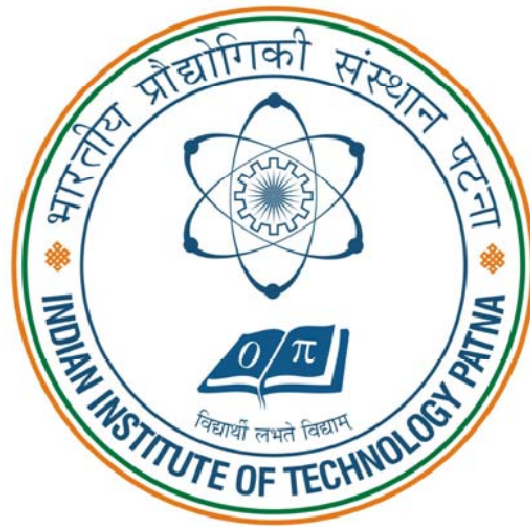


Annual Report

2009-2010



**Indian Institute of Technology
Patna**

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1. Director's Report

Indian Institute of Technology Patna was set up on August 6, 2008, in a small campus near Government Polytechnic with three schools that include seven departments, namely Chemistry, Physics and Mathematics (under School of Basic Sciences); Electrical Engineering, Mechanical Engineering and Computer Science and Engineering (under School of Engineering) and Humanities and Social Sciences (under School of Humanities and Social Sciences). The current faculty strength of IIT Patna is 34 in different academic units and the total number of non academic staffs is 22. A brief outline of the major activities of the institute during the period 2009-10 is highlighted below:

Academic Programmes

- **B. Tech Programme**

IIT Patna offers Bachelor of Technology programmes in Computer Science and Engineering, Electrical Engineering and Mechanical Engineering. Presently, IIT Patna has 184 students who are enrolled in undergraduate programs. B. Tech courses are adopted mostly from the curricula of IIT Guwahati, the mentoring Institute.

- **Ph. D. Programme**

The doctoral programmes in Engineering, Science and Humanities & Social Sciences are already in place since July 2009. We have 28 students enrolled in doctoral programs in various departments. The ordinance of PhD programmes is also in line with that of IIT Guwahati, although the research areas are entirely different and multi-disciplinary.

International Collaboration

IIT Patna has collaboration with following US universities: University of Houston, Louisiana State University and University of North Texas for promotion of research and training. Under this collaboration 9 B.Tech students will be sent to US for summer internship during May-July 2010. IITP has signed a MoU with UNICEF for working on areas on the upliftment and education of women and children. We would like to strengthen further our research programmes with a few foreign Universities.

Research and Development Activities

IIT Patna has developed various research laboratories within a span of more than one and half years' time. The undergraduate and post-graduate students are encouraged and motivated to contribute to research programmes in changed global scenario. All the seven departments are actively working with Government agencies and R & D organizations. This has enabled this new institute to participate in a

variety of cutting edge scientific research areas where we have strength. IIT Patna is still in the process of acquiring advanced machines and software to make this institute attractive for research.

Major Research Areas

The various academic departments work across traditional academic boundaries to promote research and teaching that is interdisciplinary and collaborative. The major areas include:

Distributed Computing, Evolutionary Computing, Datamining, Graph Theory, Network Bandwidth Management, Network Monitoring and Network Security, Mobile Computing, Adhoc Networks and Sensor Networks, Lightweight Cryptography, Computer Security, Network Security

Control Systems, Optical Communication, Network Optimization Techniques, Multimedia Communication, Pattern Recognition, Physical Layer in Wireless Communications, Communication Systems, Power Electronics and Electrical Drives, Renewable and Alternative Energy, Power System Operation and Control, Power System Optimization, Flexible AC Transmission System, Dynamic Systems Estimation and Control, Aerospace Target Tracking

FEM, Meshless Methods, Computational Mechanics, Fracture Mechanics, Dynamics, Active Vibration Control, Biomedical robotics, Computational Fluid Dynamics, Turbulent flows, Heat transfer, Two-phase fluid flow, Refrigeration and Air Conditioning, Conventional and non-conventional machining, Soft computing in manufacturing process, Continuum Mechanics, Soft-tissue Mechanics, Vibration, Heat transfer, Laser Material Processing, Flow of Granular Materials, Tool condition monitoring

Topology (Combinatorial, geometric and algebraic), Mathematical Control Theory, Nonlinear Functional Analysis, Optimal Control, Mathematical Programming; Nonlinear Optimization, Numerical Analysis, PDE, Wavelet, Numerical and Statistical Modeling, Portfolio Optimization, Data Mining Algorithms, Data Structure Techniques, Statistical Decision Theory, Statistical Inference

Transport in Conjugated Polymer, Metal-Organic Semiconductor interface, Organic electronic Devices, Molecular Electronics, Magnetic Nanomaterials and Oxide Materials, Optics (Theory & Experiment, Optical Information Processing)

Photochemistry and Chemical Dynamics, Total Synthesis of Biologically Important Natural Products, Pot Atom and Step Economic (PASE) Synthesis, Diversity Oriented Synthesis (DOS) and Heterocyclic Chemistry, Supramolecular Chemistry, Coordination Chemistry, Physical Chemistry, Nano-scale Materials, Green Chemistry and Synthetic Organic Methodologies

Theoretical Practice, Research Methodology, Sociology of Education, Migration and Development, Globalization and Social Change in Bihar, Privatization of PSEs, Privatization and Labor, Law and Economics, Intellectual Property Rights , Linguistic Theory, Sociolinguistics, Applied Linguistics,

Language Teaching, Language in Education, Cognitive Science/Linguistics, Contemporary Literary Theory, Indian Writing in English.

Major Projects: Some of the projects we are involved in are as follows:

- Vehicular Sensor and Mesh Networks based Future Intelligent Transportation System.
- Integration of Distributed Generation and Renewable Energy Sources to Improve System Reliability.
- Evaluation of Burst Criterion of Zircaloy Clad.
- Studies on Maxwell Stress and Hysteresis Characteristics of Poly Acrylic and Silicone Based elastomer.
- Construction of highly porous 3-D metal organic frameworks derived from triptycene-based organic linkers.
- Diversity oriented synthesis of privileged heterocycles & highly functionalized carbocycles by Multi-Component Reactions (MCRs).
- NKN project: The Institute has undertaken one project under the National Knowledge Network program funded by Department of Information Technology, Government of India. The project is being executed with the help of National Informatics Centre, New Delhi.

ERP System

We are in the process of implementation of ERP system in our institute when all our academic activities including registration, examination, results and students feedback will be online.

Infrastructure Development

As IIT Patna is a new institute it requires extensive development of infrastructure and experimental facilities. This is being done in the transit campus.

- **Hostels**

IIT Patna has developed new Boys' hostel with the help of Bihar Government and a small Guest House and the Girls' hostel. Also, special care has been given to help faculty to find out suitable accommodation.

- **Permanent Campus**

At the same time we started our work in the permanent campus at Bihta about 30 kms from Patna by acquiring 500 acres of land. The boundary wall construction is in full swing which is about 75% complete. Action has been taken to have the master plan and complete design of the new campus.

Health Care

Health care is an important item in the development of Institute. We have associated ourselves with a local hospital- Mahavir Vatsalaya Aspatal to cater to the basic needs of our employees. We have also a small dispensary in the institute run by this hospital and an emergency Ambulance Service is provided. Besides, all the students have been medically insured from their own fund.

Seminars and Workshops

IIT Patna is still in its infancy. But we have put great emphasis on knowledge dissemination and encourage the faculty members to hold conferences, symposium and workshops, and participate in such activities outside.

Training and Placement

IIT Patna has started a training and placement section with a view to help the 3rd year students' training this year (2011) and placement next year. We have several interactions meetings in this regard.

Students' Affairs

In IIT education, collaborative activities and development of leadership quality are important. In this respect we encourage sports and cultural activities in this institute. We have playgrounds for Volleyball, Cricket, Badminton, Basketball etc. and many indoor game facilities. We are developing more facilities in the coming years. Our students participate in the inter IITs Sports Meet. Also, several cultural and technical fests are being organized each year. For example, we successfully organized ANWESHA '10 where we invited few top technologists from India and abroad and various technological programmes were organized.

2. Organization

2.1 IIT Council

Chairman

Hon'ble Shri Kapil Sibal

Minister of Human Resource Development,
Government of India
New Delhi - 110 001

Members

Dr. Anil Kakodkar

Chairman, BOG, IIT Bombay & Chairman,
Atomic Energy Commission & Secretary,
Department of Atomic Energy
Anushakti Bhawan, CSM Marg,
Mumbai - 400 001

Mr. Rameshwar Pal Agrawal

Chairman, BOG, IIT Delhi
Member of the Project Advisory Board
CI/17 Bapa Nagar, New Delhi, 110003

Dr. M. K. Bhan

Chairman, BOG, IIT Guwahati
Secretary, Department of Bio-Technology
Ministry of Science & Technology
CGO Complex, Block-2
7th floor, Lodhi road
New Delhi – 110 003

Prof. M. Anandkrishan

Chairman, BOG, IIT Kanpur
8/15, Madan Apartments
Kasturibai Nagar, Adyar
Chennai - 600 020 Tamil Nadu

Dr. R. Chidambaram

Chairman, BOG, IIT Madras
Executive Vice President,
Kerala State Council for Science and Technology & Environment,
Sasthra Bhawan, Pottam
Thiruvananthapuram, Kerala

Shri B. Muthuraman

Chairman, BOG, IIT Kharagpur
Chairman, BOG, IIT Kharagpur &
Managing Director,
TATA Steel Limited,
Jamshedpur – 831001

Sri Ashok Bhatnagar

Chairman, BOG, IIT Roorkee Former Chairman,
Railway Board & Principal Secretary to the Govt. of India
117, SFS Apartments,
Hauz Khas, Aurobindo Marg,
New Delhi-110 016

