

# 50<sup>th</sup> ANNUAL REPORT 2009-2010

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**NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR**  
Mahatma Gandhi Avenue, Durgapur-713209  
West Bengal, INDIA

*Institute of National Importance*  
*under*  
Ministry of Human Resource Development, Government of India

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### Progress at a Glance (2009–2010)

- NIT Durgapur implemented the second phase of reservation for OBC students (17%) and the annual intake in B. Tech. programmes increased from 588 to 676 in the 2009-10 session and in 2010-11, it is scheduled to increase further to 800 (27% OBC reservation). Similar increase was also implemented in M. Tech., MBA and MCA programmes.
- Two new M. Tech. programmes were introduced in 2009-10 academic session; Biotechnology, offered by Department of Biotechnology and “Environmental Science and Technology” coordinated by Department of Geology. Two new M. Sc. Programmes in Physics and Chemistry were also introduced during the session.
- The Institute has decided to start a new M. Sc. programme in Mathematics in the session 2010-11.
- Collaborative activities are in progress with CERN Geneva, NUS Singapore, Caledonian College of Engineering Muscat and a number of premier universities abroad. Faculty exchange, visits of delegation, students’ internship and collaborative research have been taken up.
- The Ministry of Steel, GOI, has instituted a Ministry of Steel Chair Professor and has been sponsoring five scholarships @ Rs. 4000 per month to UG students for a period of five years.
- The faculty members of the Institute have published and acceptance of 239 papers in peer-reviewed journals and also published 205 papers in proceedings of national and international conferences in 2009-10 vis-a-vis 156 and 152 in 2008-09.
- The number of reviewers in peer-reviewed journals and books increased from 59 to 91.
- Thirty three sponsored projects are being executed by the faculty members presently.
- The number of registered PhD scholars increased from 160 to 212 in the last one year.
- Appointment offers were issued for 30 faculty positions.
- Out of 466 B. Tech. students, 409 have been placed through in-campus interviews in the session 2009-2010. In addition, 75 students got their second job.
- In 2009-10 four pre-final year students were selected for summer internship and projects at CERN, Geneva; six students were selected for summer projects in Germany in DAAD scheme and four students were selected for summer internship at NUS, Singapore. Altogether, 18 students participated in summer internship abroad. In 2010-11 thirty five students have been selected for summer internship abroad.
- Fifth Convocation of the Institute was held on November 07, 2009 in which the world renowned Scientist Dr. Lyndon R Evans, Project Leader of the Large Hadron Collider Project at CERN delivered the Convocation Address as the Chief Guest. Dr. K. Kasturirangan, The former Chairman of ISRO, the Indian Space Research Organization and Member of Planning Commission, Government of India was the Guest of Honour. Shri Rathindramohan Roy, Hon’ble Mayor, Durgapur Municipal Corporation and Shri Satish Chandra Tewari, Principal Secretary, Department of Higher Education, Government of West Bengal, were the Distinguished Guests. Professor Bikash Sinha, Chairman, Board of Governors, presided over the function.
- A project on renewable energy has been taken up in collaboration with West Bengal Green Energy Development Corporation Ltd., which includes installation of solar powered street and garden lights and installation of flat plate collectors to produce hot water directly from sunlight. This hot water will be used by the students and also for cooking purpose in the kitchen.

## ANNUAL REPORT 2009–2010

### 1.0 INTRODUCTION

#### 1.1 Mission Statement

*The mission of the Institute is to spread education amongst the students coming from all over India and overseas with diverse social and cultural backgrounds to make them enlightened, enriched, and efficient, so that they can cater to the need of the country, society, and the human race.*

#### 1.2 Objectives

- To modernise the existing laboratories by procuring state-of-the-art equipment
- To set up new laboratories in the emerging areas
- To develop competency of the faculty, officers and staff through training programmes
- To improve teaching-learning process
- To foster research and consultancy
- To collaborate with other institutions and industries
- To revamp the existing curriculum and syllabus of undergraduate and postgraduate programmes with emphasis on market-driven and need-based courses.

#### 1.3 Education System

National Institute of Technology (NIT) Durgapur is a leading Institute in technical education. It offers UG and PG programmes in various disciplines of engineering, technology, science and management. Doctoral programme is also offered in engineering, science, and humanities.

NIT Durgapur is a part of the erstwhile REC system where education and national integration were considered inseparable, with half the seats allocated to the students from the state while the rest were reserved for the students from other states. Seats are also reserved for students from backward communities as per the guidelines of the Government of India. The education system is holistic with equal importance being attached to academic as well as overall development of the students.

The Institute was granted academic autonomy in July 2003 and it awards its own degree. The Senate is the highest policy-making academic body of the Institute.

#### 1.4 New Initiatives

NIT Durgapur has been participating in the World Bank-funded Technical Education Quality Improvement Programme (TEQIP) as a lead institute and has improved its academic infrastructure and quality of human resources. Over the last few years NIT Durgapur gradually evolved from a teaching-centric institution to an institution focusing on both teaching and research. The faculty members were encouraged to intensify their research activities. This resulted in a rapid increase in research output, like publication in peer-reviewed journals and in being selected for sponsored projects. The Institute also initiated collaborative research programmes with esteemed research and academic institutions like CERN, Geneva, Caledonian College of Engineering, Oman, National University of Singapore, and many other academic institutions all over the world and industries like Durgapur Steel Plant. Internship was arranged for the undergraduate students in CERN, Geneva, Germany (DAAD programme) and NUS Singapore. New M. Tech. programmes in Biotechnology and Environmental Science and Technology and M.Sc. programmes in Physics and Chemistry were also initiated. A number of seminars, conferences, workshops and short-term courses were organized and the faculty members were encouraged to visit premier institutions in India and abroad for participation in conferences, short-term courses and training programmes.



## **2.0 AN OVERVIEW**

### **2.1 Historical Background**

National Institute of Technology, Durgapur was established as one of the 17 Regional Engineering Colleges in 1960 as a joint venture of the Government of India and the Government of West Bengal and was registered under the Register of Societies Act. With introduction of cutting-edge technology in the emerging areas, the Institute maintained its momentum with definite mission and vision which enabled it to get the prestigious status of National Institute of Technology under full administrative and financial control of the Government of India with a “Deemed to be University” status with effect from July 03, 2003. The Institute has now been declared as an “Institute of National Importance” by the Govt. of India, vide NIT Act 2007 (29 of 2007) implemented on August 15, 2007.

It started with only four branches of engineering: Civil, Mechanical, Metallurgy, and Electrical Engineering for undergraduate studies in 1960. Chemical Engineering was started in 1964. At present, the Institute offers nine B. Tech. programmes and fifteen M. Tech. programmes, many of which are industry-oriented. Besides, a three-year MCA programme and two-year MBA programme are also offered. The Institute has also introduced two M. Sc. programmes and will start a new M. Sc programme in Mathematics in the session 2010-11.

### **2.2 Location**

NIT Durgapur is located in the heartland of industrial activities and the mineral-rich region of West Bengal, also known as ‘The Ruhr of India’. The city of Durgapur is well connected by rail with Kolkata, 158 km away, and is an important railway station on the main New Delhi-Kolkata route. It is a two and a half hours’ drive from Kolkata airport along Durgapur Expressway and NH 2, and there is a military airport at Panagarh, only 20 km from Durgapur. The place is only an hour’s drive from Tagore’s Santiniketan and has quite a few tourist spots nearby. The climate is moderate.

### **2.3 Campus**

The Institute campus, spreading over 187 acres, is known for its serene environment. Buildings housing the departments and laboratories, residential blocks for faculty and staff, students’ hostels are far outnumbered by the trees in the campus which is self-reliant with facilities like roads, water supply, power distribution network, a market complex, banks and post office.

### **2.4 Administration**

NIT Durgapur is an autonomous institution under the Government of India since July 2003. As per MOA, the Institute is headed by a Director and administered by a Board of Governors. It also has Finance Committee and Building and Works Committee. In the Board, there are representatives from the Government of India, the Government of West Bengal, industries, other institutions, and the faculty.

### **2.5 Academic Programmes**

The National Institute of Technology Durgapur is an Institute of National Importance with a reputation cutting across international boundaries. It runs Bachelor of Technology programmes in Bio-Technology, Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical Engineering, Information Technology, Mechanical Engineering and Metallurgical & Materials Engineering. The duration of each programme is four academic years. Each academic year spreading over the period

from 1<sup>st</sup> July to 30<sup>th</sup> June of the next year is divided into two semesters of about eighteen weeks.

It offers four and six semesters M. Tech. programmes. A full time three-year MCA and a two-year MBA programmes are also being offered since the year 2000 and 2004 respectively. Two full-time two-year M. Sc. programmes have also been on offer since 2009.

## 2.6 Programmes Offered

### 2.6 A. Under-Graduate Programmes

The Institute offers the following eight-semester (four-year) B. Tech. programmes (full-time):

Departments		Degree Offered	Sanctioned Intake
1	Biotechnology	B. Tech.	78
2	Chemical Engineering	B. Tech.	52
3	Civil Engineering	B. Tech.	52
4	Computer Science & Engineering	B. Tech.	78
5	Electrical Engineering	B. Tech.	78
6	Electronics & Communication Engineering	B. Tech.	78
7	Information Technology	B. Tech.	78
8	Mechanical Engineering	B. Tech.	117
9	Metallurgical & Materials Engineering	B. Tech.	65
Total			676

In addition, 65 – 70 seats are filled up by foreign students nominated by the Government of India under various schemes. 50% of the seats are reserved for candidates from West Bengal. 3% of the seats are reserved for physically handicapped candidates from West Bengal. Sons or wards of the employees of paramilitary forces, who have been permanently disabled or killed during hostilities, are given sympathetic consideration subject to fulfilment of eligibility criteria. Admission in these categories is in addition to the sanctioned intake. The remaining 50% seats have been allotted to different states and union territories on population basis. Seats are also reserved for SC (15%), ST (7.5%), and OBC (27%) candidates.

### 2.6 B. Post-Graduate Programmes

#### (a) Full-time programmes

The Institute offers 15 (fifteen) four-semester M. Tech. programmes, six-semester MCA, four semester MBA and 2 four-semester M. Sc. Programmes.

#### (b) Part-time programmes

The Institute offers six-semester part-time postgraduate programmes leading to M. Tech. degree in eight specialisations as mentioned in the table hereunder.

### Eligibility

#### M. Tech. Programmes:

- (i) Departments of Chemical, Civil, Electrical and Mechanical Engineering: B.E. / B. Tech in respective branch of Engineering; or equivalent AMIE (I), AMIChE, etc. with two years of professional experience.

- (ii) Department of Computer Science & Engineering: BE/ B. Tech in CSE, Information Technology, Electronics, Electrical Engineering; or equivalent AMIE (I) in respective branch with two years of professional experience.
- (iii) Department of Electronics & Communication Engineering: (a) Specialization in *Telecommunication Engg.*: B.E./ B. Tech. or equivalent degree in ECE. (b) Specialization in *Microelectronics & VLSI*: B.E./ B. Tech. or equivalent degree in ECE/ CSE/EE/ Electronics & Instrumentation Engineering.
- (iv) Department of Information Technology: B.E. / B. Tech. in IT/CSE/ECE/EE or Instrumentation Engineering.
- (v) Department of Metallurgical & Materials Engineering: (i) Specialization in *Materials Engineering*: BE / B. Tech. in Metallurgical & Materials Engineering, Mechanical Engineering, M. Sc. in applied physics; or equivalent AMIE (I), AMIIM, etc. with two years of professional experience. (ii) Specialization in *Industrial Metallurgy*: B.E./ B. Tech. or equivalent in Metallurgical & Materials Engineering, Mechanical Engineering and Production Engineering; or equivalent AMIE (I), AMIIM, etc. with two years of professional experience.
- (vi) Department of Chemistry (Corrosion Science and Technology): M. Sc. in Chemistry (Pure/applied) or BE/ B. Tech. in Chemical Engineering; or AIC (I) with two years of professional experience.
- (vii) Department of Physics (Advanced Materials Science and Technology): M. Sc in Physics/ Applied Physics/ Electronics or BE/ B. Tech. in Metallurgical Engg. / Materials Engg./ Electronics & Communication Engg. /Mechanical Engg. /Electronics Engg. / Instrumentation Engg. with at least 55% marks or equivalent grade.
- (viii) Department of Mathematics (Operation Research): Degree in any branch of Engineering / Technology/ MCA / M. Sc or equivalent AMIE (I), IIM (I), etc. with two years of professional experience with Mathematics in graduation level.
- (ix) Department of Biotechnology: B. Tech degree in Biotechnology/ Bioinformatics/ Biochemical Engineering/ Food Technology/ Chemical Engineering/ Pharmacy having 65% marks from any recognized University/ Institute.
- (x) Department of Geology (Coordinating department for Environmental Science & Technology): B. Tech./ B.E. in Chemical / Civil/ Mechanical/ Metallurgical / Biotechnology/ Lather Tech./ Food Tech. / Environmental / Pharmacy/ Agricultural / Mining/ Biochemical Engineering with 60% marks; M. Sc. in Environmental Sc./ Chemistry/ Physics/ Geology/ Bio-sciences/ Agricultural Sc. with 55% marks [with mathematics as one of the subjects at least up to Higher Secondary level (10+2 Examination)].

**Sanctioned intake of the Post-Graduate Programmes:****M. Tech.**

SL. NO.	Specialization (Department)	Full time				Full time Sponsred	Part time	Total
		Open	SC	ST	OBC			
1	Biotechnology (Biotechnology)	08	02	01	04	05	00	20
2	Chemical Engineering (Chemical Engineering)	05	03	01	03	05	05	22
3	Corrosion Science & Technology (Chemistry)	05	03	01	03	05	05	22
4	Structural Engineering (Civil Engineering)	05	03	01	03	05	05	22
5	Information Technology (Computer Science & Engineering)	10	03	01	03	05	00	22
6	Electrical System (Electrical Engineering)	05	03	01	03	05	05	22
7	Telecommunication Engineering (Electronics & Communication Engineering)	10	03	01	03	05	00	22
8	Microelectronics & VLSI (Electronics & Communication Engineering)	10	03	01	03	05	00	22
9	Environmental Science & Technology (Geology: Coordinating department)	08	02	01	04	05	00	20
10	Information Security (Information Technology)	10	03	01	03	05	00	22
11	Operations Research (Mathematics)	05	03	01	03	05	05	22
12	Design & Production Engineering (Mechanical Engineering)	05	03	01	03	05	05	22
13	Industrial Metallurgy (Metallurgical & Materials Engineering)	05	03	01	03	05	05	22
14	Physical Metallurgy (Metallurgical & Materials & Engineering)	05	03	01	03	05	05	22
15	Advanced Materials Science & Technology (Physics)	10	03	01	03	05	00	22
	<b>TOTAL</b>	<b>106</b>	<b>43</b>	<b>15</b>	<b>47</b>	<b>75</b>	<b>40</b>	<b>326</b>

**Other Post-Graduate Programmes:**

SL. NO.	Specialization (Department)	Full time				Total
		Open	SC	ST	OBC	
1	Master of Business Administration (MBA)	46	12	5	14	<b>77</b>
2	Master of Computer Applications (MCA)	46	12	5	14	<b>77</b>
3	M. Sc. (Physics)	10	3	2	5	<b>20</b>
4	M. Sc. (Chemistry)	10	3	2	5	<b>20</b>
		<b>112</b>	<b>30</b>	<b>14</b>	<b>38</b>	<b>194</b>

## 2.7 Admission Procedure

### 2.7 A. Under-Graduate Programmes:

Students are admitted exclusively through All India Engineering Entrance Examination (AIEEE) conducted by Central Board of Secondary Education (CBSE), New Delhi. The Seat Distribution Matrix is guided by Ministry of Human Resource Development (MHRD), Government of India.

### 2.7 B. Post-Graduate Programmes:

There are seven types of post-graduate students. Mode of Admission is detailed hereunder.

Types of Student		Mode of Admission
1	Full Time GATE (M. Tech.)	GATE score and Institute level viva-voce
2	Full Time self-sponsored Non-GATE (M. Tech.)	Institute level test and viva-voce
3	Full Time Sponsored (M. Tech.)	Institute level test and viva-voce
4	Part Time Day (M. Tech.)	Institute level test and viva-voce
5	MCA	NIMCET rank
6	MBA	CAT/MAT/XAT score and Institute Level GD/PI
7	M. Sc.	B.Sc. result, Institute level test and viva-voce

## 2.8 Students

Half the students are from the state of West Bengal, while the remaining half is from other states of India as per the regulation of the Government of India. In addition, 66 students were admitted from foreign countries like United Kingdom, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives, Oman, Qatar, Romania, UAE, Mauritius etc.

The students find the environment of the Institute conducive not only to exercise their intellectual capability but also to learn living in cultural diversity and religious heterogeneity. In this era of free market economy India is a part of the global village, not confined to its territory that we see in text books of Geography. Our students researching in higher academic institutions and working in multinational companies have already made their marks in that global village.

In the year 2009-10, the undergraduate and graduate students of the Institute have excelled not only in academics but also in every field one can think of. The students have received several prizes and awards in various other institutes like Indian School of Mines Dhanbad, IIT – Roorkee, IIT – Delhi and many such technical organisations and forums as Engineering Fairs organised by the Birla Industrial & Technological Museum, National Council of Science Museums, Government of India and many more. The NIT Durgapur is proud of producing the brains more than 90% of which gets employed by campus interview itself. Some of the alumni are in the higher ranks in the organisational hierarchy of the corporate sectors in Europe and the USA.

In 2009-10 four pre-final year students were selected for summer internship and projects at CERN, Geneva; six students were selected for summer projects in Germany in DAAD scheme and four students were selected for summer internship at NUS, Singapore. Altogether, 18 students participated in summer internship abroad. In 2010-11 thirty two students have been selected for summer internship abroad.

**Extracurricular Activities:****i. Music Club**

The Music Club is a haven for all music lovers of the college. The club organises several musical events throughout the year. The members participate in the cultural festivals of various colleges. The club organised two quizzes, known as 'Music Wiz,' last year, which drew a large number of participants. The quizzes were closely contested among students of all four batches. A Band Competition was held during Recstasy for Rock enthusiasts. It was judged by popular artistes of the country. A singing competition was also held, both in the Eastern and Western genres, strictly for the students of NIT known as 'NIT Idol'. This was a very popular event and a true showcase of talent. The club also launched its very own website which not only contains information on musical activities of the college but also the latest news in the World of Music.

**ii. Centre for Cognitive Activities**

CCA, the Centre for Cognitive Activities, is the focal point where convergence of all technical and scientific endeavours of the students materialises. As the technical gymkhana of the Institute, this club is a revolution which bridges the gap between knowledge and application. Bulk of the extracurricular activities held in the college all the year round are organised by the CCA, with the objective of probing the dark recesses of the human mind so that the grey cells are stimulated to create, conceptualise and evolve, triggering a rebellion of the new age mind against baseless conventions and meek acceptance.

The CCA family comprises select students from all years headed by three portfolio holders: Convener, General Secretary and Treasurer from the final year. The ultimate focus of the CCA is the organisation of the annual techno-management fest of the Institute, AAROHAN, and to make it bigger and better with each passing year. In addition to this, CCA conducts various innovative events all through the year, to inculcate and unleash intuitive ideas and skills, guiding the students to create an environment to produce a quality resource pool. CCA provides the students, especially the newest entrants to the tech arena, a sound platform to test their strengths in various technical and scientific fields, aids them in their endeavours to achieve, and also helps them in preparing for life after college.

As the strongest link in this chain of technological advancement, CCA successfully organised the 8<sup>th</sup> edition of AAROHAN. Aarohan 2010 saw immense participation from all over the country with all leading institutes like the IITs, IIMs, etc participating. From down south to far west, Aarohan saw enthusiastic participation from all regions of the country. Breathtaking shows, branch specific events, invigorating guest lectures (eg lecture from Nobel Laureate Sir Harry Kroto) were the high points of the Aarohan in the Golden Jubilee Year of NIT Durgapur.

To re-create the magic, and expecting the unwavering support and encouragement of our colleagues, the CCA is set on a course to explore its limits!!

**iii. Enteract Club**

Enteract Club, the official Drama Club of NIT Durgapur. Working successfully for last 2 years, we have established the culture of acting in this technical institute. Still new, we hope to achieve more heights in the years to come. As of now, our club has achieved milestones in the first ever performance at IIT Kharagpur's Spring Fest securing the fourth position in street play. We have been arranging Drama events in Recstasy and have showcased our performances at Teachers' Day, Independence Day, Republic Day and during some fests at our Institute. We have also worked with the NSS and have staged some plays in nearby villages spreading awareness among people about the ill effects of addiction. May this culture rise, let the spirits be high.

#### **iv. Dance Club**

Activities of the Dance Club, NIT Durgapur from April 2009 to March 2010 are as follows:

1. 3<sup>rd</sup> April 2009 'On the floor' event at Rectacy 2009
2. 15<sup>th</sup> August 2009 Independence Day Celebration
3. 5<sup>th</sup> Sept. 2009 Teachers' Day
4. 19<sup>th</sup> Sept. 2009 'Street Dancing' at VERVE 2009
5. 22<sup>nd</sup> Jan. 2010 'Centrifuge' event Springfest 2010 at IIT Kharagpur
6. 26<sup>th</sup> Jan. 2010 Republic Day Celebration
7. Feb. 2010 DSP Trade Fair
8. March 2010 Holi Celebration by Rajbhasha Club
9. 7<sup>th</sup> March 2010 Aarohan Cultural Nite
10. 22<sup>nd</sup> March 2010 'On the floor' event at Rectacy 2010

#### **v. SAE- Society for Automotive Engineering (NIT Durgapur Chapter)**

SAE is a communion of students who have passion and vision in the field of automotive engineering and are bound with a common aim of making a mark in the automotive world. Club activities are held throughout the year that give the fresh talents in this Institute a place to hone their skills and master it too. The Auto Quiz held on the 30<sup>th</sup> October, 2009 gave the auto-buffs of the Institute a stage to display their knowledge on automobiles and also a wild card entry to the winner into the second round of the Auto Quiz to be held during the Autofest Motor Zundung. Motor Zundung that was held from 12<sup>th</sup> to 14<sup>th</sup> February, 2010 had a host of events over the span of three days, ranging from robotics to paper presentations, seminars, workshops, auto-quizzes and many more. Motor Zundung organised an interactive seminar held by Professor P.K. Mallick of the University of Michigan, Dearborn, USA, who gave a lecture on Lightweight vehicles and their uses. Students presented their varied ideas and observations through paper presentation, Schaffen and various other events; thus the Institute witnessed three days of informative fun. SAE also organised a two-day workshop on autonomous robotics and mobibotics (controlling of robots using mobile phones as a remote) on the 20<sup>th</sup> and 21<sup>st</sup> of February, 2010, held by Imagineer India in association with IIT Delhi which gave our budding engineers a thorough command over the field. Kits were provided to students to give practical knowledge of designing and operating such a robot.

#### **vi. RADIO NITROZ**

Running successfully for 3 years, RADIO NITROZ is NIT Durgapur's very own Campus Radio Station, the third of its kind in India among all the technical institutes after NIT Trichy and IIT Kanpur. During the 3-4 hour transmission in the evening from Monday to Friday, the campus people are kept updated with campus news, interesting shows, and live discussions. The aim of this programme is to help the audience share their attitudes and views on a common platform. Another exciting programme initiated by RADIO NITROZ in the last two years is the celebration of the festival of Diwali in association with Students' Gymkhana. The celebration involves Radio Rangoli competition in the morning followed by Puja and Cracker Show in the evening at Oval. RADIO NITROZ has also been an integral part of Verve, Motor Zundung, Rectacy, and Aarohan as Radio Corner, providing students with some fun-filled events to relax their mood.

### vii. Maths n Tech club

The Maths 'N' Tech Club was formed in the year 2004 with the aim of promoting mathematics and technology among the students. The faculty members of the Mathematics Department and some students laid the foundation of what would be one of the fastest growing student initiatives at the Institute. Through its activities it aims to bring to the foreground the fun side of mathematics and inform students about the latest and emerging technologies. The different activities of the club include organising events which are well distributed throughout the academic year with a national level techno-management fest, ANK, in the odd semester. Apart from the usual events the club also organises Mock CATs and other similar sessions for the benefit of the students. Recently the club has been trying to increase the interaction between the students and the alumni of the Institute. The club is run by the students with guidance from the faculty.

### viii. Literary Circle

The flagbearers of Creativity and Imagination of the Institute, the Literary Circle has been making inroads into various fields since its inception in 1995. With activities ranging from organising Verve, an annual literary-cum-youth fest of NITD, one of the biggest of its kind and the bi-annual 'Dejavu', the official newsletter of the Institute and StarTalk, a panel discussion with celebrities, and 'EPISODE', the yearbook of the institute, "LC" is one of the most active clubs of the campus. With a plethora of talents working tirelessly, success has been a path taken by means of words and words alone.

### ix. GNU/Linux Users' Group

GNU/Linux Users' Group, NIT Durgapur was formed to popularise Linux and Open Source softwares beyond the silicon branches and to the masses in common. It is the largest and most active club of its kind in an Institute in all of East India. Having one of the most active mailing lists on open source software tech support (nitdgplug), the club holds a host of activities throughout the year, culminating in a celebration of Free and Open Source software on the first weekend of February. We also have a software repository for OSES like OpenSUSE and Ubuntu. The other activities include various workshops, install fests and Codecracker (our online programming competition - designed and run by the students!). We also encourage students to switch to open source alternatives and use linux based operating systems. That, along with motivating students to contribute to the community is what drives us. Also, our association with IOTA and the West Bengal Government strengthens our resolve to become the software backbone of the Institute and spread awareness about FOSS.

### x. Quix Inc

Quiz Inc is the official quiz club of NIT Durgapur. It was set up in the year 2004 by a group of enthusiastic and like-minded students with the aim of spreading a love and interest for quizzing among all students of the Institute. The club has done a great deal of work in order to fulfill this mission. Throughout the year it organizes various events: both intra-college and inter-college quizzes that are not only popular but have been widely acclaimed. Although the club is a small one, with just 13 members in total, it is one of the most active. Quiz Inc holds various fun-filled and knowledgeable activities throughout the academic calendar. Some of the major events organised by Quiz Inc in the year 2009-10 include the following:

- **NFQ-Need for Quizzing**: A yearlong quiz championship with intra-college quiz contests held once every fortnight.
- **CONVOQUIZ**: A quiz where current quizzards of the college fought it out against ex-students.
- **RECSQUIZZIT**: A series of 3 quizzes held at Recstacy, the cultural fest of NIT Durgapur
- **SUMMER BONANZA**: An online competition where students from all over the country participate.



Members of Quiz Inc also participate in quiz competitions all over the country and have brought home various prizes as well. In "The Hindenburg Line", a nationwide online quiz contest organized by SCMHRD Pune., students of NIT Durgapur participated and went on to become the Best Performing Institute in the country. Members of the club also participated in Tata Crucible business quiz and qualified for the finals from Kolkata. In the year 2005, Quiz Inc had collaborated with the prestigious Karnataka Quiz Association to host Exquizzit.

## 2.9 Examination & Evaluation

The Institute follows semester system of examination.

The undergraduate courses are of eight-semester (four year) duration. The Institute has been upgraded to National Institute of Technology, Durgapur with Deemed University status and grade system of evaluation has been adopted for the undergraduate students who have been admitted in the year 2003 and onwards. The students are graded with Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA). The SGPA of a semester indicates the academic performance of the student in that semester and the CGPA indicates the academic performance of the student from the beginning upto the current semester. They are conferred with the degree of Bachelor of Technology (B. Tech.) at the completion of the course.

The postgraduate engineering courses are of four-semester duration for the full-time students and six-semester duration for the part-time students and lead to the degree of Master of Technology (M. Tech.). All the students of these postgraduate courses are evaluated by Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA).

The Master of Computer Applications (MCA) course is of six-semester duration and the students are evaluated by Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA).

The Master of Business Administration (MBA) course is of four-semester duration and the students are evaluated by Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA).

The Master of Science (M. Sc.) course is of four-semester duration and the students are evaluated by Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA).

## 2.10 Placement

The Institute provides employment opportunities to the students through the Department of Training, Placement, and Students Welfare headed by a Professor, 484 (UG & PG) students have been placed in the academic session 2009-2010. In addition to that 75 (UG & PG) students got a 2nd job. Most of the global players, eg MICROSOFT, IOCL, CIL, NTPC, NMDC, BALMER LAWRIE, MECON, BPCL, WIPRO, IBM, DRDO, L&T, TCS, SAMSUNG, ONMOBILE, INFOSYS, VEDANTA, CESC, MAHINDRA & MAHINDRA, TATA MOTORS, TATA POWER, BAJAJ AUTO, ESSAR GROUP, SCHNEIDER ELECTRIC, HERO HONDA and many more were the recruiters in recent past who visited the campus for recruitment of the bright students.

## 2.11 Games and Sports

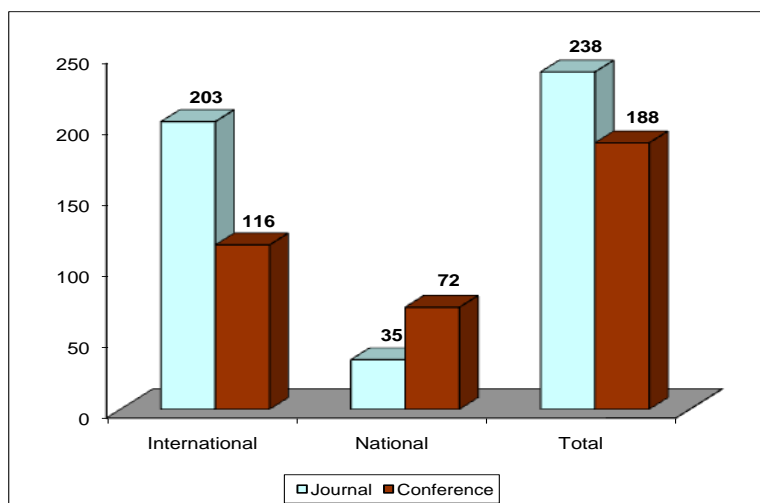
The Institute lays emphasis on the promotion of sports and games amongst the students as an essential co-curricular activity and also promotes interaction between different NITs and other Engineering colleges of the country.

The Department of Physical Training provides training facilities to all students, staff and the family members of the Institute. It has excellent infrastructure facilities for both outdoor and indoor games. Students are trained in various games and sports by well-experienced and qualified coaches. The Institute has three gymnasiums equipped with sufficient number of equipment, and the playgrounds (The Lords & The Oval) always bubble with outdoor activities like football, cricket, basketball and athletics. Concrete court facilities are also available in tennis, basketball and badminton. Flood light facility is provided to all the outdoor games. The central playground (The Oval) accommodates a standard athletic track, an excellent pavilion, and facilities for all athletic events.

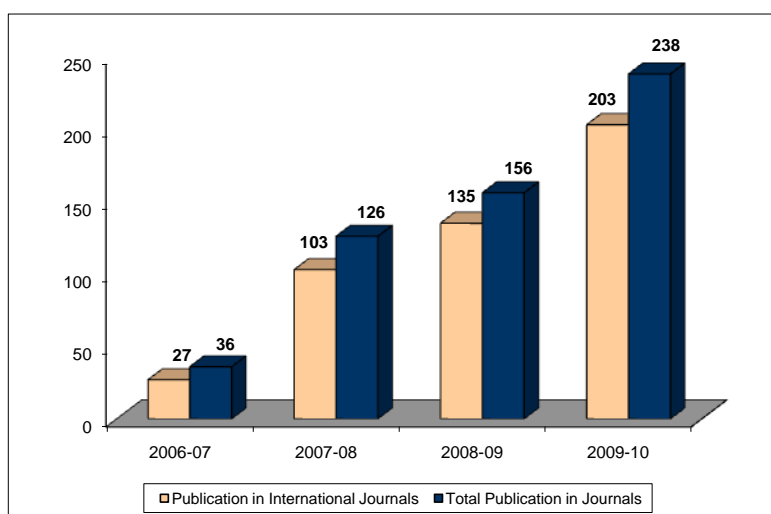
## 2.12 Staff Position

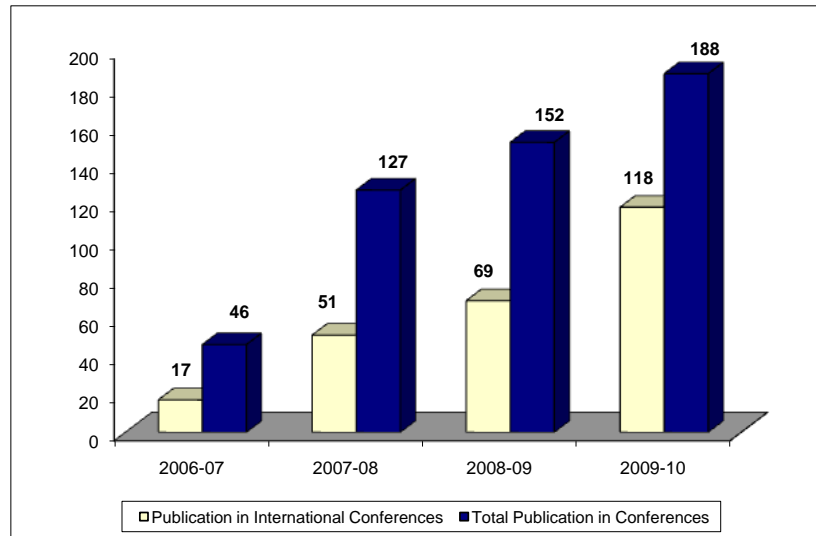
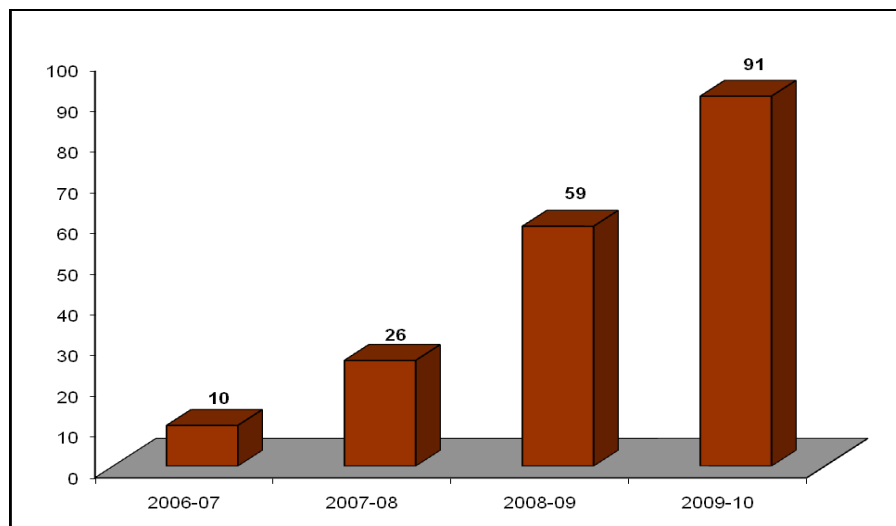
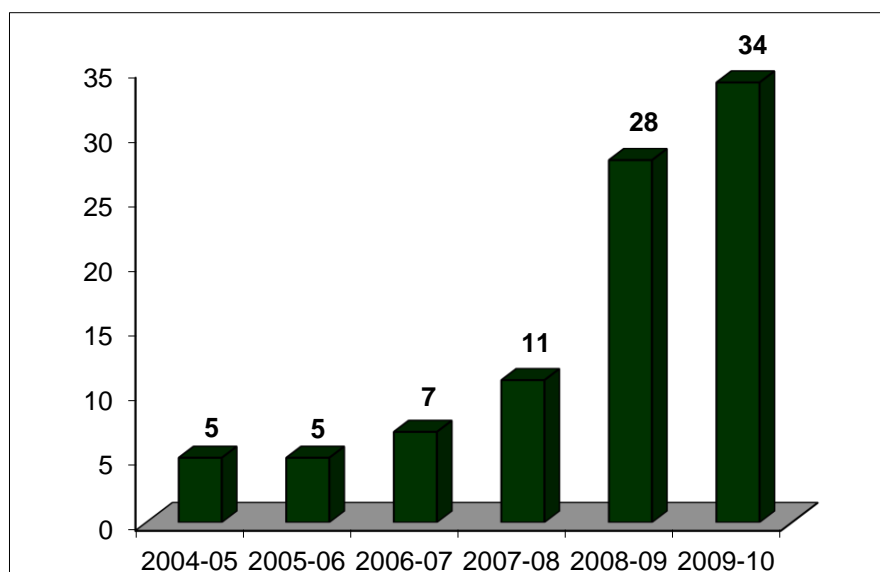
The Staff position (both teaching and non-teaching) on date of the Institute is given in detail in items 3.1 & 3.2.

