and learning resources and other knowledge and information database/packages provided to the staff and students for quality teaching, learning and research.

Apart from the print resources, the Library and Information Center subscribes to various renowned electronic resources in areas of Engineering, Sciences and Technology. These e-resources are accessible at the institute's intranet and the access is IP based, hence login/user name and password are not required.

IIITD Repository / Archive

IIITD [Institutional Repository](#) is a digital collection that collects, organizes, preserves and makes accessible the achievements/ intellectual output of faculty members, research scholars and UG/PG students. It may contain the following resources –

- Research Papers
- Technical Reports
- Newsletter
- Thesis & Dissertations
- Lecture Presentations
- Lecture Notes
- Press Clippings
- Video & Audio Recordings
- Last Year's Exam Question Papers

- Annual Reports
- Brochures
- Events Recordings

Interlibrary Loan (ILL) and Document Delivery (DDS)
IIITD Library offers Interlibrary Loan and Document Delivery Service through Developing Library Network (DELNET- network of more than 2000 libraries worldwide). Users may use this facility in case the required books, journal/articles etc. are not available at the IIITD Library and Information Center but are available at DELNET member's libraries. Users may search the available resources using user id and password -

Users may search the resources but cannot post the request directly. They need to send the request to IIITD Library using ILL and DDS form to post required resources.

Kindle E-Book Reader
Few Kindle E-Book Readers are available for loan in the Library. Library users may borrow the same for a limited period, more readers may added in coming days on the basis of usage.

Online Book Reservation and Renewal
The Library and Information Center provides online book reservation service to all registered users using following steps –
- Log in to your account on Library portal and go to search Library Catalog
- Type the author name or the title (or whatever information you have regarding that title)
- Library Catalog searches your query, retrieves results, select the required one, following which the Library Catalog tells you the status of the books
- Click on to place hold button on the right hand side button
- Library Catalog shows two options
    - Place hold for the next available copy
    - Place hold for a specific copy
    - Then again Click on Place hold button

Also, the Library provides online book renewal service as well using following steps –
- Log in to your account on Library portal
- Click on My Summary
- Click on Renew

Online Catalog (OPAC)

Using this catalog the Library users may search and find the available resources by Title, Author, Publisher, Subject heading, Keywords, etc.

Remote Access to Subscribed E-Resources

The center provides remote access to subscribed e-resources through VPN (Virtual Private Network). Now all IIITD Library users may access subscribed e-resources from outside campus as well.

Wi-fi Internet Connectivity

Maximum users generally carry laptops, therefore, the high speed 24x7 Wi-fi Internet connectivity is available in the whole Library and Information Center building. All students, PhD Scholars, Faculty Members, Guest/Visiting Faculty and Staff Members may use this facility; apart from a few desktop PCs connected with LAN.

4.3.5 What are the new technologies deployed by the university in enhancing student learning and evaluation during the last four years and how do they meet new / future challenges?

- The institute has started a new system for MTech and PhD TAs attendance wherein their system's MAC Address is recorded and their attendance is tracked.
- The institute has also started attendance for BTech students using handheld face recognition device.
- Faculty uses backpack software to manage and plan their lecture schedules.
- Piazza is commonly used for online discussions in courses.

4.3.6 What are the IT facilities available to individual teachers for effective teaching and quality research?

Research servers, access to online journals, dedicated video conferencing systems
- For some courses, IIITD class lectures are recorded and uploaded on website for students to access it on their convenience anytime.
- Also IIIT proposes to extend this facility of video lectures for all courses.
- IIITD faculty uses a software named Euphorous for checking malpractices and plagiarism
- **ERP**: IIITD provides Academic ERP to students and faculty. For students, ERP provides the facility to register for courses, add-drop courses and view grades. For faculty, it provides the facility to view the courses they are offering, view list of students enrolled in the courses and enter grades.The ERP portal can be accessed at https://erp.iiitd.edu.in
- **Video Conferencing**: Polycom HDX7000 VC System is available with optional ISDN line & also connected with Internet.
- **Cisco WebEx**: We have single session 25 users Cisco WebEx web conferencing

facility.
- List of software that has been purchased and being used by Institute
  a. Microsoft Dream spark licences enabling users to download any Microsoft.
  b. Microsoft Office 2010 and above, with a licence for 60 users
  c. Matlab floating licences with below mentioned count of each toolboxes.
  d. Synopsys with 05 floating licences
  e. Cadence floating licences
  f. ADS with 10 floating licences
  g. Mentor Graphics with single licence but many users can use it by remote login concept.
  h. AutoCAD 2014 with a licence for 41 users.
  i. Adobe illustrator with a licence for 5 users

4.3.7 Give details of ICT-enabled classrooms/learning spaces available within the university? How are they utilized for enhancing the quality of teaching and learning?

Wireless network with 92 access points is also enabled in the faculty block, library, classrooms

- Projector
- Tablet
- Computer
- All classrooms are wi-fi enabled
- Internet Access: Through a 1 Gbps Internet leasedline from NKN with a backup connection of 100 Mbps running in failover mode. Internet connection range is provided through both Lan and Wi-Fi in all classrooms
- Tablets are used for taking feedbacks, etc

In order to facilitate proper teaching aid, all classrooms are equipped with projectors and audio systems. All classrooms are connected through redundant 10-gigabit fibre backbone. Apart from these, all the blocks are connected through layer 2 & 3 switches to provide 1 gbps connectivity at the user end.
Wireless network with 92 access points is also enabled in the classrooms

Study of Domains and Communities for Innovation using ICT

The course is planned for summer semester after 2nd Year as the students have done almost all the core courses by then. The course will begin with students studying some reports/case studies of innovative use of ICT for solving various problems – this is to set the context and get their imagination going. There may be some material given on high-level view about capabilities of technologies like mobile computing, image processing, etc which are more likely to be used in domains. The course is intended to provide an immersive learning opportunity. Unlike regular internships where students often follow pre-determined plans, projects or study known problems, it is expected that students in this course will act as highly-interactive observers. Instead of trying to solve known problems, the task is to understand the workings and identify problems within the domain. Studying the relevant literature of the domain is an essential component of this experience. Once a set of problems has been identified, students will attempt to provide some ICT-based solutions. Solutions may be based on data collected through surveys or other methods, and include specific plans for UI design or technology interface. At the end of the course, students are required to submit a report detailing their understanding of the domain/community, issues or problems identified, and proposed technology interventions/systems that can help and how. They will present their report to the class.

4.3.8 How are the faculty assisted in preparing computer- aided teaching-learning materials? What are the facilities available in the university for such initiatives?

- Each Faculty is given laptops for deliver lectures through ppts.
- Faculty uses Backpack software to manage and plan their lecture schedules.
- Also EdX is used for some programmes where EdX offers interactive online classes and MOOCs from the world's best universities. Online courses from MITx, HarvardX, BerkeleyX, UTx and many other universities. Topics include biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.

4.3.9 How are the computers and their accessories maintained?

We have in-house people to maintain the access, monitoring softwares and complaint registering system. Syslog servers are also there.

4.3.10 Does the university avail of the National Knowledge Network connectivity? If so, what are the services availed of?

Yes - Garuda servive and 1G internet connectivity.

4.3.11 Does the university avail of web resources such as Wikipedia, dictionary and other education enhancing resources? What are its policies in this regard?

As mentioned above, faculty members encourage use of online resources in their courses, as needed.

4.3.12 Provide details on the provision made in the annual budget for the update, deployment and maintenance of computers in the university.

One crore-1.5 crore

4.3.13 What plans have been envisioned for the gradual transfer of teaching and learning from closed university information network to open environment?
The plan of classroom lectures to be live telecast is under process. Also we plan to webstream our lectures so that they are available to all students at their convenience. Currently we are webcasting our convocation.

4.4   Maintenance of Campus Facilities

4.4.1   Does the university have an estate office / designated officer for overseeing the maintenance of buildings, class-rooms and laboratories? If yes, mention a few campus specific initiativesundertaken to improve the physical ambience.

The Government of NCT of Delhi allocated 25 acres of land in the GB Pant Polytechnic Campus to enable the setting up of the IIIT-D permanent campus, which is located behind the Phase III Okhla Industrial Estate at a distance if 1 ½ km (approx.) from the Okhla railway station, South Delhi.

Phase I Construction
The new campus for the IIIT-D, which started its operations from its transit campus at NSIT Dwarka New Delhi, finally came up in Okhla Phase III New Delhi in the year 2012 on a plot of 25 acres out of the 65-acre plot of the GB Pant Polytechnic earmarked for the

purpose.The IIIT-D started its operations from the new campus from academic session starting July 2012.

The sprawling state of the art campus that is spread out over entire land over the sloppy terrain and buildings developed contoured to the topography of the land was planned to be constructed in three phases.

The Phase I of the Campus with a covered area of 32,500 sqm consists of the following facilities that have been put to use :

- Academic R & D block
- Lecture hall block (6 seminar/conference halls + 13 classrooms)
- Library cum Information Centre building
- Dining Block
- Boys Hostel
- Girls Hostel
- Faculty Residences
- Service Block
- 2 Nos STP
- Guard rooms

Key Features

The entire area is divided into mutually interactive yet separate zones namely the residential areas for faculty, academic areas and the student residential areas connected by connecting pathways with vehicular entry restricted to the peripheries only.

There is a single G +11 storied faculty residential block with 27 apartments and 1 guest house flat, 1 community event flat and 2 small visiting faculty flats and terrace garden and stilted parking in the residential zone. There are intermittent sprawling greens between the buildings

The academic zone comprises separate blocks for Library cum Information Centre in G+3 storied block, the G+2 Lecture hall block, and the G + 5 storied Research & Development block which houses the research labs, faculty seating, administrative and academic heads with their supporting staff.

The student residential zone comprises separate blocks for the boys hostel G+7 with 350seats and girls hostel G+4 with 150 seats, and a G +3 Dining block with cafeteria and mess, student activity areas, a fully equipped gymnasium , music and art rooms .

All the above areas except the faculty residences are served by the district cooling air-conditioning system cooled on selective basis during day/night /peak demand settings, housed in the service block. Use of VFD/VAV controlled systems, heat recovery wheel, temperature-based sensors with BMS controls run air-conditioning efficiently.

Moreover, the building envelopes are made efficient to insulate from heat using dry cladding in external finishes and Double unit toughened glass of specified thermal resistivity and transmission values in academic areas and AAC blocks in place of regular brickwork in masonry in residential areas and hostels. Use of natural material and minimum use of high energy consuming materials are basic ingredients of the project aimed towards a green building.

The electrical system on 11KVA supply is provided with a partial load backup from 2x500kva DG sets.

The entire waste water generated in the campus is recycled using 2x65 kld STP and water so generated will be used for horticulture, flushing and air-conditioning works. The solid waste management is carried out through an NGO for ensuring proper disposal. The rain water is harvested in rain water harvesting pits and shales .

The entire area will be protected by fire alarm and fighting equipment as wet risers/sprinklers and latest smoke management systems.

The telephony and networking is on a backbone of OFC cabling with redundancy using loop and star configurations.

The entire rock excavated from the areas is broken down and mostly utilized in external development works. Utilization of energy saving lighting systems as CFLs and T5 fixtures, use of non-conventional energy through solar hot water systems with PNG backup reduces power consumption considerably.

The sports arena has well-lit basket ball court with 5layers synthetic coating, 2nos concrete courts for tennis. Separate courts for badminton for boys and girls hostels, multipurpose sports field, volley ball courts and running tracks would operational shortly.

The work of construction completed and commissioned for Academic zone and part of students hostels and dining areas were completed in July 2012 for partial occupation and faculty residences and boys' hostel by March 2013 .

The current campus can provide accommodation to about 500 students and 23 faculty members. Its office space is adequate to house 48 faculty members. The lecture hall and lab space can accommodate up to 1000 students.

The present campus is maintained by dedicated teams for Facility Management and Security operations.

Phase II Construction

The proposal for Phase-II for construction of another 60000 sqm to cater to 2500 students and 125 faculty has also been taken up with the Department of Training and Technical Education, Delhi Government.

4.4.2 How are the infrastructure facilities, services and equipments maintained? Give details.

Hostel Accommodation

IIIT Delhi provides accommodation to students wishing to reside in the hostels. At present there are two hostels, one for the boys having 372 seats and another for the girls with 164 seats. Each room in both the hostels is provided with a cot, a table, a chair, a bookshelf, a ceiling fan and also AC, which is functional during night. Internet connectivity too has been extended to the hostels.

There is a common mess for the boys and girls which functions during the working semester. Air conditioning is provided in the mess during lunch time. During the winter and summer vacations, a special mess is run for students who are required to stay in the hostels for pursuing academic, sports or cultural activities. It is compulsory for all hostel residents to avail the mess facilities. Day-scholars can eat in the mess by paying the meal cost as notified. In addition to the common mess, there are two cafeterias, one located in the academic building and the other in the common mess building which cater to the needs of the students and faculty.

Girls Hostel

Boys Hostel

Dining Block

Each hostel also has a Hostel Committee which is an advisory body comprising the Dean (Student Affairs) and the elected student representatives as its members. The Hostel Committee also coordinates with the Mess Committee for the running of the mess. Students can relax in the evenings or on holidays, or spend their leisure time in the Common Room which is equipped with a TV, newspapers and magazines. Sports and other recreational facilities are available on the upper floors of the dining building.

An external security agency has been contracted for providing security at the hostels. The services of the security personnel are monitored by the GM-Facility Management Services (FMS). Besides, a Mess Committee is formed out of representatives from hostel

committees and day scholars. The Mess Committee monitors the quality, taste and hygiene of the food served in the mess. They also interface with the mess vendor to provide him with the feedback of students and effect changes in the weekly menu. Periodical review and inspection of the quality of food items also form part of their duties.

Hostel Allotment

Based on the recommendation of the Hostel Allotment Committee, hostel is allotted to eligible students by the Hostel in-Charge. PhD and M.Tech students along with the students from outside Delhi are given preference in hostel allotment. Online applications are invited during vacations for existing students.Only 60 per cent of the institute's students can be accommodated in the hostels.

Any other information regarding Infrastructure and Learning Resourceswhich the university would like to include.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1   Student Mentoring and Support

5.1.1   Does the university have a system for student support and mentoring? If yes, what are its structural and functional characteristics?

We have a counselor (a psychologist) who is coming once a week during the semester. Students can take appointments by email/SMS or just go and talk to her when she is visiting. Once a month she is sending a newsletter in which she discusses issues relevant to students.

UGC chair, PGC chair and the Dean of Student Affairs have office hours during which students can come and discuss their issues.

We also have a Student Counseling Service, which has a set of senior students who are mentors, each of whom is assigned about 10 incoming students as mentees. The student mentors are trained, and work under the overall supervision of a trained faculty member. They regularly report on how the mentoring is progressing, and if there are any major issues with any mentee, they have to report it to the counselor.

5.1.2   Apart from classroom interaction, what are the provisions available for academic mentoring?

Student Senate of IIIT Delhi is an elected body of students that runs a program called confabs to help first and second year students in academics. Senior students act as mentors and take additional tutorial classes for students requiring them. They also help students in group-studies and provide a platform for students to clear their doubts.

The Institute also runs refresher courses during vacations (summer as well as winter) to help weak students in improving their skills. TAs under faculty guidance run these course.

Each course has a number of Teaching Assistants (TAs). They, as well as faculty members, have office hours during which students can go and meet and clarify their doubts.

5.1.3 **Does the university have any personal enhancement and development schemes such as career counseling, soft skill development, career-path-identification, and orientation to well-being for its students? Give details of such schemes.**

IIIT Delhi has a placement office that organizes placement activities for passing-out students. As part of this activity, they also run programs to prepare students to face interviews including grooming, group discussions etc.

The placement office also conducts computer based mock tests to prepare students in technical topics too.

Our graduates have the best combination of strong technical background with excellent soft skills. Humanities and Social Sciences courses are included into the B. Tech curriculum to broaden their understanding of the world around and their understanding. Topics include: Technology and Society, Psychology, Perspectives of Knowledge. Also Technical Communication as a subject is included into the curriculum.

The placement cell also provides pre-placement training for the students. This includes orientation session, mock test, mock interviews, resume writing & soft skill sessions. These activities are usually conducted between February to April time frame. Similar sessions are conducted before the placement season begins.

5.1.4 **Does the university provide assistance to students for obtaining educational loans from banks and other financial institutions?**

Every year during admission time the Institute arranges lona facility with some banks who then open their counters during counseling for providing loans. The institute provides fee schedule and bonafide student certificates, etc. for the purpose of applying for the education loans from banks.

5.1.5 **Does the university publish its updated prospectus and handbook annually? If yes, what are the main issues / activities / information included / provided to students through these documents? Is there a provision for online access?**

The institute publishes its updated brochure annually. The brochure provides all the necessary information related to admission to various courses. The institute brochure provides a complete profile of the college as well as the institution details. The academic programs in IIIT-Delhi are governed by Ordinances and Regulations. The copy of the latest Ordinances and the Regulations are also available on the website. The guidelines

are having the rules and regulations of the programs, details of Academic Session and Calendar, Admission, Number of Seats, Admission Criteria, Reservations, Courses and Credits, Registration Procedure of courses, Adding or Dropping of Courses, Academic Load , Teaching and Evaluation, Waiver and Transfer of Credits etc.

In addition to the Guidelines and Brochures, the details of faculty, time-table and courses offered by the institute in particular semester are available on the website www.iiitd.ac.in. The information is updated quite frequently on the website for the ease of students. Also for each student in IIITD an online account is maintained on ERP that allows him/her to view/edit his/her profile and registration of courses.

5.1.6 **Specify the type and number of university scholarships / freeships given to the students during the last four years. Was financial aid given to them on time? Give details (in a tabular form) for the following categories: UG/PG/M. Phil/Ph.D./Diploma/others (please specify).**

S.No.	Level	Program	Description
1	UG	B. Tech	The institute provides Income Linked Fee Waiver/ scholarship of 25% or 50% (100% fee waiver is applicable for the wards of BPL families) of fees to students against suitable documents of income disclosure.
			Top 10% students in the merit list under each category will be given a fee waiver of 50% in the first year. This benefit will not be passed to the lower rank in the merit if all or any of top 10% rankers do not join
2	PG	M. Tech	Starting from 2012 batch, GATE scholarship is available to qualified candidates. Limited numbers of assistantships were available for M. Tech. Student's up to the 2011 batch.
			A stipend of Rs.8000/- per month.
			A student on assistantship is required to do 10-15 hours of academic work, e.g., teaching assistantship for a course or lab-in-charge.
			A students on assistantship have to work with reduced load (at most 4 credits equivalent per semester), and are required to spend at least four semesters.
			M. Tech candidates may indicate their choice for assistantship during admission. During admission and thereafter, the PG

			Committee awards assistantship to the eligible M. Tech students.
3	PG	PhD	Financial assistantship is available for some PhD students in the form of *teaching assistantship* or *research assistantship*. Teaching assistantship. The students under this plan are expected to help the instructors in various courses for the smooth running of the course. Research assistantship. The students under this plan are expected to help the faculty members in various research projects. They may be assigned limited academic duties. Currently, the stipend in first year is Rs.22,000 per month; 2nd to 4th year it can go up to Rs.25,000 per month. A PhD student is not eligible for assistantship or scholarship after four years.