Prof. Devang Khakkar

Director, I.I.T. Bombay
Mumbai - 400 076 Ph. (022) 25723488

Prof. Damodar Acharya

Director, IIT Kharagpur
Kharagpur - 721302 Ph. (03222) 282002

Prof. Surendra Prasad

Director, I.I.T. Delhi
Hauz Khas, New Delhi - 110 016 Ph. (011) 26591701

Prof. S. G. Dhande

Director, I.I.T. Kanpur
Kanpur - 208 016 Ph. (0512) 2597258

Prof. Gautum Barua

Director, I.I.T. Guwahati
Guwahati - 781 039 Ph. (0361) 2690401

Prof. M.S. Ananth

Director, I.I.T. Madras
Chennai - 600 036 Ph.(044) 22578001

Prof. S. C. Saxena

Director, I.I.T. Roorkee
Roorkee - 247 667 Ph. (01332) 285500

Prof. U.B.Desai

Director, IIT Hyderabad
Ordnance Factory Estate
Yeddumailaram 502205 Ph. (040) 23016002

Prof. M. K. Surappa

Director, IIT Ropar
Nangal Road
Rupnagar - 140001 Ph. (01881) 223391

Prof. Sudhir Kumar Jain

Director, IIT Gandhinagar,
Vishwakarma Government Engineering College Complex,
Chandkheda, Visat-Gandhinagar Highway,
Ahmedabad- 382424 Ph. (079) 23972574

Prof. Prem Kumar Kalra

Director, IIT Rajasthan
MBM Engineering College
Jodhpur – 342011 Ph. (0291) 2516872

Prof. Madhusudan Chakroborty

Director, IIT Bhubaneswar
Samantapuri,
Bhubaneswar- 751013 Ph. (0674) 2301292

Prof. Anil K. Bhowmick

Director, IIT Patna
Patliputra Colony.
Patna- 800013 Ph. (0612) 2552001

Prof. Pradeep Mathur

Director, IIT Indore
M-Block, Institute of Engineering and Technology
Devi Ahilya Vishwavidyalaya Campus
Khandwa Road,
Indore – 452017 Ph. (0731) 2364182

Prof. Timothy A Gonsalves

Director, IIT Mandi
PWD Rest House 2nd Floor
Mandi – 175001 Ph. (01905) 237731

Prof. Sukhdeo Throat

Chairman, University Grants Commission
Bahadurshah Zafar Marg, New Delhi - 110 002 Ph. 23239628

Dr. Samir K. Brahmchari

Director General, Council of Scientific & Industrial Research
Anusandhan Bhawan, Rafi Marg, New Delhi - 110 001 Ph. (91) 11-3710472

Dr. K. Kasturirangan

Chairman, Council of IISc. Bangalore,
National Institute of Advanced Studies,
Indian Institute of Science Campus
Bangalore - 560 012 Ph. (080) 3415241/ 3415474

Prof. P. Balaram

Director, IISc Bangalore
Bangalore - 560 012, Ph. (080) 3600960/ 3600411

Chairman

All India Council for Technical Education (AICTE)

Prof. C.N.R. Rao

Eminent Scientist and Presently Chairman,
Scientific Advisory Council of the Prime Minister

Prof. C.S. Seshadri

Director, Chennai Mathematical Institute Chennai
Plot H1, SIPCOT IT Park Padur PO, Siruseri- 603 103

Prof. Sabyasachi Bhattacharya

Director, Tata Institute of Fundamental Research
Homi Bhabha Road, Mumbai- 400 005

Dr. Kota Harinarayan

Chairman, Research Council of Central Scientific Instrument Organization Raja Ramana Fellow National
Aero Space Laboratories
P.O. No. 1779, Bangalore - 560 017

Shri Tarun Das

Chief Mentor, Confederation of Indian Industry,
Plot No. 249-F, Sector 18, Udyog Vihar, Phase IV, Gurgaon - 122015, Haryana

Smt. Vasanthi Stanley

Member of Parliament (Rajya Sabha)
Bahadurshah Zafar Marg, New Delhi - 110 002 Ph. 23239628

Member of Parliament (Lok Sabha)**Member of Parliament (Lok Sabha)****Shri R.P. Agarwal**

Secretary Department of Higher Education Ministry of Human Resource Development

Ms. Sushma Nath

Secretary, Department of Expenditure, Ministry of Finance

Ministry of Information Technology

Representative of any other Central Government Ministry

Shri Ashok Thakur

Secretary IIT Council
Addl Secretary (HE)
Department of Higher Education
Ministry of Human Resource Development

2.2 The Board of Governors

Dr. G. Madhavan Nair

Chairman
Indian Space Research Organization (ISRO),
Space Commission & Department of Space
Antariksh Bhavan, New BEL Road,
Bangalore - 560 231

Chairman**Prof. Anil K. Bhowmick**

Director,
Indian Institute of Technology Patna

Ex-Officio Member

Mr. Ravi Kant Principal Secretary, Department of Science & Technology, Govt. of Bihar (Nominated by Govt. of Bihar)	Member
Mr. N. K. Sinha Joint Secretary (Distant Learning), Department of Higher Education, Ministry of Human Resource Development, Govt. of India (Nominated by MHRD, Govt. of India)	Member
Mr. Ashok Jaipuria Chairman & CEO, COSMO Films Ltd., New Delhi	Member
Mr. R. Prasad Member, Competition Commission of India & Ex-Chairman, CBDT, New Delhi	Member
Prof. K. K. Aggarwal (President, Computer Society of India), A-3/512, Milan Vihar Apts., I P Extension, 72 Patparganj, Delhi - 110 092	Member
Prof. R. S. Ramakrishna Department of Computer Science & Engineering, Indian Institute of Technology Patna	Member
Prof. A. T. Khan Professor In Charge, Faculty Affairs, Indian Institute of Technology Patna	Member
Prof. Gautam Barua Director, Indian Institute of Technology Guwahati (Director of the Mentoring Institute)	Special Invitee
Mr. Subhash Pandey Registrar, Indian Institute of Technology Patna	Secretary

2.3 The Finance Committee

Dr. G. Madhavan Nair

Chairman
Indian Space Research Organization (ISRO),
Space Commission & Department of Space
Antariksh Bhavan, New BEL Road,
Bangalore - 560 231

Chairman**Prof. Anil K. Bhowmick**

Director,
Indian Institute of Technology Patna

Ex-Officio Member**Dr. Ashok Thakur**

Additional Secretary
Department of Higher Education
Ministry of Human Resource Development
Government of India

Member**Prof. R. S. Ramakrishna**

Deptt. of Computer Science & Engineering,
Indian Institute of Technology Patna

Member**Prof. A. T. Khan**

Professor In Charge, Faculty Affairs,
Indian Institute of Technology Patna

Member**Dr. S K. Ray**

Additional Secretary and Financial Advisor
Department of Higher Education
Ministry of Human Resource Development
Government of India

Member**Mr. Subhash Pandey**

Registrar,
Indian Institute of Technology Patna

Secretary

2.4 The Building & Works Committee

Prof. Anil K. Bhowmick	Chairman
Prof. S. Majumdar	Professor of Civil Engineering (formerly Professor, IIT Kharagpur)
Prof. A. K. Sinha	Professor of Electrical Engineering, IIT Kharagpur
Prof. B. K. Sengupta	Professor of Architecture, IIT Kharagpur
Mr. Sushant Baliga	Outside Expert (Chief Engineer, Eastern Region, CPWD, Patna)
Dr. Pratima Dikshit (Director – Tech.)	MHRD Representative
Prof. R. S. Ramakrishna	Representative of Institute
Mr. Subhash Pandey	Secretary

2.5 Administrative Heads

Prof. Anil K. Bhowmick
Director, IIT Patna

Mr. Subhash Pandey
Registrar, IIT Patna

2.6 Institute Academic Programme Committee (IAPC)/Senate

Prof. Anil K. Bhowmick	Chairman
Dr. Sahid Hussain	Member, Chemistry Department
Dr. Rajiv Mishra	Member, CSE Department
Dr. Sanjoy Kumar Parida	Member, EE Department
Dr. Nalin Bharti	Member, HSS Department
Dr. Ashish Kumar Upadhyay	Member, Mathematics Department
Dr. Somanath Sarangi	Member, ME Department
Dr. Naveen Kumar Nischal	Member, Physics Department
Dr. A K Mukherjee	Member, Physics Department
Dr. Md. Kaleem Khan	Member, ME Department
Dr. Neeladri Das	Member, Chemistry Department

3. School of Engineering

3.1 Computer Science & Engineering

3.1.1 Faculty List

Professors

Name	Highest Degree	Research Areas
R. S. Ramakrishna	Ph.D	Distributed Computing, Evolutionary Computing, Datamining, Graph Theory

Assistant Professors

Ashok Singh Sairam	Ph.D	Network Bandwidth Management, Network Monitoring and Network Security
Rajiv Misra	Ph.D	Mobile Computing, Adhoc Networks and Sensor Networks
Somanath Tripathy	Ph.D	Lightweight Cryptography, Computer Security, Network Security

3.1.2 Academic Programs

- B. Tech in Computer Science and Engineering
- Ph. D Program

3.1.3 Research & Development Activities

Sponsored Projects:

TITLE:	Vehicular Sensor and Mesh Networks Based Future Intelligent Transportation System
PI:	Dr. Rajiv Misra
SPONSOR:	DIT
AMOUNT:	100.5 Lakhs

Papers Published in Journals:

- Rajiv Misra, A. Mandal Chittaranjan, Location Updates of Mobile Node in Wireless Sensor Networks, MSN (2009) 311-318.
- Rajiv Misra, Ajay Shukla, K Bipartite Partitioning Algorithm for Channel Allocation Problem in Wireless Mesh Networks, NetCoM (2009) 46-51.
- Rajiv Misra, On self-stabilization of multi point relays for connected dominating set in adhoc networks, TENCON (2009) Singapore.
- S. Tripathy, S. Nandi, LCASE- Lightweight Cellular Automata based Symmetric-key Encryption, International Journal of Network Security 8 (2009) 243-252.
- S. Tripathy, S. Nandi, Cellular Automata-based Authentication for Low-cost RFID Systems, International Journal of Communication Networks and Distributed Systems 3 (2009) 199-216.