## 2.13 Notable Achievements using Graphs, Charts, Diagrams:



**Fig. 1 Publication in journals and conference proceedings (2009-2010)**



**Fig. 2 Publication in journals in the last four years****Fig. 3 Publication in conferences in the last four years****Fig. 4 Reviewers of journals/books during the last four years****Fig. 5 Number of sponsored projects during the last six years**

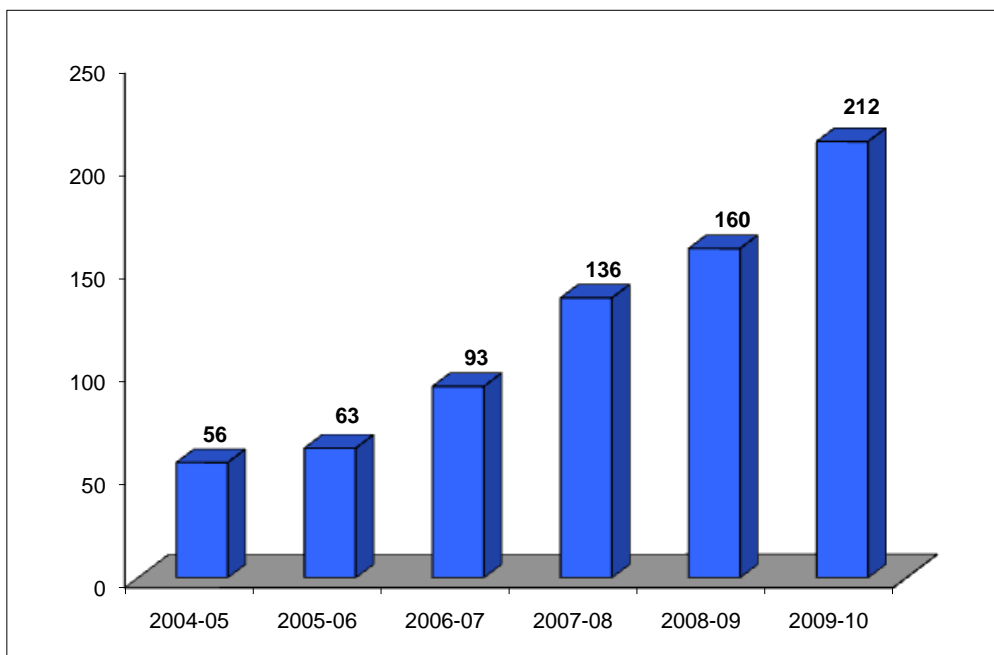


Fig. 6 Number of registered PhD scholars during the last six years

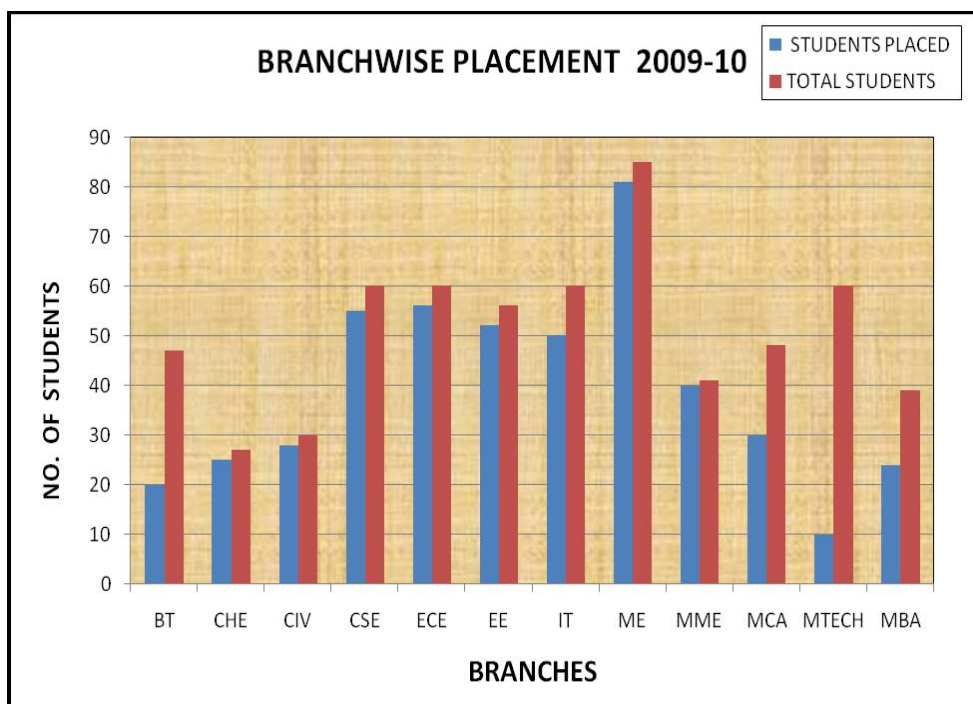


Fig. 7 Placement of students during 2009-2010

### **3.0 THE STAFF**

#### **3.1 Academic Staff (Teaching)**

The academic Staff (teaching) of the Institute consists of highly qualified faculty members. The details of faculty position are given in Annexure 11.5(a) to 11.5(d).

#### **3.2 Non-academic Staff (Non-teaching)**

The non-academic Staff (non-teaching) of the Institute consists of competent officers, technical and administrative persons. The details of the non-academic staff position are given in Annexure 11.6(a) to 11.6(f).

#### **3.3 Training Status**

The Institute provides ample opportunities to the Faculty (i) to undergo higher studies under QIP scheme of the Govt. of India and also under Study Leave Scheme, (ii) to attend Seminars, Conferences, Short-Term Programmes etc. in India and abroad and (iii) to undergo Industrial Training. Some details are given in Annexure 11.7(a) & 11.7(b).

For the Non-teaching staff also some scope is in existence for training inside and outside the Institute. The details are given in Annexure 11.7(c).

#### **3.4 Placement of Staff for Academic excellence**

To encourage teaching and non-teaching staff, the Institute provides opportunities in the form of leave for higher studies/research and taking up research projects from outside agencies. Faculty members and staff of the Institute are also encouraged to attend summer and winter schools, seminar, workshops etc. on the emerging areas. Research papers are regularly published in national and international journals. The details of publications, doctoral programmes, research projects, etc. are given in Annexure 11.4(a) to 11.4(h).

## 4.0 TEACHING PROGRAMMES

### 4.1 Programmes Offered

The programmes offered by the Institute have already been mentioned in item number 2.6. For further elaborations item numbers 11.8 (a) and 11.8 (b) may kindly be referred to.

### 4.2 Programme-wise Enrolment with Gender, Caste Break-up

#### 4.2 A1. Enrolment in B. Tech. Programmes during 2009–2010 Session (Genderwise):

Semester	BT	ChE	CE	CSE	ECE	EE	IT	ME	MME	Total
B. Tech. I & II	43 (09)	53 (11)	59 (07)	97 (13)	92 (23)	86 (19)	86 (16)	135 (06)	54 (07)	705 (111)
B. Tech. III & IV	51 (18)	42 (08)	47 (03)	76 (10)	77 (09)	72 (16)	66 (13)	121 (05)	56 (07)	608 (89)
B. Tech. V & VI	52 (19)	34 (11)	39 (04)	65 (06)	69 (05)	61 (10)	53 (07)	90 (05)	39 (07)	502 (74)
B. Tech. VII & VIII	47 (10)	30 (07)	32 (03)	62 (10)	60 (07)	62 (08)	61 (14)	90 (08)	42 (01)	486 (68)
<b>Total</b>	<b>193</b> (56)	<b>159</b> (37)	<b>177</b> (17)	<b>300</b> (39)	<b>298</b> (44)	<b>281</b> (53)	<b>266</b> (50)	<b>436</b> (24)	<b>191</b> (22)	<b>2301</b> (342)

(Number of female students indicated in paranthesis; the total number is inclusive of the number of girl students)

#### 4.2 A2. Enrolment in B. Tech. Programmes during 2009–2010 Session (Castewise):

Dept.	B. Tech. I & II Semesters					B. Tech. III & IV Semesters					B. Tech. V & VI Semesters					B. Tech. VII & VIII Semesters				
	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
<b>BT</b>	19	10	5	9	43	31	11	7	2	51	41	8	3	---	52	39	5	3	---	47
<b>ChE</b>	34	7	3	9	53	27	6	3	6	42	26	6	2	---	34	23	5	2	---	30
<b>CE</b>	39	7	4	9	59	32	7	3	5	47	29	7	3	---	39	23	6	3	---	32
<b>CSE</b>	68	12	4	13	97	56	9	4	7	76	56	6	3	---	65	52	8	2	---	62
<b>ECE</b>	60	12	6	14	92	55	12	4	6	77	55	10	4	---	69	47	9	4	---	60
<b>EE</b>	55	12	6	13	86	51	11	5	5	72	48	10	3	---	61	51	8	3	---	62
<b>IT</b>	53	12	5	16	86	45	10	6	5	66	41	8	4	---	53	50	7	4	---	61
<b>ME</b>	86	16	10	23	135	84	17	10	10	121	67	14	9	---	90	71	14	5	---	90
<b>MME</b>	28	9	5	12	54	37	8	5	6	56	27	7	5	---	39	33	6	3	---	42
<b>Total</b>	<b>442</b>	<b>97</b>	<b>48</b>	<b>118</b>	<b>705</b>	<b>418</b>	<b>91</b>	<b>47</b>	<b>52</b>	<b>608</b>	<b>390</b>	<b>76</b>	<b>36</b>	<b>----</b>	<b>502</b>	<b>389</b>	<b>68</b>	<b>29</b>	<b>----</b>	<b>486</b>

**4.2 B1. Enrolment in M. Tech. & M. Sc. Programmes, 2009 – 2010 (Gender wise):**

Semester	ChE	CE	EE	ME	MME (I M)	MME (ME)	BT	IT	CH	M	CSE	ECE (TELE)	ECE (VLSI)	Geo (EST)	PH	TOT
<i>M. Tech. I &amp; II</i>	14 (3)	10 (1)	20 (2)	12 (1)	5	2	19 (5)	20 (12)	0	11 (2)	18 (5)	20 (3)	16 (6)	7 (2)	11 (2)	185
<i>M. Tech. III &amp; IV</i>	7 (2)	4 (1)	15 (3)	10	1	0	0	16 (3)	2 (1)	16 (5)	20 (9)	19 (3)	13 (6)	0	2	125
<i>M. Tech. V &amp; VI</i>	2	0	1 (1)	5	4	1	0	0	0	17 (5)	0	0	0	0	0	30
<i>M.Sc. I &amp; II (PH, CH)</i>	0	0	0	0	0	0	0	0	8 (4)	0	0	0	0	0	7 (2)	15

(Number of female students indicated in paranthesis; the total number is inclusive of the number of girl students)

**4.2 B2. Enrolment in M. Tech. & M. Sc. Programmes, 2009– 2010 (Caste wise):**

Dept./Year	I & II					III & IV					V & VI				
	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
ChE	9	3	0	2	14	5	1	0	1	7	2	0	0	0	2
CE	6	0	1	3	10	4	0	0	0	5	0	0	0	0	0
EE	14	3	1	2	20	13	1	0	1	15	1	0	0	0	1
ME	7	2	0	3	12	7	3	0	0	10	5	0	0	0	5
MME (IM)	5	0	0	0	5	1	0	0	0	1	4	0	0	0	4
MME (ME)	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1
CH	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0
M	9	1	0	1	11	13	2	0	1	16	17	0	0	0	17
CSE	12	3	1	2	18	15	2	1	2	20	0	0	0	0	0
BT	15	1	0	3	19	0	0	0	0	0	0	0	0	0	0
IT	15	2	0	3	20	11	3	0	2	16	0	0	0	0	0
PH (AMST)	8	0	0	3	11	2	0	0	0	2	0	0	0	0	0
ECE (TELE)	14	1	1	4	20	15	2	1	1	19	0	0	0	0	0
ECE (VLSI)	13	2	0	1	16	9	2	1	1	13	0	0	0	0	0
Geo (EST)	4	2	0	1	7	0	0	0	0	0	0	0	0	0	0
M. Sc. (PH)	6	0	0	1	7	0	0	0	0	0	0	0	0	0	0
M. Sc. (CH)	7	0	0	1	8	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>146</b>	<b>20</b>	<b>4</b>	<b>30</b>	<b>200</b>	<b>97</b>	<b>16</b>	<b>3</b>	<b>9</b>	<b>125</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>

**4.2 C1. Enrolment in MCA Programme during 2009 – 2010 Session (Gender wise):**

Master of Computer Applications	I & II Semester	III & IV Semester	V & VI Semester
	59 (6)	60 (8)	48 (6)

(Number of female students indicated in paranthesis; the total number is inclusive of the number of girl students)

**4.2 C2. Enrolment in MCA Programme during 2009 – 2010 Session (Caste wise):**

Dept	MCA I & II					MCA III & IV					MCA V & VI				
	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
MCA	34	10	2	13	59	41	9	4	6	60	33	7	4	4	48

**4.2 D1. Enrolment in MBA Programme during 2009 – 2010 Session (Gender wise):**

Master of Business Administration	I & II Semester	III & IV Semester
	68 (29)	40 (11)

(Number of female students indicated in paranthesis; the total number is inclusive of the number of girl students)

**4.2 D2. Enrolment in MBA Programme during 2009 – 2010 Session (Caste wise):**

Dept	MBA I & II					MBA III & IV				
	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
MBA	45	10	2	13	68	37	0	1	2	40

**4.2 E. Enrolment of Research Scholars for PhD work during 2009–10 Sessions:**

SL. NO.	Branch of Research Study	Gender Break Up		Caste Break Up			Total
		Male	Female	SC	ST	OBC	
1	Biotechnology	7	-	-	-	-	7
2	Chemical Engineering	1	2	-	-	-	3
3	Chemistry	2	2	-	-	-	4
4	Civil Engineering	1	-	-	-	-	1
5	Computer Science & Engineering	0	2	-	-	-	2
6	Electrical Engineering	1	1	-	-	-	2
7	Electronics & Communications Engineering	3	1	-	-	-	4
8	Geology	-	1	-	-	-	1
9	Humanities & Social Sciences	3	0	-	-	-	3
10	Management Studies	10	2	-	-	-	12
11	Mathematics	4	-	-	-	-	4
12	Mechanical Engineering	1	-	-	-	-	1
13	Metallurgical & Materials Engineering	3	1	-	-	-	4
14	Physics	4	0	-	-	-	4
<b>TOTAL</b>		<b>40</b>	<b>12</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>52</b>



### 4.3 Admission Statistics – UG/PG Programmes, Programme-wise

The details of the admission statistics is given in Annexure – 11.8(c)

### 4.4 Students' Total Strength

SI No	Name of the Courses	Total Number of Students
1	Bachelor of Technology	2301
2	Master of Technology	340
3	Master of Computer Applications	167
4	Master of Business Administration	108
5	Master of Science	15
TOTAL		2931

### 4.5 The Hostels

Staying in hostels is mandatory for all undergraduate students of the Institute. Accommodations are provided to GATE-qualified PG students, too. The Institute has seven halls of residence for the male students of which five halls are of 250 seats capacity each, one is of 360 seats capacity and the other can accommodate 120 students. Three of these halls have single-seated rooms for senior students.

The Institute has also two halls of residence for female students which can accommodate 126 students each with one hostel having single-seated rooms.

One boys' hostel with a capacity of 740 seats and one girls' hostel with a capacity of 264 seats are under construction. Capacity expansion of Hall-1, 2 & 5 (all boys' hostels) is in progress, which will enhance the accommodation capacity of 504 seats.

### 4.6 Scholarships/Assistance

The Department of TPSW helps the students avail several scholarships under various schemes which are listed in the annexure 11.9(a). Moreover, the Institute provides merit-cum-means scholarship to some of the needy students of the Institute.

### 4.7 Games and Sports

The Institute organised various intra-NIT tournaments throughout the year in the fields of football, volleyball, basketball, badminton, table tennis, cricket, chess and athletics. In the year 2009-2010, the Institute organised All India Inter NIT Cricket Tournament jointly with NIT Rourkela during December 16-20, 2009 and participated in the following All India inter-NIT tournaments.

- Inter-NIT Football tournament, NIT Hamirpur & Kurukshtra during December 14-16, 2009
- Inter-NIT Volleyball, Athletics tournament, NIT Surathkal during December 14-17, 2009
- Inter-NIT Kabaddi tournament, NIT Rourkela during December 13-16, 2009
- Inter-NIT Basketball, Chess tournament, NIT Surat during December 12-14, 2009
- Inter-NIT Badminton tournament, NIT Allahabad during December 15-17, 2009
- Inter-NIT TableTennis tournament, NIT Calicut during December 21-24, 2009
- Inter-technical collegiate football tournament, ISM Dhanbad during October 30-November 01, 2009

#### 4.8 Awards

The details of the awards received by the students and the faculty are given in Annexure 11.9(b).

#### 4.9 Examination Details

Written examinations are held at the end semester (3 hour duration) for the theory papers. Question papers are set internally and moderated by the respective Departmental Academic Committee (DAC). The Institute provides central arrangements for B. Tech. examinations. The postgraduate examinations are being conducted by the respective departments from the academic year 2008-09, with partial support from the Institute, whenever necessary. The students are also continuously assessed through class tests, viva-voce, and class attendance. For the laboratory and sessional classes, the assessments are continuous and supported by viva-voce test /examination at the end of the semester. The methods of the evaluation systems on such assessments are given below.

##### **SGPA- CGPA System**

All the subjects in a semester carry credit units depending on the contact hours per week and nature (lecture/ tutorial/ sessional/ laboratory) of the class. The full marks for all the subjects both theoretical and sessional/laboratory are 100. The percentage mark of a theoretical subject consists of 30% by continuous assessment, and 70% through end semester examination. The total marks obtained in a subject are converted to appropriate letter grade by the departmental academic committee (DAC) and despatched for result compilation. In general, the number to grade conversion and the corresponding grade value is as follows:

90 and above: <b>Ex</b> (10);	80-89: <b>A</b> (9);
70-79: <b>B</b> (8);	60-69: <b>C</b> (7);
50-59: <b>D</b> (6);	40-49: <b>P</b> (5).

Below 40 in theory subject or below 50 in sessional/ laboratory: F (0); Absent: X (0).

The product of the grade value and the credit unit of that particular subject is the grade point earned by the student in that subject. The total grade point (TGP) is the summation of all such grade points. Semester grade point average (**SGPA**) = **(TGP) / Total credit unit** of the semester, rounded off to the second place of decimal. If the candidate clears all the subjects, his SGPA is marked passed in the grade sheet, otherwise marked supplementary. Such candidates are allowed to appear in the supplementary examinations of the subjects in which they have failed. Fresh grade sheet is issued for such candidates with improved SGPA. The grade obtained by the candidate in the subjects for which he/she had appeared for the supplementary examination are decreased by one step at the time of compilation of the supplementary examination results. Unsuccessful candidates in the supplementary examination are required to repeat the semester through readmission. Two such readmissions are permitted in the whole undergraduate studentship. The CGPA is also indicated in the grade sheet, which is the indicator of the student's continuing performance given by the ratio of **the total grade point scored** by the student up to the current semester and **the total credit unit of all the subjects** up to the current semester. Based on the CGPA at the end of the final semester the classes awarded are as follows: **CGPA ≥ 8.00** *First class with Distinction*; **8.00 > CGPA ≥ 6.50** *First class*; the rest of the passed candidates get *Second class*.

Similar system is followed for the M. Tech., MBA, MCA and M.Sc. courses. In some special project-based courses in MBA, the 70/30 ratio as indicated above is changed according to need.

The results of the end semester examinations (both undergraduate and postgraduate) are compiled centrally by the Examination Cell.

#### 4.10 Training and Placement

The Institute provides industrial training and placement to the students through the Department of Training, Placement, and Students' Welfare. The students are given an insight of the corporate industry via various vocational training programmes facilitated by the department. The department believes that such an insight is quite crucial and helps the students in understanding the professional aspects along with the technical details of their probable future jobs. Along with training sessions (ranging between 3 to 5 weeks), the department also organises plant visits to various organizations in and around Durgapur. Apart from providing industrial training, the department also helps the students in preparing for campus recruitment drives by developing their communication and interpersonal skills through certain development programmes, which include conducting mock group interviews. It also takes care of inviting reputed firms from all over to hire students through their campus recruitment drives.

### 5.0 RESEARCH AND DEVELOPMENT ACTIVITIES

#### 5.1 Ph.D. Programmes – Existing and Proposed

##### Existing:

Vide Annexure – 11.4(g)

##### Proposed:

##### Department of Biotechnology

- Biofuels
- Bionanotechnology
- Cancer Biology
- Environmental Microbiology and Biotechnology
- Microbial Pigments
- Plant developmental Biology and signal transduction
- Screening of Novel Enzymes

##### Department of Chemical Engineering

- Biochemical Utilisation of Petroleum Wax (Biochemical Conversion / SCP Production)
- CFD modelling of Pyrolysis, Combustion and Gasification of Coal and Biomass
- Design of Three Phase Fluidised Bed Combustion Equipment for Colloidal Fuels (Coal-Oil Suspension)
- Diesel Particulate Filter-A CFD Modelling
- Dynamic modelling of integrated coke-oven wastewater treatment plant
- Fluidized Bed Combustion
- Modelling & Simulation
- Nanofiltration
- Modelling & Simulation of Integrated physico-chemical and biological treatment of wastewater
- Modelling & Simulation of lactic acid production in membrane-integrated hybrid system
- Production of Biodegradable Plastics (PLLA) from Cheese Whey
- Pyrolysis of weeds
- Removal of phenol using shale
- Slurry Flow Modelling

##### Department of Chemistry

- Application of Fenton's, Lime & Biological Treatment & their Comparative Assessment for the Treatment of Textile and Dye Wastewater"

- Application of Photo-Fenton's Oxidation & Biological Oxidation for Degradation of Selected Pollutants Present in Petro-Chemical & Coke-Oven Wastewater.
- Corrosion chemistry
- Development of a suitable treatment scheme of common effluent generating from iron & steel, Thermal Power Plants and Chemical industries located in Durgapur industrial area.
- Development of natural fibre reinforced polyester composite material.
- Evaluation of Arsenic distribution through food chain contamination.
- Fluorescence Spectroscopy
- Kinetics and mechanism of inorganic and bioorganic reactions
- Spatial and Temporal Variations of Ambient Air Quality
- Surface Chemistry
- Synthesis and application of nonmaterial's for the reduction of environmental contaminants.
- Synthesis and Characterisation of Cu- & Fe complexes

#### **Department of Civil Engineering**

- Computational Mechanics of Concrete Structures
- Computational Mechanics of laminated Composite Structures
- Computational Mechanics of Shell Structures under Lateral load
- Development of Smart Concrete Structures using Shape Memory Alloy to withstand Time Dependant Effects
- Experimental mechanics of Concrete Composites.
- NDT and evaluation of Concrete Structures /Advanced materials.
- Structural concrete both with conventional & Non-Conventional (Bio & Non-Bio degradable) Materials-FRC, Polymer Concrete, Assessment & Rehabilitation of Damaged Concrete Structures etc.

#### **Department of Computer Science & Engineering**

- Mobile Computing
- Software Engineering
- Testing and Verification
- VLSI System Design

#### **Department of Electrical Engineering**

- AGC with renewable energy systems, FACTS and PSS in restructured power systems
- ELD, Evolutionary optimization techniques
- Electrical Power Systems State Estimation, Detection and Identification of bad data etc.
- Electromagnetic Levitation
- FACTS
- Investigation of Haematological disorders from blood cells using soft computing techniques
- On-line Monitoring of Partial Discharge in Transformer Oil
- Optimal Power Flow Studies
- Power System Stabilizer
- Price Forecasting
- Side Lobe Reduction in Antenna Arrays
- Small Signal Angle Stability
- Synthesis and Characterization of Lanthanum Doped Barium Titanate Zirconate
- Modelling of breakdown voltages using soft computing techniques
- Unification of field forces and to explore some of the unanswered phenomena in nature and science

#### **Department of Electronics & Communication Engineering**

- Antenna
- VLSI
- Wireless Communication

**Department of Geology**

- Environmental impact on coal mining areas
- Groundwater availability and its management
- Structural Geology & Tectonics of selected areas in Rajasthan
- Urban road transport noise

**Department of Management studies**

- Human resource management
- Common property resource management

**Department of Mathematics**

- Bio-mathematics
- Finite Field and Design
- Fixed Pointy Theory
- Functional Analysis
- Fuzzy mathematics
- Image processing
- Information and Coding Theory
- Operations Research
- Optimization of dynamics system
- Population Dynamics
- Statistical Analysis
- Theoretical & Computational Fluid Dynamics
- Uncertainty Theory

**Department of Mechanical Engineering**

- Mobile Robot Navigation
- Soccer playing robots
- Soft Computing
- Fault diagnosis, detection and isolation

**Department of Metallurgical & Materials Engineering**

- Corrosion fatigue/environmental assisted cracking of aluminium alloys and stainless steels and their weldments.
- Development of TiC reinforced aluminium based metal matrix composite with and without a second reinforcement.
- Salt induced hot corrosion of nickel based super alloys.
- Semi-solid heat treatment of Al alloys.

**Department of Physics**

- Functionalization of Carbon Nanotubes, Preparation of Hybrid Structures with Carbon Nanotubes, Characterization and Study of Optical and Electrical Properties.
- MD Simulation and DFT Study of Mechanical Properties of Carbon Nanotubes and CNT-Polymer Composites
- Synthesis and Characterization and Study of Optical and Nonlinear Optical Properties of Semiconducting and Metallic Nanoparticles and Quantum Dots
- Synthesis of Metal Nanoparticles by Laser Ablation and Study of Optical Properties
- Studies of the effect of electric and magnetic fields on liquid crystals by polarizing light microscopy
- Low temperature characterization of nano-composites, conducting polymers and disordered alloys
- Non-linear optical frequency conversion techniques for characterization of non-linear optical materials
- Development and characterization of nanomaterials using laser
- Synchronous communication system, studies on multiphase oscillator, nonlinear dynamics
- Studies on phenomenology of  $Z'$  –Boson and B-meson decays, phenomenology of massive neutrinos
- Synthesis and characterization of nanostructured materials

## 5.2 Details of PhDs done so far

Vide Annexure - 11.4(h)

## 5.3 Proposed Plan for Research

### Department of Biotechnology

- Enzyme Inhibition studies on Polyphenoloxidase
- Exploration and Exploitation of microbial catabolic potentials for the bioremediation of petroleum hydrocarbons
- Extraction, purification and characterization of antioxidants
- Kinetic studies of Microbial degradation of Phenol
- Plant developmental Biology and signal transduction
- Studies on the etiopathogenesis of gall bladder carcinoma in eastern India

### Department of Chemical Engineering

- Biochemical Utilisation of Petroleum Wax (Biochemical Conversion / SCP Production)
- Design and Analysis of Semi Fluidized Bed Bioreactors
- Design of Three Phase Fluidised Bed Combustion Equipment for Colloidal Fuels (Coal-Oil Suspension)
- Diesel Particulate Filter-A CFD Modelling
- Fluidized Bed Combustion
- Gasification of coal and biomass
- Modelling nanofiltration of arsenic removal by membrane-integrated hybrid system
- Process Intensification towards sustainable technology
- Production of Biodegradable Plastics (PLLA) from Cheese Whey
- Pyrolysis of weeds
- Realistic nanoseparation modelling through on-line streaming potential measurement
- Removal of phenol using shale
- Studies on Immobilised Cell / Enzyme Nanoparticles

### Department of Chemistry

- Application of nonmaterial's for the removal of Mercury from Wastewater
- Corrosion chemistry
- Cryobiology
- Fluorescence Spectroscopy
- Kinetics and mechanism of inorganic and bioorganic reactions
- Kinetic and mechanistic study of fast reactions by stopped-flow spectrophotometer
- Pilot Scale study of Physico-Chemical and Biological Treatment of High Strength Wastewater.
- Surface Chemistry
- Synthesis and Characterisation of Cu- & Fe complexes
- Synthesis of Nonmaterial's for Environmental Application

### Department of Civil Engineering

- Bioremediation and Nanotechnology
- Contaminant migration through soil
- Development of Decision Support System for water resource management and flood mitigation of river Kosi system lying in India and Nepal
- Development of Smart Concrete Structures.
- Engineering Limnology
- Experimental mechanics of concrete structures, Biodeposition on concrete
- Experimental set up for formation of river bed form and erosion around an island in a natural stream
- Impact of Climate change on water resources
- Removal of heavy toxic metal from ground water using nanotechnology.
- Rural water management

- Setting up of a center of low-cost housing facilities.
- Solid waste management
- Wind energy Studies

#### **Department of Computer Science and Engineering**

- Computational Geometry techniques for layout generation
- Global and Detailed routing techniques.
- Study of some aspects of Routing and Quality of Service in Mobile Networks

#### **Department of Electrical Engineering**

- Analysis of Brushless DC motor
- Analysis and Control of Induction Generators
- Assessment of Deregulation of Power with a view of reform in power sector
- Congestion management
- Design, analysis of Matrix Converter using DSP.
- Design & analysis of switched reluctance motor drives using DSP
- Distributed Generating Systems
- Distribution Systems
- Electric Curing of concrete materials.
- Electrical machines, Drives and Control
- Electrical Power Systems State Estimation, power flow studies, load forecasting etc.
- Electromagnetic Fields
- Electromagnetic levitation
- ICT Enabled Remote Laboratory
- Influence of geometric asymmetries on the performance of two- stage electro-hydraulic servo-valve
- Modelling of Insulation Systems
- Non-conventional energy sources, wind energy, small hydro plants etc.
- On-line Monitoring of High Voltage Power Equipment
- Optimization in E-Governance
- Parallel and hierarchical computations in electrical power systems
- Power Quality analysis
- Power system transmission line fault detection
- Process Optimization, Control and Instrumentation
- PSS and FACTS based power systems
- Renewable Energy Systems
- Side Lobe Reduction in Various Structures of Array Antennas
- Simulation of magnetic field in power lines and human environment.
- Simultaneous Pole-Placement/Stabilization of Two LTI Plants by a Continuous-time Periodic Controller
- Study of partial discharge
- Switched mode Choppers and converters
- Virtual Instrumentation of industrial processes
- Voltage instability and reactive power planning

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

- Array Antenna
- Medical Electronics
- Microstrip Antenna
- Power Line Communication
- Underwater Acoustic Communication
- VLSI
- Wireless relays and space-time coding

#### **Department of Geology**

- Environmental impact on coal mining areas
- Geophysics

- Groundwater availability and its management
- Tectonics of Delhi fold belt

**Department of Humanities and Social Sciences**

- Literary Theory and Criticism
- Poems and Plays of Shakespeare

**Department of Information Technology**

- Deniable and hierarchical crypto-systems
- Game theory based automated mechanism design
- Group Synchronisation and design of Tele-teaching systems
- Image processing in polar coordinate system and its application in Biomedical Engineering
- Knowledge based systems
- Optical networks – Burst and Coarse Packet switching
- Soft Computing Techniques for Bioinformatics systems
- Swarm robotics
- VLSI testing

**Department of Mathematics**

- Bio-mathematics
- Computational Fluid Dynamics
- Computational Graph Theory
- Fixed Point Theory
- Fuzzy Mathematics
- Hypergraph
- Image processing
- Information Theory
- Mathematical Modelling
- Operations Research
- Optimization of dynamics system,
- Population Dynamics
- Statistical Analysis
- Theoretical & Computational Fluid Dynamics
- Uncertainty Theory

**Department of Mechanical Engineering**

- Design and development of soft computing based multi agent systems
- Complete fault diagnosis, detection and isolation of Rolling stand through electrical motor current signature analysis

**Department of Metallurgical & Materials Engineering**

- Corrosion fatigue/environmental assisted cracking of aluminium alloys and stainless steels and their weldments.
- Development of TiC reinforced aluminium based metal matrix composite with and without a second reinforcement.
- Salt induced hot corrosion of nickel based super alloys.
- Semi-solid heat treatment of Al alloys.