5.1.7 **What percentage of students receives financial assistance from state government, central government and other national agencies (Kishore Vaigyanik Protsahan Yojana (KVPY), SN Bose Fellow, etc.)?**

About 5-10% of UG students receive financial assistance from state government, central government and other national agencies.

5.1.8 **Does the university have an International Student Cell to attract foreign students and cater to their needs?**

A Professor level faculty member is working as coordinator for attracting foreign students as well as catering to their needs.

5.1.9 **Does the university provide assistance to students for obtaining educational loans from banks and other financial institutions?**

The Institute makes arrangements with banks for providing loans to students and allows them to set up their counters in campus during counseling time. It also provides a full fee schedule and bonafide certificate to facilitate this process.

5.1.10 What types of support services are available for

∗overseas students

The institute provides affiliation certificates and other supports to overseas students to enable them to get VISA for the purpose of study and research at IIITD.

∗ Physically challenged / differently-abled students

The institute has reservation of seats as per institute policy for physically challenged candidates. All our buildings including lecture halls and toilets can be accessed on a wheel-chair.

∗ SC/ST, OBC and economically weaker sections

The institute offers fee waiver to students coming from economically weaker sections. The institute has reservation of seats as per its policy for SC/ST and OBC candidates

∗students participating in various competitions/conferences in India and abroad

A PhD student is provided travel grant at the most two time to present their paper in international conferences. In addition travel re-imbursement is made to deserving students to participate in conferences and competition

∗healthcentre, health insurance etc.

The institute has a tie-up with nearby hospitals for the treatment of students.

∗skill development (spoken English, computer literacy, etc.)

Based on the feedback of the faculty and companies that visit us for recruitment, IIIT Delhi recognizes that communication in English is a major issue with Indian engineering students in general. We have three courses – COM 101 Communication Skills, COM 201 Critical Reading and COM 301 Technical Communication - as part of core courses to help students develop their communication skills.

∗performance enhancement for slow learners

The university provides the following support services for slow learners:

a. Help groups, comprising small numbers of learners who meet weekly (once or twice) receive help from student tutors, selected from good-performing senior students. Help is provided for the courses which the learners are currently studying.

b. Guidance sessions on effective learning habits and techniques – these are also conducted by good-performing senior students.

Both the above services are provided through the Student Senate, which provides a forum and channel for student difficulties related to academics.

∗exposure of students to other institutions of higher learning/ corporates/business houses, etc.

A weekly seminar is held in IIIT Delhi where we invite eminent researchers and business leaders to give a talk to our students and faculty. In addition, students take up internship positions in well-known companies and reputed academic institutes to work on new technologies.

∗publication of student magazines
Kaleidoscope is student news-letter of IIIT Delhi and it is published bi-annually.

5.1.11 Does the university provide guidance and/or conduct coaching classes for students appearing for Civil Services, Defense Services, NET/SET and any other competitive examinations? If yes, what is the outcome?

Such guidance and services are not provided since it is Technological University only. Guidance and coaching are provided for students to enable them to take employment in industry.

5.1.12 Mention the policies of the university for enhancing student participation in sports and extracurricular activities through strategies / schemes such as
∗additional academic support and academic flexibility in examinations

Two points credit : Students are encouraged to participate in sports & extracurricular activities, we have a provision of giving 2 credit to those students who are engaged in self-development like painting, dancing etc.

Clubs: IIITD have many students based clubs which are completely managed by the students like music club, Dance club, Astronomy club. Participation in these clubs is encouraged and is mandatory for junior students.

Sports Facilities: IIITD have many sports facility which are given below: Basketball, Volleyball, Lawn tennis, Football, Table Tennis, Pool & Gymnasium.

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Coaching Sessions: we provide coaching sessions of Football, Volleyball & Basketball in the evening Hours after completing of classes.

Participation in Tournament: the IIITD students participate in one Extramural in every semester & annually one intramural tournament is organized for the students for enhancing mass participation in sports.

Half Marathon: our students are encouraged to take part in annual half Marathon organized by Airtel, the institute reimburse 50% of registration fee to the students of IIITD who take part in half Marathon.

Weekly Jogging Program: students of IIITD are encouraged to take part in weekly long Jogging program especially on Saturday morning.
Sports officer: one full time sports officer is hired for the student's engagement in sports activity.

∗**special dietary requirements, sports uniform and materials**
As far sports uniform is concerned, IIITD provide sports kit which involves T-shirts & shorts to those students who represent IIITD sports teams

∗**any other (please specify).**

5.1.13 Does the university have an institutionalized mechanism for students' placement? What are the services provided to help students identify job opportunities, prepare themselves for interview, and develop entrepreneurship skills?

The university has a dedicated placement cell responsible for organizing in- campus placement providing full time job opportunities & internships to all bonafide students. The cell also provides pre-placement training for the students. This includes mock test, mock interviews, resume writing & soft skill sessions. Ensuring that the maxim number of students are benefited by these activities.

5.1.14 Give the number of students selected during campus interviews by different employers (list the employers and the number of companies who visited the campus during the last four years).

Year	No. of company's visited	No. of offers
2011-12	23	58
2012-13	26	50
2013-14	44	137

Refer to *Annexure G*.

5.1.15 Does the university have a registered Alumni Association? If yes, what are its activities and contributions to the development of the university?

An Alumni team consisting of a Faculty Convener and graduated student representatives exists. The institute has done its first alumni meet planning to organize the second meet next year. We have also initiated the work for stating Alumni Website.

5.1.16 Does the university have a student grievance redressal cell? Give details of the nature of grievances reported. How were they redressed?

Any aggrieved Student can represent to the Dean of Academic Affairs who will take helps from other departments, as needed. Students can also represent to the academic appeals committee for grievances relating to academics, or to the UG Committee or the PG Committee. If the student concerned is still not satisfied with the decision of UGC/PGC, he can make an appeal to the Chairman, Senate for consideration. There is also an anti-sexual harassment committee, which a student can approach.

5.1.17 Does the university promote a gender-sensitive environment by (i) conducting gender related programmes (ii) establishing a cell and mechanism to deal with issues related to sexual harassment? Give details.

A committee headed by a female faculty member looks into issues related to sexual harassment. Recently we had a Delhi police run a workshop on self-defense for female students.

5.1.18 Is there an anti-ragging committee? How many instances, if any, have been reported during the last four years and what action has been taken in these cases?

IIIT Delhi is a ragging-free campus. The students are advised in orientation program before they join about anti-ragging measures of the students. A list of senior students who drive anti-ragging campaign along with Dean of Students and some senior faculty members' mobile numbers are published so that anyone can contact them if the need arises. There is an anti-ragging committee, which can be approached, as needed. So far, there has been no instance of ragging in the Institute.

5.1.19 How does the university elicit the cooperation of all its stakeholders to ensure the overall development of its students?

Senate is the main statutory academic body of the institute. The representatives of academia, industries and the students are members of Senate and actively participate in the deliberations. Thus the university elicits the cooperation of all its stakeholders to ensure the overall development of its students.

5.1.20 How does the university ensure the participation of women students in intra- and inter-institutional sports competitions and cultural activities? Provide details of sports and cultural activities where such efforts were made.

Once in a year in the beginning of academic year, sports trials are conducted in the existing sports facilities in which all the interested boys & girls appears & show their sports skills, on the basis of skill & interest a pool of students is prepared & a respective sports coordinator is announced who act as a interface between sports officer & teammates.

For intramurals tournaments a informative common mail is sent to all the students about the tournaments, it clearly indicates that, each batch has a sports representative who select their team mate in consultation with all batch mates in all the games & confirm their entries in particular game to sports officer.

This year we have organized intramural from 6th March to 13th March in which girl's participation in following games were encouraged:
- Basketball
- Cricket
- Volleyball

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- Lawn Tennis
- Badminton
- Table Tennis

For further clarification every month sports committee meeting is conducted to address all sports related issues.

5.2 Student Progression

5.2.1 What is the student strength of the university for the current academic year? Analyze the Programme-wise data and provide the trends for the last four years.

Program	Strength
B. Tech (CSE)	488
B. Tech (ECE)	125
M. Tech (CSE)	131
M. Tech (ECE)	68
Ph.D.	84
B.Tech + M.Tech - Dual Degree	3

Program-wise Analysis

Program	2013	2012	2011	2010
BTech(CSE)	450	379	300	188
BTech(ECE)	82	39	-	-
MTech(CSE)	128	89	55	22
MTech(ECE)	48	19	-	-
PhD	70	40	18	7
Dual Degree	3	2	-	-

5.2.2 What is the programme-wise completion rate during the time span stipulated by the university?

Year	Course	Appeared	Passed	Pass %
2012	B.Tech (CSE)	53	51	96.20
	M.Tech (CSE)	22	22	100
2013	B.Tech (CSE)	52	52	100
	M.Tech (CSE)	33	33	100

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5.2.3 **What is the number and percentage of students who appeared/ qualified in examinations like UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central / State services, Defense, Civil Services, etc.?**

While the institute does not maintain such data, in the past few years approx.. 10% of the graduates are going overseas for higher studies (and so must have taken GRE/TOEFL).

5.2.4 **Provide category-wise details regarding the number of Ph.D./ D.Litt./D.Sc. theses submitted/ accepted/ resubmitted/ rejected in the last four years.**

Year	Programme	No. of thesis	No. of thesis accepted
2012	M.Tech	3	3
2013	M.Tech	13	13
2014	Ph.D.	2	2

5.3 **Student Participation and Activities**

5.3.1 List the range of sports, cultural and extracurricular activities available to students. Furnish the programme calendar and provide details of students' participation.

To ensure overall development of each of its students, the institute provides all the required facilities for sports and recreation. All indoor facilities are provided on the top floor of the Dinning block. This includes a Gymnasium, table tennis tables, pool tables, etc. The Institute has a multi-purpose sports field, two tennis courts, a basketball court, a volley ball field and two badminton courts. Tennis and basketball courts have flood lights so that students can play even in the night. IIIT Delhi has been regularly organizing various sporting events like football tournament - Joga Bonito, Table Tennis and Pool tournaments. Every year students from IIIT Delhi take part in Delhi Half Marathon running for a cause. The institute's sports team also participates in the annual Twaran festival, which is attended by college teams from all over the country.

A number of literary and social activities also take place on the campus throughout the year. 'ESYA' – Tech Fest is one of the biggest events on the campus every year in the first semester. 'Cadence' – a cultural festival is organized annually. In addition, music, dance, Research Showcase (poster presentation) and other events under Spic Macay are

organized regularly. The cultural activities (arts and literary) for the year are planned together by the Student Council and the Cultural Secretary.

S.No	Sports Activities	Dates	No. of participation	Cultural Activities
1	Twaran Sports Fest in Gwalior	22-26 Jan 2014	58	Odyssey
2	IIITD Intramural	6-13 March 2014	246	Essya
3	LSR sports fest	23- 26th Oct 2013	50	
4	NSIT (Moksha Fest)	19- 24 March 2014	40	

S.No	List of sports Activities Available
1	Basketball
2	Volleyball
3	Lawn Tennis
4	Table Tennis
5	Pool Table
6	Football
7	Gymnasium
8	chess
9	carom
10	Badminton

5.3.2 Give details of the achievements of students in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. during the last four years.

Our students participate in inter-college sports competition organized by IIIT Gwalior every year in January. For the past two years IIIT Delhi has been placed 3rd overall in the competition

S.No	Events	Position in Twaran from 22-26 Jan 2014	Events in 2013	Position in 2013 Twaran
1	Basketball (Boys)	1st place	basketball (girls)	1st Place
2	Volleyball (girls)	2nd Place	Volleyball (girls)	1st place
3	Tennis (Boys)	2nd Place	Lawn tennis (boys)	1st place
4	Squash (boys)	No position, reached in semi final	Squash (boys)	2nd place
5	Football (Boys)	2nd Place	NA	No position
6	Athletics (Girls Marathon)	2nd place	NA	No position
7	Athletics (Boys Marathon)	3rd place	NA	No position
8	Athletics (Girls 800 M)	2nd	NA	No position
9	Athletics (Girls 400 M)	3rd	NA	No position

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Only certificates were given to students who secured first & second position in Intramural tournament.

5.3.3 Does the university conduct special drives / campaigns for students to promote heritage consciousness?

Sadha (Sightseeing and Delhi HeritAge) club under student council undertake Delhi city walks regularly promoting heritage consciousness among students. Recently, they went for a walk in central Delhi and Chandni Chowk.
Photography club (Tasveer) also conducts visits to monuments for photo-taking sessions.

5.3.4 How does the university involve and encourage its students to publish materials like catalogues, wall magazines, college magazine, and other material? List the major publications/ materials brought out by the students during the last four academic sessions.

Yes university encourages the students to publish material such as:
Newletters
Kalidescope

5.3.5 Does the university have a Student Council or any other similar body? Give details on its constitution, activities and funding.
IIIT Delhi has an active Student Council where elected Student Representatives are given a chance to articulate their views and ideas in all student-related matters in the institute along with academic and extra-curricular activities within the context of the institute.

Student Council Composition: The Student Council (SC) has two (or three) representatives each from UG and PG batch who are elected every year. Once elected the representatives elect a secretary and a treasurer who are members of the council. The SC then proceeds to appoint a cultural coordinator, a sports coordinator and a technical coordinator. These coordinators are responsible for running various extra-curricular activities in the campus.
The SC meets regularly to discuss various student activities and issues. Along with designing the non-academic calendar of the institute in consultation with the Dean of Student Affairs, the Student Council manages existing clubs through budgets and annual reports. It also decides which club to start.
Main duties of the Student Council are:-

- To provide advisory opinion to the institute in formulation and impact of significant student related policies.
- To facilitate communication between students, faculty, and administration of the institute.
- To represent the interests and concerns of students to the institute.
- To improve the quality of student life at the institute.

5.3.6 Give details of various academic and administrative bodies that have student representatives on them. Also provide details of their activities.

The Senate is a highest academic body has a representation of students and they actively participate in the deliberations in the matter related to Students/Academic programmes. The disciplinary action committee and IT committee also have student members.

Any other information regarding Student Support and Progression which the university would like to include.

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and the mission of the university.

The mission of IIIT-Delhi is to be a global centre of excellence in Information Technology education, training and research. Its twin aims are:
- To carry out advanced research and development in information and software technologies, and in leveraging IT in specific domain areas.
- To train and educate, at both undergraduate and postgraduate levels, engineers of outstanding ability who can become innovators and new product creators.

The Institute's Vision statement is: To be a world-class R&D-led institute of higher education in IT and allied areas which is:

- Globally respected for research and education
- Offers thriving UG and PG programs
- Linked globally, Industry-involved, socially relevant

6.1.2 Does the mission statement define the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, the institution's tradition and value orientations, its vision for the future, etc.?

Yes. It defines clearly that the institute is research-led and values innovation and product creation. It also clearly specifies that the Institute will be industry-involved, global, as well as socially relevant.

6.1.3 How is the leadership involved

∗in ensuring the organization's management system development, implementation and continuous improvement?

- Faculty meetings help monitor that academic management is delivering and implements improvements as needed.
- Staff meeting – ensures the same for administration
- Regular reporting to the Director – there are regular coordination meetings with the Director in which various montly reports are presented. Action is taken based on that for improvement.
- Regular feedback on administration and reporting to the Board. A regular feedback is

taken on various aspects of administration. The outcome of this is reported to the Board along with the plans for improvement.

∗in interacting with its stakeholders?

There are regular meetings of the Director with different student groups to get their view points.

Separate feedback is taken on facilities and security from all stakeholders
Students give feedback on courses as well as services like Mess and Canteen.

∗in reinforcing a culture of excellence?

Academic excellence is supported through messaging to students as well as faculty through various fora. For students, there are awards for best projects, overall performance, etc. In each course there is a special grade, A+, which is given to excellent performers only and is a recognition of excellence and does not carry any special weight (A+ grade has a weight of 10, just as A grade.) Excellence in faculty is also supported through yearly assessment, tenure system, and providing support depending on their performance.

Administrative excellence is ensured by Internal audit and a system of analysis and reporting. The following procedure is followed:-
    a. SLA – there are service level agreements for many
    b. SOP – standard operating procedures are defined
    c. Calendar – for all departments/functions, there is a calendar of repeated tasks that has to be performed
    d. Regular Reporting – of quantitative measures as well as qualitative
    e. Auditing – regularly scheduled
    f. Continuous improvement – Improvement initiatives are identified and initiated, and monitored.

∗in identifying organizational needs and striving to fulfill them?

Yearly feedback also has provisions to specify areas for improvement. These are then taken as initiatives.

In addition, faculty meetings are another source of identifying areas for improvement.

Board can also instruct the Director and Adminstration to initiate measures. Senate can do the same for academic matters.

6.1.4 Were any of the top leadership positions of the university vacant for more than a year? If so, state the reasons.

Nil.

6.1.5 Does the university ensure that all positions in its various statutory bodies are filled and meetings conducted regularly?

Yes, the university ensures that all positions in its various statutory bodies are filled and meetings conducted regularly. Following groups meet regularly: :-

- Academic Senate – on an averge about 4 meetings per year are held
- Board of Governors – on an average about 4 meetings per year are held.
- Student council and Student Senate – meets a few times a semester, and also regularly with the Dean of Students
- Faculty meetings – held every week or every alternate week.
- UGC and PGC – they conduct most of their business on email, but meet as and when needed

6.1.6 Does the university promote a culture of participative management? If yes, indicate the levels of participative management.

All important policy decisions are taken through democratic norms. And all decisions are communicated to relevant stakeholders. Faculty is well aware of all the policies and most matters of interest are discussed in faculty meetings before/after statutory meetings. As mentioned, student participation is sought in most committees of interest to them.

6.1.7 Give details of the academic and administrative leadership provided by the university to its affiliated colleges and the support and encouragement given to them to become autonomous.

NA.

6.1.8 Have any provisions been incorporated / introduced in the University Act and Statutes to provide for conferment of degrees by autonomous colleges?

NA.