Papers presented in Conferences:

- Rahul Choudhari, Somanath Tripathy, SCTP-Sec: Secure Transmission Control Protocol, workshop on Computer and Internet Security, Hacking, IIT Kanpur (2009).
- Rajiv Misra, A. Mandal Chittaranjan, Minimum Connected Dominating Set Using a Collaborative Cover Heuristic for Ad Hoc Sensor Networks, IEEE Transactions on Parallel and Distributed Systems 21 (2010) 292-302.
- Rajiv Misra, A. Mandal Chittaranjan, Rotation of CDS via Connected Domatic Partition in Ad Hoc Sensor Networks, IEEE Transactions on Mobile Computing 8 (2009) 488-499.
- Rajiv Misra, A. Mandal Chittaranjan, Efficient clusterhead rotation via domatic partition in self-organizing sensor networks, Wireless Communications and Mobile Computing 9 (2009) 1040-1058.
- S. Tripathy, Effective Pair-wise Key Establishment Scheme for Wireless Sensor Networks, International Conference on Security of Information and Networks SIN (2009), North Cyprus.
- Ashok Singh Sairam, Gautam Barua, Distributed Route Control Schemes to Load Balance Incoming Traffic in Multihomed Stub Networks, Sixteenth IEEE National Conference on Communications, NCC (2010).
- Marin Bertier, Francois Bonnet, Anne-Marie Kermarrec, Vincent Leroy, Sathya Peri, Michel Raynal, "D2HT: The Best of Both Worlds, Integrating RPS and DHT," European Dependable Computing Conference (2010), pp. 135-144.

3.1.4 Other Activities

Membership of Professional Organizations:

- Cryptology Research society of India (CRSI): Dr. Somanath Tripathy
- IEEE: Dr. Somanath Tripathy

Member of Editorial Boards:

- Senior editor, International Journal of Computational Intelligence, Advanced Computing Science (ISSN 0976 -1292)

3.2 Electrical Engineering

3.2.1 Faculty List

Assistant Professors

Name	Highest Degree	Research Areas
Ahmad Ali	Ph.D	Control Systems, Evolutionary algorithms, New tuning strategies for controller design, Relay based system identification
Aneek Adhya	Ph.D	Optical Communication, Optical Networking, Computer Networking, Network Optimization Techniques
Maheshkumar H. Kolekar	Ph.D	Digital Image and Video Processing, Multimedia Communication, Pattern Recognition, Digital Signal Processing
Preetam Kumar	Ph.D	Physical Layer in Wireless Communications, Communication Systems, Signal Processing for Communication
Ranjan Kumar Behera	Ph.D	Design and Fabrication of Power Electronics Circuits, Control of Electrical Drives, Application of Nonlinear Control Theory to Power Electronics and Electric Drives, Pulse Width Modulation Techniques for Power Electronics Converters, Renewable and Alternative Energy, DSP Applications.
Sanjoy Kumar Parida	Ph.D	Power System Operation and Control, Computer Application to Power Systems, Power System Optimization, Power Systems Restructuring, Flexible AC Transmission System
Shovan Bhaumik	Ph.D	Dynamic Systems Estimation and Control, Aerospace Target Tracking

3.2.2 Academic Programs

- B. Tech in Electrical Engineering
- Ph. D Program

3.2.3 Research & Development Activities

Sponsored Projects:

TITLE: Integration of Distributed Generation and Renewable Energy Sources to Improve System Reliability
PI: Dr. S K Parida
SPONSOR: DST
AMOUNT: 6 Lakhs

Papers Published in Journals:

- Ranjan K. Behera, W. Gao, A Novel Controller Design for Grid-side Converter of Doubly Fed Induction Generator for Wind Power Interface: An Experimental Investigation, *Electric Power Components and Systems* 38 (2010) 1531.
- Smita Sadhu, Shovan Bhaumik, Arnaud Doucet, T.K.Ghoshal, Risk Sensitive Filtering by Particle Methods, *Elsevier Journal of signal processing* 89 (2009) 314-319.
- S. K. Parida, S. N. Singh, S. C. Srivastava, An Integrated Approach for Optimal Frequency Regulation Service Procurement in India, *Energy Policy, Elsevier* 37 (2009) 3020-3034.
- S. K. Parida, S. N. Singh, S. C. Srivastava, Reactive Power Cost Allocation by Using a Value Based Approach, *IET Generation, Transmission & Distribution*, 3 (2009) 872-884.
- A. Ali, S. Majhi, PID Controller tuning for integrating processes, *ISA Transactions* 49 (2010) 70-78.
- Maheshkumar H. Kolekar, K. Palaniappan, S. Sengupta, G. Seetharaman, Semantic Concept Mining based on Hierarchical Event Detection for Soccer Video Indexing, *International Journal on Multimedia*, 4 (2009) 298-312.
- Maheshkumar H. Kolekar, S. Sengupta, Semantic Concept Mining in Cricket Videos for Automated Highlight Generation, *Springer International Journal on Multimedia Tools and Applications* (2009).
- Preetam Kumar, Saswat Chakrabarti, An Analytical Model of Iterative Interference Cancellation Receiver for Orthogonal/Orthogonal (O/O) Overloaded DS-CDMA System, *Springer's International Journal of Wireless Information Networks* 17 (2010) 64-72.
- Preetam Kumar, Saswat Chakrabarti, Overloading Scheme for Cellular CDMA using Quasi-Orthogonal Sequence, *International Journal of Signal Processing* 6 (2010) 55-60.

Papers presented in Conferences:

- Shovan Bhaumik, Opportunities and Challenges in High Speed Data Transmission Using Plastic Optical Fibre, Proceedings International conference on control communication and computing, Trivandam, Kerala, India, Dec 2009.
- A. K. Khare and K. C. Ray, Design and VLSI implementation of 128-point single data path FFT processor for OFDM and UWB applications, Proceeding International Conference Innovative Tech. (ICIT 09), Bahadurgarh, India 1 (2009) 254-257.
- Maheshkumar H. Kolekar, K. Palaniappan, S. Sengupta, G. Seetharaman, Video Event Detection and Semantic Identification Using Bayesian Belief Networks, workshop of IEEE International Conference on Computer Vision (ICCV), Kyoto, Japan (2009).

3.2.4 Other Activities**Expert Lecture organized:**

- RF Engineering in Modern Telecommunication System: Challenging yet Interesting by Dr. Md. Shabi Hashmi, post doctoral research associate at Center for High Frequency Engineering, Cardiff School of Engineering, UK.

Membership of Professional Organizations:

- IEEE: All faculty members of Electrical Engineering
- IEEE Power & Energy: Dr. S.K.Parida
- IEEE Power Electronics: Dr. R.K. Behra
- IEEE Industrial Electronics: Dr. R.K. Behra
- International Association of Computer Science and Information Technology: Dr. Shovan Bhaumik

Member of Editorial Boards:

- International Journal of Advanced Engineering Technology: Dr. R.K. Behera

Invited Lectures by faculty:

- High Speed Trains" at Sri Venkateswar Institute of Technology, Srikakulam, Andhra Pradesh, India, December 2009 by Dr. R.K. Behera.
- Keynote slecture on "CFL Technology" and "Light of Tomorrow" at Patna City organized by Micro, Small & Medium Enterprises Development, Govt. of India and Bihar Bulb Manufacturer Association, Patna City, India, March 2010 by Dr. R.K. Behera.
- "Polymer Optical Fibre New Opportunities and Challenges", in Continuing Education Program, Defense Materials & Stores Research and Development Establishment (DMSRDE), DRDO, Kanpur, 2nd December, 2009.

3.3 Mechanical Engineering

3.3.1 Faculty List

Professors

Name	Highest Degree	Research Areas
Anil K. Bhowmick	Ph.D	Materials Engineering

Assistant Professors

Name	Highest Degree	Research Areas
Akhilendra Singh	Ph.D	FEM, Meshless Methods, Computational Mechanics, Thermal Engg, Fracture Mechanics, Composites
Karali Patra	Ph.D	Tool condition monitoring, Biomedical robotics
Manabendra Pathak	Ph.D	Computational Fluid Dynamics, Turbulent flows, Interfacial Flows in Yield Stress Fluid
Mohd. Kaleem Khan	Ph.D	Heat transfer, Two-phase fluid flow, Refrigeration and Air Conditioning, Modelling and simulation of thermal systems, Computational Fluid Dynamics
Somnath Sarangi	Ph.D	Continuum Mechanics, Soft-tissue Mechanics, Vibration
Subrata Kumar	Ph.D	Heat transfer, Laser Material Processing, Flow of Granular Materials, CFD
Sudhansu Sekhar Panda	Ph.D	Tool condition monitoring, Soft Computing, Metal Cutting and Machining, Industrial application of Soft computing technique in Machining, Designing of experiments, Statistical modeling

3.3.2 Academic Programs

- B. Tech in Mechanical Engineering
- Ph. D Program

3.3.3 Research & Development Activities

Sponsored Projects:

TITLE: Studies on Maxwell stress and hysteresis characteristics of poly acrylic and silicone based elastomers