**Department of Physics**

- Production of nanomaterials by laser ablation, characterization of nanomaterials, mechanical properties of carbon nanotubes and CNT composites
- Optical properties of Functionalized CNT and CNT Hybrids
- Synthesis of CNT by CVD and laser ablation methods, study on mechanical and electrical properties of CNTs. Polymer CNT composites and properties
- Theoretical study by MD simulation and DFT methods of mechanical and electrical properties of CNTs and functionalized CNTs and also of CNT polymer composites
- Structure changes in liquid crystal at high temperatures studied by X-ray diffraction



- Studies on mechanically alloyed materials, thin films and disordered metallic alloys
- Studies on low temperature characterization of thin films, disordered metallic alloys, nanomaterials and conducting polymers
- Characterization of non-linear optical materials
- Studies on non-linear optical nanomaterials
- Studies on a class of multiphase oscillators and its applications in synchronous communication system
- Studies on the effect of  $Z'$ -mediated FCNCs on B-meson decays.
- Synthesis and characterization of nanostructured materials

#### 5.4 Institute-Industry Collaboration

The Industry- Institute Interaction is in existence since 1992-93. The Industries participating in these projects are IOC, PCBL, DPL, DCL, EIPWL, SBSTC, IFB, BALCO, DSP, ASP etc. Integrated relationship among these bodies by way of providing opportunities for study tour, Faculty Exchange programme, undertaking research and development projects, industrial orientation programmes etc. are being conducted regularly. Some of the industry-sponsored activities are listed below. Recently, an MOU has been signed between Durgapur Steel Plant and NIT Durgapur for projects and other collaborative activities.

#### Department of Biotechnology

Collaborating Institute / Organization	Areas of collaboration	Collaboration Activities
Bharat Petroleum, Rajbandh, Durgapur	Petroleum sludge bioremediation	Research

#### Chemical Engineering

Collaborating Institute / Organization	Areas of collaboration	Collaboration Activities
Durgapur Steel Plant Prof.P.Pal (P.I.) & Dr. T. Mondal	Coke-oven wastewater treatment	Prepared root cause analysis report for failure of the existing plant, developed microbial culture for ACS unit, optimisation study of cyanide pretreatment plant
Govt.of India-sponsored Red brick cluster Development Project by Prof. P.Pal jointly with Dr. M.Roy (DMS) & Prof. S.Saha (CE)	Small Industry Cluster Development	Socio-economic and environmental sustainability
Ministry of Environment and Forest	Petroleum Processing	Biochemical Utilisation of Petroleum Wax
RDCIS (SAIL), Ranchi Gupta P., Sadhukhan A. K.	Application of ANN technique of spangle size and formability property of galvanised sheet	Research resulting in publication in journal
Refractory Manufacturing Association of Asansol-Kulti Prof.P.Pal	Development of remedial measures for environmental pollution problems	Existing fuel pattern, pollution, alternate firing technique development
Siemens Information Systems, Bangalore Prof. C. M. Narayan	Biomass Utilisation for Power Generation	Two Stage Fluidised Bed Gasification of Biomass

<b>Collaborating Institute / Organization</b>	<b>Areas of collaboration</b>	<b>Collaboration Activities</b>
Synergy Biotech Ltd, Calcutta Prof. C. M. Narayan	Biofertilisers	Production of PROM (Phosphate – Rich Organic Manure)

### Department of Civil Engineering

<b>Collaborating Institute / Organization</b>	<b>Areas of collaboration</b>	<b>Collaboration Activities</b>
Water res. Dept., Govt. of Bihar, Patna, India	Water Resources Engineering	Research and Projects

### Department of Computer Science and Engineering

<b>Collaborating Institute / Organization</b>	<b>Areas of collaboration</b>	<b>Collaboration Activities</b>
IBM	Enablement of Moodle Software to DB2	Remote Mentoring Project

### Department of Electrical Engineering and Physics

<b>Collaborating Institute / Organization</b>	<b>Areas of collaboration</b>	<b>Collaboration Activities</b>
Central Mechanical Engineering Research Institute, Durgapur	Research on DGA, Gas Sensors	Joint Research

## 5.5 Innovations and Technology Transfer

The Institute is continuously engaged in interacting with neighbouring industries and research organisations like DSP, ASP, DPL, CMERI, ECL, PHE Directorate, DCL etc. The faculty members of the Institute have guided large number of industry oriented PG and UG projects in the field of engineering and management. These projects are collaboration programme carried out under joint guidance. The primary objective is to take up practical problems of the industries utilising exposure and facilities of both institution and industry/research laboratories. Joint Research programmes leading to the PhD. degree are also being contemplated.

### Department of Chemical Engineering

Prof.P.Pal: Development of membrane-integrated hybrid systems for arsenic removal.

### Department of Chemistry

#### Patent taken/filed

<b>Title</b>	<b>Inventors</b>	<b>Application No.</b>
Sulphonamidoimidazolines as corrosion inhibitors for brass in aqueous sodium chloride solution.	Ranjana, Nandi, M.M.	CBR No. 2898 dated 15.05.2009

## 5.6 Workshops/Seminars Organised by the Institute

### Department of Chemical Engineering

SL. NO.	Name of Key Speaker(s)	Name of the Programme	Date of the programme
1	Prof (Dr.) C.M.Narayan (Chief Coordinator)	All India Students' Engg. Congress – 2010	Jan. 30-31, 2010

### Department of Electronics & Communication Engineering

Sl. No	Name of Key Speaker(s)	Name of the Programme	Date of the programme
1	Mr. Rishikesh Jayswal (BSNL, Kolkata), Coordinator : A. Chandra	GSM: Global System for Mobiles	February 20, 2010

### Department of Humanities & Social Sciences

Sl. No	Name of Key Speaker(s)	Name of the Programme	Date of the programme
1	Kalyan Chakraborty Convener: Dr. P.P. Sengupta	Global Meltdown and the Role of Future Managers	January 12, 2010

### Department of Mathematics

Sl. No.	Name of Key Speaker(s)	Name of the Programme	Date of the programme
1	Prof. S. P. Mukherjee (CU), Prof. K. S. Chaudhury (JU), Prof. T. Banerjee (IIM, Ahmedabad.), Prof. G.P. Bhattacharjee (IIT, Kharagpur), Prof. Bikash Sinha (ISI, Kolkata), Prof. Dilip Roy (BU) Coordinators: Dr. K.Basu, Dr. S. Sarkar (Mondal), Dr. S. Kar	AICTE/MHRD sponsored Winter School on "Probability, Statistics, Optimization Methods –With Applications"	January 19-30, 2009

### Department of Mechanical Engineering

SL. NO	Name of Key Speaker(s)	Name of the Programme	Date of the programme
1	Prof. A. K. Mallick, Ex-Prof, IIT- Kanpur Prof. C. Amarnath, Prof, IIT- Bombay Prof. S. Saha, Prof, IIT- Delhi Prof. A. Mukherjee, Ex- Prof, IIT- Kharagpur	14th National Conference of Machines and Mechanisms (NaCoMM- 09)	December 17-18, 2009

## 5.7 Collaboration with Academic and Research Institutions

### **CERN, Geneva:**

After the visit of two faculty members, Prof N K Roy, Department of Electrical Engineering and Dr P Kumbhakar, Department of Physics, in 2008, it is the first time in 2009, four VI Semester students had visited CERN (European Organization for Nuclear Research), Geneva to take part in the Large Hadron Collider experiments and to learn about the different aspects of high energy particle detectors. The name of the four students who visited CERN is Abhinava Chowdhury, Bibhudutta Mishra, Aranya Choudhury and Saptaparni Kumar from the Department of Mechanical Engg., Metallurgy & Materials Engg., Computer Science & Engg. and Information Technology respectively.

Abhinava Chowdhury was a member of the VHMPID (Very High Momentum Particle Identification Detector) which will be installed in the LHC shortly under the guidance of Dr. Paolo Martinengo. Bibhudutta Mishra, a student of Metallurgy was involved in the comparison of the theoretical model with experiment of the CO<sub>2</sub> based two-phase cooling test set up for micro channels in the CMS experiment of the LHC under Dr. Hans Postema. Abhinava, Aranya and Saptaparni of the Departments of Mechanical Engineering, Computer Science & Engg. and Information Technology respectively had been working with ALICE (A Large Ion Collider Experiment) at CERN. Aranya Choudhury developed a Control-Monitoring Software for the Ethernet switches of the ALICE Project under Dr. Peter Chochula while Saptaparni Kumar developed a Visualization System for the ALICE Shift Management System (SMS) under Dr. Latchezar Betev.

### **Caledonian College of Engineering, Muscat, Oman:**

An MOU was signed in 1<sup>st</sup> April, 2008 between CCEO (Caledonian College of Engineering, Muscat, Oman) and NIT Durgapur and the areas of cooperation are: corporate training, short courses and consultancy services, seminars, workshops and conferences, staff exchange programmes, exchange of students and research and development.

Till date, ten faculty members of NIT Durgapur visited CCEO for delivering lectures in different departments. One faculty member from CCEO visited NIT Durgapur from 4<sup>th</sup> October to 9<sup>th</sup> October, 2009.

Nine faculty members of CCEO (four faculty members in Mechanical Engineering, one each from Chemical Engineering, Electrical Engineering, Chemistry, Mathematics and ECE Dept.) registered for PhD programme at NIT Durgapur.

### **NUS, Singapore:**

It has been agreed upon to send four ~~sixth~~ semester undergraduate students of NIT Durgapur to NUS for their summer internship during summer vacation commencing from first week of May to third week of July every year.

Four Students undertook summer internship at NUS, May-July, 2009 and five students have been offered summer internship at NUS in May-July, 2010

NIT Durgapur will provide Rs 25,000/- to each student and NUS will provide each student a daily allowance which will support their boarding and lodging at NUS.

### **University of Michigan, Dearborn, USA:**

Two 6<sup>th</sup> Semester students have been offered summer internship for two months, May- July, 2010 at University of Michigan, USA. NIT Durgapur will provide them financial assistance to take care of their travel, accommodation, visa fee etc.

**Department of Biotechnology**

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Anthropological Survey of India, Kolkata	Research on Cancer Biology	Kazy S. K, NIT Durgapur	Joint research
Gothenburg University, Sweden	Plant Developmental Biology and Signal Transduction	Chattopadhyay S, NIT-Durgapur and Magnus Holm, Gothenburg University, Sweden	Research
Geological Survey of India, Kolkata	Research projects on subsurface sediment/groundwater microbiology	Kazy S. K, NIT Durgapur; Sar P., IIT Kharagpur, Gupta A K, IIT Kharagpur	Research
Indian Institute of Technology Kharagpur	Sponsored projects on subsurface sediment/groundwater microbiology	Kazy S. K, NIT Durgapur; Sar P., IIT Kharagpur, Pal T, GSI Kolkata	Research
Institut des Sciences de la Vigne et du Vin, Bordeaux University, France	Plant Developmental Biology Stress physiology	Chattopadhyay S, NIT-Durgapur and Serge Delrot, Bordeaux University, France	Research
JNU, New Delhi	Plant Developmental Biology and Signal Transduction	Chattopadhyay S, NIT-Durgapur and Ashis Nandi, JNU, New Delhi	Research

**Department of Chemical Engineering**

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Calabria University, Italy	Membrane Technology	Pal P. & Sikder J.	Collaborative Research & Publication in Elsevier Sc.
<a href="#">Heritage Institute of Technology, Kolkata</a>	<a href="#">Waste Water Treatment</a>	<a href="#">Dutta Susmita</a>	<a href="#">Collaborative Research &amp; Publication in Elsevier Sc.</a>
IIT Kharagpur	Pyrolysis & Combustion of Coal & Biomass	Sadhukhan A. K. Gupta P.	Collaborative Research & Publication in Elsevier Sc.
Jadavpur University	Industrial Wastewater Treatment	Mandal T.	Collaborative Research & Publication in Elsevier Sc.
Royal Institute of Technology, Stockholm, UNISA, Adelaide, Australia	Membrane Distillation Technology Waste Treatment through Physical Adsorption and Biotreatment	Pal P. Mandal T.	Collaborative Research & Publication in Elsevier Sc.
<a href="#">University of Calcutta</a>	<a href="#">Waste Water Treatment</a>	<a href="#">Dutta Susmita</a>	<a href="#">Collaborative Research &amp; Publication in Elsevier Sc.</a>

**Department of Chemistry**

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Civil Engineering Department North Dakota State University, USA.	Water and Wastewater Treatment	Bezbaruah A. N. Saha R.N.	Research on "Synthesis of Advanced Nano-materials and their Application for the Reduction of Environmental Contaminants"

<b>Collaborating Organization</b>	<b>Institute /</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Dept. of Chemistry, Cotton College, Assam		Development of natural fibre reinforced polyester composite material	Choudhury S. Panja S. S.	Jointly supervising Ph.D student
Dept. Of Environmental Science, The University of Burdwan, West Bengal		Water and Wastewater Treatment	Datta J. K. Gupta S. Saha R.N.	Jointly supervised the Ph.D students in the areas on Environment management.
Dept. of Metallurgical Engineering and Material Science, IIT Bombay		Formulation and performance evaluations of polyaniline blended epoxy coating on mild steel	Khanna A.S. Sukul D.	Jointly supervised M. Tech. student
Research & Development and Scientific Service Division, Tata Steel Ltd., Jamshedpur		Optimisation of phosphating process for efficient organic painting on IF steel substrate	Khanna A.S. Maji M.	Jointly supervised M. Tech. student
Vienna University of Technology, Vienna, Austria, Europe		Kinetics and mechanism of substitution reaction in d <sup>8</sup> metal ion system (Fast reaction) by Bio-molecules	Linert Wolfgang, Moi S.C.	Collaborative research work: one research paper published in International Journal

### Department of Civil Engineering

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Central Mechanical Engineering Research Institute	Structural Engineering	Saha S.	Proposal sent to DST Development of Smart Concrete Structures using Shape Memory Alloy to withstand Time Dependant Effects
School of Water Resources Engineering, Jadavpur University, Kolkata	Hydrology and limnology of Rivers, lakes and wetlands	Samal N. R., Roy P.K., Biswasroy M. and Mazumdar A.	Joint research
Lund University, Lund Sweden	Water Resources Engineering	Dwivedi V.K.	Research and Exchange

### Department of Electrical Engineering

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
ISM, Dhanbad	1.Optimization applied to DGS Power Systems  2.Optimization applied to ELD, AGC and PSS of Power Systems	Ghoshal S.P.	Joint research
SVNIT, Surat	1.Optimization applied to AGC with FACTS in Power Systems	Ghoshal S.P.	Joint research
University of South Australia, Australia	ICT enabled High Voltage Laboratory	Roy N.K. Nafalski A.	Joint research

**Department of Electronics & Communication Engineering**

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Dept. of Information Engg. Universita Degli Study the Parma (University of Parma), Italy	Wireless Sensor Networks	Kundu S.	Joint research

**Department of Management Studies**

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
The Royal Institute of Technology, Stockholm	Common property resource management	Roy M.	Research publication, mutual visits for delivering lectures on the subject.

**Department of Metallurgical and Materials Engineering**

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
National Institute of Secondary Steel Technology	Research on pellets usage in steel making	Mitra S. K. Ray R.N. Pramanik S.	Joint research

**Department of Physics**

<b>Collaborating Institute / Organization</b>	<b>Areas of Collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Burdwan University	Electronics and Communication	Mandal M. K.	Joint Research
IACS, Kolkata	Nanomaterials, Multiferroics	Basu S	Joint Research
Indian Institute of Science, Bangalore	Synthesis and Characterization of Nanomaterials	Kumbhakar P.	Joint research under UGC-NRM
Regional Institute of Education, Bhubaneswar (NCERT)	Physics Education & General Physics	Sahoo S.	Joint Research
Utkal University, Bhubaneswar	Theoretical High Energy Physics	Sahoo S.	Joint Research

## **6.0 THE COUNCIL, BOG AND OTHER COMMITTEES**

### **6.1 Institute's Council**

Vide Annexure - 11.1

### **6.2 Board of Governors**

Vide Annexure - 11.2

### **6.3 Finance Committee**

Vide Annexure - 11.3 (a)

### **6.4 Building and Works Committee**

Vide Annexure - 11.3(b)

### **6.5 Other Committees**

#### **Senate**

Vide Annexure - 11.3(c)

## **7.0 CONCESSIONS FOR SC, ST, and HANDICAPPED STUDENTS**

### **7.1 Concessions Provided for Students**

The Department of Training, Placement, and Students' Welfare provides the students with Railway and Airway Concessions during their vacations.



## 8.0 FINANCIAL STATUS

### 8.1 Analysis of Plan and Non-Plan Grants (2009-2010)

Plan Grants – Rs. 1200.00 Lakhs. Non-Plan Grants – Rs. 3210.90 Lakhs

### 8.2 Sources of Funds

Entire Recurring and Non-Recurring Grants are borne by Govt. of India

### 8.3 Expenditure Position for Last Three Years

(Rupees in Lakhs)

Plan head Expenditure		Non-Plan head Expenditure	
2006-07	316.31	2006-07	1695.20
2007-08	576.11	2007-08	2588.12
2008-09	463.64	2008-09	3067.10

Plan head Expenditure in 2009-10 (unaudited) – Rs 4722.84 lakhs (including OSC)

Non-Plan head Expenditure in 2009-10 (unaudited) – Rs 5813.02 lakhs (including OSC)

### 8.4 Oversight Committee Fund Receipt & Expenditure (2009-10):

Oversight committee fund: Receipt – Rs. 2500.00 Lakhs,

Expenditure – Rs. 3268.46 Lakhs.

## 9.0 CENTRAL FACILITIES AND SERVICES

### 9.1 Computer Services Centre

#### List of Servers and Desktop Computers:

- HP Blade server system:-
  - Management Server: Model HP Proliant ML350 Intel Xeon CPU
  - Second Intel server: Model HP Proliant ML350, Intel Xeon CPU
  - Eight numbers of blade: Model HP BL20p
- HP Blade holder
  - HP Storage: Modular Smart Array 1000 SCSI array of 146.8 GB x 10
  - Redundant power supply system
- SUN FIRE V240 Server and 11 SUN Workstations.
- IBM SERVER System
  - IBM Server p5: Type : 9113-550
  - Storage EXP-PLUS320, Type 2104-TS4 with 4 nos. of disks IBM U320 73.4 GB
- HCL SERVER for ARC-GIS, Intel Xeon, 2GB RAM
- HP, HCL, DELL & Lenovo Desktop PCs.

#### List of Software:

- Adobe Director 10 users (license on blade server 1)
- ANSYS 5 users license server on blade8 (win2K3)
- ASPEN PLUS 5 users network license and single in standalone (license on Intel Server)
- AUTODESK Mechanical, Civil 40, 10 users license server on blade8 (win2K3)
- CATIA (license server on blade management server)
- DB2 UDB Enterprise server (AIX Platform) on IBM Server
- FLUENT & FLOWLAB-20 & 25 users
- IBM rational Rose Suit (Windows Platform) 10 users
- LABVIEW 5 users
- MATLAB (license on blade management server)
- Maya users (license on blade server 1)
- Open Inventor 3D object oriented developer tool kit 5 users
- Oracle 10g Enterprise Edition with DW tools (Windows) 20 users
- Oracle Developer Suit 10g (Windows) 25 users
- Pro Engineer (license on Intel server)
- SPSS (Windows) 10 users
- SPSS Clemantine (Windows) 25 users
- Web Sphere Application Server (AIX Platform) on IBM Server
- Web Sphere Studio Application Developer (AIX Platform) on IBM Server

#### Peripherals:

- A0 Colour Plotter: HP Design Jet 500 PS; Model: C7770C
- A0 Plotter: HP Design jet 430, Model: C4714A
- HPDeskjet3745: Model C9025A
- A0 Scanner: Vidar Nova XP36
- A3 Scanner: Epson GT15000
- HP Scan jet 3770 Model: A5191L
- HP Heavy-duty Network Printer

#### Internet Services:

Campus wide network covering all departments, hostels, faculty quarters, and staff club has been completed with about 3.9kms Fiber Optic Cable as a backbone with about 4000 CAT-6 UTP points. Two ISP's have been providing 75MBPS bandwidth, distributed throughout the campus by 24x7.

## 9.2 Workshops

The Department of Workshop of the Institute has eight engineering shops in different sheds, namely, (1) Machine Shop, (2) Fitting Shop, (3) Electrical Shop, (4) Carpentry & Pattern Shop, (5) Black Smithy Shop, (6) Welding Shop, (7) Sheet Metal Shop, (8) Foundry Shop, imparting training to UG & PG students of different semesters in accordance to UG & PG Curricula which include Workshop classes for all branches of engineering at different levels. The Workshop has been modernised by utilizing the grants provided to it under MODROBS & TEQIP scheme. Students from different Departments and particularly from Mechanical Engineering Branch utilize the workshop facilities for their Project & Thesis works. It has developed one Laboratory, where students can learn manufacturing, assembling, testing & repairing of air conditioners.

## 9.3 Library

The library as one of the important central facilities of the Institute supports the study, teaching, research, and development programmes of the Institute. It is housed in a separate building having three floors on a plinth area of 1000sq. mtrs. The library has a collection of 123490 volumes, which includes Text Books, Reference Books & Bound vols. of Journals, Standards etc. The Library subscribes to about 150 current Journals. Library operations have been automated with the help of an integrated library software package, LIBSYS-4. The book database is accessible through OPAC (Online Public Access Catalogue). It has a good collection of Electronic resources in its Digital Library. It is open access library and remains opens from 8:30a.m. to 10:30 p.m. on weekdays and from 9 a.m. to 5 p.m. on Saturdays and Sundays. Library has introduced wi-fi Internet access facility in the reading halls.

The library has a well-equipped photocopy facility. The users can avail of this facility on payment of a nominal charge. It has also some Audio-Visual equipment like Colour TVs, VCPs, Video Cameras, Direct Projectors, Multimedia Projectors, etc. It has also a good IT infrastructure.

The library is an institutional member of DELNET (Developing Library Network), American Center Library, Kolkata, NPTEL (National Programme on Technology Enhanced Learning), and Current Science Association, Bangalore. It is also a beneficiary Member of INDEST-AICTE (Indian National Digital Library in Engineering, Science & Technology) Consortium, which provides Desktop Access to high quality e-resources (online journals) like IEL Online (IEEE/IEE Electronic Library), Springer Verlag's Link, Proquest, ACM journals, ASCE, ASME, Nature Magazine, Indian Standards (Intranet version) and ASTM journals & Standards etc. It has a good collection of Learning Resources, like Robot simulation Software, Mechatronics Simulation Software, Pneumatics and Electro pneumatics Simulations software and Microcontroller Design & Simulation Software. The library has an e-learning package considering the present day need of teaching and learning process. It has also a collection of several thousand E-books on Computer Science (Published by Springer) available through website.

Total collection of books, journals, etc. and the annual expenditure are as detailed below:

<b>(i) Total Collection</b>	General Book	76061
	Book Bank	24012
	Bound Vol. of Journals	7744
	SC/ST	934
	ISI	5072
	Gift	3938
	Misc.	1485
	TEQIP Books	4244
	<b>Total</b>	<b>1,23,490</b>
<b>(ii) No. of Journals Subscription</b>	<b>Foreign (e-journals through INDEST-AICTE Consortium)</b>	
	Indian	150
	Gift	35
	<b>Total</b>	<b>185</b>

<b>(iii) No. of Books Catalogued, Classified and Processed</b>	General	1772
	Book Bank	1750
	<b>Total</b>	<b>3522</b>
<b>(iv) Expenditure Incurred by the Library during 2009-10</b>	<b>BOOKS (In Rs.)</b>	
	General Books	71,69,214.00
	Book Bank	40,71,171.00
	<b>JOURNALS/MAGAZINES (in Rs.)</b>	
	Indian	1,31,080.00
	Foreign	e-journals through INDEST
	Magazine	15,887.00

#### 9.4 Laboratories

All departments have well equipped laboratories which cater to the hands on training to the under graduate as well as postgraduate students. The laboratories are also regularly used for carrying out projects and research works. List of the laboratories of various departments are given in Annexure–11.13.

#### 9.5 Hospital, Post Office, Shopping Centre

The Institute has a medical unit-cum-hospital with outdoor and indoor (10 beds) facilities. It is served by two full-time general physicians and supported by three part-time specialists physicians; one cardiologist (twice a week), one pediatrician (once a week) and one gynecologist and obstetrician (once a week). All faculty members, staff members and their families as well as the students are benefited from the medical unit. The medical unit provides 24 hour emergency service with an ambulance at its disposal. Inside the campus there is a Post Office catering to the needs of residents of the campus.

There is a shopping complex inside the campus which includes a ration shop, a milk booth, one book shop and some shops providing essential commodities.

#### 9.6 Physical Facilities

There are three telephone booths (STD/PCO), three copier centres inside the campus serving the needs of the students and staff. The Institute also has two canteens and one cafeteria near the students' hostels. There are branches of State Bank of India and Canara Bank in the Institute campus. An ATM counter was opened by SBI in the campus.

The Institute has three playgrounds used regularly by the students as well as residents of the campus. A higher secondary school is also located inside the campus. For the recreational facilities of the faculties and staff there are two clubs namely, Faculty Club and Staff Club. The clubs regularly organise cultural programmes, games and sports for the members. They receive annual grants from the Institute to meet a part of the financial expenses.

#### 9.7 Games & Sports Facilities

The Institute has Students Activity Centre (SAC) housed in an indoor auditorium, where all the indoor games like badminton, table tennis and chess are played round the year. Three gymnasiums (Separate for boys, girls and guests) have 12 to 16 station exercise machine such as multi-station gym with latest equipments. In the central playfield, The Oval, all major tournaments and matches are played in games like football, cricket, athletics etc. Besides there is one more football ground called The Lords adjacent to the hostels. There is one concrete tennis and basketball court each and one volleyball court with flood light facilities. Most of the hostels have their own volleyball courts with indoor games facilities.

**9.8 Other Facilities like Hostels, Messes, Staff Quarters, Administration, etc.**

The Institute has seven boys' hostels and two hostels for girls' students. Five of the boys' hostels are of the capacity of 250 each and the capacity of sixth and seventh hostels is 120 and 360, respectively. The girls' hostels are of capacity of 126 each. Each hostel has a separate mess, managed and run by the members of the mess committee comprising of the students under the supervision of the Mess Managers and overall guidance of the Wardens of the respective hostels. The Institute provides different categories of residential quarters to the faculty, staff and administrative personnel on licence fee basis.

One multi-storeyed accommodation (G+8) for faculty members is under construction consisting of 32 numbers of quarters. The construction of Prof. S. N. Ray memorial building is likely to be completed shortly. The construction of an academic block is in its initial stage. Expansion of Institute Medical Unit cum Hospital is in progress. Widening of Road and construction of Drainage network is in progress.

Institute is likely to augment its electrical supply source through DVC shortly. The job has already been taken up by IEE Kolkata.

## 10.0 NOTABLE ACHIEVEMENTS

### 10.1 Past Achievements

- (a) The Institute, since starting off in 1960 with only four branches of Engineering for UG studies and a handful of buildings and quarters, has made tremendous overall development and achieved the status of Institute of National Importance. Some major achievements are listed below:
- (b) In all, nine B. Tech. programmes in Engineering, thirteen M. Tech. programmes, MCA and MBA programmes are running successfully.
- (c) Many students have won national and international recognition as teachers, industrialists and entrepreneurs in various leading organisations.
- (d) A large number of new laboratories have come up over the years for UG and PG students, Research Scholars and the faculty members of the Institute.
- (e) The Institute was elevated to the National Institute of Technology with Deemed University status.
- (f) NIT Durgapur was declared "Institute of National Importance" by the Government of India.
- (g) NIT Durgapur is a Lead Institute under the World Bank funded scheme of TEQIP.
- (h) Many faculty members have achieved distinction in the field of research by way of publishing papers in peer-reviewed journals and also received best paper awards. Many of them also have the honour of acting as reviewers of international journals.
- (i) The Institute is a QIP Centre for the polytechnic institutes.
- (j) The Institute has been recognised by AICTE as a continuing Education Centre under C-NANCE scheme.
- (k) Under the Centre of Excellence Scheme of the MHRD, Govt. of India, state-of-the-art research laboratories have been set up with modern equipment.
- (l) Many faculty members have served outside organisations and Institutes in the capacity of advisors, consultants and experts of various technical committees.

### 10.2 Achievements during the Year

- Professor Bikash Sinha, Chairman, Board of Governors was conferred with *Padma Bhushan* by the Government of India.
- NIT Durgapur implemented the second phase of reservation for OBC students (17%) and the annual intake in B. Tech. programmes increased from 588 to 676 in the 2009-10 session and in 2010-11, it is scheduled to increase further to 800 (27% OBC reservation). Similar increase was also implemented in M. Tech., MBA and MCA programmes.
- Two new M. Tech. programmes were introduced in 2009-10 academic session; Biotechnology, offered by Department of Biotechnology and "Environmental Science and Technology" coordinated by Department of Geology. Two new M. Sc. Programmes in Physics and Chemistry were also introduced during the session.
- The Institute has decided to start a new M. Sc. programme in Mathematics in the session 2010-11.

- Collaborative activities are in progress with CERN Geneva, NUS Singapore, Caledonian College of Engineering Muscat and a number of premier universities abroad. Faculty exchange, visits of delegation, students' internship and collaborative research have been taken up.
- The Ministry of Steel, GOI, has instituted a Ministry of Steel Chair Professor and has been sponsoring five scholarships @ Rs. 4000 per month to UG students for a period of five years.
- The faculty members of the Institute have published and acceptance of 239 papers in peer-reviewed journals and also published 205 papers in proceedings of national and international conferences in 2009-10 vis-a-vis 156 and 152 in 2008-09.
- The number of reviewers in peer-reviewed journals and books increased from 59 to 91.
- The number of registered PhD scholars increased from 160 to 212 in the last one year.
- Appointment offers were issued for 30 faculty position.
- Out of 466 B. Tech. students, 409 have been placed through in-campus interviews in the session 2009-2010. In addition, 75 students got their second job i.e. 484 jobs were offered to the B. Tech. students.
- In 2009-10 four pre-final year students were selected for summer internship and projects at CERN, Geneva; six students were selected for summer projects in Germany in DAAD scheme and four students were selected for summer internship at NUS, Singapore. In 2010-11 thirty two students have been selected for summer internship abroad.
- Fifth Convocation of the Institute was held on November 07, 2009 in which the renowned Scientist Dr. Lyndon R Evans, Project Leader of the world-renowned LHC, Large Hadron Collider Project at CERN delivered the Convocation Address as the Chief Guest. Dr. K. Kasturirangan, The former Chairman of ISRO, the Indian Space Research Organization and Member of Planning Commission, Government of India was the Guest of Honour. Shri Rathindramohan Roy, Hon'ble Mayor, Durgapur Municipal Corporation and Shri Satish Chandra Tewari, Principal Secretary, Department of Higher Education, Government of West Bengal, were the Distinguished Guests. Professor Bikash Sinha, Chairman, Board of Governors, presided over the function.
- Civil work is in progress for a 264 capacity girls' hostel, a 740 capacity boys' hostel, academic block and Chemistry laboratory and Biotechnology building, Faculty residential block, hospital extension. Another project has been initiated to install a dedicated power line from DVC. Construction of a Guest-house and an auditorium has also been conceptualised.
- A project on renewable energy has been taken up in collaboration with West Bengal Green Energy Development Corporation Ltd., which include installation of solar powered street and garden lights and installation of flat plate collectors to produce hot water directly from sunlight. This hot water will be used by the students and also for cooking purpose in the kitchen.

**Annexure –11.1 Institute’s Council****NIT COUNCIL**

Minister of HRD, Government of India	Chairman
Education Secretary, Ministry of HRD, Government of India	Member
Principal Advisor (Education), Planning Commission	Member
Secretary, Department of Science & Technology, Govt. of India	Member
Director General, Council of Scientific & Industrial Research	Member
Special Secretary/Additional Secretary/Educational Advisor (T) Ministry of HRD, Govt. of India	Member
Chairman, UGC	Member
Chairman, AICTE	Member
Financial Advisor, Ministry of HRD Govt. of India	Member
Two Chairman of the Boards of the Institute (By rotation)	Member
Five Directors of the Institutes (By rotation)	Member
One Director of IIT (By rotation in Alphabetic order)	Member
Two Secretaries of Higher/Technical Education from states where NITs are located (By rotation)	Member
Two Person from Industries nominated by the Central Government	Member
Joint Secretary (Technical Education)/Joint Educational Advisor (T) Ministry of HRD, Government of India	Member -Secretary



**Annexure-11.2 Board of Governors**

Chairman: An Eminent Technologist / Engineer / Industrialist / Educationist to be nominated by the Government of India.

Nominee of the Ministry of Human Resource Development, Government of India

Nominee of the Department of Higher/Technical Education, Government of West Bengal.

Head of another Technical Institution in the Region or an eminent technologist nominated by the Government of India.