6.1.9 How does the university groom leadership at various levels? Give details.

There are various faculty committees list of faculty committees are available at ***Annexure H*** through which various faculty members are given the responsibility of some aspect of governance. This helps faculty not only get involved in governance but also develops their leadership skills. Similarly in Administration, different officers are made in-charge of various tasks and responsibilities, developing their leadership abilities. The Student council also has various clubs like Dramatic club, ESYA, Technical communities, each of which have coordinators.

6.1.10 **Has the university evolved a knowledge management strategy? If yes, give details.**

The basic approach for knowledge management is to encapsulate the knowledge in form of documents, and update them regularly. For example, there are regulations for all academic matters specifying all the rules regarding academic programs, handbooks for B. Tech, M. Tech, and PhD students giving various procedures and practices, handbook for faculty specifying all relevant rules for them, a handbook for staff, documented procedures for promotion and yearly evaluation, etc. These documents are updated and released afresh every year incorporating all the changes/decisions of the previous year. The basic approach for disseminating this encapsulated knowledge is through the website and shared folders through which all relevant stakeholders. All important documents are available to all through these.

6.1.11 **How are the following values reflected the functioning of the university?**

∗**Contributing to national development**
All students take 2 credits of community work in their first summer – most of them do it in NGOs of their interest. This makes the students aware about various challenges and issues relating to the National development. Thereafter, students are encouraged to do projects of relevance through their Independent Project or B. Tech project.
Students are actively encouraged to undertake entrepreneurship to contribute to national development. Not only do we have a series of 2 courses on entrepreneurship, there is an club focusing on entrepreneurship, and there is an advisory group giving inputs to students who want to do start-ups. The B. Tech project is allowed to be in Entrepreneurship category – allowing the work done in B. Tech project to be converted into a company.

∗**Fostering global competencies among students**

All are courses are globally benchmarked, and this is known to students. The students are clear that they are in an Institute that follows global education standards and practices, and are clear that they have to deliver at global levels,

For publications, IIIT-Delhi encourages publications in globally competitive venues only, and the travel support provided to students and faculty is only for such venues. Our collaborative PhD programs with global professors and institutions also develop a global culture in research.

∗**Inculcating a sound value system among students Promoting use of technology**

IIIT-Delhi, being an institute for IT, makes extensive of technology and students are urged to use technology wherever suitable. We essentially communicate with students and faculty over email/ERP regarding nearly all the issues. Nearly all the courses have a webpage, which is used to disseminate course materials and for homework assignments, submissions, etc. Furthermore, students are encouraged to bring their laptops to the campus and Wi-Fi connectivity is provided in numerous locations.

∗**Quest for excellence**

Excellence is recognized and praised, whenever noticed. The grade A+, as mentioned above, is for achieving excellence. Many courses also give "bonus" questions in their assignments, which are only for those who want to achieve excellence. Faculty write strong recommendation letters for higher studies for those who perform well, creating a culture of delivering and excellence.

6.2   Strategy Development and Deployment

6.2.1   Does the university have a perspective plan for development? If yes, what aspects are considered in the development of policies and strategies?

- ∗   **Vision and mission**
- ∗   **Teaching and learning**
- ∗   **Research and development**
- ∗   **Community engagement**
- ∗   **Human resource planning and development**
- ∗   **Industry interaction**
- ∗   **Internationalization**

The Institute maintains a 5 year perspective and growth plan. The plan for next five years was developed last year. The initial plan was developed by the Director in consultation with the faculty, and then a workshop was held with many external experts, in which

various dimensions of the plan were discussed. Finally, based on inputs during the workshop, the plan was finalized.

The plan is, of course, driven by our basic Vision and Mission. The plan and the policies considered the following dimensions:

- Growth and manpower planning
- Research
- UG program and PG program
- Technology entrepreneurship
- Alumni relations
- Branding, visibility, messaging
- Industry relations and outreach
- International collaborations
- Finance

For each of these dimensions, the main Goals were enumerated; strategies for reaching the goals were identified, which were converted to actionable items. (not that community engagement was discussed as part of Outreach).

6.2.2 Describe the university's internal organizational structure and decision making processes and their effectiveness.

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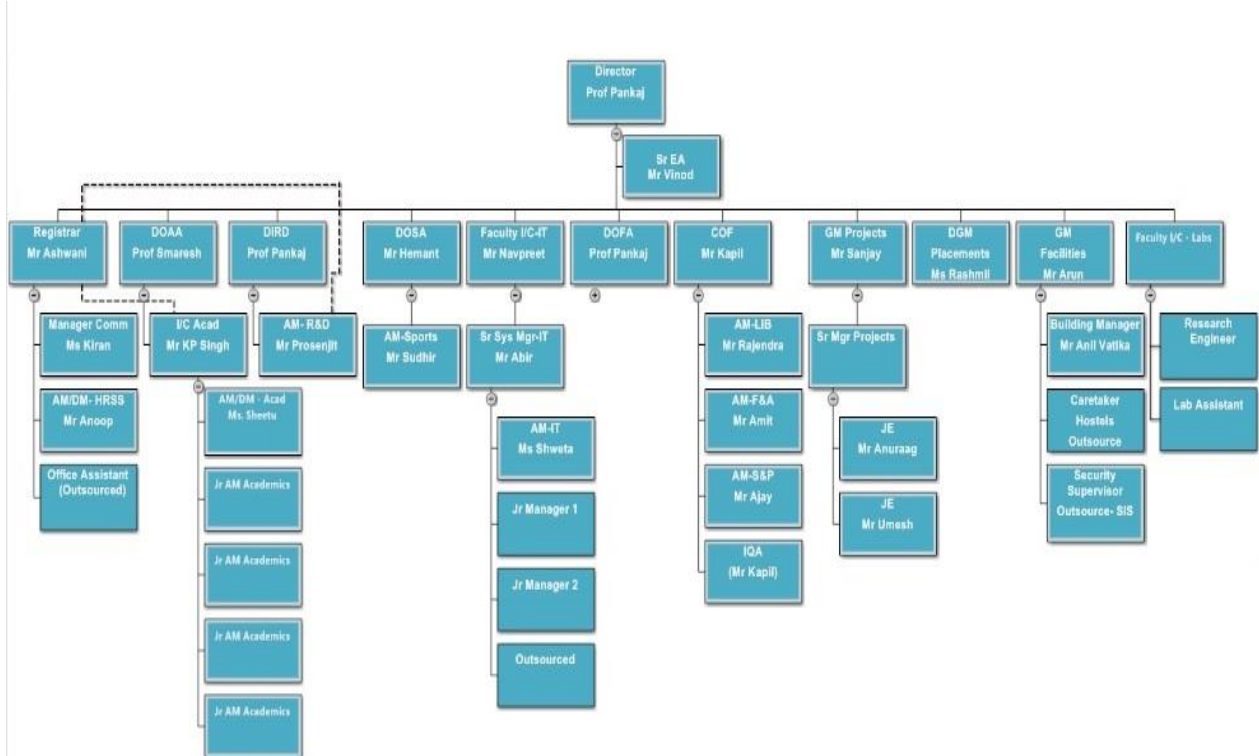
6.2.3 Does the university have a formal policy to ensure quality? How is it designed, driven, deployed and reviewed?

Quality for academics and quality for support services are handled differently and there are different policies. Policies for academics (both teaching and research) are derived from global best practices in academia, and followed. Quality policies for administration/support are derived with help from consultants, experts from industry, and administrators from other Institutions like the IITs.

Faculty related policies are regularly reviewed by the faculty, who also point out issues to be addressed. Administration related policies are also reviewed regularly for updating.

6.2.4 Does the university encourage its academic departments to function independently and autonomously and how does it ensure accountability?

We have various faculty committees for various aspects of academic administration. These committees take most of the decisions regarding academics. These include the UGC and the PGC also, which takes decisions regarding the UG and PG programs.

The CSE and ECE departments hold their meetings separately, as well as hold joint meetings. They are fully empowered to make recommendations and take decisions.

Accountability of academic committees is exercised by the Academic Senate – where all major decisions are tabled or approval sought. Accountability is also ensured through regular feedback from students.

6.2.5 During the last four years, have there been any instances of court cases filed by and against the institute? What were the critical issues and verdicts of the courts on these issues?

There has been 2 court cases during the last four years

1.   Related to admission

This case was filed by Viyom Gupta an applicant for B.Tech programme in 2013.
It was prayed that-
To declare the change in admission criterion issued belatedly by the respondent on 10-03-2013 for admission to B.Tech. course at IIITD as arbitrary, discriminatory, improper, irrational, unjustified and hence illegal and set aside the same.
Direct the IIITD Delhi to amend the admission criterion

Direct the IIITD to conduct an entrance exam for admission to B.Tech

Or in alternative, direct IIITD to consider the petitioner for admission to its B.Tech course based on the rank/marks obtained by petitioner in AIEEE 2012 (Now JEE) in place of JEE MAINS 2013 along with other Delhi students as per their admission criterion.

The petitioner is denied and it is submitted that none of the prayers ought to be granted in his favour. To the contrary, in view of the submissions set out above, it is submitted that the petition ought to be dismissed and it is prayed accordingly

2.   Road closure in the campus

This case has been filed by the association of residents of Harkesh Nagar colony submitting that the residents have been using a connecting road from its colony to the Maa Anand Mai Marg over theyears, which falls on an open tract of land. The grievance of the residents was that the land, whereon the said connecting road is located, has now been allotted to IIIT to set up their campus, and prevent the residents from using the same. The residents submit that they have no other alternate way to approach the colony, and if the said connecting road is cut off, the petitioners colony would become land locked.

From the counter-affidavit filed by the Public Works Department, it is abundantly clear that the connecting road in question is not a public street within the meaning of section 2(44) of the DMC Act. It is clear that the same has been unauthorisedly constructed over government land, which has eventually been allotted to IIITD

Both cases are resolved in favor of IIITD.

6.2.6   How does the university ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder-relationship?

Any grievances of a student is given to the concerned authority and it is resolved/settled within a week. Such instances have been very few, so no analysis has been done for them.

6.2.7   Does the university have a mechanism for analyzing student feedback on institutional performance? If yes, what was the institutional response?

Student feedback is taken on courses regularly. The following surveys are conducted for analyzing student feedback-
- ERP feedback
- Survey for cafe services

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- Survey for mess services
- Convocation feedback
- Residential Survey
- Feedback on BTech Admission

In addition, from the graduating batch, inputs are taken about the overall program, and the usefulness of various courses. These inputs are then used for making changes in the program.

6.2.8 Does the university conduct performance audit of the various departments?

Yes, the university conduct performance audit of the various departments through the internal audit system.

6.2.9 What mechanisms have been evolved by the university to identify the developmental needs of its affiliated institutions?

NA.

6.2.10 Does the university have a vibrant College Development Council (CDC) / Board of College and University Development (BCUD)? If yes, detail its structure, functions and achievements.

As there are no colleges affiliated to IIIT-Delhi, such structures are not needed. However, for its own governance, as per the IIIT-Delhi Act, the following bodies exist and are active:

The General Council
(1)   The Government shall constitute by a notification to be published in the official gazette, a General Council for the institute to be headed by the Chancellor and such other members, not exceeding nine, and who shall be individual experts or officers of the Government, The terms and conditions of appointment of members of the General Council shall be as notified by the Government by publication in the official gazette.
(2)   Subject to provisions of this Act, the General Council shall have the following powers and functions, namely:
(a)   to proactively identify trends and directions and develop a strategic plan for the Institute: plan and monitor the execution of this plan: keep the vision and mission of the institute relevant to emerging trends and directions.

(b)   To formulate policies to execute the strategic plan

(c)   to review, from time to time, the board policies and programmes of the Institute and to suggest measures for the improvement and development of the Institute

(d)   to consider and pass resolutions on the annual report and annual accounts of the Institute and the report of its auditors on such accounts;

(e)   to advise the Chancellor in respect of any matter which may be referred to it for advice; and

(f)   to perform such other functions as may be prescribed.

Board of Governors.-The Board of Governors shall consist of the following persons, namely:

(1) the Chairman, to be nominated by the Chancellor in the manner prescribed;

(2) the Director, ex-officio;

(3) the principal Secretary, or Secretary, Finance Department of the Government (ex-officio);

(4) the Secretary, Technical Education Department of the Government (ex-officio);

(5) four persons having special knowledge or practical experience in respect of education, Information Technology domain of application of Information Technology, to be nominated by the Chairman, from a panel of eight persons submitted by the Director. For the second and subsequent Board of Governors, the Director shall place the panel before the outgoing Board for nomination by the Chairman,

(6) two professors of the Institute, to be nominated by the Director; and

(7) the Registrar, member Secretary.

Academic Senate.- Is empowered with all decisions relating to Academics. It has as members, faculty of the Institute, student representatives, experts from other academic institutions, and experts from industry.

6.3   Faculty Management Strategy

6.3.1   What efforts have been made to enhance the professional development of teaching and non-teaching staff?

A professional development fund has been provided to Faculty & Staff for attending conferences, training programmes, purchase of books and other peripheral device including Mobile, Laptop, etc.

6.3.2 What is the outcome of the review of various appraisal methods used by the university? List the important decisions.

For Faculty: The performance is assessed yearly mainly in three areas Teaching, Research and Services. Based on the outcome of this review, the contribution to the professional development accout is decided. Also, the yearly review is discussed in one-to-one meetings with the Director where plans for improvement are also discussed and evolved. For tenure (as well as appointment), many letters from experts across the world are sought – this ensures that the faculty achievements in academics is globally competitive and benchmarked. These letters play a central role in the decision to award tenure or select a person.

For Staff: Yearly appraisal is done based on a framework evolved which assess the quality and timeliness of the services being provided. Based on the outcome of review, the skills of the person may be enhanced if required in any particular area through training programmes, etc.

6.3.3 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have benefitted from these schemes in the last four years? Give details.

We provide the salary advance equivalent to three months salary for illness of self/ family member, educational needs, marriage, Car down payment, housing loan down payment etc. Around 40% of employees have availed this.
In the regular terms of employment, there are benefits like health insurance, LTC, maternity leave, leave, etc.

6.3.4 What are the measures taken by the University for attracting and retaining eminent faculty?

IIIT-Delhi has been extremely successful in attracting good faculty. For attracting the good faculty, selection committee meetings are held regularly (on an average about 4 every year). Selections have also been held in US in various universities to tap the talent available there. Fliers are created for different areas and are sent to HODs, Senior PhD scholars, across the world etc. for inviting good candidates for faculty positions at IIIT-Delhi. A conducive environment for good academics has been created where such faculty can contribute and excel, which also attracts new faculty.

For Retention of existing faculty, various supports are provided to faculty so they can continue their work well. These support include Professional Development Fund for each

faculty, travel support for conferences, support for membership in professional societies/bodies, good administrative support, good balance between teaching and research, internet at home, etc. Incentives have also been given for doing consultancy, seeking projects, etc. A structured yearly evaluation and feedback method ensures that faculty is being recognized for their work and good feedback from experts is being provided to improve.

6.3.5 Has the university conducted a gender audit during the last four years? If yes, mention a few salient findings.

No.

6.3.6 Does the university conduct any gender sensitization programmes for its faculty?

No.

6.3.7 What is the impact of the University's Academic Staff College Programmes in enhancing the competencies of the university faculty?

NA.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism available to monitor the effective and efficient use of financial resources?

For effective and efficient use of its resources the Institute follows the system of checks and balances as provided in General Financial Rules of Govt. of India and as advised by its Finance Committee (FC) and Board of Governors (BoG) from time to time. The Institute has Finance Committee of eminent members who meet on periodic basis and advice on major financial issues of the Institute brought before it. The recommendations of the Committee on financial matters are tabled before the members of Board of Governors of the Institute for deliberation and adoption as the case may be. A status report on compliances is submitted to FC on regular basis.

An internal audit system also exists to monitor use of resources. The internal audit is conducted quarterly by a recognized CA firm and its report is submitted to the Director and the Finance Committee.

6.4.2   Does the university have a mechanism for internal and external audit? Give details.

Yes, the Institute has mechanism for conduct of internal and external audit by a Chartered Accountant firm recommended by the office of CAG and approved by Board of Governors of the Institute. The Internal Audit is conducted on quarterly basis. Audit Report is discussed with internal auditors, submitted to FC on periodic basis for deliberations and to BoG for information and comments.

6.4.3   Are the institution's accounts audited regularly? Have there been any major audit objections, if so, how were they addressed?

Yes, the Institute's accounts are audited on yearly basis by a BoG approved Chartered Accountant firm, considered by its Finance Committee for recommendation to Institute's Board of Governors and for adoption of by General Council of the Institute chaired by Chancellor of the Institute (Lt. Gov. of Delhi).   There have been few major audit objections (till the financial year 2010-12) which have been addressed through compliance. Since the FY 2011-12 there has been no major audit objection.

6.4.4   Provide the audited income and expenditure statement of academic and administrative activities of the last four years.

Attached for FYs 2009-10, 2010-11, 2011-12 and 2012-13.

6.4.5   Narrate the efforts taken by the university for resource mobilization.

The academic programs run by the Institute (B.Tech/M.Tech) are its largest sources of revenue. Besides this the Institute, being a research led institution, is also generating revenue by conduct of research projects for and on behalf of the sponsoring organizations, both from Govt. and Private sectors. Judicious use of available funds is also helping the Institute in generating revenue by way of interest income. Institute had in its early stages itself started a program of contribution by corporates and philanthropists to its corpus for specific purposes. About Rs 2 Crore has already been received through this program, and there is a concerted effort to increase this. A number of initiatives are being undertaken to increase revenue through conduct of Continuing Educational Programs.

6.4.6   Is there any provision for the university to create a corpus fund? If yes, give details.

Yes, the Institute has provision for creation of Corpus. As on date the Institute has Corpus of around Rs.2 Crore through equal contributions for Research Fellowship and Travel Funds from sponsors and Institute.

For effective and efficient use of its resources the Institute follows the system of checks and balances as provided in General Financial Rules of Govt. of India and as advised by its Finance Committee (FC) and Board of Governors (BoG) from time to time. The Institute has Finance Committee of eminent members who meet on periodic basis and advice on major financial issues of the Institute brought before it. The recommendations of the Committee on financial matters are tabled before the members of Board of Governors of the Institute for deliberation and adoption as the case may be. A status report on compliances is submitted to FC on regular basis.

6.5   Internal Quality Assurance System

6.5.1   Does the university conduct an academic audit of its departments? If yes, give details.
No Formal Audit is undertaken but a review is taken as a part of the Senate meetings.

6.5.2   Based on the recommendations of the academic audit, what specific measures have been taken by the university to improve teaching, learning and evaluation?