PI: Dr. K. Patra

Co-PI: Dr. S. Bhaumik

SPONSOR: DMSRDE, DRDO

AMOUNT: 9.95 Lakhs

TITLE: Evaluation of burst yield criterion of Zircaloy Clads

PI: Dr. M K Khan

Co-PI: Dr. K. Patra

SPONSOR: AERB

AMOUNT: 26 Lakhs

Papers Published in Journals:

- I.V Singh, A Singh, A Meshfree, Solution of Two Dimensional Potential Flow Problems, International Journal of Mechanical and Industrial Engineering, 3 (2009) 112-122.
- Karali Patra, Surjya K. Pal, Kingshook Bhattacharyya, Application of wavelet packet transform based normalized radial basis function network in a machining process, International Journal of Materials and Product Technology, 35 (2009) 184 -198.
- Karali Patra, Kingshook Bhattacharyya, Surjya K. Pal, Neural network based prediction of drill wear from theoretically analyzed and experimentally measured values of thrust force and torque, International Journal of Machining and Machinability of Materials, 5 (2009) 207-231.
- M. K. Khan, R. Kumar, P. K. Sahoo, Performance Prediction of Adiabatic Capillary Tubes by Conventional and ANN approaches- A Comparison, ASHRAE Transactions, 115 (2009) 93-105.
- M. K. Khan, R. Kumar, P. K. Sahoo, Experimental Investigation on the Flow of R-134a through Adiabatic and Diabatic Capillary Tubes, ASHRAE Transactions, 115 (2009) 82-92.
- M. K. Khan, Metastable Flow inside Capillary Tubes- A Critical Review, ASHRAE Transactions, 116 (2010) 478-487.
- Smagin, M. Pathak, O. M. Lavrenteva, A. Nir, Motion and Shape of an Axisymmetric Viscoplastic Drop Slowly Falling Through Viscous Liquid, Rheologica Acta, DOI 10.1007/s00397-010-0478-1 (2010).

- M. F. Beatty, R. Bhattacharyya, S. Sarangi, Small Amplitude, Free Longitudinal Vibrations of a Load on a Finitely Deformed Stress-Softening Spring with Limiting Extensibility, To appear in Zeitschrift für Angewandte Mathematik und Physik 60 (2009) 971-1006.
- S S Panda, S S Mahapatra, PCA fused NN approach for drill wear prediction, Journal of Machining and Forming Technologies, NOVA 2 (2010).
- S S Panda, S S Mahapatra, On-line Multi- response assessment using Taguchi and Artificial Neural Network, International Journal of Manufacturing Research, Inderscience 5 (2010) 305-326.

Papers presented in Conferences:

- Akhilendra Singh, I. V. Singh, Numerical Solution of Three-Dimensional Nonlinear Heat Transfer Problem Using EFGM, 54th Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM), NSIT Delhi, India, December 18-21, 2009, 48-54.
- Akhilendra Singh, I. V. Singh , Numerical Meshfree Solution of The Flow Over A Rigid Cylinder, Indian Association for Computational Mechanics (ICCMS09), IIT Bombay, India, December 1-5, 2009, 191-193.
- M. K. Khan, M. K., Metastable, Flow inside Capillary Tubes: A Critical Review, ASHRAE Winter Conference, Orlando, FL, USA, January 23-27, 2010.
- S. Sarangi, Modeling of Damage Mechanism in Mouse Skin, 14th National Conference on Machines and Mechanisms, NIT Durgapur, December 17-18, 2009.

3.3.4 Other Activities

Expert Lecture organized:

- Prof. Anand Sharan, Memorial University of Newfoundland, CANADA, delivered lecture on 'introduction to robotics' on 4th January, 2010.

Membership of Professional Organizations:

- Life member of ISTAM: Dr. A.K. Singh
- American Society of Mechanical Engineers: Dr. M. Pathak
- Associate Member, ASHRAE: Dr. M.K. Khan

Member of Editorial Boards:

- ISST Journal of Mechanical Engineering (IJME): Dr. M. Pathak
- International Journal of Fluids Engineering: Dr. M.K. Khan
- International Journal of Engineering Research and Technology: Dr. M.K. Khan
- International Journal of Mechanics and Thermodynamics: Dr. M.K. Khan
- International Journal of Advanced Engineering Technology: Dr. M.K. Khan

Visits Abroad:

- Dr. M. K. Khan. ASHRAE Winter Conference, Orlando, FL, USA, January 23-27, 2010.

Invited Lectures by faculty:

- Dr. S Sarangi, Guest Speaker at Indian School of Mines University on "Short Term Course on Matlab" 2009.

Short Term courses Organized:

- Organized two days programme on 'Robotics' for the students of IIT Patna on 30-31 January, 2010

4. School of Basic Sciences

4.1 Mathematics

4.1.1 Faculty List

Assistant Professors

Name	Highest Degree	Research Areas
Ashish Kumar Upadhyay	Ph.D	Topology (Combinatorial, geometric and algebraic)
Nutan Kumar Tomar	Ph.D	Mathematical Control Theory, Nonlinear Functional Analysis, Optimal Control
Shiv Kumar Gupta	Ph.D	Mathematical Programming; Nonlinear Optimization
Sumit Kumar	Ph.D	Numerical Analysis, PDE, Wavelet, Numerical and Statistical Modeling, Portfolio Optimization, Data Mining Algorithms, Data Structure Techniques.
Yogesh Mani Tripathi	Ph.D	Statistical Decision Theory, Statistical Inference

4.1.2 Academic Programs

- Ph. D Program

4.1.3 Research & Development Activities

Papers Published in Journals:

- Yogesh Mani Tripathi, S. Kumar, T. Srivastava, Estimating the mean of a lognormal population under restrictions. International Journal of Applied Mathematics and Statistics 15 (2009) 16-31.
- Ashish Kumar Upadhyay, On an Equivalence of Simplicial Polytopes, International Journal Contemporary Mathematical Sciences 4 (2009) 1473 – 1478.

- T. R. Gulati, S. K. Gupta, Higher-order symmetric duality with cone constraints, Applied Mathematics Letters 22 (2009) 776-781.
- T. R. Gulati, H. Saini, S. K. Gupta Second-order multiobjective symmetric duality with cone constraints, European Journal of Operational Research 205 (2010) 247–252.
- S. K. Gupta, N. Kailey, Nondifferentiable multiobjective second-order symmetric duality, Optimization Letters DOI 10.1007/s11590-010-0196-8.
- S. K. Gupta, N. Kailey A note on Multiobjective symmetric duality, European Journal of Operational Research, 201 (2010) 649-651.
- R. C. Mittal, Sumit Kumar, A Numerical Study Of Stationary Solution Of Viscous Burgers Equation Using Wavelet, International Journal of Computer Mathematics (2009) 1326 – 1337.
- Ram Krishna Pandey, A note on the lonely runner conjecture. Journal of Integer Sequences, 12 (2009) Article 09.4.6.
- Ram Krishna Pandey, A. Tripathi, On the density of integral sets with missing differences. Integers, 9 (2009) Article 12.

Papers presented in Conferences:

- S. K. Gupta, N. Kailey, Nondifferentiable multiobjective second-order symmetric duality involving generalized cone F-convex functions, presented in Eighteen International Conference on Interdisciplinary and Statistical Techniques held at Jaypee University of Information and Technology, Wahnaghat, Himachal Pradesh from August 02-04, 2009.
- S. K. Gupta, N. Kailey, Higher-order duality in multiobjective programming presented at 8th triennial conference of Association of Asian Pacific Operational Research Societies (APORS) held at Jaipuria Institute of management, Jaipur, India during December 6-9, 2009.
- A. K. Upadhyay and A. K. Tiwari, On d-Covered Triangulation of Closed Surfaces, HPCA, BHU, February 8-11, 2010.

4.1.4 Other Activities

International Collaborations:

- TU Berlin
- Indiana University, USA
- University of Sherbrooke, Canada
- University of Manitoba, Canada

Member of Editorial Boards:

- ISST Journal of Math and Comp. System: Dr. A.K. Upadhyay

4.2 Physics

4.2.1 Faculty List

Assistant Professors

Name	Highest Degree	Research Areas
Ayash Kanto Mukherjee	Ph.D	Transport in Conjugated Polymer, Metal-Organic Semiconductor interface, Organic electronic Devices, Molecular Electronics
Manoranjan Kar	Ph.D	Magnetic Nanomaterials and Oxide Materials
Naveen Kumar Nishchal	Ph.D	Optics (Theory & Experiment, Optical Information Processing)

4.2.2 Academic Programs

- Ph. D Program

4.2.3 Research & Development Activities

Papers Published in Journals:

- N. K. Nishchal, Wavelet-modified MACH filter and log-polar transform-based wavelet-modified MACH filter for distortion invariant pattern identification; A comparative study, Asian Journal of Physics 19 (2010) 87-93.
- N. K. Nishchal, Optical image watermarking using fractional Fourier transform, Journal of Optics (Springer-India) 38 (2009) 22-28.

Papers presented in Conferences:

- N. K. Nishchal, T. J. Naughton, Three-dimensional image watermarking using fractional Fourier transform, Proceedings of International Conference on Optics and Photonics (ICOP-2009), CSIO Chandigarh, October 30- Nov. 1, 2009.

- N. Sahu, S. Panigrahi, M. Kar, Structural characterization of Zr doped PbTiO₃ materials by employing Rietveld method, Proceedings of International Conference on Electroceramics, Delhi, December 13-17, 2009.
- M. Kar, N. R. Krishnan, I. Talukder, K. Acharya, Structural transition of nano-crystalline TiO₂, Proceedings of International Conference on Advanced Nanoscience and Nanotechnology, IIT Guwahati, December 9-13, 2009.