Director of Indian Institute of Technology, Kharagpur (in the region) or his nominee.

Nominee of the UGC not below the rank of Deputy Secretary

Nominee of AICTE not below the rank of an Advisor

An alumnus of the Institute from amongst alumni in Education/Industry to be nominated by the Board of Governors of the Institute

Two representatives representing large and medium & small industries to be nominated by the Govt. of India.

One Professor and One Associate Professor of the Institute by rotation

Director of the Institute.  
--*Ex Officio* Member Secretary.

**Professor Bikash Sinha, Padma Bhushan**  
Homi Bhabha Chair Professor, VECC, DAE,  
1/AF, Bidhannagar, Kolkata-700064.

**Shri N.K Sinha**  
Joint Secretary, Ministry of HRD,  
Dept. of Higher Education, Govt of India,  
Shastri Bhavan, New Delhi.

**Dr. S. Dasgupta**  
Director of Technical Education, Government of West Bengal  
Bikash Bhavan, Salt Lake, Kolkata-700091.

**Prof. L.M. Patnaik**  
Professor,  
Microprocessor Application Library,  
Dept. of Computer Science & Automation,  
Indian Institute of Science, Bangalore 560012.

**Prof. Damodar Acharya,**  
Director,  
Indian Institute of Technology, Kharagpur.

**Dr. Dev Swarup**  
Joint Secretary, University Grants Commission,  
Bahadur Shah Zafar Marg, New Delhi 110002.

**Dr. H. C. Rai**  
Adviser-I, (Engineering & Technical Bureau)  
AICTE,  
IG Sports Complex, IP Estate, New Delhi 110002.

**Shri J. C. Shahani**  
6, Ho Chi Min Sarani, Kolkata 700 071

**Shri Satyaki Sen**  
Director  
M.N. Dastur & Co. (P) Ltd.,  
Faraday House, P-17 Mission Row Extension,  
Kolkata 700013

**Shri Prabir Kumar Sen**  
Associate Vice President, HVAC  
Sterling and Wilson Pvt. Ltd.  
Electro Mechanical Engineers  
Associate of:  
Shapoorji Pallonji & Co. Ltd., Benfish IT Tower  
Third Floor, 31, GN Block, Sector-V, Salt Lake,  
Kolkata - 700091

**Dr. Biswajit Halder**  
Professor  
Mechanical Engg. Deptt. (from 05.06.09)

**Dr. S Bhattacharya**  
Associate Professor  
Civil Engg. Deptt. (from 05.06.09.)

**Prof. Swapan Bhattacharya**  
Director, NIT Durgapur

**Annexure-11.3(a) Finance committee**

Prof. Bikash Sinha Chairman, Board of Governors	Chairman
Shri S. K. Ray Additional Secretary and Financial Advisor Integrated Finance Division Ministry of HRD, Govt. of India New Delhi.	Member
Dr. Biswajit Halder Nominee of BOG, NIT Durgapur (from June 2009)	Member
Prof. Swapan Bhattacharya Director, NIT, Durgapur	Member Secretary

**Annexure-11.3(b) Building and Works committee**

Prof. Swapan Bhattacharya Director, NIT Durgapur	Chairman
Shri Madan Mohan Director (NITs), MHRD, GOI (upto Dec., 2009)	Member
Shri N. Mohandas Dy. Edn. Advisor (T), MHRD, GOI	Member
Shri S. Mohan Director IFD, MHRD, GOI (upto Nov., 2009)	Member
Shri Satyaki Sen Nominee of BOG, NIT Durgapur	Member
Dr. S. Bhattacharya Nominee of BOG, NIT Durgapur (from June 2009)	Member
Shri S. K. Chawla Nominee of the CPWD (Electrical Wing) (upto May, 2009)	Member
Shri P. Gangopadhyay Nominee of the PWD (Civil Wing)	Member
Dr. S. Haldar Dean, Planning & Development, NIT Durgapur	Convenor & Member-Secretary

**Annexure-11.3(c) List of Senate members as on 31/03/2010**

<b>NAME</b>	<b>E-MAIL ADDRESS</b>	<b>TELEPHONE</b>
Prof S Bhattacharya Director, NIT Durgapur Chairman – Senate	bswapan2000@yahoo.co.in	9830128721/ 9434788001
<b>NOMINATED MEMBERS</b>		
Sri S Chatterjee Managing Director Innovative Heat Handling Pvt. Ltd. CG-106, Salt Lake City Kolkata – 700 091	samiran45@gmail.com	9831016604
Prof A Chakrabarti Saha Institute of Nuclear Physics 1/AF, Bidhannagar Kolkata – 700 064	abhijit1960@gmail.com	9331027239
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Prof V K Diwivedi	vkdwivedi10725@yahoo.co.in	9800765341

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Prof N K Roy	roy_nk2003@yahoo.co.in	9434788042
Prof S Ghosh	sghosh.ee@gmail.com	9635333601
Prof S Dutta	skd_nit_ee@yahoo.co.in	
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Prof B Halder	jeetarkaanik@yahoo.co.in	9474113028
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Prof T K Sinha	drtapanks@yahoo.com	9832133708
<b>PHYSICS</b>		
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<b>TPSW</b>		
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**Annexure - 11.4(a) Ongoing sponsored projects****Department of Biotechnology**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
Investigation of genetic and molecular interrelations of ZBFs in light signalling pathways in <i>A. thaliana</i>	Chattopadhyay S.	DST-SERC Ramanna Fellowship Grant	34 lakhs	2007
Characterization and optimization of pigment production from an isolated strain	Dutta D. Chaudhuri S.	UGC-Major Project	10,17,800/-	2010
Exploration and Exploitation of microbial catabolic potentials for the bioremediation of selected heavy metal and hydrocarbon contaminants	Kazy S. K.	DST - SERC Fast Track Project for Young Scientist	~17 lakhs	2009
Assessment of microbial diversity and community structure and their role in arsenic transformation and mobilization in arsenic contaminated groundwater of West Bengal.	Kazy S. K., NITD; Sar P., Gupta A.K., IIT, Kharagpur.	DBT	~30 lakhs	2008
Investigation of genetic and molecular interrelations of SHW1 and COP1 in <i>Arabidopsis</i> seedling development	Srivastava A. Chattopadhyay S.	DST-SERC Fast Track Project for Young Scientist	23 lakhs	2010

**Department of Chemical Engineering**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
DST-FIST	Chemical Engg. Faculty. DST-approved implementation group: P.Pal, P.Gupta, K.C. Ghanta, A.K. Sadhukhan	DST, Govt. of India	145.60 Lakh	2008
Technology Development of Liquid Phase Adsorption of Mercury Using Low-cost Adsorbent for Better Management of Industrial Wastes	Dutta S., De P. (C.U.) Basu S (H.I.T.Kolkata)	DST, Govt. of India	7.5 lakh	2008
Production of Lactic acid in Membrane-integrated Hybrid Reactor system – A Green Technology Approach	Pal P.	DST, Govt. of India	18.78 Lakhs	2009
Capturing Oscillations of Void Fractions in Boiling Natural Circulation Loop using Laser Doppler Anemometry and Impedance Probe	Paruya S. Sarkar J. P. Gupta P.	DST, Govt. of India	33.02 lakhs	2010

**Department of Chemistry**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
Modification of sperm plasma membrane structure and function using exogenous lipid and its application in cryopreservation	Chakrabarty J.	DST-SERC Fast Track Project for Young Scientist	19.22 lakhs	2009
Rhodamine-based new fluorescence probe for biologically important metal ions	Panja S. S.	DST-SERC Fast Track Project for Young Scientist	18.96 lakhs	2009
Synthetic Modelling of Copper-Proteins Active Site	Patra A. K.	DST, Govt. of India	26 lakhs	2008

**Department of Civil Engineering**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount</b>	<b>Starting Year</b>
Development of Decision Support System for water resource management and flood mitigation of river Kosi system lying in India and Nepal	Dwivedi V.K.	Swedish Research Council, Sween	240 thousand Swedish kroner	2010
Experimental set up for formation of river bed form and erosion around an island in a natural stream. 200 T Universal Testing Machine with the facilities of tensile test of bars, bond test between steel and concrete, bend-rebend test etc.	Dept. of Civil Engineering	DST, Govt. of India	50 lakhs rupees	2007

**Department of Electrical Engineering**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
Optimal allocation of FACTS Devices and their coordinated operation for power flow control and enhancement of voltage stability using soft computing technique	Acharjee P.	DST-SERC Fast Track Project for Young Scientist	10.38 lakhs	2009
Development of DC electromagnetic levitation systems—suitable for specific industrial applications	Banerjee S. Saha T.K.	DST, SERC	26.83 lakhs	2010
Control System Design Using Periodic Feedback Compensation: A Practical Approach	Dey J.	DST - SERC Fast Track Project for Young Scientist	13.6 lakhs	2009
Application of Non-linear Robust Control Strategies for Air-Flow Control	Koley C.	DST - SERC Fast Track Project for Young Scientist	19 lakhs	2010

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning	Dutta S. (ChE) Ghosh S. (EE) Koley C. (EE) Kumbhakar P. (PH) Mandal T. (ChE) Mandal M. K. (PH) Paruya S. (ChE) Roy N. K. (EE) Sarkar J. P.(ChE) Bhattacharya P. (JU)	National Mission Project on Education through ICT MHRD, Govt. of India	15 lakhs	2009
Upgradation of ICT enabled High Voltage Laboratory, NIT Durgapur	Roy N. K. Ghosh S. Koley C.	National Mission Project on Education through ICT MHRD, Govt. of India	7 Lakhs	2010
FIST program on Advanced Power Systems; Advanced Control Systems & Machine Drives	All faculty of the department	DST-FIST	108 lakhs	2009

#### **Department of Information Technology**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
Information Security Education and Awareness Project	Choudhury S.	Dept. of Information Technology, Ministry of Information and Communication, Govt. of India.	21 lakhs	2006
Institute of Open Technology and Application	Choudhury S.	Ministry of Information Technology, Govt. of West Bengal	10 lakhs	2008

#### **Department of Mathematics**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
Solution of some optimization problem using graph theoretic approach	Pal Anita	DST, Govt. of India	10.56 lakhs	2007

#### **Department of Management Studies**

<b>Title of the Project</b>	<b>Investigator(s)</b>	<b>Sponsoring Organisation</b>	<b>Amount (in Rs)</b>	<b>Starting Year</b>
Study of socio-economic and Env. impact of refractory opn.	Roy M.	Refractory Mfg.Asso., W.B.	3.0 lakhs	2009
Red brick cluster development project	Roy M.	Govt. of India	4.0 lakh	2010

**Department of Mechanical Engineering**

Title of the Project	Investigator(s)	Sponsoring Organisation	Amount (in Rs)	Starting Year
Design and Development of Adaptive Motion Planners for Multiple Mobile Robots	Hui N B	DST - SERC Fast Track Project for Young Scientist	14 lakhs	September 2009

**Department of Metallurgical and Materials Engineering**

Title of the Project	Investigator(s)	Sponsoring Organisation	Amount (in Rs)	Starting Year
Studies of mechanical properties and corrosion behaviour of RTA treated HSLA steels.	Ghosh K. S. Mondal D. K.	NRB, New Delhi	18.86 lakhs	July 2009
DST-FIST	MME Dept.	DST, Govt. of India	117 lakhs	April 2009

**Department of Physics**

Title of the Project	Investigator(s)	Sponsoring Organisation	Amount (in Rs)	Starting Year
Synthesis of doped nanomaterials for nonlinear optical applications	Kumbhakar Pathik	DST - SERC Fast Track Project for Young Scientist	13.44 lakhs	2009

**Annexure - 11.4(b) Projects completed during 2009-10****Department of Chemistry**

Title of the Project	Investigator(s)	Sponsoring authority
Studies on sulphonamido imidazolines and hydropyrimidines as Corrosion inhibitor	Nandi M. M. Maji M.	MHRD
Application of Advanced Oxidation (Photo and Fenton's) and Biological (SBR) treatment on high strength toxic wastewaters	Saha R.	DST - SERC Fast Track Project for Young Scientist

**Department of Electrical Engineering**

Title of the Project	Investigator(s)	Sponsoring authority
Design, development, fabrication and testing of an electromagnetically levitated system.	Banerjee S.	The Institution of Engineers (India)

**Department of Electronics and Communication Engineering**

Title of the Project	Investigator(s)	Sponsoring authority
Contoured beam synthesis for array antenna to obtain efficient footprint pattern with gain optimization.	Mahanti G.K. Chakrabarty A., IIT, Kharagpur	ISRO, Bangalore



Title of the Project	Investigator(s)	Sponsoring authority
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### Annexure–11.4(c) i. Research papers published in peer-reviewed journals during 2009-2010

#### Department of Biotechnology

1. Bajpai, S., Jung, G., Dey, A., 2009. Batch studies on chromium removal from tannery effluent using cationic exchange resin, *Journal of Environment and Development*, 4(1), July-September.
2. Dutta, D., RayChaudhuri, U., Chakraborty, R., 2009. Influence of preservatives, thermal treatment and storage time on the carotenoid content of mangoes, *Fresh Produce*, 3(1), 55-5.
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5. Mandal, T., Maity, S., Dasgupta, D., Datta, S., 2010. Advanced oxidation process and biotreatment: Their roles in combined industrial wastewater treatment, *Desalination* 250, 87-94.\*
6. Mandal, T., Dasgupta, D., Datta, S., 2010. A biotechnology thrive on COD and chromium removal from leather industrial wastewater by isolated microorganisms, *Desalination & Water Treatment* 13, 382-392. \*
7. Saha, P., Datta, S., 2009. Assessment on thermodynamics and kinetics parameters on reduction of methylene blue using flyash, *Desalination & Water Treatment*, 12, 219 – 228.
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2. Lahiri, S.K., Ghanta, K. C., 2009. Development of a hybrid artificial neural network and genetic algorithm model for regime identification of slurry transport in pipelines, *Chemical Product and Process Modeling*, 4(1), Article 22, 1-34.

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8. Mandal, T., Maity, S., Dasgupta, D., Datta, S., 2010. Advanced oxidation process and bio-treatment: Their roles in combined industrial wastewater treatment, *Desalination*, 250, 87-94.\*
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### **Department of Management Studies**

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#### **Annexure–11.4(c) ii. Research papers accepted for publication in peer-reviewed journals during 2009-10**

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#### **Department of Civil Engineering**

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10. Roy, R., Ghoshal, S. P., Bhatt, P., 2010. Evolutionary computation based three-area automatic generation control, International Journal of Expert Systems with Applications, online in [www.sciencedirect.com](http://www.sciencedirect.com).

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20. Sahoo S., 2010. Graphene and Integer Quantum Hall Effect, JNC Research Conference on Physics of New Materials, S. N. Bose National Centre for Basic Sciences, Kolkata, 61.

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23. Sarkar, R., Kumbhakar, P., Mitra, A.K., 21-23 December, 2009. Photoluminescence properties of chemically synthesized silver nanowire, 2nd National Conference on Nanomaterials and Nanotechnology, University of Lucknow, Uttar Pradesh, 1-7.
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25. Shaik, K. B., Mandal, M. K., 2010. Secure communication of digital data using chaos synchronization in pll, National conf. MDCCT, Burdwan University, 64-65.
26. Talukdar, K., Mitra, A.K., May 3-7, 2009. The role of Stone-Wales defects in the mechanical behavior of a zig-zag SWNT, 12<sup>th</sup> International conference and expo on Nanotechnology, Houston, Texas.
27. Talukdar, K., Mitra, A.K., February 2010. Mechanical properties and fracture behavior of a single-walled carbon nanotube with single and double Stone-Wales defects, International Conference on Nanoscience and Nanotechnology, (ICONN2010), SRM University, Chennai.
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29. Talukdar, K., Mitra, A.K., Jan. 3-7, 2010. Molecular dynamics simulation of elastic properties and fracture behavior of single wall carbon nanotubes with vacancy and Stones- Wales defect, 97<sup>th</sup> Indian Science Congress, Trivandrum, Kerala.

**Annexure- 11.4(e) Visits abroad during 2009-10****Department of Biotechnology**

<b>Name</b>	<b>Name of the Programme</b>	<b>Organized by</b>	<b>Date of the programme</b>
Dutta D.	Laboratory training program on Microbial and Enzyme Technology	Instituto de Tecnologia Química e Biológica (ITQB)	Dec. 1-25, 2009.

**Department of Chemical Engineering**

<b>Name</b>	<b>Name of the Programme</b>	<b>Organized by</b>	<b>Date of the programme</b>
Gupta P.	Golden Jubilee Celebration of NIT Durgapur at San Jose, CA. Networking visits to Stanford University & NJIT, New Jersey	NITDAA California Chapter NITDAA NY/NJ Chapter	June 2-7, 2009

**Department of Chemistry**

<b>Name</b>	<b>Name of the Programme</b>	<b>Organized by</b>	<b>Date of the programme</b>
Moi, S.C.	Collaborative research with North Dakota State University, USA, Fargo	NITDurgapur, TEQIP	June 14 - July 15, 2009

**Department of Civil Engineering**

<b>Name</b>	<b>Name of the Programme</b>	<b>Organized by</b>	<b>Date of the programme</b>
Samal N. R.	DAAD Alumni Expert Seminar "Wastewater & Waste Management in Coastal Areas" in Accra, Ghana	Dept. of Resources Engineering, Universität Karlsruhe (TH), D-76128 Karlsruhe, Germany	Feb.28-Mar. 5, 2010
Samal N. R.	Falling Walls Conference: Which are the Next Walls to Fall and how will they affect our lives? in Berlin, Germany	Einstein Foundation, Berlin and the German Academic Exchange Service (DAAD)	Nov. 8 - 9, 2009
Samal N. R.	International Forum for High Potentials in Green Technologies, Germany	Federal Ministry of Education & Research (BMBF), Germany	Aug. 30- Sept.10, 2009

**Department of Electrical Engineering**

<b>Name</b>	<b>Name of the Programme</b>	<b>Organized by</b>	<b>Date of the programme</b>
Acharjee P.	Participation of IEEE conference (IEEM 2009), Session Chair and collaborative research program in Hong Kong Polytechnique University, Hong Kong	International Conference on Industrial Engineering and Engineering Management and Department of Electrical Engineering, Hong Kong Polytechnique University, Hong Kong	7-22 Dec., 2009

Roy N. K.	Visiting Professor, (Electrical)	Department of Electrical Engineering, Calidonian College of Engineering, Muscut, Oman	April 24-May 1, 2009
Thakur S.S.	Visiting Professor, (Electrical)	Department of Electrical Engineering, Calidonian College of Engineering, Muscut, Oman	Dec. 5-9 2009

### Department of Electronics & Communication Engineering

Name	Name of the Programme	Organized by	Date of the programme
Dhar Roy S.	Radio Resource Management	Università degli studi di Parma, Italy	July 13-24 2009
Kundu S.	Collaborative Research in Wireless Sensor Networks	Università degli studi di Parma, Italy	May 17 - July 17, 2009

### Department of Geology

Name	Name of the Programme	Organized by	Date of the programme
Gangopadhyay A.	Golden Jubilee Celebration of NIT Durgapur at San Jose, CA. Networking visits to	NITDAA California Chapter	June 02-07, 2009
Gangopadhyay A.	Stanford University & NJIT, New Jersey	NITDAA NY/NJ Chapter	

### Department of Mechanical Engineering

Name	Name of the Programme	Organized by	Date of the programme
Mullick A. N.	Training & collaborative program on Computational Fluid Dynamics	Department of Mechanical Engineering, Northern Illinois University, USA	June 17 - 24, 2009
Mullick A. N.	Training on Fluid flow measurements	Department of Engineering Science & Mechanics, Virginia Tech, USA	June 25 – July 3, 2009.

### Department of Metallurgical and Materials Engineering

Name	Name of the Programme	Organized by	Date of the programme
Mallik M.	EUROMAT-2009 International Conference, Glasgow, UK.	European Congress	Sept. 7-10, 2009

### Department of Physics

Name	Name of the Programme	Organized by	Date of the programme
Mitra A. K.	Golden Jubilee Celebration of NIT Durgapur at San Jose, CA	NITDAA California Chapter	June 02-07 2009

Mitra A. K.	Networking visits to Stanford University & NJIT, New Jersey	NITDAA NY/NJ Chapter	June 02-07 2009
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#### Annexure-11.4(f) PhD degree awarded during 2009-10

##### Department of Chemical Engineering

Topic	Investigator	Supervisor(s)
Study on Slurry Flow Modelling in Pipeline	Lahiri Sandip Kumar	Ghanta K.C.

##### Department of Chemistry

Topic	Investigator	Supervisor(s)
Studies on the growth Physiology and Yield of Mastered (Brassica Campestris cv. B9) under the influence of Chemical Fertilizer, Biofertilizer and Growth Retardant in Old Alluvial Soil of Burdwan, West Bengal, India	Banerjee Arnab	Saha R.N., Datta J. K. (Registered under Burdwan Univerisy)
Comparative Assessment of Application of Fenton's, Lime and Biological Treatment of Textile Wastewater	Das Babuji	Saha R. N. (Registered under Burdwan Univerisy)
Studies On Sulphonamido Imidazolines and Hydroprimidines as Corrosion Inhibitor	Ranjana	Nandi M. M., Maji M.

##### Department of Computer Science and Engineering

Topic	Investigator	Supervisor(s)
Design and Dimensioning of an Edge Router for internet Traffic using MMPP Model	Bhattacharya Partha	Sanyal G.
Study and Analysis on Some Aspects of Speech and Speaker Recognition Using Neuro-Genetic Approach	Sinha Tilendra Shisir	Sanyal G.

##### Department of Electrical Engineering

Topic	Investigator	Supervisor(s)
Electrical Characterization of Rare-earth doped Capacitor Dielectric	Dash M. S.	Ghosh S.
Application of Evolutionary Optimization Techniques for Some Selected Power System Problems	Mukherjee V.	Ghoshal S.P.
Application of Evolutionary Computation for Optimization in Economic Load Dispatch and Automatic Generation Control	Roy R.	Ghoshal S.P.

##### Department of Electronics & Communication Engineering

Topic	Investigator	Supervisor(s)
Development of Storage Efficient Cryptographic Protocols	Pranam Paul	Bhattacharjee A.



Topic	Investigator	Supervisor(s)
to Ensure Security in Communication Technology		K., Datta S.

### Department of Metallurgical and Materials Engineering

Topic	Investigator	Supervisor(s)
Application of Operations Research in Management Science	Bandyopadhyay G.	Mitra S.K. Chaudhuri K.

### Department of Physics

Topic	Investigator	Supervisor(s)
Investigations on the Mechanical Behaviour of Reinforcing Fibres and Filaments for High Strength Fibre Composites	Singha Prasanta Kr.	Mitra A.K.

### Annexure - 11.4(g) Ongoing Doctoral Programme

#### Department of Biotechnology

Topic	Investigator	Supervisor(s)
Studies on the Biochemical Characterization and Optimization of Media Composition for Phenol Degradation by Microbes from Industrial Waste Water	Basak Bikram	Dey A.
Fermentative Production of Protease Enzyme	Bhunja Biswanath	Chaudhuri S. Dutta D.
Exploration and Exploitation of Microbial Catabolic Potentials for the Bioremediation Petroleum Hydrocarbons	Das Ranjit	Kazy S. K.
Environmental Impact of the Pulp and Paper Industrial Effluents and Its Bioremediation	Das Sourav	Dasgupta Mondal Dalia
Studies on Bioconversion of Lignocellulosic Materials to Ethanol	Ganguly Amit	Dey A. Chatterjee P.K., CMERI Durgapur
Optimal Production Strategies for Microbial Pigments	Goswami Gargi	Dutta D. Chaudhuri S.
Bioprospecting of Extracellular Enzymes from Xenorhabdus sps	Kumar Pranaw	Dutta D., Lata, Chaudhuri S.
Genetic and Molecular Interactions of ZBF1/MYC2 and ZBF2/GBF1 in Arabidopsis Seedling Development	Maurya Jay Prakash	Chattopadhyay S.
Studies on the Etiopathogenesis of Gall Bladder Carcinoma in Eastern India	Pramanik Vishmadeb	Kazy S. K. Kar M. Sarkar B. N.
Production of Bio-Active Compounds from Marine Bacteria	Prasad Shiv Shankar	Aikat K.
Biofuel Production using Cellulosic and Hemicellulosic Biomass	Sarkar Nivedita	Aikat K.
Functional Analyses of ZBF2/GBF1 and SHW1 in Light-Controlled Seedling Development In Arabidopsis Thaliana	Senapati Dhirodatta	Chattopadhyay S.

Topic	Investigator	Supervisor(s)
Genetic Regulation of Systemic Acquired Resistance in <i>Arabidopsis thaliana</i>	Singh Vijayata (Regd.with JNU)	Chattopadhyay S., Nandi A., SLS, JNU, New Delhi

### Department of Chemical Engineering

Topic	Investigator	Supervisor(s)
Understanding and Modelling the Dynamics of Coke-Oven Wastewater	Bera Dilip	Pal P.
Technology Development of Liquid Phase Adsorption of Mercury Using Low-cost Adsorbent for Better Management of Industrial Wastes	Bhattacharyya Aparupa	Dutta S. Basu S.,(HITK)
Mercury Pollution Control , Efficient Water Cevrip Mercury & Boine Sludge Mercury	Chatterjee Ashish Kumar	Sarkar J. P. Pal P.
Studies on the Removal of Pollutants from Treated Municipal Waste Water by Photo catalytic Oxidation Process and Conventional Method	Cheriyana Anna Jesil	Sarkar J. P. Dutta S.
Studies on Hot Air Drying of Food Grains - Intermittent Drying and Its Effect on Quality and Energy Consumption	Choudhury Biplab	Sarkar J. P. Chatterjee P.K.
Process Intensification in Lactic acid manufacture through membrane-integrated hybrid reactor system	Dey P.	Pal P.
Analysis and Energy Optimization of Natural Circulation Flow	Goswami Nababithi	Paruya S.
Thermo Chemical Fluidized Bed Gasification of Biomass	Karmakar Malay K. (Submitted)	Haldar S. Dutta A. B. (CMERI)
Biological and Physico-chemical Treatment of Coke-oven wastewater	Kumar Ramesh	Pal P.
Study on Slurry Flow Modeling in Pipeline	Lahiri Sandip Kumar	Ghanta K.C.
Mathematical Modelling of Blast Furnace Hot Blast Stoves	Manjhi S. P.	Gupta P.
Removal of Arsenic from Drinking Water by Solar-Driven Membrane Distillation and Nano-Membrane Filtration	Manna A.K.	Pal P.
Preliminary Processing of Municipal Solid Waste and Modelling of Landfills	Mukhopadhyay Debabrata	Sarkar J. P. Dutta S.
Mass Transfer in Convergent Pneumatic Dryer	Prasad Sunil Kumar	Sarkar J. P. Paruya S.
Heat and Mass Transfer Studies on Vertical Pneumatic Conveying	R. Anandhakrishnan	Sarkar J. P.
Combustion and Gasification of Coal and Biomass	Sadhukhan A.K. (Submitted)	Gupta P. Saha R. K., (IIT Kharagpur)
Groundwater Contamination by Arsenic in Bengal Delta Basin- Studies on Effective Treatment	Sen Mou (Submitted)	Pal P.
Production of Lactic Acid in Membrane-Integrated Bioreactor	Sikder J.	Pal P. Sarkar J. P.

### Department of Chemistry

Topic	Investigator	Supervisor(s)
Molecular Modeling of IMPDH (Inosine Monophosphate Dehydrogenase) and the Binding Studies of Some Modified IMPDH-Inhibitors	Bairagya Hridoy Ranjan	Mukhopadhyay B. P.
Water Molecular Dynamics Study of Human Ranthyretin (TTR) and its Mutated Forms	Banerjee Avik	Mukhopadhyay B. P.

Topic	Investigator	Supervisor(s)
Corrosion Inhibition of Brass and Aluminium Alloy In Chloride Solution	Banerjee Ranu	Nandi M.M.
Development of Methods for Removing Pollutants from Industrial Effluents	Chai Sisir Kumar	Bhounick G.C. Das S .B.
A Study on the Water Molecular Dynamics in Some Homologous Matrix Metallo Proteinases (Mmps) and their Inhibitors – Bonded Complexes by Modelling Methods	Chakrabarti Bornali	Mukhopadhyay B. P.
Evaluation of Arsenic Contamination in Groundwater, Soil, Vegetation through Food Chain and its Impact on the Environment	Chandra Sukanya	Saha R.N. Pal P.
Spatial and Temporal Variations of Ambient Air Quality in Burdwan Town, West Bengal	Chattopadhyay Subrata (Regd. with B.U.)	Saha R.N., Gupta S.
A Study on the Anti-Diabetic and Anti-Glycosuric activity of the Differentially Extracted Compounds/Components Separated from the Commonly available Indigenous Plants	Chattopadhyay Srikanta	Mukhopadhyay B. P. Chakraborty K. (C. U.)
Kinetics and Mechanism of Sunstitution on D <sup>9</sup> Metal Ion System by Bio-Active Ligands	Ghosh Goutam Kr.	Moi S. C. Patra A. K.
Development of Natural Fibre Reinforced Polyester Composite Material	Hazarika Sonalee Borah	Panja S.S, Choudhury S.
Synthesis of Metal and Metal Oxide Xerogel and their Film by Sol-Gel Method and their Characterization	Layek Manas	Maji M.
Synthesis of Titania nanoparticles and Rheological Study for Different Applications	Mahata Shrabani	Nandi M. M. Mondal B. N. (CMERI)
Application of Photo-Fenton's Oxidation and Biological Oxidation for the Degradation of Some Selected Pollutants Present in Petro-Chemical and Coke-Oven Wastewater	Mallik Tirthankar (Regd. with B.U.)	Saha R. N.
A Study on the Invariant Water Molecular Dynamics in Plant Cysteine Protease and their Complexes By Modelling Methods	Nandi Tapas Kumar	Mukhopadhyay B. P.
Environmental Impact of Effluent Generating from Sponge-Iron Industries on Surrounding Water, Soil and Vegetation.	Nayek Sumanta (Regd. with B.U.) Ranjana	Saha R.N. Gupta S. Nandi M.M. Maji M.
Synthetic Modelling of Copper-Protein Active Sites	Roy Suprokash	Patra A. K.
Development of a Suitable Treatment Scheme of Combined Effluent Generating from Iron & Steel, Ferro Alloy, Thermal Power and Chemical Industries Located in Durgapur Industrial Area, W.B.	Satpati Satarupa (Regd. with B.U.)	Saha R.N. Gupta S.
Structure and Interaction Studies of some Nucleotide Molecules with the different Ligands by X - ray Crystallographic Methods	Sengupta Dhruba Kumar	Mukhopadhyay B. P. Das S. B.
An Investigation on Composition of Sea Water and its Corrosion Effects on Metals	Shah Jahan (Oman)	Das S. B. Saha R.N. Raut N. B.
Immobilization of Cholesterol Esterase and Cholesterol Oxidase on Conducting Polymers for Application to Cholesterol Biosensor	Singh Suman	Maji M. Chandra Prakash (CMERI)

### Department of Computer Science and Engineering

Topic	Investigator	Supervisor(s)
Active Stereo Vision from Uncalibrated Camera Images	Bhattacharya Jhilik	Sanyal G.

Topic	Investigator	Supervisor(s)
Study and Implementation of Stagenography Model for Secure Communication	Bhattacharya Souvik	Sanyal G.
Knowledge Management Applications In E - Government Services	Chakraborty Baisakhi	Ghosh D.
Text Steganography through Different Indian Languages	Changder Suvamoy	Ghosh D.
Path Planning with Obstacle Avoidance of an Intelligent Robot Manipulator	Das Suvrojit	Sanyal G. Mukherjee R. N. (B.U.)
Analysis and Dimenssioning of Multiservice Cellular Wireless Networks for Achieving Higher Performance	Samanta Raj Kumar	Sanyal G.
Design of a New Object Oriented Conceptual Data Model for Analytical Processing on Data Warehouse	Sarkar Anirban	Bhattacharya S. Choudhury S.(C.U.)

### Department of Electrical Engineering

Topic	Investigator	Supervisor(s)
Some Studies on DC Attraction Type Levitation and Associated Control Systems	Bhaduri R.	Banerjee S.
Automatic Generation Control of Combined Conventional Generating Units, DFIG units and FACTS devices	Bhatt P. (Regd. with NIT Surat)	Ghoshal S.P. Roy R.
Some Design Aspects for Single and Multi-Magnet Based Electromagnetic Levitation System	Biswas P.	Banerjee S. Sarkar P.
Unification of Field Forces and to Explore Some of the Unanswered Phenomena in Nature and Science	Chanda G.	Ghoshal S.P.
Development of Gas Senors for Online Monitoring of Dissolved Gas in Transformers	Chatterjee Anjali	Roy N. K. Kumbhakar P.
Studies on AGC with Various Distributed Generating Units in Distributed Generating Systems alongwith FACTS Devices	Chatterjee Apurba	Ghoshal S.P. Mukherjee V.
Development of A Generalized Model in View of Deregulation of Power	Indira A.	Roy N. K.
On Line Monitoring of the Partial Discharges in High Voltage Power Apparatus using Optoelectronic Method	Karmakar S.	Roy N. K. Kumbhakar P.
Investigation of Hematological Disorders form Blood Cells Using Soft Computing Techniqies	Karunaharan K. Aldrin	Ghoshal S. P. Vallavaraj A. Govinda Rajan L. (C.C.E., Oman)
Distribution Systems	Khan Nasim Ali	Ghosh S. Ghoshal S. P.
Modeling of BDV of Solid Dielectrics using Soft Computing Techniques	Mohanty S. (Regd. with NIT Rourkela)	Ghosh S.
Optimal Price Forecasting in Restructured Power Systems using Evolutionary Techniques	Pany P.K.	Ghoshal S.P.
State Estimation and Dynamic State Estimation in Power Systems	Rajan Dhavala Venkata	Thakur S.S.
ELD and OPF Studies with Various Evolutionary Techniques	Roy P.	Ghoshal S.P. Thakur S.S.