Based on discussions in Senate, a number of measures have been taken, which have now been codified in terms of regulations, for teaching, learning, and assessment. For example, standards have been evolved in what needs to be done in a course including the amount of outside-class work that has to be given to students. Based on student feedback, instructors are required to adjust their pace of teaching. All instructors are required to do some assessments in each course and the assessment result is to be shown clearly to students in a defined time frame. Clear policies and guidelines have been evolved (and practiced) on academic dishonesty, plagiarism, copyright violation, etc.

6.5.3   Is there a central body within the university to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

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The Senate is the main statutory body for all academic matters, the Undergraduate Committee (UGC), a standing committee of Senate, shall oversee matters related to the undergraduate program. This committee shall be appointed by the Senate and shall have a term of two years. It will consist of Faculty members and members of the Senate. In addition, there will be at least one student representative, who will be a full time UG student of the Institute.

In the yearly report, each faculty member gives a summary of his/her teaching, including summary of student feedback. This is evaluated by a committee as part of the yearly review and faculty members are given feedback on the quality of their teaching efforts.

6.5.4 How has IQAC contributed to institutionalizing quality assurance strategies and processes?

The IQA in the Institute, started recently, focuses on administrative processes and is aimed at improving the systems of the Institute. The Institute has drawn standard operating procedures (SoPs) for most of its administrative processes. These processes are evaluated by an internal team of auditors for their compliance and improvement. The process of IQA has started yielding results as the suggestions of the auditors are implemented in the respective process for improvement and achieving customer satisfaction.

6.5.5 How many decisions of the IQAC have been placed before the statutory authorities of the university for implementation?

About 15-20 decisions have been implemented.

6.5.6 Does the IQAC have external members on its committees? If so, mention any significant contribution made by such members.

No, presently there is no external member in the Committee.

6.5.7 Has the IQAC conducted any study on the incremental academic growth of students from disadvantaged sections of society?

The IQA system in the Institute is in nascent stage. However, in future the Institute plans to undertake such study.

6.5.8 What policies are in place for the periodic review of administrative and academic departments, subject areas, research centres, etc.?

An yearly feedback is taken on all administrative functions, which is reported to the Board along with measures for improvement. External expert review of programs and departments is planned – it is planned that one review after every 5 batches have graduated will be undertaken.

Any other information regarding Governance, Leadership and Management which the university would like to include.

CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environmental Consciousness

7.1.1 Does the university conduct a Green Audit of its campus?

While no "audit" is done, various measures have been taken to ensure reduced consumption of power and water resources. These include regular reporting, as well as advanced and regular monitoring of consumption.

7.1.2 What are the initiatives taken by the university to make the campus eco-friendly?
* **Energy conservation**

Energy Efficiency

The institute intends to raise the standards of comfort and indoor air quality, beyond the traditional focus only on work-spaces, to include student hostels, residences and student facilities. In order to address this intent in an energy efficient manner, the comfort control standards have been differentiated into three levels according to the criticality of need. Greater control is afforded in the library and labs. The requirement of thermal control is progressively relaxed from teaching rooms, to staff residences & students' facilities & hostels.

A centralized district cooling system has been built to take advantage of diversity in demand and of the alternating diurnal cycles of demand in work and residential facilities.

Rainwater and Landscape 70% of the campus grounds are soft landscape (including some parking and circulation area). Energy Conservation and Passive Features.

* Orientation − Most of the buildings and habitable/working spaces have North-South (± 15 degrees) orientation, so as to maximize gains for natural light into habitable spaces.
* Small Windows − With scientifically designed opening sizes so as to allow for glare free lighting into the space most of the times. Areas with glazing are kept to the minimum required.
* Proper Shading − Shading devices have been designed after undertaking detailed study of spaces, opening sizes, orientation and preferred lighting amount for all important spaces, to allow for maximum glare free lighting.
* Light Coloured External Finishes − The external finishing materials of the building are buff color sandstone, sandstone exposed aggregate plaster and concrete, so as to

absorb minimum heat and reflect most of it keeping spaces inside cooler. The roof is white china mosaic.

- Wall with insulating and/or autoclaved aerated concrete (AAC) block – Walls have been provided with AAC block or externally insulated (extruded polystyrene) over brick walls, so as to minimize heat gain into the building spaces and thereby reducing energy consumption in cooling spaces. An external layer of shading with lightweight projections, fabric screens and balconies with timber railings provides a light counter point to the solid volumes of the buildings.
- Cross Ventilated Spaces – Most habitable spaces have cross ventilation through properly sized and placed operable windows, so as to open them during fair weather and reduce air conditioning need.
- Maximize use of sunlight, solar water heating, use of energy efficient lights (HPSV, CFL, T5 etc.)
- Smart energy meters- Institute has deployed a large number of smart energy meters through which the energy consumption of different buildings can be monitored in a dashboard on a real time basis.

Water Efficiency
- The institute has many water harvesting pits – through this we capture most of the rain water and minimize the run off.
- STP of adequate capacity has been installed and treated water is recycled and used for irrigation – no sewage/dirty water is sent to the external sewage system – all of it is recycled and used.

Plantation
- Thick green belt of adequate width has been raised in the campus. Native species of trees have been planted.

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the university.

Many innovations for the academic programs have been mentioned above. For administering and functioning of the university, a key innovation has been the *use of technology in all aspects of Institute administration*. Some of these uses are:

- Use of Building Management System (BMS) for HVAC control, access control system (for entry into labs), meters for smart water distribution etc .
- Email groups – for communicating with logical groups of people like faculty, office, different batches, students enrolled in a course, student council, etc.

- Email based administration – all requests to the adminstrtion are made on email and resolved on email. Where needed, hard copies are maintained in the background, without the user being aware of it.

- Use of learning systems like Backpack. Most courses used the couse management system – Backpack. Students are provided resources, lecture notes, web links and power point presentations through the university's indigenously developed "Backpack" application.
- Shared documents and Google Drive - Students make all their submissions online not just through email but largely through the cloud, for example they share their Digital Art Assignments through Google Drive and their work is assessed on line without any downloads.

ERP – management of academic processes like registration, grade management, scheduling, student records, etc are all done by an academic ERP.

7.3   Best Practices

7.3.1   Give details of any two best practices which have contributed to better academic and administrative functioning of the university.

PRACTICE I

1. Title of the Practice

Learner centric course design and delivery

2. Objectives of the Practice

The objective of this program is to design courses keeping the learning objectives in mind, and then design the instruction and assessment plan to deliver them. Through this practice, students graduating will have the desired knowledge and skills, which the program aims to develop.

3. The Context

Most course designs are teacher-centric and not learner-centric. That is why, most course descriptions focus on "this course will cover this" or in this course "the teacher will teach this". We want the education to be learner centric, hence we have stated goals of each course in terms of what the learner will learn from the course, and then ensure that the delivery ensures that the learning objectives are met.

4. The Practice

Each course has to specify the set of learning objectives, called post conditions. These are discussed and approved in the faculty meeting. Once the learning objectives are set, the instruction plan, and assessment plan are designed. These ensure that whatever is taught in the class, and whatever assignments are given, together ensure that learning objectives are met. Proper assessments ensure that students are assessed fairly and are given fair feedback on their performance.

To ensure this, besides the regular review of course plans, peer-review of a course teaching is done – so a peer faculty reviews the plans of an instructor. Course feedback from students also is focused around the learning objectives – how well they achieved them, and how well the instructor facilitated in that learning.

5. Evidence of Success

The practice has been in place since the start. This practice has changed the discourse in faculty and students to what is to be learned and how. This is a major achievement – students are acutely aware of what skills and capabilities they need to build.

Success can also be seen from the fact that right from the first batch of graduates, the placement quality has been very high – most of the high-tech companies come for placements and take the graduates, even though the Institute did not have a track record. Average compensation has been around Rs 8 Lac/ year, this is when 90% of the IT jobs in the country have an average compensation of Rs 3-4 Lac.

6. Problems Encountered and Resources Required

The main problem encountered is that of mindset. Faculty had to be sensitized that teaching is about learning and no teaching is possible without learning. So, they have to orient their teaching to focus on learning. Students had to be sensitized that while faculty will do their job to facilitate learning, learning is the responsibility of the learner – no teacher can make someone learn unless the learner wants to. Thanfully, both of these challenges have been successfully overcome.

PRACTICE II

1. Title of the Practice

Integrating Research in Education

2. Objectives of the Practice

IIIT-Delhi aims to encourage research and innovation in IT and some allied areas. Towards this goal, it has introduced various aspects of research in its education programs also.

3. The Context

At the undergraduate research can be a feasible practice only under two conditions: a) the institution has a conscious policy of promoting the same and providing resources and funding; b) the institution has a sufficient strength of research faculty to provide the necessary guidance. Being a research-led institution, IIIT-Delhi consciously promotes a research environment on campus. All permanent faculty at the institute possess a PhD, and all are actively involved in research. Thus, there is a strong impetus from the faculty to involve undergraduate students in research.

4. The Practice

IIIT-Delhi allows, and encourages, UG students to focus on selected areas of interest and develop research skills. Various avenues have been provided to achieve this. BTech(CSE) students may choose any of the these options in their 3rd and subsequent years.

IS - Independent study

IP - Independent project

UR - Undergraduate research

BTP – BTech project

A student needs to have a CGPA of 7.5 or more to register for IS/IP/UR. Normally a student is allowed to register for at most one of IS/IP/UR in one semester, and the combined credit for IS/IP/UR together with BTP should not exceed 8 in any semester. As an additional incentive, students may register for up to 4 credits of IP/IS/UR in the summer semester. To register for these course, a student needs to first get the consent of the instructor, then fill up the appropriate form and submit it to the Academic Office for approval.

As already stated above, unlike BTP, few technological institutions in India, other than IIT's have a research orientation and promote research for undergraduates in a structured way.

5. Evidence of Success

IIIT-Delhi has created a enthralling research atmosphere that motivates the Undergraduate students to engage in research along with the PhD students and faculties alike. Many papers with student authors have appeared in national and international journals and conferences.

Another sign of success is that right from the first batch about 10% of the graduating students are getting fellowships for higher studies abroad. Given the relative youth of the Institution, this has happened only since students have displayed success in research which the international academic community respects.

6. Problems Encountered and Resources Required

The practice has not faced any significant difficulties and has not required significant additional resources. Most of the research is conducted in the context of the ongoing research projects and initiatives of the faculty.

Evaluative Report of the Department

1. **Name of the Department** – Computer Science and Engineering (CSE)
2. **Year of establishment** - 2008
3. **Is the Department part of a School/Faculty of the university?** Yes
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)** - UG, PG and Ph.D
5. **Interdisciplinary programmes and departments involved** – ECE, Economics, Computational Biology
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**. – A collaborative PhD programme **initiated by the Indraprastha Institute of Information Technology-Delhi (IIIT-D)** and Australia's Brisbane-based **Queensland University of Technology (QUT)**
7. **Details of programmes discontinued, if any, with reasons** – No
8. **Examination System :** Semester & choice Based Credit system
9. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

	Sanctioned	Working
Professor		02
Associate Professor		02
Assistant Professor	40	19
Others (Visiting Faculty)		08

10. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Sr. No.	Name	Designation	Qualifications	Earlier Work Experience	Area of Expertise
1	Pankaj Jalote	Professor	Ph.D., University of Illionois at UC, 1985 MS, PSU, 1982 B.Tech, IIT-K, 1980	Microsoft Chair Professor, CSE, IIT-D, 2006-2008 Visiting Researcher, Microsoft, USA, 2003-2004 HOD,CSE, IIT-K, 1998-2002 VP, Quality, Infosys, 1996-1998 Faculty, IIT-K, 1989-2008 Asst Prof, U of Maryland, 1985-1989	Software Engineering, Distributed Systems, Fault Tolerance

2	Astrid Kiehn	Associate Professor	PhD (1989), Computer Science, Technische Universitat Munchen Habilitation (1998), Theoretical Computer Science, Technische Universitaet Munchen	IIT Delhi, CSE – visiting, 5 yrs Reareach and Teaching Assistant/Assistant Professor at TUM until July 2004 Associate Professor at TUM (spring term 2001) Visiting Professor at University of Augsburg (spring term 1998) Research Fellow at University of Sussex (1989/90)	Logic, Process Algebra, Concurrency Theory
3	Vikram Goyal	Assistant Professor	Ph. D, IIT-Delhi, 2009 M.Tech, NSIT, 2001 B.E., MDU, 2000	Faculty at IIIT-D on consolidated salary for a period of 6 months. T.A., IIT-Delhi 2003-2008 Lecturer, Amity School of Engineering & Technology, 2001-2003	Databases, Data Privacy & Security
4	Mayank Vatsa	Assistant Professor	Ph. D., MS CS West Virginia Univ, 2008 B.Tech, Purvanchal University, 2002	Res Asst, W Va U, 04-08 SRA, CSE, IITK, 04 RA, CSE, IITK, 02-04	Biometrics, Image Processing, Information fusion, Image forensics
5	Richa Singh	Assistant Professor	Ph. D., MS CS, West Virginia Univ, 2008 B.Tech, Purvanchal University, 2002	Res Asst, W Va U, 04-08 SRA, CSE, IITK, 04 RA, CSE, IITK, 02-04	Biometrics, pattern recognition, machine learning
6	Ashish Sureka	Assistant Professor	Ph.D., MS CSE, North Carolina State Univ. May 2005, 2002; BE, Pune University, 98	Senior Research Associate, Infosys Technologies Limited, Bangalore, India, (May 2005 – June 2009)[4 years] Graduate Student Research/Teaching Assistant, North Carolina State University (NCSU), Raleigh, USA, (August 1999 – May 2005)[4 years] Research Intern, IBM, Raleigh & New York, USA, (January 2003 – August 2003) & (May 2004 – August 2004)[1 year] Software Developer Intern, SilverMark Inc., Raleigh, USA (May 2000 - August 2000) & (January 2001 - July 2001)[1 year]	Text mining and its applications
7	Ponnurangam Kumaraguru.	Assistant Professor	PhD, CMU, USA (09); BE, Madras	Research Scientist, IIIT-H, 2003 - 2004; Software companies; NASSCOM	Security informatics, cyber crime,

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			University, 1998	(intern - 2005, 2006); Research Associate, CMU, 2009	privacy, and human computer interaction
8	Pushpendra Singh	Associate Professor	Ph. D., INRIA, Rennes, France 2004	Ingenieur Expert, INRIA-Rocquencourt, France Jan 2008 - Oct. 2010 Research Associate, Newcastle University, UK Dec. 2005 - August 2007 Research Fellow, University of Portsmouth, UK Sep. 2004 - August 2005 Associate Software Engineer, Veritas Software, Pune, India Feb 2001 - August 2001	Middleware, Mobile Computing.
9	Amarjeet Singh	Assistant Professor	PhD, EE, UCLA, 2009 BTech, EE, IITD, 2002	Research Assistant, CENS, UCLA 2005-09 Senior R&D Engineer, Tejas Networks, 2002-04	Sensor networks, appx algos, path planning,
10	Somitra K. Sanandhya	Assistant Professor	Ph. D., ISI, Calcutta, 2009 M.Tech, JNU, 2002 B.Tech, IIT-D, 1994	Mem Tech Staff, Connectiva Sys, Cal. Sw Engg, IIS Infotech Consultancy, USUTBL	Cryptography, coding theory, bioinformatics
11	Vinayak S. Naik	Assistant Professor	Ph.D, computer Science and Engineering, Ohio State Univ, USA, 2006 BE, VJTI, 1999	Visiting faculty, IISc Blore, 2009 (10 months) Research Scientist: UCLA CENS, 06-08. RA Ohio State Univ. 2002-06 TA Ohio State Univ. 2000-02 Assistant Systems Engineer, TCS, 1999-2000	Wireless and sensor networks
12	Debajyoti Bera	Assistant Professor	PhD, Boston Univ., Aug 2009 BTech, IIT Kanpur, 2003	Mentor for Google Summer of Code 2007. Teaching Fellow at Boston University 2003-2009 Developer at Adobe Systems Pvt Ltd 2002	Theory (quantum computing) Free software
13	Gaurav Gupta	Assistant Professor	Ph. D. Jadhavpur University 2009 M.Sc, CS, 2001	Advisor, KPMG Directorate of Forensic Science since 2006	Digital forensics
14	Subhasis Banerjee	Assistant Professor	PhD, IISc, 2007 M.Tech, University of Calcutta, 2000 B.Tech, University of Calcutta, 1998	Intel Technology, Oct2007-July2010. Sun Microsystem, Mar2006-Sep2007.	Computer Architecture, Performance Modeling of Computer Systems, Low Power Design
15	Srikanta Bedathur	Assistant Professor	Phd, IISc, 2005 BE, Banglore University, 1995	Researcher, Max-Planck Institute, 2005-Mar2011. Senior Software Engineer, IBM, 1996-1998	Web and Text Mining, Web Archiving, Large Scale

				Software Engineer, IBM, 1995-1996.	Graph processing, Databases and Information Management
16	Raja Sengupta	Associate Professor	PhD, Southern Illinois University, 2000 MS, Southern Illinois University, 1995 M.Sc. (Applied Geology), IIT-Mumbai 1993 B.Sc, University of Bombay 1991	Associate Professor (Tenured), McGill University, 2009 Assistant Professor (Tenure-track), McGill University, 2003 -2009. Assistant Professor, Southern Illinois University, 2000-2003. Visiting Instructor, Univrsity of Iowa, 1999-2000	Theory and Practice of Geographic Information Science (Spatial Decision Support Systems and Agent-Based Modelling)
17	Shreemoy Mishra	Assistant Professor	PhD, University of Texas, 2008 MS, University of Texas, 2002 BE, NIT, 1999	Visiting Assistant Professor, Vassar College, New York, July 2009-June 2011. Visiting Assistant Professor, Oberlin College, Ohio, July 2008-June 2009. Visiting Instructor, Oberlin College, Ohio, 2007-2008. Assistant Instructor, University of Texas at Austin, 2005-2007. Teaching Assistant, University of Texas at Austin, 2003-2005. Graduate Instructor, University of Texas at Austin, 2000-2003 LTA, University of Texas at Austin, 1999-2000	Economics of Information, Consumer Privacy, Asymmetric Information in Credit and Insurance Markets, Credit Scoring
18	Dong Hoon Chang	Assistant Professor	PhD, Korea University, 2008 MIS, Korea University 2003 Bachelor Degree Korea University 2001	Adjunct Assistant Prof., UMUC, USA Sep2011-June2012. Guest Researcher, NIST, USA Oct2009-June2012. Post Doc. Researcher, Columbia University Dec2008-Oct2009. Research Staff, Columbia University, Dec2005-Dec2006. Visiting Scholar, University of Waterloo, May2006-Dec2006. Visiting Scholar, ISI Kolkata Aug2003.	Theory and Practice of Cryptography, Cryptanalysis, Cyber Security
19	Ashwin Srinivasan	Professor	PhD, University of New South Wales,	Professor, SAU, 2010-2012 Ramanujan Fellow 2009-2010	Inductive Logic Programming,