4.2.4 Other Activities

New Acquisitions:

Source Measure Unit, Nanovoltmeter, Electrometer, LCR meter, High Precision Digital Multimeter, Lock-in Amplifier, Impedance Analyzer, Vector Network Analyzer, Ferroelectric Loop Tracer, Vacuum Coating Unit, Closed Cycle Refrigerator, Spin-coater, Micro Balance, Ball Mill, Thermal Coating Unit, Constant Current Source, High Temperature Furnace, Vibration Isolation Table, He-Ne Laser, CCD Camera, Spatial Light Modulator

International Collaborations:

- Oulu Southern Institute, University of Oulu, Finland
- National University of Ireland Maynooth, Ireland

Expert Lecture organized:

- Prof. K. L. Chopra, "Ethics in science and technology" Aug. 21, 2009.
- Dr. U. N. Singh, "NASA's future earth science missions for global observations" March 6, 2010.

Fellowship of Professional Organizations:

- Fellow, Optical Society of India: Dr. Naveen Kumar Nishchal

Membership of Professional Organizations:

- The International Society for Optical Engineering (SPIE), USA: Dr. Naveen Kumar Nishchal
- Optical Society of America : Dr. Naveen Kumar Nishchal
- Optical Society of India: Dr. Naveen Kumar Nishchal
- Laser And Spectroscopy Society of India: Dr. Naveen Kumar Nishchal

Member of Editorial Boards:

- International Journal of Applied Physics: Dr. Manoranjan Kar

4.3 Chemistry

4.3.1 Faculty List

Professors

Name	Highest Degree	Research Areas
Anil K. Bhowmick	Ph.D	Polymer Science and Technology

Assistant Professors

Name	Highest Degree	Research Areas
Debabrata Seth	Ph.D	Photochemistry and Chemical Dynamics
Md Lokman Hakim Choudhury	Ph.D	Total Synthesis of Biologically Important Natural Products, Pot Atom and Step Economic (PASE) Synthesis, Diversity Oriented Synthesis (DOS) and Heterocyclic Chemistry.
Neeladri Das	Ph.D	Supramolecular Chemistry, Coordination Chemistry
Sahid Hussain	Ph.D	Nano-scale Materials, Green Chemistry and Synthetic Organic Methodologies

4.3.2 Academic Programs

- Ph. D Program

4.3.3 Research & Development Activities

Sponsored Projects:

TITLE:	Constructions of highly porous 3-D metal frameworks derived from triptycene-based organic linkers
PI:	Dr. Neeladri Das
SPONSOR:	DST Fast Track

AMOUNT: 20 Lakhs

TITLE: Diversity oriented synthesis of privileged heterocycles & highly functionalized carbocycles by Multi-Component Reactions (MCRs)

PI: Dr. M. L. H Choudhury

SPONSOR: DST Fast Track

AMOUNT: 20 Lakhs

Patents (Applied / Granted):

- Mihir K. Chaudhuri, Saitanya K. Bhardwaj, Neeraj Chandrol, S. Hussain, Catalytic process for extraction of bromide from seawater, Patent application no. 1011/KOL/2009 dated 29/07/2009 (India)

Papers Published in Journals:

- Sudip Pradhan, Prasanta K. Guchhait, K. Dinesh Kumar, Anil K Bhowmick, Influence of nanoclay on the adhesive and physico-mechanical properties of liquid polysulfide elastomer, Journal of Adhesion Science and Technology 23(16) (2009) 2013-2029.
- Ganesh C. Basak, Abhijit Bandyopadhyay, Y. K. Bharadwaj, S. Sabharwal, Anil K. Bhowmick, Adhesion of vulcanized rubber surfaces: characterization of unmodified and electron beam modified EPDM surfaces and their co-vulcanization with natural rubber, Journal of Adhesion Science and Technology 23(13-14), (2009) 1763-1786.
- Anjan Biswas, Abhijit Bandyopadhyay, Nikhil K. Singha, Anil K. Bhowmick, Ionomeric modification of a metallocene-based polyolefinic elastomer and its influence on the physico-mechanical properties: Effects of the crystallinity and pendent chain length, Journal of Applied Polymer Science 114(6), (2009) 3906-3914.
- Pradip K. Maji, Prasanta K Guchhait, Anil K. Bhowmick, Effect of nanoclays on physico-mechanical properties and adhesion of polyester-based polyurethane nanocomposites: structure-property correlations, Journal of Materials Science 44(21), (2009) 5861-5871.
- Suman Mitra, Santanu Chattopadhyay, Sunil Sabharwal, Anil K. Bhowmick, Rheological behavior of gel-filled raw natural rubber and styrene-butadiene rubber with reference to gel-matrix intermixing, Polymer Engineering & Science 49(6), (2009) 1050-1062.
- Sritama Kar, Anil K. Bhowmick, Nanostructured magnesium oxide as cure activator for polychloroprene rubber, Journal of Nanoscience and Nanotechnology 9(5), (2009) 3144-3153.

- Anjan Biswas, Abhijit Bandyopadhyay, Nikhil K. Singha, Anil K. Bhowmick, Ionomeric modification of metallocene-based polyolefinic elastomers with varied pendant chain length and its influence on physico-mechanical properties, *Journal of Materials Science* 44(12), (2009) 3125-3134.
- Suman Mitra, Santanu Chattopadhyay, Anil K. Bhowmick, Influence of nanogels on mechanical, dynamic mechanical, and thermal properties of elastomers, *Nanoscale Research Letters* 4(5), (2009) 420-430.
- Sritama Kar, Anil K. Bhowmick, Nanostructured magnesium oxide as cure activator for polychloroprene rubber, *Journal of nanoscience and nanotechnology* 9(5), (2009) 3144-53.
- Ganesh C. Basak, Abhijit Bandyopadhyay, Y. K. Bharadwaj, S. Sabharwal, Anil K. Bhowmick, Characterization of EPDM Vulcanizates Modified with Gamma Irradiation and Trichloroisocyanuric Acid and Their Adhesion Behavior with Natural Rubber, *Journal of Adhesion* 86(3), (2010) 306-334.
- Pradip K. Maji, Nisith K. Das, Anil K. Bhowmick, Preparation and properties of polyurethane nanocomposites of novel architecture as advanced barrier materials, *Polymer* 51(5), (2010) 1100-1110.
- Anusuya Choudhury, Anil K. Bhowmick, Christopher Ong, Effect of different nanoparticles on thermal, mechanical and dynamic mechanical properties of hydrogenated nitrile butadiene rubber nanocomposites, *Journal of Applied Polymer Science* 116(3), (2010) 1428-1441.
- Suman Mitra, Santanu Chattopadhyay, Sunil Sabharwal, Anil K. Bhowmick, Electron beam crosslinked gels-Preparation, characterization and their effect on the mechanical, dynamic mechanical and rheological properties of rubbers, *Radiation Physics and Chemistry* 79(3), (2010) 289-296.
- Jinu Jacob George, Sambhu Bhadra, Anil K. Bhowmick, Influence of carbon-based nanofillers on the electrical and dielectric properties of ethylene vinyl acetate nanocomposites, *Polymer Composites* 31(2), (2010) 218-225.
- Anjan Biswas, Nikhil K. Singha, Anil K. Bhowmick, Effect of polar modifications on cure characteristics, solvent resistance and thermo-mechanical properties of metallocene-based polyolefinic elastomers, *European Polymer Journal* 46(2), (2010) 364-373.
- Zubair Ahmad, K. Dinesh Kumar, Madhumita Saroop, Nisha Preschilla, Amit Biswas, Jayesh R. Bellare, Anil K. Bhowmick, Highly transparent thermoplastic elastomer from isotactic polypropylene and styrene/ethylene-butylene/styrene triblock copolymer: Structure-property correlations, *Polymer Engineering & Science* 50(2), (2010) 331-341.
- Moumita Kotal, Suneel K. Srivastava, Anil K. Bhowmick, Thermoplastic polyurethane and nitrile butadiene rubber blends with layered double hydroxide nanocomposites by solution blending, *Polymer International* 59(1), (2010) 2-10.
- Sritama Kar, Pradip K. Maji, Anil K. Bhowmick, Chlorinated polyethylene nanocomposites: thermal and mechanical behavior, *Journal of Materials Science* 45(1), (2010) 64-73.

- Abhijit Bandyopadhyay, Varun Thakur, Sudip Pradhan, Anil K. Bhowmick, Nanoclay distribution and its influence on the mechanical properties of rubber blends, *Journal of Applied Polymer Science* 115(2), (2010) 1237-1246.
- P. Setua, D. Seth, N. Sarkar, To probe the structure of methanol and Aearoso OT (AOT) in AOT reverse mecellses by FTIR measurements, *Physical Chemistry Chemical Physics* 11 (2009) 8913.
- S. Sarkar, R. Pramnik, D. Seth, P. Setua, N. Sarkar, Photoinduced electron transfer (PET) from N,N-dimethylaniline to 7-amino Coumarin dyes in a room temperature ionic liquid (RTIL): Slowing down of electrontransfer rate compared to conventional solvent, *Chemical Physics Letters* 477 (2009) 102.
- D. Seth, S. Sarkar, R. Pramnik, C. Ghatak, P. Setua, N. Sarkar, Photosynthesis studies of a hemicynine dye (LDS-698) in dioxane-water mixture, in different alcohols, and in a room temperature ionic liquid, *Journal of Physical Chemistry B* 113 (2009) 6826.
- P. Setua, R. Pramanik, S. Sarkar, D. Seth, N. Sarkar, Direct observation of solvation dynamics in an aqueous reverse micellar system containing silver nanoparticles in the reverse micellar core, *Journal of Physical Chemistry B (Letter)* 113 (2009) 5677.
- S. Hussain, Nayoun Won, Jutaek Nam, Jivon Bang, Hyokyun Chung, Sungjee Kim, One-Pot Fabrication of High-Quality InP/ZnS (Core/Shell) Quantum Dots and Their Application to Cellular Imaging, *Chem Phys Chem* 10 (2009) 1466-1470.
- S. Hussain, Saitanya K. Baradwaj, Ravindra Pandey, Mihir K. Choudhury, Borax-Catalyzed and pH-Controlled Selective Oxidation of Organic Sulfides by H₂O₂: An environmentally Clean Protocol, *European Journal Organic Chemistry* (2009) 3319-3322.
- N. Das, P. J. S. Miguel, A. Khutia, M. Lazar, B. Lippert, Hybrids between classical and metallacalix [4] arenes based on uracil and cis-PTIIL₂ entities (L=PPh₃ or L₂=2,2'-bypyridine), *Dalton Transactions* (2009) 9120-9122.
- L. H. Choudhury, Tasneem Parvin, Abu T. Khan, Recent advances in the application of bromodimethylsulfonium bromid (BDMS) in organic synthesis, *Tetrahedron*, 65 (2009) 9513-9526.