**Department of Electronics & Communication Engineering**

Topic	Investigator	Supervisor(s)
Optical Fiber Communication	Adhvaryu Krishnendu	Bhattacharjee A.K.
Studies on Cross Layer for Providing Multimedia Services in Wireless Ad-hoc Networks	ALI. M. A.	Kundu S. Sarma Mallela (C.C.E., Oman)
Synthesis of Linear Array Antenna with Mutual Coupling	Basu Banani	Mahanti G.K.
Synthesis of Planar Array Antenna using Soft Computing Tools	Chatterjee Anirban	Mahanti G.K.
Studies on Qos and Energy Level Performance of Wireless Sensor Networks	Datta U.	Kundu S.
Efficient Radio Resource Management for Cellular –Cognitive Wireless Networks	Dhar Roy S.	Kundu S.
Reduction of side Lobe using Genetic Algorithm for Array Antennas	Ghoshal Swapan Kumar	Bhattacharjee A.K.
Modeling and Optimization of High Speed Interconnect in VLSI Design	Kar Rajib	Mal A.K. Bhattacharjee A.K.
Optimal SLL Reduction in CCAA by using Various Evolutionary Optimization Techniques	Mandal D.	Ghoshal S.P. Bhattacharyya A.K.
Studies on Energy Efficient Wireless Sensor Networks in Presence of Fading.	Nandi Arnab	Kundu S.
Development and Storage-Efficient Cryptographic Protocols to Enhance Security in Communication Technology	Paul Pranam	Bhattacharjee A.K. Dutta Saurabh (B.C. Roy Engg. College, Durgapur)
Synthesis of Thinned Antenna Array using Soft Computing Tools	Pathak N.	Mahanti G.K.
Predictive Embedded Systems in Safety Critical Application	Roy Chowdhury Joydeb	Bhattacharjee A.K.
Strategic Evaluation of Performance and Behaviour of a Wireless Network Deploying Real-Time Multimedia Traffic	Saheb Shaik Madhar	Bhattacharjee A.K. Vallavaraj A. (C.C.E., Oman)
To Study Some Aspects of Micro and Nanoelectronic Device Structures for VLSI/ULSI Circuits	Singh Nameirakpam Basanta	Dey A. K. Sarkar S. K.

**Department of Geology**

Topic	Investigator	Supervisor(s)
Impact Assessment of Road Transport Noise on the Urban people of Asansol, an Industrial Town of Eastern India by Monitoring, Modelling and Mapping	Banerjee Dibyendu (Submitted)	Gangopadhyay A. Bhattacharyya S. Chakraborty S. K.
Assessment of Groundwater Condition and Quality in Areas North of Durgapur in the District of Burdwan, West Bengal	Chakraborty Barnali	Gangopadhyay A. Adhikari K.
Integrated Study on Surface & Groundwater Management Planning around North Puruliya Shear Zone, Puruliya District, West Bengal	Gupta Niladri	Gangopadhyay A. P. Chakraborty (Deptt. Sc. & Tech. Govt. W. B.)

Topic	Investigator	Supervisor(s)
Studies on the Environmental Vis-A-Vis Socio-Economic impact of Vermicomposting in Organic Waste Management	Karmakar Sruti	Gangopadhyay A. Bramhachari K.
Seismic Diffraction Tomography and Modelling for Subsurface Imaging	Mahapatra Mahasweta	Gangopadhyay A. Mahapatra S. Kayal J. R.
Geo-Environmental Impact of Coal Mining in Some Parts of Raniganj-Asansol Coalfields, West Bengal	Sadhu Koushik	Adhikari K. Gangopadhyay A.
The Tectonics of Eastern Segment of Delhi Fold Belt, Southeast of Beawar, Rajasthan.	Saha Pinaki	Gangopadhyay A. Mukhopadhyay D

### Department of Humanities and Social Sciences

Topic	Investigator	Supervisor(s)
Optimization of Capacity Utilization in Steel Industry	Basak Netai	Sengupta P.P.
Studies on Fertilizer Industry	Bhattacharyya Amit	Sengupta P.P.
Micro-Pension Plans : Indian Perspective	Bhattacharya Prakash	Chakraborty B. N.
Role of Inventory Management in Industry and its Competitiveness	Bhattacharjee Shyamal Kumar	Sengupta P.P.
Problems and Prospects of Micro Finance in Developing Rural Entrepreneurship: An experience of Burdwan District	Biswas Tiyas	Sengupta P.P.
Sashi Deshpande's Novels : A Feminist with a difference	Chakraborty Taniya	Banerjee J.
An Exploratory Study in to the Effect of Level and Function on Managerial Communication Behaviour in a Public Sector Integrated Steel Plant	Chandra Mouli C.	Sengupta P.P.
Crisis of Cultural Identity in the Novels of Amitav Ghosh	Chatterjee Rajarshi	Banerjee J.
Feminist or otherwise : A Study in the Poetry of Kamala Das	Das Soma	Banerjee J.
Financial Ratio Analysis as a Tool of Financial Forecasting, Business Problem Diagnosis & Solving and Decision Making	De Anupam	Chakraborty B. N.
Development of Socioeconomic Status, Livelihood Pattern and Empowerment of Rural Poor, Specially Rural Poor Women through Self Help Groups, Micro Credit and Livelihood Promotion in Bankura and East Medinipur District of West Bengal, India	De Debasis	Sengupta P.P.
Efficiency and Productivity Evaluation Analysis of Indian Insurers in post Reforms Era	Dutta Anirban	Sengupta P.P.
Optimization of Human Resource in Power Industry of West Bengal, with special reference to DVC, DPL & CESC	Ghosh Sukanya	Sengupta P.P.
Neo-Colonial Understones in Arundhuti Roy and Jhumpa Lahiri	Guha Roy Sandip	Banerjee J.
Employee Competency Mapping; A Strategy for Enhancing Productivity	Joardar Moumita	Sengupta P.P.

Topic	Investigator	Supervisor(s)
Risk Management in Financial Institution	Kumar Bayya Pramod	Sengupta P.P.
Cost Optimisation in Intrgrated Steel Plant	Mitra Paroma	Sengupta P.P.
Studies on Human Resource Management	Mondal Subrata (AMU)	Sengupta P.P.
Optimizing Product-Mix in Indian Steel Industries	Nayak Sanjit Kumar	Sengupta P.P.
Capital Adequacy Norms: Its' Effects on Nationalised Banks in India	Pal Subrata Mohan	Sengupta P.P.
Strategy in Industrial Marketing	Pandey Subrata	Sengupta P.P.
Studies on Retail Management	Roy Rajib	Sengupta P.P.
Problems and Prospects of Indian Steel Exports in Globalised Regime	Samajdar Chinmoy	Sengupta P.P.
Studies on Hospital Management	Sarkar Niloy	Sengupta P.P.
Adaptation to change in Steel Industry A Managerial Approach in SAIL	Sengupta Subhendu	Chakraborty B. N.
A Non-linear approach of Richardson's model on India-Pakistan Arms Race	Shah Rupali Subhashchandra	Sengupta P.P.
A Study on Some Water Resource Management Issues in West Bengal	Show Pradhan	Roy M. Chakraborty B. N.

### Department Of Management Studies

Topic	Investigator	Supervisor/S
Developing a Model for Better Utilization of Hospital Resources	Bandyopadhyay Soumendranath	Dutta A. Bandyopadhyay G Sanyal G.
Extension of Service Quality Gap Model for Edu-Preneurs; A Study Based on WB	Banerjee Chandan Kr.	Mondal K.
Cross-Sectional Analysis of Share Buy Back on Companies' Performance and Investors' Wealth In Indian Context.	Bhattacharjee Biswanath	Dutta A.
Financial Management and Control towards Financial Sustainability of Urban Local Bodies in India with Special Reference to WB: Analysis and Improvement of Existing System with Quantitative Techniques	Bhattacharya Sidhakam	Bandyopadhyay G
Application of Management Tool to Control Inherent Risk from Liquefied Petroleum Gas (LPG) & Developements of Maximum Credible Loss Model for Durgapur, WB	Chatterjee Saumya	Bandyopadhyay G
Knowledge Management as a Source of Competitive Advantage in Indian Job Market	Chatterjee Tilak	Roy M.
Understanding Various Facets of Purchase Involvement; A Study of Burdwan , WB	Dasgupta (Banerjee) Monami	Mondal K.
Study of Certain Aspects of Strategic Planning in IT Industry.	Dinkar	Bandyopadhyay G Mukherjee R. (B.C.E.T., Durgapur)

Towards Developing an Effective Strategy for Employee Retention in IT Organization	Dutta Monalisa	Dutta A.
Information & Communication Technology and E-Business Support for Indian MSMEs	Gayen Anupam	Roy M.
Forecasting using Optimization Techniques from the Perspective of Indian Financial Market	Ghosh Arijit (Regd. with J.U.)	Chaudhuri K. (J.U.) Bandyopadhyay G
The Impact of Coal Mining Activities on the Environment and Socio-Economic Condition of Adjoining Human Population with Special Reference to Asansol- Ranigunj Area in West Bengal, India	Guha Debasish	Dutta A. Mondal S.
Study of Impact of Global Economy on Petrochemical Business in Asia	Khastagir D.	Roy M.
The Influence of Corporate Culture on Organisational Commitment-Evidence from Selective Hospitality Industry In India	Mitra Manojit	Bandyopadhyay G
Study on Nature of Relationship Between Channel Power and Influence Strategy Visa-A-Vis Channel Management Practices Prevalent in India.	Roy Koushick	Mondal K.
Studies on Polluting Industries' Socio-Economic and Environmental Impact	Sarkar Sreemanta	Roy M.
Investigating the Financial Health of Indian Companies using Quantitative Techniques	Upadhyay Arun	Bandyopadhyay G

### Department of Mathematics

Topic	Investigator	Supervisor(s)
Design of Web based Expert System for Indian Diabetes Patients	Bera Anup	Basu K.
Fuzzy Decision Making and Soft Computing: Principles and Applications	Bhattacharyya Rupuk	Kar S. Dutta Majumder D.
Impact of E-Learning for Enhancement of Gross Enrollment (GER) of West Bengal in Comparison to Other States: A Statistical Performance Based Study	Das Anirban	Basu K.
Mathematical Models of Some Decision Making Problems using Soft Computing Techniques	Das Debasis	Kar S. Roy A.
Optimization in Steel Makes Parameters of Integrated Steel Plant with Special Reference to Durgapur Steel Plant in the Realm of Applied OR Tools and Techniques to Make Steel Making Globally Competitive in the Post Liberalization Indian Economy	Das Subhas K.	Sarkar (Mondal) S.
On some Computational Fluid Flow Problems and Transport Phenomena as an Application of Boundary Layer Equations	Dey Sambhu Nath	Sikder S.C. Ghosh D.
Study of Some New Codes and their Supporting t-Designs	Ghosh Debashis	Dey L. K.
Solution of Network Optimization Problems under the Aegis of Operations Research Technique	Karmakar Partha	Sarkar (Mondal) S. Majumder D.
Fuzzy Mathematics and its Applications in Society	Mukherjee Supratim	Kar S.
Fuzzy Set Theoretic Approach to Solve Optimization Problems in Business and Industry	Mukherjee Sathi	Basu K.
Application of Operations Research in Industry and Management	Mukherjee Bishahari	Basu K.



Topic	Investigator	Supervisor(s)
Reliability Modelling and Analysis of an Industrial System	Narayanan P.	Pal A. Rizwan S. M.
Reduction of Pollution by Applying Optimization Techniques in Consideration with Cost Effective Emission of Pollution	Pandey Abhay K.	Sarkar (Mondal) S.
A Critical Study to Analyze Characteristics of Indian Educational, Tourism and Shopping Websites to Increase Effectiveness & to Achieve Better Marketability	Panigrahi Goutam	Basu K.
Optimal Solution of Industrial, Managerial and Socio-Economic Problems Associated with Local Industries & the Surrounding People by Operations Research Technique	Pathak Savita	Sarkar (Mondal) S.
Conditional Covering Problems on Intersection Graphs	Rana Akul	Pal A. Pal M.
Application of Operations Research in the Problems of Socioeconomic, Industrial, Managerial & Service Sectors of Local Industries and the Problem of Surrounding Areas (Durgapur)	(Roy) Sarkar Taniya	Basu K. Sarkar (Mondal) S.
Mathematical Models of Some Decision Making Problems in Different Environments	Saha Anirban	Kar S. Maity M.
Supply Chain Modelling and Prediction	Sarkar Subhadeep	Kar S.

### Department of Mechanical Engineering

Topic	Investigator	Supervisor(s)
Study on machinability aspects hard to machine materials with advance cutting tools	Balamurugan Gopla	Ghosh S. Mondal B.N. (CMERI)
Probabilistic approach for autonomous Navigation of mobile robot in unstructured environment	Banerji Debajyoti	Basak I. Bose J. (CMERI)
Study on Fabrication, analysis and design of adhesive bonded composite joints	Barman Swapan	Mitra A.K. Sen R. (CMERI)
Improvement in performance of coal fired steam generation Technology for thermal power generation	Bhattacharya Chittatosh	Banerjee N. Sarkar H. (WBPCB)
An Investigation of Flow and Performance Characteristics within a Sinuous Duct.	Biswas A.K.	Saha S. Mullick A.N. Majumder B. (JU)
Effect of Surface Finish, Elastic Deformation on Oil Lubricated Bearings	Chakraborty Shyama Charan	Majumder M.C.
Dynamic Response of Rotor System at Subcritical and Supercritical States	Chattoraj Chandan	Basak I. Basuray Prasanta Kumar (B. C. Roy Engg. College, Durgapur)
Haptics based Instrumentation for Medical Rehabilitation	Chatterjee Avik	Basak I. Majumder S. (CMERI)
Dynamic maintenance strategies to achieve zero break down in Industry	Das Kajal	Majumder M.C. Suresh T.S. (DSP)
Studies on flow and performance characteristics through serpentine diffuser.	Das N.K.	Halder B. Ray P. Majumder B. (JU)
Modelling and Analysis of Machine Tool Dynamics for Prediction of Stability against Chatter using Bond Graph Technique	De Jagannath	Saha A. K. Banerjee N.

Topic	Investigator	Supervisor(s)
Ocean wave energy, exploration of un-conventional energy from water waves	Debroy Prodip	Ghosh S.
Simulation and optimization of Railway wheel forming process using finite element method and soft computing	Gangopadhyay Tapas	Basak I. Pratihari D.K. (IIT,Kgp)
Optimization of squeeze casting process	Gangopadhyay Susanta	De N.R. Mukherjee N.P. (CMERI)
Motion planning of deep sea remotely operated unmanned submersible through soft computing	Ghosh Sandip Kumar	Basak I.
Motion Dynamics of serpentine mobile robot	Maity Atanu	Ghosh S. Majumder S. (CMERI)
Study of the effects of deformation for a herringbone bearing	Majumder Sabyasachi	Majumder M.C.
Total productive maintenance, using TPR as a tool	Mathew A.G.	Majumder M.C. Ramachandran K.P. (CCE, Oman)
Study of a Software servo controlled robotic manipulator with flexible joint.	Mukhopadhyay Sumit	Sengupta S. N.
Integrated approach into design, operation & empirical aspects of virtual cellular manufacturing systems	Murali V	Puri A. B. Prabakaran G. (CCE)
Development of an ECDM set up and performing parametric analysis for better machining performances	Nandi Debasish	Basak I. Puri A. B.
Theoretical studies of externally pressurised porous gas bearings	Pathak Manas Kumar	Majumder M.C.
Autonomous terrain exploration for mobile robots using behaviour based learning method	Ray Dip Narayan	Majumder S. (CMERI), Mukhopadhyay S.
<b>Performance Enhancement of Solar Air Heater Using Compound Artificial Roughness</b>	<b>Roy Pranab Kanti</b>	<b>Layek A.</b>
Development and performance of wear resistant engineering material of Alumina based ceramic composites	Sampath Kumar B.	Ghosh S. Mondal B.N. (CMERI)
Development of the algorithm and the application programme for feature recognition in a 3-D CAD model	Sarkar Hemendra Nath	Majumder M.C. Mukherjee N.P. (CMERI)
Towards design of a reliable autonomous underwater vehicle (AUV).	Shome Sankar Nath	Ghosh S. Basu Jhankar (CMERI)
Non destructive testing of pipes using infrared thermography method	Vijayaraghvan G.K.	Majumder M.C. Ramachandran K.P. (CCE, Oman)
Optimization of machining fixture layout using finite element method.	Vishnupriyan S.	Ramachandran K.P. (CCE, Oman) Majumder M.C.

### Department of Metallurgical & Materials Engineering

Topic	Investigator	Supervisor(s)
Studies on Status, Constraints and Solution of Coal Based Sponge Iron Industries in India	Chakraborty R.	Mitra S. K.
Effect of Alloying Elements and Heat Treatment on Structure, Properties and Application of Austempered Ductile Iron	Dasgupta R. K.	Mondal D. K.
High Temperature Corrosion Behaviour Of Cr-Mo-Steel in SO <sub>2</sub> +O <sub>2</sub> Atmosphere	Ghosh D.	Mitra S. K.
Study on the Development of Nickel Free Wear Resistant Casting	Mandal S. S.	Mondal D. K.

Topic	Investigator	Supervisor(s)
Study on the Development and Performance of Ceramic Particulates Reinforced Al-Alloy Composites through Investment Casting Route	Paswan Dayanand	Sinha T. K. Mondal B. N. (CMERI)
Studies on High Temperature Degradation of Stainless Steel Weldments in Coke-Oven Gas Atmosphere	Pramanik S.	Mitra S. K.
Study on the Characteristics of Dual Phase ADI Low-CE Ductile/Compacted Irons	Roy Choudhuri M.	Ghosh K. S. Mondal D. K.
Effect of Cyclic Heat Treatment on Microstructure and Mechanical Properties in Various Grades of Plain Carbon Steels	Saha A.	Mondal D. K. Maity J.
Development of Aluminium Based Metal Matrix Composite with Hybrid Reinforcement	Show B. K.	Maity J. Mondal D.K.
Optimization of Parameters of Heat Treatment Cycles of MIM Process to Reduce the Total Time of Manufacturing of NET Shape Steel Components by MIM	Singh M.	Mondal D. K. Ghosh K. S.

### Department of Physics

Topic	Investigator	Supervisor(s)
Investigation on the Mechanical Properties of Carbon-Nanotube Based Composites	Agarwalla Rajesh	Mitra A. K.
Study on the Mechanical Properties of Carbon Materials Including Carbon Nanotubes	Bhattacharya Koushik	Mitra A. K.
A Study on the Transport Properties of Thin Films and Alloys	Chakraborty Goutam	Meikap A. K.
Studies on Chaos based Secure Communication Systems	Chattopadhyay Debasish	Mandal M.K.
Investigation on Nonlinear Optical Materials for Frequency Conversion Applications	Chattopadhyay Manajit	Kumbhakar P.
Synthesis of Polymer Nanocomposites and its Electrical Magnetic And optical Properties	Choudhury Somnath	Meikap A. K. Mandal M. K.
$Z'$ -Boson, B-Mesons and New Physics	Das Chandan Kumar	Maharana L.(U.U.) Sahoo S.
Synthesis and Characterization of Nano Materials Using Nd:YAG Laser	Desarkar Himadri	Kumbhakar P. Mitra A. K.
Characterisation and Electrical Transport Properties of Nanocomposite Materials	Ghatak Somenath	Meikap A. K.
The Effect of the Dopant of the Electron Transport Properties in Conducting Polymers at Ambient and Cryogenic Temperatures	Ghosh P.	Meikap A. K.
Optical, Magnetic and Electrical Properties of Conducting Polymers	Gupta K.	Meikap A. K. Jana P. C. (V.U.)
Synthesis and Charectarization of Rare Earth Ortho Ferrite Nanocomposites	Hossain Mazaffar	Basu S. Pal M.(B.U.)
Online Monitoring of High-Voltage Equipment using Optoelectronic Method	Karmakar S.	Roy N. K. Kumbhakar P.
Study on the Properties of Functionalized Carbon Nanotubes	Paul Rima	Mitra A. K.
Microstructure, Electrical and Optical Characterization of Some Industrial Nanocrystalline Materials Synthesized By High Energy Ball Milling	Saha Sourav	Meikap A. K. Pradhan S. K.
Synthesis and Characterization of Some Nanostructured Materials	Sarkar Rajat	Kumbhakar P. Mitra A. K.
Theoretical Investigation on the Mechanical Properties of Carbon Nano Tubes	Talukdar Keka	Mitra A. K.

Topic	Investigator	Supervisor(s)
Development of Dye Sensitized Nanocrystalline Solar Cells	Usha K.	Kumbhakar P. Mandal B.N. (CMERI)

#### Annexure–11.4(h) Ph.D. degree awarded till date

Name of the Department	Investigator	Supervisor(s)
Chemical Engineering	Dr. Shankar Mukherjee	Dr. A.P. Sinha
Chemical Engineering	Dr. S.K. Dutta	Dr. A.P. Sinha
Chemistry	Dr. M. Banerjee	Dr. R. S. Konar
Chemistry	Dr. S. Chatterjee	Dr. R. S. Konar
Chemistry	Dr. B. R. Guha	Dr. S. N. Banerjee
Chemistry	Dr. S. Basu	Dr. S. N. Banerjee
Chemistry	Dr. U. Satpathi	Dr. R. S. Konar
Chemistry	Dr. P. K. Banerjee	Dr. S. N. Banerjee
Chemistry	Dr. S. Saha	Dr. N. Kurmaiah
Chemistry	Dr. V. K. Soi	Dr. N. Kurmaiah
Chemistry	Dr. S. Sarkar	Dr. R. S. Konar
Chemistry	Dr. M. S. Adhikary	Dr. R. S. Konar
Chemistry	Dr. S. Guchait	Dr. R. S. Konar
Chemistry	Dr. R. Roy	Dr. M. M. Nandi
Chemistry	Dr. P. Debnath	Dr. M. M. Nandi
Chemistry	Dr. S. Mishra	Dr. S. N. Banerjee
Chemistry	Dr. J. Chowdhuri	Dr. M. M. Nandi
Chemistry	Dr. S. Tarot	Dr. M. M. Nandi
Chemistry	Dr. T. K. Chatterjee	Dr. G. C. Bhaumik
Chemistry	Dr. A. K. Sarkar	Dr. N. Kurmaiah
Chemistry	Dr. N. Dey	Dr. R. S. Konar
Chemistry	Dr. S. C. Mitra	Dr. R. S. Konar
Chemistry	Dr. S.C. Moi	Dr. A. K. Ghosh
Chemistry	Dr. T. Kundu	Dr. A. K. Ghosh & Dr. P. Chowdhury
Chemistry	Dr. S. Samui	Dr. A. K. Ghosh & Dr. P. Chowdhury
Chemistry	Dr. B. Ghosh	Dr. B. P. Mukhopadhyay
Civil Engineering	Dr. M. N. Rao	Dr. M. M. Basole
Civil Engineering	Dr. P. K. Das	Dr. M. M. Basole
Civil Engineering	Dr. N. M. Basu	Dr. M. N. Rao
Civil Engineering	Dr. S. N. Srimani	Dr. P. K. Das
Electrical Engineering	Dr. P. K. Sen	Dr. A. M. Roy
Electrical Engineering	Dr. (Mrs.) J. Majumder	Dr. S. P. Roy Choudhury
Electrical Engineering	Dr. V. Mukherjee	Prof. S.P. Ghoshal
Electrical Engineering	Dr. Ranjit Roy	Prof. S.P. Ghoshal
Geology	Dr. T. K. Saha	Prof. S. B. Bhattacharjee & Prof. S. N. Ghosh (ChE)
Geology	Dr. A. K. Batabyal	Prof. S. B. Bhattacharjee & Dr. A. Mukherjee
Geology	Dr. K. Adhikari	Dr. A. Gangopadhyay & Dr. P. Choudhury
Humanities	Dr. R. Chaudhury	Dr. P. P. Sengupta & Dr. S. C. Sikdar
Humanities	Dr. S. K. Seth	Dr. P. P. Sengupta
Mathematics	Dr. E. Tarafder	Dr. A. K. Chowdhury
Mathematics	Dr. R. Sircar	Dr. D. N. Mitra
Mathematics	Dr.(Miss.) H. Chattapadhyay	Dr. B. K. Roy
Mathematics	Dr. J. Sanyal	Dr. A. N. Roy Chowdhur
Mathematics	Dr. D. Chatteraj	Dr. S. K. Bose

<b>Name of the Department</b>	<b>Investigator</b>	<b>Supervisor(s)</b>
Mathematics	Dr. T. Chattopadhyay	Dr. S. K. Bose
Mathematics	Dr. T. Das	Dr. R. Sircar
Mathematics	Dr. S. S. Halder	Dr. S. K. Bose
Mathematics	Dr. (Smt) P. Chakraborty	Dr. A. N. Roy Chowdhury
Mechanical Engineering	Dr. S. N. Mukherjee	Dr. S. K. Basu
Mechanical Engineering	Dr. D. K. Pal	Dr. S. K. Basu
Mechanical Engineering	Dr. S. N. Sengupta	Dr. S. K. Basu
Mechanical Engineering	Dr. G. Mitra	Dr. S. K. Basu
Mechanical Engineering	Dr. G. S. Gill	Prof. N. C. Dasgupta & Dr. D. Bhaduri
Mechanical Engineering	Dr. P. Basu	Prof. N. C. Dasgupta & Dr. D. Bhaduri
Mechanical Engineering	Dr. A. Majumdar	Dr. S. K. Basu
Mechanical Engineering	Dr. G. S. Patki	Dr. S. K. Basu
Mechanical Engineering	Dr. P. K. Sinha	Dr. D. Bhaduri
Mechanical Engineering	Dr. S. C. Nidhi	Dr. S. K. Basu
Mechanical Engineering	Dr. J. Basu	Dr. S. K. Basu
Mechanical Engineering	Dr. B. Bhaduri	Dr. S. K. Basu
Mechanical Engineering	Dr. S. P. Das	Dr. P. B. Choulia
Mechanical Engineering	Dr. M. S. Mukhopadhyay	Dr. D. K. Pal
Mechanical Engineering	Dr. M. R. Patkar	Dr. D. K. Pal & Dr. S. K. Basu
Mechanical Engineering	Dr. S. Chakraborty	Dr. D. K. Pal
Mechanical Engineering	Dr. M. A. Venkatesh	Dr. D. K. Pal
Mechanical Engineering	Dr. N. P. Mukherjee	Dr. D.K.Pal
Mechanical Engineering	Dr. S. Mukherjee	Dr. S.N.Sengupta & Dr. M.C.Majumder
Metallurgical & Materials Engineering	Dr. Subhendu Mukherjee	Prof. D. K. Mondal
Metallurgical & Materials Engineering	Dr. A. C. Ganguli	Dr. S. C. Dasgupta & Dr. A. K. Chakraborty
Metallurgical & Materials Engineering	Dr. S. Banerjee	Dr. D. Bhaduri
Metallurgical & Materials Engineering	Dr. B. Deo	Dr. S. Sarkar
Metallurgical & Materials Engineering	Dr. A. Basu	Dr. S. C. Sengupta & Dr. S. Jana
Metallurgical & Materials Engineering	Dr. S. K. Chattopadhyay	Dr. S. K. Chatterjee & Dr. S. P. Sengupta
Metallurgical & Materials Engineering	Dr. K. Lal	Dr. S. K. Chattopadhyay & Dr. A. K. Meikap (PH)
Physics	Dr. N. Choudhury	Dr. M. S. Sinha

<b>Name of the Department</b>	<b>Investigator</b>	<b>Supervisor(s)</b>
Physics	Dr. A. K. Das	Dr. M. S. Sinha
Physics	Dr. B. C. Nandi	Dr. M. S. Sinha
Physics	Dr. P. S. Basu	Dr. M. S. Sinha
Physics	Dr. G. S. Roy	Dr. M. S. Sinha
Physics	Dr. (Mrs.) Ragasree Sen	Dr. S. K. Chatterjee
Physics	Dr. D. Biswas	Dr. A. K. Meikap & Dr. S. K. Chattopadhyay
Physics	Dr. S. Sahoo	Dr. L. Maharana & Dr. A. K. Meikap
Physics	Dr. A. Sarkar	Dr. A. K. Meikap & Dr. S. K. Chatterjee
Physics	Dr. Jiten Ghosh	Dr. S. K. Chatterjee

#### **Annexure-11.4(i) Testing & Consultancy services rendered during 2009-10**

<b>Department</b>	<b>Title of the Project</b>	<b>Amount (Total)</b>
Chemistry	Testing Cement, mortar, ores, water etc. Consultancy	Rs. 7,000(Approx)
Civil Engineering	Testing and Consultancy	Rs. 7, 18,298 Rs. 3, 12,899 Rs.10, 31,197
Metallurgical & Materials Engineering	Testing and Consultancy	Rs.1, 98,500

**11.5(a) Sanctioned posts of faculty and number in position**

Name of Department	Professor		Asst. Prof		Lecturer	
	Sanctioned	In position	Sanctioned	In position	Sanctioned	In position
Biotechnology	02	02	03	03	06	03
Chemical Engineering	02	02+04	04	02+01	05+02	02
Chemistry	02	01+01	02	02+02	07	04
Civil Engineering	02	02+04	04	02+02	07	05
Computer Application	01	-	02	-	07	05
Computer Science & Engineering	02	01+01	04	03	07	05
Electrical Engineering	03	02+03	04	02+02	11	06
Electronics & Communications Engineering	02	02+01	05	02+03	09	05
Geology	-	-	01	01+01	01	-
Humanities & Social Sciences	01	01+01	02	-	04	02
Information Technology	02	-	05	02	09	08
Management Studies	01	-	04	03	07	05
Mathematics	02	-	01	01+02	05	03
Mechanical Engineering	03	02+04	05	05+05	12	10
Metallurgical & Materials Engineering	03	01+02	05	04+02	08	03
Physics	01	02+01	01	0+01	05	03
T.P.S.W.	01	01	-	-	-	-

+ Figure denotes under CAS

**Annexure-11.5(b) List of Faculty**

Director	Bhattacharya Swapan, PhD
Dean, Administration	Mitra Apurba Krishna, PhD
Dean, Alumni Affairs & Resource Generation (upto 14.7.2009)	Sanyal Goutam, PhD
Dean, Students Welfare (from 15.7.2009)	
Dean, PG Studies & Research (upto14.7.2009)	Mitra Swapan Kumar, PhD
Dean , Faculty Welfare (from15.7.2009)	
Dean, Planning & Development	Haldar Subhamay, PhD
Dean, Student Affairs (upto 14.7.2009)	Mondal Dipak Kumar, PhD
Dean, UG Studies (upto14.7.2009)	Das Sunil Baran, PhD
Dean, Academic (from 15.7.2009)	
Dean, Research& Consutancy (from15.7.2009)	Gupta Partha Pratim, PhD

**Department of Biotechnology**

<b>Name of the post</b>	<b>Name</b>
Professor	Chattopadhyay Sudip, PhD Dey Apurba, PhD
Assistant Professor	Aikat Kaustav, PhD Chaudhuri Surabhi, PhD Dasgupta Dalia, PhD
Lecturer	Dutta Debjani, PhD Khannam Kazy Sufia, PhD Saha Papita

**Department of Chemical Engineering**

<b>Name of the post</b>	<b>Name</b>
Professor	Ghanta Kartik Chandra, PhD Gupta Parthapratim, PhD Halder Subhamay, PhD Narayanan C. M., PhD Pal Parimal, PhD Sarkar Jyoti Prakash, PhD
Assistant Professor	Dutta (Halder) Susmita, PhD Mondal Tamal, PhD Sadhukhan Anup Kumar
Senior Scale Lecturer	Paruya Swapan, PhD
Lecturer	Sikder Jaya

**Department of Chemistry**

<b>Name of the post</b>	<b>Name</b>
Professor	Das Sunil Baran, PhD Nandi Murari Mohan, PhD
Assistant Professor	Maji Milan, PhD Mukhopadhyay Bishnupada, PhD Patra Apurba Kumar, PhD Sukul Dipankar, PhD
Senior Scale Lecturer	Moi Sankar Chandra, PhD Saha Raj Narayan, PhD
Lecturer	Chakrabarty Jitamanyu, PhD Panja Sujit Sankar, PhD

**Department of Civil Engineering**

<b>Name of the post</b>	<b>Name</b>
Professor	Bhattacharjee Kamal, PhD Das Amlan, PhD Dwivedi Vijay Kumar, PhD Roy Purnendu, PhD Saha Showmen, PhD Singha Roy Dilip Kumar, PhD
Assistant Professor	Banik Atul Krishna, PhD Bhattacharya Soumya, PhD Dey Partha Pratim (released on 17.02.2010) Dutta Aloke, PhD Samanta Amiya Kumar, PhD



<b>Name of the post</b>	<b>Name</b>
Senior Scale Lecturer	Das Diptesh Roy Pronab
Lecturer	Karmakar Somnath Pal Supriya Samal Nihar Ranjan, PhD

#### **Department of Computer Applications**

<b>Name of the post</b>	<b>Name</b>
Professor	Vacant
Assistant Professor	Vacant
Assistant Professor (contractual)	Sharma Abhijit
Senior Scale Lecturer	Changder Subhamoy Choudhury Prasenjit Das Subhrojit Saha Mousumi Sarkar Anirban

#### **Department of Computer Science & Engineering**

<b>Name of the post</b>	<b>Name</b>
Professor	Ghosh Debidas, PhD Sanyal Goutam, PhD
Assistant Professor	Pal Tandra Roy Suchismita, PhD Sarkar Goutam, PhD
Selection Grade Lecturer	De Tanmay
Senior Scale Lecturer	Nandi Subrata
Lecturer	Guha Thakurta Parag Kumar Sadhu Sanjib Sen Bibhas