			1991 BE, University of New South Wales, 1987	Research Staff Members IBM, 2003-2009 University Lecturer, Oxford, 2001-2003 Nuffeld Trust Fellow in Medical Mathematics, 1992-2000. Research Fellow, 1990-1992	Machine Learning, Modelling Systems in Biology, Information Extraction from Text
20	Rajiv Raman	Assistant Professor	PhD, University of Iowa, 2007 MSc, IIT-Bombay, 1998 BSc, Madras University, 1996	Post Doc Researcher, University of Warwick, Coventry, UK. 2009-2012. Post Doctoral Researcher, Max-Plank-Institute, Germany, Oct 2007-Sep 2009 Post Doctoral Visitor, Technische Universitat, Berlin, June-Oct 2007. Graduate Research Assistant, Los Alamos, USA, Summer 2006 & Fall 2005 Research Engineer, 1998-2002	Algorithms, Graphs, Combinatorial Optimization
21	Apala Guha	Assistant Professor	PhD, University of Virginia, 2010 ME, University of Virginia, 2006 BE, Jadavpur University, 2003	Post Doc, University of Chicago, Oct 2011-July 2013 Software Engineer, Intel Corporation, USA, July 2010-Sept 2011. Graduate Research Assistant, University of Virginia, May2005-May2010. Graduate Teaching Assistant, University of Virginia, Fall 2004 & Spring 2005. Software Engineer, Interra Systems India Ltd, Sep2003-Aug2004	Energy efficient architectures, exascale computing challenges, performance portability, compilers, programming languages.
22	Sandip Aine	Assistant Professor	PhD, IIT-Kharagpur, 2007. BE, Jadavpur University 2003	Post Doc RA, University of Illinois at Chicago Feb 2012-July 2013 Staff Software Engineer, Mentor Graphics, Feb 2010-Dec 2011. Member of Consultancy Services, Mentor Graphics, Jan 2009-Jan 2010. Lead Member Technical Staff, Mentor Graphics, Nov 2006-Dec 2008. Architect, Minekey Inc., IIT-Khgp, May 2005-Nov 2006.	Artificial Intelligence, Combinatorial Optimization, Robotics, CAD for VLSI
23	Rahul Purandare	Assistant Professor	PhD, University of Nebraska, Lincoln, 2011	Post Doc Researcher, University of Nebraska, Lincoln, 2011-2013	Software Engineering, Program

			M.Tech, University of Pune, 1996 BE, 1991	Senior Consultant, Tech Mahindra, 1996-2006	Analysis, Runtime Verification, Specification Mining, Automatic Program Repair
24	Saket Anand	Assistant Professor	PhD, Rutgers University, NJ,2013 MS, Rutgers University, NJ,2006 BE, Pune University, 2003	Graduate Assistant, Rutgers University, 2010-2013 Research Intern, Siemens Corp, 2011-2012 Research Engineer, Read Ink Technologies, 2007-2009 Graduate Assistant, Rutgers University, 2005-2006	Computer Vision, Image and Scene Understanding, Robust Statistical Methods, Pattern Recognition, Machine Learning.
25	K. Sriram	Assistant Professor	PhD., IIT Madras, Assistant Professor		Systems biology, Cell division cycle, Circadian rhythms, Computational cognitive neuroscience
26.	Subhadip Raychaudhuri	Assistant Professor	Phd (2002), University of Rochester, USA		Computational biology and biophysics, systems biology of cell death (apoptosis) signaling, immunobiology of B cell activation

11. List of Visiting Faculty, Adjunct faculty, Emeritus Professors

Visiting Faculty

Arnab Bhattacherjee
Ph.D. (2011), Chemistry, Delhi University
Weizmann Institute of Science, Israel (postdoc)
Computational Biophysics of Protein folding, design, aggregation,
protein-peptide/protein and protein-nucleic acid interactions
arnab.bhattacherjee@weizmann.ac.il

Ashok K. Mittal
Vice-president, Quality Circle Forum of India
Retired Professor & Dean (R&D, PRG) IIT Kanpur
Operations Research/ Management ; Intellectual Property
ashok@iiitd.ac.in

Hemant Kumar
Founder - Softek Ltd., VP at HCL Tech.
B.Tech.(1977), IIT Kanpur
Software Development, Compilers, Databases, Inventory Management
and Banking Software.
hemantk@ieee.org

Manohar Khushalani
Former Director, Environment and Sociology,
the National Water Academy, Khadakwasla,
& Member Secretary, National Environmental
Monitoring Committee for River Valley Projects
Bachelor in Civil Engineering from BITS Pilani,
Courses on 3D Modelling and Finite Element analysis from IIT, Delhi
manohar@iiitd.ac.in

Raj Ayyar
Full time Assistant Professor, East Florida State University
Adjunct Faculty, West Valley College and Laney College
MA (Philosophy), St. Stephen's College, Delhi
MA (Philosophy), Southern Illinois University, USA
raj@iiitd.ac.in

Samaresh Chatterji
Ph.D. (1979), Mathematics, Wayne State University, Detroit,
Former Dean – Academic Programs, DA-IICT, Gandhinagar
Abstract Algebra, Graph Theory
samaresh@iiitd.ac.in

Adjunct Faculty

Anupam Joshi
Professor of Computer Science and Electrical Engineering at UMBC
Policies for security, trust and privacy,
Security in Mobile and Pervasive Systems

Anirban Mondal
PhD (2003), Computer Science, National University of Singapore,
Singapore Database Management,
Multi-dimensional Data Indexing, Mobile Data Management,
Spatial DBMS & GIS, P2P Data Management,
Data-centric Business Intelligence

Gautam Shroff
Vice President & Chief Scientist,
Tata Consultancy Services,
Lead of TCS Innovation Lab, Delhi, India

Haimonti Dutta
Ph.D. (2007) University of Maryland, Baltimore County

Mohan Dhawan
Researcher, IBM India Research Laboratory, New Delhi, India
System Security, Web Security and Privacy, Computer
Networks, Programming Languages and Operating Systems

Nachi Nagappan
Microsoft Research, One Microsoft Way, Redmond

Nalini Ratha
Research Staff Member, IBM Watson Research Center, USA

Sameep Mehta
Researcher, IBM Research, India
Data Mining, Visualization, Business Analytics and Service Science

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Sanjay Bahl
Senior Consultant, Indian Computer Emergency Response Team
Policy issues in Cyber Space

Sanjay Kumar Madria
Professor, University of Missouri-Rolla, USA

Soshant Bali
PhD (2007), The University of Kansas
 3G/4G Wireless Networks,
Traffic analysis and Security, Internet Measurements

Sumit Roy
External Consultant Chairman (ECE)
Professor, Communications and Networking,
University of Washington

Ullas Nambiar
Lead Scientist, EMC India
 Research interest: Big Data Analytics and Cloud Computing.

Vidit Jain
PhD (2010), The University of Massachusetts Amherst
Research areas: Computer Vision, Machine Learning, Data Mining

12. Percentage of classes taken by temporary faculty – programme-wise information

For 2013-14

Sno	Programme	Percentage of Classes
1	B.Tech	30%
2	M.Tech	Nil
3	PhD	Nil

13. Programme-wise Student Teacher Ratio – 22:1

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

	Sanctioned	Filled	Actual
Administrative	35	23	23

15. Research thrust areas as recognized by major funding agencies

IIIT-Delhi aims to have focused research groups in some areas of IT and some domain areas. The number and nature of research areas will evolve as more faculty and research staff joins. Current areas of research are listed below.

- Image Analysis and Biometrics
  Focus Areas: Image Processing, Pattern Recognition, Machine Learning and Biometrics

- Mobile and Ubiquitous Computing
  Focus Areas: Mobile Computing, Middleware, Pervasive Computing, Communication Networks, Applications in Sustainability and Healthcare, Human Sensing, Transportation, Technologies for Developing Regions

- Software Engineering & Programming Languages
  Focus Areas: Software quality, programmer productivity, software maintenance, mining software process data for knowledge extraction, static and dynamic program analysis and specification mining

- Information Security and Privacy
  Focus Areas: Digital Forensics, Cryptography, Cryptanalysis, Theory and Practice of Cryptography, Cyber Crime, Privacy, Human Computer Interaction, Network Security, Traffic Analysis, Anonymity, Complex Networks, Privacy and Security in online Social Media (PSOSM), Usable Security

- Information Management and Data Analytics
  Focus Area: Databases, Data Mining, Mobile-P2P data management using economic models, Information Retrieval, Business Intelligence, Data Privacy and Access Control

- Theoretical Computer Science
  Focus Areas: Logic, Process Algebra, Reactive Systems, Verification, Cryptology, Cryptography, Machine Learning, Bioinformatics, Complexity Theory, Quantum Computation, Algorithms

- Computational and Systems Biology
  Focus Areas: Systems biology, Cell division cycle, Circadian rhythms, Computational cognitive neuroscience

- GeoInformatics
  Focus area: Geo-spatial Data Management, Data Warehousing, Database System Implementation

- Signal Processing
  Focus Areas: Compressed Sensing, Low rank matrix recovery, Biomedical Imaging, Information Hiding, Image & Video Forensics, Computer Vision, Image and Scene Understanding, Robust Statistical Methods, Pattern Recognition

- Scalable Systems
  Focus Areas: Computer Architecture, Performance Modeling of Computer Systems, Low Power Design, Energy efficient architectures, exascale computing challenges, performance portability, compilers, programming languages Distributed Systems and Networks, Concurrent and Parallel Computing

- Economics
  Focus Areas: Economics of Information, Consumer Privacy, Asymmetric Information in Credit and Insurance Markets, Credit Scoring

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

			Dr. Amarjeet Singh			
Sl No	Title of the Project	Type of the Project	Name of the Co-PI's	Funding Agencies	Total Sanctioned Amount Rs.	Status
1	EMC: Development of distributed algorithms for incremental Sensing Communication	Sponsored Research Project	Dr.Haimonti Dutta	EMC Data Storage System India Pvt. Ltd	960,000.00	ongoing
2	Human Sense: Towards contex aware sensing,inference and actuation for applications in Energy and Healthcare	Sponsored Research Project	NA	Media Lab Asia-ITRA	12,860,000.00	ongoing
3	Pervasive Sensing and Computing Technologies for Energy and Water Sustainability in Buildings.	Sponsored Research Project	Dr.Pushpendra Singh & Dr.Vinayak Naik	DeIT-NSF	1,24,20,000.00	ongoing
4	Research Consultancy	Consultancy	NA	Robert Bosch Engineering and Business Solutions Limited	600,000.00	ongoing
5	Smart Electrical Energy Disaggregation using machine learning Approaches.	R&D Fund	NA	TCIL	250,000.00	ongoing
6	Programmable System for Monitoring of Electrical Parameters and Intelligent Control of Electrical Appliances	R&D Fund	NA	TCIL	250,000.00	ongoing
			Dr. Ashish Sureka			
1	How Should I Fix Bug?-Investing Text Analytics and Social network Analysis Based Approaches to Support a Practitioner in Bug Fixing	Sponsored Research Project	NA	DST-Fast Track	342,000.00	ongoing
			Prof. Ashwin Srinivasan			
1	Ramanujan Fellowship	Fellowship	NA	DST	2,800,000.00	ongoing
			Dr. Mayank Vatsa			
1	Statistical Evaluation and Recognition of Simultaneous Latent Fingerprint Impression	Sponsored Research Project	NA	DST	3,78,000.00	Closed
2	Research on Multimodal Context Switching Using Multispectral Face, Periocular and Iris Recognation at a Distance	Sponsored Research Project	Dr.Richa Singh	DeITy	12,055,000.00	ongoing
			Prof. Pankaj Jalote			

1	Design Innovation Centre	Design and Innovation Centre		IIT Delhi	13000000	ongoing
Dr. P B Sujit						
1	User Controlled information Dissemination for Security and Privacy in Location Based Services	Sponsored Research Project	NA	DRDO	996,000.00	ongoing
2	Route Planning for Low Flying Aircraft Through the Terrain."	Sponsored Research Project	NA	DRDO	996,000.00	ongoing
Dr. Ponnurangam Kumaraguru						
1	Analyzing & Measuring Trustworthiness of User-Generated Content & Users on Multiple Online Social Media to Counter Cybercrime	Sponsored Research Project	NA	DeITy	7,500,000.00	ongoing
2	An Inter-Disciplinary Approach Toward building Ontology for Online Extremism	Sponsored Research Project	NA	DST-Indo-Ireland	684,000.00	ongoing
2	International Development Research Centre,Canada and Privacy International,UKPrivacy In India.	Sponsored Research Project	NA	Privacy International	2,055,973.00	ongoing
3	Analyzing Online Content using Data Mining Techniques to Counter Cyber Crime-Under Cyber Security grant-in Aid programme.	Sponsored Research Project	Dr.Ashish Sureka	DeIT	8,150,000.00	Closed
4	VOX-Fp&POL-Violent Online Political Extremism "Networking of Researchers for a High Level Multi-Organisational & Cross-Border Collaboration – Network of Excellence"	Sponsored Research Project-Collaborative Project	Na	UK	363,258.00	ongoing
5	Adobe Award	FAP	NA	Adobe	500,000.00	ongoing
Dr. Pushpendra Singh						
1	"Fractions to Millions"	Sponsored Research Project	NA	StandFord University	791,960.00	ongoing
2	Design & Development of a Mobile Device Centric environment Healthcare Delivery	Sponsored Research Project	Dr.Amarjeet Singh, Dr.Vinayak Naik	DeITy	4,680,000.00	ongoing
3	Development and Evaluation of Mobile Learning Techniques for Indian Masses	Sponsored Research Project	NA	DST:Fast Track	511,000.00	ongoing

4	Analysis of Ad-hoc Networks	Sponsored Research Project	NA	SAG:DRDO	1,500,000.00	Closed
5	DST-INRIA programme" proposal Personalized Mobility Service for Urban Travellers"	Sponsored Research Project	NA	DST:INRIA	514,722.00	ongoing

Dr. Raja Sengupta

1	Royal Institute	Sponsored Research Project	NA	Royal Institute	1,12,084	ongoing

Dr.Richa Singh

1	Recognizing Surgically Altered Face Images for Security Application	Sponsored Research Project	NA	DST: Fast Track	1,369,000.00	ongoing
2	Research and Design of Face Recognition System for Variations in Pose, Expression and Illumination	Sponsored Research Project	Dr.Mayank Vatsa	DeITy	8,725,000.00	closed

Dr. Somitra kr. Sanadhya

1	Construction of Secure and Efficient Sigma-LFSR	Sponsored Research Project	NA	DRDO-CAIR	978,000.00	ongoing
2	CAIR: Working out Indistinguishability Metrics for short Sequence Generation System	Sponsored Research Project	NA	DRDO	950,000.00	Closed
3	Design and cryotanalysis of some Cryptographic primitives	Sponsored Research Project	NA	Naval Research Board: DRDO	2,520,000.00	ongoing
4	Design and development of Stream for Use In Cryptographic Products	Consultancy	NA	DRDO	960,000.00	ongoing

Dr. Sriram K

1	Dynamical Analysis on the Functional relationship between circadian rlythms & memory formation to understand post-traumatic memories in human	Sponsored Research Project	NA	DST	1,589,000.00	ongoing

Dr.Vikram Goel

1	User Controlled information Dissemination for Security and Privacy in Location Based Services	Sponsored Research Project	NA	DST-Fast Track	516,000.00	ongoing
2	Design & Development of System for Detecting Digitized Document Frauds	Sponsored Research Project	NA	DeIT	8,112,000.00	ongoing

	Dr.Vinayak Naik					
1	Research and Exploration in Support of the proposed Project Title Use of cell phone for detecting and Controlling Infectious Diseases from National Geographic Society	Sponsored Research Project	NA	National Geographic Society	986,960.00	ongoing

17. Inter-institutional collaborative projects and associated grants received

a) National collaboration   b) International collaboration

The institute has received grant amounting to Rs.290 lakhs which is for Design and Innovation Centre from MHRD in collaboration with IIT Delhi , IIT Mandi , IGDTUW, Indo-Us in collaboration with CDAC Chennai , Indo-French, ITRA, Ukeri.

18. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

We have been shortlisted for the DST-FIST and is likely that funds may be allocated under FIST, and funds for 50 GATE Scholars is received from AICTE which is likely to increase for 100 scholars per year.

19. Research facility / centre with state recognition, national recognition, international recognition.

Institute has recently started Cybersecurity Education and Research Centre (CERC) which was inaugurated on January 23, 2014, tmission of which is to build systems and tools that are of direct interest to different stakeholders (government, industry, citizens) and create a pipeline for Undergraduate, Master's and Ph.D. students working in related areas.
Institute has also signed MoU with the following Universities for promotion of research.

- Australia's Queensland University of Technology (QUT),
- Graduate School of Information Security (GSIS), Korea University, Korea
- University of Nebraska-Lincoln, USA

20. Details of patents and income generated
Patent Filed

Patent Title Applied	System and Method for Verifying Credentials
Publication Number	US20130275753 A1
Publication type	Application
Application Number	US13/492,870

Publication Date	October 17,2013
Filing date	June 10,2012
Priority date	April 13, 2012
Inventors	Dr.Ashish Sureka, Mr. Denzil Correa
Original Assignee	Indraprastha Institute of Information Technology Delhi
External Links	USPTO , USPTO Assignment, Espacenet

21. Areas of consultancy and income generated

Sl. No	Title of the Project	PI	Funding Agency	Sanctioned Amount
1	EMC: Development of distributed algorithms for incremental Sensing Communication	Dr.Amarjeet Singh	EMC Data Storage System India Pvt. Ltd	960,000.00
2	Robert Bosch Engineering and business Solutions Limited	Dr.Amarjeet Singh	Robert Bosch Engineering and business Solutions Limited	600,000.00
3	Consultancy Services provided for Investigation of letters/envelops for authorship analysis.	Dr.Gaurav Gupta	National Highway Authority Of India	60,000.00
4	Mining Software Repositories	Dr.Ashish Sureka	Accenture India Pvt Ltd	120,000.00
5	Time and Presence Based Energy Control and Management	Dr.Amarjeet Singh	Telecommunication Consultants India Pvt Ltd	200,000.00
6	Consultancy for Lab Equipments and Audio Video, Public Announcement Systems and setting up of Library systems and Computing Equipments for IIIT-Raipur	Mr.Abir Bhattacharjee	NTPC	900,000.00

22. Faculty selected nationally / internationally to visit other laboratories / institutions industries in India and abroad

1. Our Faculty regularly presents papers in national and international conference.
2. In addition faculty has given the following invited talks in AY 2013-14.