4.3.4 Other Activities

New Acquisitions:

- UV & Visible Spectrophotometer from Shimadzu
- FTIR from Shimadzu and Perkin
- Spectrofluorometer from Horiba Jobin Yuon
- Digital Polarimeter from Jasco

- Particle size and zeta potential analyzer from Beckman Coulter
- Glove box from Jacomex
- Millipore water purification system
- Microwave reactor from Metrohm
- DTA/TGA from TA
- Goniometer from Rame hart
- GCMS from ThermoScientific

International Collaborations:

- Faculty members are initiating collaborative research with eminent researchers In India and Abroad (Australia, Germany and USA)

Membership of Professional Organizations:

- RSC: Dr. Md. Lokman H. Choudhury

5. School of Humanities & Social Sciences

5.1 Faculty List

Assistant Professors

Name	Highest Degree	Research Areas
Nalin Bharti	Ph.D	Privatization of PSEs, Privatization and Labor, Law and Economics, India's ITES.
Rajesh Kumar	Ph.D	Linguistic Theory (Syntax of Indo-Aryan and Tibeto-Burman Languages), Sociolinguistics, Applied Linguistics, Language Teaching, Language in Education, Cognitive Science/Linguistics.
Smriti Singh	Ph.D	Contemporary Literary Theory, Linguistics and Language Teaching, Indian Writing in English

5.2 Academic Programs

- Ph. D Program

5.3 Research & Development Activities

Books Published:

- Nalin Bharti, Privatization Unbound: Experiences in Bangladesh and India, ISBN-978-81-89640-83-5, Bookwell, New Delhi, 2009.

Papers Published in Journals:

- Smriti Singh, Breaking Barriers: Amitav Ghosh's Sea of Poppies, Research-A Journal of English Studies 9 (2009) 23-31.
- Smriti Singh, Identity, Recognition and Political Assertion in `Joothan` published in Research - A Journal of English Studies 9 (2009).
- "Smriti Singh, Female Migrants in Divakaruni`s Arranged Marriage, Re-markings 8 (2009).

Papers presented in Conferences:

- Aditya Raj, Diaspora and Education, Indian Institute of Technology Kanpur February 28, 2009
- Nalin Bharti, Is Dumping Laissez Un-faire? : An Exploratory Survey of the Cases and Law in India and Beyond, International Law Association, New Delhi, 2009.
- Nalin Bharti, Global Financial Crisis: Where are the Regulators?', Fourth International Conference on Public Policy and Management, (CPPM), August 9-12, 2009, Organized by Centre for Public Policy ,IIM Bangalore, Bangalore.
- Rajesh Kumar, Two types and one condition: Negative Polarity in Hindi', a paper presented at the international conference on World language and the languages of the north-east at the North Eastern Hill University, Shillong (2009).
- Rajesh Kumar, Implications of Linguistic Theory for Language Teaching' a paper presented at the 28th Annual meeting of the South Asian Language Analysis Roundtable at the University of North Texas at Denton, USA (2009).
- Rajesh Kumar, Rajiv Misra, On resolving ambiguities with socially contextualized hierarchy in computational linguistics' a paper presented at the International Conference on Language and Cognition Interface at the Center for Behavioral Cognitive Science at the University of Allahabad, Allahabad, India (2009).
- Smriti Singh, From Texts to Visuals- place for Films in the Language and Literature classroom, ELTAI J&K chapter first national seminar on? Language & Literature in Global Context: Perspectives & Challenges? March 13-14, 2009, SMVDU, Katra.
- Smriti Singh, The Gendered Terrain: Dalit Writings, at the conference on The Political Economy of Social Division: Race, Gender, Class, and Caste as Fetishized/Fetishizing Borders in Trivandrum in December, 2009.

5.4 Other Activities**International Collaborations:**

- UNICEF

Member of Editorial Boards:

- Journal of Management and Public Policy, ISSN: 0976-013X,ISSN: Dr. Nalin Bharti

Visits Abroad:

- Rajesh Kumar visited University of North Texas for presenting papers at the 28th Annual Meeting of the South Asian Languages Analysis Roundtable between 8-10 October 2009.

Invited Lectures by faculty:

- Rajesh Kumar 'Structure of language' at the State Council of Educational Research and Training, Patna, Bihar 2009
- Rajesh Kumar delivered a series of lectures on Language Mind and Society in the Center for the Study of Sociology of Education at the Tata Institute of Social Sciences, Mumbai in May-June 2009
- Smriti Singh, panel discussions at Fulbright Conference organized by USIEF, New Delhi at Kolkata, March 2009

6. Centralized Services, Programmes and Units

6.1 Central Library



The Central Library of IIT Patna is one of the advanced libraries in terms of its collection and services. Central Library caters to the information needs of its highly demanding faculty members, students, research scholars as well as staff of the Institute, by offering a wide range of Information Technology (IT) based (and value added) services and products. The Central Library of IIT Patna has 4454 books at the end of financial year 2009-2010. During the reporting year, 3403 books were added to the Central Library. Within this period of time the Central Library subscribed many e-resources in the form of e-journals and e-books to meet information requirements of users. The Central Library had subscribed 13 e-journals from different publishers namely Springer, IEEE(IEL), Proquest Database, Proquest Journals, Scopus Database, SIAM, Science Direct, ACM Digital Library, ASME, ASTM, OSA, DEL, SciFinder and 4 e-book packages of World Scientific Press, Ebrary, Taylor & Francis e-books, e-books of McGraw Hill Access Engineering which facilitate the information needs of the users. The infrastructure of the Central Library

had been automated during this period of time. The Central Library had already installed LIBSYS software previous year and during this period of time the Central Library RFID technology which includes RFID tags for books, security gate and automated drop box for shelf check-out and shelf check-in the books which help the users for issue and return the books. The Library has 15 computers for accessing the different e-resources in the library premises. The Central Library is also a member of INDEST-AICTE Consortium and getting various e-resources from it.

6.2 Computer Center



IIT Patna has a state of the art computer center. Two computer labs are equipped with 120+ desktops and the labs operate from 9 AM till 8:30 PM on all seven days. In addition there are fourteen UNIX based servers that caters to the students' academic requirements. A local area network is catering to the needs of students as well as faculty members. The institute is having two 2 Mbps (1:1) Internet connection and one 4 Mbps (1:1) Internet connection. The whole institute has been wired and Internet facility has been provided to all members of the institute.

The List of various items and equipments procured by Computer Center till March 2010 is given below:

ITEM NAME	QTY
RACK SERVER	
HCL RACK SERVER	4
WIPRO RACK SERVER	4
BLADE SERVER	
IBM BLADE SERVER	4
TAPE LIBRARY	
IBM RAPE LIBRARY	1
SAN STORAGE	
IBM SAN STORAGE	1
DESKTOPS	
HCL DESKTOPS	100
DELL DESKTOPS	150
WIPRO DESKTOPS	20
LAPTOPS	
HCL LAPTOPS	120
HP LAPTOPS	10
DELL LAPTOPS	20
WORKSTATION	
HP WORKSTATION WITH 22" LCD MONITOR	2
UPS	
ELNOVA UPS (600 VA)	35
POWERWARE UPS (15KVA)	5
NUMERIC UPS (15 KVA)	2
PRINTER	
HP PRINTER	13
SCANNER	
HP SCANNER	2
SOFTWARE	
MS OFFICE 2007 ACADEMIC	120
KASPERSKY ANTIVIRUS	100
ADOBE ACROBAT 9.0	10
ADOBE DREAMWEAVER	1

NETWORK COMPONENTS	
LAYER 2 SWITCH	24
LAYER 3 SWITCH	1
ROUTER	2
MOUNTABLE RACK	24
WIRELESS ACCESS POINT	28

INTERNET BANDWIDTH	
BSNL	4 Mbps (1:1)
RAILTEL	4 Mbps (1:1)

6.3 Institute Civil, Electrical and Water Works

During the Financial year 2009-10, no major capital works was undertaken. However, the Institute spent some amount on housekeeping & maintenance during the financial year. This includes expenses on repairs, maintenance and renovation of the transit campus, electrical repairs and maintenance & running of Diesel Generator.

6.4 Rajbhasha Vibhag

IIT Patna has appointed Mr. Sanjay Kumar, Assistant Registrar as Hindi officer of the Institute. He has been assigned with the responsibility of implementation of the Official Language. Its activities include translation of Annual Reports, Annual Accounts, Audit Reports, different nameplates and preparation of Degrees/Diplomas in Hindi. Service Books and Health books are printed in Hindi & English both. Hindi Diwas was celebrated on 14th September and competitions of Hindi knowledge were organized.