#### **Department of Electrical Engineering**

<b>Name of the post</b>	<b>Name</b>
Professor	Dutta Swapan Kumar, PhD Ghosh Saradindu, PhD Ghoshal Sakti Prasad, PhD Ray Nirmal Kumar, PhD Thakur Sidhartha Sankar, PhD
Assistant professor	Acherjee Parimal, PhD Banerjee Subrata, PhD Koley Chiranjib, PhD Mahato Sankar Narayan, PhD
Sr. Scale Lecturer	Barman Jitesh Chandra Bhowmik Partha Sarathee Das Avinandan Saha Tapas
Lecturer	De Jayati, PhD Sarkar Supriya

**Department of Electronics and Communication Engineering**

<b>Name of the post</b>	<b>Name</b>
Professor	Bhattacharjee Anup Kumar, PhD Datta Sanjit Kumar, PhD (retired on 31.03.2010) Mahanty Goutam Kumar, PhD
Assistant Professor	Dey Asish Kumar, PhD Kundu Sumit, PhD Maji Banshi Badan, PhD Mal Ashis Kumar, PhD
Sr. Scale Lecturer	Sadhukhan Tapas Dhar Roy Sanjoy
Lecturer	Mondal Durbadal Chandra Aniruddha Kar Rajib Majumder Aurpan

**Department of Geology**

<b>Name of the post</b>	<b>Name</b>
Assistant Professor	Adhikary Kalyan, PhD Gangopadhyay Aniruddha, PhD

**Department of Humanities & Social Sciences**

<b>Name of the post</b>	<b>Name</b>
Professor	Chakraborty Baidyanath, PhD Sengupta Partha Pratim, PhD
Assistant Professor	Vacant
Lecturer	Banerjee Joydeep, PhD Modak Arindam

**Department of Information Technology**

<b>Name of the post</b>	<b>Name</b>
Professor	Vacant
Assistant Professor	Choudhury Subhrabrata Nandi Debasish
Sr. Scale Lecturer	Chakraborty Baisakhi Dutta Animesh Howlader Joydeep Majhi Subhankar Mukhopadhyay Sajal
Lecturer	Das (Daptary) Dipanwita Jana Nandadulal Sen Adrija

**Department of Management Studies**

<b>Name of the post</b>	<b>Name</b>
Professor	Vacant
Assistant Professor	Bandopadhyay Goutam, PhD Dutta Avijan, PhD Roy Mousumi, PhD

<b>Name of the post</b>	<b>Name</b>
Lecturer	Banerjee Neelotpal Dey Anupam Mondal Kaushik, PhD Roy Choudhury Himadri, PhD (released on 31.08.2009) Sarkar Subhadip

#### **Department of Mathematics**

<b>Name of the post</b>	<b>Name</b>
Professor	Shukla Vidya Prasad, PhD (released on 26.06.2009)
Assistant Professor	Basu Kajla, PhD Kar Samarjit, PhD Sarkar (Mondal) Seema, PhD
Lecturer	Bagchi Satya Dey Lakshmikanta, PhD Pal Anita, PhD

#### **Department of Mechanical Engineering**

<b>Name of the post</b>	<b>Name</b>
Professor	Basak Indrajit, PhD Dey Nilratan, PhD Ghosh Sukamal, PhD Halder Biswajit, PhD Majumder M.C, PhD Saha Anup Kumar, PhD
Assistant Professor	Banerjee Neelotpal, PhD Biswas Arup Kumar Hui Nirmal Baran, PhD Layek Apurba, PhD Mitra Ambuj Kumar Mukhopadhyay Sumit Mullick Amar Nath, PhD Pramanik Achinta Kumar, PhD Puri Asitbaran, PhD Sengupta Amitava Sil Somnath
Senior Scale Lecturer	Bera Biswajit Das Asim De Jagannath Karmakar Sujit Khan Kallol Mitra Ranjan Kumar Pramanik Shantanu Roy Shibendu Shekhar
Lecturer	Patari Animesh Rana Subhash Chandra

#### **Department of Metallurgical & Materials Engineering**

<b>Name of the post</b>	<b>Name</b>
Professor	Mitra Swapan Kumar, PhD Mondal Dipak Kumar, PhD Sinha Tapan Kumar, PhD

Assistant Professor	Bhardwaj Mukesh, PhD.(released on 16.11.2009) Bhattacharya Ashish, PhD Chakraborty Rajib Ghosh Karuna Sindhu, PhD Maity Joydeep, PhD Roy Rabindranath Pramanik Susanta
Sr. Scale Lecturer	Ghosh Madan Mohan
Lecturer	Mondal Manas Show Bijay Kumar

**Department of Physics**

Name of the post	Name
Professor	Chatterjee Sanat Kumar, PhD Mitra Apurba Krishna, PhD
Assistant Professor	Kumbhakar Pathik, PhD Meikap Ajeet Kumar, PhD
Sr. Scale Lecturer	Mandal Mrinal Kanti, PhD Sahoo Sukdev, PhD
Lecturer	Basu Soumen, PhD

**Department of Training, Placement and Students' Welfare**

Name of the post	Name
Professor	Sarkar Satya Narayan, PhD

**Annexure–11.5(c) New appointment of faculty during the year**

SL. NO.	Name	Department	Designation	Date of Joining
1.	Mahanty Goutam Kumar	Elec. & Comm. Engg.	Professor	30.03.2010
2.	Sharma Abhijit	Computer Applications	Asstt. Prof. (contractual)	31.03.2010

**Annexure–11.5(d) Retirement, Resignation and Voluntary Retirement of faculty during the year**

SL. NO.	Name	Department	Designation	Date of retirement/ Resignation
1.	Sukla Vidya Prasad	Mathematics	Professor	26.06.2009
2.	Bharadwaj Mukesh	MME	Asstt. Prof.	16.11.2009
3.	Dey Partha Pratim	Civil Engg.	Asstt. Prof.	17.02.2010
4.	Roy Choudhury Himadri	DMS	Lecturer	31.08.2009
5.	Dutta Sanjit Kumar	ECE	Professor	31.03.2010

**Annexure-11.6(a) Sanctioned posts of officers and number in position**

<b>Designation</b>	<b>Sanctioned</b>	<b>In position</b>
Registrar	1	1 (Removed on 15.01.2010)
Librarian	1	1
Deputy Registrar(Admn)	1	1
Deputy Registrar (Accounts)	1	1
Maintenance Engineer	1	1
Manager(Hostel, Estate & Security)	1	1
Medical Officer	2	2
Officer, TPSW	1	Vacant
Audit Officer	1	1
Administrative Officer	1	1
Asstt. Engineer	1	Vacant
Asstt. Registrar(Academic)	1	1
Asstt. Registrar	1	Vacant
Asstt. Librarian	1	Vacant
Jr. Accounts Officer	1	1
Physical Training Instructor	1	1
Programmer	1	1
System Manager	1	1
Stores Officer	1	1

**Annexure-11.6(b) List of Officers**

Registrar	Ray Supriya Kumar (Removed on 15.01.10)
Librarian	Mondal Manik, PhD
Deputy Registrar(Admn)	Ray Dhrubajyoti
Deputy Registrar (Accounts)	Mukherjee Uday Chandra
Maintenance Engineer	Haldar Tanmay
Manager (Hostel, Estate & Security)	Chattopadhyay Alope Kumar
Medical Officer	Patra Sucharita (Dr., Mrs)
Medical Officer	Sarkar Banhi Kumar (Dr.)
Audit Officer	Das Ashutosh
Administrative Officer	Sinha Sanat Kumar
Asstt. Registrar (Academic)	Sardar Amiya Kumar
Jr. Accounts Officer	Bhattacharya Sayan
Physical Training Instructor	Mukherjee Hillol
Stores Officer	Mondal Debasish

**Computer Centre**

System Manager	Saravanan C, PhD
Programmer	Chatterjee Rajib

**Library**

Librarian	Mondal Manik, PhD
Assistant Librarian	Vacant

**Workshop**

Superintendent	Ahmed Shabbir, PhD (Retired on 31.12.2009)
Foreman	Dutta Goutam Roy Ashok Kumar

**Medical Unit-cum-Hospital**

Medical Officer(s)	Patra Sucharita (Dr., Mrs.) Sarkar Banhi Kumar (Dr.)
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**Annexure-11.6(c) Sanctioned posts of technical & administrative staff and in position**

<b>Designation</b>	<b>Sanctioned</b>	<b>In position</b>
Cleaner	1	1
Draftsman	5	1
Driver	4	1
Duftry	1	1
Dupl. Machine Operator	1	1
Engg. Asstt.	3	3
General Duty Attd.	6	3
Guest House Bearer	1	Vacant
Head Asstt.	6	1
Hostel Cook	6	4
Jr. Computer Operator	3	2
Key Punch Operator	3	2
Laboratory Assistant	7	4
Laboratory Attd/Skilled Staff	24	9
LDA/LDC	60	31
Mali	17	2
Mazdoor	6	2
Asstt. Foreman	17	9
Nayek	6	Vacant
Office Peon/Helper	65	42
PA to Director	1	Vacant
Pharmacist	1	1
Sanitary Inspector	1	1
Security Inspector	3	1
Skilled staff Gr.-I	42	15
Spl. Messenger	1	Vacant
Sr. Lib. Asst/Lib. Asst.	9	3
Sr. Mechanics	1	Vacant
Stack Attd(Lib)	6	2
Staff Nurse	3	3
Stenographer	5	Vacant
Store Attendant	1	1
Supervisor Instructor	6	Vacant
Sweeper	25	7
Technical Assistant	35	21
Telephone Mechanics	1	1
UDA/UDC	43	19
Watchman	32	7
Workshop Attendant	1	1

**Annexure-11.6(d) New Recruitment of Staff**

NIL

**Annexure-11.6(e) Retirement, Resignation, Death and Voluntary Retirement of Staff during the year**

SL. NO.	Name	Department/ Section	Designation	Date of Retirement/ Resignation/Death
1.	Chatterjee Bimal	Workshop	Skilled Staff	30.04.2009
2.	Roy Prasanta	Genl. Stores	Helper	30.04.2009
3.	Balmiki Barkat	Medical Unit	GDA	31.05.2009
4.	Dome Misri	Maintenance	Sweeper	31.05.2009
5.	Roy Banamali	Workshop	Asst. Forman	30.06.2009
6.	Mondal Fatik	Estate	LDA	30.06.2009
7.	Balmiki Masi Charan	Maintenance	Sweeper	31.07.2009
8.	Mukherjee Satyapada	Estate	Driver	31.10.2009
9.	Sarkar Monoranjan	Cash	Head Asstt.	30.11.2009
10.	Chakraborty Paresh C	Maintenance	Mazdoor	30.11.2009
11.	Choudhuri Bimal	Elec. Engg.	Skilled Staff	31.12.2009
12.	Ahmed Shabbir	Workshop	Suptd.	31.12.2009
13.	Bhattacharya Rina R	IT	Helper	31.01.2010
14.	Gaswami Debdas	Cash	UDA	31.01.2010
15.	Mondal Ganesh	Genl. Stores	UDA	31.01.2010
16.	Sharma Bakul	Audit	Helper	31.01.2010
17.	Pan Biswanath	Elec. Engg.	Lab. Attdn.	28.02.2010
18.	Azimullah Md.	Estate	Watchman	27.10.2009 (expired)
19.	Das Pabitra Ch.	Workshop	Helper	10.12.2009 (expired)
20.	Das Sunil	Chemistry	Lab. Attdn.	31.03.2010
21.	Gopal Chandra Das	Estate	Watchman	31.03.2010
22.	Sri Biswanath Pal	Elec. Engg.	Lab. Attendant	31.03.2010

**Annexure-11.7(a) Faculty deputed on QIP (doctoral programme) during this period**

None

**Annexure–11.7(b) Seminars, summer/winter schools, short term courses attended by faculty members****Department of Biotechnology**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Kazy S. K.	Golden Jubilee Symposium on Contemporary Trends in Plant and Microbial Sciences	University of Burdwan, Burdwan	March 19-20, 2010.
2	Kazy S. K.	School on Mineral Biotechnology	Indian Institute of Science, Bangalore	December 14-22, 2009
3	Saha P.	QIP Short Term Course on Optimization Methods for Water Resources Planning and Management	Indian Institute of Technology - Guwahati	June 15-19, 2009
4	Saha P.	Short Term Training Programme on Knowledge Discovery in Databases: Data, Information & Knowledge, DInK'10	Indian Statistical Institute (ISI), Kolkata	January 11-15, 2010

**Department of Chemical Engineering**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1.	Paruya S.	DST-SERC School on Novel Artificial Intelligence and Machine Learning Techniques for Chemical and Petrochemical Industries	C-DAC, Pune	Dec. 28, 2009-Jan. 2, 2010
2.	Paruya S.	IUCEE Faculty Leadership Institute–2009, Teaching with Matlab and Simulink	IUCEE, Global Education Centre, Infosys Campus, Mysore	June 22-26, 2009

**Department of Civil Engineering**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Banik A. K.	Estimation and Control: Advanced Theory and Applications	IIT Kharagpur	December 25-30, 2009
2	Bhattacharya K.	Workshop on National Earthquake Risk Mitigation Project	NDMA, Ministry of Home Affairs, GOI	May 19, 2009
3	Bhattacharya K.	Earthquake Risk Reduction in Pre and Post disaster Situation	NDMA, Ministry of Home Affairs	July 29 – 31, 2009
4	Bhattacharya K.	Codal Practices on Earthquake Resistant Design and Construction	BMTPC-IIT Roorkee, GOI	Jan. 28 -30, 2010
5	Das D.	Intelligent Control System using Fuzzy Logic	NITTTR, Kolkata	Aug. 24-28, 2009
6	Das D.	Modern Control Systems	NITTTR, Kolkata	Sept. 7-11, 2009
7	Dwivedi V.K.	Climate Change and Water Resources in India	National Inst. of Hydrology, Roorkee, India	Nov. 18 – 19, 2009
8	Samal N. R.	Summer Research Program on Flood Plain Wetland Hydrology and Joint Proposal Development	School of Water Resources Engg., J.U.,Kolkata.	June 1-3, 2009
9	Samal N. R.	Optimization methods for Water Resources Planning and Management	Civil Engg. Dept., IIT- Guwahati	June 15-19, 2009



10	Samal N. R.	DAAD Alumni Expert Seminar on Wastewater & Waste Management in Coastal Areas in Accra, Ghana	Dept. of Resources Engineering, Universität Karlsruhe (TH), Karlsruhe, Germany	Feb.28-Mar. 5, 2010
11	Topdar P.	Short Term Course on Induction Programme on IPR	Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur	July 6-10, 2009

### Department of Computer Science & Engineering

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Roy S.	3 <sup>rd</sup> Indo-US Frontiers of Engineering Symposium, Agra	Indo-US Science and Technology Forum	Mar. 11-13, 2010

### Department of Electrical Engineering

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Acharjee P.	Analysis of Algorithm	Indo-US Engineering Faculty Leadership Institute	June 29-July 3, 2009
2	Barman J. C.	Art and Science of Mechatronics and its Applications in Robotics	Dept. of Electrical Engineering, Jadavpur University	June 1-20, 2009
3	Bhowmik P. S.	Frontiers in Power Engineering and Energy Sustainability	Dept. of Power Engineering, Jadavpur University	June 8-27, 2009
4	Dey J.	Advanced DSP Design Techniques	Dept. of Electrical & Electrical Comm. Engg., IIT, Kharagpur	June 1-5, 2009
5	Dey J.	LABVIEW II, Exposure	IUCEE FLI 2009	July 6-10, 2009
6	Dey J.	Short Term Course on Power Electronics Applications in Industry	Dept. of Electrical Engg., BESU, Shibpur	Jan. 22-24, 2010
7	Ghoshal S.P.	Advanced DSP Design Techniques	Dept. of Electrical & Electrical Comm. Engg., IIT, Kharagpur	June 1-5, 2009
8	Koley C.	Microprocessors	IUCEE FLI 2009	June 22-26, 2009
9	Saha T. K.	Introduction to Modern Electric Energy Systems	IUCEE FLI 2009	July 6-10, 2009
10	Saha T. K.	Short Term Course on Power Electronics Applications in Industry	Dept. of Electrical Engg., BESU, Shibpur	Jan. 22-24, 2010

### Department of Electronics & Communication Engineering

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Chandra A.	Introduction to Robotics	Dept. of Computer Science, IIT-Bombay	Jan. 29-30, 2010

**Department of Geology**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Adhikari K.	Application of Remote Sensing, GIS and GPS	Indian Institute of Remote Sensing, Dehradun	May 4 - June 26, 2009

**Department of Humanities and Social Sciences**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Banerjee J.	Emerging Trends in Post-1950's Indian English Fiction	Dept. of English, Michael Madhusudan Memorial College, Durgapur and The Literary Society of India, Kolkata	Feb. 25-26, 2010
2	Modak A.	Emerging Trends in Post-1950's Indian English Fiction	Dept. of English, Michael Madhusudan Memorial College, Durgapur and The Literary Society of India, Kolkata	Feb. 25-26, 2010

**Department of Information Technology**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Choudhury S.	Indo US Collaboration for Engineering Education (IUCEE) 2009 Indo US Faculty Leadership Institute	IUCEE, Infosys, Mysore	June 29- July 3, 2009
2	Das D.	Indo US Collaboration for Engineering Education (IUCEE) 2009 Indo US Faculty Leadership Institute	IUCEE, Infosys, Mysore	June 29- July 3, 2009
3	Dutta A.	Indo US Collaboration for Engineering Education (IUCEE) 2009 Indo US Faculty Leadership Institute	IUCEE, Infosys, Mysore	June 29- July 3, 2009
4	Sen A.	Indo US Collaboration for Engineering Education (IUCEE) 2009 Indo US Faculty Leadership Institute	IUCEE, Infosys, Mysore	June 29- July 3, 2009

**Department of Management Studies**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Sarkar S.	Winter School on MATLAB and SIMULINK	IUCEE, Infosys, Mysore	Nov. 16-23, 2009

**Department of Mathematics**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Bagchi S.	Short Term Training Programme on Recent Trends in Engineering Mathematics	VNIT Nagpur	July 20-24, 2009
2	Bagchi S.	International Conference on Operational Research Society of India	Jaipuria Institute of Technology, Jaipur	Dec. 5-10, 2009
3	Basu K.	International Conference on Challenges and applications of Mathematics in Science and Technology(CAMIST)	Dept of Mathematics, NIT Rourkela	Jan. 11-13, 2010

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
4	Kar S.	Short-Term Training Programme on Soft Computing (SoftCom'09)	ISI Kolkata	July 27-31, 2009
5	Kar S.	Third International conference on Pattern Recognition and Machine Intelligence (PREMI'09)	IIT Delhi, India	Dec. 16-20, 2009
6	Kar S.	CARISMA-IIM CALCUTTA WORKSHOP on Optimisation Methods and its Financial Applications, High Frequency Finance	IIM Calcutta	Mar.10-13, 2010
7	Pal A.	International Conference on Recent trends in Mathematics and applications	Department of Mathematics, Burdwan University, Burdwan	Jan. 13-15, 2010
8	Pal A.	National Workshop on Discrete Structures	Department of Mathematics, Vidyasagar University, West Medinipur, W.B	Mar. 17-19, 2010.

### Department of Mechanical Engineering

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Hui N. B.	Introduction to Robotics	Dept. of Computer Science, IIT-Bombay	Jan. 30-31, 2010
2	Hui N. B.	FLI 2009	IUCEE, Infosys, Mysore	June 22- 26, 2009
3	Halder B.	FLI 2009	IUCEE, Infosys, Mysore	June 22- July 1, 2009
4	Das A. K.	Computational Fluid Dynamics for Chemical and Petroleum Engineers	IIT- Guwahati	June 8- 12, 2009
5	Patari A.	Fluid power circuits and controls: Fundamentals and Applications	IIT- Madras	July 13-18, 2009
6	Saha A. K.	14 <sup>th</sup> National Conference on Machines and Mechanisms (NaCoMM-09)	NIT, Durgapur	December 17- 18, 2009

### Department of Metallurgical & Materials Engineering

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Chakravorty R.	International Steel Seminar (ISS & E)	Journal of Steel scenario, kolkata	Jan. 19 -21, 2010
2	Ghosh K. S.	One Day Workshop on Selection and Characterization of Steels for Transportation Industries	Indian Institute of Metal, Kolkata	July 4, 2009

**Department of Physics**

SL. NO	Name	Name of the Programme	Organized by	Date of the programme
1	Kumbhakar P.	First International Conference on Nanostructured Materials and Nanocomposites (ICNM, 2009)	Institute of Macromolecular Science, Kottayam, Kerala	April 6-8, 2009
2	Kumbhakar P.	International Conference on Optics and Photonics (ICOP)	CSIO, Chandigarh, India	Oct.30. - Nov. 1, 2009
3	Kumbhakar P.	1 <sup>st</sup> International Conference on Advanced Nanomaterials and Nanotechnology (ICANN), India	Dept. of Physics, IIT-Guwahati	Dec. 9-11, 2009
4	Kumbhakar P.	International Conference on Radiation Physics and its Applications (ICRPA)	Dept. of Physics, Burdwan Univ.	Jan.16-17, 2010
5	Meikap A. K.	International Conference on Radiation Physics and its Applications (ICRPA)	Dept. of Physics, Burdwan Univ.	Jan.16-17, 2010
6	Meikap A. K.	1 <sup>st</sup> International Conference on Advanced Nanomaterials and Nanotechnology (ICANN), India	Dept. of Physics, IIT-Guwahati	Dec. 9-11, 2009
7	Mitra A. K.	97 <sup>th</sup> Indian Science Congress, 2010	Kerala Univ., Trivandrum, Kerala	Jan. 3-7, 2010

**Department of Training, Placement & Students' Welfare**

SL. NO.	Name	Name of the Programme	Organized by	Date of the programme
1	Dr. S. N. Sarkar	Summer School on Storage Management	NIT Suratkal	June16-26, 2009

**Annexure-11.7(c) Training of staff members****Department of Computer Science & Engineering**

SL. NO.	Name	Name of the Programme	Organized by	Date of the programme
1	Maji S.	Linux Administration	SMCD, Jadavpur University	Feb. 1-Mar. 15, 2010

**Library**

SL. NO.	Name	Name of the Programme	Organized by	Date of the programme
1	Kujur S.	Workshop cum Orientation Programme Focused on DELNET Online Resources and Services	DELNET in Visva-Bharati, Santiniketan	June 05, 2009
2	Kujur S.	7 <sup>th</sup> Annual Meet INDEST-AICTE Workshop	IIT Kharagpur	Jan.13-15, 2010
3	Kujur S.	International Conference on Digital Libraries (ICDL), 2010	The Energy and Resources Institute (TERI), New Delhi	Feb. 23-26, 2010
4	Sarkar S.	7 <sup>th</sup> Annual Meet INDEST-AICTE Workshop	IIT Kharagpur	Jan.13-15, 2010

**Annexure– 11.8(a) List of programmes offered****11.8. (a). 1. Under-graduate Programmes:**

The Institute provides instruction in the following courses leading to 4 Year (8 Semester) B.Tech. Degree:

Sl. No.	Courses Offered	Degree Offered
1	Bio – Technology	B. Tech.
2	Chemical Engineering	B. Tech.
3	Civil Engineering	B. Tech.
4	Computer Science & Engineering	B. Tech.
5	Electrical Engineering	B. Tech.
6	Electronics & Communication Engineering	B. Tech.
7	Information Technology	B. Tech.
8	Mechanical Engineering	B. Tech.
9	Metallurgical & Materials Engineering	B. Tech.

**11.8. (a). 2. Post – Graduate Programmes:**

Dept. / Specialisation	Full / Part time	Year of Starting	Duration	Sanctioned intake
Biotechnology	Full Time	2008	2 years	20
Chemical Engineering	Full Time/ Part Time (Day)	1968	2 years / 3 years	22
Civil Engineering (Structural Engineering)	Full Time/ Part time (Day)	1971	2 years / 3 years	22
Chemistry (Corrosion Science & Technology)	Full Time/ Part time (Day)	1996	2 years / 3 years	22
Computer Science & Engineering (Information Technology)	Full Time	2004	2 years	22
Electrical Engineering (Industrial Electrical System)	Full Time/ Part time (Day)	1969	2 years / 3 years	22
Electronics & Communication Engg (Telecommunication Engg)	Full Time	2005	2 years	22
Electronics & Communication Engg (Microelectronics & VLSI)	Full Time	2008	2 years	22
Geology (Environmental Science & Technology)	Full Time	2008	2 years	20
Information Technology (Information Security)	Full Time	2008	2 years	22
Mathematics (Operations Research)	Full Time/ Part time (Day)	1990	2 Years	22
Master of Business Administration	Full Time	2004	2 Years	77
Master of Computer Applications	Full Time	2000	3 Years	77
Mechanical Engineering (Design & Production Engineering)	Full Time/ Part time (Day)	1966	2 years / 3 years	22
Metallurgical Engineering (Industrial Metallurgy)	Full Time/ Part time (Day)	1966	2 years / 3 years	22
Metallurgical Engineering (Materials Engg)	Full Time/ Part time (Day)	1966	2 years / 3 years	22
Physics (Advanced Materials Science & Technology)	Full Time	2006	2 years	22

**Annexure-11.8(b) Programme-wise enrolment with sex and caste break-up****11.8. (b). 1. Enrolment in B. Tech. programmes, 2009 – 2010 (Genderwise):**

<b>Semester</b>	<b>BT</b>	<b>ChE</b>	<b>CE</b>	<b>CSE</b>	<b>ECE</b>	<b>EE</b>	<b>IT</b>	<b>ME</b>	<b>MME</b>	<b>Total</b>
B. Tech. I & II	43 (09)	53 (11)	59 (07)	97 (13)	92 (23)	86 (19)	86 (16)	135 (06)	54 (07)	705 (111)
B. Tech. III & IV	51 (18)	42 (08)	47 (03)	76 (10)	77 (09)	72 (16)	66 (13)	121 (05)	56 (07)	608 (89)
B. Tech. V & VI	52 (19)	34 (11)	39 (04)	65 (06)	69 (05)	61 (10)	53 (07)	90 (05)	39 (07)	502 (74)
B. Tech. VII & VIII	47 (10)	30 (07)	32 (03)	62 (10)	60 (07)	62 (08)	61 (14)	90 (08)	42 (01)	486 (68)
<b>Total</b>	<b>193 (56)</b>	<b>159 (37)</b>	<b>177 (17)</b>	<b>300 (39)</b>	<b>298 (44)</b>	<b>281 (53)</b>	<b>266 (50)</b>	<b>436 (24)</b>	<b>191 (22)</b>	<b>2301 (342)</b>

(Number of female students indicated in paranthesis. The total number is inclusive of the number of girl students)

**11.8. (b) . 2. Enrolment in B. Tech. programmes, 2009 – 2010 (Castewise):**

<b>Dept.</b>	<b>B. Tech. I &amp; II Semesters</b>					<b>B. Tech. III &amp; IV Semesters</b>					<b>B. Tech. V &amp; VI Semesters</b>					<b>B. Tech. VII &amp; VIII Semesters</b>				
	<i>OP</i>	<i>SC</i>	<i>ST</i>	<i>OBC</i>	<i>TOT</i>	<i>OP</i>	<i>SC</i>	<i>ST</i>	<i>OBC</i>	<i>TOT</i>	<i>OP</i>	<i>SC</i>	<i>ST</i>	<i>OBC</i>	<i>TOT</i>	<i>OP</i>	<i>SC</i>	<i>ST</i>	<i>OBC</i>	<i>TOT</i>
<b>BT</b>	19	10	5	9	43	31	11	7	2	51	41	8	3	---	52	39	5	3	---	47
<b>ChE</b>	34	7	3	9	53	27	6	3	6	42	26	6	2	---	34	23	5	2	---	30
<b>CE</b>	39	7	4	9	59	32	7	3	5	47	29	7	3	---	39	23	6	3	---	32
<b>CSE</b>	68	12	4	13	97	56	9	4	7	76	56	6	3	---	65	52	8	2	---	62
<b>ECE</b>	60	12	6	14	92	55	12	4	6	77	55	10	4	---	69	47	9	4	---	60
<b>EE</b>	55	12	6	13	86	51	11	5	5	72	48	10	3	---	61	51	8	3	---	62
<b>IT</b>	53	12	5	16	86	45	10	6	5	66	41	8	4	---	53	50	7	4	---	61
<b>ME</b>	86	16	10	23	135	84	17	10	10	121	67	14	9	---	90	71	14	5	---	90
<b>MME</b>	28	9	5	12	54	37	8	5	6	56	27	7	5	---	39	33	6	3	---	42
<b>Total</b>	<b>442</b>	<b>97</b>	<b>48</b>	<b>118</b>	<b>705</b>	<b>418</b>	<b>91</b>	<b>47</b>	<b>52</b>	<b>608</b>	<b>390</b>	<b>76</b>	<b>36</b>	<b>----</b>	<b>502</b>	<b>389</b>	<b>68</b>	<b>29</b>	<b>----</b>	<b>486</b>

**(b). 3. Enrolment in M. Tech. & M. Sc. Programmes, 2009 – 2010 (Gender wise)**

Semester	ChE	CE	EE	ME	MME IM	MME ME	BT	IT	CH	M	CSE	ECE TELE	ECE VLSI	Geo EST	PH	TOTAL
<i>M. Tech. I &amp; II</i>	14 (3)	10 (1)	20 (2)	12 (1)	5	2	19 (5)	20 (12)	0	11 (2)	18 (5)	20 (3)	16 (6)	7 (2)	11 (2)	185
<i>M. Tech. III &amp; IV</i>	7 (2)	4 (1)	15 (3)	10	1	0	0	16 (3)	2 (1)	16 (5)	20 (9)	19 (3)	13 (6)	0	2	125
<i>M. Tech. V &amp; VI</i>	2	0	1 (1)	5	4	1	0	0	0	17 (5)	0	0	0	0	0	30
<i>M.Sc. I &amp; II (PH, CH)</i>	0	0	0	0	0	0	0	0	8 (4)	0	0	0	0	0	7 (2)	15

(Number of female students indicated in paranthesis. The total number is inclusive of the number of girl students)

**11.8 (b) 4. Enrolment in M. Tech. & M. Sc. Programmes, 2009– 2010 (Caste wise)**

Dept	M. Tech. I & II					M. Tech. III & IV					M. Tech. V & VI				
	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
ChE	9	3	0	2	14	5	1	0	1	7	2	0	0	0	2
CE	6	0	1	3	10	4	0	0	0	5	0	0	0	0	0
EE	14	3	1	2	20	13	1	0	1	15	1	0	0	0	1
ME	7	2	0	3	12	7	3	0	0	10	5	0	0	0	5
MME (IM)	5	0	0	0	5	1	0	0	0	1	4	0	0	0	4
MME (ME)	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1
CH	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0
M	9	1	0	1	11	13	2	0	1	16	17	0	0	0	17
CSE	12	3	1	2	18	15	2	1	2	20	0	0	0	0	0
BT	15	1	0	3	19	0	0	0	0	0	0	0	0	0	0
IT	15	2	0	3	20	11	3	0	2	16	0	0	0	0	0
PH (AMST)	8	0	0	3	11	2	0	0	0	2	0	0	0	0	0
ECE (TELE)	14	1	1	4	20	15	2	1	1	19	0	0	0	0	0
ECE (VLSI)	13	2	0	1	16	9	2	1	1	13	0	0	0	0	0
Geo (EST)	4	2	0	1	7	0	0	0	0	0	0	0	0	0	0
M. Sc (PH)	6	0	0	1	7	0	0	0	0	0	0	0	0	0	0
M. Sc (CH)	7	0	0	1	8	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	146	20	4	30	200	97	16	3	9	125	30	0	0	0	30

**11.8 (b). 5. Enrolment in MCA programmes, 2009 – 2010 (Gender wise)**

Master of Computer Applications	I & II Semester	III & IV Semester	V & VI Semester
	59 (6)	60 (8)	48 (6)

(Number of female students indicated in paranthesis. The total number is inclusive of the number of girl students)

**(b). 6. Enrolment in MCA programmes, 2009 – 2010 (Caste wise)**

Dept	MCA I & II					MCA III & IV					MCA V & VI				
	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
MCA	34	10	2	13	59	41	9	4	6	60	33	7	4	4	48

**11.8. (b) 7. Enrolment in MBA programmes 2009–2010 (Gender wise)**

Master of Business Administration	I & II Semester	III & IV Semester
	68 (29)	40 (11)

(Number of female students indicated in paranthesis. The total number is inclusive of the number of girl students)

**11.8 (b). 8. Enrolment in MBA programmes, 2009–2010 (Caste wise)**

Dept	MBA I & II					MBA III & IV				
	OP	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
MBA	45	10	2	13	68	37	0	1	2	40

**11.8 (b). 9. Enrolment of research scholars for PhD, during 2009–2010**

SL. NO.	Branch of Research Study	Gender Break Up		Caste Break Up			Total
		Male	Female	SC	ST	OBC	
1	Biotechnology	7	-	-	-	-	7
2	Chemical Engineering	2	2	-	-	-	4
3	Chemistry	3	2	-	-	-	5
4	Civil Engineering	1	-	-	-	-	1
5	Computer Science & Engineering	2	2	-	-	-	4
6	Electrical Engineering	3	1	-	-	-	4
7	Electronics & Communications Engineering	3	1	-	-	-	4
8	Geology	-	1	-	-	-	1
9	Humanities	3	1	-	-	-	4
10	Mathematics	4	-	-	-	-	4
11	Mechanical Engineering	1	-	-	-	-	1
12	Metallurgical & Materials Engineering	3	-	-	-	-	3
13	Physics	8	-	-	-	-	8
14	Management Studies	10	2	-	-	-	12
<b>TOTAL</b>		<b>50</b>	<b>12</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>62</b>



**Annexure – 11.8 (c) Admission statistics – UG & PG****11.8 (c) 1. The details of admission to the B. Tech. programmes during 2009–2010**

SI No	State/UT	OP	OBC	SC	ST	Total
1	Andhra Pradesh	18	8	5	5	36
2	Arunachalpradesh	2	1		1	4
3	Assam	2	2	2	4	10
4	Bihar	25	24	8		57
5	Chattisgarh	1			1	2
6	Daman Diu	1				1
7	Delhi	12	1			13
8	Goa	3				3
9	Hariyana	1				1
10	Jammu Kashmir	2				2
11	Jharkhand	9	5	3		17
12	Kerala	1				1
13	Meghalaya	2				2
14	Maharashtra	1		2		3
15	Manipur	1	1	1	2	5
16	Madhyapradesh	5				5
17	Mizoram	1			1	2
18	Nagaland	1	1		1	3
19	Orissa			1	2	3
20	Punjab	1	1	1		3
21	Pondichery	1				1
22	Rajasthan	21	3	3	3	30
23	Sikkim	2	1		1	4
24	Tripura	1				1
25	Uttarakhand	4				4
26	Uttar Pradesh	63	14	7		84
27	West Bengal	187	56	64	27	334
28	Re-admission	2		3	4	9
29	Bangladesh	3				3
30	Bhutan	10				10
31	Maldives	1				1
32	Mauritius	3				3
33	Nepal	42				42

34	Oman	1				1
35	Quatar	1				1
36	Romania	1				1
37	Srilanka	2				2
38	UAE	1				1
39	United Kingdom	1				1
<b>TOTAL</b>		<b>436</b>	<b>118</b>	<b>100</b>	<b>52</b>	<b>706</b>

**11.8 (c) 2. The number of candidates admitted to B. Tech. programmes from rural and urban area during 2009–2010**

SI No	State/UT	RURAL					URBAN					Overall Total
		OP	OB	SC	ST	Total	OP	OB	SC	ST	Total	
1	Andhra Pradesh	4	1	1	2	8	14	7	4	3	28	36
2	Arunachalpradesh	2	1			3				1	1	4
3	Assam			1	2	3	2	2	1	2	7	10
4	Bihar	6	15	6		27	19	9	2		30	57
5	Chattisgarh					0	1			1	2	2
6	Daman Diu					0	1				1	1
7	Delhi		1			1	12				12	13
8	Goa	1				1	2				2	3
9	Hariyana					0	1				1	1
10	Jammu Kashmir					0	2				2	2
11	Jharkhand	2	1	2		5	7	4	1		12	17
12	Kerala					0	1				1	1
13	Meghalaya					0	2				2	2
14	Maharashtra			1		1	1		1		2	3
15	Manipur	1	1	1	2	5					0	5
16	Madhyapradesh					0	5				5	5
17	Mizoram					0	1			1	2	2
18	Nagaland	1			1	2		1			1	3
19	Orissa			1	1	2				1	1	3
20	Punjab			1		1	1	1			2	3
21	Pondichery					0	1				1	1
22	Rajasthan	2		2	1	5	19	3	1	2	25	30
23	Sikkim	1	1			2	1			1	2	4
24	Tripura					0	1				1	1
25	Uttarakhand					0	4				4	4

26	Uttar Pradesh	14	2	4		20	49	12	3		64	84
27	West Bengal	20	12	17	5	54	167	44	47	22	280	334
28	Re-admission	1		1	2	4	1		2	2	5	9
29	Bangladesh					0	3				3	3
30	Bhutan	5				5	5				5	10
31	Maldives					0	1				1	1
32	Mauritius	3				3					0	3
33	Nepal	13				13	29				29	42
34	Oman					0	1				1	1
35	Quatar					0	1				1	1
36	Romania					0	1				1	1
37	Srilanka	1				1	1				1	2
38	UAE					0	1				1	1
39	United Kingdom					0	1				1	1
<b>TOTAL</b>		<b>77</b>	<b>35</b>	<b>38</b>	<b>16</b>	<b>166</b>	<b>359</b>	<b>83</b>	<b>62</b>	<b>36</b>	<b>540</b>	<b>706</b>

**11.8(c) 3. The ranks (AIR) obtained by the first and the last candidates admitted to B. Tech. programmes during 2009-2010**

SI No	State/UT	OPEN		OBC		SC		ST	
		First	Last	First	Last	First	Last	First	Last
1	Andhra Pradesh	7520	25962	14612	24424	59149	141609	72907	350217
2	Aarunachal Pradesh	73719	76742	88187				238097	
3	Assam	11286	15249	14353	39013	78728	95039	89338	106417
4	Bihar	9098	21141	15861	37169	30952	69242		
5	Chattisgarh	17620						104804	
6	Daman Diu	143309							
7	Delhi	6639	21096	19670					
8	Goa	29591	40094						
9	Hariyana	17753							
10	Jammu Kashmir	13214	168501						
11	Jharkhand	11939	31174	22964	26715	44592	96198		
12	Kerala	13330							
13	Meghalaya	92548	100810						
14	Maharashtra	10652				47622	93370		
15	Manipur	63669		88819		69870		87958	207273

16	<b>Madhya Pradesh</b>	7434	27440						
17	<b>Mizoram</b>	278390						98969	
18	<b>Nagaland</b>	186687		263777				281168	
19	<b>Orissa</b>					239010		163043	241405
20	<b>Punjab</b>	11750		14711		58299			
21	<b>Pondichery</b>	71293							
22	<b>Rajasthan</b>	9542	23714	15111	16676	67139	87263	96915	130952
23	<b>Sikkim</b>	130107	162377	169211				263140	
24	<b>Tripura</b>	10785							
25	<b>Uttarakhand</b>	10458	20789						
26	<b>Uttar Pradesh</b>	8293	29800	19703	38676	54039	96186		
27	<b>West Bengal</b>	6068	34890	16153	234483	19550	88412	50764	297769
28	<b>Re-admission</b>	7365	372169			30755	229333	203407	315073

**11.8(c) 4. The number of candidates admitted to B. Tech. programmes from various income groups during 2009-2010**

SI No	State/UT	Below 6000	Rs.6001 to 12000	Rs.12001 to 18000	Rs.18001 to 24000	Above 24000	Total
1	<b>Andhra Pradesh</b>			1	2	33	<b>36</b>
2	<b>Arunachalpradesh</b>					4	<b>4</b>
3	<b>Assam</b>					10	<b>10</b>
4	<b>Bihar</b>					57	<b>57</b>
5	<b>Chattisgarh</b>					2	<b>2</b>
6	<b>Daman Diu</b>					1	<b>1</b>
7	<b>Delhi</b>					13	<b>13</b>
8	<b>Goa</b>			1		2	<b>3</b>
9	<b>Haryana</b>					1	<b>1</b>
10	<b>Jammu Kashmir</b>					2	<b>2</b>
11	<b>Jharkhand</b>					17	<b>17</b>
12	<b>Kerala</b>					1	<b>1</b>
13	<b>Meghalaya</b>					2	<b>2</b>
14	<b>Maharashtra</b>					3	<b>3</b>
15	<b>Manipur</b>					5	<b>5</b>
16	<b>Madhyapradesh</b>			1		4	<b>5</b>
17	<b>Mizoram</b>					2	<b>2</b>

18	<b>Nagaland</b>		1			2	<b>3</b>
19	<b>Orissa</b>					3	<b>3</b>
20	<b>Punjab</b>					3	<b>3</b>
21	<b>Pondichery</b>					1	<b>1</b>
22	<b>Rajasthan</b>				3	27	<b>30</b>
23	<b>Sikkim</b>					4	<b>4</b>
24	<b>Tripura</b>					1	<b>1</b>
25	<b>Uttarakhand</b>					4	<b>4</b>
26	<b>Uttar Pradesh</b>				3	81	<b>84</b>
27	<b>West Bengal</b>				6	328	<b>334</b>
28	<b>Re-admission</b>					9	<b>9</b>
29	<b>Bangladesh</b>			1	1	1	<b>3</b>
30	<b>Bhutan</b>				1	9	<b>10</b>
31	<b>Maldives</b>					1	<b>1</b>
32	<b>Mauritius</b>				3		<b>3</b>
33	<b>Nepal</b>					42	<b>42</b>
34	<b>Oman</b>					1	<b>1</b>
35	<b>Quatar</b>					1	<b>1</b>
36	<b>Romania</b>					1	<b>1</b>
37	<b>Srilanka</b>					2	<b>2</b>
38	<b>UAE</b>					1	<b>1</b>
39	<b>United Kingdom</b>					1	<b>1</b>
<b>TOTAL</b>		<b>0</b>	<b>1</b>	<b>4</b>	<b>19</b>	<b>682</b>	<b>706</b>

#### 11.8 (c) 5. The details of admission to the M. Tech. programmes during 2009-2010

SL. NO.	Name of the Dept.	Specialisations	Duration (Four Semester/Six Semester)		Total
			Full Time (Four Semester)	Part Time (Six Semester)	
1	Chemical Engineering	Chemical Engineering	12	2	14
2	Civil Engineering	Structural Engineering	9	1	10
3	Electrical Engineering	Electrical System	15	5	20
4	Mechanical Engineering	Design & Production Engineering	10	2	12
5	Metallurgical & Materials Engineering	Industrial Metallurgy	-	5	5
6	Metallurgical & Materials Engineering	Materials Engineering	-	2	2
7	Computer Science & Engg	Information Technology	18	-	18

SL. NO.	Name of the Dept.	Specialisations	Duration (Four Semester/Six Semester)		Total
			Full Time (Four Semester)	Part Time (Six Semester)	
8	Chemistry	Corrosion Science & Technology	-	-	-
9	Mathematics	Operations Research	10	1	11
10	ECE	Tele Communication	20	-	20
11	ECE	Microelectronics & VLSI	16	-	16
12	IT	Internet Security	20	-	20
13	Physics	Adv. Materials Science & Tech.	11	-	11
14	BT	Biotechnology	19	-	19
15	EST	Environmental Sce Technology	7	-	7
16	Chemistry	M.SC	8	-	8
17	Physic	M.SC	7	-	7
		<b>TOTAL</b>	<b>182</b>	<b>18</b>	<b>200</b>

#### Annexure–11.9(a) Scholarships & Stipends (Under-Graduate programmes)

SL. NO.	Nature of Scholarship	No. of Scholarship (per year)	Amount per candidate.
1.	ICCR	38	Rs.43,200/- .PA
2.	MECL	1	Rs.1800/- PA
3.	NCERT	4	Rs. 6000/- .PA
4.	Govt. of Bihar	21	Rs. 45,142/- .PA
5.	IOL	2	Rs. 24,000/- PA
6.	Govt. of Assam	4	Rs. 10,600/- PA
7.	Govt. of Andhra Pradesh	18	Rs. 22,000/- PA
8.	Govt. of Orissa	6	Rs. 20,360/- PA
9.	Govt. of Tripura	5	Rs. 10,600/- PA
10.	DASA	7	Rs. 10,600/- PA
11.	Govt. of U.P.	8	Rs. 22,380/- PA
12.	Govt. of Karnataka	3	Rs.26,000/- .PA
13.	Govt. of H.P.	5	Rs.3,600/- .PA
14.	Govt. of Arunachal Pradesh	3	Rs.22,360/-PA
15.	Central Sector Scholarship Scheme of Top Class Education for Scheduled Caste Students	10	
16.	Central Sector Scholarship Scheme of Top Class Education for Scheduled Tribe Students	5	
17.	Full Free-Ship	15	Tuition Fees only
18.	Half Free-Ship	23	Half Free-Ship (Tuition Fees only)
19.	Govt. of Jharkhand	11	Rs. 38085/-P.A.
20.	Prof.S.N. ROY (Allumni)	8	Rs. 12,000/- P.A
21.	Ed-Cil	37	Rs. 32,400/- P.A
22.	Vivek singh Memorial	1	Rs. 10,000 /-P.A
23.	Student Aid Fund	30	Rs. 24,000/-P.A.

**Annexure – 11.9(b) Awards during 2009-10**

Nil

**Annexure–11.10 (a) Vocational training**

- |   |  |
|---|--|
| 1. CERN, Geneva                                       | 25. Indian Oil Corporation Ltd.  |
| 2. Durgapur Projects Ltd.                             | 26. IIT, Madras  |
| 3. Visakhapatnam Steel Plant                          | 27. NTPC Ltd.  |
| 4. AREVA T & D India Ltd.                             | 28. West Bengal Power Development Corporation Ltd., Bandel Thermal Power Station |
| 5. Bharat Sanchar Nigam Ltd.                          | 29. Ashok Leyland  |
| 6. Numatigarh Refinery Ltd.                           | 30. Board Of Practical Training, Eastern Region                                  |
| 7. Central Mechanical Engineering Research Institute  | 31. NDPL   |
| 8. Variable Energy Cyclotron Centre                   | 32. Tata Power Co. Ltd.  |
| 9. Steel Authority of India Ltd.                      | 33. Indian Iron & Steel Co. Ltd.   |
| 10. Alloy Steel Plant                                 | 34. South Asian Petrochem. Ltd.  |
| 11. Durgapur Steel Plant                              | 35. Bhaba Atomic Research Centre   |
| 12. Durgapur Water Supply Division, P.H.E Directorate | 36. Damoder Valley Corporation   |
| 13. Centre for Development Of Advanced Computing      | 37. Haldia Petrochemicals Ltd.   |
| 14. National Aerospace Laboratories                   | 38. Mahindra & Mahindra Ltd.   |
| 15. Global System Technologies Pvt. Ltd.              | 39. KMDA   |
| 16. Bharat Heavy Electricals Ltd.                     | 40. M.N.Dastur   |
| 17. Durgapur Chemicals Ltd.                           | 41. I.I.T. Guahati   |
| 18. ABB   | 42. H.P.L  |
| 19. Bokaro Steel Plant                                | 43. I.P.C.L,   |
| 20. Indian Farmers Fertilizer Coop Ltd.               | 44. ESSAR Steel  |
| 21. National Highway Division                         | 45. Tata Motors  |
| 22. North Eastern Electric Power Corporation Ltd.     | 46. Jessop   |
| 23. Steel Authority of India Ltd., Bhilai Steel Plant | 47. Maruti Co.   |
| 24. Technical Training Centre, CLW                    | 48. GAIL   |
|   | 49. Siemens  |

**Annexure-11.10(b) Placement statistics during 2009 – 2010**

SL. NO.	COMPANY	DATE OF SELECTION	NUMBER OF STUDENTS PLACED (BRANCH WISE)									
			B.Tech.									
			BT	CHE	CIV	CSE	ECE	EE	IT	ME	MME	Total
1	Deem Roll-Tech Ltd.	28.04.2009	-	-	-	-	-	-	-	1	3	4
2	Mcnally Bharat LTd.	21.07.2009	-	1	3	-	-	1	-	4	-	9
3	BCH Electric	23.07.2009	-	-	-	-	-	3	-	0	-	3
4	TRF	12&13.08.09	-	-	3	-	-	2	-	4	-	9
5	IOCL	13 &14.08.09	-	2	3	-	-	-	-	4	-	9
6	ONMOBILE	17.08.2009	0	0	0	2	0	0	0	0	0	2
7	BAJAJ AUTO	17.08.2009	-	-	-	-	-	-	-	2	-	2
8	Haldia Petrochemicals	21.08.2009	-	3	-	-	-	1	-	1	-	5
9	Energy Infratech	24.08.2009	-	-	1	-	-	0	-	2	-	3
10	Telcon	28.08.2009	-	-	-	-	-	-	-	2	-	2
11	MN Dastur & Co	8.09.2009	-	-	0	-	0	0	-	0	1	1
12	BOC	11.09.2009	-	0	0	-	-	0	-	1	-	1
13	NTPC	16.09.2009	-	-	1	-	1	3	-	5	-	10
14	PCBL	07.10.2009	-	2	-	-	-	1	-	0	-	3
15	ISPAT INDUSTRIES	10&11.2009	-	4	-	-	2	4	-	5	5	20
16	TATA MOTORS	05&06.11.09	-	-	-	-	-	-	-	3	-	3
17	KEC International	19.11.2009	-	-	2	-	-	2	-	-	-	4
18	SAMSUNG	20&21.11.09	-	-	-	1	2	-	4	-	-	7
19	CESC	21.11.2009	-	-	1	-	-	2	-	2	-	5
20	VEDANTA	23.11.2009	-	0	-	-	-	1	-	1	3	5
21	Jindal Steel	2,3.12.2009	-	-	-	-	1	2	-	2	5	10
22	Hero Honda	9.12.2009	-	-	-	-	-	-	-	3	-	3
23	TCS	10&11.12.09	5	0	0	19	9	1	14	0	-	48
24	DRDO	12&13.12.09	-	-	-	1	2	-	-	1	-	4
25	HDIL	14.12.2009	-	-	4	-	-	-	-	-	-	4
26	INFOSYS	19.12.2009	10	1	0	14	14	0	14	1	0	54
27	IBM	21.12.09&2.5.10	-	-	-	15	8	-	14	-	-	37
28	HINDALCO	23.12.2009	-	2	-	-	-	2	-	2	2	8
29	IDEA CELLULAR	28.12.2009	-	-	-	-	4	-	-	-	-	4
30	ARCELOR MITTAL	28.12.2009	-	-	-	-	-	-	-	2	0	2
31	TATA TECHNOLOGIES	05.01.2010	-	-	-	0	1	-	0	3	0	4
32	ADANI POWER	05.01.2010	-	-	1	-	-	1	-	-	-	2
33	JSW	07.01.2010	-	2	-	-	-	5	-	5	11	23
34	SOMA ENTERPRISE	11.01.2010	-	-	2	-	-	-	-	-	-	2
35	VISA STEEL	12.01.2010	-	0	0	-	-	0	-	0	1	1
36	Mahindra &Mahindra	20.01.2010	-	-	-	-	-	-	-	4	-	4
37	Xpro India	23.01.2010	-	-	-	-	2	0	-	1	-	3
38	L&T	24.01.2010	-	-	-	-	-	1	-	0	-	1
39	Balmer Lawrie	25.01.2010	-	0	-	-	-	-	-	1	-	1
40	NMDC	23&25.01.10	-	-	1	-	-	3	-	2	2	8
41	L&T ECC	25.01.2010	-	-	1	0	0	1	-	1	-	3
42	ITC INFOTECH	29.01.2010	-	-	-	3	2	1	2	-	-	8
43	IOTL	03.02.2010	-	2	-	-	-	1	-	2	-	5
44	Schneider Electric	09.02.2010	-	-	-	1	0	5	0	-	-	6
45	TATA POWER	10.02.2010	-	-	-	-	-	2	-	3	-	5
46	TECH-MAHINDRA	12.02.2010	-	-	1	2	2	1	2	0	-	8
47	CCCL	19.02.2010	-	-	1	-	-	-	-	-	-	1
48	ZTE TELECOM	24&25.02.10	-	-	-	-	1	-	-	-	-	1
49	Zensar	25.02.2010	4	-	-	1	-	-	1	-	-	6
50	FIBCOM	25.02.2010	-	-	-	2	4	-	1	-	-	7
51	S.K. Samanta Co(p) Ltd	26.02.2010	-	-	2	-	-	1	-	1	-	4
52	EXIDE	02.03.2010	-	3	-	-	-	-	-	2	-	5
53	Interra IT	03.03.2010	-	-	-	2	1	-	1	-	-	4
54	SANMAR	04.03.2010	-	0	-	-	-	-	-	1	-	1
55	HNGIL	05.03.2010	-	1	0	-	-	2	-	3	0	6



SL. NO.	COMPANY	DATE OF SELECTION	NUMBER OF STUDENTS PLACED (BRANCH WISE)										
			B.Tech.										
			BT	CHE	CIV	CSE	ECE	EE	IT	ME	MME	Total	
56	BPCL	11.03.2010	-	-	-	-	-	-	-	-	7	-	7
57	TATA TELE SERVICES	16&18.03.10	-	-	-	-	3	-	-	-	-	-	3
58	Sankalp Semiconductor	26.03.2010	-	-	-	-	1	-	-	-	-	-	1
59	Wipro-Infrastructure	07.04.2010	-	-	-	-	-	-	-	-	2	-	2
60	CIL	09 & 10.04.10	-	-	-	-	-	9	-	5	-	-	14
61	SAPIENT	11&12.04.10	1	-	-	3	4	0	1	-	1	-	10
62	Essar Group	13.04.2010	-	-	-	-	-	1	-	0	9	-	10
63	Tata Metaliks	13.04.2010	-	-	-	-	-	0	-	1	2	-	3
64	Electro Steel	26.04.2010	-	-	-	-	1	1	-	4	4	-	10
65	Belzabar Software	26.04.2009	-	-	-	0	0	-	1	-	-	-	1
66	Telibeas	28.04.2010	-	-	-	0	1	0	0	-	-	-	1
67	Bhushan Steel	30.04.2010	-	2	1	-	3	1	-	1	2	-	10
68	Stone India Ltd	04.05.2010	-	-	-	-	-	-	-	1	-	-	1
69	ALSTOM	19.05.2010	-	-	-	-	-	0	-	0	4	-	4
70	CSC	28.05.2010	0	0	0	1	0	0	0	0	0	-	1
71	MICROSOFT	5,6&11.09.08	-	-	-	0	-	-	1	-	-	-	1
	<b>Total Placed</b>		<b>20</b>	<b>25</b>	<b>29</b>	<b>55</b>	<b>56</b>	<b>52</b>	<b>50</b>	<b>81</b>	<b>41</b>		<b>409</b>
	Remaining		27	2	1	5	4	4	10	4	0		57
	Strength		47	27	30	60	60	56	60	85	41		466
	<b>Percentage Placed</b>		<b>42.55%</b>	<b>92.59%</b>	<b>96.67%</b>	<b>91.67%</b>	<b>93.33%</b>	<b>92.86%</b>	<b>83.33%</b>	<b>95.29%</b>	<b>100.00%</b>		<b>87.34%</b>
	<b>Total Jobs Offered</b>		<b>20</b>	<b>25</b>	<b>32</b>	<b>67</b>	<b>70</b>	<b>61</b>	<b>56</b>	<b>98</b>	<b>55</b>		<b>484</b>

### Summary

Total number of students placed: 409

Total number of second job : 75

**Annexure – 11.11 (a) Non-Plan grant**

Non-Plan Grant received 2009-2010 – Rs. 3210.90 Lakhs.

**Annexure – 11.11(b) Plan grant**

Plan Grant received 2009-2010 – Rs. 1200.00 Lakhs

**Annexure – 11.11(c) Sources of grants****Till Financial year 2002-03**

Share of Recurring Expenditure were borne by Government of India and Government of West Bengal in 50:50 basis.

**From financial year 2003-04 onward**

Entire Recurring and Non-Recurring Grants are borne by Govt. of India.

**Annexure – 11.11(d) Expenditure position for last three years**

(Rupees in Lakhs)

Plan head Expenditure		Non-Plan head Expenditure	
2006-07	316.31	2006-07	1695.20
2007-08	576.11	2007-08	2588.12
2008-09	463.64	2008-09	3067.10

Plan head Expenditure in 2009-10 (unaudited) – Rs 4722.84 lakhs (including OSC)

Non-Plan head Expenditure in 2009-10 (unaudited) – Rs 5813.02 lakhs (including OSC)

**Annexure–11.12 (a). Construction work completed during the year 2009–2010 (Plan grant project)**

SL. NO.	Name of the Work	Cost of the Work (in Rs.)
1	Construction of Staff Club	27,73,774 Final bill yet to be completed
2	Construction of 2x250 capacity Gallery adjacent to SAC	10,18,846 Final bill yet to be completed
3	Construction of Tennis court adjacent to SAC	7,48,508 Final bill yet to be completed
4	Construction of Boundary wall with chain link fencing near Tennis court adjacent to SAC	9,08,641 Final bill yet to be completed
5	Construction of Gallery at Lords Ground	20,85,454 Final bill yet to be completed
6	Renovation work of Hostel No. 9 including sanitary, plumbing & electrical works	51,13,950 Final bill yet to be completed
7	Illumination of Campus	12,35,813 Final bill yet to be completed
8	Electrical work for renovation of Guest House	4,33,180 Final bill yet to be completed
9	Electrical works for renovation of Internal Telephone Exchange Room	1,17,836 Bill yet to be released
10	Renovation & extension of Telephone Exchange Room	5,82,607 Final bill yet to be completed

**Annexure–11.12(b) Construction work in progress during the year 2009–2010 (Plan grant projects)**

<b>SL. NO.</b>	<b>Name of the Work</b>	<b>Cost of the Work (in Rs.)</b>	<b>Status of the Work</b>
1	Construction of S. N. Ray Memorial Building On turn key basis	4,12,29,799	75 % work completed
2	Construction of Main Gate and Enquiry / Security Guard Office at Main Entrance of the Institute	12,96,795	95% work completed
3	Dedicated Power Line from DVC	4,53,55,000	Civil work under progress
4	Construction of Chemistry Laboratory-cum- Biotechnology Department (Oversight committee)	15,09,26,000	Soil testing completed. Demolition of existing dilapidated single storey building is expected to start soon
5	740 seated Boys' Hostel (Oversight committee)	26,89,94,000	Foundation completed
6	264 seated Girls' Hostel (Oversight committee)	10,18,87,000	RCC upto 4 <sup>th</sup> floor complete. Brick work upto 2 <sup>nd</sup> floor complete. Electrical work initiated
7	Academic Block (Oversight committee)	43,49,01,000	Work initiated
8	VIP Guest House	17,99,67,000	Tender is yet to be finalised
9	Renovation of Student Activity Centre	4,31,14,999	Civil work under progress
10	G+8 Faculty Accommodation	22,56,69,789	Piling work completed. RCC work started
11	Renovation & extension of existing Medical Unit	2,01,36,744	Civil work under progress
12	Construction of Market Complex	8,49,53,953	Tender published
13	Widening of Roads & Construction of Drains etc.	6,69,24,773	50 % work completed
14	Widening of outfall drain & construction of broken boundary wall	1,37,75,606	70 % work completed
15	Capacity expansion of Hostel No.1	4,90,55,238	Work started
16	Capacity expansion of Hostel No.2	4,90,55,238	Work started
17	Capacity expansion of Hostel No.5	4,41,09,689	Work started

**Annexure–11.13 List of laboratories**

<b>Department</b>	<b>Laboratories</b>
Biotechnology	Biochemistry, Microbiology, Bioinformatics, Molecular Biology & rDNA Technology, Immunology, Fermentation Technology, Bioseparation Technology, Bioprocess Engineering, Plant Biotechnology
Chemical Engineering	Heat Transfer Lab, Mass Transfer Lab, Fluid Flow Lab, Mechanical Operations Lab, Environmental and Membrane Technology Lab, Computing Lab, Energy Lab, Chemical & Bio-Chemical Reaction. Engg. Lab, Process Control Lab, Combustion Engineering Lab, Multi-phase Flow Lab, Process Modelling & Simulation Lab, Central Research Laboratory, Process Equipment Design Lab
Chemistry	Inorganic Chemistry Laboratory, Organic Chemistry Laboratory, Physical Chemistry, Environmental and Corrosion Laboratory
Civil Engineering	Concrete and Structure Laboratory, Highway Engineering Laboratory, Surveying Laboratory, Environmental Engineering Laboratory, Soil Mechanics Laboratory, Water Resources Engineering Laboratory, Exciter and FFT 139analyser for Earthquake Laboratory
Computer Science & Engg. & MCA	Project Laboratory, Programming Laboratory-I, Programming Laboratory-II, DBMS Laboratory, Faculty Laboratory, Hardware Laboratory, Networking Laboratory, Computer vision Laboratory, Graphics Laboratory
Electrical Engineering Department	Electrical Machines & Drives Laboratory, Power System Laboratories (I & II), Control Systems Laboratory, Power Electronics Laboratory, Microprocessor and Micro-controller Laboratory, Energy Systems Laboratory, Computing laboratory, Circuits and Measurements Laboratory, Printed Circuit Board Laboratory, Power Audit Laboratory, High Voltage Laboratory
Electronics & Communication Engg.	Electronics Circuit Lab, Network Lab, VLSI Lab, Digital Electronics Lab, Communication Lab, Industrial Electronics Lab, Instrumentation Lab, Microprocessor Lab, Computer architecture Lab, Microwave Lab, PCB Lab, Antenna Lab, Advanced Communication Lab (for PG)
Geology	Microscopy Laboratory, Geology Laboratory, Environmental Laboratory
Humanities & Social Sciences	Computer laboratory, Digital Language Laboratory
Information Technology	Digital System and Microprocessor Lab., Communication Engineering Lab, Application Lab, Network and Systems Lab, Research and Project Lab, Information Security Laboratory
Mathematics	Computer Laboratory
Mechanical Engineering	CAD /CAM Laboratory, Heat Power Laboratory, Thermal Energy Laboratory, Simulation Laboratory, Control System Laboratory, Robotics & AI Laboratory, Manufacturing Science Laboratory, Fluid Mechanics & Hydraulic Machines Laboratory, Metrology Laboratory, Machine Computation & Computer Graphics Laboratory
Metallurgical & Materials Engineering	Computer Laboratory for UG, Computer Laboratory for PG, Mechanical Testing Laboratory, Metallography and Phase Transformation Laboratory, Chemical Analysis Laboratory, Thin Film Laboratory, Foundry Laboratory, Heat Treatment Laboratory, Thermodynamic Laboratory, Process Metallurgy Laboratory and Electrometallurgy and Corrosion Laboratory etc.
Physics	Nano Science Laboratory, Materials Science Laboratory, X-ray Diffraction Laboratory, Low Temperature Characterization Laboratory, Laser & Optoelectronics Laboratory, Electronics Laboratory
Workshop	Carpentry & Pattern shop, Electrical shop, Fitting shop, Machine shop, Black smithy shop, Sheet Metal shop, Welding shop, Foundry shop
Central Instrumentation Facility	Scanning Electron Microscope with EDS, X-Ray Diffractometer, Nd:YAG Laser Unit, Spectrum Analyzer

### Annexure-11.14 Alumni

NIT Durgapur Alumni Association (NITDAA) was formed in 2002 at the behest of the Board of Governors, RECD. Since then, NITDAA has spread its wings all over the world – setting up Chapters in USA (three); UK; UAE, apart from various cities and towns in the country. It is closely associated with the development of the Institute. It has instituted Prof S.N. Ray Scholarship for eight students per year. It has extended financial assistance to four students for foreign internship. In order to have close relationship with the present students, NITDAA has contributed to programmes like Arohan, RECSTACY and 'Maths' N Tech Club' and actively participated in all these programmes. This year, NITDAA took up initiative with many Senior alumnus for recruitment of students from NITD and the response has been very encouraging.

Annual Global Meet of NITDAA was held in the Institute campus on January 10, 2010. Mr Sajjan Jindal, MD of JSW Steels Ltd. attended the programme as Chief Guest and Dr Bikash Chandra Sinha, Chairman, BOG has also kindly graced the occasion. Dr Sinha suggested to institute 'Jindal Chair' on their behalf and Prof Bhattacharya requested for a Jindal-NITD tie-up in the form of Industry – Institute partnership. Mr Jindal agreed to look into both the suggestions. JSW group has been urged to recruit large number of students from NITD. This year they have turned out to be one of the largest recruiter and promised to take more in the coming years. These tie-ups may usher new era in our Institute. Large number of alumnus attended the Global meet from all over the world.

The Institute is completing its 50 years of glorious journey in 2010. NITDAA is celebrating Year-long Golden Jubilee Celebrations at various corners of the globe – starting from San Jose, USA on July 04, 2009 followed by Ranchi Chapter on September 12, 2009; then at Durgapur on February 21, 2010. Next programmes in the immediate future are: - Kolkata on June 26, 2010 and Atlantic City, USA on July 10, 2010.

### Annexure-11.15 Other relevant information

#### Annexure 11.15 (a) Books authored during 2009-2010

##### Department of Chemical Engineering

Author	Title of the book	Publisher	Date of Publication
Paruya, S., Bhattacharya, P.	Dynamic Voids Measurement during Geysering Phenomenon in a Natural Circulation Loop. New Trends In Fluid Mechanics Research, 471-474	Springer Berlin Heidelberg.	2009
Narayanan,C.M.	Biotechnology and Bioprocess Engineering	Galgotia Publications, New Delhi	--

##### Department of Humanities & Social Sciences

Author	Title of the book	Publisher	Date of Publication
Banerjee J.	The Novels of Amitav Ghosh: A Critical Study	Sunrise Publications (New Delhi)	2009
Chakraborty, T., Banerjee, J.	Dimensions of Indian English Literature: The binding vine of human relationships in Shashi Deshpande	Sunrise Publishers and Distributors, Jaipur, PP 25-37, ISBN: 978938020713	2010
Chakraborty, T., Banerjee, J.	Critical Studies on Indian English Literature: Journey to Ithaka: The ultimate quest for 'Home'	Pointer Publishers, Jaipur, 68 -79	2010

**Department of Metallurgical and Materials Engineering**

Author	Title of the book	Publisher	Date of Publication
Ghosh K. S.	A Book Chapter on Corrosion Behaviour of Al and Al-Alloys	Nova Science Incorporation, New York	In Press

**Department of Mechanical Engineering**

Author	Title of the book	Publisher	Date of Publication
Singh Arun Kumar, Patil Arun H and Saha Anup Kumar	A Novel Five wheeled Rover for All Terrain Navigation in the Book Series: Lecture Notes in Computer Science.	Springer Berlin / Heidelberg	December, 2009

**Annexure 11.15 (b) i. Reviews of manuscripts for publication in journals during 2009-2010****Department of Biotechnology**

Reviewer	Name of the Journal	Publisher	Date
Chaudhuri S.	Food & Bioprocess Technology	Springer	May 22, 2009 Nov. 17, 2009 Dec. 28, 2009 Jan. 18, 2010 Feb. 28, 2010 Mar. 07, 2010 Mar. 29, 2010
Chattopadhyay S.	Plant Physiology	American Society of Plant Biology	Nov., 2009 Mar., 2010
Saha P.	J. of Hazardous Materials	Elsevier	Jan. 7, 2010
Saha P.	Int. J. Physical Sciences	Academic Journal Publication	Mar. 4, 2010
Saha P.	African Journal of Business Management	Academic Journal Publication	Feb. 1, 2010

**Department of Chemical Engineering**

Reviewer	Name of the Journal	Publisher	Date
Ghanta K.C.	Chemical Engg. Communication	Taylor & Francis	Nov. 26, 2009
Ghanta K.C.	Chemical Product and Process Modeling	The Berkeley Electronic Press	Sept. 15, 2009
Gupta P.	Journal of Hazardous Materials	Elsevier	May 13, 2009
Gupta P.	Journal of Ecology and Natural Environment	Academic Journals	July 19, 2009
Gupta P.	Journal of Energy & Fuels	American Chemical Society (ACS) Publication	Oct. 10, 2009
Gupta P.	International Journal of Chemical Reactor Engineering	The Berkeley Electronic Press	Jan. 18, 2010
Mandal Tamal	International Journal of Environmental Engineering	Inderscience	

Reviewer	Name of the Journal	Publisher	Date
Narayanan, C.M.	Journal of Ecology and Natural Environment	Academic Journals	
Narayanan, C.M.	Journal of Chemical Technology and Biotechnology	The Berkeley Electronic Press	
Pal P.	Journal of Membrane Science	Elsevier Sc.	Mar., 2010
Paruya S.	Canadian Journal of Chemical Engineering	Wiley InterScience	July, 2009
Paruya S.	Indian Chemical Engineers	IChE	Oct., 2009
Sadhukhan A. K.	Chemical Engineering and Processing: Process Intensification	Elsevier	July, 2009
Sadhukhan A. K.	Fuel Processing Technology	Elsevier	Mar., 2010

### Department of Civil Engineering

Reviewer	Name of the Journal	Publisher	Date
Banik A. K.	Journal of Structural Engineering	IUP Publications	Jan., 2010
Samal N. R.	Journal of Environmental Engineering	Institution of Engineers	Feb., 2010

### Department of Computer Science and Engineering

Reviewer	Name of the Journal	Publisher	Date
De T.	Journal of Optics	Springer India.	Feb., 2010

### Department of Electrical Engineering

Reviewer	Name of the Journal	Publisher	Date
Acharjee P.	IEEE Transactions on Power Systems	IEEE	Feb., 2010
Acharjee P.	IJEPES	Elsevier	Nov., 2009
	ESWA	Elsevier	April, 2009
	ASOC	Elsevier	May, 2009
			Jan., 2010
Banerjee S.	14th IFAC International Conference on Methods and Models in Automation & Robotics, MMAR-2009.	IFAC, Poland	April 6, 2009
Banerjee S.	Innovative Technologies in Intelligent Systems & Industrial Applications" (CITISIA)	IEEE, Malaysia	July 26, 2009
Banerjee S.	IEEE Transactions on Industrial Electronics	IEEE, USA	April 16, 2009
Bhowmik P. S.	Electric Power Components and Systems	Taylor & Francis	Feb., 2010
Bhowmik P. S.	Journal of Electrical Engineering	Springer	Nov., 2009
Ghosh S.	Electric Power Components & Systems	Taylor & Francis	Sept., 2009
Ghosh S.	Electric Power Components & Systems	Taylor & Francis	Oct., 2009
Ghoshal S.P.	Chemical engineering Communications	Taylor & Francis	Aug., 2009
Ghoshal S.P.	Electric Power System Research	Elsevier	Sept., 2009
Ghoshal S.P.	Int. Journal of Electrical power and Energy Systems	Elsevier	Nov., 2009
Mahato S. N.	Energy	Elsevier	May., 2009

**Department of Electronics and Communication Engineering**

Reviewer	Name of the Journal	Publisher	Date
Chandra A.	IEEE Transactions on Vehicular Technology	IEEE	26.10.2009
Chandra A.	Computers & Electrical Engineering	Elsevier	Feb. 6, 2009 May 31, 2009 July 9, 2009 June 15, 2009 Nov. 12, 2009 Jan.20, 2010 Feb. 9, 2010
Dhar Roy S.	IET Communications (three manuscripts)	IET, UK	Jan. 8, 2010 Aug. 26, 2009 May 27, 2009
Dhar Roy S.	Electronics Letters (two manuscripts)	IET, UK	Mar. 4, 2010 Dec. 24, 2009
Dhar Roy S.	Journal of Progress in Electromagnetic Research (PIER)	EMW, MIT, USA	Sept. 13 .2009
Mahanti G.K.	IEEE Antennas & Wireless Propagation Letters	IEEE, USA	Jan. 6., 2010
Mahanti G.K.	Electronics Letter	IET, UK	Nov. 16, 2009
Mahanti G.K.	Progress in Electromagnetic Research, USA	EMW, MIT, USA	July 6, 2009
Mahanti G.K.	International Journal of Electronics	Taylor &Francis	Feb. 14, 2010

**Department of Humanities & Social Sciences**

Reviewer	Name of the Journal	Publisher	Date
Sengupta P. P.	African Journal of Business Management (two reviews)	Academic Journal Publication	Sept., 2009
Sengupta P. P.	African Journal of Business Management (two reviews)	Academic Journal Publication	Jan., 2010

**Department of Information Technology**

Reviewer	Name of the Journal	Publisher	Date
Mitra D.	Journal of Electronic Testing: Theory and Applications	Springer	Mar., 2010

**Department of Management Studies**

Reviewer	Name of the Journal	Publisher	Date
Roy Mousumi	International Business	Pearson Education	Feb., 2010

**Department of Mechanical Engineering**

Reviewer	Name of the journal	Publisher	Date
Hui N. B.	Neural Computing & Applications	Springer Verlag	Dec., 2009
Hui N. B.	International Journal of Cast Metals HResearch	Maney Publishing	Mar., 2010
Hui N. B.	NaCoMM – 09	Association of Machines & Mechanisms	Nov., 2009
Layek A.	African Journal of Agricultural Research	Academic Journals	May, 2009
Layek A.	Experimental Thermal and Fluid Science	Elsevier	Nov., 2009



Reviewer	Name of the journal	Publisher	Date
Layek A.	Indian Journal of Science and Technology	Indian Society for Education and Environment	Dec., 2009
Mullick A. N.	ASME International Mechanical Engineering Congress & Exposition 2009	ASME	Dec., 2009

### Department of Metallurgical & Materials Engineering

Reviewer	Name of the journal	Publisher	Date
Ghosh K. S.	Journal of Chemical Engineering and Materials Science	www.academicjournals.org	Feb. 2, 2010
Maity J.	Journal of Materials Engineering and Performance	ASM international	April 27, 2009
Maity J.	Journal of Alloys and Compounds	Elsevier	Mar. 2, 2010

### Department of Physics

Reviewer	Name of the journal	Publisher	Date
Kumbhakar P.	Applied Physics Letters	American Institute of Physics	Dec., 2009
Kumbhakar P.	J. Alloys and Compounds	Elsevier	Sept., 2009 Nov., 2009
Kumbhakar P.	Mat. Phys. And Chem.	Elsevier	Dec., 2009
Kumbhakar P.	Optics Express	Optical Society of America	Nov., 2009
Kumbhakar P.	Journal of Optics	Optical Society of India and Springer	Dec., 2009 July, 2009 Jan., 2010
Kumbhakar P.	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	Elsevier	Feb. 2010
Meikap A. K.	J. Physical Chem.	American Chemical Society	Feb. 22, 2010
Meikap A. K.	Materials Research Bulletin	Elsevier	Mar. 24, 2010
Meikap A. K.	Solid State Communication	Elsevier	Mar.4, 2010
Meikap A. K.	Journal of Non-crystalline Solid	Elsevier	Dec. 7, 2009
Meikap A. K.	Polymer Engineering and Science	Wiley Inter Science	Mar.15, 2010
Mitra A. K.	Composite Structures	Elsevier	

### Annexure 11.15 (b) ii. Reviews of books during 2009-2010

#### Department of Chemical Engineering

Reviewer	Name and author of the book	Publisher	Date
Paruya S.	Introduction to Chemical Engineering by W. L. Badger and J. T. Bancharo	Tata-McGraw Hill	Sept., 2009

**Department of Electrical Engineering**

Reviewer	Name and author of the book	Publisher	Date
Mahato S. N.	Electric Machines by Kothari-Nagrath	Tata McGraw Hill	July, 2009
Mahato S. N.	Power System Analysis by Kothari-Nagrath	Tata McGraw Hill	Sept., 2009

**Department of Electronics and Communication Engineering**

Reviewer	Name and author of the book	Publisher	Date
Chandra A.	Wireless Communications and Networks by I. S. Misra	Tata McGraw Hill	Nov., 2009
Chandra A.	Basic Electronics by K. P. Ghatak and D. De	Pearson	Jan. 6, 2009
Dhar Roy S.	Basic Electronics, Dr. Kamakhya Prasad Ghatak	Pearson Education	May 11, 2009
Kundu S.	Wireless Communication and Networking by I. S. Mishra	Tata McGraw Hill	Dec., 2009

**Department of Information Technology**

Reviewer	Name and author of the book	Publisher	Date
Mukhopadhyay S.	Foundation of Algorithms	Tata McGraw Hill	Sept., 2009

**Department of Mechanical Engineering**

Reviewer	Name and author of the book	Publisher	Date
Hui N. B.	Principles of Industrial Automation by D. Patranabis	Tata McGraw Hill	June, 2009
Hui N. B.	Mechatronics by Mahalik	Tata McGraw Hill	June, 2009
Layek A.	Schaum's outline of Thermodynamics for Engineers, 2e by Potter	The McGraw-Hill Education (India) Pvt. Ltd.	Aug. 24, 2009
Mullick A. N.	Mechanics of Solids	Pearson Education	July, 2009
Mullick A. N.	1000 Solved Problems in Fluid Mechanics by Subramanya	K Tata-McGraw-Hill	Oct., 2009
Mullick A. N.	Heat & Mass Transfer by Pitts	Tata-McGraw-Hill	Dec., 2009

**Department of Physics**

Reviewer	Name and author of the book	Publisher	Date
Meikap A. K.	Engineering Physics by Dr. V. Rajendram	Tata McGraw Hill	Jan. 22, 2010

**Annexure 11.15 (c). Participation in national committees/ visits during 2009-2010****Department of Biotechnology**

Name of the faculty	Name of the committee	Place of visit	Date
Chattopadhyay S.	Task Force, DBT, Govt. of India	DBT, New Delhi	2010
Chattopadhyay S.	Tea Board, Govt. of India	Tea Board, Calcutta	2009

**Department of Chemical Engineering**

Name of the faculty	Name of the committee	Place of visit	Date
Gupta P.	Central committee for PMSS (TEQIP-II)	NPIU, Noida	Oct.12-13, 2009
Gupta P.	Central committee for MIS (TEQIP-II)	NPIU, Noida	Oct. 30-31, 2009

**Department of Electrical Engineering**

Name of the faculty	Name of the committee	Place of visit	Date
Roy N.K.	National Mission Project on Education through ICT MHRD, Government of India	IIT, Kharagpur	Aug., 2009 Nov., 2009 Jan., 2010 Mar., 2010

**Department of Mechanical Engineering**

Name of the faculty	Name of the committee	Place of visit	Date
Ghosh S.	NBA of AICTE	Sri Sant Gajanan Maharaj College of Engineering, Shegaon, Maharashtra	April 16-17, 2009

**Annexure 11.15 (d). Invited Examiners/paper-setters/Board of Studies during 2009-2010****Department of Biotechnology**

Name of the faculty	Name of the examination	University/Institute	Date
Aikat K.	M. Sc. (paper setter & examiner)	Visva Bharati University	April, 2009
Chattopadhyay S.	MSc-PhD course (Member, Board of Studies)	Bose Institute, Calcutta	Sept. 9, 2009 Mar. 2, 2010
Chaudhuri S.	M. Sc. (Part I)	Vidyasagar University	Nov., 2009
Dey A.	M.Sc.	NEHU, Shillong, Meghalaya	July, 2009
Dutta D.	M. Sc. (3rd Semester)	Nagpur University	Nov., 2009

**Department of Chemical Engineering**

Name of the faculty	Name of the examination	University/Institute	Date
Ghanta K. C.	PhD Examiner	Chemical Engg., Osmania University, Hyderabad	Jan. 16, 2010
Narayanan C.M.	AMIE Examination, Paper Setter	The Institution of Engineers (I)	Mar., 2010
Narayanan C.M.	M.Sc. (Tech.) Examination, Paper Setter	Cochin University of Science and Technology	Aug., 2009

**Department of Chemistry**

Name of the faculty	Name of the examination	University/Institute	Date
Moi S. C.	B. Sc. (Hons) Chemistry & Practical Examiner of B. Sc. (General)	Visva-Vharati University	Sept., 2009
Saha R. N.	Board of Research Studies in Environmental Science	Burdwan University	May 28, 2009
Saha R. N.	Examiner for conducting Practical Exam.	Burdwan University	June 12, 2009
Saha R. N.	Examiner for conducting Practical Exam.	Burdwan University	July 16, 2009

**Department of Civil Engineering**

Name of the faculty	Name of the examination	University/Institute	Date
Karmakar S.	ADDA Engineering Service	ADDA	Dec., 2009
Samal N. R.	M. Tech. thesis examiner	School of Water Resources Engineering, Jadavpur University	June, 2009
Pal S.	Staff Selection Commission Examination	Staff selection commission, Eastern Region, India	Mar., 2010
Samanta A. K.	Staff Selection Commission Examination	SSC, GOI	Mar., 2010

**Department of Computer Application**

Name of the faculty	Name of the examination	University/Institute	Date
Choudhury P.	B.Tech. (Agriculture), (3 <sup>rd</sup> Semester)	College of Agricultural Engineering and Post Harvest Technology, Gangtok	July10, 2009

**Department of Computer Science & Engineering**

Name of the faculty	Name of the examination	University/Institute	Date
Sarker.G.	AMIE Q. Paper i) Operating System ii) Pattern Recognition & Image Processing	Institute of Engineers	Jan., 2010

**Department of Electrical Engineering**

Name of the faculty	Name of the examination	University/Institute	Date
Banerjee S.	B.Tech.	ISM, Dhanbad	Dec., 2009
Banerjee S.	M.Tech.	NIT Jamshedpur	Mar., 2010
Banerjee S.	B.E., Moderator (External)	University of Burdwan	Nov.16, 2009
Bhowmik P. S.	B. Tech.	BITM-Santineketan	Mar. 19, 2010
Bhowmik P. S.	B. Tech.	College of Agricultural Engineering & Post Harvest Technology (Central Agricultural University) Gangtok, Sikkim	July 10, 2009
Ghosh S.	M. Tech. ( 2 <sup>nd</sup> Sem.) & B. Tech. (8 <sup>th</sup> Sem)	NIT Jamshedpur	Mar., 2010
Ghosh S.	M. Tech. Thesis	Jadavpur University	Sept., 2009
Ghoshal S.P.	Ph.D. Progress Seminar of Research Scholar	SVNIT Surat	July, 2009

Name of the faculty	Name of the examination	University/Institute	Date
Ghoshal S.P.	Ph.D. Progress Seminar of Research Scholar	SVNIT, Surat	Sept., 2009
Ghoshal S.P.	Microprocessors & Microcontrollers-Paper setter	The Institution of Engineers (India)	Aug., 2009
Ghoshal S.P.	Power System Transients and High Voltage Engineering-Paper setter	The Institution of Engineers (India)	Dec., 2009
Ghoshal S.P.	B.Tech. and M.Tech. (Paper setter)	NIT Jamshedpur	April, 2009 Mar., 2010
Ghoshal S.P.	B.Tech. (EE) -Paper setter	ISM Dhanbad	Mar., 2010
Ghoshal S.P.	Ph.D. Thesis Examiner(EE)	Jadavpur University	Sept., 2009
Roy N. K.	B.Tech.- Paper setter (EE)	ISM Dhanbad	Mar., 2010
Roy N. K.	Ph.D. Examiner(EE)	Jadavpur University	May, 2009

### Department of Geology

Name of the faculty	Name of the examination	University/Institute	Date
Gangopadhyay A.	M. Sc.	Burdwan University	June, 2009

### Department of Humanities and Social Sciences

Name of the faculty	Name of the examination	University/Institute	Date
Sengupta P.P.	M.Phil.Viva	Burdwan University	Sept., 2009
Sengupta P.P.	Ph.D. thesis evaluation	Jadavpur University	June, 2009

### Department of Mathematics

Name of the faculty	Name of the Examination	University/Institute	Date
Kar S.	MCA	Vidyasagar University	Dec., 2008

### Department of Mechanical Engineering

Name of the faculty	Name of the examination	University/Institute	Date
Basak I.	Comprehensive Viva-voce for Final semester Mechanical Engg. students	ISMU-Dhanbad	May 13, 2009

### Department of Metallurgical & Materials Engineering

Name of the faculty	Name of the examination	University/Institute	Date
Ghosh K.S.	Associate Membership Examination	Institute of Engineers (I)	Mar., 2010

### Department of Physics

Name of the faculty	Name of the examination	University/Institute	Date
Kumbhakar P.	M. Sc. (Physics) (Moderator & External Examiner)	Burdwan University	Dec., 2009 Feb., 2010
Meikap A. K.	M. Sc. (Examiner)	Burdwan University	July, 2009
Sahoo S.	B. Tech. -Paper setter	Veera Surendra Sai University of Technology, Burla, Orissa	Sept. 22, 2009

**Annexure 11.15 (e). Invited experts in selection committee during 2009-2010****Department of Chemistry**

<b>Name of the faculty</b>	<b>Discipline</b>	<b>University/Institute</b>	<b>Date</b>
Saha R. N.	Expert Member for the enhancement of Fellowship from JRF to SRF	Burdwan University	April 23, 2009
Saha R. N.	Expert Member for the selection of Lab. Asst. in Chemistry	Bengal Institute of Technology, Katwa	Jan. 27, 2010

**Department of Electrical Engineering**

<b>Name of the faculty</b>	<b>Discipline</b>	<b>University/Institute</b>	<b>Date</b>
Banerjee S.	Electrical Engineering	BCET, WBUT	Oct. 9, 2009
Banerjee S.	Electrical Engineering	V.C. Nominee, WBUT	Aug. 1, 2009
Banerjee S.	Electrical Engineering	Dr.B.C.Roy Engg. College, WBUT	Jan. 30, 2010
Bhowmik P. S.	Electrical Engineering	BITM-Santineketan	Mar. 19, 2010
Ghosh S.	Electrical Engineering	Jadavpur University	Mar., 2010
Ghoshal S.P.	Electrical Engineering	Aryabhatta Engg. College, Panagarh	July, 2009
Thakur S.S.	Electrical Engineering	Aryabhatta Engg. College, Panagarh, WBUT	July, 2009

**Department of Electronics & Communication Engineering**

<b>Name of the faculty</b>	<b>Discipline</b>	<b>University/Institute</b>	<b>Date</b>
Mahanti G.K.	Electronics & Comm. Engg.	Bengal College of Engg. & Tech., Durgapur	Dec., 2009

**Department of Mechanical Engineering**

<b>Name of the faculty</b>	<b>Discipline</b>	<b>University/Institute</b>	<b>Date</b>
Layek A.	Automobile Engineering	Bengal Institute of Technology, Katwa, Burdwan	Jan. 27, 2010
Basak I.	Project Assistant	CMERI- Durgapur	April 22, 2009
Banerjee N.	Automobile Engineer	DMC, Durgapur	Mar. 23, 2010
Majumder M.C.	Faculty of Engineering	BCET- Durgapur	May 5, 2009
Majumder M. C.	Faculty of Engineering	BCET- Durgapur	Jan. 27, 2010
Ghosh S.	Faculty of Engineering	BCET- Durgapur	Jan. 27, 2010
Halder B.	Faculty of Engineering	BCET- Durgapur	May 5, 2009
Sengupta A.	Assessment of Grade-III Gazetted employee of CMERI	CMERI- Durgapur	Oct. 23, 2009
De N. R.	Project Assistant & JRF	CMERI- Durgapur	Oct. 28, 2009
De N. R.	Faculty of Engineering	BCET- Durgapur	Jan. 27, 2010

**Department of Metallurgical & Materials Engineering**

<b>Name of the faculty</b>	<b>Discipline</b>	<b>University/Institute</b>	<b>Date</b>
Mondal D. K.	Assessment of Gr. III Gazetted Employees	CMERI, Durgapur	Oct. 23, 2009
Mondal D. K.	Chairman, Selection Committee for Project JRF	CMERI, Durgapur	July 28, 2009
Mondal D. K.	Member, Selection Committee for Professor, Metallurgical & Mat. Engg.	Jadavpur University	July 9, 2009

**Department of Physics**

Name of the faculty	Discipline	University/Institute	Date
Meikap A. K.	Physics	BCET, Durgapur	April, 2009

**Annexure 11.15 (f). Invited lectures during 2009-2010****Department of Biotechnology**

Name of the faculty	Title of the lecture	Programme	Place	Date
Chattopadhyay S.	Molecular and Functional analyses of ZBFs in Arabidopsis Seedling Development	Invited special lecture	Bose Institute, Calcutta	June, 2009
Chattopadhyay S.	Molecular and Functional analyses of ZBFs in Arabidopsis Seedling Development	Invited special lecture	BCET, Durgapur	Nov., 2009
Chattopadhyay S.	Molecular and Functional analyses of ZBFs in Arabidopsis Seedling Development	Invited special lecture	JNU, Delhi	Jan. 7, 2010
Chattopadhyay S.	Molecular and Functional analyses of ZBFs in Arabidopsis Seedling Development	Invited talk in an International Symposium	Vidyasagar University, W.B.	Mar.4., 2010
Chattopadhyay S.	Molecular and Functional analyses of ZBFs in Arabidopsis Seedling Development	Invited special lecture	BHU, Varanasi	Mar. 22, 2010
Dutta D.	Nutrigenomic Approach to Nutraceutical	One Day Interactive Research Seminar on Technology Challenges for Producing Premium Value Food Products: Nutraceuticals	Jadavpur University, Kolkata	Mar. 31, 2010

**Department of Chemical Engineering**

Name of the faculty	Title of the lecture	Programme	Place	Date
Ghanta K. C.	SWOT Analysis	TEQIP-II: SWOT Analysis & TNA	Kolkata University	Mar. 10, 2010
Gupta P.	SWOT Analysis	TEQIP-II: SWOT Analysis & TNA	Kolkata University	Mar. 10, 2010
Mandal Tamal	Environmental Pollution Control		DIATM, Durgapur	July, 2009
Narayanan, C.M.	Green Fuels and Global Warming Solutions		Institution of Engineers (I), Durgapur	Sept.16, 2009

**Department of Chemistry**

Name of the faculty	Title of the lecture	Programme	Place	Date
Saha R. N.	Advanced Oxidation Process for Wastewater (Textile and Dye) Treatment	UGC Sponsored One Day State Level Seminar on Chemistry and The Environment	Jogesh Chandra Chaudhuri College,	Sept. 12, 2009

Name of the faculty	Title of the lecture	Programme	Place	Date
			Kolkata	

### Department of Civil Engineering

Name of the faculty	Title of the lecture	Programme	Place	Date
Samal N. R.	Overview of Mathematical Model and Application of One Dimensional to Lake Hydrodynamics and Water Quality in General	Three Weeks Refresher Training Course on Advances in Water Resources Technology & Management, Sponsored by UGC Academic Staff College	School of Water Resources Engineering, Jadavpur University	Dec. 4-5, 2009
Samal N. R.	Next Walls to Fall: Climate Change & Global Warming	Falling Walls Conference: Which are the Next Walls to Fall and how will they affect our lives? Organised by Einstein Foundation Berlin and the German Academic Exchange Service (DAAD)	Berlin, Germany	Nov. 8-9, 2009

### Department of Electrical Engineering

Name of the faculty	Title of the lecture	Programme	Place	Date
Ghoshal S.P.	Improvement of Power Transmission Capability of Transmission Line by FACTS Devices	Power System Operation and Control	D.I.A.T.M., Rajbandh, WBUT	Aug. 28, 2009
Roy N.K.	Development of High Voltage Engineering Workshop	Electrical Engineering	IIT Chennai	Mar., 2010
Roy N.K.	Partial Discharge Measurement of Transformer with ICT	Electrical Engineering	IIT Kharagpur	Mar., 2010
Roy N.K.	A bottom up Model for Services to Community in ICT Enabled Framework	Electrical Engineering	Institute of Engineers, Kolkata	Mar., 2010

### Department of Electronics and Communication Engineering

Name of the faculty	Title of the lecture	Programme	Place	Date
Chandra A.	Phase Locked Loop	Winter School on VLSI Systems	ECE Dept., NIT Durgapur	Jan. 24, 2009

### Department of Humanities and Social Sciences

Name of the faculty	Title of the lecture	Programme	Place	Date
Sengupta P.P.	Global Economic Meltdown & India's Competitive Strength.	Seminar Lecture	DSMS, Durgapur	April, 2010
Sengupta P.P.	Leadership	Indian Oil Golden Jubilee Seminar	Hotel Peerless Inn, Durgapur	Aug., 2009
Sengupta P.P.	Global Economic Meltdown & India's Competitive Strength.	National Seminar	NSHM, Durgapur	Jan. 2009
Sengupta P.P.	Fundamentals of Managerial Economics (MDP Lecture)	Efficiency Enhancement Programme Lecture Series	DSP, Durgapur	Oct., 2009 Jan., 2010



Name of the faculty	Title of the lecture	Programme	Place	Date
Sengupta P.P.	Problems and Prospects of Indian Power Sector	National Seminar	NPTI, Durgapur	Mar. 2010

### Department of Information Technology

Name of the faculty	Title of the lecture	Programme	Place	Date
Dutta A.	Gole Oriented Requirement Analysis for Teleteaching System	International Conference on Emerging trends in Computer Science, Communication and Information Technology	Nanded, M.S.	Jan., 9-11, 2010
Howlader J.	Implementation of Leveraging Technology and Transparency in Award of Work	Seminar	Mejia Thermal Power Station	Nov. 9, 2009

### Department of Management Studies

Name of the faculty	Title of the lecture	Programme	Place	Date
Roy M.	Challenges of Industrialisation for Sustainable Development	UGC-Seminar	B.C. College, Asansol	Mar. 17-18, 2010

### Department of Mechanical Engineering

Name of the faculty	Title of the lecture	Programme	Place	Date
Puri A. B.	Engineering Metrology	Undergraduate	CCE, Muscat, Oman	Dec. 4-10, 2009

### Department of Metallurgical & Materials Engineering

Name of the faculty	Title of the lecture	Programme	Place	Date
Ghosh K.S.	Training Need Analysis	Workshop on Swot analysis and TNA, Organized by SPFU, W.B.	Calcutta University Extension Building, Salt Lake, Kolkata	Mar. 9-10, 2010

### Department of Physics

Name of the faculty	Title of the lecture	Programme	Place	Date
Kumbhakar P.	Traditional Knowledge & Knowledge gained through Laboratory experiments ( <i>research activities at CERN, Geneva</i> )	UGC sponsored Seminar on Traditional Knowledge and Old Wisdom	Netaji Subhas Ashram, Purulia	Sept., 2009
Kumbhakar P.	Physics of Nanoscopic Systems	Special Topics on Physics	J. K. College, Purulia	Sept., 2009

Name of the faculty	Title of the lecture	Programme	Place	Date
Kumbhakar P.	Nanomaterials-Fundamentals and Defense Applications	National Symposium on Defense Science Education & Research-Problem, Perspective & Challenge	CMERI	Dec.19-20, 2009
Sahoo S.	Large Hadron Collider	Current Trends in Material Sciences	Bhilai Mahila Mahavidyalay, Bhilai	Feb. 5 – 6, 2010

### Annexure 11.15 (g). Session chair/convenor during 2009-2010

#### Department of Chemistry

Name of the faculty	Session Chair/ convenor	Programme	Place	Session	Date
Saha R. N.	Technical Manager	International Conference on the Theme “ Mother Earth: Save it for Future Generation” at Burdwan University, Feb. 13-15, 2010	Department of Environmental Science, Burdwan University, Burdwan	Technical Session	Feb.13-15, 2010

#### Department of Electrical Engineering

Name of the faculty	Session Chair/ convenor	Programme	Place	Session	Date
Acharjee P.	Session Chair	International IEEE Conference (IEEM 2009)	Hong Kong	Decision Analysis Computing	Dec.10, 2009
Ghosh S.	Session Chair	International Conference on Power Systems	IIT Kharagpur	Power System Operation, Simulation and Control	Dec. 29, 2009
Roy N. K.	Session Chair	International Conference on Power Systems (ICPS-2009)	IIT Kharagpur	High Voltage & Insulation Engineering	Dec. 28, 2009

#### Department of Information Technology

Name of the faculty	Session Chair/ convenor	Programme	Place	Session	Date
Dutta A.	Session Chair	ITC-2010	Kochin, Kerala	Session-IIB	Mar. 12, 2010
Mukhopadhyay S.	Session Chair	International Conference on Recent Trends in Business Administration and Information Processing (BAIP 2010)	Trivandrum, Kerala	Session IIIC	Mar.27, 2010

#### Department of Metallurgical & Materials Engineering

Name of the faculty	Session Chair/ convenor	Programme	Place	Session	Date
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Name of the faculty	Session Chair/ convenor	Programme	Place	Session	Date
Mondal D. K.	Session Chair	NMD-ATM 2009, International Symposium on Emerging Challenges for Metals and Materials: Engg. and Technology	Science City, Kolkata	Symposium E (Materials Degradation and Environmental Issues)	Nov. 14-17, 2009
Mondal D. K.	Session Chair	47 <sup>th</sup> NDM-ATM Programme by IIM Durgapur Chapter and DSP	Synergy Hall, DSP Durgapur	Technical Session	Mar. 13, 2010
Mondal D. K.	Session Chair	National Seminar on Deformation, Wear & Fracture-2010	Jadavpur University	Technical Session I	Mar. 24, 2010

### Annexure 11.16 Convocation 2009

Fifth Convocation of the Institute was held on November 07, 2009 in which the renowned Scientist Dr. Lyndon R Evans, Project Leader of the world-renowned LHC, Large Hadron Collider, Project at CERN delivered the Convocation Address as the Chief Guest. Dr. K. Kasturirangan, The former Chairman of ISRO, the Indian Space Research Organization and Member of Planning Commission, Government of India was the Guest of Honour. Shri Rathindramohan Roy, Hon'ble Mayor, Durgapur Municipal Corporation and Shri Satish Chandra Tewari, Principal Secretary, Department of Higher Education, Government of West Bengal, were the Distinguished Guests. Professor Bikash Sinha, Chairman, Board of Governors, presided over the function.

Five research scholars were conferred Ph.D. degree. 71 M.Tech., 47 MBA, 56 MCA and 488 B.Tech degrees were awarded to the eligible students. 19 Gold Medals were awarded to the toppers of all the programmes. Smt. Kurchi Subhra Hazra of Computer Science & Engineering Department received Mrs. D.V. Sitabai Memorial Gold Medal for securing highest CGPA in B.Tech courses and Parpatidevi Chandumal Memorial Gold Medal for scholastic excellence among girl students (B.Tech).

### Annexure 11.17 Other information

- Professor N.K. Roy is developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning under a National Mission Project on Education through ICT, Funded by Ministry of Human Resource Development, Govt. of India.
- Dr. Susmita Dutta is developing a course on Biochemical Reaction Engineering, under a National Mission Project on Education through ICT, Funded by Ministry of Human Resource Development, Govt. of India with Prof. P. Bhattacharya, J.U., Kolkata.
- Dr. Swapan Paruya is developing pedagogy on Transport Phenomena, being a part of National Mission Project on Education through ICT, Funded by Ministry of Human Resource Development, Govt. of India, with Prof. J. P. Sarkar and Dr. Tamal Mandal.
- Dr. Pathik Kumbhakar is preparing a course on Pedagogic Development on Fundamentals of Photonics and Optoelectronics under a National Mission Project on Education through ICT, Funded by Ministry of Human Resource Development, Govt. of India with Mrinal K. Mandal.
- Dr. S. Banerjee has been nominated as Member of Board of under Graduate Studies in Electrical Engineering, University of Burdwan. He is also nominated as Member of Academic Council of Asansol Engineering College, Asansol.
- Dr. S. Banerjee is nominated as External Expert at CMERI, Durgapur under the Network Project titled Development of High Speed Bearing for Micro/Meso Scale Machine Tool Application (under MRMMMS NWP30/3).

- Dr. S. Banerjee was invited to act as International Technical Program committee member of International IEEE Symposium on Industrial Electronics and Applications, ISIEA2010.
- Dr. T.K. Saha has received his PhD degree from IIT Kharagpur on Oct, 2009.
- 1<sup>st</sup> prize was received for research paper “Effect of wind load on cylindrical wall of reinforced concrete LNG tank-A Case Study” by Simha, B., Balaram, S., Samanta, A. K., in National Conference (TECHNOLOGIA 2010), Christian College of Engg. & Technology, Bhilai, MP, Feb. 24-25, 2010.
- Dr. Nihar Ranjan Samal was selected among 156 applicants from 43 countries to become one of the 15 Green Talents of the year 2009 and received **the Green Talent Technologies Award** by the Federal Ministry of Education & Research (BMBF), Germany at the International Forum for High Potentials in Green Technologies during August 30, to September 10, 2009.
- Prof. S.P. Ghoshal has received two certificates of Merit awards for two Journal papers in Institute of Engineers. One of them is **Pandit Madan Mohan Malaviya Memorial Prize—Gold Award**, Dec. 11, 2009.
- Prof. N K Roy received the recognition as **Delphi Expert** by IIT Delhi and IIPA, Delhi for framing the policy of Rural e-Governance in India, on November, 2009.
- Prof. P. P. Sengupta was nominated for **Rashtrya Gourav Award** by India International Friendship Society in the year 2009.

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