Amarjeet Singh
a. Invited as external speaker for the CDAC Chennai one day workshop on "Building Energy Efficiency"

b. Invited speaker - i5Talks organized by Mahindra Satyam https://events.techmahindra.com/i5talks/past-i5Talks-Jun-2013.html
c. Invited talk on Building Energy Efficiency at IBM Research, IISc, Bosch and EMC (June 2013) and at IGDTUW (July, 2013)

Ashwin Srinivasan
Invited lectures at the University of Goa and the South Asian University.

A V Subramanyam
Invited by Estonian Embassy to in New Delhi give a talk on Cyber Security and its business significance. Date: Feb 06, 2014

Donghoon Chang
a. "Multiparty Computation", Korea University, Korea, May 6 2014
b. "Homomorphic Encryption", Korea University, Korea, May 7 2014
c. "Public Encryptions" Seoul Nation University of Science and Technology, Korea, May 12
d. Invited Talk to TCS Innovation Day - The Centre for Internet & Society, 29 January 2014. Title was "Midgame Attacks, Security, Privacy".

H. B. Acharya
Short course on Network Security, CONCYTEC, Lima, Peru. Summer 2014.

Mayank Vatsa
a. Biometrics at IAB@IIITD, seminar at University of Houston, June 2013
b. Fingerprint and Iris Recognition, seminar at TCS Innovation Labs, October 2013
Other visits:
Visiting Researcher, University of Houston, June – July 2013 (two weeks).

Ponnurangam Kumaraguru
a. Invited talk. Privacy and Security in Online Social Media. IBM Winter School. Organized at IIITD: 18 Oct 2013
b. Invited talk. Privacy and Security in Online Social Media. Part of the RCUK roundtable discussion: 13 Nov 2013
c. Privacy and Security in Online Social Media. Invited talk. TACTiCS symposium at Chennai: 28 - 29 Jan 2014
d. Privacy, Credibility, and Identity. Invited talk. Organized by RCUK. IIIT Bengaluru: 5–6 Feb, 2014.
e. Privacy and Security in Online Social Media. First ACM Eminent Speaker Lecture in India. Thapa University. Patiyala. Invited Lecture: March 26, 2014

f. Invited talk. Privacy and Identity. ACM Women's India Event. IIT Delhi: Feb 14, 2014

Other Visits:
a. Visiting Scientist - Ministry of Home Affairs, Delhi, 1 July, 2013 - 31 July, 2013.
b. Visiting Researcher - Mumbai Police, 1 Dec, 2013 - 31 Dec, 2013.
c. Co-organized a successful second edition of Security and Privacy Symposium http://cse.iitk.ac.in/users/sps2014
d. Visited New York Unviersity, Abu Dhabi, to explore collaborative activities

Pushpendra Singh
a. Invited talk on "Mobile Technologies for Healthcare" at International Conference on "Emerging Frontiers and Challenges in   Management and Control of STIs and HIV."
b. Invited to be part of India Eminent Speakers program conceived by ACM India
c. Invited to deliver lecture in IBM I-Care Winter School on Mobile Cloud Computing

Rahul Purandare
a. Delivered an invited talk on "Dynamic Program Analysis to provide Security Assurances" at Security and Privacy Symposium 2014 at IIT Kanpur.
b. Conducted a workshop on "Use of Security Automata and Cross-cutting Concerns" at Security and Privacy Symposium 2014 at IIT Kanpur.

Richa Singh
a. "Face Recognition" seminar at University of Houston, June 2013
b. "Online Learning", Tata Consultancy Services, October 2013

Other Visits
Visiting Researcher, University of Houston, June – July 2013 (two weeks)

Shreemoy Mishra
a. Seminar at the Delhi School of Economics. "Consumer Privacy and the Value of Purchase History with Stochastic Values." October, 2013, New Delhi.

Somitra Sanadhya
a. New HMAC patches, IIT Ropar, 28-March-2014.
b. Design and analysis of hash functions, Advanced Course on Cryptology and Information Security (ACCSIS 2013), SAG, DRDO, New Delhi, Nov 2013.
c. Role of mathematics in Cryptography, Keshav Mahavidyalaya, Delhi University, 03-Oct-2013.
d. Cryptography, Academic Staff College, JNU, New Delhi, 22-July-2013.

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e. Secure function evaluation, QIP on Intelligent Informatics, IIT Kanpur, 18-July-2013.
f. Weaknesses in WEP, 09-May-2013, National workshop on Cryptology, Coachin University of Science And Techonolgy (CUSAT), Kochhi.
g. Secure function evaluation, 10-May-2013
h. Cryptographic Hash functions, 09-May-2013

K Sriram
a. Invited talk at IIT-Delhi under ICMR program "Robustness and fragility in Cancer systems ".
b. Invited talk in TCS-Delhi on "Dynamical modeling of cortisol that distinguishes normal, depressed, and PTSD subjects".

Subhadip Raychaudhuri
a. How immune cells are activated and cancer cells get killed (IIITD, Feb 20, 2014)
b. Monte Carlo simulation elucidates the type1/type2 choice in apoptosis under death ligand induction
(Target meeting's 3rd World Molecular and Cell Biology online conference, Session 10: Cell Death, Feb 27, 2014).

Vikram Goyal
a. AICTE Sponsored National Seminar on Mobile Computing and Mobile Applications Development, Panipat, March 2014
b. Advanced Trends in Electronics, Computer and Communication, VCE Rohtak, October 2013

Other Visits:
a. National Conference on Advances in Computing Communication Networks and Electrical Systems , MDU Rohtak, March 2014
b. National Conference on Issues and Challenges in Computing Techniques, IET Chandigarh, March 2014

Vinayak Nayak
a. Invited to give a talk titled "Requirements from Wireless Networks for Measuring Physical Analytics of Mobile Users" at Next Generation Networks (NGNs) organized by Science & Technology Department, Embassy" of France in India, and Computer Society of India in association with CEFIPRA on April 5, 2014 at India Habitat Center, Lodi Road, New"Delhi.
b. Invited as a panelist on the discussion of Smart Cities at First Xerox Research Centre India (XRCI) Open on March 14, 2014 in Bangalore.

c. Invited to give a talk titled "Interference in Enterprise WiFi Networks" at AirTight Networks, Pune, on Dec 24, 2013

d. Invited to give a talk titled "Introduction to Mobile Computing" at Big Data and Mobile Computing Winter school as part"of IBM Research's "ICCARE'13", October 17-18, 2013

23. Faculty serving in National committees b) International committees c) Editorial Boards d) any other (please specify)

IIIT-D faculty members have served in various research and conference committees as well as editorial boards for the Acad Year 2013-14, the data are as follows;

Amarjeet Singh
a. Adviser for the M.Tech program in Mobile Computing at IGDTUW
b. Co-organizer E6 workshop, co-located with Comsnets, 2014
c. Technical reviewer - CAMTech Innovation Awards
d. TPC Member - Buildsys 2013, SenseApp2013, DARE2013 (Workshop in CIKM 2013), IISC Journal for CPS, eEnergy 2014
e. Reviewer - *IEEE Journal for Internet Computing*

Ashish Sureka
a. Program Committee Member for Conferences: ISEC 2015, APSEC 2013 and 2014, BDA 2013 and 2014, ICSE SEET 2014, MSR 2014, IC3 2014
b. ESE Journal Reviewer
c. Social Media Publicity Chair ICSE 2014
d. Tutorial Chair BDA 2014
e. Session Chair APSEC 2013, ICSE SEET 2014, BDA 2013

Astrid Kiehn
a. Member of the program committee of 'Petri Nets and Software Engineering (PNSE)' 2014.
b. Reviewer of a MOOC for NPTEL, IIT Delhi.

Ashwin Srinivasan
a. Member of the Board of Studies of the FMCS, at the South Asian University, and a Special Committee Member of the School of Computational and Integrative Sciences at the JNU.
b. Member of the Program Committee of the 'International Conference on Inductive Logic Programming', now entering its 25th year. Former member of the 'European Conference on Machine Learning', and a reviewer for journals like the *Machine Learning Journal* and the JMLR.

Debajyoti Bera
a. Member of expert committee for curriculum and exam review of CSE programe, IGNOU.

Donghoon Chang
a. Program Committee Member of ICISC 2014 (International Conference on Information Security and Cryptology, ICISC 2014)
b. Reviewers of SPACE Conference, INDOCRYPT Conference, IET Information Security Journal

Apala Guha
a. 'IEEE Recent Advances in Intelligent Computational Systems (RAICS)
    i. 2013' Program Committee Member
b. 'ACM SIGPLAN Conference on Languages, Compilers and Tools for
    i. Embedded Systems (LCTES) 2014' Program Committee Member
c. 'The 12th IEEE Symposium on Parallel and Distributed Processing with Applications (ISPA) 2014' Program Committee Member

H.B. Acharya
Technical Program Committee member, ICNP 2014.

Mayank Vatsa
a. Area Editor, Journal of Information Fusion, Elsevier, February 2014 – Present
b. Area Editor, IEEE Biometrics Compendium, January 2012 - Present
c. Review Process Manager, Journal of Information Fusion, Elsevier, July 2011 - January 2014
d. Program Committee Co-Chair, International Joint Conference on Biometrics, Tampa, USA, September 2014
e. Program Committee Co-Chair, International Conference on Biometrics, Madrid, Spain, June 2013
f. Session Chair, IEEE International Conference on BTAS, Washington DC, USA September 2013
g. Session Chair: National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics, Jodhpur, December 2013
h. TPC: European Conference on Computer Vision, Zurich, September 2014
i. TPC: IEEE International Conference on Image Processing, Paris, October 2014
j. TPC: IEEE International Conference on Computer Vision and Pattern Recognition, Boston, June 2014
k. TPC: National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics, Jodhpur, December 2013
l. Reviewer for Journals: IEEE TPAMI, CVIU, IEEE TIFS, IEEE TIP etc.

Ponnurangam Kumaraguru
   a. Technical Advisory Committee for the ACM Conference on Online Social Networks (COSN), cosn.acm.org.
   b. Publicity Chair : COSN
   c. PC Member:COSN
   d. Reviewer. Journal of Information Systems Research. Aug 2013.
   e. Co-Organizer for Security and Privacy Symposium. Feb 20 – Feb 22, 2014.
   f. Part of the Organizing team for the ACM India Event organized in IIT Delhi.

Government advisory roles:
   a. Member of Committee to Evolve Long term Technology Perspective Plan (LTTPP) for DRDO. 2012–Dec 2013.
   b. Member of the First Joint Committee meeting for ICT between India & Peru. April 2014. Represented IIITD

Pushpendra Singh
   a. External Reviewer, CEFIPRA projects
   b. External Reviewer, DIT projects
   c. External M.Tech. Thesis examiner, IIT Delhi

Rahul Purandare
PC member of ACM SIGPLAN International Workshop on the State Of the Art in Java Program Analysis (SOAP 2014) – Co-located with PLDI.

Richa Singh
   a. Guest Editor, Special Issue on Fusion in Biometrics, Information Fusion, Elsevier, 2014
   b. Editorial Board Member, Journal of Information Fusion, Elsevier, July 2011---January 2014
   c. Associate Editor, EURASIP International Journal of Image and Video Processing, SpringerOpen, November 2013 – Present
   d. IEEE Biometrics Council Education Committee, January 2012 – Present
   e. IEEE Biometric Council Conference Committee, October 2011 – Present
   f. Publications Co---Chair and Area Chair, International Joint Conference on Biometrics, Tampa, USA, Sep 2014
   g. Publications Chair, International Conference on Biometrics: Theory, Applications   and Systems, Washington DC, USA September 2013
   h. Sponsorship Co-Chair, International Conference on Biometrics, Madrid, Spain, June 2013
   i. TPC: IEEE International Conference on Computer Vision and Pattern Recognition, June 2014

j.   TPC: CVPR Workshop on Biometrics, June 2014
k.   TPC: European Conference on Computer Vision, Zurich, September 2014
l.   TPC: IEEE International Conference on Image Processing, Paris, October 2014
m.   TPC: National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics, Jodhpur, December 2013
n.   Reviewer for Journals: IEEE TPAMI, IEEE TIFS, IEEE TIP, Information Fusion etc.

Saket Anand
a.   Reviewer for Elsevier's Pattern Recognition.
b.   Reviewed for CVPR 2014.

Sandip Aine
a.   Reviewer: AAAI (2013), RSS (2013), SOCS (2013)
b.   Editorial Board Member: AI Review
c.   Program Committee: ICAPS, 2013
d.   Program Committee: AAAI, 2015

Somitra Kr Sanadhya
a.   Reviewed papers for INDOCRYPT 2013; Integration, the VLSI Journal; Journal of Medical systems; International journal of Computer mathematics;
b.   Active member of Cryptology Research Society of India (CRSI). Involved in lecturing at National workshop on Cryptology.

K Sriram
a.   One of the organizers of fifth International Workshop on Biological Processes & Petri Nets (BioPPN 2014) in Tunisia.

Subhadip Raychoudhury
a.   Reviewer for international Journal of Molecular Sciences
b.   Reviewer for bioSystems

Vikram Goyal
a.   Publicity Chair, International Conference on Big Data Analytics (BDA 2014)
b.   Poster Co-Chair, Security and Privacy Symposium, 2014
c.   Program Committee Member: WPEA 2013, ICCCT 2014, I-Care 2014, ICICT 2014, SPBDA 2014

Vinayak Nayak
a.   A member of the 1st Meeting of the Expert Committee to evaluate R&D Proposals on the Possible Impact of EMF Radiation Exposure from Mobile

Towers and Handsets on Life and Related' R&D' Initiatives, organized by Science & Engineering Research Board (SERB), Department of Telecommunication (DoT), and Ministry of Telecommunication & Information Technology in Feb 2014

b. Proceedings' Chair, Publications Chair and a Program Committee member for The First International Conference on Mobile Software Engineering and Systems (MOBILESoft 2014) in Hyderabad

c. A reviewer for 2014 IEEE International Conference on Electronics, Computing and Communication Technologies (IEEE CONECCT), Bangalore.

d. A program committee member for NetHealth workshop to be held in conjunction with COMSNETS'14 in Bangalore

e. An evaluator for The Executive Agency for Higher Education, Research Development and Innovation Funding (UEFISCDI) of Romania in 2013

f. A program committee member of DEVC4 Symposium on Computing for Development, Cape Town, South Africa, on Dec 6 to 7, 2013

g. Publication Chair and a Program Committee member of Programming for Mobile and Touch PROMOTO 2013, Indianapolis, USA on Oct 26, 2013

h. Co-chair for Demos, a member of the Publicity Sub-Committee, and a judge for the Best PhD Forum Award at The Sixth International Conference on Communication Systems and Networks (COMSNETS), Bangalore, India from Jan 6 to 10, 2014

24. Student projects

Percentage of students who have done in-house projects including inter-departmental projects
BTech- 100%
MTech-100%

Percentage of students doing projects in collaboration with other universities
industry / institute
BTech- 5%
MTech- 20%

25. Awards / recognitions received at the national and international level by

    a. Faculty
    b. Doctoral / post doctoral fellows
    c. Students

Note: We are giving data for AY 2013-14

Faculty

Amarjeet Singh:
- Invited to be the Board Member for HISP India Governing Council
- Invited to be part of India Eminent Speakers program conceived by ACM India
- Co-chair, Comsnets E6 workshop

Donghoon Chang
- Editorial Board Member of the Journal of Platform Technology JPT
- Guest Editor of Special Issue "Advanced Mathematical Cryptography for Next Generation " in Journal of Applied Mathematics

Mayank Vatsa
- Two Best Poster Awards at IEEE International Conference on BTAS, Washington DC, USA 2013
- Among the best reviewed papers of IEEE ICIP, Melbourne, Australia, 2013
- Area Editor, Journal of Information Fusion, Elsevier, February 2014 – Present
- Area Editor, IEEE Biometrics Compendium, January 2012 - Present
- Review Process Manager, Journal of Information Fusion, Elsevier, July 2011 - January 2014
- Program Committee Co-Chair, International Joint Conference on Biometrics, Tampa, USA, September 2014
- Program Committee Co-Chair, International Conference on Biometrics, Madrid, Spain, June 2013
- Session Chair, IEEE International Conference on BTAS, Washington DC, USA September 2013
- Session Chair: National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics, Jodhpur, December 2013

Ponnurangam Kumaraguru

- Received Adobe Research Excellence Award for 2013–2016. INR 15 Lakhs.
- Selected as one of the 11 ACM Eminent Speakers from the country by ACM.
- Received Best Poster Award for 'Bitly can do better' along with Gupta N and Aggarwal A at Security and Privacy Symposium 2014.

Pushpendra Singh
- Trishulam, the woman safety app, was nominated among the top 5 for South-Asia wide Manthan awards.

- M-Voice, the integrated IVR services platform, was third among 400 applications for NASSCOM social innovation awards.

Rahul Purandare
- Received ACM Distinguished Paper Award for the ISSTA 2013 paper.

Richa Singh
- Two Best Poster Awards at IEEE International Conference on BTAS, Washington DC, USA 2013
- Among the best reviewed papers of IEEE ICIP, Melbourne, Australia, 2013
- Guest Editor, Special Issue on Fusion in Biometrics, Information Fusion, Elsevier, 2014
- Editorial Board Member, Journal of Information Fusion, Elsevier, July 2011 --- January 2014
- Associate Editor, EURASIP International Journal of Image and Video Processing, SpringerOpen, November 2013 – Present
- IEEE Biometrics Council, Education Committee, January 2012–Present
- IEEE Biometrics Council, Conference Committee, October 2011–Present
- Publications Co---Chair, International Joint Conference on Biometrics, Tampa, USA, September 2014
- Publications Chair, International Conference on Biometrics: Theory, Applications and Systems, Washington DC, USA, September 2013
- Area Chair, International Joint Conference on Biometrics, Tampa, USA, October, 2014
- Sponsorship Chair, International Conference on Biometrics, Madrid, Spain, June 2013
- Session Chair, IEEE International Conference on BTAS, Washington DC, USA September 2013
- Session Chair, Biometrics Workshop, CVPR June 2013
- Session Chair: National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics, Jodhpur, December 2013

Somitra Kr Sanadhya
- Chief Cryptography Consultant: Secez Limited, Noida, UP.
- Adjunct Faculty, C.R. Rao Advanced Institute of Mathematics, Statistics and Computer Science, Hyderabad, University of Hyderabad Campus.