6.5 Sponsored Research and Industrial Relations Unit

The following projects have been sanctioned by the various agencies during 2009-10:

SI No.	Name of PI	Project Title	Sponsoring Agency	Sanctioned Fund	Received Fund	Duration (In Months)
1	Dr. Naveen Kr. Nischal	Virtual Class Room at IIT Patna Over NATIONAL KNOWLEDGE NETWORK	NIC	14,540,000.00	10,461,429.00	12

2	Dr. Neeladri Das	Construction of Highly Porous 3-D Metal Organic Frameworks Derived from Triptycene-based Organic Linkers	DST	1,991,600.00	1,000,000.00	36
3	Dr. Karali Patra	Studies on Maxwell Stress and Hysteresis Characteristics of Poly Acrylic and Silicon Base Elastomers	DMSRDE (DRDO)	995,000.00	600,000.00	18
4	Dr. Sanjoy K. Parida	Integration of distributed generation and renewable energy sources to improve the system reliability	DST	600,000.00	450,000.00	36
5	Dr. Md. Lokman Hakim Choudhury	Diversity-Oriented Synthesis of Privileged Heterocycles & Highly Functionalized Carbocycles by Multicomponent Reactions (MCRs)	DST	1,991,600.00	1,050,000.00	36
6	Dr. MD. Kaleem Khan	Evaluation of Burst Criterion of Zircaloy Clad	AERB	2,544,850.00	2,304,550.00	24
7	Dr. Rajiv Misra	Vehicular Sensor and Mesh Networks Based Future Intelligent Transportation System	DIT	10,050,000.00	5,000,000.00	24

6.6 Training and Placement Cell

Training and Placement Cell had started functioning at IIT Patna from January 2010. Eight weeks of summer practical training at the end of 3rd year B. Tech degree of Computer Science and Engineering, Electrical Engineering and Mechanical Engineering is a compulsory part of B. Tech. degree curriculum at IIT Patna. Our second year students of the above said discipline were interested to undertake training

during May-July 2010. Hence, the Training and Placement Cell arranged summer practical Training for students who are interested. They include industries like Tata Motors, Bharat Heavy Electrical Limited, Rastriya Ispat Nigam Limited, Indian Railway, Hindustan Aeronautical Limited. And the academic institutions like University of Houston, Houston, USA, Louisiana State University, Baton Rouge, USA and IIT Guwahati, India.

The Training and Placement Cell is actively involved to establish industrial relation and cooperation for the training and placement of the students. It has developed various facilities in order to assist companies for training and recruitment process such as Training and Placement brochure, high speed wireless internet connectivity, video conferencing facility, seminar room and auditorium.

6.7 Technology Students Gymkhana

Physical Education & Sports Gymkhana is providing best possible facilities to the students of IIT Patna. We have developed many sports infrastructure in our campus such as construction of Basketball court, Volleyball court, Badminton court (outdoor), Cricket pitch etc. We have also developed Gym facilities in boy's hostel as well as girl's hostel including Table Tennis board.

We are outsourcing some sports facilities which are not available in our campus like Lawn Tennis and Badminton court. We have hired it on monthly basis and students are making best use of it.

We are having regular sports & fitness program in which students are taking part and time to time we are having Intramural competition in different games and sports. In extramural activities our students had participated in Inter IIT Sports meet 2009 held at IIT Kanpur in volleyball, badminton and table tennis.

7. Statistical Information

7.1 Admission to Undergraduate Students

Admissions to B.Tech courses at IIT Patna were made through Joint Entrance Examination held on April 12, 2009. A department-wise and category-wise break-up of the students admitted to IIT Patna in the academic year 2009-2010 is given below:

Department/Disciplines Programmes	Total Number of Candidates-Direct Admission			
	JEE – 2009			
	GE	OB	SC	Grand Total
Computer Science & Engineering	19	11	6	36
Electrical Engineering	20	10	5	35
Mechanical Engineering	11	9	1	21
Grand Total	50	30	12	92

7.2 Students Awarded to M.C. M. Scholarship

7.2.1 General & OBC category students awarded MCM scholarship

- Rs.1000/-per month for two semesters (8 months in a year)
- Free Tuition Fee

S. No.	Name	Roll Number
1	ANKITLAT	0801EE08
2	ANKIT BHARDWAJ	0801ME05
3	P ALAK AGARWAL	0801CS24
4	KASHARAVI	0801CS17
5	B S MAHABOOB SHAREEF	0801EE11
6	ADITYA KUMAR GUPTA	0801CS40
7	HARSHIT SHARMA	0801ME16
8	ASHISH KUMAR SINGH	0801ME08
9	ANJANI KUMAR	0801ME04
10	NITIN JAIN	0801ME27
11	ABHISHEK AGARWAL	0801CS01

12	NARESH	0801CS21
13	GAURA V CHOUDHARY	0801CS15
14	KULESH KUMAR	0801EE22
15	BHUMIREDDY SWATHI	0801CS08
16	AKASHYAP	0801EE01
17	PAVAN KUMAR AKULAKRISHNA	0801CS25
18	K RAGHA VENDRACHARY	0801EE19
19	SHAIK ABDUL RAWOOF	0801EE34
20	KABRA VISHAL JA YAPRAKASH	0801ME19

S. No.	Name	Roll Number
1	GOKARAKONDA SURYA SAI PRAVEENCHAND	0901EE09
2	GURRAMPATI RAVI TEJA REDDY	0901CS19
3	AJAY A L	0901EE03
4	AKHIL S ANAND	0901ME04
5	MOHITBABU	0901ME12
6	P AKALAP ATI LENIN	0901ME15
7	ANKIT TRIP ATHY	0901CS07
8	MODI GOURAV GUPTA	0901MEI0
9	KOLIPAKA KISHORE KUMAR	0901CS20
10	PRA VEEN KAPILDEV MA URYA	0901EE24
11	DINESH BANSAL	0901CS13
12	V VINOD KUMAR	0901EE33
13	VISHWARAJ ANAND	0901CS35
14	GADAM SRIKANTH	0901EE08
15	MUSUKU AJAYKUMAR	0901ME14
16	BHAGIRATH CHOUDHARY	0901EE06
17	V ARSNEY SA URABH	0901EE34
18	RONDLA SANDEEP	0901ME17
19	GOURAV PARIHAR	0901CS17
20	SANAPATI BHARADWAJ P ATRUDU	0901EE29

7.2.2 SC & ST category students awarded MCM scholarship

- Free Messing (basic menu)
- Exemption from Hostel Room Rent
- Pocket allowance of Rs.250/-per month

S. No.	Name	Roll Number
1	KARMVEER SINGH	0801EE20
2	LAXMAN	0801EE24
3	GAURAV KUMAR DAS	0901CS16
4	SHASHI MUKUL CHAKRAWARTI	0901CS31
5	MANAS PRATIM HALOI	0901EE17
6	DEEPAK NAYAK	0901CS11
7	NITISH KUMAR	0901EE19

7.3 Students Enrolled in Undergraduate Courses

Total Number of Students in B.Tech Course (Up to March 2010)				
Department / Discipline	GE	OB	SC	Grand Total
Computer Science & Engineering	40	24	12	76
Electrical Engineering	33	19	10	62
Mechanical Engineering	24	19	3	46
Grand Total	97	62	25	184

ROLL NO	NAME
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COMPUTER SCIENCE & ENGINEERING (2008 BATCH)	
0801CS01	ABHISHEK AGARWAL
0801CS02	AKASH CHATURVEDI
0801CS03	AMANDEEP SINGH
0801CS04	ANIL KUMAR
0801CS05	ANIL KUMAR NAWAL
0801CS06	ANURAG KUMAR
0801CS07	ANURAG SINGH
0801CS08	BHUMIREDDY SWATHI
0801CS09	C.V.N.K.CHAITANYA
0801CS10	DEBJYOTI SAHARROY
0801CS11	DEVAN HARIKUMAR
0801CS12	DEVULAPALLI VASU
0801CS13	DHIRENDRA SINGH
0801CS14	GAGANDEEP SINGH

0801CS15	GAURAV CHOUDHARY
0801CS16	KARAN JAIN
0801CS17	KASHA RAVI
0801CS18	KIRAN KUMAR BACHUTE
0801CS19	MADHU SANKEERTH DAMMATI
0801CS20	MOHIT AHUJA
0801CS21	NARESH
0801CS22	NARESH BABU KOTHA
0801CS23	NISHANT KUMAR
0801CS24	PALAK AGARWAL
0801CS25	PAVAN KUMAR AKULAKRISHNA
0801CS26	PIYUSH JAIN
0801CS27	RAVI KUMAR
0801CS28	SANJEEV KUMAR KATARIA
0801CS29	SATYENDRA SINGH
0801CS30	SHAIK ZAKIR HUSSAIN
0801CS31	SIDHARTH SHARMA
0801CS32	T. ROHITH KUMAR RAJA
0801CS33	TEJENDRA PRATAP SINGH
0801CS34	TURUPATI VIJAYARAJU
0801CS35	VISHWANATH PRATAP SINGH
0801CS36	VIVEK CHANDEL
0801CS37	YERRA SANDEEP
0801CS38	SACHIN GIRDHAR
0801CS39	AMULYA YADAV
0801CS40	ADITYA KUMAR GUPTA

ELECTRICAL ENGINEERING (2008 BATCH)

0801EE01	A KASHYAP
0801EE02	A UDAY KRISHNA
0801EE04	ABHINAV GUPTA
0801EE06	AMIT KUMAR
0801EE08	ANKIT LAT
0801EE10	ANUSHMITA KAUSHIK
0801EE11	B S MAHABOOB SHAREEF
0801EE12	BRAJA BANDHU PATIKAR
0801EE13	CHERUKU SUNDEEP
0801EE14	DHAROHAR RATHORE
0801EE15	GATLA SANDEEP
0801EE16	GORANTLA SUNIL KUMAR
0801EE17	GOUTAM CHALASANI
0801EE18	HITESH
0801EE19	K RAGHA VENDRACHARY
0801EE20	KARMVEER SINGH
0801EE21	KRISH MANGAL
0801EE22	KULESH KUMAR
0801EE23	KUMAR SHILADITYA
0801EE24	LAXMAN

0801EE25	LOVY GUPTA
0801EE26	MANISH KUMAR KHOKHAR
0801EE29	RAVURI HARSHA VARDHAN
0801EE30	RAVURU UMESH
0801EE33	SAURAV ANAND
0801EE34	SHAIK ABDUL RAWOOF
0801EE35	SPANDANA LEKKALA

MECHANICAL ENGINEERING (2008 BATCH)

0801ME04	ANJANI KUMAR
0801ME05	ANKIT BHARDWAJ
0801ME06	ANKIT RATHORE
0801ME08	ASHISH KUMAR SINGH
0801ME09	B KRISHNA CHAITANYA REDDY
0801ME10	BHARATH REDDY T
0801ME11	CHANGALA KOUSIK
0801ME12	CHENNAMALLA MAHENDER
0801ME13	DEVAPUJULA SIDDHARTHA
0801ME14	E VENKATA SUMAN
0801ME16	HARSHIT SHARMA
0801ME17	JOJI AUGUSTINE
0801ME18	K R R RAJENDRAN
0801ME19	KABRA VISHAL JAYAPRAKASH
0801ME20	KANKANTI SAI VEER REDDY
0801ME21	KIRAN KANNAN P
0801ME22	KIRTI CHOUDHARY
0801ME23	M RAGHAVENDRA
0801ME27	NITIN JAIN
0801ME28	PARMANAND PREMI
0801ME29	PRAJJWAL PREM JAMDAGNI
0801ME30	PRATEEK JAISWAL
0801ME32	SAHIL MADAAN
0801ME33	SURABATHUNI PALLAV
0801ME34	UDAIVEER SINGH

COMPUTER SCIENCE & ENGINEERING (2009 BATCH)

0901CS01	ABHINAV
0901CS02	ABHISHEK KUMAR
0901CS03	ADHAR SURANGE
0901CS04	ADITYA KUMAR
0901CS05	ANANDGHAN WAGHMARE
0901CS06	ANIMESH PRASAD
0901CS07	ANKIT TRIPATHI
0901CS08	ARUNDEEP KAMBOJ
0901CS09	ASHISH RAJ
0901CS10	BHARAT PRAJAPAT
0901CS11	DEEPAK NAYAK
0901CS12	DEEPANSHU KUMAR SINGH

0901CS13	DINESH BANSAL
0901CS14	DOSI YASH MUKESH
0901CS15	GADGE MAYURESH ANIL
0901CS16	GAURAV KUMAR DAS
0901CS17	GOURAV PARIHAR
0901CS18	GURMANJEET SINGH SIDHU
0901CS19	GURRAMPATI RAVI TEJA REDDY
0901CS20	KOLIPAKA KISHORE KUMAR
0901CS21	KSHITIJA GUPTA
0901CS22	PRADHUMAN SINGH
0901CS23	PRAHAL ARORA
0901CS24	PUNEET JAIN
0901CS25	RACHAMADUGU SPANDANA
0901CS26	RAJNEESH KUMAR MITHARWAL
0901CS27	RAM PRATAP GAUTAM
0901CS28	RISHABH SHARMA
0901CS29	SABREEN SYED
0901CS30	SHAH HARSHIT ROHIT
0901CS31	SHASHI MUKUL CHAKRAWARTI
0901CS32	SHREY MALIK
0901CS33	SUSHANT KOCHAR
0901CS35	VISHWARAJ ANAND
0901CS36	YALAVARTHI SWEEYA
0901CS37	RAMAKANT

ELECTRICAL ENGINEERING (2009 BATCH)

0901EE01	ABHAY KUMAR PRIYADARSHI
0901EE02	ABHINAV KUMAR
0901EE03	AJAY A L
0901EE04	AMITA
0901EE05	ASHAY JAIN
0901EE06	BHAGIRATH CHOUDHARY
0901EE07	CHINKU
0901EE08	GADAM SRIKANTH
0901EE09	GOKARAKONDA SURYA SAI PRAVEENCHAND
0901EE10	GOURAV TANTUWAY
0901EE11	HARIOM YADAW
0901EE12	JAYANT PURI
0901EE13	KALLURI V N SRIRAM MANOJ
0901EE14	KOYYA SUDARSHAN
0901EE15	KSHITIJ
0901EE16	M VINOD KUMAR
0901EE17	MANAS PRATIM HALOI
0901EE18	NISCHAL BOMMAREDDY
0901EE19	NITISH KUMAR
0901EE20	ONKARJEET KAUR
0901EE21	PALLAVI MATTI
0901EE22	PENTAMSETTI BALAJI

0901EE23	PRAGYAN BANSAL
0901EE24	PRAVEEN KAPILDEV MAURYA
0901EE25	RAKESH AGARWAL
0901EE26	RAKESH KUMAR GOYAL
0901EE28	RONGALI GOPINATH
0901EE29	SANAPATI BHARADWAJ PATRUDU
0901EE30	SAPTARSHI GHOSH
0901EE31	SHUBHAM JANGID
0901EE32	UTSAV GAUTAM
0901EE33	V VINOD KUMAR
0901EE34	VARSHNEY SAURABH
0901EE35	VIDIT
0901EE36	ISHAN PATIYAT

MECHANICAL ENGINEERING (2009 BATCH)

0901ME01	AAYUSH AGARWAL
0901ME02	ABHIJIT BANCHHOR
0901ME03	ABHINAV TRIPATHI
0901ME04	AKHIL S ANAND
0901ME05	ANUBHAV MATHODIA
0901ME06	ASHUTOSH KUMAR
0901ME07	CHILAMKURTHI YESASWI NARENDRA
0901ME09	MEHUL SIROHI
0901ME10	MODI GOURAV GUPTA
0901ME11	MOHD AAQUIB KHAN
0901ME12	MOHIT BABU
0901ME13	MULAGALA PRUTHVI
0901ME14	MUSUKU AJAY KUMAR
0901ME15	PAKALAPATI LENIN
0901ME16	ROMIL KUMAR
0901ME17	RONDLA SANDEEP
0901ME18	SATISH SOLANKI
0901ME19	SHASHANK SRIVASTAVA
0901ME20	SUBHASH SUNDARAVADIVELU
0901ME21	VIJAY NARAYAN
0901ME22	VISHAL YADAV

7.4 Statement of Results (Undergraduate)

Following table shows the summary of the results of the under graduate students at IIT Patna in the year April 2009 to March 2010.

Department	2 nd Year			1 st Year		
	Enrolled	Pass	Fail	Enrolled	Pass	Fail
CSE	40	37	03	35	34	01
EE	27	25	02	35	34	01
ME	25	24	01	22	22	00
All Dept.	92	86	06	92	90	02

7.5 List of Research Scholars Enrolled for the PhD Degree

ROLL NO	NAME
CHEMISTRY	
0921CH02	SAURAV CHAKRABORTY
0921CH03	SUMAN PAL
1021CH01	ANINDA CHATTERJEE
COMPUTER SCIENCE & ENGINEERING	
0921CS01	RAKESH MATAM
0921CS02	SHAIENDRA SHUKLA
0921CS03	ARKA PROKASH MAZUMDAR
ELECTRICAL ENGINEERING	
0921EE01	AMIT KUMAR SINGH
0921EE02	PRASHANT KUMAR
1021EE01	SWATI
1021EE02	MITHUN MUKHERJEE
1021EE03	VIKASH KUMAR
HUMANITIES & SOCIAL SCIENCES	
0921HS01	LATA KUMARI
0921HS02	NILU

0921HS03	POOJA
0921HS04	PRIYANKA SINHA
0921HS05	RAJ RAJESH

MATHEMATICS

0921MA01	MANOJ KUMAR RASTOGI
0921MA02	ANAND KUMAR TIWARI
0921MA03	DEBASIS DANGAR

MECHANICAL ENGINEERING

0921ME01	HIMANSHU PATHAK
0921ME02	TANWEER ALAM
0921ME03	FIROZUT TAUHEED
1021ME01	MD ASHIQUE HASSAN
1021ME03	SOUMEN MANDAL

PHYSICS

0921PH01	AJAYA KUMAR KAVALA
0921PH02	LAWRENCE KUMAR
0921PH03	CHANDRAKANTA PANDA
1021PH01	SUDHEESH KUMAR RAJPUT

7.6 Financial Information

The MHRD sanctioned only **PLAN Grant** during the financial year 2009-10 and the Institute received Rs. 5250 Lakhs under the Plan head. The MHRD did not release any grant under **NON-PLAN**. The Institute generated internal income of Rs. 170.94 Lakhs and expended Rs. 1502.01 Lakhs during the financial year 2009-10.

The Receipt & Payment of the Institute for the year ended 31st March 2010 is given hereunder:

RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 31st MARCH, 2010

Amount (in Rs.)

Sl. No.	R E C E I P T S	Current Year	Sl. No.	P A Y M E N T S	Current year
		(2009-10)			(2009-10)
I.	Opening Balance (Bank Balances)	31895867.75	I	Establishment Expenditure	36175758.00
			II	Administrative Expenditure	19396694.00
II.	Grants Received From Govt. of India (PLAN GRANT)	525000000.00	III	Expenditure on Fixed Assets	94293356.00
III	Interest Received	7485832.06	IV	Other Payment	39137471.06
IV	Academic Receipt	9107100.00			
V	General Receipt	24244073.00			
VI	Other Receipts	10303739.00	V	Closing Balance (Bank Balances)	419033332.75
	TOTAL	608036611.81		TOTAL	608036611.81