Vinayak Naik
- Our MDM 12 paper titled Low Energy and Sufficiently Accurate Localization for non-Smartphones was incorporated in the syllabus of graduate course on Mobile Systems taught at IIT Hyderabad by Venkat Padmanabhan of MSR Bangalore

Doctoral Students
- Venkatesh Vinayakrao (Ph.D.) received PM Fellowship
- Rahul Mishra (Ph.D.) received ABB Fellowship
- Parikshit Maini, Alvika Gautam, Megha Gupta, Monalisa Jena, Mohona Ghosh and Hemant Kumar Agarwal (all Ph.D. scholars) received TCS Fellowships
- Wazir Singh (Ph.D.) received UGC Fellowship
- Ayatullah Maktoomi (Ph.D.) received Best Paper Award at IMPACT 2013
- Anush Shankaran (Ph.D.) received best poster Award at BTAS 2013
- Gaurav Goswami & Samarth Bhardwaj (Ph.D.) received Best Poster Award at BTAS 2013

26. Seminars/ Conferences/Workshops organized and the source of funding (national international) with details of outstanding participants, if any.

    a. Faculty organized the following Conference/workshops:

Sl No	Title of the Project	Duration of the Workshop	Type	Name of the PI	Funding Agencies	Sanctioned Amount
1	Atmel XMEGA and ARM based SAM4L Microcontrollers: Atmel University Program In Cooperation with Department of Computer Science IIIT-Delhi	18-19th July, 2013	Workshop (Two Days Professor Summit)	Dr.Amarjeet Singh	Amtel India Ltd	Rs 53,980
2	Training on Using online social media for Intelligence Purpose	29-31st July, 2013	Continuing Education Programs (CEP)	Dr.Ponnuranga m Kumaraguru	PreGog-IIITD	Rs.1000 (per Person)
3	Training on Using online social media for Intelligence Purpose	30st August, 2013	Continuing Education Programs (CEP)	Dr.Ponnuranga m Kumaraguru	PreGog-IIITD	Rs.1000 (per Person)
4	Cybersecurity Education and Research Centre (CERC)	23rd January, 2014	Inauguration of CERC centre	Dr.Ponnuranga m Kumaraguru	IIITD	NA
6	Work Shop on HL7	26th -28th Feb, 2014	Workshop	Dr.Pushpendra Singh	Deity	NA
7	CERC Seminar Series. Inaugural Seminar. "The Future of Interaction & its Security Challenges" by Dr. Sundeep	25th Mar 2014	Seminar	Dr.Ponnuranga m Kumaraguru	IIITD	NA
8	Computational Biology workshop	5th April, 2014	Workshop	Dr.Sriram K	IIITD	NA

b. We also invite distinguished speakers to give seminars. The aim of inviting distinguished visitors to IIIT-D is to provide opportunities to our faculty to strengthen collaborative research and enhance their visibility both in academia and industry. Many distinguished speakers from academia and industries visited IIIT-D that served as a venue for discussing research. Some of these visits are mentioned below.

Speaker	Title	Date
Dr. Utpal Bhattacharya (Indiana University) MBA from IIM Ahmedabad and a B.Tech from IIT Kanpur	The Dark Side of Finance: (an overview of some of his research on financial markets and securities regulation)	5-Jul-13
Dr. Ansuman Banerjee, ISI Kolkata	Counterexample ranking using mined invariants.	26-Jul-13
Dr. Manik Varma, Microsoft Research India	Multi-Label Learning with Millions of Labels: Recommending Advertiser Bid Phrases for Web Pages	8-Aug-13
Prof. Subhashis Banerjee, Department of CSE, IIT Delhi	Space-time super-resolution	22-Aug-13
Dr. Vijay Erramilli, Telefonica Research, Barcelona	Economic perspective to online privacy	29-Aug-13
Dr. Nalini Ratha, IBM Thomas J. Watson Research Center, Yorktown Heights, NY	Privacy enhancement in biometrics	30-Aug-13
Dr. Kishore Kothapalli IIIT Hyderabad	A Tale of Two Ruling Sets	5-Sep-13
Dr Ullas Nambiar, Lead Research Scientist & ACM Distinguished Speaker, EMC India COE, CTO Office, Bangalore	From Data to Decisions	12-Sep-13
Mr. Balkrishna Shetty, Ambassador of India (Retired)	What is Mathematics?	19-Sep-13
Dr. Santosh Srivastava, IBM IRL	System Immunology of T Cells	3-Oct-13
Mr. Anadish Pal, Independent Inventor	"Philosophy of science in India -- would another renaissance originate from here?"	10-Oct-13
Prof. M. Balakrishnan, CSE Department, IIT Delhi	Assistive Technology for the Visually Impaired	17-Oct-13
Dr. Swaprava Nath, ISI New Delhi	Mechanism Design for Strategic Crowdsourcing	24-Oct-13
Ms Usha Rangnani IPS Asst. Commissioner of Police.	Safety of students	09-Jan-14
Dr. Amit Sheth , Wright State University, USA	Transforming Big Data into Smart Data: Deriving Value via harnessing Volume, Variety, and Velocity using semantics and Semantic Web	16-Jan-14

Prof. Pankaj, Dr. Angshul, Dr. Rajiv, Dr. Sanjit, Dr. Sriram (more speakers may also join).	Panel discussion on "Publish or Perish"	30-Jan-14
Dr. Lipika Dey, Principal Scientist, TCS Innovation Labs	Signals and Sentiments from Text : New Age Enterprise Intelligence	6-Feb-14
Mr. Abhinav Chaturvedi and Mr. Akshay Damarla, Gradians	Gradians.com – An Experiment in Qualitative Computer Aided Assessment	13-Feb-14
Dr. Subhadip Raychaudhuri, IIIT Delhi	Title: How immune cells are activated and cancer cells get killed	20-Feb-14
Mr. Amit Sharma, Amitec Electronics Ltd	Software Defined Radio and Applications	6-Mar-14
Dr.-Ing. Jaleel Akhtar, IIT Kanpur	Microwave imaging and testing of materials and objects	13-Mar-14
Mr. Amit Saini, iCalibrator	Learning programming languages in a fully automated learning environment	27-Mar-14
Dr. Akhilesh Jain, Raja Ramanna Centre for Advanced Technology, Dept. of Atomic Energy	High Power RF Amplifiers	1-Apr-14
Dr. Shweta Agrawal, IIT Delhi	The Good, The Bad, The Ugly	3-Apr-14
Prof. Don Gotterbarn	Application Oriented Computing,Computers and Society,Software Engineering	9-Apr-14

27. Student profile programme-wise:

Name of the prog	Application Received	Admitted	Pass percentage
UG(2013)	3128	171	**-**
PG(2013)	2109	109	**-**
Ph.D. (2013)	720	28	**-**
UG(2012)	3258	171	**-**
PG(2012)	850	82	**91.5%**
Ph.D. (2012)	582	22	-

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UG(2011)	2112	119	-
PG(2011)	232	33	100%
Ph.D. (2011)	212	11	-
UG(2010)	1818	100	85%
PG(2010)	170	25	88%
Ph.D(2010)	250	7	-

28. Diversity of students

Name of the Programme (refer to question no. 4)	% of students from other universities within the State	% of students From Universities outside the State
BTech	85	15
MTech	46	54

29. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.
The institute does not maintain such data.

30. Diversity of staff

Percentage of faculty who are graduates of the same university	Nil
from other universities within the State	3.8%
from universities from other States	19.2%
from universities outside the country	76.9%

31. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period
Nil (The minimum requirement for joining as a faculty is PhD. Therefore all faculty members have completed PhD before joining)

32. List of doctoral, post-doctoral students and Research Associates from the host institution/university

List of Doctoral

Roll No.	Specialisation	Batch	Name
PhD14001	CSE	July, 14	Akshay Agarwal
PhD14002	CSE	July, 14	Deepika Yadav
PhD14003	CSE	July, 14	Himanshu Buckchash
PhD14004	CSE	July, 14	Rohit Keshari
PhD14005	CSE	July, 14	Lokender Tiwari
PhD14007	CSE	July, 14	Siddharth Dawar
MT13042	CSE	July, 14	Manisha Khattar
PhD14006	CSE	July, 14	Soumyadeep Ghosh
PhD1302	CSE	July, 13	Swati Agarwal
PhD1303	CSE	July, 13	Anjali Sharma
PhD1306	CSE	July, 13	Venkatesh Vinayakarao
PhD1307	CSE	Dec, 13	Haroon Rashid
PhD1308	CSE	July, 13	Ankita Likhyani
PhD1309	CSE	July, 13	Arpan Jati
PhD1311	CSE	Dec, 12	Tarun Kumar Bansal
PhD1312	CSE	Dec, 12	Monika Singh
PhD1313	CSE	Dec, 12	Megha Agrawal
PhD1314	CSE	July, 13	Sonia Soubam
PhD1315	CSE	July, 13	Megha Gupta
PhD1316	CSE	July, 13	Srishti Gupta
PhD1317	CSE	Dec, 13	Abhishek Kumar
MT12065	CSE	July, 13	Garvita Bajaj
MT12014	CSE	July, 13	Parikshit Maini
MT12061	CSE	July, 13	Alvika Gautam
MT12067	CSE	Dec, 13	Milan Jain
MT12063	CSE	Dec, 13	Anil Sharma
PhD1201	CSE	July, 12	Dipto Sarkar
PhD1202	CSE	July, 12	Gaurav Goswami
PhD1203	CSE	July, 12	Hemant Kumar Aggarwal
PhD1204	CSE	July, 12	Jayaprakash Govindaraj
PhD1205	CSE	July, 12	Monalisa Jena
PhD1206	CSE	July, 12	Monika Gupta
PhD1207	CSE	July, 12	Rakhi Hemani
PhD1208	CSE	July, 12	Sathish V
PhD1209	CSE	July, 12	Sweta Mishra
PhD1214	CSE	Dec, 11	Robin Kumar Verma

PhD1215	CSE	Dec, 11	Anupama Aggarwal
PhD1216	CSE	July, 12	Mohona Ghosh
PhD1217	CSE	July, 12	Madhvi Gupta
PhD1211	CSE	July, 12	Dheryta Jaisinghani
PhD1212	CSE	Dec, 12	Amit Kumar Chauhan
PhD1213	CSE	Dec, 12	Senthil K K Mani
PhD1101	CSE	July, 11	Anuj Sanker Saxena
PhD1102	CSE	July, 11	Ayushi Rastogi
PhD1103	CSE	July, 11	Jyoti Leeka
PhD1105	CSE	July, 11	Shiva Reddy koti
PhD1106	CSE	July, 11	Shruti Chhabra
PhD1108	CSE	Dec, 11	Madhur Hasija
PhD1109	CSE	Dec, 11	Nipun Batra
MT10012	CSE	Dec, 11	Niharika Sachdeva
MT10014	CSE	Dec, 11	Prateek Dewan
PhD1001	CSE	July, 10	Aditi Gupta
PhD1003	CSE	July, 10	Anush Sankaran
PhD1004	CSE	July, 10	Damodaram Kamma
PhD1005	CSE	July, 10	Tejas Indulal Dhamecha
PhD1007	CSE	July, 10	Pandarasamy Arjunan
PhD1008	CSE	July, 10	Paridhi Jain
PhD1009	CSE	July, 10	Siddhartha Asthana
PhD0901	CSE	July, 09	Amit Kumar
PhD0903	CSE	July, 09	Denzil Correa
PhD0907	CSE	July, 09	Nilesh Padhariya
PhD0909	CSE	July, 09	Samarth Bharadwaj

List of Post Doctoral

Sno	Name	Roll no	Under Guidance
1	Garima Gupta	PD2014002	Dr.Somitra K.Sanadhya

List of RAs

Name of the Student	Date of Joining	RA/Intern/PHD
Shraddha Jain	08.07.2013	Research Associate
Niranjan Kumar	23.09.2013	Research Assistant
Hareesh Ravi	20.11.2013	Research Assistant
Rakshit Wadhwa	31.03.2014	Research Assistant
Mayank Gupta	01.09.2013	Research Associate
Saheb Chabra	01.03.2014	Research Associate
Prabjeet Kaur	01.03.2014	Research Associate
Archit Garg	1.08.2014	Research Associate
Sakshi Tiwari	14.08.2014	Research Associate

Manaswi Saha	01.02.2014 (extension for 6 months)	Research Associate
Sudeep Gupta	13.05.2014	Research Associate
Nilaksh Das	15.05.2014	Research Associate
Apoorv Saini	10.05.2014	Project Associate
Sameer Sawhney	10.05.2014	Project Associate
Ishan Nigam	16.06.2014	Project Associate
Paritosh Mittal	02.06.2014	Project Associate

33. Number of post graduate students getting financial assistance from the university.

- Dual Degree- 2
- MTech (CSE)- 3
- PhD (CSE)- 51

34. Does the department obtain feedback from

a. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Course wise feedback is taken from individual students twice a semester. Once before the mid sem exams and other before the end sem exams. Individual course feedback is collected though online portal, where each student have to give course wise feedback. A system generated summarization report is generated course wise. The course wise report goes to individual instructors which help them look into the student requirements and do the desirable changes. Student feedback points are considered as a basis for rewarding the instructors who are performing well and taking corrective actions wherever desirable.

b. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Institute takes informal feedback from its Alumni, particularly those who are doing higher studies in other universities, about our systems and tries to incorporate them. A structured feedback on programs, as well as teaching, is envisaged.

35. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The faculty of the department is deeply involved in research – both applied and basic. The research results are communicated through publications in journals and conferences. List of publications is given separately – their contributions are in areas like biometrics, mobile computing, computer vision, security, privacy, social network analysis, theoretical computer science, software engineering, program analysis, etc.

36. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

1. Strengths:
a) A strong base of high quality faculty, which compares favorably with the best in the country and which is working in diverse fields of computer science, is the most valued strength..
b) An innovative curriculum that is supportive of experimentation and innovation
c) Strong research program with over 60 PhD students, and over 150 MTech students, many projects, etc.

2. Weaknesses:
a) As a young institute, lack of senior faculty as a major weakness, which also comes in the way of developing strong and lasting cultural attributes that are the hallmarks of the best academic institutions

3. Opportunities: There is a clear opportunity to grow the CSE program, particularly in emerging areas like security, mobile computing, communications, robotics, etc. There is also an opportunity to build interdisciplinary programs with computing as the base, e.g. Computing and Maths, Computing and Economics, Computing and Digital Media, etc. Graduates from such programs can be highly sought by companies working in emerging areas like analytics, computational economics/finance, digital entertainment and media, etc.

4. Challenges: (a) To continue and build on the momentum created towards achieving measures of excellence. (b) to further strengthen the research culture which is complimentary to high quality education.

37. Future plans of the department

* grow faculty strength from current to 40 in the next 5 years
* grow B.Tech, M.Tech and Ph.D student #s as well as quality commensurately
* start many new centers of excellence in areas of core strength

Evaluative Report of the Department ECE

1. **Name of the Department**
   Electronics and Communications Engineering (ECE)

2. **Year of establishment**
   2012

3. **Is the Department part of a School/Faculty of the university?**
   Yes

4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)**
   UG, PG and Ph.D

5. **Interdisciplinary programmes and departments involved**
   CSE

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
   A collaborative PhD programme initiated by the Indraprastha Institute of Information Technology-Delhi (IIIT-D) and Australia's Brisbane-based Queensland University of Technology (QUT)

7. **Details of programmes discontinued, if any, with reasons**
   No

8. **Examination System :**
   Semester & choice Based Credit system

9. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

	Sanctioned	Working
Professor		0
Associate Professor	20	01
Assistant Professor		11
Others (Visiting Faculty)		

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Sr. No.	Name	Date of Joining IIITD	Qualifications	Earlier Work Experience	Area of Expertise
1.	Amarjeet Singh	07-12-2009	PhD, EE, UCLA, 2009 BTech, EE, IITD, 2002	Research Assistant, CENS, UCLA 2005-09 Senior R&D Engineer, Tejas Networks, 2002-04	Sensor networks, appx algos, path planning,
2.	Subhasis Banerjee	02-08-2010	PhD, IISc, 2007 M.Tech, University of Calcutta, 2000 B.Tech, University of Calcutta, 1998	Intel Technology, Oct2007-July2010. Sun Microsystem, Mar2006-Sep2007.	Computer Architecture, Performance Modeling of Computer Systems, Low Power Design
3.	Sanjit K Kaul	27-10-2011	Phd, Rutgers University, NJ, 2011 BE, BIT-Ranchi, 2000	Graduate Assistant, Rutgers University, 2005-2011. Senior Engineer, Ubinetics India Pvt. Ltd., Sep2003-Aug2004 Senior Software Engineer, Hughes Software, Oct2002-Sep2003. Software Engineer, Hughes Software, Jan2001-Oct2002. Trainee, TCS, July2000-Jan2001	Wireless Systems, Vehicular Networks, Delay Tolerant Networks, Disaster Management, Intelligent Transportation
4.	Mohammad S. Hashmi	21-02-2012	PhD, Cardiff University, 2009. MS, TU, Darmstadt, Germany, 2005 BE, AMU, 2001	Post Doc, University of Calgary, 2009-2012. Post Doc. RA, Cardiff University, 2009 RA, Cardiff University, 2005-2009 Visiting Researcher, Thales Electronics GmbH, Berlin 2004-2005 RA, Institute of Microelectronics, 2003-2004 IT Engineer, CMC Ltd 2001-2002	RF Measurements, PA Design and Linearization, RF Systems, Software Defined Radio
5.	Sujay Deb	25-06-2012	PhD, Washington State University, 2012. MS, IIT-Khg, 2007 BE, 2004	Research Assistant, Washington State University, 2008-2012 Research Assistant, IIT-Kharargpur, 2005-2007. Engineer Trainee, HCL, 2004-2005.	Multi-core processor architectures, Wireless network on-chip, Emerging interconnection technologies for multi-core chips

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6.	Angshul Majumdar	01-10-2012	Phd, University of British Columbia, 2012 MS, University of British Columbia, 2009 BE 2005	Graduate Research Assistant, University of British Columbia, 2007-2012 Intern, Siemens Corporate Research, Oct-Dec2009 Senior Consultant, PricewaterhouseCoopers, Nov2010-Aug2011 Consultant, PricewaterhouseCoopers, Nov2005-Aug2007 TA, University of British Columbia, Jan2008-Apr2009.	Compressed Sensing, Low-rank matrix recovery, Magnetic Resonance Imaging, Color Imaging
7.	P.B. Sujit	20-12-2012	PhD, IISC, Banglore, 2005 M.Tech, VTU,2002 BE, Banglore University, 1998	Research Scientist, University of Porto, August 2008-Dec2012. Research Associate, IISc, March-Aug 2008 Post Doc Felleo, Brigham Young University, Utah, Feb2006-Feb2008. Project Associate, IISc, Jan-Dec2002.	Unmanned Vehicle (aerial, underwater, and surface), Multi-robot systems, Guidance and Control
8.	Shobha Sundar Ram	18-01-2013	PhD, University of Texas at Austin, 2009 MS, University of Texas at Austin, 2006 BE, University of Madras, 2004	R&D Electrical Engineer, Baker Hughes Inc., 2009-2012 Teaching Assistant, UT, Austin, ug2004-May2007.	Electromagnetic sensor conceptualization, model and design, sensor circuit design and signal processing algorithms
9.	A V Subramanyam	10-06-2013	PhD, NTU, 2013 BE, ISM, 2007	Assistant System Engineer, TCS, 2007-2008	Information Hiding, Image and Video Forensics
10.	Vivek Bohara (26-10-1981)	16-07-2013	PhD, Nanyang Technological University, Singapore 2011, BE, Pune University, 2004	Post Doc. Researcher, Marie Curie Fellowship, ESIEE Paris, University Paris-East Nov2011-June 2013. Project Officer, INFINITUS, July2010-Nov2011 Project Officer, TCI Telnet Solutions, Pune, July2004-Feb2006.	Wireless communication, Cognitive and Cooperative wireless networks, Wideband Power amplifiers, Digital predistortion
11.	Alexander Fell (30-04-1979)	18-07-2013	Phd, IISc, Banglore 2012 MS, University of applied Science, Cologne, Germany	Post Doc Felloe, RWTH, Aachen, Germany, Jan2013-July2013. Project Assistant, IISc, Banglore, 2007-2008.	Coarse Grain Reconfigurable Architectures (CGRAs), Network-on-Chip, Embedded Systems,

			2007. Degree in Computer Science, Aachen, Germany. 2005.		FPGAs
12.	Anubha Gupta	Yet to join	PhD, IIT-D, 2006 ME, DCE, 1997 BE, DIT, 1991	Associate Professor, IIIT-H, 2011-2013 Director, Assessment, Bowie State University, 2010-2011 RA, USM, 2009-2010 AP, NSIT, 2000-2008 SSA, NSIT, 1999-2000 AD, AIR, 1993-1999	Statistical Signal Processing, Biomedical Signal and Image Processing, Wavelet Transform and its applications, Higher education policy and Assessment

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors

Visiting Faculty
Ranendra Narayan Biswas, PhD
Former Dean, Research and Development, IIT Kanpur
Former Director, CEERI, Pilani
Electronic Circuits, Microprocessor Architecture, Computer Networking
rnb@iiitd.ac.in

Jyoti Sinha
Co-founder and Chief Technology Officer (CTO) at Omnipresent Robot Tech
MS (Computer Science) from Technical University of Munich (TUM), Germany/ University of California Berkeley (UCB), USA
Multi-robot communication, Robotic coordination and scheduling, ad hoc wireless networks, smart Medium access protocols
Jyotisinha@iiitd.ac.in

12. Percentage of classes taken by temporary faculty – programme-wise information

Sl.No.	Name of the Guest Faculty	Course Name
1	S C S Rao	Math IV (Numerical Methods)
2	Balkrishna Shetty	Number Theory

13. Programme-wise Student Teacher Ratio

BTech ECE- 11:1

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

	Sanctioned	**Filled**	**Actual**
Administrative	35	23	23

15. Research thrust areas as recognized by major funding agencies

Wireless Systems
Focus Areas: Wifi Network Optimization, Small Cell Networks, White Spaces, Localization, Vehicular Networks, Software Defined Radio and Cellular Radiation Measurement

Advanced Electronic Systems
Focus Areas: Software Defined Radio, Multiband and Broadband RF Circuits, Smart Antenna Systems, Biomedical Electronics and Applications, Wireless Network on Chip, Biomedical System and Sensor Development, Radar Sensor Design and Signal Processing, Ground Water Sensor Design and Signal Processing

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Dr.Amarjeet Singh						
Sl No	**Title of the Project**	**Type of the Project**	**Name of the Co-PI's**	**Funding Agencies**	**Total Sanctioned Amount Rs.**	**Status**
1	EMC: Development of distributed algorithms for incremental Sensing Communication	Sponsored Research Project	Dr.Haimonti Dutta	EMC Data Storage System India Pvt. Ltd	960,000.00	ongoing
2	Human Sense: Towards contex aware sensing,inference and actuation for applications in Energy and Healthcare	Sponsored Research Project	NA	Media Lab Asia-ITRA	12,860,000.00	ongoing
3	Pervasive Sensing and Computing Technologies for Energy and Water Sustainability in Buildings.	Sponsored Research Project	Dr.Pushpendra Singh & Dr.Vinayak Naik	DeIT-NSF	1,24,20,000.00	ongoing

4	Research Consultancy	Consultancy	NA	Robert Bosch Engineering and Business Solutions Limited	600,000.00	ongoing
5	Smart Electrical Energy Disaggregation using machine learning Approaches.	R&D Fund	NA	TCIL	250,000.00	ongoing
6	Programmable System for Monitoring of Electrical Parameters and Intelligent Control of Electrical Appliances	R&D Fund	NA	TCIL	250,000.00	ongoing
Dr.Angshul Majumdar						
1	DST/INSPIRE Faculty Award/2012	Fellowship	NA	DST	3,500,000.00	ongoing
Dr.P B Sujit						
1	User Controlled information Dissemination for Security and Privacy in Location Based Services	Sponsored Research Project	NA	DRDO	996,000.00	ongoing
2	Route Planning for Low Flying Aircraft Through the Terrain."	Sponsored Research Project	NA	DRDO	996,000.00	ongoing
Dr.Sanjit Krishnan Kaul						
1	Smartphone-Based Anolalous Human Activity Detection & Prediction	Sponsored Research Project		DST-SERB	19,84,800.00	ongoing
2	Small Cell WiFi Networks For The Enterprise	Sponsored Research Project		DeiTY	4,000,000.00	ongoing
Dr.Shobha Sundar Ram						
1	DST/INSPIRE Faculty Award/2013	Fellowship	NA	DST	3,500,000.00	ongoing
Dr.Sujay Deb						
1	DST/INSPIRE Faculty Award/2012	Fellowship	NA	DST	3,500,000.00	ongoing

17. **Inter-institutional collaborative projects and associated grants received**

a) National collaboration   b) International collaboration

The institute have received grant amounting to Rs.290 lakhs which is for Design and Innovation Centre from MHRD in collaboration with IIT Delhi , IIT Mandi , IGDTUW, Indo-Us in collaboration with CDAC Chennai , Indo-French.

18. **Departmental projects funded by DST-FAST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**

We have been shortlisted for the DST-FIST and is likely that funds may be allocated under

FIST, and funds for 50 Gate Scholars is received from AICTE which is likely to increase for 100 scholars per year.

19. Areas of consultancy and income generated

Sl. No	Title of the Project	PI	Funding Agency	Sanctioned Amount
1	**EMC: Development of distributed algorithms for incremental Sensing Communication**	Dr.Amarjeet Singh	EMC Data Storage System India Pvt. Ltd	960,000.00
2	**Robert Bosch Engineering and business Solutions Limited**	Dr.Amarjeet Singh	Robert Bosch Engineering and business Solutions Limited	600,000.00
3	**Consultancy Services provided for Investigation of letters/envelops for authorship analysis.**	Dr.Gaurav Gupta	National Highway Authority Of India	60,000.00
4	**Mining Software Repositories**	Dr.Ashish Sureka	Accenture India Pvt Ltd	120,000.00
5	**Time and Presence Based Energy Control and Management**	Dr.Amarjeet Singh	Telecommunication Consultants India Pvt Ltd	200,000.00
6	**Consultancy for Design and development of Stream Ciphers for the use in Cryptographic products**	Dr.Somitra Kr.Sanadhya	DRDO	930,000.00

20. Faculty selected nationally / internationally to visit other laboratories / institutions 1 industries in India and abroad.

1. Our Faculty regularly presents papers in national and international conference.
2. In addition faculty has given the following invited talks in AY 2013-14.

Alexander Fell
Network on Chip Implementations in Bluespec, IISc Bangalore, 26th to 30th September 2013.

Mohammad Hashmi
a. Multi-band and Multi-mode Transceiver, AMU Aligarh, 22nd July 2013.
b. Nonlinear RF Measurement Techniques, IIT Patna, 8th October 2013.
c. Experimental Setup for High Power Amplifier Design, RRCAT, Indore, 21st December 2013.
d. High Efficiency Amplifier and Digital Predistortion, Freescale Semiconductors, Noida, 14th March 2014.
e. Reconfigurable Transmitter, Jamia Millia Islamia, New Delhi, 28th April 2014.

Sujay Deb
a. Invited talk at NERIST on 'VLSI Design: The Road Ahead' on July 2013.
b. Invited talk at NIT Silchar on 'Wireless Network on Chip' on February 2014.

21. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

IIIT-D faculty members have served in various research and conference committees as well as editorial boards as outlined below:

Amarjeet Singh
a. Adviser for the M.Tech program in Mobile Computing at IGDTUW
b. Co-organizer E6 workshop, co-located with Comsnets, 2014
c. Technical reviewer - CAMTech Innovation Awards
d. TPC Member - Buildsys 2013, SenseApp2013, DARE2013 (Workshop in CIKM 2013), IISC Journal for CPS, eEnergy 2014
e. Reviewer - *IEEE Journal for Internet Computing*

Angshul Majumdar
a. Technical Program Committee for IEEE ICASSP, IEEE ICIP and ChinaSIP.
b. Reviewer for MICCAI
c. Reviewer for various journals like *Transactions in Medical Imaging*, *Magnetic Resonance Imaging*, *Magnetic Resonance in Medicine*, *Biomedical Signal Processing and Control*, *Information Fusion* etc.

Anubha Gupta
Reviewer for EuraSIP, 2014, NCC, 2014, SPCOM 2014

A V Subramanyam
a. Co-chair of 'International Workshop on Multimedia Signal Processing Techniques and Applications (MSP'14)'.
b. Program committee member of 'ACM Multimedia (ACM MM'14) conference'.
c. Program Committee member of 'International Conference on Secure knowledge Management (SKM'14)'
d. Program committee member of 'International Conference on Pattern Recognition (ICPR'14)'

Ad-hoc Reviewer:
a. Reviewer of *IEEE Transactions on Multimedia*

b. Reviewer of *Journal of Optical Society of America A*
c. Reviewer of *Elsevier Journal of Information Security and Applications*
d. Reviewer of *Elsevier Journal of Information Fusion*

Mohammad Hashmi
a. Associate Editor for the special edition of "International Journal of Microwave Science and Technology" published in May 2013. The focus of the edition was Advanced RF and Analog Integrated Circuits for Fourth Generation Wireless Communications and Beyond.
b. Reviewer for IEEE Transactions on Microwave Theory Techniques, IEEE Transactions on Instrumentation and Measurement, IEEE Microwave and Wireless Component Letters, PIER Journals, International Journal on Microwave and Optical Technology, Several Conferences. Reviewer for top RF, Circuits and Instrumentation conferences such as IMS, APMC, ISCAS, and I2MTC.
c. PC member: IEEE SPIN and IEEE IMPACT.

Sanjit Krishnan Kaul
a. Reviewer of transactions, Ubicomp, IBM I-care workshop
b. CRAWDAD data sets on road conditions in India
c. External member on MTP committees at IIT Delhi.

Sujay Deb
a. TPC member of VLSI Design Conference 2014 (Digital Design track)
b. Reviewer of JETC, SUSCOM, IGCC, IDT etc.

Shobha Sundar Ram
a. Reviewer for IEEE Trans. on Antennas and Propagation and IET Electronic Letters

Subhasis Banerjee
a. Technical Program Committee of ICIEV 2013. WEPA 2013 (workshop in HiPC 2013)
b. Reviewer of International Journal or Parallel Programming, Elsevier Journal of System Architecture.

P B Sujit
a. Reviewer for journals – JINT, Autonomous robots, IEEE control systems technology, IEEE Aerospace Electronics Systems, ASME, Sensors, Applied soft computing, IEEE Transactions on Systems, Man and Cybernetics: Systems
b. Reviewer for conferences: ICRA, IROS, ACC, ECC, IFAC world congress, ACODS

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Vivek Bohara
   a. Reviewer for International Journal on Communication, IET communication, IEEE Transaction on signal processing etc.
   b. Reviewer for conferences on communication (Ex. ISWCS, Crowncom 2013 etc)

22. Awards / recognitions received at the national and international level by

   1 Faculty
   2 Doctoral / post doctoral fellows
   3 Students

Faculty
Amarjeet Singh:
- Invited to be the Board Member for HISP India Governing Council
- Invited to be part of India Eminent Speakers program conceived by ACM India
- Co-chair, Comsnets E6 workshop
- Personal interview covered in a blog - http://coffeewithsundar.com/amarjeet-assistant-professor-iiit-delhi/
- Personal profile covered in UCLA Engineer Fall 2013 Magazine - http://issuu.com/uclaengineering/docs/magazine_fall_2013_fa4_single_pages/29

Mohammad Hashmi
- Associate Editor for the special edition of "International Journal of Microwave Science and Technology" published in May 2013. The focus of the edition was Advanced RF and Analog Integrated Circuits for Fourth Generation Wireless Communications and Beyond
- Best paper award at IMPACT 2013.

Vivek Bohara
- Awarded 3rd prize for the poster "Fixed point indirect learning architecture for digital predistortion" in the research showcase 2014 at IIIT, Delhi

Students
- Venkatesh Vinayakrao (Ph.D.) received PM Fellowship
- Rahul Mishra (Ph.D.) received ABB Fellowship
- Parikshit Maini, Alvika Gautam, Megha Gupta, Monalisa Jena, Mohona Ghosh and Hemant Kumar Agarwal (all Ph.D. scholars) received TCS Fellowships
- Wazir Singh (Ph.D.) received UGC Fellowship
- Ayatullah Maktoomi (Ph.D.) received Best Paper Award at IMPACT 2013

- Anush Shankaran (Ph.D.) received best poster Award at BTAS 2013
- Gaurav Goswami & Samarth Bhardwaj (Ph.D.) received Best Poster Award at BTAS 2013
- Raghav Sethi (B.Tech.) awarded Best all-rounder student. Joined Masters in Princeton on full Scholarship.
- Mayank Pundir (B.Tech.) awarded Chancellor's Gold Medal. Joined Masters in UIUC on full scholarship.
- Shilpa Garg (M.Tech.) offered admission in PhD program at Cambridge Univ., MPI and other places. She has joined MPI.

23. Diversity of staff

Percentage of faculty who are graduates	
of the same university	Nil
from other universities within the State	8%
from universities from other States	25%
from universities outside the country	66%

24. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

Nil. (The minimum requirement for joining as a faculty is PhD. Therefore, all the faculty members have completed PhD before joining.)

25. List of doctoral, post-doctoral students and Research Associates

1 from the host institution/university

List of Doctoral

Roll No.	Specialisation		Name
PhD14101	ECE	July, 14	Dhananjay Kimothi
PhD14102	ECE	July, 14	Shiju. S
PhD14103	ECE	July, 14	Tanya Shreedhar
PhD14104	ECE	July, 14	Santhos Kumar A
PhD14105	ECE	July, 14	Prakhar Chatterjee
PhD14106	ECE	July, 14	Akshay Jain

PhD14107	ECE	July, 14	Parag Aggarwal
PhD14108	ECE	July, 14	Syed Shammem Ahmad
PhD14109	ECE	July, 14	Ambuj Mehrish
PhD14110	ECE	July, 14	Gourav Chaturvedi
PhD14111	ECE	July, 14	Ankita Shukla
PhD14112	ECE	July, 14	Rahul Bajpai
PhD1321	ECE	July, 13	Rahul Singhal
PhD1322	ECE	July, 13	Naushad Ansari
PhD1323	ECE	July, 13	Sneihil Gopal
PhD1324	ECE	July, 13	Deepak Sharma
PhD1325	ECE	July, 13	Naveen Gupta
PhD1326	ECE	July, 13	Anupriya Gogna
PhD1327	ECE	July, 13	Manoj Gulati
PhD1330	ECE	Dec, 13	Wazir Singh
PhD1331	ECE	Dec, 13	Yagya Dutt Mishra
PhD1224	ECE	Dec, 12	Hemanta Kumar mondal
PhD1225	ECE	Dec, 12	Md A Maktoomi

List of RAs

Name of the Student	Date of Joining	RA/Intern/PHD
Ravi Sharma	02.06.2014	**Research Associate**
Prakhar Chatterjee	04.06.2014	**Research Associate**
Ajay Shankar	01.05.2014	**Research Associate**
Shubham Saini	21.07.2014	**Research Associate**
Ankush Vashistha	21.07.2014	**Research Associate**
Shubha Sharma	1.08.2014	**Research Associate**

26. Number of post graduate students getting financial assistance from the university.

- MTech(ECE)-64
- PhD(ECE) - 21

27. Does the department obtain feedback from

Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Course wise feedback is taken from individual students twice a semester. Once before the mid sem exams and other before the end sem exams. Individual course feedback is collected though online portal, where each student have to give course wise feedback. A system generated summarization report is generated course wise. The course wise report goes to individual instructors which help them look into the student requirements and do

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the desirable changes. Student feedback points are considered as a basis for rewarding the instructors who are performing well and taking corrective actions wherever desirable.

Alumni and employers on the programmes offered and how does the department utilize the feedback?
Input is taken from recently graduated alumni on the program and their view on the different courses. Feedback is also taken from companies that come for campus placement regarding what deficiencies they found in our graduates. These inputs are compiled and changes are planned to address them. These proposed changes are then discussed in faculty meetings, and subsequently in the Senate for including in the curriculum.

28. Briefly highlight the contributions of the department in generating new Knowledge, basic or applied.
The faculty of the department is deeply involved in research – both applied and basic. The research results are communicated through publications in journals and conferences. List of publications is given separately – their contributions are in areas like wireless, communications, signal processing, medical image processing, radar, etc

29. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

1. Strengths:
a) A core of faculty hired competitively and offered a package of compensation and incentives to build strong research-centric brand for the department/institute.

b) An innovative curriculum that is supportive of experimentation and innovation

2. Weaknesses:
a) As a new institute, lack of structures, processes and cultural attributes that are the hallmarks of the best academic institutions

3. Opportunities: Every weakness is an opportunity (work-in-progress)

4. Challenges: To continue and build on the momentum created towards achieving measures of excellence

30. Future plans of the department

Future Plans -
* grow faculty strength from current to 25 in the next 5 years
* grow B.Tech, M.Tech and Ph.D student #s as well as quality commensurately

2.3 Declaration by the Head of the Institution

Certify that the data included in this Self-Study Report (SSR) are true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

I am aware that the Peer team will validate the information provided in this SSR during the peer team visit.

Signature of the Head of the institution

with seal:

Place:
Date: