Vision

To be the fountainhead of new ideas and innovations in science and technology and continue to be a source of pride for all Indians.

Mission

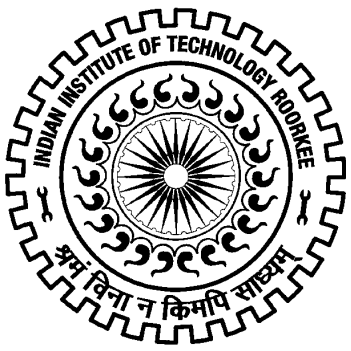
To create an environment that shall foster the growth of intellectually capable, innovative and entrepreneurial professionals, who shall contribute to the growth of Science and Technology in partnership with industry and develop and harness it for the welfare of the nation and mankind.

वार्षिक प्रतिवेदन

ANNUAL REPORT
2012 - 2013

01 अप्रैल 2012 — 31 मार्च 2013

(01 April 2012 – 31 March 2013)



भारतीय प्रौद्योगिकी संस्थान रुड़की

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

ANNUAL REPORT : AT A GLANCE

2012-2013

DEPARTMENTS/CENTRES/UNITS

Academic Departments/Centres	21
Centres of Excellence	03
Service Centres	05
Other Units	04

GRANTS

(Amount in Lacs of Rs.)

MHRD		31398.00
• Plan Grant	– 14620.00	
• Non-Plan Grant	– 16778.00	
UGC		317.17
Others		7843.86
• CSIR	– 278.23	
• Research & Consultancy	– 7565.63	
Total		39559.03

STUDENTS ADMITTED

B.Tech./B.Arch./IDD	1070
PG Degree	1124
Research Scholars	366
Total	2560

STUDENTS STRENGTH

B.Tech../B.Arch./IDD	4304
PG Degree	2137
Research Scholars	1342
Total	7783

NUMBER OF DEGREES AWARDED

B.Tech./B.Arch.	691
PG Degree/P.G. Diploma	826
Ph.D.	122
Total	1639

FACULTY/STAFF STRENGTH

Faculty in Position	375
Scientist/Others in Position	21
Non-Teaching Staff in Position	
• Group A	20
• Others	870

RESEARCH PAPERS

Journals	1086
Conference/Symposia	891
Total	1977

CONSULTANCY PROJECTS

Number of New Projects	622
Outlay (Lacs of Rs.)	3607.86

SPONSORED RESEARCH PROJECTS

Number of New Projects	79
Outlay (Lacs of Rs.)	7021.41

Visitor

His Excellency Sri **Pranab Mukherjee**

President of India

Chairman, IIT Council
Hon'ble Sri Kapil Sibal
Hon'ble Dr. M.M. Pallam Raju

Minister of Human Resource Development
Government of India

Chairman, Board of Governors

Sri Analjeet Singh

Director

Prof. Pradipta Banerji

Deputy Director

Prof. S.P. Gupta

Deans

Academic Research/Academic	**: Prof. Surendra Kumar** (upto 31.12.2012) **: Prof. Ashwani Kumar** (w.e.f. 1.1.2013)
Academic Studies/Academic	**: Prof. Ashwani Kumar**
Administration	**: Prof. U.P. Singh**
Alumni Affairs	**: Prof. S.P. Gupta** (upto 31.12.2012) **: Prof. S.C. Sharma** (w.e.f. 1.1.2013)
Faculty Affairs	**: Prof. Vinod Kumar**
Finance & Planning	**: Prof. Pradeep Kumar** (upto 31.12.2012) **: Prof. P.K. Ghosh** (w.e.f. 1.1.2013)
Saharanpur Campus	**: Prof. I. M. Mishra** (upto 31.05.2012)
Sponsored Research & Industrial Consultancy	**: Prof. Pradeep Bhargava**
Students' Welfare	**: Prof. S.N. Sinha** (upto. 31.12.2012) **: Prof. Ravi Bhushan** (w.e.f. 1.1.2013)

Registrar
Lt. Col. (Retd.) A.K. Srivastava

Contents

Annual Report: At a Glance			
Director's Report			**1-9**
Photographs & Figures			**10-16**
1.	**Organization and Administration**		**17-27**
1.1	IIT Council		17
1.2	Board of Governors		20
1.3	Finance Committee		21
1.4	Building & Works Committee		21
1.5	Senate		22
1.6	Administration		25
1.7	Academic Department & Centre, Centre of Excellence, Service Centres & Other Units		27
2.	**Academic and Non-Academic Staff**		**28-39**
2.1	Academic Staff		28
2.2 (A)	New Appointments and Selection to Higher Posts		29
2.2 (B)	New Appointments and Selection to (Non-Academic Staff)		33
2.3	Compassionate Appointments under SC/ST and OBC Categories		33
2.4	Faculty/Officers/Staff Superannuated		34
2.5	Non-Academic Officers/Staff		37
2.6	Recipients of Incentive (Non-Teaching Staff) on Foundation Day		39
2.7	Recipients of Outstanding Teacher Award on Teachers Day		39
3.	**Academic Programmes**		**40-46**
3.1	Courses of Study		40
3.2	Admissions		41
	3.2.1	Undergraduate Courses	42
	3.2.2	Postgraduate Degree Courses	42
	3.2.3	Ph.D. Programmes	43
	3.2.4	Student Strength	43
	3.2.5	Scholarship to Students	43
	3.2.6	Postgraduate Students Admitted with Scholarship/Assistantship	44
	3.2.7	Special facilities available to SC/ST Students	44
3.3	Institute Results		45
	3.3.1	Summary of Final Year Examination Results 12-13	45
	3.3.2	Summary of Other Examination Results 12-13	45
3.4	Annual Convocation 2012		46
4.	**Academic Departments & Centres**		**47-161**
4.1	Architecture and Planning		47
4.2	Biotechnology		50
4.3	Chemical Engineering		58
4.4	Chemistry		64
4.5	Civil Engineering		70
4.6	Earthquake Engineering		84
4.7	Earth Sciences		93

4.8	Electrical Engineering	98
4.9	Electronics and Computer Engineering	101
4.10	Humanities and Social Sciences	106
4.11	Hydrology	108
4.12	Management Studies	112
4.13	Mathematics	120
4.14	Mechanical and Industrial Engineering	123
4.15	Metallurgical and Materials Engineering	132
4.16	Paper Technology	138
4.17	Physics	143
4.18	Water Resources Development & Management	151
4.19	Alternate Hydro Energy Centre	156
5.	**Centres of Excellence**	**162-172**
5.1	Transportation System	162
5.2	Nano-Technology	165
5.3	Disaster Mitigation and Management	168
6.	**Service Centre**	**173-189**
6.1	Continuing Education Centre	173
6.2	Institute Computer Centre	178
6.3	Institute Instrumentation Centre	181
6.4	Information Superhighway Centre	184
6.5	Quality Improvement Programme Centre	186
7.	**Other Units**	**190-201**
7.1	Mahatma Gandhi Central Library	190
7.2	Educational Technology Cell	201
8.	**Institute Accounts**	**202-206**
8.1	Summary of Balance Sheet	202
8.2	Summary of Total Income & Expenditure	203
8.3	Details of MHRD Plan Expenditure	203
8.4	Details of MHRD Non Plan Expenditure	205
8.5	Details of other Accounts	206
9.	**Sponsored Research and Industrial Consultancy**	**207-214**
9.1	Sponsored Research and Industrial Consultancy Activities	207
9.2	Conference/Symposia/Seminars	207
9.3	Sponsored Research Projects	207
9.4	Research Publications	210
9.5	Industrial Consultancy/Testing	211
9.6	Faculty Initiation Grant	211
9.7	Intellectual Property Right (IPR) Cell	212
10.	**Students Amenities and Activities**	**215-230**
10.1	General	215
10.2	Students Welfare and Facilities	215

10.3	National Cadet Corps (NCC)	215
10.4	Institute Sports Council	217
10.5	Institute Students Club	222
10.6	Hobbies Club	223
10.7	Cultural Council	227
10.8	Himalayan Explorers Club	227
10.9	Foreign Students Activities	228
10.10	Training and Placement Cell	228
11.	**Central Facilities**	**231-237**
11.1	Estate & Works	231
11.2	Institute Hospital	231
11.3	Institute Dairy	232
11.4	Hindi Cell	233
11.5	Central Purchase Office	236
12.	**Other Activities on Campus**	**238-247**
12.1	Technology Incubation and Entrepreneurship Development Activity (TIEDA) Centre	238
12.2	Alumni Affairs	238
12.3	ASMITA	241
12.4	Adarsh Bal Niketan Sr. Secondary School	243
12.5	ANUSHRUTI	243
Appendices		**248-269**
A1	Details of IITR Results (2012-13)	248
A2	Details of Awards	256
A3	Hostel Accommodation on the Campus	259
A4	On Campus Recruitment	259
A5	Institute Merit-Cum-Means Scholarship	263
Research Publications		**270-379**

Director's Report

Indian Institute of Technology Roorkee is among the foremost of Institutes of national importance in higher education and research in engineering science and technology with a global exposure through considerable international linkages. Since its establishment as the first technological university in Asia in 1847, the Institute has played a vital role in providing the technical manpower and know-how to the country and international society as a whole. In continuation of the previous years, the academic pursuit and excellence in basic and applied research of the institute are significantly fostered further by large number of international cooperation in the year 2012 that includes long and short term visits of more than 65 distinguished professors and scientists and 175 (278 in 2012-13) faculty members and officers in various courses of the institute from abroad. The Institute ranks amongst the best technological institutions in the world and has contributed to all sectors of technological development. The institute has also been considered a trend-setter in education and research in science and technology and corporate leadership in technology driven international companies in recognition of the achievements of its alumnus holding the most coveted positions as Chairman, Hindustan Aeronautics Limited, Chairman, VSNL, Secretary, University Grants Commission, Chairman, Telecom Regulatory Authority of India, Chairman, Airports Authority of India, Director General, EME, Chairman, Railway Board, Member Engineering, Indian Railways and many others.

The Institution started in 1847. During the period Institution was known as Roorkee College (1847), Thomason College of Civil Engineering (1854), Thomason College of Engineering (1947) and University of Roorkee (1947). On September 21, 2001, the University was converted into Indian Institute of Technology Roorkee by the Government of India through an Act of Parliament and it was recognized as a seventh Technical Institution of National importance.

We are aware of the enhanced expectations of student community and public at large and strive to live up to our image that has been so assiduously built up over the years. It is our continuous endeavour to work towards attaining higher standards of excellence in all spheres of activities. We are committed to achieve our goals to create an environment wherein intellectually capable, innovative and entrepreneurial professionals are nurtured and trained to work unceasingly to serve the nation and society. We intend to keep pace with the continual progress in the fields of science and technology.

The institute has witnessed a substantial increase in students' intake and we have made every possible effort to timely develop the infrastructure and necessary facilities to meet the needs of the students.

India has a vast number of young, enthusiastic and talented minds. They eagerly look forward to joining institution like ours to get nurtured, trained and prepared for technological challenges that lie ahead on path of their professional development. The development of the nation depends upon their technical competence and work ethics that they have imbibed during their formative years as students.

Core Values

- Academic integrity and accountability
- Respect and tolerance for the views of every individual
- Attention to issues of national relevance as well as of global concern
- Holistic understanding, including knowledge of the human sciences

- Appreciation of intellectual excellence and creativity
- An unfettered spirit of learning exploration, rationality and enterprise
- Sensitivity to social responsibilities

In order to increase collaborative learning and experience sharing, 67 MoUs have been signed with several institutions of higher learning and research within India and abroad. These MoUs, are mutually beneficial and rewarding and provide new avenues of growth in teaching and research for the faculty and the students. These initiatives also help us to contribute to the development of leading technologies.

In recent times, the institute has played important role in projects which are directly related with the development of the nation, e.g., Development of Small and Micro Hydro Power Projects, Solar Water Heating System, Seismological and Ground Motion Studies, RFID and Censor Networks, Design Fire Facility of Atomic Energy, Rural Technology Action Group, Prime Minister Gramin Sadak Yojna, Development of Projects on River Brahamputra, Waste-to-Energy Plants to name a few. A lot of digital strong motion accelerographs deployed in the cities of north and north east India lying in seismic zones V, IV & III.

Extensive work has been done by the Institute faculty through projects supported by the UNDP, Government of India and the State Governments for providing benefits of technological developments in the field of Information and Communication Technology (ICT), especially to the poor and marginalized masses living in remote areas through e-governance and e-learning. The institute is the national coordinator of two projects under the MHRD sponsored National Mission on Education through ICT, one on providing education through VSAT Enabled Mobile e-Learning Terminals (MeLTs), and the other on “Software Tools, Open Source Tools and Simulation Tools”. These projects aim at bridging the gap between “educational divide” and the “digital divide” and meet the challenges of providing quality education and better governance for the masses in all parts of the country. The institute faculty is also involved in the development of virtual labs, pedagogical methods in teaching and research and text book series in various Engineering/Scientific fields.

In order to meet the requirement of producing high quality graduates, we also have to carry out research and be a part of the latest developments in different fields of science and technology and incorporate them in our curriculum by constantly revisiting our course contents and provide greater flexibility to make the system more learner centric as compared to the institution centric. We have therefore, made conscious efforts to increase the number of postgraduate and research students also.

Annual Report

The annual report highlights the work that the I.I.T. Roorkee has done during 2012–13. It includes the contributions made by different departments and units, and their main achievements. This comprehensive document is a compendium of work done by various departments and centres of the institute which becomes an authoritative record of its activities and available for ready reference. It helps to identify and encourage those who have done well, and to determine areas where scope for further improvement exists.

Admission

The IIT Roorkee campus provides a stimulating, vibrant, lively and enriching learning environment with a blend of Undergraduate (UG), Postgraduate (PG) and Ph.D. students. The students are admitted in various UG and PG programs through all India level entrance examinations, namely JEE, GATE, CAT, and JAM.

For the year 2012, IIT Delhi was the Organizing Institute for IIT-JEE 2012 and in all 479651 candidates appeared in 1067 centres spread across the country. The examination was conducted on 8th April 2012. In IIT Roorkee zone, the examination was conducted at 140 different centres in Twenty Four Cities of five different states viz., Haryana, Himachal Pradesh, Punjab, Uttarakhand and Uttar Pradesh and a Union Territory Chandigarh. The total no. of registered candidates in IIT Roorkee zone was 66,492, out of which 63,433 candidates appeared for the examination and 1717 candidates were qualified and 871 selected candidates got seats in various IITs/ISM Dhanbad.

All India **Second Ranker** was from Chandigarh in Roorkee Zone.

The students are admitted to various postgraduate programmes of the Institute through All India Entrance Examinations viz, **Graduate Aptitude Test in Engineering (GATE)** for admission to postgraduate courses with Ministry of Human Resources and Development (MHRD), Govt. of India scholarships in Engineering, Technology, Architecture and Science and **Joint Admission Test for M.Sc. (JAM)** for Admission to M.Sc.-PhD, M.Sc.-PhD. Dual Degree and other Post-B.Sc. programmes at IITs.

The **GATE 2013** computer based **ONLINE** examination in fifteen papers {AR, CE, GG, MA, MT, PH, TF, AG, BT, CH, CY, MN, XE and XL} was conducted on Sunday, January 20, 2013 (in two sessions) and in **OFFLINE** mode rest 06 papers {CS, ME, PI, EC, EE and IN} were conducted, on Sunday, February 10, 2013 (in two sessions) which were coordinated by IIT Bombay:

The **JAM 2013** OFFLINE examination, in 09 papers {BL, CA, CY, GP, MS, BT, GG, MA and PH} was coordinated by IIT Delhi and the examination took place, on Sunday, the February 10, 2013 (in two sessions). In IIT Roorkee zone, a total number of registered candidates was 7,095 across 11 centres in 8 cities and 342 candidates qualified out of 4,887 appeared candidates for JAM 2013.

Currently the Institute offers Bachelor's Degree courses in 10 disciplines of Engineering and Architecture, Postgraduate's Degree in 55 disciplines of Engineering, Applied Science, Architecture and Planning. The Institute presently has 7783 students that include 6441 UG/PG students and 1342 Ph.D. scholars enrolled in different Departments & Centres.

Academic Infrastructure

B. Architecture Course was started in 1956. The Department has the singular distinction of being the first in India in instituting a Masters Degree course in Architecture (M.Arch) in the year 1969-70. Masters Degree course in Urban & Rural Planning (MURP) was started in 1973-74. The department of Architecture and Planning imparts high quality education in the professional fields of Architecture and Planning and offers Bachelor of Architecture, Master of Architecture, Master of Urban and Rural Planning and Ph.D programmes. At present 29 Ph.D scholars are pursuing research in the department. The department has unique facilities like Climatology Lab, Computer Lab and Computerized Design Studios equipped with the state-of-art equipment and software and an Art Lab and a Workshop. During the year 2012-13 many faculty earned various honors and awards and visited a number of institutions in India and abroad and participated in seminar, symposia and conferences. Faculty members of the departments are engaged in sponsored research and consultancy projects and have published number of research papers in International and National Journals and Conference Proceedings and published two books.

During the period, the Department of Biotechnology created state-of-the-art facilities to strengthen the ongoing teaching (UG&PG) and research programmes by purchasing sophisticated equipments worth rupees 367.00 lakhs. These include instruments like Maldi-TOF-TOF, Preparative HPLC, GC-MS, Fluorescent Assisted Cell analyser, multistacked Incubator Shakers etc. The department took several initiatives for improvement of its teaching and research facilities. Six new research projects from ICMR, CSIR and DST for a total outlay of Rs. 183.96 lakhs have been funded during 2012-13. In addition to these new projects, eleven research projects with total financial outlay of Rs 756.72 lakhs are already being executed in the department.

The Department of Chemical Engineering has made significant growth in research and publications. Department faculty members are members of Editorial Board of a number of Research Journals. Dr. V.C. Srivastava, Assistant Professor, Department of Chemical Engineering has been awarded Young Engineer/Scientist/Researcher award by Indian National Academy of Engineering (INAE), Indian National Science Academy (INSA) and Institution of Engineers, India.

The Department of Chemistry is equipped with the state-of-the-art facilities like IR and UV-Visible spectrophotometer, Gas Chromatograph, ESI-MS, GC-Mass, HPLC, AAS, Elemental Analyzer, Flame Photometer, Cyclic Voltammeter, LCMS-MS, Raman Spectrophotometer, Surface Area Analyzer, Rheometer, VSM etc. to provide academic as well as industry oriented training to the undergraduate and post-graduate students. The department has lately taken several initiatives for the betterment of its teaching and research.

The Department of Civil Engineering offers a four-year course leading to the Bachelor's Degree in Civil Engineering. The Department also provides education at Master's and Ph.D. levels in eight disciplines of Civil Engineering. The Department has unique facilities like Boundary Layer Wind Tunnel, Asphalt Rheometer, Electronic Total Stations, Flex 2D Software, 1000 kN Electro-hydraulic actuators, Electronic bed level recorder, Water Hammer and Surge Tank Experimental set-up, Data Acquisition System and Universal Testing Machine.

In the Department of Earthquake Engineering, four major areas of Earthquake Engineering viz., Structural Dynamics, Soil Dynamics, Engineering Seismology & Seismotectonics and Instrumentation have been nurtured for the last fifty years. Several major facilities have been developed in the Department including a low cost railway wagon, shock table for dynamic testing of structural models, a computer controlled shake table to stimulate strong ground motion, a quasi static testing laboratory having servo-controlled dynamic actuator systems and servo-controlled compression testing machine, a soil dynamics laboratory equipped with liquefaction table and cyclic triaxial testing system, a seismological observatory having state of the art broadband seismograph to record earthquake ground motion, a strong motion network of 300 digital accelerographs deployed in the Himalayan region to measure strong ground motion due to moderate and major earthquakes and a state-of-art 12 station telemetered network to monitor local seismicity in the environs of Tehri Dam.

Department of Earth Sciences is one of the leading departments in country in diversified fields of geology and geophysics. The Department offers 5-

years integrated M.Tech. courses in Geological Technology and Geophysical Technology and a two years M.Sc. course in Applied Geology. A number of research scholars are actively engaged in Ph.D. research resulting in large number of research publications. A number of laboratories in the department have been modernized through the induction of specialized high quality instruments.

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The Electrical Engineering Department of IIT Roorkee is the first in India to start the postgraduate programme in electrical Machine Design in 1954 and after few years it was converted into Advanced Electrical machines. Later on three more post-graduate programmes were started. The department offers a bachelor degree courses in the Electrical Engineering and an I.D.D. course in Electrical Engineering with Master of Technology in Power Electronics. It offers Master's courses in Power System Engineering, Power Electronics & Electric Drives, Systems & Control and Instrumentation & Signal Processing. There are four major groups of faculty working in the areas of Power Systems, Power Electronics, Electric Drives, Systems and Control, Instrumentation, Biomedical Signal Processing and Image Processing. The faculty members of the department are also providing consultancy services in the area of small hydro in collaboration with AHEC. In addition to DST and CSIR sponsored projects, the department is also piloting MHRD sponsored projects on Mobile e-Learning Terminals, Open Sources Simulation and Virtual Laboratory under National Mission on Education through Information Communication Technology.

The Department of Electronics & Communication is one of the major departments of the Institute offers a wide spectrum of academic programmes at undergraduate and postgraduate level. The department has always been on a high growth path. In this year, the Electronics & Communication Engineering department signed a Memorandum of Understanding with RailTel & Ministry of Communications in the presence of honourable Minister of Communications, Shri Kapil Sibbal, for a Center of Excellence in Telecommunication (TCOE). RailTel will provide a grant of Rs. 12.00 Crore over a period of next 5 years to support cutting edge research in broadband technology and applications.

The Department of Humanities & Social Sciences teaches several core and elective courses to students of all branches of B.Tech, as well as B. Arch. The Department also runs specialized core and elective courses for M. Tech., MCA and MBA. The Department runs an evening course in German language. One of the remarkable achievements has been the spurt in the research activities of the department in recent years. The Communication Research and Training Laboratory of the department, which possesses multimedia software for language teaching has recently been upgraded to its full capacity, i. e. 60 booths. The addition of new software and data has also enriched the Psychology Laboratory, Computer Laboratory, and the Economic database.

Like previous years, the 41th International P.G. Diploma/M. Tech. Hydrology course commenced from July 2012 with 25 nos. of participants including 10 sponsored candidates from India and abroad in the Department of Hydrology. The M. Tech. final year programme also continued with 17 students. At present 17 students are pursuing their doctoral research in the Department.

The Department of Management Studies has organized sponsored workshop and seminars on the emerging trends of management including knowledge management, technology management and entrepreneurship development. The knowledge sharing practices have been motivated amongst faculties and students through peer learning approach. As a part of social responsibility the Department also conducted QIP programs for effective teaching. A number of workshops on research methodology were organized in and outside of the Department and Institute.

The Department of Mathematics runs five year integrated M.Sc. in Applied Mathematics, two year M.Sc. in Applied Mathematics, and industrial Mathematics and informatics. The Department also running interdisciplinary MCA programs. The Ph.D. programs are run not only in basic and recent fields of mathematics but also in several interdisciplinary areas of Applied Mathematics and Computer applications. All the programmes are well received in the industry and students are getting good placements in Industry and Academics, for PDF in abroad.

The Department of Mechanical & Industrial Engineering offers Bachelor's Degree courses in Mechanical as well as in Production & Industrial Engineering. It also provides education at Master's and Doctoral level in five disciplines of Mechanical and Industrial Engineering. The department has laboratory and workshop facilities with modern sophisticated equipments to carry out research and consultancy in almost all the major areas of Mechanical and Industrial Engineering.

The Department of Metallurgical and Materials Engineering has procured state of the art equipment "Thermomechanical simulator (TMS) for the research work. Two major sponsored projects in the area of thermo mechanical processing of Zr-Nb alloys and development of erosion resistant duplex stainless steels were sanctioned based on this TMS facility available in our department. The first batch of dual degree, B.Tech (Met) and M.Tech (Materials Engg) students has joined the department in this year. The significant work has been done in the area of failure analysis, development of ultrafine grained materials, nanostructured coatings for corrosion resistance,

tribological applications, metallic foams, electroless coatings for RADAR, Metallic and Polymer matrix composites, Spray forming, Powder Metallurgy, Friction Stir Processing of Al alloys, Development of materials for hydroelectric power plants and mini hydel projects.

The Saharanpur Campus has three departments viz. Department of Paper Technology, Department of Polymer and Process Engineering and Department of Applied Sciences and Engineering.

Department of Paper Technology

The Department of Paper Technology is one of the oldest Departments of the Saharanpur Campus which offers academic programs at various levels in Pulp and Paper Technology. The Department has well developed academic infrastructure. Its faculty is engaged in teaching, research and industrial consultancy. The courses aim to cater to the needs of Paper Industries across the country.

Department of Polymer and Process Engineering

Department of Polymer and Process Engineering (DPPE) is a new Department of the Indian Institute of Technology Roorkee, located in the Saharanpur Campus. The Department offers academic courses leading to B. Tech in Polymer Science & Technology, and a Dual Degree Program of B. Tech in Process Engineering with MBA. The Department also performs fundamental and applied research in Polymer Science and Technology, Process Engineering and Management. The courses aim to cater to the needs of the vastly developing and hugely demanding "Polymer and Process Industries" across the globe.

Applied Sciences and Engineering

The Newly incepted Department of Applied Science and Engineering comprises multi-disciplinary faculty members at present mainly related to Physics, Chemistry, Mathematics, Humanities (English literature), Electrical /Electronics Engineering background to cater the need of multi-disciplinary students at Saharanpur Campus of IIT Roorkee. Our faculty members, and scholars provides a home to the most promising doctoral and post-doctoral research with an access to state of art educational/Research Laboratory resources and unparalleled laboratory for both Basic/Applied Science and Engineering research.

1. All the above Departments have procured State of the Art research and laboratory equipment worth Rs. 15 Crore including FIST project sponsored by DST, New Delhi. Most of the instruments have been installed and some of them are in the process of installation. List includes; AFM, Glove Box, Galvanostat, Hot Stage Polarizing Microscope, FE-SEM, Twin Screw Extruder, Micro Injection Molding, Rheometer, U.V. Vis., and other wide range of laboratory equipment for paper, polymer and process programs.
2. Sports Complex development is in progress.
3. Multi Story Faculty Residential Complex (TRIVENI APARTMENT) has been allotted to the faculty members.
4. Air Conditioning of New Technology Block is in progress.
5. Library, Auditorium, Guest House is under restructuring and modification process.
6. Purchase of Physiotherapy Equipment for Dispensary is in progress.
7. Saharanpur Campus is now connected with NKN network

The Department of Physics provides an excellent teaching environment to its students pursuing their studies for Ph.D., M.Tech. (Solid State Electronic Materials), 5-year Integrated M.Sc., 2-year M.Sc., and B.Tech. students. The Ph.D. programs are focused on advanced topics in several thrust areas of Physics in the fields of Atomic & Molecular Collision Physics, Atmospheric Physics, Condensed Matter Physics, Laser Physics, Nuclear Physics, and High Energy Physics. The Department has well developed research laboratories in the areas of Smart materials, High-Tc Superconductors, Functional nanomaterials. New research Labs in the area of PV-Solar, Quantum Optics and Radiation Detectors are coming up. A new advanced facility of pulsed laser has recently been added and has started functioning. The computing facility in the Physics Department consists of two Sun Fire X 2200 M_2 X 64 Servers (dual-core dual-CPU), ideal machines for number crunching. In addition about five high speed works-stations have been added.

"The Department of Water Resources Development and Management (formerly WRDTC) was established in the year 1955 by the Government of India with the objective to train serving engineers from Asia, Africa and other developing countries in various aspects of water resources engineering and to bring together engineering talent from these countries for a first hand understanding and appreciation of each others problems and to help evolve, by pooling of knowledge, new techniques in water resources development and management suited to conditions of Afro-Asian region. In addition, the programme of education in the Department helps foster a feeling of brotherhood amongst the engineers of various countries. Since its creation in 1955 the Department has trained 2543 serving engineers from 50 countries".

AHEC provided technical support to the public utilities of the state of UP, Uttarakhand, Chhattisgarh, Bihar, HP, Andman & Nicobar, Mizoram, Arunachal Pradesh, Gujarat, Madhya Pradesh, J&K and Financial Institutions viz. PTC, MNRE received in small hydropower projects. Small hydropower project planning, design, drawings, specially, for remote border areas of the country in Ladakh, Arunachal Pradesh and

Uttarakhand, Performance testing of small hydropower stations in 8 states and training to the field engineers was carried out.The establishment of the state of the art small hydro power hydraulic turbine laboratory with the support of Ministry of New and Renewable energy, Government of India is in progress.
"CTRANS is a Centre of Excellence in the area of Transportation Systems promoting multidisciplinary and high quality research and education in Transportation Systems with collective participation of Engineers, Scientists and Researchers from Science & Technology, Humanities and Social Sciences, Architecture & Planning and Management Studies background. The first batch of 16 M.Tech (Infrastructure Systems) students have joined the Centre this year. The Centre played a lead role in the implementation of 1700 km of State Highways in the State of Bihar under Rashtriya Shram Vikas Yojana. ROMDAS, Ground Penetrating Radar, Vibration Exciter System, HPLC etc. are some of the highend lab infrastructure available with the Centre."

Centre for Nanotechnology (CNT) has further strengthened its mission of Academic excellence with the active participation of its faculty drawn from different departments. Its faculty has made from different departments. Its faculty has made significant research contributions in upcoming areas of Nanotechnology. CNT has successfully admitted students to the fifth batch of M.Tech. program. CNT is now equipped with several state-of-the art facilities namely, Zetasizer, DSC,LCR meter with magnetic measurements set up, Surface profiler, Upright microscope with fluorescent attachment. UV-VIS-NIR spectrophotometer and Fluorimeter, Spin coater, Gel-doc system, High speed refrigerated centrifuge, Laminar airflow hood, Orbital shaking incubator, Deep freezer for its M.Tech/Research students. Molecular modeling software has been installed for modeling and simulation work.

A Centre of Excellence in Disaster Mitigation and Management was established at IIT Roorkee in March 2006 for national capacity building in Disaster Mitigation and Management. A full time M.Tech. Program in Disaster Mitigation & Management was approved by the Senate of the Institute.

Service Centres

The Institute Computer Centre (ICC) is an academic service centre providing the following:

- Facilities for B.Tech/M.Tech/MCA computer related laboratory classes
- Special needs for hardware/software of Research Scholars
- Central bulk licensing of Engineering/Scientific software
- High-Performance Computing
- Central data storage facility

The Centre maintains a comfortable environment, conducive for research & training for both students and faculty. It has eight job-specific labs with about 250 workstations/desktops of latest configuration in 100/1000 mbps CAT 6 based structured network having Gigabit Managed Switches with Internet connectivity at every system. Centre has computational and software licensing servers ranging from rack mounted servers to high-end Blade Servers with SAN (Storage Area Network) and NAS (Network Attached Storage). Centre is also equipped with laser printers and scanners. Linux based HPC Cluster, and all the other servers (including software licensing servers) can be accessed within the campus including DPT Saharanpur Campus. ICC has state-of-the-art hardware and software for applications such as: CAD/MCAD, Computational Fluid Dynamics (CFD), FEM & FEA Image Processing / Scientific Visualization, 3DAnimation/ Visual Simulation/ Geospatial imaging and analysis. Centre has mid-range to high-end configured graphics workstations. ICC's software licensing facilities provide major engineering and scientific software, which are available throughout the campus over LAN.

Institute Instrumentation Centre runs & maintains twenty Analytical Laboratories with modern Equipment for research and teaching of UG and PG students. These include AAS, DTA-TGA, EPMA, FE-SEM, FLS, ICP-MS with Laser Ablation, Powder X-RD, Single Crystal X-RD, Small Angle X-RD, SEM, SPM, SQUID Magnetometer, TEM, TIMS, UTM, VSM and Liquid Nitrogen Plant among others. Some of the notable facilities are Macromolecular Crystallographic Unit (MCU), Transmission Electron Microscope (TEM), SQUID Magnetometer and Electron Probe Micro Analyzer (EPMA).

Information Superhighway Centre (ISC) of the Institute has a star topology Gigabit Ethernet Switch based, state-of-the-art Enterprise class network with data, voice and video communication capabilities. All department and Centres are connected to the Information Superhighway Centre through Optical Fiber. The network covers 365 acres of area through 35 Km of OFC and 70 Km of CAT6/E Cat5 UTP, connecting all Departments/ Centres, Hostels and Saharanpur Campus. The Intranet has 3000+ wired-line and 3200+ points through wireless access, providing internet/ intranet, and e-mail facility to all faculty, staff, library, and laboratories. The ISC also has an Information Management Group (IMG) which is managed and run solely by B.Tech. students for developing website and intranet applications. Three virtual class rooms have been developed under National Knowledge Network (NKN) from NIC under MHRD Govt. of India initiative. Installed state-of-the-art Wire line Internet using Core-

Distribution access based architecture wire-line intranet with 10 Gbps uplink in Sarojini Bhawan including with previous year other campus buildings. Upgraded Oracle Sun Java Mail messaging system to provide a better and uninterrupted spam free mail services to the Institute Users. Now Institute has 8000 user license of Upgraded mail messaging system installed in active-active mode with full redundancy with separate storage to provide more mail space to the users.

Quality Improvement Programme (QIP) Centre three principal activities are being carried out. (i) Providing opportunities for faculty members of AICTE recognized engineering Colleges/institutes to improve their qualifications, i.e., Masters and Ph.D. degree programmes, (ii) Organizing Short Term Courses for serving faculty working in engineering institutes/colleges and (iii) C.D. cell activities which include curriculum development (CD) as well as its revision, preparation of monographs and text books, laboratory manuals, undertaking of inter-institutional programmes, holding of seminars, workshops and panel discussions, developing educational technology, preparation of resource materials and undertaking of any other activity which helps to improve classroom teaching. This year the QIP Center at IIT Roorkee has offered admission to 25 faculty for Ph.D programme and 16 teachers for M.Tech programme various faculty branches. Total no. of Short Term Courses run were 12, 16 workshops and 01 conference were organized.

Centre of Continuing Education is a pioneering centre in the area of continuing education. It has completed more than 55 years of service and has played a very important role in the promotion of knowledge upgradation activity in our country by organizing refresher/specialist courses and workshops for in-service technocrats and professionals. This centre acts as a single window to disseminate information and technology on latest developments. The activities organised by this centre are innovative, refreshing and stimulating and address to the current needs of the participants. Apart from the technical expertise available in the departments and centres of the Institute, experts from industries and R&D organisations are also invited to deliver talks/ lectures wherever necessary. 70 short term training programmes are being conducted every year in various disciplines of management, engineering, science and technology for 1054 participants from all parts of the country as well as from the neighboring countries.

Students Activities (2012-13)

During the year 2012-13, the students performed extremely well in academics and they also excelled in organizing extra curricular activities. The predominant student activities included participation in Students' Club, National Cadets Corps, Hobbies Club, NSS, Cinema Club, Sports Council, etc.

Elections for Students Affairs Council (SAC) for 2012-13 were held in the month of September 2012. The Students' Senate was elected and other bodies of SAC were constituted. During the year 2012-13, 104 students were given aid under the scheme " Students Loan and Aid Fund" and a sum of Rs. 13,59,000/- was distribution to the deserving needy students. To provide reimbursement of medical expenses and compensation for laptop and cycle theft, insurance policy has been taken from leading public sector insurance companies.

NCC training was imparted to NCC cadets of IIT Roorkee and the cadets took keen interest. About 420 students under various categories were enrolled for the academic year 2012-13. The NCC cadets presented Guard of Honour to Director, IIT Roorkee on Independence Day (2012) and Republic Day (2013). Various events such as Annual Training Camp, Inter Company Games/ Competitions, Cultural Training, Social Service, Competitions, Awareness Lectures were held during 2012-13.

Institute's Sports Council conducted Intramural (Internal) tournaments and Annual Athletic Meet. The student winners were awarded trophies/cup in various student sports activities.

During 2012-13, several external or extramural tournaments for Volley Ball, Hockey, Football, etc. were organized. IIT Roorkee team performed excellent in these tournaments. Various coaching camps were conducted for IIT Roorkee students.

IIT Roorkee organized the 48th Inter IIT Aquatic Meet from October 2-5, 2012 and approximately 140 students from 13 IITs participated in various events. The 48th Inter IIT Sports Meet was organized by IIT Roorkee from December 17-24, 2012. About 1700 students from 15 IITs took part in the Meet. IIT Roorkee received the March Past Trophy for their excellent performance. Under overall position for general championship in the 48th Inter IIT Sports Meet, the women team secured first position and men team secured third position. Various sports facilities were upgraded in the year 2012-13.

Students' Club of IIT Roorkee is a hub of various activities related to students on the campus. It has improved in Club ambience and various facilities offered to the students. Certain other important students activities such as Cognizance, Srishti and Thomso were organized as per practice. Hobbies Club has been involved in the activities like software development, gardening, philately & numismatics, fine arts, star gazing, model and robotics, etc.

IIT Roorkee Cultural Council conducted several

cultural activities such as Pahla Nasha, Jashn, Cultural Night, Cultural Week, etc. during the year 2012-13. The Himalayan Explorers' Club organized Annual Cycle Race, Skiing Camp, Rock Climbing Camp and Commando Assault Test during 2012-13. Foreign students are part of IIT Roorkee Campus and 69 students were registered in different academic programmes. IIT Roorkee is proud of imparting education to various foreign students.

Placement

The Training and Placement office continued to play key role as facilitator and counselor to graduating students for their suitable placements and internships in companies of various sectors. Similar to previous years, this year also the placement season was quite vibrant. A total of 152 companies visited the institute for campus recruitment and a total of 917 offers were made.
The maximum and average overseas annual salary packages offered were Rs. 65 Lakhs and Rs. 38.98 Lakhs whereas the maximum and average domestic salary packages offered were Rs. 28.00 Lakhs and Rs. 7.00 Lakhs across all branches of different academic programs.

Some key companies from across various sectors which visited the campus during this academic year were Reliance Industries Ltd., Tata Steel, Hero MotoCorp Ltd., Caterpillar India Pvt. Ltd., Robert Bosch Engineering and Business Solution, Chambal Fertilisers and Chemical Ltd., Yamaha India Motor Pvt. Ltd., Jaiprakash Associates Ltd., Usha International Ltd., Larsen & Toubro Limited, Thermax India Ltd., RSPL Limited, Microsoft India Development Centre, Facebook, Oracle, Epic, Google Inc, WM Global Technology Service India Pvt. Ltd., Directi, Adobe Systems India Pvt. Ltd., Schlumberger Asia Services Ltd., Shell Technology Centre, Cairn India Ltd., Rio Tinto, ITC Ltd., Capital One Services etc.

Convocation and Other Events

The Annual Convocation 2012 of the Institute was held on August 4, 2012. On this occasion, 1639 students were awarded degrees at Bachelor's (691), Master's (826) and Doctoral (122) levels in various disciplines. Hon'ble Shri. Kapil Sibal was the Chief Guest and was conferred Honoris Causa Degree of IIT Roorkee.

Distinguished Alumni Awards were presented to seven alumni who have made major contributions in their respective fields. The recipients of these awards were Prof. Prem Krishna and Prof. Harpreet Singh under the category Academics and Research, Dr. Amit Singhal, Shri. Ravi Sharma, Shri Arvind K. Singhal, Dr. Harsh K. Gupta and Shri B.K. Chaturvedi under the category Corporate Development/ Administration.

Faculty

The Institute has 369 highly qualified faculty members, 09 Emeritus Fellows and 17 Scientific and other Academic Staff.

The faculty members are internationally recognized for their quality of research publications which appear in international refereed journals. Faculty members are associated with various decision making bodies providing advice on policy matters and technical issues at the national level. At the same time, they serve on editorial boards of different reputed international journals, review papers, serve on committees for recruitment of professionals, and are on the boards of certain organizations. Faculty members were recognized in the country and abroad for their distinctive contributions as academician, scientist, engineer, or expert consultant.

With a view to achieve the objective of attaining academic excellence through healthy competition, the Institute has adopted a scheme of rewarding outstanding teachers and researchers on the basis of students' feed back aggregated over last 4 years and their performance in research and administration. Outstanding teacher awards were given to Prof. D.K. Nauriyal, Professor, Deptt. of Hum. & Soc. Sciences, Prof. Pramod Agarwal, Professor, Deptt. of Electrical Engg., Dr. R.D. Garg, Asistant Professor, Deptt. of Civil Engg. and Dr. R.P. Saini, Associate Professor, of AHEC.

Initiation Grant to Faculty

The Institute took an initiative of providing seed money to the new faculty members for initiating research projects under Faculty Initiation Grant-Scheme-A. Using the seed money, the new faculty members can initiate the feasibility study related to their research field and apply for major funds, thereafter, to other agencies. 13 Projects for Faculty Initiation Grant under Scheme 'A' have been sanctioned out of SRIC Fund, with a total allocation of Rs. 41.10 Lacs. 5 Projects for Faculty Initiation Grant under Scheme 'B' have been sanctioned out of MHRD Funds, with a total allocation of Rs. 26.75 Lacs.

Sponsored Research and Industrial Consultancy

The total numbers of New Sponsored Research Projects were 79 with annual turnover of Rs. 7021.41 lakhs. The numbers of new Consultancy projects have been 622 with a total outlay Rs. 3607.86 lakhs.

National and International Collaboration

The Institute has signed six MoUs with the following Institutes/Universities/Organizations for academic interactions, students and faculty exchange, and collaborative R&D work: Central Pulp and Paper

Research Institute, Saharanpur on May 2, 2012, Housing and Urban Development Corporation Ltd. (HUDCO) on May 21, 2012, Welspun Corp Ltd. On December 3, 2012, Institute of Engineering, Tribhuvan University on January 18, 2013, Dr. B.R. Ambedkar National Institute of Technology Jalandhar, Punjab on January 18, 2013 and Rural Electrification Corporation Ltd., New Delhi on February 8, 2013.

Finance and Accounts

In 2012-13, I.I.T. Roorkee received a sum of Rs. 31398.00 lakhs from MHRD to meet plan and non-plan expenditure; MHRD contributed Rs.16778.00 lakhs towards Non-plan Grant, and Rs.14620.00 lakhs towards Plan grant. Institute receipts totaled Rs.3971.17 lakhs and contributions of Rs. 317.17 lakhs from UGC and Rs.278.23 lakhs from CSIR were also received.

Auditing of annual accounts for the year 2012-13 was completed. The Institute continued to receive funds from MHRD and other government agencies for plan and non-plan commitments and R&D activities.

Director's Activities

The Director has visited Belgium, British Colombia, Alberta, San Francisco, Chicago, Houston, Washington D.C. and New York, for various research and academic collaborations and signed 6 MoU. During this period, Director has made several invited visits to various technical Institutions and Universities, both India and abroad. The Director had attended a meeting of All India IIT Faculty federation and chairpersons BOG and Director of IITs in MHRD on April 11, 2012. He had attended meeting with Sterling group of UK Universities on July 24, 2012. He had also attended a meeting with Hon'able member of SC/ST commission Mr. Raju Parmar. He presided over 3 National Workshops/Seminars and inaugurated about 7 national events held and addressed the august audience there as Chief Guest. This is in addition to his participation in IIT JAB, JEE and other entrance examination meetings. He had made visits to the various departments at IIT Roorkee during this period.

The Institute places on record its grateful acknowledgment of the financial support provided by MHRD, MNRE, DST, CSIR, DBT, MCIT, NAIP, DRDO, BMTPC, BARC, Max Planck Society, Germany, UNDP, UKIERI, Uttarakhand and other State Governments and other governmental and non-governmental agencies. Sincere thanks are due to all faculty members, scientific staff, officials, employees, students and alumni of the institute for their devotion and hard work in taking the Institute to greater heights. With their continued support, it is hoped that IIT Roorkee will continue to contribute significantly to the national cause of providing excellent technical education.

I am deeply indebted to the Hon'ble Shri Kapil Sibal Ji, Minister of Human Resource Development and Chairman, IIT Council for his guidance, support and co-operation in making this Institution move towards attaining its goal.

I take this opportunity to thank Secretary, Additional Secretary (Technical), Additional Secretary and Financial Advisor, Joint Secretary (Distance Learning), Director (Technical), Director (Finance), Under Secretary (Technical Section) and Under Secretary (IFD), Department of Higher Education, Govt. of India, Ministry of Human Resource Development for their continued cooperation in providing grants and for their interest in the development of this Institute.

I am grateful to Hon'ble Shri Analjit Singh, Chairman, Board of Governors, IIT Roorkee, for his support and guidance.

I place on record my sincere gratitude to the Members of Board of Governors, Finance Committee, Building and Works Committee, the Senate and other Committees of the Institute for their valuable contributions towards making the Institution to realize its mission. I compliment the Editorial team of the Annual Report for their untiring efforts in compiling this report.

January ,2014

Pradipta Banerji
Director

Acknowledgement

(L to R) Prof. Goverdhan Mehta, Hon'ble Shri Kapil Sibal, Chief Guest; Hon'ble Shri Analjit Singh, Chairman BOG, Dr. Charles Correa and Prof. Pradipta Banerji, Director, IIT Roorkee on the occasion of Annual convocation held on August 04, 2012.

Shri Analijit Singh, Chairman BOG, presenting Memento to Hon'ble Sri Kapil Sibal, Chief Guest on the occasion of Annual convocation held on August 04, 2012.

Prof. Pradipta Banerji, Director, IIT Roorkee awarding degree on the occasion of Annual convocation held on August 4, 2012.

After taking degree the students are coming outside the convocation hall and throwing their caps in air with cheers

JUBILENT TEAMS HOLDING UP THEIR TROPHIES & MEDALS

“OUR’S IS THE SMARTEST TEAM

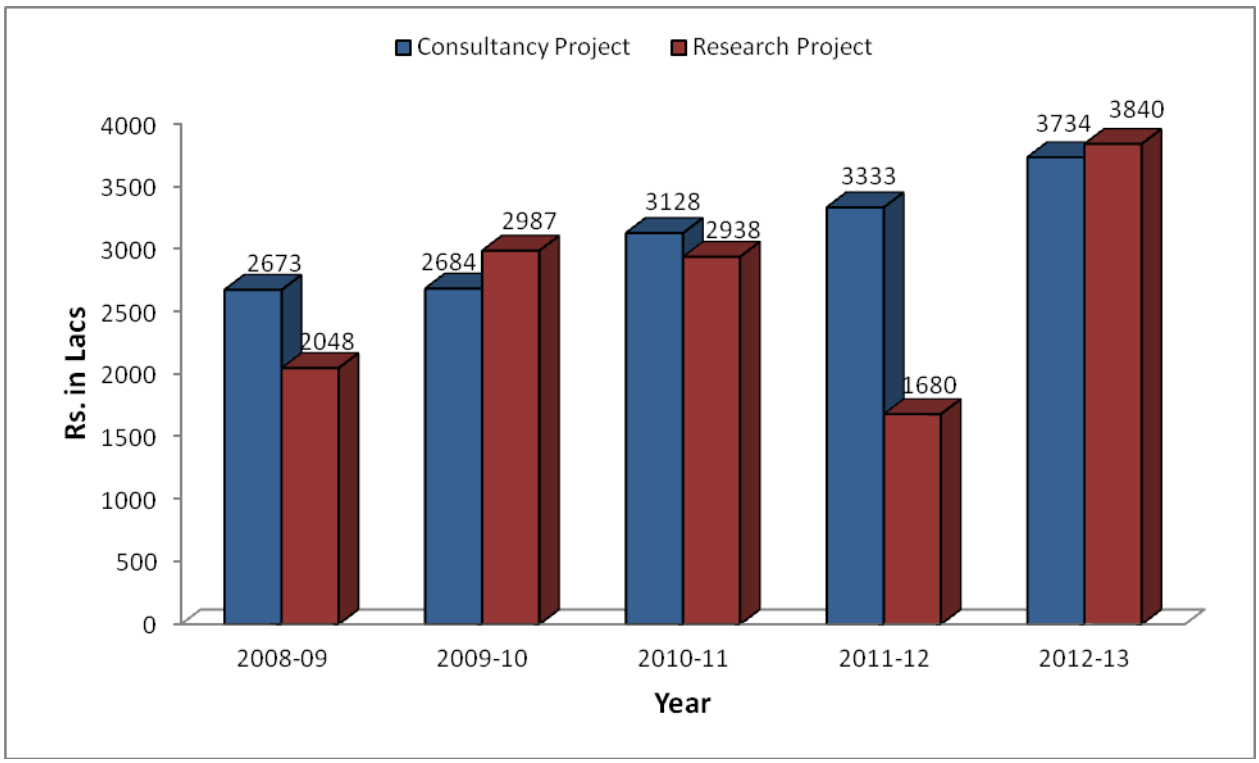


Figure 1. Total receipts from sponsored research & consultancy projects

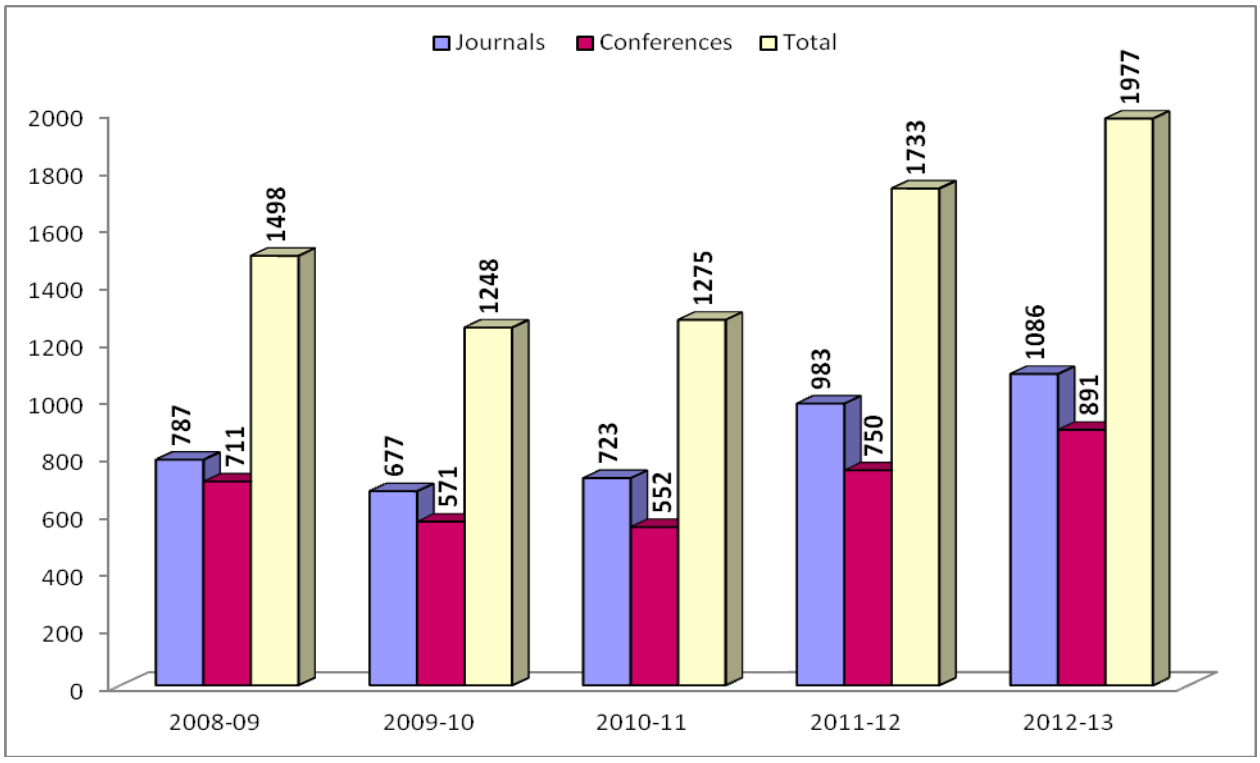


Figure 2. Research papers published

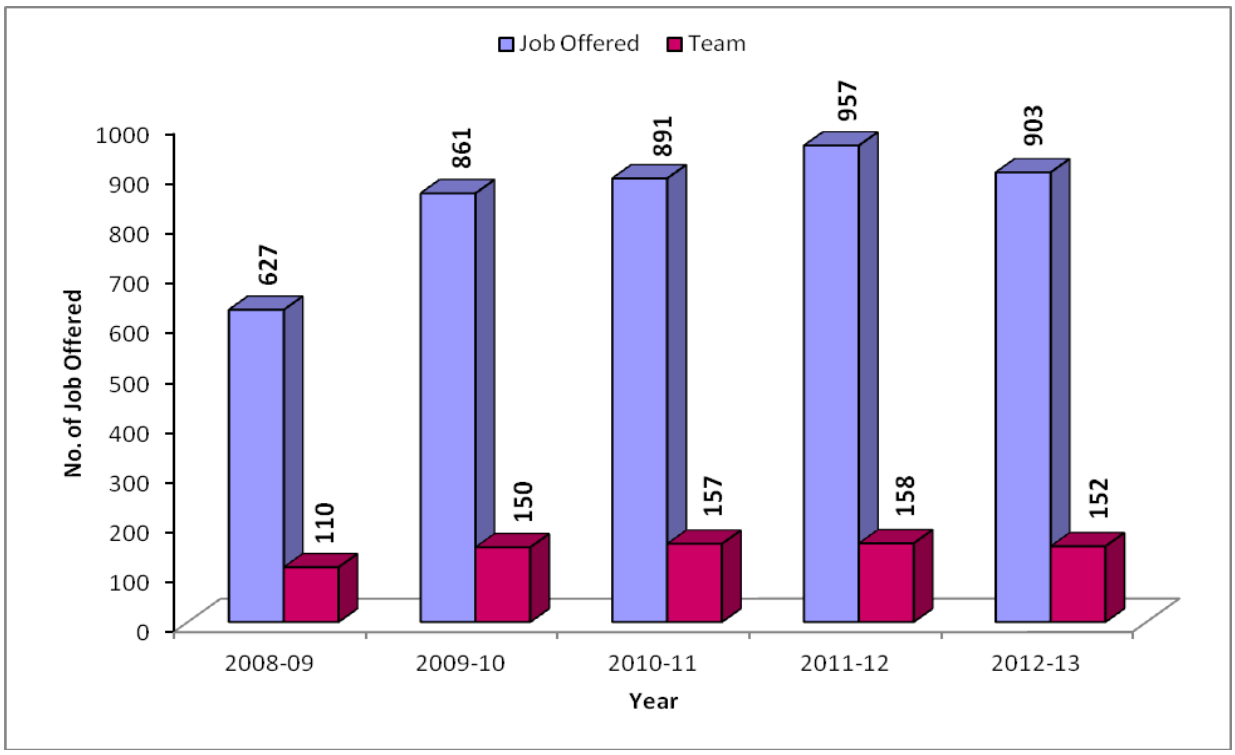
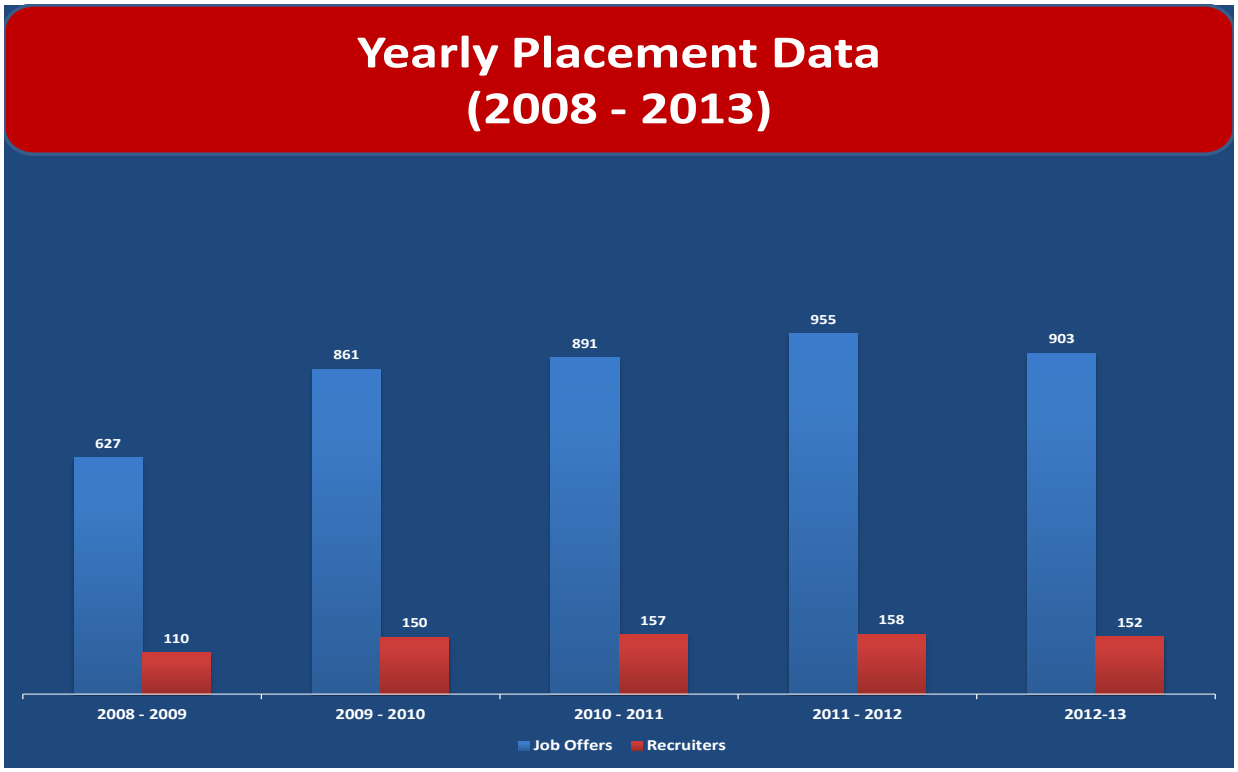
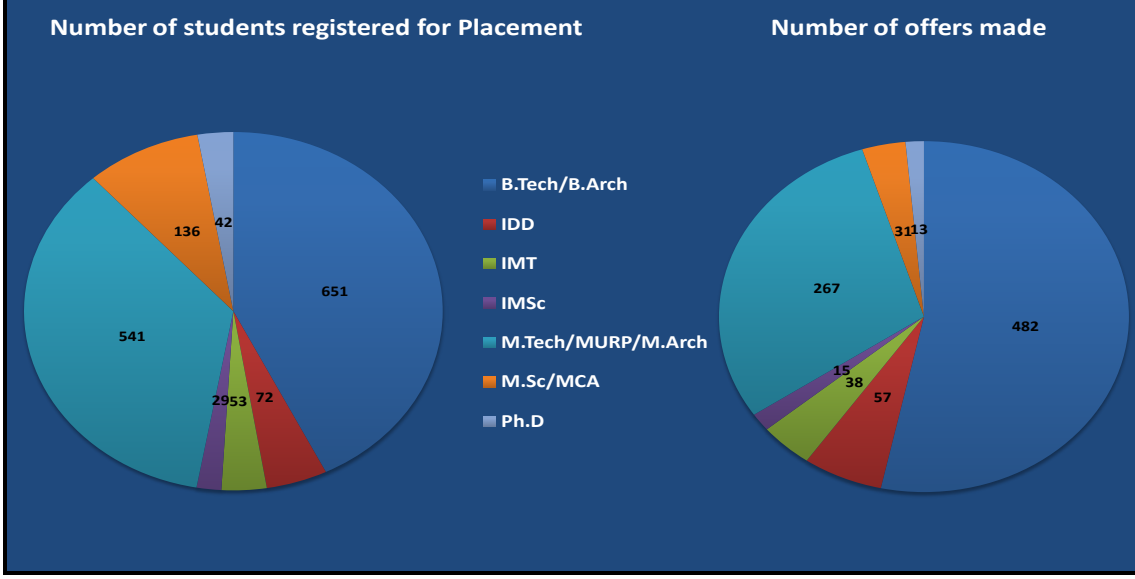


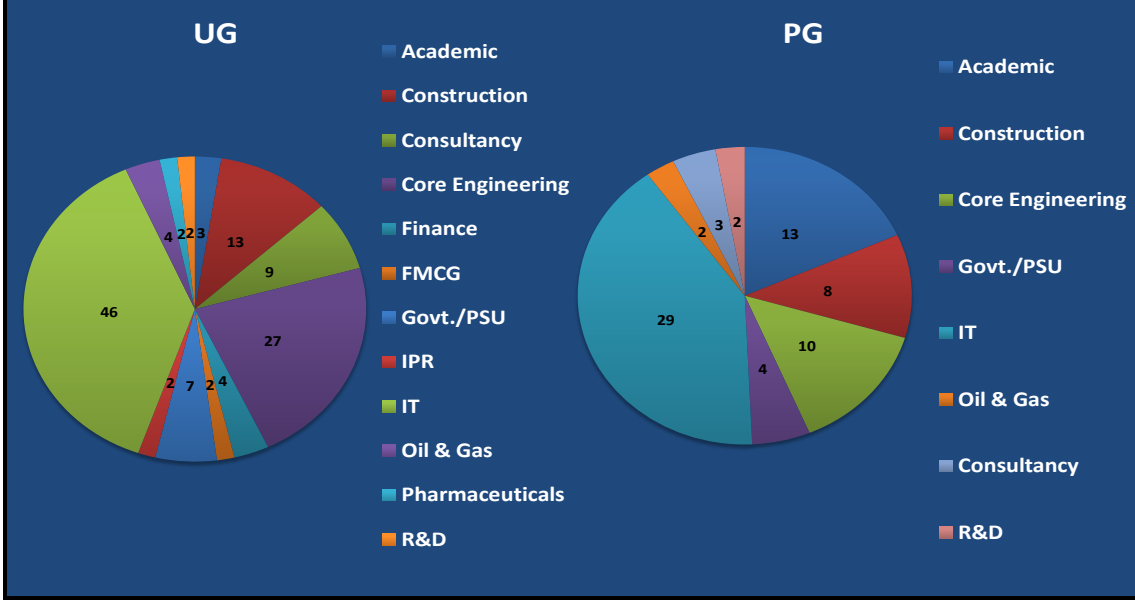
Figure 3. Effective placement of students and selection teams visited



Overall Placement Statistics (All Academic Programmes)



SECTOR-WISE BREAK-UP OF COMPANIES VISITED – UG & PG



1. *Organization and Administration*

1.1 IIT Council
1.2 Board of Governors
1.3 Finance Committee
1.4 Building & Works Committee
1.5 Senate
1.6 Administration
1.7 Academic Departments and Centres, Centres of Excellence, Service Centres & Other Units

Indian Institute of Technology Roorkee, created on 21st September 2001, is the successor Institute of the University of Roorkee, chartered in 1949 and the Roorkee College founded in 1847, which was later renamed as the Thomason College of Civil Engineering. The Roorkee College was the first engineering college to be established in the whole of the British Commonwealth, or the British Empire, as it was known at that time.

The Institute has a glorious past of more than 165 years and has been widely acclaimed for its excellence in education, research and training. A special emphasis is laid on total personality development along with the quality education and technical training of the students. The present chapter describes the organization and administrative structure of the Institute during the period between 1 April 2012 to 31 March 2013.

1.1 IIT COUNCIL

CHAIRMAN :

The Minister in Charge of Technical Education in the Central Government (Ex-officio)

Hon'ble Shri Kapil Sibal
Minister of Human Resource Development,
Government of India
New Delhi – 110 001
(upto 29.10.2012)

Hon'ble Dr. M.M. Pallam Raju
Minister of Human Resource Development,
Government of India
New Delhi – 110 001
(w.e.f. 30.10.2012)

MEMBERS :

☞ **Chairman of each institute (Ex-officio)**

Dr. Anil Kakodkar
Chairman, Board of Governors,
Indian Institute of Technology Bombay
Mumbai – 400 076

Dr. Vijay P. Bhatkar
Chairman, Board of Governors,
Indian Institute of Technology Delhi
Delhi – 110 016

Dr. R.P. Singh
Chairman, Board of Governors,
Indian Institute of Technology Guwahati
Guwahati – 781 039

Prof. M. Anandakrishnan
Chairman, Board of Governors,
Indian Institute of Technology Kanpur
Kanpur – 208 016

Shri Shiv Nadar
Chairman, Board of Governors,
Indian Institute of Technology Kharagpur
Kharagpur – 721 302

Prof. M.M. Sharma
Chairman, Board of Governors,
Indina Institute of Technology, Madras
Chennai -600 036

Shri Analjit Singh
Chairman, Board of Governors,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Shri S.K. Roongta
Chairman, Board of Governors,
Indian Institute of Technology Bhubaneswar,
Bhubaneswar (Odisha)

Dr. Baldev Raj
Chairman, Board of Governors,
Indian Institute of Technology Gandhinagar,
Gandhinagar (Gujrat)

Dr. B.V.R. Mohan Reddy
Chairman, Board of Governors,
Indian Institute of Technology Hyderabad,
Hyderabad (A.P.)

Prof. Goverdhan Mehta
Chairman, Board of Governors,
Indian Institute of Technology Jodhpur,
Jodhpur (Rajasthan)

Shri Ajay Piramal
Chairman, Board of Governors,
Indian Institute of Technology Indore,
Indore (M.P.)

Shri M. Natarajan
Chairman, Board of Governors,
Indian Institute of Technology Mandi,
Mandi (H.P.)

Shri Ajai Chowdhary
Chairman, Board of Governors,
Indian Institute of Technology Patna,
Patna (Bihar)

Prof. V.S. Ramamurthi
Chairman, Board of Governors,
Indian Institute of Technology Ropar,
Ropar (Punjab)

Dr. Lalji Singh
Chairman, Board of Governors,
Indian Institute of Technology BHU,
Varanasi

☞ **Director of each Institute (Ex-officio)**

Prof. Devang V. Khakhar
Director,
Indian Institute of Technology Bombay,
Mumbai – 400 076

Prof. R.K. Shevgaonkar
Director,
Indian Institute of Technology Delhi,
New Delhi – 110 016

Prof. Gautum Barua
Director,
Indian Institute of Technology Guwahati,
Guwahati – 781 039

Prof. Indranil Manna
Director,
Indian Institute of Technology Kanpur,
Kanpur – 208 016

Prof. S.K. Som
Director,
Indian Institute of Technology Kharagpur,
Kharagpur – 721 302

Prof. Bhaskar Ramamurthi
Director,
Indian Institute of Technology Madras,
Chennai – 600 036

Prof. Pradipta Banerji
Director,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Prof. Dhanjai Pandey
Director,
Indian Institute of Technology BHU,
Varanasi – 221 005

Prof. Prem Kumar Kalra
Director,
Indian Institute of Technology Jodhpur,
Jodhpur – 342 011

Prof. Sudhir K. Jain
Director,
Indian Institute of Technology Gandhinagar,
Gandhinagar

Dr. Anil K. Bhowmick
Director,
Indian Institute of Technology Patna,
Patna – 800 013

Dr. U.B. Desai
Director,
Indian Institute of Technology Hyderabad,
Hyderabad

Dr. M.K. Surappa
Director,
Indian Institute of Technology Ropar,
Ropar – 140 001

Prof. Madhusudan Chakraborty
Director,
Indian Institute of Technology Bhubaneswar,
Bhubaneswar – 751 013

Prof. Timothy Gonsalves
Director,
Indian Institute of Technology Mandi,
Mandi – 175 001

Prof. Pradeep Mathur
Director,
Indian Institute of Technology Indore,
Indore – 452 017

☞ **Chairman, University Grants Commission (Ex-officio)**

Prof. Ved Prakash
Chairman,
University Grants Commission,
Bahadurshah Zafar Marg,
New Delhi – 110 002

☞ **Director-General (DG), CSIR (Ex-officio)**

Prof. Samir K. Brahmachari
Director General (DG),
Council of Scientific & Industrial Research,
Anusandhan Bhawan, Rafi Marg
New Delhi – 110 001

☞ **Chairman, Indian Institute of Science, Bangalore (Ex-officio)**

Dr. K. Kasturirangan
Chairman,
Council of Indian Institute of Science Bangalore
National Institute of Advanced Studies,
Indian Institute of Science Campus,
Bangalore – 560 012

☞ **Director, Indian Institute of Science, Bangalore (Ex-officio)**

Prof. P. Balaram
Director,
Indian Institute of Science Bangalore,
Bangalore – 560 012

☞ **Three Nominees of the Central Government to represent:**

Ministry concerned with Technical Education

Shri Ashok Thakur
Secretary (HE),
Ministry of Human Resource Development,
Department of Higher Education,
New Delhi – 110 001

Ministry of Finance

Shri R.S. Gujral
Secretary (Expenditure),
Ministry of Finance, Department of Expenditure,
North Block,
New Delhi – 110 001

Any other Ministry

Shri J. Satyanarayana,
Secretary
Department of Information Technology
Ministry of Information Technology,
Electronic Niketan, C.G.O. Complex, Lodhi Road
New Delhi –110 003

☞ **Nominees of the All India Council for Technical Education (AICTE)**

Dr. S.S. Mantha
Chairman,
All India Council for Technical Education (AICTE)
7th Floor, Chanderlok Building, Janpath
New Delhi – 110 001

☞ **Nominees of the Visitor**

Prof. Ahsok Jhunjhunwala
Professor
Dept. of Electrical Engg. (Te Ne T) Group
IIT Madras
Chennai – 600 036

Dr. T. Ramaswami
Secretary
Dept. of Science & Technology
Ministry of Science & Technology
Technology Bhawan, New Mehrauli Road
New Delhi – 110 016

Prof. Ashok Mishra, Chairman – India
Intellectual Ventures India Counsulting Pvt. Ltd.
701 – Raheja Paramount, 138-Residency Road
Bangalore – 560 025

Prof. S.K. Joshi
250-National Physical Laboratory,
Dr. K.S. Krishnan Marg, South Patel Nagar, Pusa
New Delhi – 110 012

Prof. R.C. Budhani
Director, Director's Secretariat
National Physical Laboratory
Dr. K.S. Krishnan Marg, South Patel Nagar, Pusa
New Delhi – 110 012

☞ **Three Members of Parliament (two from Lok Sabha and one from Rajya Sabha)**

Lok Sabha

Shri Deepender Singh Hooda
Hon'ble Member of Parliament (Lok Sabha),
9, Pandit Marg
New Delhi – 110 001

Shri Janardhana Swamy
Hon'ble Member of Parliament (Lok Sabha),
137, South Avenue
New Delhi – 110 001

Rajya Sabha

Smt. Vasanthi Stanley
Member of Parliament (Rajya Sabha),
106, South Avenue
New Delhi – 110 001

☞ **Secretary to the Council)**

Smt. Amita Sharma
Additional Secretary (TE)
Ministry of Human Resource Development,
Department of Higher Education,
New Delhi – 110 001

1.2 BOARD OF GOVERNORS

CHAIRMAN :

Shri Analjit Singh
Chairman, Board of Governors
Indian Institute of Technology Roorkee,
Roorkee – 247 667

MEMBERS :

Prof. Pradipta Banerji
Director,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Financial commissioner & Principal Secretary
Government of Haryana,
Technical Education Department
New Haryana Civil Secretariat
Sector- 17, Chandigarh - 160017

Sri Amit Khare, IAS
Joint Secretary (ICC),
Ministry of Human Resource Development,
Government of India
Department of Secondary and Higher Education,
Technical Section I, New Delhi – 110 001

Prof. B.N. Jain
Vice Chancellor
Birla Institute of Technology & Science (BITS-Pilani)
Vidya Vihar Campus
Pilani- 333031 (Rajasthan)

Sri Pawan Munjal
Managing Director, & CEO
Hero MotoCorp Ltd.
34, Community Centre
Basant Lok, Vasant Vihar,
New Delhi - 110 057

Sri R.S.T. Sai
Chairman & Managing Director
Tehri Hydro Development Corporation Ltd.
Pragatipuram, By Pass Road,
Rishikesh- 249 201
Uttrakhand

Prof. Vinod Kumar,
Department of Electrical Engineering,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Prof. Ravi Bhushan
Department of Chemistry
Indian Institute of Technology, Roorkee,
Roorkee – 247 667

Permanent Invitee

Prof. S.P. Gupta
Deputy Director,
Indian Institute of Technology Roorkee,
Roorkee - 247 667

Dr. Sukhbir S. Sandhu
Secretary, Govt. of Uttarakhand
Sachivalaya Uttarakhand
Subhash Road
Dehradun – 248 001

Shri M. Ramachandran, IAS (Retd.)
House No. A-36, Ranjit Singh Block
Asiad Village
New Delhi – 110 049

Shri Arvind K. Singhal
3, Padmini Enclave, Hauz Khas
New Delhi – 110 016

Secretary
Lt. Col. (Retd.) A.K. Srivastava
Registrar, Indian Institute of Technology Roorkee,
Roorkee - 247 667

1.3 FINANCE COMMITTEE

CHAIRMAN :

Shri Analjit Singh
Chairman, Board of Governors
Indian Institute of Technology Roorkee,
Roorkee – 247 667

MEMBERS :

Prof. Pradipta Banerji
Director,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Sri Amit Khare, IAS
Joint Secretary (ICC),
Ministry of Human Resource Development,
Government of India
Department of Secondary and Higher Education,
Technical Section I, Shastri Bhawan
New Delhi – 110 001

Joint Secretary and Financial Advisor
Ministry of Human Resource Development,
Government of India,
Department of Secondary & Higher Education,
Technical Section I, Shastri Bhawan,
New Delhi – 110 001

Sri R.S.T. Sai
Chairman & Managing Director
Tehri Hydro Development Corporation Ltd.,
Pargtipuram Bypass Road,
Rishikesh- 249 201 (Uttrakhand)

Prof. Ravi Bhushan
Department of Chemistry,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Prof. P.K. Ghosh
Dean Finance & Planning,
Indian Institute of Technology Roorkee,
Roorkee - 247 667

Permanent Invitee

Prof. S.P. Gupta
Deputy Director
Indian Institute of Technology, Roorkee
Rooorkee – 247667

Secretary

Lt. Col. (Retd.) A.K. Srivastava
Registrar,
Indian Institute of Technology Roorkee,
Roorkee - 247 667

1.4 BUILDING & WORKS COMMITTEE

CHAIRMAN :

Prof. Pradipta Banerji
Director,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

MEMBERS :

Prof. S.P. Gupta
Deputy Director,
Indian Institute of Technology Roorkee,
Roorkee - 247 667

Dr. Mahendra Singh
Chairman, Estate & Works,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Er. H.K. Upreti
Chief Engineer, National Highway
Uttarakhand PWD,
Dehradun-248 001 (Uttarakhand)
Dy. General Manager,
Uttaranchal Power Corporation Ltd.,
Roorkee – 247 667

Prof. Pradeep Bhargava
Department of Civil Engineering,
Indian Institute of Technology Roorkee,
Roorkee – 247 667
(upto 31.12.2012)

Prof. S.C. Sharma
Department of Mechanical & Indl. Engg.,
Indian Institute of Technology Roorkee,
Roorkee – 247 667
(upto 31.12.2012)
Prof. S.P. Srivastava
Department of Electrical Engineering
Indian Institute of Technology Roorkee,
Roorkee – 247 667
(upto 31.12.2012)

Prof. Pradeep Kumar
Department of Civil Engineering
Indian Institute of Technology Roorkee,
Roorkee- 247 667
(w.e.f. 1.1.2013)

Prof. Ravi Kumar
Department of Mechanical & Inds. Engineering
Indian Institute of Technology Roorkee,
Roorkee- 247 667
(w.e.f. 1.1.2013)

Prof. Rajendra Prasad
Department of Electrical Engineering
Indian Institute of Technology Roorkee,
Roorkee- 247 667
(w.e.f. 1.1.2013)

Er. Salek Chand
Superintending Engineer,
Indian Institute of Technology Roorkee,
Roorkee – 247 667

Special Invitee

Prof. P.K. Ghosh
Dean, Finance & Planning,
Indian Institute of Technology Roorkee,
Roorkee- 247 667

Member Secretary

Lt. Col. (Retd.) A.K. Srivastava
Registrar,
Indian Institute of Technology Roorkee,
Roorkee - 247 667

1.5 SENATE

CHAIRMAN:

Prof. Pratipta Banerji
Director

MEMBERS :

Prof. S.P. Gupta
Dy. Director

All Professors of the Institute:

1. Architecture & Planning
Prof. R. Shankar
Prof. S.Y. Kulkarani
Prof. (Mrs) Pushplata

2. Biotechnology
Prof. (Mrs.) Ritu Barthwal
Prof. G.S. Randhawa
Prof. R.P. Singh
Prof. Ramasare Prasad

3. Chemical Engineering
Prof. I.M. Mishra
Prof. Surendra Kumar retired on 28.02.13
Prof. Bikash Mohanty
Prof. Shri Chand
Prof. I.D. Mall
Prof. Vijay Kumar Agarwal
Prof. B. Prasad

4. Chemistry
Prof. R.N. Goyal
Prof. Ravi Bhushan
Prof. Kamaluddin
Prof. V.K. Gupta
Prof. Anil Kumar
Prof. (Mrs) Mala Nath
Prof. A.K. Singh
Prof. S.M. Sondhi
Prof. U.P. Singh
Prof. M.R. Maurya

5. Civil Engineering
Prof. A.K. Jain
Prof. V.K. Gupta retired on 01.01.2013
Prof. S.S. Jain
Prof. M.N. Viladkar
Prof. Deepak Kashyap
Prof. (Mrs) Renu Bhargava
Prof. Pradeep Kumar
Prof. U.C.Kothyari
Prof. P.K. Garg
Prof. C.S.P. Ojha
Prof. Pradeep Bhargava
Prof. Satish Chandra
Prof. S.K. Ghosh
Prof. Mahender Singh
Prof. Manoj K. Arora
Prof. Manoranjan Parida
Prof. Praveen Kumar

Prof. N.K. Samadhiya
Prof. A.K. Ahuja
Prof. K.S. Hari Prasad
Prof. Akhil Upadhyay
Prof. Z. Ahmad

6. Earthquake Engineering
Prof. D.K. Paul retired on 31.05.2012
Prof. G.I. Prajapati retired on 31.12.2012
Prof. Ashwani Kumar
Prof. H.R. Wason retired on 31.10.2012
Prof. M.L. Sharma
Prof. Ashok Kumar
Prof. (Mrs.) Amita Sinvhal
Prof. Yogendra Singh
Prof. Kirat Pal

7. Earth Sciences
Prof. H. Sinvhal retired on 31.12.2012
Prof. R.P.Gupta
Prof. D.C.Srivastava
Prof. P.K.Gupta
Prof. D.K. Mukhopadhyay
Prof. Rathinam Anbalagan
Prof. Rambhatla Gourisankar Sastry
Prof. A.K. Saraf
Prof. Mohd. Israil
Prof. Sunil Bajpai
Prof. G.J. Chakrapani
Prof. (Mrs). Sagarika Mukhopadhyay
Prof. Sandeep Singh
Prof. A.K. Sen

8. Electrical Engineering
Prof. H.O. Gupta VRS w.e.f. 11.12.2012
Prof. S.P. Gupta
Prof. Vinod Kumar
Prof. Pramod Agarwal
Prof. Girish Kumar Singh
Prof. S. Mukherjee
Prof. Sajjan Pal Singh
Prof. R.P. Maheshwari
Prof. S.P. Srivastava
Prof. N.P. Padhy
Prof. Biswarup Das
Prof. R.S. Anand
Prof. Rajendra Prasad

9. Electronics & Computer Engineering
Prof. A.K. Sarje
Prof. A.K. Saxena
Prof. S.N. Sinha retired on 31.03.2013
Prof. Padam Kumar
Prof. Arun Kumar
Prof. Manoj Mishra
Prof. M.J. Nigam
Prof. M.V. Kartikeyan

10. Hydrology
Prof. D.K. Srivastava retired on 30.4.2012
Prof. N.K. Goel
Prof. Himanshu Joshi
Prof. M. Perumal

11. Humanities & Social Science
Prof. Pashupati Jha
Prof. D.K.Nauriyal
Prof. (Mrs.) Renu Rastogi
Prof. Sukh Pal Singh
Prof. (Mrs.) Rashmi Gaur

12. Management Studies
Prof. V.K. Nangia
Prof. J.P. Singh

13. Mathematics
Prof. G.S. Srivastava retired on 31.05.2012
Prof. (Ms.) R.R. Bhargava
Prof. S.P. Sharma
Prof. T.R. Gulati
Prof. (Mrs) Rama Bhargava
Prof. R.C. Mittal
Prof. P.N. Agarwal
Prof. V.K.Katiyar
Prof. Roshan Lal
Prof. (Mrs.) Sunita Gakkhar
Prof. M.L. Mittal
Prof. (Mrs.) Kusum Deep
Prof. (Mrs.)Tanuja Srivastava
Prof. N. Sukavanam
Prof. S.P. Yadav

14. Mechanical & Industrial Engineering
Prof. Pradeep Kumar
Prof. Satish C. Sharma
Prof. Dinesh Kumar
Prof. P.K. Jain
Prof. Akhilesh Gupta
Prof. B.K. Gandhi
Prof. Bhanu Kumar Mishra
Prof. Ravi Kumar
Prof. Pradeep K. Sahoo
Prof. R.P. Ghakkar

15. Metallurgical & Material Engineering
Prof. S. Ray retired on 30.04.2013
Prof. P.K. Ghosh
Prof. (Mrs) Vijaya Agarwala
Prof. S.K. Nath
Prof. R.C. Agarwala retired on 31.07.2012
Prof. Surendra Singh
Prof. Anjan Sil

16. Paper Technology, Saharanpur Campus
Prof. A.K. Ray retired on 30.11.2012
Prof. A.K. Singh
Prof. J.S. Upadhyay passed away on 25.04.12
Prof. Satish Kumar
Prof. S.P. Singh
Prof. Y.S. Negi
Prof. Dharm Dutt

17. Physics
Prof. Jagdish Rai retired on 31.01.2013
Prof. B.D. Indu
Prof. A.K. Jain
Prof. Ravindra Nath
Prof. Rajesh Srivastava
Prof. G.S.Singh
Prof. Vir Singh
Prof. (Mrs.)Tashi Nautiyal

18. Water Resources Development & Management
Prof. U.C. Chaube
Prof. S.K. Tripathi
Prof. Nayan Sharma
Prof. M.L. Kansal
Prof. Deepak Khare

19. IIC (Institute Instrumentation Centre)
Prof. Ashwani K. Chaudhry

Three persons other than Employees of the Institute, Nominated by the Chairman, BOG

upto 31.12.2012

1. Dr. Vijay K. Jain
Professor
Department of Mechanical Engineering
Indian Institute of Technology
Kanpur

2. Prof. Karmeshu
Professor & Dean,
School of Computers & Systems Sciences,
Jawaharlal Nehru University,
New Delhi – 110 067

3. Prof. Anu Singh Lather
Dean,
University School of Management Studies (USMS)
GGSIP University
Kashmiri Gate
Delhi – 110 403

w.e.f. 01.01.2013

1. Prof. Bhim Singh
Department of Electrical Engineering
Indian Institute of Technology Delhi
Hauz Khas, New Delhi

2. Prof. Bodh Raj Mehta
Department of Physics
Indian Institute of Technology Delhi
Hauz Khas, New Delhi

3. Prof. Girishwar Misra
Department of Psychology and
Dean, Research (Humanities and Social-Sciences),
Arts Faculty Extension Building
University of Delhi
Delhi – 110 007

Heads of the Departments/Academic Centres/ Schools (Other than Professors)

Alternate Hydro Energy Centre
Dr. R.P. Saini

Department of Management Studies
Dr. S.N. Rangnekar,

Disaster Mitigation and Management Centre
Dr. Ajai Gairola,

Associate Dean (Other than professors)
Dr. C. B. Majumder

The Librarian of the Institute:
Shri Yogendra Singh

One Chief Warden of the Institute:
Dr. Dharam Dutt
Chief Warden, Malviya Bhawan
Saharanpur Campus

Six members of the Staff for their special knowledge, appointed by the Chairman, Board of Governors.

(i) Dr. (Mrs.) Bina Gupta, Associate Professor, Department of Chemistry
(ii) Dr. D.K. Dwivedi, Associate Professor, Department of Mechanical & Industrial Engineering
(iii) Dr. Vikas Pruthi, Associate Professor, Department of Biotechnology

Secretary

Lt.Col. (Retd.) A.K. Srivastava
Registrar
Indian Institute of Technology Roorkee
Roorkee – 247 667

1.6 ADMINISTRATION

CHAIRMAN, BOARD OF GOVERNORS	Shri Analjit Singh
DIRECTOR	Prof. Pradipta Banerji
DY. DIRECTOR	Prof. D.K. Paul (upto 31.5.2012)
	Prof. H. Sinvhal (w.e.f. 20.7.2012 to 31.12.2012)
	Prof. S.P. Gupta (w.e.f. 1.1.2013)
DEANS	
• Administration	Prof. G.S. Srivastava (upto 31.5.2012)
	Prof. U.P. Singh (w.e.f. 12.9.2012)
• Alumni Affairs	Prof. S.P. Gupta (upto 31.12.2012)
	Prof. S.C. Sharma (w.e.f. 1.1.2013)
• Faculty Affairs	Prof. Vinod Kumar
• Finance & Planning	Prof. Pradeep Kumar (upto 31.12.2012)
	Prof. P.K. Ghosh (w.e.f. 1.1.2013)
• Academic Research	Prof. Surendra Kumar (upto 31.12.2012)
	Prof. Ashwani Kumar (w.e.f. 1.1.2013)
• Saharanpur Campus	Prof. I.M. Mishra (upto 31.5.2012)
• Greater Noida Extension Centre	Prof. S.P. Gupta (upto 18.4.2012)
• Sponsored Research and Industrial Consultancy	Prof. Pradeep Bhargava
• Students Welfare	Prof. S.N. Sinha (upto 31.12.2012)
	Prof. Ravi Bhushan (w.e.f. 1.1.2013)
• Academic Studies	Prof. Ashwani Kumar (upto 31.12.2012)
	Prof. Manoj Arora (w.e.f. 1.1.2013)
ASSOCIATE DEANS	
• Academic	Prof. G.K. Singh (upto 31.12.2012)
	Prof. A.K. Sharma (w.e.f. 1.1.2013)
	Prof. R.K. Peddinti (w.e.f. 1.1.2013)
• Discipline	Prof. S.P. Sharma
• Faculty Affairs	Prof. Praveen Kumar (upto 31.12.2012)
	Prof. Yogendra Singh (w.e.f. 1.1.2013)
• Foreign Students	Prof. M.L. Kansal

• Mess	Prof. S.P. Srivastava
• Sponsored Research and Industrial Consultancy	Dr. C.B. Majumder
REGISTRAR	Lt. Col. (Retd.) A.K. Srivastava
DY. REGISTRAR	Shri Prasant Garg Dr. Shyam Narayan Shri G.K. Rastogi
ASSISTANT REGISTRAR	Dr. Ajay Kumar Sharma Shri Raman Lal Shri S.K. Saini Shri Suman Kumar Shri Rajvir Singh Khatri Shri V.K. Singh (on contract)
PROFESSOR-IN-CHARGE	
• Transportation	Prof. R.P. Gakkhar
• Training & Placement	Prof. Manoj Arora *(upto 31.12.2012)* Prof. N.P. Padhy *(w.e.f. 01.01.2013)*
• Guest House	Dr. Shishir Sinha
• Communications	Prof. M.J. Nigam
• Security	Prof. Sandeep Singh
• GNEC	Prof. P.K. Jain *(upto 31.12.2012)*
• Saharanpur Campus	Prof. Y.S. Negi *(w.e.f. 01.01.2013)*
CO-ORDINATORS	
• Uttarakhand Development Cell	Dr. C.B. Majumder
• Education Technology Cell	Prof. Bikash Mohanty
• Intellectual Property Rights Cell	Prof. Himanshu Joshi
• Quality Improvement Programme	Prof. Rama Bhargava
• STEP/TIEDA	Prof. Ravi Kumar
IN-CHARGE (Hindi Cell)	Dr. Nagendra Kumar
CHIEF VIGILANCE OFFICER	Prof. A.K. Singh
• Liaison Officer (SC/ST)	Prof. B.D. Indu *(w.e.f. 28.08.2012)*
• Liaison Officer (OBC)	Prof. Shri Chand *(w.e.f. 18.12.2012)*
HOSPITAL	
• Chairman, Advisory Committee	Prof. D.K. Nauriyal *(upto 06.09.2012)* Prof. N.K. Goel *(w.e.f. 07.09.2012)*

• Chief Medical Officer	Dr. (Smt.) Vandana Suhas Khobragade
• Institute Medical Officer	Dr. (Mrs.) Chetna Tiwari *(on contract)* Dr. Manoj Kumar Jain *(on contract)*
ESTAT E & WORKS	
• Chairman, Estate and Works	Prof. Mahendra Singh
• Vice Chairman, Estate and Works (Civil)	Prof. Yogendra Singh *(upto 31.12.2012)* Dr. Umesh Kumar Sharma *(w.e.f. 11.01.2013)*
• Vice Chairman, Estate and Works (Electrical)	Dr. Vinay Pant
• Superintendent Engineer	Shri Salek Chand
• Institute Architect	Dr. Gaurav Raheja *(upto 04.12.2012)* Dr. (Mrs.) Mahua Mukherjee *(w.e.f. 05.12.2012)*
• Assistant Executive Engineer (Civil)	Shri Nepal Singh Shri K.P. Upreti *(on deputation)*

1.7 ACADEMIC DEPARTMENTS & CENTRES, CENTRES OF EXCELLENCE, SERVICE CENTRES & OTHER UNITS

Academic Departments and Centres

- Architecture & Planning
- Biotechnology
- Chemical Engineering
- Chemistry
- Civil Engineering
- Earthquake Engineering
- Earth Sciences
- Electrical Engineering
- Electronics & Computer Engineering
- Humanities & Social Sciences
- Hydrology
- Management Studies
- Mathematics
- Mechanical & Industrial Engineering
- Metallurgical & Materials Engineering
- Paper Technology
- Polymer and Process Engineering
- Applied Sciences and Engineering
- Physics
- Water Resources Development & Management
- Alternate Hydro Energy Centre

Centres of Excellence

- Centre for Transportation System
- Centre for Nano Technology
- Centre for Disaster Mitigation and Management

Service Centres

- Continuing Education Centre
- Institute Computer Centre
- Institute Instrumentation Centre
- Information Superhighway Centre
- Quality Improvement Programme Centre

Other Units

- Mahatma Gandhi Central Library
- Education Technology Cell
- Intellectual Property Rights Cell
- Training & Placement Cell

2. Academic & Non-academic Staff

2.1 Academic Staff
2.2 New Appointments and Selections to Higher Posts
2.3 Appointments under SC/ST and OBC Categories
2.4 Faculty / Officers / Staff Superannuated
2.5 Non-Academic Officers/Staff
2.6 Recipients of Incentive (Non-Teaching Staff) on Foundation Day
2.7 Recipients of Outstanding Teachers Award on Teacher's Day

2.1 ACADEMIC STAFF

(As on 31st March 2013)

Sl. No.	Departments / Centres / Units	Prof.	Assoc. Prof.	Asstt Prof.	Prof. (on contract)	Asstt. Prof. (on contract)	Emeritus Fellow	Others	Total
1.	Architecture & Planning	03	04	07	00	01	00	00	15
2.	Biotechnology	04	06	04	00	00	00	00	14
3.	Chemical Engineering	06	05	07	00	02	00	00	20
4.	Chemistry	10	08	07	00	00	01	00	26
5.	Civil Engineering	20	16	07	00	02	02	01	48
6.	Earthquake Engineering	06	04	04	00	00	01	02	17
7.	Earth Sciences	13	03	04	00	00	02	00	22
8.	Electrical Engineering	12	06	10	00	01	00	00	29
9.	Electronics & Computer Engineering	09	06	10	00	03	02	00	30
10.	Humanities & Social Sciences	05	03	04	00	00	00	00	12
11.	Hydrology	03	02	02	00	00	02	00	09
12.	Management Studies	02	03	07	00	01	00	00	13
13.	Mathematics	14	06	08	00	00	00	00	28
14.	Mechanical & Industrial Engineering	10	13	11	00	03	01	01	39
15.	Metallurgical & Materials Engg.	04	04	11	00	00	02	00	21
16.	Nanotechnology	00	00	01	00	00	00	00	01
17.	Saharanpur Campus	05	09	10	00	01	00	00	25
18.	Physics	07	06	11	00	01	01	00	26
19.	WRD & M	05	01	01	01	01	01	01	11
20.	Alternate Hydro Energy Centre	00	02	01	00	00	00	04	07
21.	ICC	00	00	01	00	00	00	05	06
22.	IIC	01	01	00	00	00	00	02	04
23.	ISC	00	00	00	00	00	00	00	00
24.	QIP	00	00	00	00	00	00	00	00
25.	Central Library	00	00	00	00	00	00	05	05
	Total	**139**	**108**	**128**	**01**	**16**	**15**	**21**	**428**

2.2 (A). NEW APPOINTMENTS AND SELECTIONS TO HIGHER POSTS
(April 1, 2012 to 31st March 2013)

Sn.	Name of the Faculty	Designation	Date of Appointment
Arch. & Planning			
1.	Dr. Mahua Mukherjee	Assoc. Prof.	23.10.2012
2.	Dr. P.S. Chani	Assoc. Prof.	23.10.2012
3.	Dr. Uttam Kumar Roy	Assistant Professor	02.11.2012
4.	Ms. Smriti Saraswat	Assistant Professor	(on contract)
5.	Dr. Harshit Sosan Lakra	Assistant Professor	29.11.2012
6.	Dr.(Ms.) Avlokita Agarwal	Assistant Professor	30.11.2012
Biotechnology			
1.	Dr. Ramasare Prasad	Professor	23.10.2012
2.	Dr. Ashwani Kumar Sharma	Assoc. Prof.	23.10.2012
3.	Dr. Pravindera Kumar	Assoc. Prof.	23.10.2012
4.	Dr. Bijan Chaudhary	Assoc. Prof.	23.10.2012
5.	Dr. Sanjoy Ghosh	Assoc. Prof.	23.10.2012
Chemical Engg.			
1.	Dr. Vimal Kumar	Assistant Professor	01.06.2012
2.	Dr. Veeramani C.	Assistant Professor (on contract)	04.06.2012
3.	Dr. Shabina Khanam	Assistant Professor	09.07.2012
4.	Dr. B.Prasad	Professor	23.10.2012
5.	Dr. R. Bhargava	Assoc. Prof.	23.10.2012
Chemistry			
1.	Dr. Hem Chandra Kandpal	Assistant Professor	15.10.2012
2.	Dr. K.R. Justin Thomas	Assoc. Prof.	23.10.2012
3.	Dr. Jeevanandam P.	Assoc. Prof.	23.10.2012
4.	Dr. Kaushik Ghosh	Assoc. Prof.	23.10.2012
5.	Dr. Rajkumar Dutta	Assoc. Prof.	23.10.2012
6.	Dr. P.P. Thankachan	Assoc. Prof.	23.10.2012
7.	Dr. Rama Krishna Peddinti	Assoc. Prof.	23.10.2012
8.	Dr. Ramachandran C.N.	Assistant Professor	29.11.2012
Civil Engg.			
1.	Dr. Munish Kumar Chandel	Assistant Professor	01.06.2012
2.	Dr.(Mrs.) Sonalisa Ray	Assistant Professor (on contract)	11.06.2012
3.	Dr. Indrajit Ghosh	Assistant Professor (on contract)	09.07.2012
4.	Dr. Rajib Chowdhury	Assistant Professor	11.07.2012
5.	Dr. Sudipta Sarkar	Assistant Professor	16.07.2012
6.	Dr. K.S. Hari Prasad	Professor	23.10.2012

Sn.	Name of the Faculty	Designation	Date of Appointment
Civil Engg.			
7.	Dr. Akhil Upadhyay	Professor	23.10.2012
8.	Dr. Z. Ahmad	Professor	23.10.2012
9.	Dr. Satyendra Mittal	Assoc. Prof.	23.10.2012
10	Dr. Jayanta Kumar Ghosh	Assoc. Prof.	23.10.2012
11	Dr. Pramod Kumar	Assoc. Prof.	23.10.2012
12	Dr. Bhupinder Singh	Assoc. Prof.	23.10.2012
13	Dr. Rajat Rastogi	Assoc. Prof.	23.10.2012
14	Dr.Anupam Chakrabarti	Assoc. Prof.	23.10.2012
15	Dr. V.A. Sawant	Assoc. Prof.	23.10.2012
16	Dr. R.D. Garg	Assoc. Prof.	23.10.2012
17	Dr. U.K.Sharma	Assoc. Prof.	23.10.2012
18	Ms. Priti Meheshwari	Assoc. Prof.	23.10.2012
Earthquake Engg.			
1.	Dr. R.S. Jakka	Assistant Professor	01.06.2012
2.	Dr. Yogendra Singh	Professor	23.10.2012
3.	Dr. Kirat Pal	Professor	23.10.2012
Earth Sciences			
1.	Dr. Amit Kumar Sen	Professor	23.10.2012
2.	Dr. Kamal	Assoc. Prof.	23.10.2012
3.	Dr. Pitambar Pati	Assistant Professor	31.12.2012
4.	Dr. Biplab Bhattacharya	Assistant Professor	23.01.2013
5.	Dr. (Ms.) Lopamudra Saha	Assistant Professor	23.01.2013
Electrical Engg.			
1.	Dr. G.B. Kumbhar	Assistant Professor	01.06.2012
2.	Dr.(Mrs.) Premalata Jena	Assistant Professor (on contract)	23.07.2012
3.	Dr. Barjeev Tyagi	Assoc. Prof.	23.10.2012
4.	Dr. M.K.Pathak	Assoc. Prof.	23.10.2012
5.	Dr. C.P. Gupta	Assoc. Prof.	23.10.2012
E&CE			
1.	Dr. Vinod Pankajashan	Assistant Professor	06.09.2012
2.	Dr. Dharmendra Singh	Professor	23.10.2012
3.	Dr. Sudeb Das Gupta	Assoc. Prof.	23.10.2012
4.	Dr. Nagendra Prasad Pathak	Assoc. Prof.	23.10.2012
5.	Dr. Rajdeep Niyogi	Assoc. Prof.	23.10.2012
6.	Dr. Durga Toshniwal	Assoc. Prof.	23.10.2012
7.	Dr. Rajib K. Panigrahi	Assistant Professor (on contract)	07.11.2012

Sn.	Name of the Faculty	Designation	Date of Appointment
E&CE			
8.	Dr. Arnab Datta	Assistant Professor (on contract)	17.12.2012
9.	Dr. Patel Dhaval Kumar Chaturbhai	Assistant Professor (on contract)	18.03.2013
Hum. & Social Sciences			
1.	Dr. (Ms.) Pooja Garg	Assistant Professor	06.09.2012
2.	Dr. Binod Mishra	Assoc. Prof.	23.10.2012
3.	Dr. Smita Jha	Assoc. Prof.	23.10.2012
4.	Dr. Indiwar Misra	Assistant Professor	21.11.2012
Hydrology			
1.	Dr. Brijesh Kumar Yadav	Assistant Professor	12.07.2012
2.	Dr. Sumit Sen	Assistant Professor (on contract)	12.07.2012
3.	Dr. Manoj Kumar Jain	Assoc. Prof.	23.10.2012
Management Studies			
1.	Dr. Jogendra Kumar Nayak	Assistant Professor	13.08.2012
2.	Dr. M.K. Rao	Assistant Professor	23.08.2012
3.	Dr. Rajib Lochan Dhar	Assistant Professor	25.08.2012
4.	Dr. Ramesh A.	Assistant Professor (on contract)	15.10.2012
Mathematics			
1.	Dr. (Mrs.) Kusum Deep	Professor	23.10.2012
2.	Dr. (Mrs.) Tanuja Srivastava	Professor	23.10.2012
3.	Dr. N. Sukavanam	Professor	23.10.2012
4.	Dr. Shiv Prasad Yadav	Professor	23.10.2012
5.	Dr.R. Balasubramanian	Assoc. Prof.	23.10.2012
6.	Dr.Premananda Bera	Assoc. Prof.	23.10.2012
7.	Dr.A.Swaminathan	Assoc. Prof.	23.10.2012
8.	Dr.Sugata Gangopadhyay	Assoc. Prof.	23.10.2012
9.	Dr.Sandip Banerjee	Assoc. Prof.	23.10.2012
10.	Dr.Madhu Jain	Assoc. Prof.	23.10.2012
11.	Dr. Sanjeev Kumar	Assistant Professor	23.10.2012
12.	Dr. Amiya Kumar Nayak	Assistant Professor	20.12.2012
13.	Dr. Shiv Kumar Gupta	Assistant Professor	
Mech. & Ind. Engg.			
1.	Dr. Kaushik Pal	Assistant Professor (on contract)	18.09.2012
2.	Dr. Sudhakar Subudhi	Assistant Professor	15.10.2012
3.	Dr. Pradeep Kumar Sahoo	Professor	23.10.2012
4.	Dr. Rakesh Prakash Gakkhar	Professor	23.10.2012

Sn.	Name of the Faculty	Designation	Date of Appointment
Mech. & Ind. Engg.			
5.	Dr. Apurabba Kumar Sharma	Assoc. Prof.	23.10.2012
6.	Dr. Manish Mishra	Assoc. Prof.	23.10.2012
7.	Dr. Krishnan Murugesan	Assoc. Prof.	23.10.2012
8.	Dr. Inderdeep Singh	Assoc. Prof.	23.10.2012
9.	Dr. P.M. Pathak	Assoc. Prof.	23.10.2012
10.	Dr. Krishna Mohan Singh	Assoc. Prof.	23.10.2012
11.	Dr. Suraj Prakash Harsha	Assoc. Prof.	23.10.2012
12.	Dr. Huzur Saran Vuppulury	Assoc. Prof.	23.10.2012
13.	Dr. Indra Vir Singh	Assoc. Prof.	23.10.2012
14.	Dr. Dhish Kumar Saxena	Assistant Professor	09.11.2012
15.	Dr. Joglekar M. Madhav	Assistant Professor (on contract)	20.11.2012
16.	Dr. Arup Kumar Das	Assistant Professor (on contract)	03.12.2012
17.	Dr. Anil Kumar	Assistant Professor (on contract)	11.12.2012
18.	Dr. Mulik Rahul Sampatrao	Assistant Professor	13.12.2012
Mett. & Matl.Engg.			
1.	Dr. B.V. Manoj Kumar	Assistant Professor	06.09.2012
2.	Dr. Sadhan Ghosh	Assistant Professor	01.10.2012
3.	Dr. G.P.Chaudhari	Assoc. Prof.	23.10.2012
4.	Dr. Suhrit Mula	Assistant Professor	10.12.2012
5.	Dr. Indranil Lahiri	Assistant Professor	20.12.2012
6.	Dr. (Mrs.) Debrupa Lahiri	Assistant Professor	20.12.2012
Saharanpur Campus			
1.	Dr. Surendra Pal Singh	Professor	23.10.2012
2.	Dr. Yuvraj Singh Negi	Professor	23.10.2012
3.	Dr. Dhurm Dutt	Professor	23.10.2012
4.	Dr. Sujoy Chattopadhyay	Assoc. Prof.	23.10.2012
5.	Dr. Uttam Kumar Ghosh	Assoc. Prof.	23.10.2012
6.	Dr. Vivek Kumar	Assoc. Prof.	23.10.2012
7.	Dr. (Ms.) Chhaya Sharma	Assoc. Prof.	23.10.2012
8.	Dr. Ajay	Assoc. Prof.	23.10.2012
9.	Dr.Mille Pant	Assoc. Prof.	23.10.2012
10.	Dr. Jaydev	Assistant Professor	23.10.2012
11.	Dr. R.M. Charandas	Assistant Professor	23.10.2012
12.	Dr. Gaurav Manik	Assistant Professor	23.01.2013
Physics			
1.	Dr. Alok Mishra	Assoc. Prof.	23.10.2012
2.	Dr. Vipul Rastogi	Assoc. Prof.	23.10.2012

Sn.	Name of the Faculty	Designation	Date of Appointment
Physics			
3.	Dr. B.K. Patra	Assoc. Prof.	23.10.2012
4.	Dr. Anil Kumar Gaurishetty	Assistant Professor	23.10.2012
5.	Dr. (Ms.) Lalita Sharma	Assistant Professor	23.10.2012
6.	Dr. P.C. Srivastava	Assistant Professor	07.11.2012
7.	Dr. Ajay Yashwant Deo	Assistant Professor	26.11.2012
8.	Dr. Moumita Maiti	Assistant Professor	10.12.2012
9.	Dr. H.S. Nataraj	Assistant Professor	24.12.2012

2.2 (B). NEW COMPASSIONATE APPOINTMENTS AND SELECTIONS (NON-ACADEMIC STAFF) (April 1, 2012 to 31st March 2013)

Sl. No.	Name of staff	Designation	Nature of Appointment	Date of Joining	Category
1.	Sri Akshat Gaur	Multi Skilled Office work	Compassionate	26-09-2012	UR
2.	Smt. Manju Bhandari	Multi-skill Task	Compassionate	28-09-2012	UR
3.	Sri Hanish Gaur	Multi-skill Task	Compassionate	28-12-2012	UR
4.	Ms. Priyamvada Sharma	Multi Skilled Office work	Compassionate	28-12-2012	UR
5.	Sri Deepak Kumar	Multi-skill Task	Compassionate	31-12-2012	UR
6.	Sri Jitendra Bhandari	Multi-skill Task	Compassionate	31-12-2012	UR
7.	Sri Bhopal Singh Rawat	Multi-skill Task	Compassionate	31-12-2012	UR
8.	Sri Sanjay Singh Rawat	Multi Skilled Office work	Compassionate	31-12-2012	UR

2.3 COMPASSIONATE APPOINTMENT UNDER SC/ST AND OBC CATEGORIES (April 1, 2012 to March 31, 2013)

Sl. No.	Name	Post	Nature of Appointment	Date of Appointment	Category
1.	Sri Bhupendra Singh	Multi-skill Task	Compassionate	25-09-2012	OBC
2.	Sri Mehtab Alam Shah	Multi-skill Task	Compassionate	25-09-2012	OBC
3.	Sri Sushil Kumar	Multi-skill Task	Compassionate	26-09-2012	SC
4.	Sri Vinay Kumar	Multi Skilled Office work	Compassionate	26-09-2012	SC
5.	Sri Surjit Kumar	Multi-skill Task	Compassionate	27-09-2012	SC
6.	Sri Vijay Pal	Multi-skill Task	Compassionate	31-12-2012	OBC
7.	Sri Mohit Kumar	Multi-skill Task	Compassionate	31-12-2012	SC
8.	Sri Kuldeep	Multi-skill Task	Compassionate	31-12-2012	SC
9.	Sri Kishor Kumar	Multi Skilled Office work	Compassionate	31-12-2012	OBC
10.	Sri Sanyog Kumar	Multi Skilled Office work	Compassionate	31-12-2012	SC
11.	Sri Krishna Gopal	Multi Skilled Lab work	Compassionate	10-01-2013	SC

APPOINTMENT IN RUNNINNG PAY-BAND
(April 1, 2012 to March 31, 2013)

Sl. No.	Name	Designation	Nature of Appointment	Date of Appointment	Category
1	Sri Arvind Kumar	JLA (Boiler)	Runninng pay-band	24.09.2012	SC
2	Sri Vishram Saini	Staff Nurse	Runninng pay-band	08.08.2012	UR

2.4 FACULTY / OFFICERS / STAFF SUPERANNUATED
(April 1, 2012 to 31st March 2013)

(a) Faculty/Officers

Sl. No.	Name	Designation	Department	Date of Birth	Date of Superannuation/ Resignation	Remarks
1.	Dr. J.S. Upadhyay	Professor	DPT	01.09.1950	25.04.2012	Expired
2.	Dr. D.K. Srivastava	Professor	Hydrology	01.05.1947	30.04.2012	Retired
3.	Dr. S. Ray	Professor	MMED	06.04.1947	30.04.2012	Retired
4.	Dr. Pradip Kumar Bala	Asstt. Prof.	DPT	02.03.1972	22.05.2012	Resigned
5.	Dr. Nishikant Bhardwaj	Asstt. Prof.	DPT	06.08.1965	28.05.2012	Resigned
6.	Dr. D.K.Paul	Professor	EQD	28.05.1947	31.05.2012	Retired
7.	Dr. G.S. Srivastava	Professor	Mathematics	01.06.1947	31.05.2012	Retired
8.	Dr. Surendra Kumar	Asstt. Prof.	EED	01.07.1947	30.06.2012	Retired
9.	Dr.(Mrs.) Manjul Mohan	IMO (On Contract)	Hospital	27.10.1964	27.07.2012	Resigned
10.	Dr. R.C. Agarwal	Professor	MMED	07.07.1947	31.07.2012	Retired
11.	Dr. Surendra Singh	Professor	MMED	06.08.1947	31.08.2012	Retired
12.	Dr. (Ms.) Anjali Sardana	Asstt. Prof. (On Contract)	E&CE	01.08.1982	07.09.2012	Expired
13.	Dr.(Mrs.) Nalini Singh	Assoc. Prof.	Arch. & Planning	04.04.1954	15.10.2012	Voluntary Retirement
14.	Dr. H.R. Wason	Professor	EQD	01.11.1947	31.10.2012	Retired
15.	Dr. A.K. Ray	Professor	DPT	03.11.1947	30.11.2012	Retired
16.	Dr.(Mrs.) Rajyshree K.Lahiri	Asstt. Prof.	HSS	23.06.1959	30.11.2012	Resigned
17.	Dr. H.O. Gupta	Professor	EED	03.01.1950	11.12.2012	Resigned
18.	Dr. U.C. Kothiyari	Professor	CED	07.12.1959	30.12.2012	Expired
19.	Dr. G.I. Prajapati	Professor	EQD	17.12.1947	31.12.2012	Retired
20.	Dr. S.Mukerjee	Asstt. Prof.	EQD	02.12.1947	31.12.2012	Retired
21.	Dr. H. Sinhval	Professor	Earth Sciences	02.12.1947	31.12.2012	Retired
22.	Shri V.K. Gupta	Professor	CED	10.01.1948	31.01.2013	Retired
23.	Dr. Jagdish Rai	Professor	Physics	03.01.1948	31.01.2013	Retired
24.	Dr. Surendra Kumar	Professor	Chemical	01.03.1948	28.02.2013	Retired
25.	Shri R.K. Jain	Assoc. Prof.	Arch. & Planning	04.04.1948	28.02.2013	Voluntary Retirement
26.	Dr. Jitendra Madan	Asstt. Prof.	MIED	16.12.1977	04.03.2013	Resigned
27.	Shri U.B. Chitranshi	Asstt. Prof.	CED	14.03.1948	31.03.2013	Retired
28.	Dr. S.N. Sinha	Professor	E&CE	16.03.1948	31.03.2013	Retired

(b) Retirement of Non Teaching Staff

Sl. No.	Name	Designation	Department	Date of Birth	Date of Superannuation/ Resignation	Remarks
1.	Sri Krishan Kumar	Jr. Supdt.	IIC	02.04.1952	30.04.2012	Retired
2.	Sri Vijay Singh	Sr. Attdt.	Chemical	15.04.1952	30.04.2012	Retired
3.	Sri. Dharam Pal Singh	Sr. Attdt.	MMED	22.04.1952	30.04.2012	Retired
4.	Sri Sudesh Pal-I	Jr. Attdt. (Peon)	DOSW	07.05.1952	31.05.2012	Retired
5.	Sri V.K. Bhatkoti	Supdt.	Civil	22.05.1952	31.05.2012	Retired
6.	Mrs. Usha Srivastava	Sr. Asstt.	DPT	01.07.1952	30.06.2012	Retired
7.	Sri Mohd. Safi	Sr. Attdt.(Mali)	Sports Assoc.	02.06.1952	30.06.2012	Retired
8.	Smt. Kamlesh Lal	Sr. Lib. Infor. Asstt.	Central Lib.	13.06.1952	30.06.2012	Retired
9.	Sri Suraj Mal Sharma	Attdt.	Civil	01.07.1952	30.06.2012	Retired
10.	Sri Pitamber-I	Sr. Attdt.	Civil	01.07.1952	30.06.2012	Retired
11.	Sri A.K. Agarwal	Supdt.	General Section	03.07.1952	31.07.2012	Retired
12.	Sri Ram Awadh	Jr. Tech. Supdt.	W.R.D&M	06.07.1952	31.07.2012	Retired
13.	Sri Sudama	Tech. Supdt.	M.I.E.D.	08.07.1952	31.07.2012	Retired
14.	Sri Jai Chand	Sr. Attdt. (Peon)	Physics	10.07.1952	31.07.2012	Retired
15.	Sri Madho Ram	Helper Grade-II	EQD	12.07.1952	31.07.2012	Retired
16.	Sri Zaheer Ahmed	Sr. Tech. Supdt.	Civil	15.07.1952	31.07.2012	Retired
17.	Sri Hari Singh	Coach	Sports Assoc.	15.07.1952	31.07.2012	Retired
18.	Sri Jangsher Ali	Sr. Attdt. (Peon)	EED	20.07.1952	31.07.2012	Retired
19.	Sri Y.K. Goel	Sr. Tech. Supdt.	EQD	24.07.1952	31.07.2012	Retired
20.	Sri Baleshwar Dutt Sharma	Sr. Attdt.	MMED	28.07.1952	31.07.2012	Retired
21.	Sri Gordhan	Sr. Attdt.(Un-skilled)	Estate & Works	06.07.1952	31.07.2012	Retired
22.	Sri Lakhmira	Sr. Attdt.	DPT	05.07.1952	31.07.2012	Retired
23.	Sri Ram Nath	Sr. Attdt. (Security)	DPT	14.07.1952	31.07.2012	Retired
24.	Sri Babu Ram	Sr. Attdt. (Sweeper)	DPT	21.07.1952	31.07.2012	Retired
25.	Sri S.P. Arora	Tech. Supdt.	DPT	25.07.1952	31.07.2012	Retired
26.	Sri Zahir Ahmed	Sr. Attdt. (Security)	DPT	31.07.1952	31.07.2012	Retired
27.	Sri Manjeet Singh	Sr. Lab Asstt.	MIED	01.09.1952	31.08.2012	Retired
28.	Sri Teju Prasad	Sr. Attdt.	DPT	19.08.1952	31.08.2012	Retired
29.	Sri Shiv Nath Prasad	Helper Grade-II	EQD	04.09.1952	30.09.2012	Retired
30.	Sri Kailash Chand	Sr. Attdt.	MMED	05.09.1952	30.09.2012	Retired
31.	Sri T.A. Siddique	Sr. Tech. Supdt.	Civil	05.10.1952	31.10.2012	Retired
32.	Smt. Kanti Devi	Attdt. (Mali)	MIED	12.10.1952	31.10.2012	Retired
33.	Sri Shree Pal	Jr. Attdt. (Peon)	Elect. & Comp. Engg.	25.10.1952	31.10.2012	Retired
34.	Sri P.L. Gupta	Sr. Attdt.Supdt.	MIED	08.11.1952	30.11.2012	Retired
35.	Sri Ram Dular	Sr. Attdt.	WRD&M	17.11.1952	30.11.2012	Retired
36.	Sri Jag Pal Singh	Tech. Officer	MIED	01.12.1952	30.11.2012	Retired
37.	Sri Sudesh Kapoor	Sr. Lab. Asstt.			30.11.2012	Retired
38.	Sri Kuldeep Singh	Tech. Asstt.			30.11.2012	Retired
39.	Sri Atma Ram	Sr. Tech. Supdt.	Civil	12.12.1952	31.12.2012	Retired
40.	Sri J.L. Bansal	Sr. Tech. Supdt.	MIED	15.12.1952	31.12.2012	Retired
41.	Sri Som Pal	Jr. Tech. Supdt.	Estate & Works	15.12.1952	31.12.2012	Retired
42.	Sri Sarafat Ali	Asstt. Foreman	Arch. & Planning	17.12.1952	31.12.2012	Retired
43.	Sri Sita Ram	Jr. Supdt.	E.T.Cell	22.12.1952	31.12.2012	Retired

Sl. No.	Name	Designation	Department	Date of Birth	Date of Superannuation / Resignation	Remarks
44.	Sri Shiv Kr. Yadav	Sr. Attdt.	Electrical	23.12.1952	31.12.2012	Retired
45.	Sri P.S. Kothari	Supdt.	Accounts Section	31.12.1952	31.12.2012	Retired
46.	Sri Ikpal Singh	Sr. Tech. Supdt.	Physics	01.01.1953	31.12.2012	Retired
47.	Sri Jaiwant Singh	Supdt. (Steno)	DPT	01.01.1953	31.12.2012	Retired
48.	Sri Kirti Singh	Sr. Attdt. S.G.	DOSW	09.01.1953	31.01.2013	Retired
49.	Sri Rishi Pal-I	Sr. Attdt. (Mali)	Hobbies Club	07.01.1953	31.01.2013	Retired
50.	Sri Nathu Ram	Sr. Tech. Supdt.	Instt. Hospital	15.01.1953	31.01.2013	Retired
51.	Sri Jasbir Singh	Sr. Foreman	MIED	01.02.1953	31.01.2013	Retired
52.	Sri Rajeshwar Dutt	Jr. Supdt.	DPT	10.01.1953	31.01.2013	Retired
53.	Sri Sunder Lal Sharma	Jr. Tech. Supdt.	Estate &Works	15.02.1953	28.02.2013	Retired
54.	Sri O.P. Dhama	Supdt.	Chemistry	05.02.1953	28.02.2013	Retired
55.	Sri Satish Kr. Sharma	Senior Lab Asstt.	MIED	15.02.1953	28.02.2013	Retired

Expired from 1-4-2012 to 31-03-2013

Sl. No.	Name of Staff	Designation	Department	Date of Birth	Date of death
1.	Sri Kamal Sharma	Junior Attendant (Mali)	Estate &Works	28.04.1989	25-11-2012
2.	Sri Ikrar Ahmed	Attendant	Civil Engg.	18.10.1967	19-10-2012
3.	Sri Netra Pal	Senior Attendant	Chemistry	08.04.1964	10-07-2012
4.	Sri Vinod K. Gaur	Senior Attendant	Library	16.07.1958	10-07-2012
5.	Sri Manvendra Nath Sharma	Senior Assistant	Estt. A	07.01.1958	26-09-2012
6.	Sri Ram Bharose	Attendant	D.O.S.W.	01.01.1959	27-08-2012
7.	Sri Jag Mohan	Attendant (Sweeper)	W.R.D & M.	01.04.1966	25-06-2012
8.	Sri Satish Kumar Sharma	Senior Lab Assistant	M.I.E.D.	15.02.1953	05-10-2012
9.	Sri B.N. Sharma	Superintendent	DR. (Admin.)	20.01.1955	02-12-2012
10.	Sri Ved Prakash	Junior Assistant	Electrical Engg.	01.01.1958	02-07-2012
11.	Sri. J.P. Sharma	Attendant (Peon)	Electrical Engg.	06.10.1961	22-02.2013

Resigned from 1-4-2012 to 31-03-2013

Sl. No.	Name of Staff	Designation	Department	Date of Birth	Date of resignation
1.	Sri Vijay Anand Srivastava	Junior Engineer (Contract)	Estate &Works		22-06-2012
2.	Sri Pawan Kumar Sharma	Junior Superintendent (Legal)	Legal Cell		31-07-2012

2.5 NON-ACADEMIC OFFICERS / STAFF
(As on 31st March, 2013)

Department/Centre/Office	Officers	No. of Group 'A'
Academic Studies	Asstt. Registrars	02
Finance & Accounts	Dy. Registrar Asstt. Registrar	01 01
Estate & Works	Supdtg. Engineers AEE	01 02
Establishment (A)	Dy. Registrar	01
Establishment (B)	Dy. Registrar	01
General Section	Asstt. Registrar	01
Registrar of the Institute	Registrar	01
SRIC	Asstt. Registrar (On Contract)	01
Institute Hospital	Medical Officer	02
Sports Association	Sports Officer Asstt. Sports Officer	01 02
Saharanpur Campus	Asstt. Registrar Medical Officer	01 01
Security Office	Security Officer	01
Total		**20**

Department/Centre/Services		Technical			Non-Technical			Total
		B	C	D	B	C	D	
1.	AHEC	05	01	02	00	03	04	15
2.	Arch & Planning	02	03	03	01	02	05	16
3.	Bio Technology	02	03	03	00	02	03	13
4.	Centre for Continuing Education	00	00	00	00	02	02	04
5.	Centre for Disaster Mgnt	00	00	01	00	00	00	01
6.	Centre for Neno Technology	00	00	01	00	01	01	03
7.	Centre for Transportation System	00	00	01	00	00	00	01
8.	Chemical Engineering	03	05	08	00	04	08	28
9.	Chemistry	01	03	04	01	02	05	16
10.	Civil Engineering	03	05	36	01	04	11	60
11.	DOMS	02	02	05	00	02	05	16
12.	Earth Science	02	03	04	01	04	07	21
13.	Earthquake Engineering	03	06	04	00	03	03	19
14.	Electrical Engineering	07	02	10	01	03	08	31

Department/Centre/Services		Technical			Non-Technical			Total
		B	C	D	B	C	D	
15.	Electronics & Computer	04	09	07	00	04	08	32
16.	Estate and Works	09	13	07	02	03	53	87
17.	Hobbies Club	01	01	00	00	00	01	03
18.	Hospital	01	13	08	01	00	04	27
19.	Humanities & Social Sc.	00	00	01	00	03	02	06

20.	Hydrology	00	01	02	00	02	05	10
21.	Instt. Computer Centre	04	00	00	00	02	03	09
22.	Instt. Instrumentation Centre	09	03	03	00	02	03	20
23.	Instt. Superhighway Centre	01	01	00	00	01	03	06
24.	Mathematics	01	00	01	02	01	06	11
25.	Mech. & Ind. Engineering	09	13	36	00	05	07	70
26.	Met. & Mat. Engineering	02	07	03	01	03	06	22
27.	MG Central Library	16	02	05	00	00	02	25
28.	NMR Facilities	00	00	00	00	00	00	00
29.	Physics	03	03	06	00	02	05	19
30.	Security	03	03	13	00	01	01	21
31.	Sports	01	01	00	00	00	00	02
32.	Vehicle Section	00	02	04	00	00	00	06
33.	WRD&M	03	03	00	00	02	03	11
34.	DPT	05	10	10	01	08	15	49
	Total	102	122	189	35	147	275	870

Administrative Block		**Technical**			**Non-Technical**			**Total**
		B	C	D	B	C	D	
1.	Director's Office	00	00	00	02	01	04	07
2.	Deputy Director's Office	00	00	00	00	01	01	02
3.	Dean, Administration	00	00	00	00	01	00	01
4.	Dean, Faculty Affairs	00	00	00	00	01	01	02
5.	Dean, Student Welfare	00	00	00	03	13	41	57
6.	Dean, SRIC	00	00	00	02	03	02	07
7.	Dean , Academic Research	00	00	00	01	06	02	09
8.	Dean, UG	00	00	00	00	07	04	11
9.	Dean, Finance and Planning (Accounts, Audit & Planning)	00	00	00	08	15	06	29
10.	Professor Incharge (Comm.)	00	04	01	00	00	00	05
11.	Professor Incharge (Alumni)	00	00	00	00	00	00	00
12.	Registrar's Office	00	00	00	00	01	05	06
13.	Deputy Registrar (Admn. I)	00	00	00	00	00	01	01
14.	Deputy Registrar (Admn. II)	00	00	00	00	01	01	02
15.	Establishment 'A'	00	00	00	02	04	02	08
16.	Establishment 'B'	00	00	00	02	06	05	13
17.	General Section	00	00	00	00	04	01	05
18.	Stationery Section	00	00	00	00	01	01	02
19.	Meeting Section	00	00	00	02	00	02	04
20.	Legal Cell	00	00	00	00	01	01	02
21.	Pension Cell	00	00	00	00	02	01	03
22.	CPC	00	00	00	01	01	01	03
23.	Hindi Cell	00	00	00	00	02	01	03
24.	NC Nigam Guest House	00	00	00	00	01	01	02

Administrative Block		Technical			Non-Technical			Total
		B	C	D	B	C	D	
25.	SC/ST Liaison Cell	00	00	00	00	00	00	00
26.	SC/ST Student Cell	00	00	00	00	00	00	00
27.	GATE Office	00	00	00	00	01	01	02
28.	Entrance Cell	00	00	00	00	01	01	02
29.	IPR Cell	00	00	00	00	01	00	01
30.	Placement Office	00	00	00	00	01	00	01
	Total	00	04	01	23	76	86	190

2.6 RECIPIENTS OF INCENTIVE (NON-TEACHING STAFF) ON FOUNDATION DAY

Sl. No.	Name of Staff	Designation	Department
1.	Sri Rajendra Singh Sharma	Junior Lab Assistant	Met. & Mat. Engg.
2.	Sri Jagbir Singh	Senior Lab Assistant	WRD&M
3.	Sri Rajpal Singh	Driver I	Vehicle Section
4.	Sri K.D. Pathak	Senior Assistant	CPC Office
5.	Sri Raghuvir Singh	Senior Assistant	Establishment 'B' Section
6.	Sri Arun Kumar Sharma	Junior Superintendent	Chemical Engg.
7.	Sri Rajeshwar Dutta	Junior Superintendent	Saharanpur Campus
8.	Sri Girdhari Sharma	Attendant (Peon)	Director's office
9.	Sri Amar Singh	Junior Attendant	Physics
10.	Sri Ram Kumar	Attendant	Chemical Engg.
11.	Sri Mange Ram	Junior Attendant	Chemical Engg.
12.	Sri Sheesh Pal	Attendant (Peon)	Saharanpur Campus
13.	Sri Batasha Singh	Attendant (Mali)	Estate & Works
14.	Sri Dalip Singh	Senior Attendant (Safai Karamchari)	MG Central Library
15.	Sri Kashmira	Attendant (Safai Karamchari)	Saharanpur Campus

2.7 RECIPIENTS OF OUTSTANDING TEACHERS AWARD ON TEACHER'S DAY

Sl. No.	Name	Designation	Department/Section
1.	Prof. D.K. Nauriyal	Professor	Hum. & Social Sciences
2.	Prof. Pramod Agarwal	Professor	Electrical Engineering
3.	Dr. R.D. Garg	Assistant Professor	Civil Engineering
4.	Dr. R.P. Saini	Assoc. Professor	Mech. & Indl. Engineering

3. *Academic Programmes*

3.1 Courses of Study
3.2 Admissions
3.2.1 Undergraduate Degree Courses
3.2.2 Postgraduate Degree Courses
3.2.3 Ph.D. Programmes
3.2.4 Student Strength
3.2.5 Scholarships to Students
3.2.6 Fellowships to Postgraduate Students
3.2.7 Concessions available to SC/ST Students
3.3 Institute Results
3.4 Annual Convocation

3.1 COURSES OF STUDY

Alternate Hydro Energy Centre

- Master of Technology
  - Alternate Hydro Energy System
  - Conservation of Rivers and Lakes
- Doctor of Philosophy

Architecture and Planning

- Bachelor of Architecture
- Master of Architecture
- Master of Urban & Rural Planning
- Doctor of Philosophy

Biotechnology

- Bachelor of Technology
- Master of Science
- Doctor of Philosophy

Chemical Engineering

- Bachelor of Technology
  - Integrated Dual Degree CH/HC
- Master of Technology
  - Computer Aided Process Plant Design
  - Industrial Pollution Abatement
  - Industrial Safety and Hazards Management
- Doctor of Philosophy

Chemistry

- Int. M.Sc. (Chemistry)
- M.Tech. Advanced Chemical Analysis
- Master of Science
- Doctor of Philosophy

Civil Engineering

- Bachelor of Technology
- Master of Technology
  - Building Science and Technology
  - Computer Aided Design
  - Environmental Engineering
  - Geotechnical Engineering
  - Hydraulic Engineering
  - Geomatics Engineering
  - Structural Engineering
  - Transportation Engineering
- Doctor of Philosophy

Earthquake Engineering

- Master of Technology
  - Soil Dynamics
  - Structural Dynamics
- Doctor of Philosophy

Earth Sciences

- Master of Science
  - Applied Geology
- Master of Technology
  - Applied Geophysics
  - IMT Geophysical Technology
  - IMT Geological Technology
- Doctor of Philosophy

Electrical Engineering

- Bachelor of Technology
  - Integrated Dual Degree (B.Tech. Elect. Engg.) & M.Tech. (Power Electronics)
- Master of Technology
  - Instrumentation and Signal Processing
  - Electric Drives and Power Electronics
  - Power System Engineering
  - System and Control
- Doctor of Philosophy

Electronics and Computer Engineering

- Bachelor of Technology
  - Computer Science and Engineering
  - Electronics and Communication Engineering
  - Integrated Dual Degree E&C/WC
  - Integrated Dual Degree CSE/IT
- Master of Technology
  - Communication Systems
  - System Modeling and Control
  - R.F. & Microwave Engineering
  - Microelectronics & VLSI

- Computer Science and Engineering
- Information Technology

- Doctor of Philosophy

Humanities and Social Sciences

- Doctor of Philosophy

Hydrology

- Postgraduate Diploma
- Master of Technology
- Doctor of Philosophy

Management Studies

- Master in Business Administration
- Doctor of Philosophy

Mathematics

- Int. M.Sc. (Applied Mathematics)
- Master of Science
  - Applied Mathematics
  - Industrial Mathematics and Informatics
  - R.F. & Microwave Engineering
- Master of Computer Applications
- Doctor of Philosophy

Mechanical and Industrial Engineering

- Bachelor of Technology
  - Mechanical Engineering
  - Production & Industrial Engineering
- Master of Technology
  - Machine Design Engineering
  - Production and Industrial System Engineering
  - Thermal Engineering
  - Welding Engineering
  - CAD, CAM & Robotics
- Doctor of Philosophy

Metallurgical and Materials Engineering

- Bachelor of Technology
- Master of Technology
  - Industrial Metallurgy
  - Physical Metallurgy
  - Corrosion Engineering
- Doctor of Philosophy

Paper Technology

- Bachelor of Technology
  - Pulp and Paper Engineering
  - IMT (PST)
  - Integrated Dual Degree (B.Tech. – Process Engg.) and MBA
- Master of Technology
  - Pulp and Paper Engineering
- Doctor of Philosophy

Physics

- Int. M.Sc. (Physics)
- Master of Science
- M.Tech.
  - Solid State Electronic Materials
- Doctor of Philosophy

Water Resources Development & Management

- Master of Technology/Postgraduate Diploma
  - Water Resources Development
  - Irrigation Water Management
- Doctor of Philosophy

3.2 ADMISSIONS

During the year 2012-13, the number of students admitted to various courses is as given below:

Ph.D.	366
M.Tech.	826
M.Arch./MURP	37
M.Sc./M.Tech. (E.S.)	125
MBA	89
MCA	47
B.Tech, (including IDD) Integrated M.Tech/M.Sc.	1009
B. Arch.	50
TOTAL	**2549**

Gender wise Distribution of Admitted Students in Different Categories is given below:

(i) Undergraduate			
Categories	**Male**	**Female**	**Total**
General	469	59	528
OBC	269	22	291
SC	144	12	156
ST	080	15	095
Total	**962**	**108**	**1070**
(i) Postgraduate			
Categories	**Male**	**Female**	**Total**
General	510	123	633
OBC	247	39	286
SC	120	39	159
ST	35	11	46

Total	**912**	**212**	**1124**

The number of foreign students admitted to various courses is as given below:

	Male	Female	Total
UG	-	-	-
PG	13	02	15
Ph.D.	13	-	13
Total	**26**	**02**	**28**

3.2.1. UNDERGRADUATE COURSES (2012-13)*

SN.	Course	Sanctioned Strength	Students Admitted
1.	B.Arch.	50	34
2.	B.Tech. Biotechnology	50	43
3.	B.Tech. (Chemical)	80	80
4.	B.Tech. (Civil)	120	120
5.	B.Tech. (Comp. Sc.& Engg.)	75	75
6.	B.Tech. (Electrical)	125	124
7.	B.Tech. (E & C Engg.)	55	56
8.	B. Tech. (Mech. Engg.)	80	80
9.	B. Tech. (Met. & Mat. Engg.)	90	87
10.	B.Tech. (Prod. Industrial) MIED	60	59
11.	B. Tech. (Pulp & Paper)	50	26
12.	B.Tech. (Chemical Engg.) and M. Tech. (Hydrocarbon Engg.)	30	31
13.	B.Tech. (Polymer Science & Technolgy) DPT	40	36
14	B.Tech. (E & C) and M. Tech. (Wireless Communication)	20	20
15	B.Tech. (Metallurgical and materals Engg.) and M.Tech. (Materials Engg.)	20	20
16	B.Tech. (Civil Engg.) and M.Tech. (Structural Engg.)	15	15
17	B.Tech. (Process Engg.) and MBA (DPT)	40	32
18	B.Tech. (Electrical Engg.) and M.Tech. (Power Electronics)	15	14
19	Integrated M.Sc. (Applied Maths.)	31	26
20	Integrated M.Sc. (Chemistry)	20	18
21	Integrated M.Sc. (Physics)	31	24
22	Integrated Master's Technology M.Tech. (EARTH SCI.)	31	28
23	Integrated Master's Technology M. Tech. (Geological Technology)	31	27
	TOTAL	**1159**	**1075**

* including through preparatory course

3.2.2 POSTGRADUATE DEGREE COURSES (2012-13)

SN.	Course	Sanctiond Strenath	Students Admitted
(i)	**M.Tech.**		
1.	Chemical	71	68
2.	Civil	144	145
3.	Earthquake	49	49
4.	Electrical	92	96
5.	Elec. & Comp.	63	68
6.	Hydrology *	15	25
7.	Mechanical	87	90
8.	Metallurgical	54	54
9.	W.R.D.&M.	15	39
10.	A.H.E.C.	40	44
11.	M.Arch/MURP	36	37
12.	Pulp & Paper	18	17
13.	Comp. Sc. & Engg.	54	55
14.	Nanotechnology	15	14
15.	Disaster Mitigation & Management	15	15
16.	SEISMIC VULNERABILITY & RISK ASSESS (Earthquake)	15	15
(ii)	**M.Tech. (Sciences)**		
1.	Physics (S.S.E.M.)	18	19
2.	Chemistry (A.C.A.)	15	13
3.	Geophysical Technology (ES)	12	11
4.	Geological Technology (ES)	12	07
(iii)	**M.Sc.**		
1.	Industrial Maths & Informatics (Maths)	15	14

2.	Applied Geology (ES)	15	14
3.	Applied Maths	15	15
4.	Bio. Tech.	37	24
5.	Chemistry	25	20
6.	Physics	25	20
(iv)	**M.B.A.**	95	89
(v)	**M.C.A. maths**	48	47
	TOTAL	**111 5**	**11 24**

3.2.3 PH.D. PROGRAMMES (2012-13)

SN.	Course	Students Admitted
1.	Biotechnology	26
2.	Chemical Engg.	22
3.	Chemistry	42
4.	Civil Engg.	39
5.	Earth Sciences	17
6.	Electrical Engg.	15
7.	Elect. & Comp. Engg.	12
8.	Mathematics	32
9.	Metallurgical & Materials	16
10.	Mech. & Ind. Engg.	33
11.	Hydrology	4
12.	Physics	8
13	Earthquake Engg.	6
14.	Architecture & Planning	5
15.	W.R.D.&M.	8
16.	Hum. & Social Sciences	5
17.	Paper Technology	17
18.	MBA	33
19.	AHEC	15
20	Centre for Transportation	2
21	IIC	4
22	Nanotechnology	5
	TOTAL	**366**

3.2.4 STUDENT STRENGTH (2012-2013)

SN.	Course	Registered Students
1.	B. Tech./B. Arch/IDD	4304
2.	M. Tech. / M.Arch. /MURP	1546
3.	M. Sc. / M. Tech. (E.S.)	273
4.	Ph.D.	1342
5.	M.B.A.	177
6.	M.C.A.	141
	TOTAL	**7783**

3.2.5 SCHOLARSHIPS TO STUDENTS (2012-12)

S.N.	Courses	Institute Merit -Cum-Means Scholarships	Trust Scholarships
1.	B.Tech. / B.Arch. I Yr.	265	4
2.	B.Tech. / B.Arch. II Yr.	250	3
3.	B.Tech. / B.Arch. III Yr.	234	3
4.	B.Tech. / B.Arch. IV Yr.	207	9
5.	B.Arch. V Yr.	13	-
6.	M.Sc. (Chemistry) I Yr.	2	-
7.	M.Sc.(Chemistry) II Yr.	5	1
8.	M.Sc. (Physics) I Yr.	5	-
9.	M.Sc. (Physics) II Yr.	4	-
10.	M.Sc. (Industrial Maths & Informatics) I Yr.	4	1
11.	M.Sc. (Industrial Maths & Informatics) II Yr.	4	1
12.	M.Sc. Applied (Maths) I Yr.	4	1
13.	M.Sc. Applied (Maths) II Yr.	4	1
14.	MCA I Yr.	5	-
15.	MCA II Yr.	5	-
16.	MCA III Yr.	5	-
17.	M.Tech. (Applied Geology) I Yr.	1	-
18.	M.Tech. (App. Geo.) II Yr.	3	-
19.	M.Tech. (App. Geo.) III Yr.	3	-
20.	M.Tech (Applied Geophysics) I Yr.	3	-
21.	M.Tech.(Applied Geophysics) II Yr.	2	-
22.	M. Tech. (Applied Geophysics) III year	3	-
23.	M.Sc Biotechnology IYr	-	-
24.	M.Sc Biotechnology IIYr	-	-
	TOTAL	**1050**	**24**

3.2.6 POSTGRADUATE STUDENTS ADMITTED WITH SCHOLARSHIP/ASSISTANTSHIP (2012-13)

Sl. No.	Course	No. of Students
1.	MURP & M.Arch.	37
2.	M. Tech. (Chemical)	68
3.	M. Tech. (Civil)	145
4.	M. Tech. (Earthquake)	49
5.	M. Tech. (Electrical)	96
6.	M. Tech. (Elect. & Comp.)	68
7.	M. Tech. (Mechanical)	90
8.	M. Tech. (Metallurgical)	54
9.	M. Tech. (Comp. Sci. & Engg.)	55
10.	M. Sc. (Biotechnology) I Yr	24
11.	M. Sc. (Biotechnology) II yr	29
12.	M. Tech. (A.H.E.S.)	44
13.	M. Tech. (P&P)	17
14.	M. Tech. SSEM (Physics)	19
15.	M. Tech (DISASTER MITIGATION & MANAGEMENT)	15
16.	Hydrology	25
17.	M. Tech Advance Chemical Analysis (Chemistry)	13
18.	M. Tech. WRDM	39
19.	M.Tech. Nanotechnology	14
20.	M.Tech. (SEISMIC VULNERA BILITY &RISK ASSESS.)	15
	TOTAL	**916**

3.2.7 SPECIAL FACILITIES AVAILABLE TO SC/ST STUDENTS

The following special facilities are available for the applicants of SC/ST categories for admission to the various courses:

1. Application fee for Entrance Examination, which is charged from SC/ST categories, is only 50% of the fee fixed for candidates of the general category.
2. The cut-off percentage in the qualifying paper for admission to B. Tech. / B. Arch. courses is relaxed for SC/ST candidates.
3. Minimum percentage of marks fixed for admission in all undergraduate courses on the basis of the entrance examination is again relaxed for SC / ST candidates.
4. Minimum qualification for admission to M.Sc. and M. Tech. in Earth Sciences is a graduate with minimum 60% marks. This is lowered for SC / ST candidates by 5%.
5. The following facilities are given to all SC/ST candidates (UG, PG, Sciences including MCA).

(a) No tuition fee is charged. This exemption is irrespective of parents/guardians income.
(b) Room rent is exempted.
(c) The Institute provides a scholarship of Rs. 1000/- p.m. or free messing (basic menu only) and Rs. 250/- p.m. as pocket allowance.

Eligibility

SC/ST students whose parents/ guardians' income does not exceed the limit prescribed by the Government of India from time to time can opt for free messing (basic menu only) and Rs. 250/- per month as pocket allowance, in lieu of full amount of scholarship of Rs. 1000/- p.m. At present, the ceiling of gross income for such awards is Rs. 4.50 lakhs per annum. Students of reserved categories are provided textbooks from the Library under the 'Text Book Loan Scheme' against a nominal security deposit. Additional books are also provided. Financial assistance is also provided to them from Samaj Kalyan Vibhag.

Number of students belonging to SC/ST in B.Tech./B.Arch. courses at the Institute during the Academic Session 2012-2013 is as given below:

Class	SC / ST		
	Total	**Male**	**Female**
B.Tech./B.Arch./IDD I	251	224	27
B.Tech / B.Arch/./IDD II	219	199	20
B.Tech./B.Arch./IDD III	236	202	34
B.Tech /B.Arch./IDD IV	218	195	23
B.Arch V/IDD	034	031	03
TOTAL	**958**	**851**	**107**

Number of students belonging to SC / ST at the Institute during the academic session 2012-13 in P.G. courses is as given below :

Class	SC / ST		
	Total	**Male**	**Female**
M. Tech./ M.Arch I year	153	116	37
M.Tech. / M.Arch II year	233	184	49
TOTAL	**386**	**300**	**86**
M.Sc./M.Tech.(E.S.) Iyr.	26	17	09
M.Sc./M.Tech.(E.S.)II yr	23	14	09
M.Tech. (E.S.) III year	03	03	00
M.B.A. Ist year	15	13	02
M.B.A. IInd year	15	13	02
M.C.A. Ist year	11	09	02
M.C.A. IInd year	10	08	02
M.C.A. IIIrd year	10	08	02
TOTAL	**113**	**85**	**28**

3.3 INSTITUTE RESULTS

The number of students who have been declared successful in diploma/degree examinations during the academic session 2012-13 is as given below:

Ph.D.	122
M.Tech. (Earth Sciences) Final year	24
M.Sc. Final year	113
M.B.A. Final year	69
M.C.A. Final year	41
B. Tech. / B. Arch./IDD/IMT/IMSc. Final Year	691
M. Tech./M. Arch. / MURP Final year	537
M.Tech. (I.T.) Final year	20
M.Tech. (S.S.E.M) Final year	10
M.Tech. (Chemistry)Final year	11
P.G. Diploma	01
TOTAL	**1639**

The names of scholars who were awarded Ph.D. degree at the Annual Convocation of the Institute held on August 4, 2012 and their thesis titles are given under respective departments (Chapter - 4). Summary of results is given in Tables 3.3.1 and 3.3.2, and further details are given in Appendix-A_1.

3.3.1 SUMMARY OF FINAL YEAR EXAMINATION RESULTS (2012-13)

Sl.	Name of Class	Appeared	Passed	Remarks
1.	B. Tech./B. Arch. / IDD / IMT / IMSc. Final Year	756	691	65 students not earned required credits
2.	M. Tech. (Earth Sciences) Final Year	24	24	
3.	M. Sc. Final Year	113	113	
4.	M.C.A. Final Year	43	41	2 students not earned required credits
5.	M.B.A. Final Year	69	69	
6.	M. Tech./M. Arch./MURP Final Year	538	537	1 student not earned required credits
7.	M. Tech. (I.T.) Final Year	21	20	1 student not earned required credits
8.	M. Tech. (S.S.E.M.) Final Year	10	10	
9.	M. Tech. (Chemistry)	13	11	2 students not earned required credits
10.	P.G. Diploma	01	01	
	TOTAL	**1588**	**1517**	71 students not earned required credits

3.3.2 SUMMARY OF OTHER EXAMINATION RESULTS (2012-13)

Sl.	Name of Class	Appeared	Passed	Remarks
1.	B. Tech./B. Arch. I Yr.	1099	1099	
2.	B. Tech. / B. Arch. II Yr.	1051	1051	
3.	B. Tech. / B. Arch. III Yr.	1031	1031	
4.	B. Arch. IV Yr.	1310	1310	
	B.Arch./IDD/Int.M.Tech/M.Sc. V Yr.	50	50	
5.	M. Tech. I Yr. (E.Sc.)	16	15	1 student not earned required credits
6.	M. Tech. II Yr. (E.Sc.)	20	20	
7.	M.B.A. I Yr.	87	87	
8.	M.C.A. I Yr.	45	42	3 students not earned required credits
9.	M.C.A. II Yr.	47	47	
10.	M.Tech. (IT) I Yr.	00	00	
11.	M. Tech. (S.S.E.M.) I Yr.	18	18	

Sl.	Name of Class	Appeared	Passed	Remarks
12.	M.Sc. I Yr.	97	97	
13.	M. Arch. / MURP I Yr.	36	36	
14.	M.Tech. I Yr	653	636	17 students not earned required credits
15.	M.Tech. (AHES)	41	40	1 student not earned required credits
16.	M.Tech. (Chemistry) I Yr.	11	11	
	TOTAL	**5612**	**5590**	22 students not earned required credits

3.4 ANNUAL CONVOCATION 2012

The 12th Annual Convocation of the Indian Institute of Technology Roorkee was held on August 04, 2012. Hon'ble **Sri Kapil Sibal**, Hon'ble Minister, MHRD, Government of India, New Delhi was the Chief Guest. In the Convocation, 691 Degrees of B.Tech. /B.Arch., 579 Degrees of M. Tech. (Engg.)/ M. Arch./MURP/ P.G. Diploma and 247 Degrees of M.Sc / M. Tech. (Science) /MCA/MBA were awarded. In addition, 122 Ph.D. degrees were conferred in various disciplines.

4. Academic Departments and Centres

4.1 Architecture and Planning
4.2 Biotechnology
4.3 Chemical Engineering
4.4 Chemistry
4.5 Civil Engineering
4.6 Earthquake Engineering
4.7 Earth Sciences
4.8 Electrical Engineering
4.9 Electronics and Computer Engineering
4.10 Humanities and Social Sciences
4.11 Hydrology
4.12 Management Studies
4.13 Mathematics
4.14 Mechanical and Industrial Engineering
4.15 Metallurgical and Materials Engineering
4.16 Paper Technology
4.17 Physics
4.18 Water Resources Development and Management
4.19 Alternate Hydro Energy Centre

4.1 DEPARTMENT OF ARCHITECTURE AND PLANNING

Academic Staff : 15; Students Admitted : UG-34, PG-37, Ph.D.-03;
Publications : Conferences : 13; Journals : 17; Book Chapter : 2

1. SALIENT FEATURES

B.Architecture Course was started in 1956. The Department has the singular distinction of being the first in India in instituting a Masters Degree course in Architecture (M.Arch) in the year 1969-70. Masters Degree course in Urban & Rural Planning (MURP) was started in 1973-74. The department of Architecture and Planning imparts high quality education in the professional fields of Architecture and Planning and offers Bachelor of Architecture, Master of Architecture, Master of Urban and Rural Planning and Ph.D programmes. At present 29 PhD scholars are pursuing research in the department. The department has unique facilities like Climatology Lab, Computer Lab and Computerized Design Studios equipped with the state-of-art equipment and software and an Art Lab and a Workshop. During the year 2012-13 many faculty earned various honors and awards and visited a number of institutions in India and abroad and participated in seminar, symposia and conferences. Faculty members of the departments are engaged in sponsored research and consultancy projects and have published number of research papers in International and National Journals and Conference Proceedings and published two books.

2. LIST OF FACULTY MEMBERS

Professors

Kulkarni, S.Y., M. Arch. (Roorkee)
Architecture
Pushplata (Ms), PhD (Roorkee)
Head
Urban Environment Design, Architecture Planning, Hill Settlements
Shankar, R., P.G. Dip. Hons (Ahmedabad)
Planning, Architecture, Ecology, Landscaping

Associate Professors

Chani, P.S., Ph.D (Roorkee)
Architecture, Energy Estimation in Building
Devadas, V., PhD (IIT Kharagpur)
Energy System, Development Planning, Infrastructure
Gupta, Ila (Ms), PhD (Meerut)
Applied Arts, Art Application in Architecture & Planning, History of Art

Mukherjee, M. (Ms), PhD (Jadavpur)
Design Parameters for Human Settlement

Assistant Professors

Ahuja, Rita (Ms), M.Arch. (Roorkee)
Planning, Architecture, Housing
Chandra , Rajesh, MURP (Roorkee)
Planning, Architecture, Housing
Pujara, Tina (Ms), MAUD (Singapore)
Urban Design, Sustainable Urban Development, Urban Social Sustainability
Raheja, Gaurav, PhD (Roorkee)
Architecture Design, Accessibility Design

Roy Kumar Uttam,
Urban Planning, Housing & Architecture
Lakra Harshit Sosan (Ms), MURP,(Cornell University)
Culture Based Planning, Tribal Architecture &Technology, Low Cost & Affordable Housing
Avlokita Agarwal(Ms), Ph.D (Roorkee)
Energy efficiency in Buildings, Sustainability, Traditional Passive Systems.

Asstt. Prof. on Contract

Saraswat Smriti(Ms), Masters (CEPT Ahamdabad)
Interior-Architecture and Craft & Technology

3. VISIT OF FACULTY (INTERNATIONAL)

Name of Faculty	Name of Institute/Organisation visited	Purpose of Visit	Dates
Dr. Mahua Mukherjee	CIB, the Netherlands,	CIB Task Group 66 Webinar	28 June 2012
Prof. Pushplata	Harvard University, USA	To present a paper in Conference	27 May -01 June ,2012
Dr.Gaurav Reheja	International Association for Universal Design, Japan	To present a paper in Conference	October 12 – 14,2012.
Ms. Tina Pujara	USA	To present a paper in Conference	25-29 June,2012

4. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of student	Titles of the thesis
Mohan Kumar Chavan	Planning for Optimal Transportation System In Bangalore City, India
Devendra Pratap Singh	Assessment of Marketing Status in Architecture Practices in India
Bhavesh Mahendra Shah	Study of Proportions in Villa Plans of I Quattrolibri Dell Architecture

5. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECT

Names of Co-coordinator	Name of project	Amount in Lakhs	Year	Sponsored research	Consultancy
S.Y. Kulkarni	Township for NTPC Near Joshimath	17.04	2011	NTPC	Consultancy
Mahua Mukherjee	Surface Transformation Due to Urban Dynamics In Institutional Campuses & Its Environmental Impact	2.92	2012	UCOST	Research
Mahua Mukherjee	Documentation on Traditional Architecture – Earthquake Resistant Technologies in SAARC Countries	5.50	2013	SDMC	Research
Mahua Mukherjee Co-PI	Technical Inputs For Establishment of State Institute of Hydrology & Water Management, Bikaner; PI: DR. N.K. GOEL	-	2011-12	HYD 1009-11-12	consultancy

Names of Co-coordinator	Name of project	Amount in Lakhs	Year	Sponsored research	Consultancy
Uttam Kumar Roy	Process Standardisation for Inclusive Urban Planning	8.25	2012-2013	SRIC,IIT Roorkee	Research
Smriti Saraswat	Documenting Crafts of Uttarakhand: Suggesting Craft-Design Innovations for Interior-Architecture	7.50	2012-15	MHRD	Research
Harshit Lakra	Settlement Planning for Ethnic groups of Jharkhand	7.50	2012-15	MHRD	Research

4.2 DEPARTMENT OF BIOTECHNOLOGY

Academic Staff: 15; Students Admitted: UG-43, PG-24, Ph.D.-26; Publications: Journals -50 , Book Chapter-05, Conference - 30; New Projects: 183.96 Lakhs

1. SALIENT FEATURES

Seven students were awarded Ph.D. Degree in the convocation held in 2012.The eighth batch of students in the B.Tech. (Biotechnology) programme with a sanctioned intake of 45 students was admitted. M. Sc. Biotechnology programme with a sanction strength of 37 students has also been successfully running with annual finance aid of Rs. 56.60 lakhs by DBT, Govt. of India, New Delhi. Two DST & one CSIR sponsored research project were successfully completed and six new research projects with funding from ICMR, SERB and CSIR with a total outlay of Rs.183.96 lakhs have been received during 2012-13 against these projects. In addition to this, Eleven projects costing Rs. 756.72 lakhs are already in progress in the department.

2. LIST OF FACULTY MEMBERS

Professors

Prasad, R., Ph.D (JNU, New Delhi)
Head
Molecular Biology & Proteomics
Barthwal, Ritu, (Mrs.), Ph.D (IIT Delhi)
Biophysics
Randhawa, G. S., Ph.D (PAU, Ludhiana)
Genetics
Singh, R.P., Ph.D (CDRI, LKO.,
Degree by Kanpur University)
Microbial Technology

Associate Professors

Roy, P., Ph.D (VBU, Kolkata)
Molecular Endocrinology
Pruthi, V., Ph.D (IMTECH, Chd. Degree by PU, Chandigarh)
Molecular Microbiology
Sharma, A.K., Ph.D (AIIMS, New Delhi)
Biochemistry, Structural Biology
Kumar, P., Ph.D (AIIMS, New Delhi)
Structural Biology
Ghosh, S., Ph.D (IIT Madras)
Biochemical Engineering
Chaudhuri, B., Ph.D (IIT Madras)
Biochemical Engineering

Assistant Professors

Navani, N.K., Ph.D (IMTECH, Chd. Degree by PU, Chandigarh***)***
Protein Engineering & Molecular Biology
Pathania R., Ph.D (IMTECH Chd. Degree by JNU, New Delhi)
Molecular biology & Molecular Microbiology
Tomar S., Ph.D (Purdue University)
Molecular Biology & Virology
Nair M.S., Ph.D (CSJM University, Kanpur)
Biophysics & Fluorescence spectroscopy
Sircar D., PhD. (IIT kharagpur)
Plant Functional Genomics & Metabolic Phytochemistry

3. HONORS AND AWARDS TO FACULTY MEMBERS

Barthwal R.

- Member, Board of Governors (BOG) , Maulana Azad National Institute of Technology (MANIT) Bhopal, 2012-2014
- Member, Expert Committee on Career Advancement and Reorientation Program/Awards for Women Scientists (Bio – CARE), DBT, Govt. of India, 2011-2014
- Member, Expert Committee on STAR COLLEGES for Funding UG programs, DBT, Govt. of India, 2011-2014
- Member, Expert Committee, UGC – SAP, For assessment of Punjab University Chandigarh, Dept. Biophysics.
- Expert Member, Ministry of Human Resource & Development (MHRD), Govt. of India, Selection of candidates for Commonwealth scholarship UK 2013
- Member Expert, Selection Committee Meeting for faculty positions, Punjab University Chandigarh, Dept. Biotechnology
- Member Expert, Selection Committee Meeting for faculty positions, All India Institute of Medical Sciences (AIIMS) New Delhi, Dept. NMR

Singh R.P.

- Member, Task Force on Biotech Product and Process Development, DBT, Govt. of India

- Member-Expert Committee, Biotechnology and Bioremediation, Life Science Research Board
- Member Expert committee on Genetically Modified Organism, Food Safety & Standard Authority of India, Govt. of India

Prasad R.

- Member Expert committee on Genetically Modified Organism, Food Safety & Standard Authority of India, Govt. of India

4. VISIT OF FACULTY : INTERNATIONAL ONLY

Name of Faculty	Name of Institute/ Organization Visited	Purpose of Visit	Dates
Dr. P. Kumar	Lewiston, USA	"Conference on Diffraction Methods in Structural Biology".	July15-20, 2012
Dr. P. Kumar	Las Vegas, USA	2nd International Conference on Proteomics & Bioinformatics".	July 2-4, 2012
Dr. Partha Roy	Department of Physiology Institute of Biomedicine University of Turku, Finland	Visiting Professor	May 12-July 12, 2013
Dr. S. Tomar	Madison, USA	31st Annual Meeting of American Society of Virology.	July 21-25, 2012

5. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name	Affiliation	Purpose	Dates
Dr. Mark A. McDowall	Waters International, Melbourne, Australia	Seminar Talk & Interaction meeting "New Technology for Bottom- Up Proteomics"	Jan. 29, 2013
Dr. Mustafa Kansis	Agilent Technologies, Melbourne, Australia	Seminar Talk & Interaction meeting "Biomedical Application of FTIR Imaging".	Feb. 05, 2013
Dr. Naina	National Institute of Technology, Warnagal	Seminar Talk & Interaction meeting "Nanotechnology".	Feb. 15, 2013
Dr. A. Kiran	National Institute of Health, Maryland, USA	Seminar Talk & Interaction meeting "Application of Saliva and Mass Spectrometry in Translational Research".	Feb. 20, 2013
Dr. Rajesh Sani	South Dakota School of Mines and Technology.USA	Seminar Talk & Interaction meeting	July 13, 2012
Dr. Gireesha Mohannath	Ohio state university (OSU), USA	Seminar Talk "Roles of SnRK1 and ADK in the cellular stress (biotic and abiotic) response".	June 27, 2012
Dr. K.P. Duga	USA	Seminar "Nitrogen use efficiency in Maize".	June 4, 2012
Dr. K.B. Ramachandran	IIT, Madras	Seminar Talk "Improved production of hyaluronic acid in streptococcus zooepidemicus by redirection of metabolic fluxes towards HA biosynthetic pathway".	May 29, 2012

Name	Affiliation	Purpose	Dates
Prof. Samir Bhattacharya	Indian Institute of Chemical Biology, Kolkata	Seminar Talk & Interaction meeting“ Diabetes and its potential cure”	Aug. 01, 2012
Dr. Sami Mukhopadhyay	Principal Application Scientist, V Life Science Technology, Pune	Seminar Talk Fundamental of CADD & its application V Life contributions	April 25, 2012
Dr. Debabrata Mandal	M.I.T , USA	Seminar Talk “tRNA Modification”.	April 24-25, 2012

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Category (Gen/SC/ ST/PD)	Title of thesis
Naincy Girdharwal	Indian	Female	GEN	Molecular Characterization of Wheat Quality Traits Using Proteomic Approaches.
Pranita Bhatele	Indian	Female	GEN	Genetic and Biochemical Studies on Galactomannan Biosynthesis in Cluster bean.
Richa Rani	Indian	Female	GEN	Screening of Microorganism and optimization of parameters for phytase production
Grijesh Kumar Patel	Indian	Male	GEN	Structural on Proteases and Protease Inhibitors from Microbial and Plants Sources.
Rashmi Kataria	Indian	Female	SC	Bioethanol Production from Lignocellulosic Material.
Rohit	Indian	Female	GEN	In situ production of trehalose in Propionibacterium
Anjali Awasthi	Indian	Female	GEN	Identification of Important Candidates Genes and Their Functional Validation.
Nagesh K.A	Indian	Male	GEN	Genetic and Tissue Culture Studies in Clusterbean.
Patil Deepak Narhari	Indian	Male	GEN	Structural Studies of Enzymes Involved in Degradation of Toxic Compounds.
Preeti	Indian	Female	SC	Characterization of Therapeutic Protein Targets.

7. ACADEMIC ACTIVITIES ORGANIZED BY DEPARTMENT.

Name of Conf,/Seminar/Sym./Workshop	Sponsored by		Dates
Hands-on-Training on Modern Techniques in Biotechnology (Nano/structural biotechnology	Utarakhand, State Department	Biotechnology	7-12 Jan, 2013

8. CONFERENCE/SEMINAR/SYMPOSIA/WORKSHOPS ORGANISED BY THE DEPARTMENT

Organizing Secretary	Details of Conference / Seminar / Symposia / Workshop/Guest Lecture	Venue	Dates
Dr. P. Kumar	Seminar Talk & Interaction meeting "New Technology for Bottom- Up Proteomics"	Room No. CR-4, Department of Biotechnology	Jan. 29, 2013
Dr. S. Ghosh	Seminar Talk & Interaction meeting "Biomedical Application of FTIR Imaging".	Room No. CR-4, Department of Biotechnology	Feb. 05, 2013
Dr. V. Pruthi	Seminar Talk & Interaction meeting "Nanotechnology".	Room No. CR-4, Department of Biotechnology	Feb. 15, 2013
Dr. S. Ghosh	Seminar Talk & Interaction meeting "Application of Saliva and Mass Spectrometry in Translational Research".	Room No. CR-4, Department of Biotechnology	Feb. 20, 2013
Dr. N. K. Navani	Seminar Talk & Interaction meeting	Room No. CR-4, Department of Biotechnology	July 13, 2012
Dr. S. Ghosh	Seminar Talk "Roles of SnRK1 and ADK in the cellular stress (biotic and abiotic) response".	Room No. CR-4, Department of Biotechnology	June 27, 2012
Dr. R. Prasad	Seminar "Nitrogen use efficiency in Maize".	Room No. CR-4, Department of Biotechnology	June 4, 2012
Dr. S. Ghosh	Seminar Talk "Improved production of hyaluronic acid in streptococcus zooepidemicus by redirection of metabolic fluxes towards HA biosynthetic pathway".	Room No. CR-4, Department of Biotechnology	May 29, 2012
Dr. P. Roy	Seminar Talk & Interaction meeting" Diabetes and its potential cure"	Room No. CR-4, Department of Biotechnology	Aug. 01, 2012
Prof. R. Prasad	Seminar Talk Fundamental of CADD & its application V Life contributions	Room No. CR-4, Department of Biotechnology	April 25, 2012
Prof R.Prasad	Seminar Talk "TRNA Modification".	Room No. CR-4, Department of Biotechnology	April 24-25, 2012
Dr. S. Tomar	Seminar Talk " Alphavirus protcases: structure- activity elucidation to targeting	Room No. CR-4, Department of Biotechnology	Aug. 03, 2012

9. SHORT TERM/SPONSORED COURSES ORGANIZED BY THE DEPARTMENT

Name of the Department:

Coordinator	Name of the Courses	No. of participation	Dates
Dr. Pravindra Kumar	Hands-on-Training on Modern Techniques in Biotechnology (Nano/structural biotechnology)'	25	07.01.2013 to 12.01.2013

10. (I) COMPLETED SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. A.K. Sharma	Structure Function Studies of a Trypsin inhibitor Purified from seeds of Putranjiva roxburghii	CSIR	8.66
Dr. R. Pathania	Generation of a battery of Escherichia coli strains for direct target identification of small molecule antibacterial compounds	DST	19.60
Dr. P. Kumar	Structure analysis of DAHP synthase from Arabidopsis- thaliana	DST	27.95

(II) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Prof. R. P. Singh	Cloning and production of a genetically improved L- Asparaginase from *Escherichia coli*	DBT	22.72
Prof. R. P. Singh	Evolution of antimicrobial ingredients of some Indian ethnomedicinal plants mainly from compositae, verbanaceae, apocyanaceae and liliceae families from outer Himalayan region	DRDO	9.48
Dr. P. Roy	Environment chemicals and their impact on thyroid function: An in vitro and in vivo approach to identify them and understand their mode of action	DBT	32.36
Dr. P. Roy	Isolation and characterization of flavonoids from *Eugenia jambolana* and their use for the cure of management of diabetes and obesity	DST	42.75
Dr. P. Roy	A detailed study on the toxic effect of some environmental chemicals on reproductive system of animals	DBT	36.46
Dr. P. Roy	Organotins and phthalates: An in vivo and in vitro approach to understand their mechanism of actions as endocrine disruptor causing reproductive and metabolic disorders	CSIR	19.26
Dr. A.K. Sharma	Bio- informatics and structure based approach towards developing low molecular weight proteins with nuclease and translational inhibitory activities as new potential anticancer agents	ICMR	21.73
Dr. P. Kumar	Microbial Degradation of Toxic Aromatic Compounds Using Structural Biology Approach	DRDO	41.27
Dr N. K. Navani	Detection and mitigation of Dairy pathogen and detection of adulterants using chemical biology	NAIP-ICAR	445.99
Dr. N.K. Navani	Devolpement of an aptamer based biosensing system for detection of water borne pathogen *Escherichia coli* O157:H7	DBT	46.73

(III) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. P. Kumar	Structural studies of chorismate mutase type II (CM-2) from Bacillus subtilis	CSIR	23.92
Dr. P. Kumar	Structure based development of anti- bacterial inhibitors against enzyme involved in lipo-oligosaccharide (LOS) biosynthesis: against moraxella catarrhalis UDP-N acetyglucosamine acyltrasferase (LpxA")	ICMR	22.80
Dr. R. Pathania	A chemical Genetic Approach for Discovery of New Chemical Entities Against Multiple Drug Resistant Gram Negative Bacteria	ICMR	49.90
Dr. S. Tomar	Structure analysis of chitinase from tamarindus indica	SERB	37.34
Dr. Asvene K Sharma Under Supervisor Dr. P. Roy	Identification and molecular analysis of some bacterial proteins for their anti- cancer properties	SERB	25.00
Dr. Tapas Kumar Mondal Under Supervisor Dr. P. Roy	Early stage cancer detection by polyelectrolyte fabricated carbon nanoparticles	SERB	25.00

11. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

PI – Dr Naveen K Navani,
Funding Agency – Department of Biotechnology, Govt of India
Budget – Rs 46.73 Lakhs
Title : Devolpement of an aptamer based biosensing system for detection of water borne pathogen E. coli O157H7
Summary:
Enterohemorrhagic E.coli (EHEC) O157:H7 is a potentially fatal food-borne pathogen that can cause hemorrhagic colitis and the hemolytic uremic syndrome (HUS). Hallmarks of EHEC pathogenicity are the production of intestinal attaching and effacing (AE) lesions and the secretion of potent Shiga toxins. In 2007 Hamner et al reported the significant presence of E.coli O157:H7 in Ganges river and yet under-acknowledged health concern in India. For several health and quality control concerns it is imperative that specific detection of the pathogens be done before mitigation strategies can be directed against them. In this project, we propose to generate high affinity nucleic acid aptamers against specific hcp protein of E.coli O157:H7 which is a major player in gaining entry to the intestinal cells. We propose to attempt an optical detection system using aggregation/disaggregation method by conjugating thiol-modified aptamers to gold nanoparticles or quantum dots that can be used for on-site detection system of this fatal pathogen.

PI – Dr P. Kumar
Funding Agency – DRDO, Govt of India
Budget – Rs 41.27 Lakhs
Title : Microbial degradation of toxic aromatic compounds using structural biology approach.
Funding Agency – ICMR
Budget – Rs 38.00 Lakhs
Title: Structure-based development of anti-bacterial enzyme inhibitors against enzyme involved in lipooligosaccharide (LOS) biosynthesis: Structure determination and in-silico drug design against Moraxella catarrhalis UDP-N-ac.

PI – Dr A.K. Sharma
Funding Agency – ICMR
Budget – Rs 35.00 Lakhs
Title: Bioinformatic and structure-based approach towards developing low molecular weight proteins with nuclease and translational-inhbitory activities as new potential anticancer agents (started in May 2012)
Summary:
The present proposal aims to adopt a bioinformatic and structure-function based approach towards evaluating the potential anticancer properties of 2S storage proteins from

selected plant seeds (Citrus maxima, Citrus reticulata and Putranjiva roxburghii). The evalution of antiproliferative properties along with translational-inhibitory and nuclease activities will be performed. The three-dimensional structure analysis of native as well as its complex with specific inhibitors will be performed. A detailed structure analysis along with biochemical and biophysical studies will help in enhancing our understanding of the structure-function relationship of these proteins at molecular level. The successful completion of this project will certainly contribute towards developing them as potential anticancer agents.

PI- Dr. R. Pathania
Sponsoring Agency: Indian Council of Medical Research (ICMR),
Total cost: Rs. 49.9 Lakhs
Duration: 3 years.
Started on: September, 2012
Title: A chemical genetic approach for discovery of new chemical entities against multiple drug resistant Bacteria.
Summary:
The major cause of multi drug resistance (MDR) in bacteria is the presence of transporter proteins (efflux pumps) in their membranes that "pump out" the antibiotics from the cellular environment. Because of this multi drug resistance (MDR), available antibiotics cannot be used against many drug resistant bacteria. The present study targets on discovering efflux pumps inhibitors (EPIs) of five different families of efflux pumps which have been identified so far. The genes encoding different classes of efflux pumps will be cloned and expressed in a mutant strain of E. coli that lacks an intrinsic efflux pump. The recombinant strain will be used for screening a small molecule library to identify potential efflux pump inhibitors (EPIs). This will make available molecules which can be used along with the already available antibiotics in the clinic against multi drug resistant bacteria.

PI- Dr. S. Tomar
Sponsoring Agency : SERB, DST
Total cost: Rs 37.00 Lakhs
Duration: 3 years.
Title: Structure analysis of Chitinase from Tamarindus indica"
Summary:
Chitinase enzyme can hydrolyze the linear polysaccharide chains of chitin and peptidoglycan. The main aim of this proposal is to understand structure-function relationship of chitinase, an important plant defense protein that possess antimicrobial activity against fungi and bacteria. Chitinase enzyme will be isolated and purified from tamarind seeds. Molecular cloning of the gene will be done by isolating RNA and by doing RT-PCR, PCR, RACE. The obtained cDNA will be sequenced, which will be used for deducing the complete amino acid sequence of chitinase protein. The structure-function analysis will be done using biochemical and biophysical methods. The secondary structure determination and stability studies will be performed at different physiological conditions using various techniques like circular dichroism and fluorescence. Subsequently, crystallization by vapor diffusion method and atomic structure attempts will be made in native form and with its substrate analog complexes. The detailed crystal structure studies together with stability and secondary structural/biochemical studies in different conditions will help in enhancing our understanding of the structure-function determination will be done by X-ray crystallography technique. Crystallization relationship of this enzyme at atomic level. A full understanding of the structure/function relationships of chitinases might facilitate the production of transgenic plants with increased resistance towards a wide range of pathogens.

4.3 DEPARTMENT OF CHEMICAL ENGINEERING

Academic Staff: 21; Students Admitted: B.Tech.- 80; I.D.D.- 31; M.Tech.-68; Publications: Books/Book Chapter- 02; Journals- 60; Conferences- 52; New Projects: Research- Rs. 19.25 Lacs.

1. SALIENT FEATURES

During last year, the Department of Chemical Engineering celebrated its Golden Jubilee Year. It has made significant growth in research and publication in last decade. Department of Chemical Engineering, IIT Rookree organized an International Conference on "Advances in Chemical Engineering" between February 22-24, 2013; organized a workshop on "Future Trends in Chemical Engineering" on August 18, 2012. It also organized a series of Lectures by Eminent Personalities to celebrate its Golden Jubilee Year.

Prof. Surendra Kumar got retired on February 28, 2013. Two faculty members namely Dr. Shabina Khanam and Dr. V.C. Nathan joined the Department as Assistant Professors on July 09, 2012 and June 04, 2012, respectively. Dr. B. Prasad and Dr. R. Bhargava got promoted as Professor and Associate Professor, respectively. Many Ph.D. and M. Tech. research projects were completed in collaboration with widely acclaimed national and international institutions like IIP Dehradun, EIL, CBRI, BARC, etc. 60 research papers have been published in high Impact Factor journals and 52 research papers were presented in National and International Conferences.

Placement of UG students has been impressive as almost all UG students got attractive job offers in the core as well as other related companies. Department also organized two short term courses during this period with large participation from Central & State Pollution Control Board, Industries as well as Academic Institutions.

2. LIST OF FACULTY MEMBERS

Professors

Agarwal, Vijay K., Ph.D. (IIT Roorkee)
Process Modelling & Simulation, CAD, Process Control & Heat Transfer

Prasad, Baseshwar, Ph.D. (IIT Roorkee)
Energy Engineering, Pollution Abatement & Biochemical Engineering

Chand, Shri, Ph.D. (Banaras Hindu University, Varanasi)
Catalysis, Pollution Abatement

Mall, Indra D., Ph.D. (Banaras Hindu University, Varanasi)
Pollution Abatement Engineering, Chemical Technology

Kumar, Surendra, Ph.D. (University of Hannover) **[Retired on Feb. 28, 2013]**
Mathematical Modelling & Control, Numerical Simulation

Mishra, Indra M., Ph.D. (Banaras Hindu University, Varanasi)
Transport Phenomena, Environmental Engineering Biotechnology

Mohanty, Bikash, Ph.D. (IIT Roorkee)
Heat Transfer, Process Integration Simulation, Process Int. & Control

Associate Professors

Kumar, Vineet, Ph.D. (Banaras Hindu University, Varanasi)
CFD, Process Simulation, Petroleum Processing, Bioseparation

Balomajumder, Chandrajit, Ph.D. (IIT Roorkee)
Industrial Pollution Abatement, Bio-Chemical Engineering, Simulation and Modelling

Shashi, Ph.D. (IIT Roorkee)
Modelling & Simulation, Computer Aided Design

Sinha, Shishir, Ph.D. (IIT Kanpur)
Polymer Surface Modification, Bio Fuels

Bhargava, Ravindra, Ph.D. (IIT Roorkee)
Process Simulation, Optimization, Design & Control

Assistant Professors

Bharti, R.P., Ph.D (IIT Kanpur**)**
CFD, Non-Newtonian Fluid, Flow and Heat Transfer

Biswas, P., Ph.D (IIT Kanpur**)**
Heterogeneous Catalysis, Chemical Reaction Engg.

Dhiman, A.K., Ph.D (IIT Kanpur**)**
Modelling and Simulation

Gaurav, Ph.D. (IIT Kanpur)
Hydrodynamic Instability, Fluid Mechanics, Interfacial Phenomenon

Kumar, Vimal, Ph.D. (IIT Delhi)
Heat Transfer, Process Intensification, Renewable Feedstocks, CFD

Mondal, P., Ph.D (IIT Roorkee)
Environmental Engineering, Bio-Chemical Engineering

Srivastava, V.C., Ph.D (IIT Roorkee)
Environmental Engineering, Separation Process , Desulfurization

Khanam, Shabina, *Ph.D. (IIT Roorkee)* **[Joined on July 09, 2012]**
Process Integration Simulation, Process Int. & Control

Nathan, V.C., Ph.D. *(University of Alberta)* **[Joined on June 04, 2012]**

Multi-Phase Flows, CFD, Finite Element Method, Transport Phenomenon

3. HONOURS AND AWARDS TO FACULTY MEMBERS

Kumar,Surendra.

- Surendra Kumar, Member, Editorial Board, International Journal of Chemical Product and Process Modeling.
- Surendra Kumar, Expert Member of project monitoring committees of MSW processing plant at Timarpur, Delhi, and Bio CNG Bottling Plant at Warananagar, Kolhapur, Maharashtra, appointed by the Ministry of New & Renewable Energy, Government of India.
- Surendra Kumar, Expert Member, Academic Council of (a) H.B.T.I. Kanpur,(b) Graphic Era University, Dehra Dun,(c) Graphic Era Hill University, Kumaon.

Kumar, Surendra & Dr. Shashi

- Surendra Kumar & Shashi, Paper entitled, "Performance based fire safety design: estimation of movement time for evacuation using EVACNET-4", authored by Jawad Farooqui, Shorab Jain, Shashi, Surendra Kumar, M.P. Singh, which appeared in the Proceedings of Fire Science and Technology-Research & its Implementations- Nov. 3-4, 2011 pp 147-161 has been translated in Italian language by the University of Turni, Italy and it will be included in the book, "Fire Models and Algorithms", being written by Prof. Luca Marino and Mr. Vincenzo Puccia.
- Surendra Kumar & Shashi, Paper entitled "Comparative thermodynamic analysis of adsorption, membrane and adsorption-membrane hybrid reactor systems for methanol steam reforming", authored by Nisha Katiyar, Shashi Kumar, Surendra Kumar, which has been selected one amongst few out of 5000 peer reviewed journals by Renewable Energy-Global Innovations (ISSN. 2291-2460) and published its abstract on its website http:// reginnovations.org/ for wider dissemination of this article.

Indra Deo Mall

- Indra Deo Mall, Member Peer Committee for Development of Technical Environmental Impact Assessment guidelines, Ministry of Environment & Forest, Government of India.
- Indra Deo Mall, Member Board of Studies (BOS), HBTI Kanpur.
- Indra Deo Mall, Member BOS, University College of Technology, Guru Govind Singh Indraprastha University, Delhi
- Indra Deo Mall, Member Research Degree Committee, U.P. Technical University, Lucknow.
- Indra Deo Mall, Member, Board of Studies, Rohilkhand University, Bareilly.
- Indra Deo Mall, Member, Board of Studies, University of Petroleum & Energy Studies, Dehradun.
- Indra Deo Mall, Member, Board of Studies for Chemical Engineering, Rajeev Gandhi Technical University, Bhopal.

Kumar, Vineet.

- Vineet Kumar, Member, State Expert Appraisal Committee (SEAC), Punjab Pollution Control Board.
- Vineet Kumar, Member, Board of Studies for Chemical Engineering of Kurukshetra University.

Srivastava, V.C.

- Vimal Chandra Srivastava, “INAE Young Engineers Award 2012” by Indian National Academy of Engineering (INAE).
- Vimal Chandra Srivastava, “INSA Young Scientist Medal 2012” by Indian National Science Academy (INSA) in “Engineering Science Category”.
- Vimal Chandra Srivastava, “IEI Young Engineer Award 2012-2013” by Institution of Engineers, India in “Environmental Engineering” discipline.
- Vimal Chandra Srivastava, Member, Editorial Board, ISST Journal of Applied Chemistry.

Dhiman,A.K.

- Amit Kumar Dhiman, Member, Editorial Board, Journal of Nonlinear Dynamics, Hindawi Publishing Corporation

4. PARTICIPATION OF FACULTY IN CONFERENCES/ SEMI./ SYMP./ WORKSHOP/GUEST LECTURE

Name of Faculty	Details of Conference/ Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Date
All faculty members	Workshop on "Future Trends in Chemical Engineering"	Department of Chemical Engineering, IIT Roorkee	August 18, 2012
All faculty members	International Conference on "Advances in Chemical Engineering" (ACE-2013).	Department of Chemical Engineering, IIT Roorkee	February 22-24, 2013
Dr. V.C. Srivastava	Annual Convention, Indian National Academy of Engineering (INAE).	CBRI, Roorkee	December 05-06, 2012
Dr. V.C. Srivastava	Anniversary General Meeting, by Indian National Science Academy (INSA)	National Chemical Laboratory, Pune	December 27-29, 2012
Dr. V.C. Srivastava	28th National Convention of Environmental Engineers	The Institution of Engineers (India), Bihar State Centre, Patna	March 9-10, 2013
Dr. I.M. Mishra **Dr. V.C. Srivastava**	International conference on "Global Scenario in Environment and Energy"	Department of Chemical Engineering, Maulana Azad National Institute of Technology (MANIT), Bhopal, India.	March 14-16, 2013
Dr. I.M. Mishra	National Conference on 'Environmental Sustainability and Society: The Growing Paradigm Shift (ESS-2013)'	Department of Civil Engineering, Jaypee University of Engineering & Technology, Guna, India.	March 30-31, 2013

5. PARTICIPATION OF FACULTY IN SHORT TERM COURSES

Name of Faculty	Name of the Courses	Place	Date
Dr. I.M. Mishra **Dr. I.D. Mall** **Dr. V.C. Srivastava**	Hazardous waste, battery waste and E-waste management	IIT Roorkee	June 11-15, 2012
Dr. Bikash Mohanty & Dr. Shabina Khanam	Maximising energy savings in process industry using pinch analysis	IIT Roorkee	Jan. 7-9, 2013
Dr. I.M. Mishra **Dr. I.D. Mall** **Dr. V.C. Srivastava**	Monitoring & analysis of VOCs in water & wastewater, ambient air and emissions	IIT Roorkee	January 28-30, 2013
Dr. V.C. Srivastava	Short-term Course on "Promotion of Innovation in Higher Educational Institutions".	IPR Cell, IIT Roorkee.	March 1-5, 2013

6. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name	Designation & Affiliation	Purpose	Dates
Prof. M.M. Sharma	Chairman, BOG, IIT Madras	To be the Chief Guest in ACE-2013	February 22, 2013
Prof. G.D. Yadav	Vice Chancellor and R.T. Distinguished Professor, Inst. Of Chemical Technology, Mumbai	To deliver Keynote Address in ACE-2013	February 22, 2013
Prof. S.K. Gupta	Distinguished Professor, Dept. of Chemical Engg., University of Petroleum and Energy Studies, Dehradun	To deliver Keynote Address in ACE-2013	February 23, 2013
Prof. R.B. Gupta	Professor, Dept. of Chemical Engg., Auburn University, Auburn USA	To deliver Keynote Address in ACE-2013	February 23, 2013
Shri S.B. Mishra	Asai Glass Works Mumbai	To deliver Keynote Address in ACE-2013	February 23, 2013
Shri K.M. Tandon	Sr. Vice President, Shriram Fertilizers & Chemicals, Kota Rajasthan	To deliver Keynote Address in ACE-2013	February 23, 2013
Shri Om P. Goyal	Adjunct Professor, Chemical Engg.Dept, Inst.of Chemical Tech. Mumbai	To deliver Keynote Address in ACE-2013	February 23, 2013
Shri Ajay Mathur	Bureau of Energy Efficiency, Govt. of India	To deliver Keynote Address in workshop	August 18, 2012
Prof. R.P. Chabbra	Professor, Dept. of Chemical Engg., IIT Kanpur	To deliver Keynote Address in workshop	August 18, 2012
Dr. Sanjeev Kumar	Assoc. Professor, Dept. of Chemical Engg., ISC Banglore	To deliver Keynote Address in workshop	August 18, 2012
Mr.Anil Dhussa,	Advisor, MNRE, New Delhi	To deliver Keynote Address in workshop	August 18, 2012
Prof. S.N. Upadhyay	Ex-Director, IIT-BHU, Varanasi	To be Chief Guest in CPCB sponsored course	January 28, 2013

7. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Category (Gen/SC/ ST/PD)	Title of thesis
Mohd. Danish	Indian	Male	General	Analytical and approximate solutions of selected chemical engineering models
Deepika Arya	Indian	Female	General	Biodegradation dynamics of phenolic wastewaters by using Gilomastix indices MTCC 3869
Mohd. Zafar	Indian	Male	General	Microbial production of polyhydroyalkanoates and renewable materials
Sweta	Indian	Female	General	Synthesis of polymer supported metal catalysts and oxidation of organic compounds
Vishal Mishra	Indian	Male	General	Biological removal of zinc from industrial effluent
Divya Srivastava	Indian	Female	General	Simulation of multiple effect evaporators with and without fouling.

8. ACADEMIC ACTIVITIES ORGANIZED BY THE DEPARTMENT

Name of the conf./ Seminar/ Symp./ Workshop	Chairman	Sponsored by	Dates
International Conference on	**Prof. V.K. Agarwal**	ONGC, Tata Chemicals,	February

"Advances in **Chemical** Engineering" (ACE-2013).		GAIL, and many other organizations.	22-24, 2013
Workshop on "Future Trends in Chemical Engineering"	**Prof. V.K. Agarwal**	Many organizations	August 18, 2012

9. SHORT TERM / SPONSORED COURSES ORGANISED BY THE DEPARTMENT

Co-ordinator	Name of the Courses	No. of Participants	Dates	Source of funding
Dr. I.D. Mall and Dr. V.C. Srivastava	Hazardous waste, battery waste and E-waste management	25	June 11-15, 2012	AICTE sponsored
Dr. Bikash Mohanty & Dr. Shabina Khanam	Maximising energy savings in process industry using pinch analysis	15	Jan. 7-9, 2013	Self sponsored
Dr. V. C. Srivastava	Monitoring & analysis of VOCs in water & wastewater, ambient air and emissions	25	January 28-30, 2013	Central Pollution Control Board (CPCB), New Delhi

10. CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (Amount in Lakhs of Rs.)
Dr. B. Mohanty	NPTEL –Phase –II	MHRD	58.00
Dr. I.D. Mall as PI / Dr. V.C. Srivastava as Co-PI	Treatment of petroleum refinery wastewater in sequencing batch reactor	Ministry of Environment & Forest, New Delhi.	11.79
Dr. I.D. Mall as PI / Dr. V.C. Srivastava as Co-PI	Electrochemical treatment of textile industry wastewater	Council of Scientific and Industrial Research, New Delhi.	14.41
Head, Deptt. of Chemical Engg.	**FIST program from DST for strengthening of post-graduate teaching and research in the department**	**DST**	128.00
Prof. Akhilesh Gupta, P.I. **Prof. Surendra Kumar,** **Prof. Ravi Kumar,** **Dr.(Mrs.) Shashi,** **Dr. Amit Dhiman (MIED and CHED)**	Development of fire test facility for defining the design fire environment relevant for NPPS	BARC and DAE	400.00
Dr. P. Biswas	**Hydrogenolysis of Glycerol over supported nano-particle catalysts.**	**FIG-SRIC-IITR/MHRD**	5.00
Dr. R.P. Bharti	**Bluff body hydrodynamics of non-Newtonian fluids.**	**FIG-SRIC-IITR/MHRD**	2.80
Dr. I.M. Mishra as PI along-with other faculty members from IITR	**Ganga River Basin Management Plan**	**Ministry of Environment & Forest, New Delhi**	25.00
Dr. B. Mohanty as PI / Dr. P. Mondal as Co-PI	Studies on Effectiveness of Iodine and Heat Removal from PHWR Primary Containment During Loca by Spray System	Nuclear Power Corporation of India Limited (NPCIL) Mumbai	111.89
Dr. P. Mondal	Development of low cost system for the treatment of arsenic and fluoride	Ministry of Drinking water and sanitation,	8.51

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (Amount in Lakhs of Rs.)
	contaminated groundwater for rural communities	Govt. of India	
Dr. Vimal Kumar	Design and Development of Mixer for Fatty Acid Methyl Ester Production	FIG-SRIC-IITR/MHRD	3.05
Dr. Prakash Biswas	Hydrogenolysis of Glycerol over Supported Cu-Ni, Cu-Ru bimetallic nanoparticle catalysts	DST	26.58

11. (a) SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

- Hydrogenolysis of glycerol has received recent attention because the cost of glycerol as a by-product is projected to decrease significantly as biodiesel production increases. Hydrogenolysis of glycerol leads to the formation of 1,2-PD and 1,3-PDO and ethylene glycol (EG) as main products. These glycols are used widely in the syntheses of pharmaceuticals, polymers, agricultural adjuvant, plastics and transportation fuel. The commercial route to produce propylene glycol or ethylene glycol is by the hydration of propylene oxide or ethylene oxide derived from propylene or ethylene. The production of glycols by the catalytic hydrogenolysis of glycerol is a green process, as the existing methods use petroleum-derived products (fossil resources).

(b) New Research Projects (starting during 2012-2013)

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (Amount in Lakh of Rs.)
Dr. P. Mondal	Production of hydrogen rich gas from Indian coal through steam gasification	IIT Roorkee (FIG-A)	4.25
Dr. V.C. Srivastava	Oxidative Desulfurization of Liquid Fuels	Indian National Science Academy (INSA)	15.00

(c) New Consultancy/Testing Projects (Above Rs. 1,00,000/- only)

Name of PI/Date of start/ completion	Funding agency	Title	Outlay (Amount in Lakhs of Rs.)
Dr. I.M. Mishra	Evaluation of DGFASLI Schemes	Director General, Factory Advice Service and Labor Institutes, Ministry of Labor, Govt. of India	10.00
Dr. I.M. Mishra	Evaluation of GBPIHED Scheme	G.B. Pant Institute of Himalayan Environment & Development, Almora, Uttarakhand.	10.00

4.4 DEPARTMENT OF CHEMISTRY

Academic Staff: 27; Student Admitted: UG-18, PG-33, Ph.D.-42; Publication: Books/ Book Chapters-2, Journals-113, Conferences-36; New Projects : Research - 62.12Lacs

1. SALIENT FEATURES

Department of chemistry is an integral part of Indian Institute of Technology. Distinguished faculty members provide an environment where the students of B. Tech., M. Tech., M. Sc. and Ph.D. programs could explore and develop new chemistry. General areas covered include physical, organic, inorganic and analytical chemistry. However, faculty members are also involved in interdisciplinary research. This department is aiming to be one of the major centers for teaching and research in chemical sciences in India.

The department is equipped with state-of-the-art facilities like IR and electronic spectrophotometer, Gas Chromatograph, ESI-MS, GC-Mass, HPLC, AAS, elemental analyzer, flame photometer, cyclic voltammeter etc. to provide academic as well as industry oriented training to the post-graduated students. With Rs 82.47 Lakh plan and Rs 16.63 Lakh non plan grants, the department took several initiatives for the betterment of its teaching and research facilities. The faculty members visited a number of institutions and participated/ delivered talks in seminar/ symposia / conferences. The number of papers published in referred journals is 114 and 21 research papers were presented in various conferences/ symposia. A large number of students of the department have qualified NET -CSIR-JRF, GATE, UGC- JRF and other national level competitions. Moreover few students participated in summer project in abroad and international exchange program.

2. LIST OF FACULTY MEMBERS

Professors

Bhattacharjee, G., PhD, DIC (London)
Org. Rea. Mech
Bhushan, R., PhD (Jodhpur)
Proteins, Liq. Chromatogr., Org.
Goyal, R.N., PhD, DSc (Agra)
Org. Electro Chem
Gupta, V.K., PhD (Roorkee)
Chemical Sensors, Adsorption
Jain, A.K., PhD (Roorkee) (Guest Faculty)
Phys.-Org. Chem
Kamaluddin, PhD (Aligarh)
Phys.-Org Chem
Kumar, A., PhD (Roorkee)
Kinetics, Photocatal
Maurya, M.R., PhD (Kurukshetra)
Coord. Chem., Catal
Nath, M. (Ms), PhD (Lucknow)
Organomet., Bio-inorg.
Singh, A.K., PhD (BHU)
Macrocyclic Chem
Singh, U.P., PhD (BHU)
Bio-Inorg., Coord., Chem
Sondhi, S.M., PhD (Patiala)
Synth Heterocyl. Chem

Associate Professors

Gupta, Bina (Ms), PhD (Roorkee)
Solvent extraction chem
Gupta, K.C., DPhil (Allahabad)
Phys., Polym
Dutta, R.K., PhD (IUC, Kolkata)
Radiochemistry
Ghosh, K., PhD (IACS, Jadavpur)
Inorganic Biochemistry
Jeevanandam, P. PhD (IISc Bangalore)
Nanomaterials
Justin Thomas, K.R. PhD (IIT Kanpur)
Synthetic Organic Chemistry
Peddinti, R.K., PhD, (Univ. of Hyderabad)
Synthetic Organic Chemistry
Thankachan, P.P., PhD, (IIT Kanpur)
Theor. Chem

Assistant Professors

Ahmed, Naseem PhD (Aligarh)
Organic Chemistry
Debnath, P., PhD (Bangalore)
Theoretical Chem.
Mandal, T., PhD (IISc Bangalore)
Solid-state and material Chemistry
Sankar, M., PhD, (IIT Madras)
Inorganic, Supramolecules
Sharma, A., PhD, (HBT, Palampur)
Organic Chemistry
Kandpal H.C., PhD,(Mainz,Germany)
Computational and Mat. Sc.
Ramachandran C.N PhD,(IIT Kanpur)
Quantum chem., Mol. Modeling

3. HONORS AND AWARDS TO FACULTY MEMBERS

Gupta, V.K.

- Appointed As Editor Int J. Environmental Science And Technology (IF=3.05)

- Appointed As Vice Chancellor Dr.Ram Manohar Lohia Awadh Univercitu Faizabad(May 2013)
- Appointed As Member BOS HBTI KANPUR

Goyal, R.N.

- The paper entitled," A novel multi-walled carbon nanotube modified sensor for the selective determination of epinephrine in smokers", Electrochimica Acta was awarded second prize under journal publications in Electrochemistry duirng Fifth
- **ISEAC** Triennial International on Advances and Recent Trends in Electrochemistry, Hyderabad, January 16-20, 2013

Bhshan, R.

- Chairman, Library Advisory Committee, IITR, wef 01st Jan 2011 to 31st Dec 2012
- Chairman, DRC, Chemistry Department, wef 01st Jan 2011 to 31st Dec 2012
- Member, Board of Governors.
- Member, Finance Committee, wef 01st Jan 2012.

Prof. mala nath.

- Member of Editorial Board of ISRN Analytical Chemistry.
- Member of National Science Academy, Dehradun India (Since May, 2011).
- Life member of National Science Academy, Allahabad, India (Since May, 2006).
- Life member of Indian Science Congress (L-8799, since 2000), Calcutta.
- Life member of Indian Chemical Society (F/3595(LM), since 1991), Calcutta.
- Member of Senate of IIT Mandi
- Member of Academic Council of IIT Mandi
- Member of Editorial Board of ICFAI Journal, Dehradun, India Permanent member of the national academic advisory council of the P.D. COLLEGE OF SCIENCE, Assam.
- Member of Advisory Editorial Board of Journal of Bioscience and Medicine and Journal of BioSciences and Technology.

Prof U.P.Singh,

- Member : Inorganic Biological Society, USA
- Member : Editorial Advisory Board of the Open Catalysis Journal, Bentham Science

Singh, A.K.

- Chairman PG admission-2013
- Member, Board of studies, Thapar University, Patiala, Delhi; Technical University, Delhi; IT BHU, Varanasi
- Chief Vigilance Officer, IIT Roorkee
- Laison Officer OBC, IIT Roorkee
- Life member, Indian Science Congress
- Member of Academic Programme Committee of Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonepat

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Name of Institute/ Organisation Visited	Purpose of Visit	Dates
Prof.Kamaluddin	Vali-e- University Of Rafsanjan, Iran	Conference	Sep.5-7,2012
Prof.Kamaluddin	University Of Alexandria,Egypt	Conference	Nov.24-26,2012
Prof.R.N.Goyal	Pusan National University,Busan,South korea	Sabbatical	Dec.10,2011 to Dec.09,2012
Dr.Naseem Ahmed	Kula Terengganu University,Malaysia	Conference	Nov.22-24,2012
Prof.V.K.Gupta	University Of Tehran,Iran And KishIsland,Iran	Academic	Feb.10-15,2013

5. PARTICIPATION OF FACULTY IN CONFERENCE/SEMINAR/SYMPOSIA/WORKSHOP/GUEST LECTURE

Name of Faculty	Details of Conference/Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Dates
Dr.R.K.Peddinti	XV Organic Chemistry Conference Organized by MHRD/NOST Agra National Organic Symposium Trust(NOST)	Goa	Oct.10-14,2012

6. VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Dr. A. T. Khan	Professor	IIT Guwahati	Viva Voce exam and lecture
Dr.Sohan Jheeta	Professor	Open University England	To deliver lecture
Dr. Biplab Biswas	Research Fellow	Karlsruhe Institute of Technology, Germany	To deliver lecture
Dr. Kalyan Kumar Sadhu	Research Fellow	Université de Strasbourg Germany	To deliver lecture

7. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Title of thesis
Sunita Bishnoi	Indian	Voltammetric Sensors for the Determination for the Biomolecules/Doping Agents.
RamSwaroop Maharia	Indian	Metal Bioaccessibility and Antioxidant activites of Medicinal Plants from Mining Site.
Nivedita	Indian	Molecular Characterization of Rhamnolipid and Its Effect on Chandida Biofilm
Manu Sharma	Indian	Size and Shape Effects on the optical Properties of nanoscale material.
Seshi Reddy Surasani	Indian	Generation and Reactivity of opthobenzoquinone Monoketals.
Naganjaneyulu Bodipati	Indian	Generation and Reactivity of opthobenzoquinone Monoimines and Monoimides.
Rituraj Dubay	Indian	Liquid Chromatographic Enantioresolution of Pharmaceutically Important Compounds.
Muntjeer Ali	Indian	Organic Matter Transformations Including Trace organics During Rotary Drum Composting.
Chanchal Haldar	Indian	Synthesis, Reactivity and Catalytic Activity of Metal Complexes.
Arunima Nayak	Indian	Development of Low Cost Adsorbents for Waste Water Treatment.
Manviri Rani	Indian	Studies on Decay Profiles of Quinalphos and Thiram Pesticides.
Brij Bhushan	Indian	Role of Manganese oxides in Chemical Evolution.
Saurabh Sahu	Indian	Development and Evaluation of nanomaterial Based Targeted Drug Delivery System.

8. SEMINAR/ SYMP/ WORKSHOP ORGANISED BY THE DEPARTMENT

Name of Conf./Seminar/ Symp./ Workshop	Org. Secretary	Sponsored by	Dates
International workshop on chemical evolution and origin of life	Convener: Dr. Kamaluddin Secy: Dr. Nasem Ahmed Teasurer: Dr. K. Ghosh	CSIR, DST, ISRO, QIP-IITR	March 21-23, 2013
BRNS-AEACI Winter School on Analytical Chemistry	Dr. R. K. Dutta	BRNS Mumbai and Association of Environmental Analytical Chemistry of India (AEACI);	December 3-10 2012.

9. (I) COMPLETED SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. Ravi Bhushan	Synthesis of DNFB based chiral derivatizing reagents and their application for resolution of pharmaceutical enantiomers by LC	CSIR (5-01-2010 – 5-01-2013)	12.81

(II) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. Ravi Bhushan	Synthesis of DNFB based chiral derivatizing reagents and their application for resolution of pharmaceutical enantiomers by LC	CSIR	13.00
Dr. Anuj Sharma	Glyoxalic acid as an effective formaldehyde equivalent in iminemediated isocyanide based multi-component reaction cascades	DST	22.60
Dr. Anuj sharma	A diversity oriented synthesis of Cyclopenta-azulenonesas prospective Hemazoin inhibitors inmalarial chemotherapy.	FIG	4.75
Dr. Tapas Kumar Mandal	Design and synthesis of novel layered oxides and oxyhalides; Potential visible-light photocatalysts for hydrogen production.	FIG-A	4.75
Dr. Pallavi Debnath	Rupture dynamics in polymers with interconnecting bonds under constant force.	FIG-A	1.50
Dr. V.K. Gupta	Development of effective adsorbents from waste rubber tire for wastewater treatment.	DST	23.00

(III) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. Anuj Sharma	Design and synthesis of novel small molecules as putative PFDHFR antagonists in malarial chemotherapy	CSIR	14.00
Dr. M. Sankar	Photophysical and photovoltaic properties of novel porphyrin-fullerenes host-guest assemblies.	CSIR	23.42
Dr. R.K. Dutta	In-vitro gastrointestinal based bioaccessibility of heavy metals in plant based food materials grown in active mining region.	BRNS Mumbai	24.70

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

(i) Synthesis of DNFB based chiral derivatizing reagents and their application for resolution of pharmaceutical enantiomers by LC., PI : Dr. Ravi Bhushan

Summary: Pharmaceuticals marketed as racemic mixtures, such as, (RS)-Cinacalcet; (RS)-fluoxetine; (RS)-mexiletine; (RS)-baclofen; β-blockers; and Selenomethionine were chosen to develop methods for separation of enantiomers and to isolate individual antimers for further investigation.

Marfey's reagent having DFDNB platform and its structural variants were synthesised as Chiral derivatizing reagents (CDRs), these included, FDNP-L-Ala-NH2, FDNP-L-Phe-NH2, FDNP-L-Val-NH2, FDNP-L-Pro-NH2, FDNP-L-Met-NH2, FDNP-L-Met-NH2 and FDNP-D-Phg-NH2. In addition, following CDRs

were also synthesized:N-(4,6-dichloro-[1,3,5]-triazine-2-yl)- (S)-(-)- β, 4-dimethylbenzyl amine; N-(4,6-dichloro-[1,3,5]-triazine-2-yl)- (-)-cis-myrtanyl amine, and N-(4,6-dichloro-[1,3,5]-triazine-2-yl)- (R)-(-)-cyclohexylethyl amine. These CDRs were used to prepare diastereomers of amino group containing pharmaceutical molecules.

Besides, hydrazine based CDR, (NAP-H) was synthesized to attain the functional reactivity for carbonyl group and was used for enantioseparation of six pairs of chiral aldehydes and ketones via synthesis of hydrazone diastereomers. All the the diastereomers were subjected to enantioseparation by HPLC using different mobile phases. Enantioresolution of diastereomers of (RS)-Cin was also developed using TLC plates impregnated with L-His and L-Arg. The project was successful in achieving its main objective.

(ii) In vitro gastrointestinal based bioaccessibility of heavy metals in plants based food materials grown in active mining region (Funded by BRNS, Total funding Rs. 24.7 lacs).,PI : Dr.R.K.Dutta

Summary: In this project the emphasis will be to generate data base for food materials grown near active mining sites in order to estimate the risk of transferring metals from local soil to human food chain. The site identified for this study: Khetri copper mine and Zawar zinc mine. Exhaustive elemental analysis of food materials like cereals and vegetables grown nearby the mining areas will be carried out using neutron activation analysis in collaboration with Radiochemistry Division of BARC and using ICPMS (at IITR). Since total metal concentration is not a good indicator of the toxicity of metals, we have proposed bioaccessibility study of metals of interest, which is a better index of environmental impact on food chain. The success of this project would lead to more exhaustive studies to be taken up to map the bioaccessibility of metals in various mining sites of India.

(iii) Polymerization of biomolecules on metal oxide surfaces: Implication in origin of life ISRO, Bangalore; 23,80,000/- ; Dec 10, 2012.,PI : Prof. Kamaluddin

Summary: The immediate objective of the project will be to demonstrate the importance of transition metal oxides as efficient catalyst in the polymerization of amino acids and nucleotides. In the case of nucleotide oligomerization through 3/-5/ linked products will be estimated. All living systems involve mostly 3/-5/ linked nucleotides in nucleic acid. It is important to mention that metal oxides have been found to have extremely high affinity towards amino acids and nucleotides. In our recent studies (Brij Bhushan, Uma Shanker and Kamaluddin, Orig Life Evol Biosph 41, 469–482 (2011)) a series of metal oxides with different oxidation states have been synthesized and their adsorption behavior towards a series of biomolicules has been studied. It is hoped that these metal oxides will also prove to be good agent for the polymerization reaction.

(iv) Dr.Naseem Ahmed

Breast cancer, a major women killer is 70-80% overexpressed with estrogen receptors (ERs). So, ERβ and/or ERβ would be the legitimate target for prognostic marker and therapy. Estrogen receptor–ligand interactions produce diverse responses, which result in a complex and heterogeneous genetic alteration. Like, overexpression of ER suppresses p53 causes uncontrolled cell cycle and wild proliferations. Drugs are used either as antiestrogens or aromatase inhibitors, which gave adverse effects as endometrial proliferation or tumor flare or tumor-resistance in long use. Aim of our project is to design, synthesize and evaluate their ER binding affinity against human breast cancer cell lines for some novel flavones, flavones–estradiol conjugates and indanone based tamoxifen analogs. Flavones are derivatized for better lipophilicity. Flavone–estradiols are linked with alkyl or alkynyl chain spacer via C-C bond for better stability, structural flexibility and biological activity. Tamoxifen is a vital chemotherapy drug, however optimal tissue selectivity has not yet been demonstrated. Thus, tamoxifen analogs as novel scaffolds are still a need for additional diversity and new chemical scaffolds for improved tissue selectivity.This proposal will provide

molecular level insights into biological processes and explore living systems in chemical biology. Potentially target-specific anti-tumor agents expected to give new drug candidates against breast cancer treatment.

(v) Synthesis of chelating Ionophores and electroanalytical investigation as Ion-selective sensor (Sponsoring Agency:CSIR) Total outlay :14 lacs PI : Dr. A.K.Singh

4.5 DEPARTMENT OF CIVIL ENGINEERING

Academic Staff : 47; Students Admitted : UG-120, PG-145, Ph.D.-39; Publications : Books/Book Chapters : 02; Journals -196,Conferences – 157, New Projects : Research – Rs. 66.46 Lacs,

1. SALIENT FEATURES

The Department of Civil Engineering at IIT Roorkee was established as Roorkee College in 1847 with Civil Engineering as the only discipline and, thereafter, re-designated as Thomason College of Civil Engineering in 1854. This college was, then, elevated to the status of technical university and, thus, the University of Roorkee came into existence in 1949. The Department and the University celebrated 150 years of imparting civil engineering education in India during 1997-98. The University of Roorkee was merged into the IIT system of India and, thus, renamed as Indian Institute of Technology Roorkee by the Government of India on Sept. 21, 2001. It is hailed as one of the best and most outstanding Civil Engineering Educational complexes of the world, with glorious past traditions.

The Department offers a four-year course leading to the Bachelor's Degree in Civil Engineering. It provides information about the latest developments in civil engineering to its students from India and abroad. The Department also provides education at Master's and Ph.D. levels in eight disciplines of civil engineering. At present, around 112 Ph.D. scholars are pursuing their doctoral research. The academic and research activities are coordinated by six major groups of specialization. These are Structural Engineering, Hydraulic Engineering, Geotechnical Engineering, Transportation Engineering, Environmental Engineering and Geomatics Engineering. The Department is known for its internationally reputed faculty having expertise in diverse fields. It has built up a wide research potential. The Department has unique facilities like Boundary Layer Wind Tunnel, Asphalt Rheometer, Electronic Total Stations, Flex 2D Software, 1000 kN Electro-hydraulic actuators, Electronic bed level recorder, Water Hammer and Surge Tank Experimental set-up, Data Acquisition System and Universal Testing Machine.

During the year 2012-2013, the faculty earned honours and awards for their achievements. The faculty visited a number of Institutions and participated in Seminar / Symposium / Conferences and short-term specialist courses. During the year 13 Ph.D. degrees were awarded.Academic Staff at present is 45.

2. LIST OF FACULTY MEMBER

Professors

Ahmad,Z.,Ph.D.(Patiala)
Hydraulic Engg. Computational Hydraulics, Pollutants, Pollutants Transport

Ahuja, A.K., Ph.D. (Roorkee)
Structural Engg.

Arora, M.K., Ph.D. (Swansea)
Remote Sensing

Bhargava, Pradeep, Ph.D. (Wales)
Finite Element Applications, Structural Engg.

Bhargava, Renu (Ms), Ph.D. (Roorkee)
Solid Waste Management, Biological Waste Treatment

Chandra, Satish, Ph.D. (Roorkee)
Highway Capacity, Traffic Flow Modeling, Pavement Materials

Garg, P.K., Ph.D. (Bristol)
Surveying & GPS, Remote Sensing & GIS

Ghosh, S.K., Ph.D. (Glasgow)
Surveying & GPS, Remote Sensing & GIS

Jain, A.K., Ph.D. (USA)
Reinforced Concrete, Structural Dynamics, Rehabilitation

Jain, S.S., Ph.D. (Roorkee)
Pavement Management System, Road Traffic Safety, Transport Environment Interaction

Kashyap, Deepak, Ph.D. (Roorkee)
Head
Ground Water

Kothyari, U.C., Ph.D. (Roorkee)
Modelling of Hydraulic and Hydrologic Systems, Remote Sensing & GIS Applications

Kumar, Pradeep, Ph.D. (Roorkee)
Biological Methods of Waste Water Treatment

Kumar, Praveen, Ph.D. (Roorkee)
Rural Roads, Intelligent Transport System, Highway Materials

Ojha, C.S.P., Ph.D. (London)
Environmental Hydraulics

Parida, M., Ph.D. (Roorkee)
Urban Transport Planning, Highway Safety, Transport Environment Interaction

Samadhiya, N.K., Ph.D. (Roorkee)
Rock Engineering & Underground Space Technology, Soil Structure Interaction

Singh, Mahendra, Ph.D. (IIT Delhi)
Geotechnical Engineering

Viladkar, M.N., Ph.D. (Roorkee)
Rock Engineering, Numerical Methods, Static & Dynamic Soil Structure Interaction
Prasad Hari,K.S.,Ph.D(IISC.,Bangalore)
Ground Water Modelling, Parameter Estimation, Stochastic Hydrology
Uphadhyay,A.,Ph.D(IIT Madras)
Structural Optimization, Laminated Composite Structures, Bridges

Associate Professors

Gairola, Ajay, Ph.D. (Roorkee)
Hydraulics & Wind Engineering (on leave)
Gurjar, B.R., Ph.D. (IIT Delhi)
Air/water pollution, Environmental risk and impact assessment, Climate change
Gupta, P.K., Ph.D. (IIT Delhi)
Computational Mechanics, Large Deformations, Plasticity, Impact Mechanics
Jain, Kamal, Ph.D. (Roorkee)
Geomatics Engineering, Analytical & Digital Photogrammetry
Kazmi, A.A., D. Eng. (Tokyo University)
Water & Wastewater Treatment, Water Quality Management
Chakrabarti, Anupam, Ph.D. (IIT Kharagpur)
Structural Engineering
Garg, R. D. , Ph.D. (Roorkee)
GPS, Remote Sensing, Surveying
Ghosh, J.K., Ph.D. (Roorkee)
GPS, Remote Sensing, Surveying (Land & Geodetic)
Kumar, Pramod, Ph.D. (Roorkee)
Environmental Risk Assessment, Air Pollution, Environmental System Modelling
Maheshwari, Priti, Ph.D. (IIT Kanpur)
Soil-Structure Interaction, Numerical Method in Geomechanics, Ground Improvement
Mittal, S., Ph. D. (Roorkee)
Ground Improvement, Soil Dynamics, Geotechnical Engg., Foundation Design
Rastogi, Rajat, Ph.D. (IIT Bombay)
Non –Motorized and Motorized Modes Integration, Urban Transport Planning
Savant, V. A. Ph.D. (IIT Bombay)
Geotechnical Engineering
Sharma, Umesh, Ph.D. (Roorkee)
Structural Engineering
Singh, Bhupinder, Ph.D. (Roorkee)
Concrete Technology

Assistant Professors

Choudhary, Rajib
Iqbal,M.A.,Ph.D(IIT Delhi)
Impact Behaviour of Materials, Finite Element Analysis of Structural Impact
Ransinchung G.D.,Ph.D(BHU Varanasi)
Transportation Engineering
Sarkar,Sudipta
Sharma, P.K. Ph.D. (IIT Kanpur)
Sub-Surface flow

Assistant Professors (on Contract)

Gosh, Indrajeet
Transportation Engineering
Ray,Sonalisa
Structural Engineering

Emeritus Fellows

Bhandari,N.M.,Ph.D (Roorkee)
Structural Engg., Non-linear Mechanics, Rehabilitation of Structures
Gupta, V.K., ME (Roorkee)
Structural Engg., Ferrocement Concrete Structures
Mehrotra, Indu (Ms.), Ph.D. (IIT Kanpur)
Waste Water Treatment, Metal Speciation, Water Chemistry

Scientific Officer Grade-II

Singh Gajraj, Ph.D. (Roorkee)
Numerical Solution of Structures

3. HONORS AND AWARDS TO FACULTY MEMBERS

Ahmad, Z.

- Journal of Institution of Engineers, India.
- Journal of Irrigation and Drainage, ASCE, USA
- Journal of Hydraulic Engineering, ASCE, USA
- Journal of Engineering & Material Science, NICAIR, India
- Flow Measurement and Instrumentation Journal, Elsevier, Cambridge, UK
- Journal of Hydraulic Engineering, Indian Society for Hydraulics, India
- Journal of Indian Water Resources Society, India
- Journal of Applied Soft Computing, Elsevier, Cambridge, UK
- Journal of Water Management, Institution of Civil Engineers, UK
- Journal of Pipeline Systems Engineering and Practices, ASCE, USA
- Journal of Water Science and Technology, IWA Publishing UK
- Journal of Hydraulic Research, IAHR, The Netherlands

Bhargava, Renu

- Member of the Editorial Board of the American Journal of Environmental Engineering
- Reviewer for the journal of Waste management Research, published by International Solid Waste Association.

- Reviewer of the Journal of Agricultural science And Technology Islamic Republic of Iran
- Worked as reviewer of Journal of Indian Water Resources Society.
- Reviewer for Jr. American Society of Civil Engineers (ASCE),
- Reviewer of ASCE -Practice Periodical of Hazardous, Toxic & Radioactive Waste Management
- Reviewer of Journal of Chemical Technology & Biotechnology, Elsevier Publications
- Reviewer for the journal of Environmental Management, NEERI

Chandra, Satish

- Nominated Member, Research Council, NATPAC, Trivendrum for a period of three years
- Bihar PWD Medal on Research paper titled "Simulation of mixed traffic flow on four-lane divided highways" published in the Journal of Indian Roads Congress in 2011.
- Member, BOS for the Department of Civil Engineering, Indian School of Mines, Dhanbad

Chowdhury,Rajib

- Newton alumni follow-on support from Royal Society

Garg P.K.

- Expert Member, Uttarakhand Public Service Commission for Examination related work.
- Expert Selection Committee at THDC Institute of Hydropower & Technology, Tehri
- Expert Selection Committee at PEC University of Technology, Chandigarh
- Expert Selection Committee at MNIT, Jaipur
- NBA Visit to G. Pulla Reddy Engineering College Kurnool, A.P.
- AICTE Visit to Krishna Anjana Institute of Management & Technology, Meerut

Garg, R.D.

- Outstanding Teacher Award by IIT Roorkee.
- Reviewer for The Journal of Hazardous materials, Elsvier's Publications.
- Member Indian Road Congress committee on environment (G-3) (national)
- Member of the Scientific Advisory Committee J&K Lake and Waterways Development Authority

G.D.Ransinchung,R.N

- Received Best Paper Award for the paper entitled 'Study on Use of Modifiers in Bituminous Mixes-A Review' on Twenty-Eight National Convention of Civil Engineers and National Seminar on Role of Infrastructure for Sustainable Development held during October 12-14, 2012 at IEI, Roorkee Local Centre, Roorkee.

Ghosh, J.K.

- INAE "Innovative Student Projects Award – 2012" for the doctoral thesis titled "Development of a Geo-Hazard Warning Communication System by Devanjan Bhattacharya".
- Gandhian Young Technological Innovation Award 2013 by SRISTI, IIM Ahmedabad for the doctoral thesis titled "Development of a Geo-Hazard Warning Communication System by Devanjan Bhattacharya".

Gosh,S.K.

- Awarded best paper at International Conference on System modeling and Advancement in Research Trends SMART 2012, Moradabad, and October 12-13, 2012.

Gurjar, B.R.

- Chairman, The Institution of Engineers (India) Roorkee Local Centre
- UK India Education and Research Initiative (UKIERI) Award to visit Univ. of Surrey (UK) from 20 December 2012 to 10 January 2013.
- Highly Cited Author of journal Atmospheric Environment (Elsevier)
- Editorial Board Member, American Journal of Environmental Protection.

Jain S.S.

- Best Paper Award by RLC, IE (I) on the paper an entitled "Application of GIS in Enhancing Urban Pavement Management System", 12-14th October 2012.
- Member, Executive Council DCR, University of Science & Technology Murthal (Sonepat)
- Member, Highway Research Board (HRB) & Core Group, HRB, IRC, New Delhi
- Co-Convenor, Road Maintenance & Asset Management Committee, IRC, New Delhi
- Member, Highway Specifications & Standards Committee (HSS), IRC, New Delhi
- Member, Flexible Pavement Committee, IRC, New Delhi

- Member, Governing Council, Institute of Urban Transport (UT), New Delhi
- Member, Road Safety & Design Committee of IRC
- Chairman, Roorkee Regional Chapter of IUT(I), New Delhi
- Member, Board of Studies, UPTU, Lucknow

Kazmi, A.A.

- EXPERT REVIEWER, Technical Options for Solid and Liquid Waste Management in Rural Areas- A Handbook, Ministry of Drinking Water Supply & Sanitation, Govt. of India
- TECHNICAL EXPERT, NOIDA AUTHORITY for NATIONAL GREEN TRIBUNAL.
- MEMBER, EDITORIAL COMMITTEE, Manual of Sewerage and Sewage Treatment (Part A: Engineering, Part B O&M, Part C; Management)) Nov 2012.
- SESSION CHAIRMAN, Two-day National Workshop for Finalisation of Revised Manual on Sewerage and Sewage Treatment (Part B: Operation and Maintenance) and (Part C: Management) on 21-22 Jan 2013 at New Delhi
- MEMBER, ADVISORY BOARD, India Water Impact Summit 2012 at IHC, New Delhi 3-5 Dec 2012
- SESSION CHAIRMAN, A Two-day National Workshop for Finalization of Revised Manual on Sewerage and Sewage Treatment 20th – 21st September, 2012, Venue : Hall No 4, Vigyan Bhavan, Maulana Azad Road, New Delhi, 110011

Kumar, P.

- Member, Board of Studies (Civil Engg), Harcourt Butler Technical Institute (HBTI), Kanpur.
- Convener, Research Degree Committee (Civil Engineering), Uttar Pradesh Technical University
- Vice Chancellor's Nominee, Selection Committee, B.I.T. Engineering College, Meerut
- Member, National Executive Committee, National Rural Roads Development Agency (NRRDA) responsible for Pradhan Mantri Gram Sadak Yojna (PMGSY) at National level.
- Member, Empanelment Committee, NRRDA responsible for monitoring of National Quality Monitors of PMGSY.
- Coordinator, Principal Technical Agency, PMGSY for Uttar Pradesh, Bihar, Jharkhand and West Bengal.
- Coordinator, State Technical Agency, PMGSY for Uttar Pradesh and Uttarakhand
- Best Paper of the Session Award on paper Studies on Use of Modifiers in Bituminous Mixes -A Review, in National Seminar on Role of Infrastructure for Sustainable Development, 28th National Convention of Civil Engineers, The Institution of Engineers Roorkee, October 12-14, 2012.

Mittal,Satyendra

- IGS-Indira Joshi award for the best paper, entitled, "Underground basement construction adjoining historical monument by soil nailing- a case study".
- Delivered a keynote lecture in Administrative Training Institute Nainital on "Landslide control techniques".

Ojha,C.S.P.

- Best Theoretical Oriented Paper entitled "Virus Transport through unsaturated zone: Analysis and parameter identification", awarded at The World Environmental and Water Resources Congress, Cincinnati, Ohio.

Parida,M.

- Member, Board of Governor, Kamla Nehru Institute of Technology Sultanpur.
- Subject Expert, BOS, G.B. Pant Engineering College, Pauri Garhwal.
- Member, Board of Studies, School of Planning & Architecture, Bhopal.

Rastogi,Rajat

- Corresponding member of Urban Roads, Streets and Transport Committee (H-8) of Indian Roads Congress for the period January 2012 to December 2014.
- Member of the Board of Studies (BOS) Civil Engineering of Rajasthan Technical University Kota for the period February, 2010 to February 2014

ViladkarM.N.

- Best Paper award by Indian society for Rock Mechanical & Tunnelling Society

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Name of Institute/ Organisation Visited	Purpose of Visit	Dates
B.R.Gurjar	University of Surrey, Guildford, UK	To conduct Colloaborative Research under UKIERI Followship	Dec.21, 2012- Jan. 09, 2013.
Rajat Rastogi	IIT Bombay	Academic Interaction and conference	December 11-15, 2012
P.K. Garg	Peiking University, China	e- learning forum Asia	April 24-27,2012
P.K. Garg	Osaka, Japan	Fourth Asian Conference on Education	Oct 24-28, 2012

5. PARTICIPATION OF FACULTY IN CONFERENCES/ SEMINAR/ SYMPOSIA/ WORKSHOP/GUEST LECTURE

Name of Faculty	Details of Conference/Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Dates
Ahuja, A.K.	Conference on "WIND ENGINEERING (NCWE)"	CSIR, NEW DELHI	December 14 - 15, 2012
Chandra, Satish	National Workshop on "Transportation Challenges – 2022 and R & D Needs"	NEW DELHI	March 01-02, 2012
Chandel, M.K.	Ist International Brainstorming Workshop on "WASTE TO ENERGY IN INDIA"	Nehru Centre Worli, MUMBAI	August 24-25, 2012
G.D. Ransinchung R.N	Workshop on "EXPERIMENTAL STRUCTURAL DYNAMICS, STRUCTURAL HEALTH MONITORING AND NON-DESTRUCTIVE EVALUATION"	I.I.T. DELHI	March 09, 2013
Garg, R.D.	Conference on "URBAN TRANSPORT CONFERENCE"	Hotel Sheraton, NEW DELHI	August 28-29, 2012
Garg, R.D.	National Seminar on "Geospatial Solutions for Resource Conservation and Management (GEOS-2012)"	KSRSAC, BANGALORE	January 18-20, 2012
Ghosh, Indrajit	Workshop on "USING SCIENCE AND DATA IN ROAD SAFETY MANAGEMENT"	I.I.T. CHENNAI	February 15 - 16, 2013
Gupta, P.K.	Conference on "INNOVATIONS IN CONCRETE CONSTRUCTION"	JALANDHAR (Punjab)	March 05 - 08, 2013
Gupta, V.K.	Conference on "WIND ENGINEERING (NCWE)"	CSIR, NEW DELHI	December 14 - 15, 2012
Iqbal, Ashraf	Symposium on "LARGE DEFORMATIONS UNDER DYNAMIC LOADING"	INSA, NEW DELHI	September 01, 2012
Jain, Kamal	Conference on "GIS & RS for R&U Dev."	ORSAC, BHUBNESWAR	February 03-04, 2012
Jain, Kamal	International Conference on "Computer Science and Information Technology (CSIT-2012)"	GUWAHATI	January 15-16, 2012
Kashyap, Deepak	Conference on "HYDRAULICS, WATER RESOURCES, COASTAL AND ENVIRONMENTAL ENGINEERING (HYDRO-2012)"	IIT, Bombay	December 7 - 8, 2012
Mittal, Satyendra	Workshops on "Geotechnology for Urban Development (IK-GUD)"	IIT, Delhi	December 12, 2012
Mittal, Satyendra	Indian geotechnical conference, igc-2012	IIT, Delhi	December 13-15, 2012
Mittal, Satyendra	"Landfill design with geomembrane"	NEW DELHI	November 27, 2012
Mittal, Satyendra	"Twenty Eighth National Convention of Civil Engineers"	Roorkee	October 12-14, 2012
Mittal, Satyendra	National Seminar on "Engineering for Ground Improvement and Rehabilitation of	Law Garden, AHMEDABAD	March 10, 2012

Name of Faculty	Details of Conference/Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Dates
	Old Structures"		
Rastogi, Rajat	Indian Roads Congress "73rd ANNUAL SESSION"	COIMBATORE, (Tamil Nadu)	January 7 - 11, 2013
Rastogi, Rajat	Conference on "TRANSPORTATION PLANNING & IMPLEMENTATION METHODOLOGIES FOR DEVELOPING COUNTRIES (TPMDC 2012)"	IIT, Bombay	December 12 - 14, 2012
Sawant, V.A.	Workshop on "REINFORCED EARTH AND GEOSYNTHETIC ENGINEERING"	LUDHIANA (Punjab)	December 16, 2012
Sawant, V.A.	"Advances in geotechnical engineering (age-2013)"	S.V.N.I.T, SURAT	June 08 - 09, 2013
Samadhiya, N.K.	National Seminar on "MODERN TRENDS AND INNOVATIONS IN CIVIL ENGINEERING"	Gyan Ganga College of Technology, JABALPUR	March 16-17, 2012
Sharma, K. Umesh	Conference on "INNOVATIONS IN CONCRETE CONSTRUCTION"	JALANDHAR (Punjab)	March 05 - 08, 2013
Sharma, P.K.	Workshop on "Modelling Water Flow and Contaminant Transport in Soils and Groundwater using the HYDRUS Software Packages"	I.I.Sc., BANGALORE	February 04-05, 2012
Sharma, P.K.	International Conference on "(ENSURE-2012)"	I.I.T., GUWAHATI	February 24-26, 2012
Singh, Bhupinder	Conference on "INNOVATIONS IN CONCRETE CONSTRUCTION"	JALANDHAR (Punjab)	March 05 - 08, 2013
Singh, Mahendra	Indian Geotechnical Conference on "ADVANCES IN GEOTECHNICAL ENGINEERING"	IIT, Delhi	December 13 - 15, 2012
Singh, Mahendra	2nd International Conference on "Advances in Mechanical Manufacturing and Building Sciences (CAMB 2012)"	VNIT University, VELLORE	January 09-11, 2012
Singh, Mahendra	"Fourth indian rock conference (indorock-2013)"	(JUIT), Waknaghat, SOLAN	May 29 - 31, 2013
Singh, Mahendra	"Fourth young indian geotechnical engineer's conference"	I.I.T. Madras	May 17 - 18, 2013

6. PARTICIPATION OF FACULTY IN SHORT TERM COURSES

Name of Faculty	Name of the Course	Place	Dates
P K Garg **S K Ghosh** **R D Garg**	Engineering Surveying using Modern Instruments	18	July 4-9, 2012
Praveen Kumar	Two Courses on Roads and Bridges-I	18	Feb 25 –March 1, 2013
Praveen Kumar	Two Courses on Roads and Bridges-II	21	March 11-15, 2013
Satyendra Mittal	Advanced training course on Roads, Bridges and Buildings	20	July 23-27, 2012
R.D. Garg	GIS Applications (sponsored by Ministry of Power, New Delhi)	31	January 3-5, 2013
R.D. Garg	GIS Applications (sponsored by Ministry of Power, New Delhi)	13	February 25-27, 2013
Mahendra Singh,	Rock Engineering for Hydroelectric Projects for NHPC officers	06	March 18-20, 2013

Name of Faculty	Name of the Course	Place	Dates
M.N. Viladkar, N.K. Samadhiya Sudipta Sarkar	Technologies for clean and renewable energy production	25	June 3-7,2013

7. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Title of Thesis
Abid Ali Khan	-	Male	Post Treatment of UASB Effluent: Aeration & Variant of Asp
Ankit Gupta	Indian	Male	Structural and functional performance modeling of flow volume roads
Devanjan Bhattacharya	Indian	Male	Development of Geo Hazard Warning Communication system
Kesheo Prasad	Indian	Male	Study on Turbulent Flow in Open Channels
Kriti Mukherjee	Indian	Female	Fractal Analysis to reduce the Dimensionality of Hyperspectral Data
Manish Kumar Goyal	Indian	Male	A Study on the effect of Roughness on PAN evaporation.
Manoj Kumar	Indian	Male	Heat and Mass Transfer Analysis of Evaporation from Water Bodies.
Nirmal Kumar Bhatnagar	Indian	Male	Effects of Geometrical Shapes on Wind Loads on Buildings.
Sanjeev Kumar	Indian	Male	Experimental Investigation of Flow over Trench Weir with flat bars.
Sanjeev Suman	Indian	Male	Web GIS based advanced public transport system using Mapserver and ant algorithm
Sunil Chandra	Indian	Male	Remote Sensing Based Forest covers mapping using recent techniques.
Vikram Annasaheb Patil	Indian	Male	Dynamic Analysis of Rigid Pavements Considering Vehicle-Pavement Interaction.
Vivek R Das	Indian	Male	Crossing behaviour of pedestrains in mixed traffic conditions.

8. (I) COMPLETED SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
A. A. Kazmi	Supporting consolidation, replication and up-scaling of sustainable wastewater treatment and reuse technologies for India	DST, Govt. of India	266.00
A. K. Ahuja	Development of Energy Efficient Construction Materials for Buildings sponsored by BMC		
Gurjar, B.R.	Implementation and Validation of Numerical Models for Heat Island Studies in Mega-City Delhi	Japanese Ministry of Education, Culture Sports, Science and Technology (MEXT) through Meisel University, Tokyo, Japan	2.40 (707364 JPY)
C S P Ojha	Mitigating Climate Change Impacts on India Agriculture through improved Irrigation Water	NERC (U.K.) - MOES Project	116.00

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
	Management		
C S P Ojha	Hydrometeorological feedback and changes in water storage and fluxes in northern Indian basins	NERC (U.K.) - MOES Project	299.00
Deepak Kashyap	Study regarding Evaluation of Plan Scheme "R&D Programme in Water Sector" of MoWR during XI Plan Period in respect of National Institute of Hydrology (NIH), Roorkee	MOWR, Govt of India	35.00
Deepak Kashyap	Study regarding Evaluation of Plan Scheme "R&D Programme in Water Sector" of MoWR during XI Plan Period in respect of Central Water Commission	MOWR, Govt of India	31.00
G.D. Ransinchung R.N	Study the influence of moisture states of recycled aggregates for use in Pavement Quality Concrete (PQC)	DST Gov of India	17.22
J. K. Ghosh	Dimensionality Reduction of Hyper-spectral Remote Sensing Data	ISRO, Bangalore	14.12
K.S. Hariprasad	Pathogen Transport Through sub surface	DST, Delhi	31.00
K.S. Hariprasad	Miligating Climate change effects on India Agriculture	Ministry of Earth Sciences	116.00
Pramod Kumar Sharma	Development of Energy Efficient Construction Materials for Buildings	BMC	
P K GUPTA	Durability and strength enhancement of reinforced concrete columns using unplasticised poly vinyl chloride (upvc) tubes in ports, harbours and off-shore structures	Ministry of Shipping	20.22
Pramod Kumar	Upgrading effluent treatment facilities of Rourkela Steel Plant		10.00
Pramod Kumar	Structural Vetting of proposed Housing Indrapuram, Ghaziabad		9.80
Pramod Kumar	Structural Vetting of proposed Housing GC-03G, GH-03, Greater Noida, UP		5.61
Pramod Kumar	Structural Vetting of proposed Housing on Plot No. 3H GC-19, Sector-1 bc, Noida Extension, UP		2.24
Renu Bhargava	Development of Vermireactor for Co-Treatment of Wastewater and Biodegradable Solid Waste for small Communities	DST, Delhi	30.5
Satish Chandra	Development of INDO-HCM	CSIR-CRRI, New Delhi	
Umesh Kumar Sharma	Fire Resistance & Repair of Earthquake Damaged Structures	UK India Education and Research Initiative (UKIERI)	39000 pounds
Umesh Kumar Sharma	Creep and Shrinkage Study of Concrete	Nuclear Power Corporation of India Ltd	15.38
Umesh Kumar Sharma	Numerical and Experimental Investigation of Thermo-Hydro-Mechanical Behaviour of High Performance Concrete Exposed to Fire	BRNS	26.71
Umesh Kumar Sharma	Study on Abrasion Resistance of Concrete Containing Marginal Aggregates for Teesta Hydro-Electric Project	Abir Infrastructure	8.90

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Umesh Kumar Sharma	Structural Properties of Perforated/Hollow Clay Fired Brick Masonry	The Energy & Resource Institute (TERI)	5.41
Umesh Kumar Sharma	Optimization of Cement Content in Concretes of Various Grades Using Additives	Satluj Jal Vidyut Nigam	12.43
Umesh Kumar Sharma	A Collaborative Research Framework for Structures Subjected to Extreme Loads	UK India Education and Research Initiative (UKIERI)	13585 Pounds
Umesh Kumar Sharma	Toward establishing a framework for collaborative research in structural engineering	The Royal Academy of Engineering Award under the Scheme of Research Exchanges with China and India, U.K	16500 Pounds
Umesh Kumar Sharma	Strength and Deformability of reinforced concrete frames under earthquake and fire	BRNS	79.00
V.K. Gupta	GC-19, Sector-1 bc, Noida Extension, UP		9.80
V.K. Gupta	Structural Vetting of proposed Housing GC-03G, GH-03, Greater Noida, UP		5.61
V.K. Gupta	Structural Vetting of proposed Housing on Plot No. 3H, GC-19, Sector-1 bc, Noida Extension, UP		2.24
Z Ahmad	Enhanced transverse mixing of pollutants in streams with submerged vanes	DST, Govt. of India	15.99
Z Ahmad	Energy dissipation on block ramps	INCH, Ministry of Water Resources, New Delhi	18.74
Z Ahmad	Discharge characteristic of a trench weir	UCOST, Dehradun	3.55 Lacs per year
Z Ahmad	Discharge measurement of Delhi Sub Branch near Head regulator of Haiderpur water treatment plant of Delhi Jal Board	SE, Yamuna Water Services Circle, 3, Delhi	4.00
Z Ahmad	Flood protection and restoration work in campus at ITBP Matli (Uttarkashi)	CPWD, Srinagar (Garhwal)	3.00
Z Ahmad	Suggestive measures to safeguard the Tiloth bridge at Uttarkashi	Executive Engineer, PWD, Uttarkashi	2.00
Z Ahmad	Vetting of hydraulic design & bedding calculations & drawings of raw water main WTP site for Meerut Water Supply project under JNNURM	Project Manager, Urban Works Unit-I, U.P. Jal Nigam, Meerut	3.00
Z Ahmad	Technical evaluation of 80 cusecs Ganga Jal distribution scheme in Noida	General Manager (D/Z), Uttar Pradesh Rajkiya Nirman Nigam Ltd., New Delhi	10.00
Z Ahmad	Design of guide bund along left bank of	PWD Roorkee	2.00

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
	Solani River at Bridge on Bhagwabpur-Imli Kheda Road near Imli Kheda		
Z Ahmad	Hydraulic design of protection works for 285 m long under-construction road bridge across River Mohandrao on Telpura-Kheri Shikohpur Marg near Biharigarh	PWD Roorkee	2.50
Z Ahmad	Floodplain mapping of Yamuna River in a reach from 05 to 10 km d/s of Hathnikund Barrage	Nainital Stones,Mehmood pur Nagli,Raipur,Beh at Saharanpur,UP	8.00
Z Ahmad	Flood mapping of Yamuna River in a reach from 10 to 15 km downstream of Hathnikund Barrage	National Associates, Saharanpur	8.00

(II) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Ahmad Z.	Enhanced transverse mixing of pollutants in streams with submerged vanes	DST, New Delhi	15.99
	-Energy Dissipation on Block Ramps	Ministry of Water Resources, New Delhi	18.74
Ahuja, A.K	Use of Ground-Granulated-Blast-Furnace-Slag (GGBFS) in Plain and Reinforced Concrete	MoEF	15.89
Bhargava, Pradeeep	Creep and Shrinkage Studies on B50A20 grade Concrete used in the Inner Containment (IC) of Kudankulam Nuclear Power Project (KKNPP)	Nuclear Power Corporation of India Ltd. Mumbai	15.38
	-Fire Resistance and Repair of Earthquake Damaged Structures	UKIERI, Edinburgh Research and Innovation Ltd., The University of Edinburgh, Scotland	(£38994)
	-Numerical Simulation of the Response of Nulear Containment Subjected to Aircraft Crash	Atomic Energy Regulatory Board, Mumbai	22.60
Chakrabarti, Anupam	Behavior of FRP Laminated Smart Sandwich Structures having Interlaminar Imperfections under hydro-thermo-electro-mechanical Loading	DST, New Delhi	19.12
	-FRP Laminated Sandwich Panels for Bridges/Walkways of Marine Structure	Ministry of Shipping, Roads Transport Highways, New Delhi	24.43
Garg, P.K.	Development of Hydro information System for Ramganga Watershed in Uttarakhand State	DST, New Delhi	27.00

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
	- Study of earth's moon for water ice with miniSAR onboard Chandrayaan-1	PLANEX , PRL Ahemdabad	28.16
	- Thematic Mapping, Hazard Zonation and Publication of ATLAS of Landslides along Tanakpur-Lohaghat-Pithoragarh-Malpa Routes of Uttarakhand	DRDO, Delhi	14.56
	- Development of Virtual Lab for Geomatics Engineering	MHRD, New Delhi	30.00
	- Development of Geo- visualization tools for ground water resource management	DST, Delhi	25.38
Garg, R.D	Development of Geo-Visualization Tool for Ground Water Resources management	DST, New Delhi	25.39
Ghosh J.K.	DimensionalityReductionofHyper-spectralRemoteSensingData	ISRO, Bangalore	14.12
Gupta, P.K	Numerical & Experimental analysis of influence of boundary conditions of deformation of metal plates impacted by projectile	DST, New Delhi	16.58
	-Improvement of Earthquake Resistance Capacity of Circular Columns	Building Materials & Technology Promotion Council, New Delhi	11.60
Hari Prasad, K.S	Modelling moisture uptake by plants and irrigation scheduling	DST, New Delhi	5.28
	Pathogen Transport in Subsurface – Analysis and estimation of transport parameters.	DST, New Delhi	37.00
Kazmi, A.A	Organic matter transformation, identification of microbial communities and process kinetics during rotary drum composting	DST, New Delhi	26.14
	-Enhanced Nutrient Removal under Shock Sludge Blanket (UASB) and Sequencing Batch Reactor (SBR) System for Sewage Treatment & Reuse	Petroleum Conservation Research Association, New Delhi	6.32
	-Recycling of Animal and Farm Waste and Application of their Value Added Products in Sustainable Crops Production and Animal Husbandry	Indian Veterinary Research Institute, Izatnagar	5.00
	- Development of Effective Decentralized Sewage Treatment System for Rural Communities	Ministry of Rural Development, Department of Drinking Water & Sanitation, New Delhi	14.45
Kothyari, U.C	Pier and Jet Scour in cohesive sediments consisting of clay-sand-gravel mixtures	DST, New Delhi	29.90
	-Erosion of Clay-Sand-Silt Gravel Mixture	Ministry of Water Resources, New Delhi	31.45
Mehrotra Indu	Water Quality Monitoring of River Hindon	MoEF	10.90

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Prof & Head	- FIST Program	DST-FIST DST, New Delhi	299.00
Sharma, Pramod Kumar	Experimental Evaluation and numerical modelling for flow and solute transport through soil column and two-dimensional fractured porous formations	DST, New Delhi	18.24
Arora, Manoj Kumar	Application of Differential SAR interferometry in Landslide investigation	DST, New Delhi	44.21
Ghosh, S.K	Indo-Vietnam bilateral project on Drought Management.	DST, New Delhi	7.00
Gurjar, B.R	Study of the urban transport system of megacity Delhi with co-benefits approach	United Nations University, international Organizations Center, Yokohama, Japan	18.60
Iqbal Mohd. Ashraf	Experimental and Numerical Investigations of the Ballistic Resistance of Ductile Targets Subjected to Oblique Impact by Sharp Nosed Projectiles	DRDO, New Delhi	23.02
Kumar, Pradeep	Enhancement of Natural water systems and treatment methods for safe and sustainable water supply in India	European Commission	48.67
Ojha, C.S.P	Mitigating climate change impact on India agriculture through improved irrigation water Management	Ministry of earth Sciences, New Delhi	116.58
Ransinchung, R.N.G.D	Influence of Moisture States of Recycled Aggregates for use in Pavement Quality Concrete (PQC)	DST, New Delhi	17.22
Sharma, Umesh Kumar	Optimization of Cement Contents by use of additives including sugar	SJVN Limited, New Shimla	12.44
	-Structural Properties of Perforated/Hallow Clay Fired Brick Masonry	The Energy and Resources Institute (TERI), New Delhi	5.41
	-Towards establishing a framework for collaborative research in structural engineering	Royal academy of U.K.	16,500 pounds
	-Strength and deformability of RCC frames under earthquake and fire	BRNS	78.24
	-A Collaborative Research Framework for Structure Subjected to Extreme Loads	UKIERI	30.56
Kumar Pramod	Upgrading RSP ETP effluent polishing facilities	SAIL/ WAPCOS	10.00

(III) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Singh Mahendra	Shear strength behavior of reinforced rock mass	DST- New Delhi	2.86
Kumar Pramod	Feasibility and ETA reports of M/S Mirza International Unnao, UP	M/S Mirza International Kanpur, UP	10
Ghosh Indrajit	Effect of countdown display on traffic flow characteristics and driver behavior at signalized intersections.	DST, New Delhi	16.28
Chowdhary Rajib	Elasticity & Piezoelectricity of semiconducting nanostructure.	DST, New Delhi	25.32
Garg, P K	Study of earth's moon for water ice with miniSAR onboard Chandrayaan-1 and 3D modelling	PLANEX , PRL Ahemdabad	12.00

9. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

(i) Developmen of Vermireactor for Co-Treatment of Wastewater and Biodegradable Solid Waste for small Communities, Sponsored by: DST Delhi- PI Dr Renu Bhargava

The conventional treatment methods cannot be applied for small communities or in the areas with scattered populations due to financial or other constraints. The solid waste is also scattered and also cannot be managed in these areas as it is a costly option. So, decentralized and smaller systems are the need of today for the co-treatment of both (sewage & biodegradable solid waste). Keeping in mind the water conservation this project is designed for recycling of the waste through simple treatment. In vermi filtration no external energy is required except for application of sewage (if required) and the wastes convert into useful products. Vermifiltration and co treatment shall provide water for non potable uses as well as fertilizers for agriculture. The design criteria for design of vermifilter for the treatment of domestic wastewater and also for the co-treatment of domestic wastewater and biodegradable solid waste shall be developed. The system so developed shall be used for small communities, un-sewered areas and industries.

(ii) Development of INDO-HCM, Sponsored by: CSIR-CRRI, New Delhi, PI - Dr Satish Chandra

The objective of the project is to develop guidelines for capacity analysis of different types of road facilities under Indian conditions. The project is funded by the Planning Commission through CRRI, New Delhi and is an inter-institutional project. The different institutes involved in the project are IIT Bombay, IIT Roorkee, IIT Guwahati, SVNIT, Surat, Anna University, Madras, School of Planning and Architecture (SPA), New Delhi, BESU, Shibpur (Howrah) and CRRI, New Delhi. The project has just started in 2012-13 and is for duration of five years. The total share of IIT Roorkee is around Rs. 10.0 million.

(iii) Dimensionality Reduction of Hyper-spectral Remote Sensing Data, sponsored by ISRO, Bangalore - PI Dr. J. K. Ghosh

The Proposed research work is based on fractal mathematics for reduction of dimension of hyper-spectral data. The methodology has been envisaged on the concept of time series analysis of the spectral reflectance curve corresponding to IFOV of a hyper-spectral sensor. Further, optimization technique will be applied to find the optimal number of reduced dimension, suitable for further analysis of hyper-spectral data. The outcome of the proposed research work will be GUI based software for fractal based dimensionality reduction of hyper-spectral data.

(iv) DST Project under Fast Track Scheme for Young Scientists, PI- G.D. Ransinchung R.N.

The main objective of this research project is to study the influence of moisture states of recycled aggregates for use in Pavement Quality Concrete (PQC)."

10. SCIENTIFIC AND TECHNICAL REPORTS

Title of the project	Particulars	Authors	Remarks
Development of Indian Highway Capacity manual (INDO-HCM)	Scientific	Satish Chandra Rajat Rastogi	External
Flexible Overlay Design for Barotiwala – Ambari Motor Marg, Sahiya	Technical	Rajat Rastogi Satish Chandra	External
Overlay Design using Benkelman Beam test for Roads around Chandpur, Bijnor	Technical	Rajat Rastogi Satish Chandra	External

4.6 DEPARTMENT OF EARTHQUAKE ENGINEERING

Academic Staff :21; Students Admitted : PG-64, Ph.D.-06; Publications : Journals -48, Conferences –44,

1. SALIENT FEATURES

Department of Earthquake Engineering at the Indian Institute of Technology Roorkee (erstwhile University of Roorkee) was established in 1960 as School of Research and Training in Earthquake Engineering. Four major areas of earthquake engineering viz., Structural Dynamics, Soil Dynamics, Engineering Seismology and Seismotectonics, and Instrumentation have been nurtured for the last fifty years. The major functions of the Department include teaching and research, and rendering expert advice to various organizations in the area of earthquake resistant design of structures and systems, such as dams, bridges, power plants, etc. The Department has played a key role at the national level in the formulation Indian Standard Codes of Practice for earthquake resistant design of Structures.

Several major facilities have been developed in the Department to conduct experiments related to earthquake engineering. Some of the major facilities include: a low cost railway wagon shock table for dynamic testing of structural models, a computer controlled shake table to stimulate strong ground motion, a quasi static testing laboratory having servo-controlled dynamic actuator systems and servo-controlled compression testing machine, a soil dynamics laboratory equipped with liquefaction table and cyclic triaxial testing system, a seismological observatory having state of the art broadband seismograph to record earthquake ground motion, a strong motion network of 300 digital accelerographs deployed in the Himalayan region to measure strong ground motion due to moderate and major earthquakes and a state-of-the-art 12-station telemetered network to monitor local seismicity in the environs of Tehri Dam.

2. LIST OF FACULTY MEMBERS

Emeritus Professor

Arya, Anand S., PhD (Illinois)
Structural Dynamics

Professors

Kumar, Ashok, PhD (IITR)
Instrumentation
Kumar, Ashwani, PhD (IITR)
Seismology and Seismotectonics
Paul, D. K., PhD (Swansea)
Soil Dynamics, Earthquake Risk Mitigation, Structural Earthquake Engineering
Prajapati, G.I., PhD (Missisippi)
Structural Earthquake Enginneering
Sharma, M. L., PhD (IITR)
head
Engineering Seismology and Seismotectonics
Sinvhal, Amita (Mrs), PhD (IITR)
Engineering Seismology and Seismotectonics
Wason, H. R., PhD (Kurukshetra)
Engineering Seismology and Seismotectonics
Pal kirt , Ph.D (IITR)
Instrumentation
Singh Yogendra, Ph. D (IITR)
Structural Earthquake Enginneering, Performance Design, seismic Risk Assessment

Associate Professors

Agrawal, Pankaj, Ph.D.(IITR)
Structural Dynamics
Narayan, J. P., PhD (BHU)
Engineering Seismology and Seismotectonics
Maheshwari, B.K. PhD (Japan)
Soil Dynamics,
Shrikhande, M., PhD (IITK)
Structural Dynamics

Assistant Professors

Dubey, Ramanand , PhD (IITR)
Structural Dynamics
Jakka, R.S., PhD (IITD)
Soil Dynamics
Mukerjee, Shyamal, PhD (IITR)
Soil Dynamics
Pandey, Ashok D., ME (IITR)
Structural Dynamics
Shankar Daya, Ph.D. (BHU)
Seismology

Scientific Officers

Das, Josodhir, PhD (IITR)
Seismotectonics and Remote Sensing
Gutpa, S.C., PhD (IITR)
Seismology and Seismotectonics

3. HONORS AND AWARDS TO FACULTY MEMBERS

Shama,M.L.

- Awarded Prof. A.S. Arya Disaster Prevention Award by IIT Roorkee during the Annual Convocation held during August 2012. The award carries a cash prize of Rs. 1 Lac and a citation.
- Member of Advisory Committee on "Seismicity and Earthquake Precursors" constituted by Ministry of Earth Sciences, New Delhi
- Elected unopposed as the ISET Vice-President of the Society.
- Member of Earthquake Engineering Sectional Committee, (Committee No. 39) Sub Committee Bureau of Indian Standards, New Delhi
- Member of Earthquake Engineering Sectional Committee, (Committee No. 39) Sub Committee Bureau of Indian Standards, New Delhi

Sinvhal, Amita

- Amita Sinvhal, WISE India Award, Women in Science and Engineer in – India Awards 2012, for projects involving women engineers /scientists/ architects as key members, for carrying out Post Earthquake Damage Survey after the earthquake in Kashmir in 2005.

Maheshwari, B.K.

- Editorial Board Member, International Journal of Geotechnical Engineering, Maney Publishing, U.K., Since January 2013.

Paul, D.K.

- Member Sub-Committee of Advisory and Monitoring Committee on Seismic Microzonation study of NCT Delhi on 1:10000 scale constituted by Director General of Meteorology, IMD
- Member of Review Committees to Study Final Reports on Benchmarking of CWPRS & CSMRS, constituted by Ministry of Water Resources, New Delhi dated Feb.2, 2013
- Member of Short Term Consultant appointed to the Staff of the World Bank Group for an assignment with Agriculture and Rural Development Unit constituted by the WORLD BANK
- Member of Task Force Committee to assess the progress of R & D projects on "Engineering of Disaster Mitigation and Health Monitoring for Safe and Smart Built Environment" and provide necessary guidance to project team, Constituted by the CBRI Director, May 2013
- Invited address at the National Symposium on Earthquake Resistant Design & Construction for Urban Social Housing Projects, India Habiat Centre, Lodhi Road, New Delhi, July 19-20, 2012
- Invited Speaker on Realistic Simulation in Earthquake Engineering at the 3D Experience Forum 2012,Dassault Systems, New Delhi, October 12, 2012
- Invited to deliver a Keynote Lecture on "Geophysical Investigations in Civil Engineering and Urban Seismic Risk Reduction" and to Chair a Technical Session in the National Workshop on Engineering Geophysics for Civil Engineering and Geo-Hazards (EGCEG), Organised by CSIR-CBRI, Roorkee from November 22-23, 2012
- Invited to deliver Keynote Lecture in the International Conference on Challenges in Disaster Mitigation & Management Strategies at CoEDMM, IIT Roorkee on February 15, 2013
- Invited to deliver Keynote Lecture in the Workshop on Structural Assessment and Safety of Structures" at Jamia Milia Islamia on Saturday 09, 2013
- Invited to deliver lecture on Tehri Dam, Cognizance- 2013
- Invited to Chair a Technical Session During a National Seminar on Safety of Structures on 26th April, 2013, New Delhi

Wason, H.R.

- Re-elected as President, ISET for 2013-15 term.

Kumar, Ashwani

- Member of Project Advisory Committee, Department of Science and Technology, Govt. of India

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of the faculty	Institution/Organization visited	Purpose of the visit	Date of visit
M.L. sharma,	CENDR St. Petersbrng	Discussion for Collaborative	July 08-14, 2012

Name of the faculty	Institution/Organization visited	Purpose of the visit	Date of visit
M. Shrikhande	Russia. EERC Moscow	research proposals	
M.L. Sharma, Y. Singh, B. K. Maheshwari, D. K. Paul,	IIT Roorkee extension Centre, Greater Noida	Norsar Workshop	April 19, 2012
M.L. Sharma	Norway	Norway Visit	May 21, 2012
M.L. Sharma, M. Shrikhande, J. D. Das	Centre Water Commission, New Delhi	NCSDP Meeting	Nov. 20, 2012
M.L. Sharma	Madhya Bharat Corporation Ltd, Greater Kailash, New Delhi	Project discussions regarding "Ronignichu HEP Sikkim	Dec 7, 2012
M.L. Sharma	Indian Institute of Remote Sensing, Dehradun	Invited to attend selection committee meeting as expert member	Dec. 11, 2012
M.L. Sharma, Ashok Kumar,	New Delhi	"Indo Taiwan Workshop" regarding "Early Warning System"	Jan. 15-17, 2013
M.L. Sharma	NHPC Ltd, Faridabad	meeting of Dam Design Review Panel (DDRP) of Subansiri Lower Project	Feb. 6, 2013
M.L. Sharma, M. Shrikhande, J. D. Das	CWC, New Delhi	"24th Meeting of NCSDP"	March 15, 2013
M.L. Sharma	New Delhi	Project discussions with M/S Madhya Bharat Corporation Ltd	March 22-14, 2013
M.L. Sharma	New Delhi	Project discussions with M/S Madhya Bharat Corporation Ltd	31 March to 1 April, 2013

5. PARTICIPATION OF FACULTY IN SEMINAR/SYMPOSIA/WORKSHOP ETC.

Name of the faculty	Name of the Conf./Seminar/Symp/Workshop attended	Place	Dates
Amita Sinvhal, B.K. Maheshwari, D. K. Paul, Y. Singh, H.R.Wason, J.P. Narayan, Ravi Sankar Jakka	15th World Conference on Earthquake Engineering, (15 WCEE)	Lisbon, Portugal	Sep. 24 – 28, 2012
D.K. Paul	National Symposium on Earthquake Resistant Design & Construction for Urban Social Housing Projects	IITR & BMTPC at India Habitat Centre, New Delhi	July 19-20, 2012
	National Convention of INAE	CBRI and IIT Roorkee	Dec. 6-7, 2012
M.L. Sharma	Norsar Workshop	Norway	April. 19, 2012
M.L. Sharma, Ashok Kumar	"Indo Taiwan Workshop" regarding "Early Warning System"	New Delhi	Jan. 15-17, 2013
Maheshwari, B.K	Invited Speaker at International Workshop on seismic Requaification of Geotechnical Structures	IIT Delhi	Dec. 17, 2012

6. PARTICIPATION OF FACULTY IN SHORT TERM COURSES

Name of the faculty	Name of the courses	Place	Dates
D.K. Paul, M. L. Sharma, Y. Singh, M. Shrikhande, Pankaj Agrawal, R. N. Dubey	Short Term International Training Course for participants from SAARC countries on "Techniques for Earthquake Resistant Structures for Engineers and Architects"	CoE_DMM & DEQ, IIT R and SAARC DMC, New Delhi	June 18-29, 2012
D.K. Paul, Y. Singh, Pankaj Agrawal	Short Term Course on Codal Practices on Earthquake Resistant Design and Construction	BMTPC, New Delhi and IIT Roorkee	Dec. 27-29, 2012
Manish Shrikhande, D.K. Paul, R.N. Dubey, H.R. Wason, Pankaj Agarwal, B.K. Maheshwari, Ashwani Kumar, Ashok Kumar, Amita Sinvhal, J.P. Narayan, Daya Shankar	Seismic Retrofitting of School Buildings, NDMA's course for in service engineers from all states of India	Continuing Education Centre, IIT Roorkee	In two batches - Feb. 11-March 1, 2013 and March 11-March 29, 2013

7. VISITOR TO THE DEPARTMENT

1. Dr. Dominik Lang from NORSAR and Amir Kaynia from NGI, Norway during April 18-20, 2012 for project work.
2. Dr. Daneial Kuhn NORSAR, Norway during May 19-24, 2012 for project work.
3. Sterling Group of U.K. Universities to Shake Table on July 24, 2012
4. Dr. Dominik Lang from NORSAR, Norway during October 2012 for the project work.
5. A delegation from Vietnam on Dec. 12, 2012.
6. A team of Executive Trainee Officers from NTPC on Dec. 13, 2012.
7. Dr. Dominik Lang from NORSAR, Norway during March 2013 for the project work.

8. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender(Male/ Female)	Title of Thesis
Arjun Kumar	Indian	M	Study of Earthquake Source Parameters using Micro EQ and Strong Motion Data
Prahlad Prasad	Indian	M	Performance Based Seismic Design of Steel Frame Building Using Energy Balance Criterion.

9. SEMINAR/SYMP/WORKSHOP ORGANIZED BY THE DEPARTMENT

Name of Conf/ Seminar/Symp/ Workshop	Org. Secretary	Sponsored by	Dates
ISET, Golden Jubilee Symposium	M. Shrikhande	ISET & DEQ CSIR, NDMA	Oct. 20-21, 2012
Seismic Retrofitting of School Buildings	M. Shrikhande, Pankaj Agrawal, M. L. Sharma	NDMA New Delhi	Feb. 11 to March 1, 2013 (Batch Ist)

Seismic Retrofitting of School Buildings	M. Shrikhande, Pankaj Agrawal, M. L. Sharma	NDMA New Delhi	March 11 to March 29, 2013 (Batch IInd)
SAARC Training Programme on "Techniques of Earthquake Resistant Structures for Engineers and Architects"	Y. Singh	SAARC Disaster Management Centre, New Delhi	June 18-29, 2012

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

A six-station local Seismological Network in Himachal Lesser Himalaya

A six-station local Seismological Network has been deployed in the Himachal Lesser Himalaya to monitor the microearthquake activity in the environs of Koldam prior to reservoir impounding. The network became operational since April 2013 and during the first phase of recording shall be operated continuously for a period of one year to allow collecting data on the occurrence of microearthquake activity. The interpretation of data shall provide insight into the seismological conditions prevailing in the environs of Koldam site prior to reservoir impounding. As the Koldam site is located in the seismically active Himachal Lesser Himalaya in the vicinity of the Main Boundary Thrust, this data will be very useful to study the changes in the local seismicity during and after the reservoir filling. The study is sponsored by National Thermal Power Corporation Ltd.

Criteria for the Dynamic Analysis of Steel Railway

In the context of Indian practice the design of railway bridges includes the dynamic effect of the moving load by increasing the live load by an impact factor, which is a function of a single variable i.e. its length. However recent codes of practice address the problem by giving the full recognition to the fact that resonance in bridges may occur depending upon the characteristics of the train , parameters defining its passage, the bridge characteristics and track irregularities. In the wake of current International practice the provisions in the Steel Bridge Code and Bridge Rules need to be re-examined and amended appropriately, in the present context.

Strong Motion Instrumentation Project of IIT Roorkee

Indian Institute of Technology Roorkee (IITR) through funding from Department of Science and Technology and Ministry of Earth Science (MoES) has Installed 293 strong motion accelerographs in cities of North and Northeast India lying in seismic zones V, IV and III, including 20 in Delhi region. About 250 of above instruments have been networked through NICNET of NIC / SWAN of various states / GSM modem and can be remotely accessed for data downloading. Ground motion records obtained from these instruments provide essential data base which is basic input for almost all earthquake engineering and engineering seismology related studies. This instrumentation has a potential of playing a vital role for real time disaster mitigation and management.

During the last few years of its existence, this instrumentation has recorded about 550 time histories from more than 200 earthquakes. First Indian website for dissemination of strong ground motion data for registered users was developed having address www.pesmos.in. Processed time histories of strong ground motion earthquake records obtained from this instrumentation are uploaded in this website immediately. This website has become very popular among earthquake engineers and seismologists. At present there are more than 300 registered users and the website had more than 30000 hits since November 2011.Data from this project has stirred lot of research in the field of earthquake engineering in general and ground motion studies in particular. During last few years, several PhD and M.Tech dissertations as well as publications have used this data.

11. (A) SCIENTIFIC/TECHNICAL REPORTS PREPARED UNDER SPONSORED RESEARCH PROJECTS

1. Kumar. A., A.D. Pandey, M.L. Sharma, J.P. Narayan and S.C. Gupta, EQ: 2012-03 (2012),"Seismological Network Around Tehri Region, (from Oct 2011 to Dec 2011), Department of Earthquake Engineering, IIT Roorkee.

2. Kumar A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-09 (2012), Seismological Network Around Tehri Region, (from Jan 2012 to March 2012) Uttrakhand, Department of Earthquake Engineering, IIT Roorkee.
3. Kumar A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-20 (2012), Seismological Network Around Tehri Region, (from April 2012 to June 2012) Uttrakhand, Department of Earthquake Engineering, IIT Roorkee.
4. Kumar A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-27 (2012), Seismological Network Around Tehri Region, (from July 2012 to Sept 2012) Uttrakhand, Department of Earthquake Engineering, IIT Roorkee.
5. Kumar A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-26 (2012), Seismological Network Around Tehri Region, (from Oct 2012 to Dec 2012) Uttrakhand, Department of Earthquake Engineering, IIT Roorkee.
6. Maheshwari B.K. (2012), Dynamic Properties and Liquefaction Resistance of Sub using cycle Technical Test, Submitted to Seismology Division. Ministry of Earth Sciences, New Delhi.

(B) SCIENTIFIC/TECHNICAL REPORTS PREPARED UNDER CONSULTANCY PROJECTS.

1. Sharma, M.L., Wason. H.R., Smt Amita Sinhval, M. Shrikhande, B.K Maheshwari, Daya Shankar, R.N.Dubey and J.Das, EQ: 2013-19 (2013), Site Specific Design Earthquake Parameters for Etalin HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
2. Sharma, M.L., Wason. H.R., Smt Amita Sinhval, M. Shrikhande, B.K Maheshwari, Daya Shankar, R.N.Dubey and J.Das, EQ: 2013-18 (2013), Site Specific Design Earthquake Parameters for Attunli HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
3. Sharma, M.L., Wason. H.R., M. Shrikhande, S. Mukerjee, Kirat Pal, Daya Shankar and J. Das, EQ: 2013-17 (2013), Site Specific Design Earthquake Parameters for Chango Yangthang HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
4. Sharma, M.L., Wason. H.R., Smt Amita Sinhval, M. Shrikhande, S. Mukerjee, Kirat Pal, P. Agarwal and J.Das, EQ: 2013-16 (2013), Site Specific Design Earthquake Parameters for Devsari HE Project, Uttarakhand, Department of Earthquake Engineering, IIT Roorkee
5. Sharma, M.L., Wason. H.R., Ashwani Kumar, Smt Amita Sinhval, M. Shrikhande, S. Mukerjee, R.N.Dubey and J. Das, EQ: 2013-15 (2013), Site Specific Design Earthquake Parameters for Yamne-II HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
6. Sharma, M.L., Wason. H.R., Ashwani Kumar, Smt Amita Sinhval, M. Shrikhande, S. Mukerjee, R.N.Dubey and J. Das, EQ: 2013-14 (2013), Site Specific Design Earthquake Parameters for Yamne-I HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
7. Sharma, M.L., Wason. H.R., EQ: 2013-13 (2013), MEQ Data Processing Interpretation and report preparation of Earthquake generation for the year 2009, for study of seismogenic sources around the Subansiri Lower HE Project, Department of Earthquake Engineering, IIT Roorkee
8. Sharma, M.L., Wason. H.R., Ashok Kumar, M. Shrikhande, Y. Singh, B.K Maheshwari, Daya Shankar and J. Das, EQ: 2013-09 (2013), Site Specific Design Earthquake Parameters for Miyar HE Project, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
9. Sharma, M.L., Wason. H.R., Smt Amita Sinhval, M. Shrikhande, B.K Maheshwari, Daya Shankar, R.N Dubey and J. Das, EQ: 2013-08 (2013), Site Specific Design Earthquake Parameters for Triveni Mahadev HE Project, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
10. Sharma, M.L., Ashwani Kumar, J.P Narayan, M. Shrikhande, B.K Maheshwari and J. Das, EQ: 2013-07 (2013), Site Specific Design Earthquake Parameters for Shongtong Karchham HE Project, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
11. Sharma, M.L., Wason. H.R., S.Mukerjee, J.P Narayan, M. Shrikhande and J. Das, EQ: 2013-06 (2013), Site Specific Design Earthquake Parameters for Kyanshi HE Project, Meghalaya, Department of Earthquake Engineering, IIT Roorkee
12. Sharma, M.L., Wason. H.R., S.Mukerjee, J.P Narayan, M. Shrikhande and J. Das, EQ: 2013-05 (2013), Site Specific Design Earthquake Parameters for Katwa TPP

Project, West Bengal, Department of Earthquake Engineering, IIT Roorkee
13. Sharma, M.L., Wason. H.R., J.P Narayan, M. Shrikhande and J. Das, EQ: 2013-04 (2013), Site Specific Design Earthquake Parameters for Gadarwara TPP Project, Madhya Pradesh, Department of Earthquake Engineering, IIT Roorkee
14. Sharma, M.L., Wason. H.R., S.Mukerjee, Smt Amita Sinhval, M. Shrikhande, P. Agarwal and J. Das, EQ: 2013-02 (2013), Site Specific Design Earthquake Parameters for Kantangshiri HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
15. Sharma, M.L., Wason. H.R., Smt Amita Sinhval, M. Shrikhande and J. Das, EQ: 2013-01 (2013), Site Specific Design Earthquake Parameters for SEZ Mota Layja Project, Gujarat, Department of Earthquake Engineering, IIT Roorkee
16. Sharma, M.L., Wason. H.R., M.Shrikhande, B.K.Maheshwari, A.D Pandey, R.N Dubey and J. Das, EQ: 2012-40 (2012), Site Specific Design Earthquake Parameters for Ratle HE Project, Jammu & Kashmir, Department of Earthquake Engineering, IIT Roorkee
17. Sharma, M.L., Wason. H.R., J. P Narayan, M.Shrikhande, P.Agarwal, R.S. Jakka and J. Das, EQ: 2012-39 (2012), Site Specific Design Earthquake Parameters for Khurja TP Project, Uttar pradesh, Department of Earthquake Engineering, IIT Roorkee
18. Sharma, M. L., Wason. H. R., Amita Sinhval, Kirat Pal, J. P Narayan, R.N. Dubey R.S. Jakka and J. Das, EQ: 2012-38 (2012), Site Specific Design Earthquake Parameters for Sach_Khas HE Project, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
19. Sharma, M. L., Wason. H. R., Amita Sinhval, Kirat Pal, J. P Narayan, R.N. Dubey R.S. Jakka and J. Das, EQ: 2012-37 (2012), Site Specific Design Earthquake Parameters for Reoli_Dugli HE Project, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
20. Sharma, M. L., B. K. Maheshwari and H. R Wason EQ: 2012-36 (2012), Shear wave profiling using MASW at Trivani Mahdev, Department of Earthquake Engineering, IIT Roorkee
21. Sharma, M. L., Wason. H.R., Ashok Kumar, Smt Amita Sinhval, M. Shrikhande, B.K. Maheshwari and J. Das, EQ: 2012-35 (2012), Site Specific Design Earthquake Parameters for Nalo HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
22. Sharma, M. L., Wason. H. R., Amita Sinhval, M. Shrikhande, A.D. Pandey, J. Das and S. C Gupta EQ: 2012-34 (2012), Site Specific Design Earthquake Parameters for Dhaulasidh HE Project, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
23. Sharma, M. L., H.R. Wason, Ashok Kumar, Amita Sinhval, M. Shrikhande, R.S. Jakka and J. Das, EQ: 2012-32 (2012), Site Specific Design Earthquake Parameters for Rongnichu HE Project, Sikkim, Department of Earthquake Engineering, IIT Roorkee
24. Sharma, M. L., H.R. Wason., S. Mukerjee, M. Shrikhande, J. P Narayan and J. Das, EQ: 2012-31 (2012), Site Specific Design Earthquake Parameters for Bop HE Project, Sikkim, Department of Earthquake Engineering, IIT Roorkee
25. Sharma, M. L., H.R. Wason., S. Mukerjee, M. Shrikhande, J. P Narayan and J. Das, EQ: 2012-30 (2012), Site Specific Design Earthquake Parameters for Bhimkiyong HE Project, Sikkim, Department of Earthquake Engineering, IIT Roorkee
26. Sharma, M. L., H.R. Wason, S. Mukerjee, M. Shrikhande, J. P Narayan and J. Das, EQ: 2012-29 (2012), Site Specific Design Earthquake Parameters for Lachung HE Project, Sikkim, Department of Earthquake Engineering, IIT Roorkee
27. Kumar, A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-27 (2012), Seismological Network Around Tehri Region, Uttrakhand, Department of Earthquake Engineering, IIT Roorkee
28. Kumar, A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-26 (2012), Seismological Network Around Tehri Region, Uttrakhand, Department of Earthquake Engineering, IIT Roorkee
29. Wason, H.R., M. L. Sharma, M. Shrikhande, Daya Shankar and J. Das, EQ: 2012-25 (2012), Site Specific Design Earthquake Parameters for Tehri Pumped Storage Plant, Uttarakhand, Department of Earthquake Engineering, IIT Roorkee.
30. Wason H.R., Ashwani Kumar, M.L. Sharma, Smt. Amita Sinhval, M. Shrikhande, Kirat Pal, A.D Pandey and J. Das, EQ: 2012-24 (2012), Site Specific Design Earthquake Parameters for Gongri HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee.

31. Wason H.R., Ashwani Kumar, M.L. Sharma, M. Shrikhande, B.K. Maheshwari, J.P Narayan, A.D Pandey, S.C Gupta and J. Das, EQ: 2012-23 (2012), Site Specific Design Earthquake Parameters for Thana Plaun HE Project, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee.
32. Sharma, M. L., Wason H.R., B.K. Maheshwari EQ: 2012-21 (2012), Soil Profiling Using MASW at Bowla Nand Prayag HE Project, Chamoli, Uttrakhand, Department of Earthquake Engineering, IIT Roorkee
33. Kumar, A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-20 (2012), Seismological Network Around Tehri Region, Uttrakhand, Department of Earthquake Engineering, IIT Roorkee
34. Wason, H.R., Ashwani Kumar, M.L. Sharma, M. Shrikhande, B.K. Maheshwari, N.C Singhal, S.C Gupta and J. Das, EQ: 2012-19 (2012), Site Specific Design Earthquake Parameters for Faridabad TPP Project, Haryana, Department of Earthquake Engineering, IIT Roorkee.
35. Kumar, A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-18 (2012), Study of local Seismicity in the environs of Kol Dam site, Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
36. Wason, H. R., Ashwani Kumar, M. L. Sharma, Smt. Amita Sinhval, S. Mukerjee, M. Shrikhande, R.N. Dubey and J. Das, EQ: 2012-16 (2012), Site Specific Design Earthquake Parameters for Tiuni Plasu HE Project, Uttarakhand, Department of Earthquake Engineering, IIT Roorkee.
37. Wason, H. R., Ashwani Kumar, M.L. Sharma, Smt. Amita Sinhval, A.D Pandey, M. Shrikhande, B.K. Maheshwari, S.C Gupta and J. Das, EQ: 2012-15 (2012), Site Specific Design Earthquake Parameters for Marakknam TPP Project, Tamil Nadu, Department of Earthquake Engineering, IIT Roorkee
38. Wason, H. R., M. L. Sharma, M. Shrikhande, B.K. Maheshwari, J.P Narayan and J. Das, EQ: 2012-14 (2012), Site Specific Design Earthquake Parameters for Khargaon TPP Project, Madhya Pradesh, Department of Earthquake Engineering, IIT Roorkee
39. Wason, H. R., Ashwani Kumar, M. L. Sharma, Ashok Kumar, M. Shrikhande, B.K. Maheshwari, Daya Shankar, R.N Dubey and J. Das, EQ: 2012-13 (2012), Site Specific Design Earthquake Parameters for Auraiya Gas TPP Project, Uttarpradesh, Department of Earthquake Engineering, IIT Roorkee
40. Wason, H. R., M. L. Sharma, M. Shrikhande, B.K. Maheshwari, J.P Narayan, Y. Singh and J. Das, EQ: 2012-12 (2012), Site Specific Design Earthquake Parameters for Tato-II HE Project, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee
41. Wason, H. R.., M. L. Sharma, Smt. Amita Sinhval, Ashok Kumar, M. Shrikhande, Y. Singh, J. Das and S.C Gupta EQ: 2012-11 (2012), Site Specific Design Earthquake Parameters for Dikhu HE Project, Nagaland, Department of Earthquake Engineering, IIT Roorkee
42. Wason, H.R., Prof. M. L. Sharma, Smt. Amita Sinhval, M. Shrikhande, Daya Shankar, R. N. Dubey, R.S. Jakka and J. Das , EQ: 2012-10 (2012), Site Specific Design Earthquake Parameters for Rangit-II HE Project, Sikkim, Department of Earthquake Engineering, IIT Roorkee
43. Kumar, A., Sharma. M. L., A. D Pandey and S.C Gupta EQ: 2012-09 (2012), Seismological Network Around Tehri Region, Uttrakhand, Department of Earthquake Engineering, IIT Roorkee
44. Wason, H.R., Ashwani Kumar, M.L. Sharma, Smt. Amita Sinhval, M. Shrikhande, Pankaj Aggrwal and J. Das, EQ: 2012-08 (2012), Site Specific Design Earthquake Parameters for Lower Kopili HE Project, Assam, Department of Earthquake Engineering, IIT Roorkee
45. Sharma, M.L., H.R. Wason, Y. Singh and J. Das, EQ: 2012-07 (2012), Probabilistic Seismic Hazard assessment of the ATC Tower, New Delhi, Department of Earthquake Engineering, IIT Roorkee
46. Wason, H.R., D. K. Paul, M.L. Sharma, M. Shrikhande, B.K. Maheshwari and J. Das, EQ: 2012-06 (2012), Site Specific Design Earthquake Parameters for Barethi TPP Project, Bundalkhand, M.P, Department of Earthquake Engineering, IIT Roorkee
47. Wason, H.R., D. K. Paul, M.L. Sharma, M. Shrikhande, B.K. Maheshwari and J. Das, EQ: 2012-05 (2012), Site Specific Design Earthquake Parameters for Anta TPP Project, Rajasthan, Department of Earthquake Engineering, IIT Roorkee
48. Kumar, A., A.D. Pandey, M.L. Sharma, J.P. Narayan and S.C. Gupta, EQ: 2012-03 (2012),"Seismological Network Around Tehri Region, (from Oct 2011 to Dec 2011), Department of Earthquake Engineering, IIT Roorkee

49. Wason, H.R., M.L. Sharma, M. Shrikhande, J.P. Narayan, A.D. Pandey, Kirat Pal and J. Das, EQ: 2012-2 (2012), Site Specific Design Earthquake Parameters for Subansiri Middle H.E. Project, HEP, Arunachal Pradesh, Department of Earthquake Engineering, IIT Roorkee

50. Wason, H.R., M.L. Sharma and B.K. Maheshwari, EQ: 2012-1 (2012), Soil Profiling using MASW at Thana-plaun H.E. Project, Mandi Himachal Pradesh, Department of Earthquake Engineering, IIT Roorkee

4.7 DEPARTMENT OF EARTH SCIENCES

Academic Staff:22; Students Admitted : UG-Int.M.Tech.-28, PG-32, PhD-17; Publications : Journals-33, Conferences -30; New Projects : Research- 98.50 Lacs

1. SALIENT FEATURES

Department of Earth Sciences is one of the leading departments in country in diversified fields of geology and geophysics. The main strength of the department is amalgamation of two major disciplines of Earth Sciences-Geology and Geophysics. The pioneer research contributions in different disciplines of geology and geophysics have been recognized nationally and internationally. The department has been a recipient of financial aid from a number of agencies.

The department offers 5-year integrated M.Tech. courses Geological Technology and Geophysical Technology and a two year M.Sc. courses in Applied Geology. A number of research scholars are actively engaged in Ph.D. research resulting in large number of research publications.

A number of laboratories in the department have been modernized through the induction of specialized high quality instruments like microscopes resistivity meters and others. The faculty members of the department are engaged in different research activities. A number of sponsored research and consultancy projects have been taken up by the faculty members.

The faculty members are renowned workers in their fields of research and motivate students to excel in earth science education. Our students are highly skilled in various aspects of geology and geophysics and are preferred for jobs in national and international organizations such as ONGC, GSI,, AMD,NTPC, NHPC, IITs, Universities, CSIR Labs. , Schlumberger, Cairns Energy, Reliance Energy, Shell Technology etc.

2. LIST OF FACULTY MEMBER

Emeritus Professor/Fellow

Niwas, Sri, PhD (Banaras)
Magnetism, Geoelectromagnetism, Inversion of Potential Field, Geohydrology, Groundwater and Sedimentology
Singh, Vir N., PhD (Roorkee)
Seismology, Exploration Geophysics

Professors

Saraf, Arun K., PhD (Dundee)
Head
Digital Image Processing, Geographic Information System, Remote Sensing

Anbalagan, Rathinam, PhD (Kumaun)
Engineering Geology, Rock Mechanics
Bajpai, Sunil, PhD (Punjab)
Vertebrate Palaeontology, Biostratigraphy
Chakrapani, Govind, J., PhD (JNU)
Environmental Geosciences, Environmental Geology, Low Temperature Geochemistry
Gupta, Pravin K., PhD (Roorkee)
Theoretical Geophysics
Gupta, Ravi P., PhD (Roorkee)
Remote Sensing, GIS
Israil, Mohd., PhD (Roorkee)
Geoelectromagnetism, Forward & Inverse Modelling
Mukhopadhyay, Dilip K., PhD (IIT Kharagpur)
Structural Geology, Metamorphic Petrology
Mukhopadhyay, Sagarika (Ms), PhD (Roorkee)
Exploration Geophysics, Seismology & Seismotectonics
Sastry, Rambhatla G.S., PhD (Moscow)
Exploration Geophysics, Geophysical Inversion
Singh, Sandeep, PhD (Roorkee)
Himalayan Tectonics, Igneous Petrology, Geochronology
Srivastava, D.C., PhD (ISM)
Structural Geology
Sen, Amit K., PhD (ISM)
Mineral Exploration, Economic Geology, Igneous Petrology Geochemistry

Associate Professors

Joshi, Anand, PhD (Roorkee)
Seismology and Seismotectonics, Gravity & Mag.
Krishnamurthy, R. PhD (IIT Bombay)
Economic Geology, Ore Geology
Kamal, PhD (Canada)
Seismic prospecting, Seismology & Seismotectonics, Gravity & Mag

Assistant Professors

Maurya, A.S., PhD
Micropaleontology, Stable isotope, geochemistry
Pati, Pitambar.,PhD
Bhattacharya, B. PhD
Saha, L. PhD**, Sri,** PhD (Banaras)
Magnetism, Geoelectromagnetism, Inversion of Potential Field, Geohydrology, Groundwater and Sedimentology

3. HONORS AND AWARDS TO FACULTY MEMBERS

Prof.A.K.Saraf

- Member of . the Geoscience Advisory Council, Ministry of Mines (Govt. of India), New Delhi.

Associate Editor, International Journal of Remote Sensing.

Prof.G.J.Chakrapani

- Elected Fellow of National Academy of Sciences of India (FNASC), 2012

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Name of Institute/Organization Visited	Purpose of Visit	Dates
Dr. A.K. Saraf	University Putra, Kuala Lumpur, Malaysia	Paper Presentation	25-26th Sept. 2012
Chakrapani, G.J.	State Key Laboratory of Marine Geology, Tongji University, Shanghai, China	To deliver talks	Nov.2012
Joshi, A.	Tokyo Institute of Technology, Japan	INSA JSPS Bilateral Exchange Program	01-21 Jul 2012
Joshi, A.	WCSE 2012 at Hong Kong	To attend world conference on science and engineering	01-07 Aug 2012
Mukhopadhyay S.	Schmidt Institute of Physics of the Earth of Russian Academy of Sciences (IPE RAS), Moscow	Scientific collaboration	13-26 Aug. 2012
Mukhopadhyay S.	Conference of European Seismological Commission, 33rd General Assembly	Presentation of research paper	19-24 Aug 2012

5. VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Sri. D.P. Sinha	SEG Honorary Lecturer,	Houston, USA	To deliver special lectures on advanced seismics to our students (SEG Student Section, Department of Earth Sciences, IIT Roorkee). Thses lectures are sponsored by SEG, Oklahoma, USA

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Title of Thesis
Vadpal Singh	Indian	Male	Clustal Structure of NW Himalaya Though Gravity and Magnetic Data Analysis.
Gautam Rawat	Indian	Male	Electrical Conductivity Imaging of Uttrakhand Himalaya Using MT Method

7. (I) COMPLETED SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Prof. Sri Niwas	Physical Basis for Existence of Direct and Inverse Relationship Between Electrical and Hydraulic Conductivity of Aquifers	CSIR, New Delhi	8.76
Prof. A.K. Sen	Investigation of Potential Metalliferous Nature of Cola From india	UGC_DAE-CSR	1.30

(II) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Prof. Sandeep Singh	Establishing National Facility for 40AR-39AR Geo-thermochronology at the Indian Institute of Technology, Mumbai	DST, New Delhi	39.03
Dr. Anand Joshi	Source modeling and degeneration of strong ground motion: A case study of 95umatra earthquake of December 26, 2004 –Using a dense network of strong ground motion recorders	DAE, BARC, Mumbai	30.02
Prof. G.J. Chakrapani	Dissolution Rates of Deccan Basalts and other Lithologes in Narmada River Basin	DST, New Delhi	20.68
Prof. G.J. Chakrapani	Geochemical Evolution from Ground Water in a Limestone –Granite Terrain Underground Markers in Rocks	DAE, BARC, Mumbai	24.33
Prof. M. Israil	Deep Geoelectrical studies of India-Eurasia Collision Zone: Regional MT profile in Uttrakhand Himalaya	DST, New Delhi	13.91
Prof. Sandeep Singh	Text –Book Series for the Graduate Students in Earth Sciences	MoES New Delhi	88.17
Prof. A.K. Saraf	SAR Interferometry in Surface Deformation studies in Tectonically active parts of india	CSIR New Delhi	17.42
Prof. R.P. Gupta	Remote Sensing Based Debris –Cover Analysis of Chhota-Shigri Glacier, Himalaya	DST New Delhi	23.43
Prof. A.K. Sen	Investigation of Potential Metalliferous Nature of Cola From india	UGC_DAE-CSR	1.30
Prrof. Sunil Bajpai	India's paleoclimatic evolution during late Cretaceous early Paleogene: unraveling the defects of ENSO like situation in a greenhouse world	DST New Delhi	7.48

(III) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Prof. D.K. Mukhopadhyay	Structural and petro-minerological controls of uranium Mineralization in Hurra-Ki-Dhani-Jahaz area, Sikar, Rajasthan	DAE, BRNS Mumbai	27.99
Dr. Anand Joshi	Crustal Attenuation Studies of the Garhwal and the Kumaon Himalaya for Estimation of Seismic Hazard	Science and Engineering Research Board,(SERB),	51.66

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. Biplab Bhattacharya	Sediment – Orgnism Interation Pattern in Basal Grondwana Sediments of Raniganj Basin, India and its bearing on late Paleozoic Paleogeographic- Paleoclimatic Changes	New Delhi DST New Delhi	18.85

8. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

Research Projects:

- SAR Interferometry in Surface Deformation Studies in Tectonically Active Parts of India, CSIR, New Delhi (as PI) (in progress) of Rs. 17.42 lakhs.

  Title : Subsurface imaging of Uttaranchal Himalaya using a dense network of strong ground motion recorders
  Amount : 64.18 lacs
  Duration : 2010-2013
  Funding agency : MOES
  Write up of project: The first part of this project deals with the selection of various recording sites and installation of strong motion recorder in Kumaon and Garhwal Himalaya. In the present work we have selected several sites on the basis of recent activities recorded by existing network and installed the new stations at these sites. The strong motion data collected from different stations have been processed and earthquakes have been located. Second part deals with the development of algorithm for simultaneous inversion of strong motion data for site effect and shear wave attenuation coefficient. The algorithm for simultaneous computation of site effects and shear wave attenuation has been developed and tested for the data collected from the network. The inversion algorithms are based on the forward modeling approach given by Boore (1983) for simulation of strong ground motion. Algorithm for inversion of strong motion data for determination three dimension attenuation structures is in development and testing phase.

- Crustal attenuation studies of the Garhwal and Kumaon Himalaya for estimation of seismic hazard

  Amount : 51.66 lacs
  Duration : 2012-2015
  Funding agency : DST
  Write up of Project: Various study dealing with the attenuation properties of Garhwal and Kumaon Himalaya indicates that two regions have marked different in attenuation characteristics. Although the rock type and geology of two regions are similar the study shows that the attenuation characteristics of the Garwhal and Kumaon Himalaya are distinct in nature. Such verifications need to be confirmed from field data. Under a major MoES sponsored project a strong motion array of 14 stations has been installed by the department of Earth Sciences, IIT Roorkee in the Kumaon Himalaya and it has recorded many seismic events since its installation. The department of earthquake engineering is operating strong motion accelerographs in Garhwal and Kumaon Himalaya and also has recording of many events in this region. For estimation of attenuation property this strong ground motion data can be used in the present work. Verifications of results is done by the velocity profiles obtained in different parts of Garhwal and Kumaon Himalaya using seismic refraction survey. Simulation of SM data is heavily dependent on correct choice of input data. Attenuation parameters are the most influennal parameter which effect SM heavily. Present work is aimed to correctly estimate attenuation and velocity parameter for different part of Uttarakhand Himalaya which is further used for simulation SGM due to possible great event in the region.

- **Title:** Source modeling and generation of strong ground motion: A case study of Sumatra earthquake of 26th Dec, 2004

  Amount:30.02 lacs
  Duration:2009-2012

Funding Agency: BARC
Write up of project: Sumatra earthquake of 26th Dec, 2004 is one of the most devastating earthquakes which have raised concern over effect of Tsunami in the coastal region of India. It has exposed the vulnerability of hazard due to Tsunami at many important places which includes nuclear reactors in the east coast due to an earthquake in far off places like Sumatra. This project is aimed to model the earthquake ground motions generated due to this earthquake at its near source region and far field places like Andaman and Nicobar Island and coastal regions of India. An attempt is made to simulate the strong motion data of the Sumatra earthquake using semi empirical technique initially proposed by Midorikawa (1993) and later modified by Joshi (2001). The PPI station of JISNET is among the closest station which has recorded this earthquake. The strong ground motion record has been simulated at this station by using semi empirical method. Comparison of simulated and observed record is made in terms of accelerograms, velocity records, response spectra and several strong motion parameters. The application of semi empirical technique for study of Sumatra earthquake present a possibility that it can be used for simulation of ground motion at large and small distances for great earthquake. The modified technique will be the outcome of the project which can be used for providing input for safe constructions of major nuclear projects and large buildings in the coastal region in India due to great earthquakes occurring in oceanic crust.

9. CONTINUING MAJOR RESEARCH PROJECT

- Lode Gold mineralization in the Southern Granulite Terrain, Kerala: geochemical and petrological constrints on their genesis (PI - Dr. R. Krishnamurth)
  Date of Started: Nov 2010
  Date of completion: Nov 2013
  Total cost of Project: 43.06 lacs

- Hydrothermal Alteration Pattern Based Exploration Model for Unconformity Type Uranium and Other Associated Metals in Southern Part of Sonari Basin, Lalitpur Distt., U.P. Sponsored by BRNS (Project ended December 2012
  Total Amount: Rs. 15 lacs
  P.I. Prof. A.K.Sen
  Twenty-Eight Km long, E-W striking, Lower Proterozoic Bijawar basin rests unconformably over Bundelkhand Granite massif of Archaean age along a faulted contact and is unconformably overlain by the transgressional Middle Proterozoic Vindhyan Supergroup in the south. The surface exposure is about 5-7 km along N-S direction. The overall geological set-up of Sonrai Basin, presence of uranium and base metal in the basin, and possible extension of deep seated fractures below the Vindhyan rocks indicate possibility of unconformity related U-mineralization (?). The present project is outlined for systematic study of the area and to suggest future exploration strategy for U and other metal mineralization.

10. CONSULTANCY PROJECT:

- Geological Mapping and cross section generation of HRT/Feeder Tunnel for Phunatsangchu-III, THDC, Rishikesh of Rs. 5.00 lakhs.
- Feasibility study for the Road Tunnel across Sela Pass, Arunachal Pradesh, RITES Ltd., Gurgaon of Rs. 18.00 lakhs

4.8 DEPARTMENT OF ELECTRICAL ENGINEERING

Academic Staff: **29**; ***Students Admitted*****:** ***UG*****-138,** ***PG*****-96,** ***Ph.D.-15*****; *Publications*: *Journals : 33, Conferences: 35*, *Projects*: Research- Rs.9.85 Lacs,**

1. SALIENT FEATURES

The Department has modified few laboratories and upgraded them with new equipments. Currently two major National Mission projects are also in progress, sponsored by MHRD. The Electrical Engineering Students Society has organized few technical events and brought departmental Annual News letter. Steps have been taken for better internship and placement opportunities to U.G. & P.G. students.

2. LIST OF FACULTY MEMBERS

Professors

Agarwal, Pramod, Ph.D. (Roorkee)
Head
Electric Drives and Power Electronics
Anand, R.S., Ph.D. (Roorkee)
Measurement and Instrumentation
Das, B., Ph.D. (IIT Kanpur)
Power System Engineering
Gupta, Satya P., Ph.D. (Roorkee)
Electric Drives and Power Electronics
Kumar, Vinod, Ph.D. (Roorkee)
Medical Instrumentation, Digital Signal Processing
Maheshwari, R.P., Ph.D. (Roorkee)
Power System Instrumentation, Digital Relays
Mukherjee, Shaktidev, Ph.D. (Roorkee)
Measurement and Instrumentation
Padhy, N.P., Ph.D. (Anna University)
Power System Engineering
Prasad, Rajendra, Ph.D. (Roorkee)
System Engineering and Operation Research
Singh, Girish K., Ph.D., (Banaras)
Electric Drives and Power Electronics
Singh, S.P., Ph.D. (Roorkee)
Electric Drives and Power Electronics
Srivastava, Satya P., Ph.D. (Roorkee)
Electric Drives and Power Electronics

Associate Professors

Fernandez, Eugene, Ph.D. (Roorkee)
Power System Engineering
Gupta, C.P,(IIT Kanpur)
Power System Engineering
Gupta, Indra (Ms.), Ph.D. (Roorkee)
System Engineering and Operation Research
Pathak, M.K ,PhD (IIT Delhi)
Electric Drives and Power Electronic
Pillai, G.N., Ph.D. (IIT Kanpur)
System Engineering and Operation Research
Tyagi, Barjeev, Ph.D. (IIT Kanpur)
System and Control

Assistant Professors

Choudhuri S.G, Ph.D. (IIT Delhi)
Electric Drives and Power Electronic
Das, S. (Ms), Ph.D. (IIT Kharagpur)
Electric Drives and Power Electronic
Dewal, M.L., Ph.D. (Roorkee)
Measurement and Instrumentation
Hote, Y.V., Ph.D. (Delhi)
System & Control
Kumar, Vishal, Ph.D. (IIT Roorkee)
System Engineering
Kumbhar, G.B., Ph.D. (IIT Bombay)
Power System Engineering
Pant, Vinay, Ph.D. (Roorkee)
Power System Engineering
Sharma, Ambalika (Ms), ME (Roorkee)
Measurement and Instrumentation
Sumathi, P. (Ms.), PhD (IIT Madras)
Instrumentation and Signal Processing
Tripathi, M., PhD (IIT Roorkee)
Instrumentation & Signal Processing
Jena, Premalata (M S) PhD
Power System Engineering

Guest Faculty

Vasantha, Mooteri K., M.Tech. (IIT Bombay)
System Engg. and Operation Research

3. HONOURS AND AWARDS TO FACULTY MEMBERS

Padhy, N.P.

- Recived the Guest of Honour and was also the Key Note Speaker in the National Conference on Computational Intelligence in Power Apparatus and Systems “CIPS 2012” held during 18-19th April, 2012, at SRM University, Chennai.

4. PARTICIPATION OF FACULTY IN CONFERENCES / SEMINAR / SYMPOSIA / WORKSHOP / GUEST LECTURE

Name of Faculty	Name of the Conference/ Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Dates
N.P.Padhy	2012 Power and Energy Society General Meeting	San Diego, U.S.A.	July 22-26, 2012
Dewal , M.L.	4th IEEE Power Engineering Society General Meeting	Phuket, Thailand	July 23-26,2012
Manoj Tripathy	International Conf. on Advances in Computing , Com munications& Informatics 9ICACCI-2012	R.M.K. Engg. College , Channei	Aug. 3-5, 2012
Dr. P. Sumathi	55th International Midwest Symposium on Circuits and Systems (MWSCAS 2012)	Boise, Idaho, U. S.A.	Aug.5-8, 2012
Manoj Tripathy	International Conference on Advances Computer and Communication Informatics (ICACCI-2012)	Chennai, India	Aug.3-5, 2012
Manoj Tripathy	Metering Technology & AMR Application" under Restructured Accelerated Power Development and Reforms Programme (RAPDRP) Part-C Capacity Building Training Programme, organized by Ministry of Power, Government of India in association with FITT, IIT Dellhi,	IIT Dellhi, India	October 4, 2012.
S. Mukherjee	"IEEE, IECON - 2012	Montreal, Quebec, Canada	Oct. 25-28, 2012

5. VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Prof. Alison Noble Freng	Professor	Instt. of Bio-Medical Engg. Oxford	Academic Visit
Dr. Andrew Watso	Professor	Univ. of Notingham	Guest Lecture

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Category (Gen/SC/ST/ OBC)	Title of Thesis
Waware Madhukar Maruti	Indian	Male	Gen	Multilevel Inverter Based Active Filter
Sandeep Bhongade	Indian	Male	SC	Automatic Generation Control in Restructured Power System
Subhash Chander	Indian	Male	Gen	FPGA Based Chip Design for DC-DC Converter
Anil Balaji Gonde	Indian	Male	Gen	Local and Global Descriptors Using Wavelet Based Features for Image Retrieval
Nitin Gupta	Indian	Male	Gen	Power Quality Improvement with Shunt Active Power Filter
Vijay Raja Ram Rathod	Indian	Male	Gen	Analysis and Interpretation of Radio graphical Weld Images

7. CONFERENCE/ SEMINAR/ SYMPOSIA/ WORKSHOP ORGANISED BY THE DEPARTMENT

Org. Secretary	Name of the Conference/Seminar/ Symposia/ Workshop	Sponsored by	Dates
Dr. Ganesh Kumbhar **Dr. Manoj Tripathy**	Power Transformer: Trends in Design, analysis, protection and Condition monitoring	Q.I.P.	June 4-8, 2012
Dr. Manoj Tripathy, **Dr. Yogesh Vijay Hote** **Dr. Ganesh Balu Kumbhar**	New Trends in Power System, Protection and Control Technique		Feb. 13-17, 2012

8. (I) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. P. Sumathi	Experimental investigation on active vibration control of single-link flexible manipulator through on line vibration mode estimation.	SERB,New Delhi	12.96
Dr. S. P. Singh	Design & Development of a DSP Based Controller for Small Hydro and wind Power Generator		25.00
Dr. P. Sumathi	Development of an ultrasonic vibration measurement system using sliding discrete Fourier transform based phase locking scheme		280.00
Dr. Vinay Pant	Optimal Placement of Sectionalizing Switches and Distributed Generation Resources for Improving Service Reliability in Power Distribution System Under RSOP Scheme of MOP, GOI		32.10
Dr. Sharmili Das	Development of an Electromagnetic Stirrer Design for Steel Industry		14.52

(II) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. P. Sumathi	Experimental investigation on active vibration control of single-link flexible manipulator through online vibration mode estimation	Science and Engineering Research Board (SERB), New Delhi	9.85

4.9 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Academic Staff **: 22; *Students Admitted* : *UG-76*, *PG-68*, *Ph.D.-12* ; *Publications* : *Journals*-42, *Conferences*-104; *New Projects* : *Research* – Rs. 39.40 Lacs**

1. SALIENT FEATURES

The Department of Electronics & Communication Engineering is one of the major departments of the Institute in terms of the number of students and number of programmes. It offers a wide spectrum of academic programmes at undergraduate and postgraduate level. Undergraduate programmes lead to B.Tech. in Electronics and Communication Engineering, and B.Tech. in Computer Science and Engineering. Postgraduate programmes offered by the department include Communication Systems, Computer Science and Engineering, Information Technology, RF and Microwave Engineering, System Modeling and Control, and Microelectronics & VLSI. In addition, the department offers two Integrated Dual Degree (IDD) programmes, one leading to B.Tech. (Electronics & Communication) & M.Tech. (Wireless Communication) and the other leading to B.Tech. (Computer Science and Engg.) and M.Tech. (Information Technology). There are more than 40 full time research students working in various disciplines.

The department has always been on a high growth path and has experienced faculty with a strong commitment to teaching and sponsored research. A number of new sponsored research projects have been received in the current year in diverse areas like Data Mining, RF and Microwave Engg. and VLSI design. A new laboratory has been set up for research in Data Mining and Data Warehousing and capacity expansion of existing laboratories have been carried out. A new Computer Laboratory with about 90 computers has been built to cater to the needs of B.Tech Programmes. Three new faculty members also joined the department in the current year.

2. LIST OF FACULTY MEMBERS

Professors

Kartikeyan, M.V., Ph.D. (BHU)
Millimeter Wave Engineering, Microstrip Antennas, Soft Computing Techniques
Head

Nigam, Madhav J., Ph.D. (Roorkee)
Digital Image Processing, Guidance and Control in Navigational Systems

Kumar, Arun, Ph.D. (Roorkee)
Communication systems & Microprocessor based Instrumentation

Saxena, Ashok K., Ph.D. (Sheffield, U.K.)
Semiconductor Materials, Electronics & Devices

Singh, Dharmendra, Ph.D. (BHU)
Polarometric & Introferometric Application of Radar, Optical & Microwave Remote Sensing

Associate Professors

Ghosh, D., Ph.D. (IISc Bangalore)
Communication Systems, Image and Video Processing, Computer Vision

Kumar, Vijay, Ph.D. (Roorkee)
Fuzzy Control, Control Systems

Pathak, Nagendra P. PhD (IIT Delhi)
Dielectric Waveguides, Microwave & mm-wave ICs, Adaptable RFICs

Dasgupta, Sudeb, Ph.D. (BHU), Varanasi)
Adiabatic Logic for Portable Applicatons, FINFET, PDSOI, FDSOI

Assistant Professors

Anand, **B.,** PhD (IIT Bombay)
Device Circuit Co-design, Delay and Power Models for VLSI, Small Dimension Efffect

Chakravorty, Siddharth, ME (Roorkee)
Digital Communication, Wireless Communication

Kaushik, B.K. Ph.D. (Roorkee)
Carbon nanotube based transistors and Interconnects organic, Thin Film Transister Modeling.

Sanjeev Manhas Ph.D (Leicester UK)
Nanoscale MOSFET modeling, MOS Device Reliability, Semiconductor Devices

Patnaik, Amalendu PhD (Berhampur University)
Antennas, Evolutionary methods for Antenna Design, Antenna Signal Processing

Tyagi Anshul PhD (IIT Delhi)
Wireless Communications, Error Control Coding,UWB Communications.

Vinod Pankajakashan Ph.D. (IIT Gauhati)
Signal Processing, Digital Water Marking, Image Forensics

Panigrahi,Rajib K. Ph.D. (IIT Guwahati,)
Information extraction from radar images, Radar signal processing, target detection and estimation, Radar based remote sensing.

Dutta,Arnab PhD (IIT Mumbai)
Microelectronics
Electrical characterization and modeling semiconductor devices, Electrical characterization and modeling of semiconductor device, MEMS, semiconductor photonic device, semiconductor photonic device.

Emeritus Fellow

Prof.R Mitra
Prof.D.K.Mehra
Prof. S.N. Sinha

3. HONOURS AND AWARDED TO THE FACULTY

Dr. Arnab Dutta

- Elected to work as Host Scientist under C. V. Raman International Fellowship for African Researchers Program, DST and FICCI, India, 2012 – 13.

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Institution/Organization Visited	Purpose of Visit	Date
Dr. M.V. Kartikeyan	Karlsruhe Institute of Technology, Germany	Alexander von Humboldt Fellowship	June 1-July 14, 2012
Dr. Dharmendra Singh	Karlsruhe Institute of Technology, Germany	Visiting Professor	June 10-30, 2012
Dr. S. Dasgupta	Int. Conference at Denver Colorado, USA	Int. Conference at Denver Colorado, USA	September 5-7, 2012
Dr. D.Ghosh	Int. Conference at Beijing China	To present a research paper	October 21-25, 2012
Dr Sanjeev Manhas	Int. Conference at Sentosa, Singapore	To present a research paper	Jan. 2-4, 2013
Dr. Anand Bulusu	Int. Symposium California, USA	To present a research paper	March 4-6, 2013

5. PARTICIPATION OF FACULTY IN CONFERENCES/ SEMINAR/ SYMPOSIA/ WORKSHOP ETC

Name of Faculty	Name of Conference / Seminar / Symposia/ Workshop	Place	Dates
Dr. S. K. manhas	IEEE 5th International Nanoelectronics Conference (INEC)	-	2-4 Jan 2013
Dr. Arnab Datta	IEEE - International Conference on Microelectronics, Communication and Renewable Energy	Kerala,	June 2013
Dr. Dharmendra Singh	Conference on "Recent Trends in Microwave Techniques and Applications"	Jaipur	July, 30- Aug. 1, 2012
Dr. Dharmendra Singh	International Workshop on "Polarimetric and Its Application"	Nigata , Japan	Aug. 23-26, 2012
Dr. Dharmendra Singh	National Conference on Semiconducting Materials and Nano Devices	Sharda University Greater Noida	September 14-15, 2012
Dr. Dharmendra Singh	National workshop on Vacuum Electronic Devises and Applications	Pilani	Sept. 21-24, 2012

6. VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Dr. Partha S. Roop	Sr. Lecturer	Univ.of Auckland New Zealand	To deliver lecture
Dr. S. N Joshi	National Coordinator, Gyrotron Project	CSIR-CEEI Pilani	For Technical Discussions

Name	Designation	Affiliation	Purpose of Visit
Dr. Prasun Ghosal	Asstt. Professor	Bengal Eng. & Science Uni., Shibpur	To deliver a Lecture
Mr. Muruganadam S.	-	IBM Bangalore	To deliver a Lecture

7. CONFERENCE/ SEMINAR/ SYMPOSIA/ WORKSHOP ORGANISED BY THE DEPARTMENT

Organising Secretary	Name of the Conference/Seminar/Symposia/ Workshop	Sponsored by	Dates
Dr. D. Singh	Course on Wireless Sensor Networks	Technical Education, U.P	05-09 Nov. 2012

8. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Category (SC/ST/ Gen/OPD)	Title of Thesis
Abhay N. Gaikwad	Indian	M	GEN	Study of Through wall Imaging For Target Detection
Pilli Emmanuel Shubhakar	Indian	M	GEN	A Framework For Network Forensic Analysis
Amit Agarwal	Indian	M	GEN	Towards Multi-Objective Scheduling Strategies For Grid Computing Environments
Dereje Shiferaw Negash	Indian	M	GEN	Soft Computing Techniques For Robust Controller Design of Stewart Platform Manipulators
Bankat M. Patil	Indian	M	GEN	Cluster and Classification On Complex Data For Mining Applications
Rishi Prakash	Indian	M	GEN	Radar Remote Sensing For Retrieval of Soil Parameters
Brij Bhooshan Gupta	Indian	M	GEN	Defense Mechanisms Against Distributed Denial of Services(DDOS) Attacks

9. (I) COMPLETED SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. Anand Bulusu	Nanoscale FinFET device & Circuit design methodology	DST-473-ECD	20.00
Dr. S. Dasgupta	FinFET based nanoscale SRAM cell Design for Low Power Application	DST-439-ECD	20.00
Dr. D. Singh	An Advancement of Space Tech. to provide valuable Information	DST-423-ECD	33.00

(II) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. S. Manhas	Investigation of Sinanowire FET reliability	DST-622-ECD	42.40
Dr. N. P. Pathak	Concurrent Multiband Radio Frequency Integrated Circuits for Multifunctional Communication Systems"	CSIR, New Delhi (June 2013-2016)	18.50
Dr. N.P. Pathak	Development of non-radioactive Dielectric (NRD) Guide based…	DST-517-ECD	39.40
Dr. M.V. Kartikeyan	Design & Development of 42 GHz, 200	DST-241-ECD	84.60

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
	KW/CW/Long pulse-Gyrotron		
Dr. D. Singh	Hand Held Hideout/cavity Detector	CME-452-ECD	72.00
Dr. D. Singh	Satellite data-based fusion approach to develop soal moisture monitoring system in India	MES-476-ECD	38.58
Dr. D. Singh	Development of land-parameter retrieval technique & tools for polarimetric SAR Data analysis	ISR-504-ECD	18.00
Dr. D. Singh	Study of Altimetric Measurement over land: A	ISR-583-ECD	15.82
Dr. D. Singh	SPACEIRE, App. of msat-3D, Data for Sub Surface fire detection & monitoring	ISR-591-ECD	10.00
Dr. D. Singh	Critical Analysis of mini-SAR data for moon structure classification	ISR-660-ECD	6.30
Dr. S. Dasgupta	Design & Development of carbon nanotubes based chemicals Gas- Sensor	DRD-587-ECD	25.00
Dr. Anand Bulusu	A Robust methodology for nanoscale VLSI circuit design considering layout dependent systematic variations	SER-711-ECD	38.37

(III) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. N. P. Pathak	Development of Non-Radiative on-Radiative Dielectric (NRD) Guide based Low Cost and Low Loss Millimeter Wave Integrated Circuits for Broad band Wireless Access(BWA) Systems	DST, Govt. of India, India in July 2010 for the duration of 3 years.	Total project grant 39.40 Lakh (July 2010-March 2014)

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

(i) Project title : Critical Analysis of Mini-SAR data for Moon Surface
PI: Dr. Dharmendra Singh

Interpretation of moon surface (i.e., different types of minerals etc) with remote sensing data is of paramount importance for understanding the natural resources and the possibility of water in lunar polar region. Thus, it is necessary to critically analyze the mini-SAR data to conclude some concrete interpretation of moon surface. For this purpose, critical analysis of Polarimetric concept is proposed on Mini–SAR data. Since radar sensors offer a potential means of determining the spatial distribution of various types of landscape and surface roughness over large areas within a short time and reasonable cost, therefore special efforts are needed to utilize this technology for generating information required for the interpretation of the areas in lunar polar region. In addition, the work will focus on fusion of multi-temporal available data [Available multi-temporal data (may be only 3 or 4) will be very much helpful for authentication of different clusters. It will be strengthening the classification accuracy.

(ii) Project Title: Use of polarimetric data for Earth surface parameter retrieval
PI: Dr.Dharmendra Singh

Assessment of earth surface parameters has been the one of the main objectives of several remote-sensing applications. Because of the importance of these parameters for correct planning of earth resource utilization as well as for timely availability of information about environment changes. One of the most important surface parameters are soil parameters. Studies in the field active microwave remote sensing have shown the feasibility to monitor monitor these soil parameters with ground based,

airborne and space-borne sensors. Therefore, for the estimation of moisture content or surface roughness with remote sensing, it is important to understand scattering characteristics of both parameters individually. Land cover and land use change detection is very promising field which is required for various socio-economical applications. It has been generally agreed that change detection is a complicated and integrated process. No existing approach is optimal and applicable to all cases. Attention must be paid for development of a change detection technique using features extracted from polarimetric SAR data.

(iii) Project Title: Investigation of silicon nanowire FET reliability at high and low temperatures and its modeling ,Funding agency :DST ,Amount: 42.4 lacs ,Duration:3 year ,PI:Dr.Sanjeev Manhas

The main objective of this project will be to carry out reliability studies of gate all around (GAA) silicon nano-wire MOSFETs both at high and low temperature. Setting up of an electrical characterization probe system for wafer level device testing, and building a reliability model of GAA Si nano-wire MOSFETs through extensive experimentation/simulations to predict device lifetime.We also aim to fill a crucial gap between industry and academics in understanding reliability of nanowire devices in their potential replacement beyond 22nm CMOS technology node. To offer opportunities for students and staff of Microelectronics and VLSI group in Electronics and Computer Engineering department of IIT Roorkee to work on the cutting edge devices and process technologies. Create valuable opportunities for collaboration in IC design industries in India and abroad. The trained manpower out of this research will be highly recognized both in academics and semiconductors industry.

(IV) Project Title: "A Robust methodology for nanoscale VLSI circuit design considering layout dependent systematic variations" Amount: Rs. 38,37,000, PI : Anand Bulusu

Sponsor: Department of Science and Technology, GoI

Summary: Presently VLSI circuit design methods do not consider systematic causes of variation at transistor sizing/layout levels. This results in non-optimal performance of ICs and ad-hoc overdesign approaches. Of these systematic causes, process induced mechanical stress and INWE are not location dependent and affect all logic gates. Using fundamental physics of transistors, we propose to model the impact of mechanical stresses and INWE on circuit performance. Using these models, we aim to propose a systematic variation aware circuit design methodology which results in optimized performance. The steps that we follow for completing this task are as follows (for a stress-enabled CMOS technology):

- We have already modeled logical effort of inverters with constant device finger widths and proposed a methodology for design and layout of inverter chains having devices with a constant finger width [9-13].
- We will model the logical effort of an inverter as a function of widths of its device fingers.
- We will model logical effort of NAND/NOR gates and inverter followed by a pass-gate (which is the basic building block of a static latch) as a function of number of fingers and finger width.
- We will propose a methodology to design combinational logic paths having the above logic gates. We will design a ring-oscillator based unpackaged test-chip in a 45nm stress enabled CMOS technology. We will characterize this test-chip to verify the validity of our models. We will get it fabricated through a Multi-Project Wafer (MPW) vendor. Apart from verifying our models, designing such a test-chip in this advanced CMOS technology would be an enriching experience.

4.10 DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES

Academic Staff-11, Students Admitted* : *PhD*.-05; *Publications: Books : 13, Journals- 37, Conferences-25

1. SALIENT FEATURES

The Department runs various core and elective courses, which are taught to students of all the branches of B.Tech., B.Arch., MCA and MBA. There are also specialized courses on Technical Communication and Intellectual Property Rights, which are offered to PG students. An evening course on German Language is also run. The Department also has full fledged Ph.D. programs in various disciplines. The Department has a State of the Art Language Lab with a seating capacity of 55 students and advanced language learning software to train students LSRW; a Psychology Lab which contains tests and research material in the area of Organizational Behavior as well as an Economic Data Base containing on various macro-economic indicators of the economy that help the researchers in various fields. The Department also has a Computer Lab. In the year under review the Department has successfully hosted the 6th Annual Conference of Political Economy Association, and a Researcher Connect Workshop on Soft Skills Training.

2. LIST OF FACULTY MEMBERS

Professors

Gaur, Rashmi (Ms), D.Phil. (Allahabad)
Professional Communication, Modern Indian Fiction, Gender/Culture Studies (Head)
Jha, Pashupati, PhD (IIT Delhi)
Modern Literatures in English, Feminist Studies, Professional Communication, Creative Writing
Nauriyal, Dinesh K., PhD (Garhwal)
International Economics, Human Capital, Demography, Human Resource Development, Economic Appraisal of the Projects, Marketing Management
Rastogi, Renu (Ms.), PhD (IIT Kanpur)
Organizational Behaviour, Counselling & Women's Studies
Singh, Sukh Pal, PhD (Meerut)
Rural Development, Agricultural Economics, Labour Economics, Irrigation & Water Resource Economics and Productivity and Efficiency Analysis

Associate Professors

Kumar, Nagendra, PhD (BHU**)**
Modern Literature, Technical Communication, Contemporary Fiction, Critical Theories
Jha, Smita (Ms), PhD (Bihar), PGDTE (Hyderabad)
ELT, Linguistics, Technical Communication, Indian English & Modern Literatures, Gender Studies

Assistant Professors

Garg, Pooja, PhD (IIT Roorkee)
Organisational Behaviour
Mishra, Anindya Jayanta, PhD (IIT Kanpur)
Social Gerontology, Industrial Sociology
Mishra, Indiwar, Ph.D, (IIT Kharagpur)
Cognitive Psychology

Assistant Professors on Contract

Gulati, Rachita, Ph.D. (Amritsar)
(w.e.f. 05/7/2013)
Productivity & Efficiency

3. HONORS AND AWARDS TO FACULTY MEMBERS

Jha, Pashupati

- President, 57th All India English Teachers Conference, Sardar Patel University, Vallabh Vidyanagar (Anand), Dec.21-23, 2012

Jha, Smita (Ms)

- Honor for Organizing Blood Donation camps by State Blood Transfusion Council, Uttarakhand, 11 Feb, 2013.
- Honor for motivating students of IIT Roorkee to donate blood by IMA, Dehardun, 30-31 MARCH,2013.

Nauriyal,D.K.,

- Outstanding Teacher Award 2012.

Mishra, Anindya.,

- Bharat Jyoti award by the India International Friendship Society (IIFS) New Delhi for academic excellence for the year 2012.

4. VISIT OF FACULTY : INTERNATIONAL ONLY

Name of Faculty	Name of Institute/Organisation Visited	Purpose of Visit	Dates
Garg, P.	Cape Town, South Africa	Paper Presentation	21-27 July, 2012
Jha, Smita	University of Boston	Paper Presentation	2-3 January, 2013
Jha, Smita	University of Glasgow	Paper Presentation	24-25 May, 2012
Mishra, A.J.	Stockholm Network, London	Invited for a Talk	8-9 October, 2012
Rastogi, R.	Cape Town, South Africa	Paper Presentation	21-27 July, 2012

5. DISTINGUISHED VISITORS TO THE DEPARTMENT:

Name	Designation and Affiliation	Purpose	Dates
Prof. Arun Kumar	Professor of Economics at the Centre of Economic Studies and Planning, JNU, New Delhi	Invited for a Talk on Understanding Black Money in India	28 August 2012

6. CONFERENCE/ SEMINAR/ SYMPOSIA/ WORKSHOP ORGANISED BY THE DEPT.

Org. Secretary	Name of Conference/Seminar/Symposia/ Workshop	Sponsored by	Dates
Gaur, Rashmi and Jha, Smita	Five-day workshop on Researcher- connect Programme	IIT Roorkee & British Council India	4-7 March,2013
Nauriyal D.K. and Singh, S.P.	16th Annual Conference of Indian Political Economy	_	26-27 October, 2012

7. SHORT TERM/SPONSORED COURSES ORGANIZED BY THE DEPARTMENT

Name of Coordinator	Name of the Courses	No. of Participation	Dates
Jha, Smita	Translation in Post-colonial India	30	22 March, 2013

4.11 DEPARTMENT OF HYDROLOGY

Academic Staff **: 09;** ***Students Admitted*** **:** ***PG*****-25,** ***Ph.D.*****-04;** ***Publications*** **: Books/Book Chapters-2,** ***Journals*****-11,** ***Conferences*****-17;** ***New Projects*** **:** ***R&D :*** **Rs. 142.00 Lacs, Consultancy: Rs.131.16 Lacs**

1. SALIENT FEATURES

Like previous years, the 41th International P.G. Diploma/M.Tech. Hydrology course commenced from July 2012 with 25 nos. of participants including 06 sponsored candidates from abroad. The M. Tech. final year programme also continued with 17 students. At present 17 students are pursuing their doctoral research in the Department.

2. LIST OF FACULTY MEMBERS

Professors

Perumal, M., PhD (Roorkee)
Head (w.e.f. Jan. 1, 2012)
Surface Water Hydrology
Goel, Narendra K., PhD (Roorkee)
Stochastic Hydrology
Joshi, Himanshu, PhD (Roorkee)
Environmental Hydrology

Associate Professor

Arya, D.S., PhD (Pondicherry)
Hydroinformatics & GIS and remote sensing application, DSS
Jain, Manoj K. PhD (IIT Roorkee)
Watershed Management, Modeling of Hydrologic and Hydraulic Systems

Assistant Professor

Yadav,Brijesh K., PhD (IIT Delhi)
Ground Water Hydrology
Sen,Sumit,PhD(Auburn University.USA)
Watershed Management

Emeritus Fellow

Singhal, Dinesh C., PhD (Roorkee)
Groundwater Hydrology, Hydrogeology, Geophysics
Srivastava, Dinesh K. PhD (IIT Delhi)
Water Resources Systems

3. HONORS AND AWARDS TO FACULTY MEMBERS

Perumal M.

- Nominated by the Ministry of Earth Sciences, Govt. of India as an Indian member of the Belmont Forum International Opportunities Fund for Fresh Water Security. Belmont Forum is an initiative of G8 countries for reviewing pre and final project proposals received from G8 member countries.
- Invited by the Vice Chancellor, University of Technology MARA (UiTM), Malaysia for participating in International Flood Initiative involving 5 leading international institutions, including IIT Roorkee.
- Invited to deliver a theme lecture by the organizing Committee of the HYDRO-2012 (Dec.7-8, 2012)-International Conference of the Indian Society for Hydraulics Organized by the Department of Civil Engineering, IIT Bombay.

Joshi, Himanshu

- UKIERI Exchange award of British Council

D.S.Arya

- Fellow,Institute of Engineering(India)

Jain, Manoj K.

- Fellow, Indian Water Resources Society

D.C.Singhal

- Chaired/Co-chaired Plenary/Technical session in the "International Groundwater Congress" in Aurangabad in December, 2012 and during CGWB workshop on "Groundwater Management in Uttarakhand" organised at Dehradun, by Central Groundwater Board (Govt. of India) in February, 2013.
  Member of the Review Committee of Board of Research in Nuclear Sciences, Mumbai.
- Member of the standing Advisory Committee on Research Programmes in Water Sector, Ministry of Water Resources (Govt. of India).Elected as a member of National Executive Committee of Indian Association of Hydrologists for 2013-14.

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Name of Institute/ Organization Visited	Purpose of Visit	Dates
Perumal, M.	Belmont Forum-International Opportunities Fund Meeting at London,U.K.	To attend the Panel of Experts committee meeting of Belmont Forum for pre-proposal review	Sep. 11-12, 2012
	- University of Teknology MARA Shah Alam, Malaysia	To attend the kick-off meeting of the International Flood Initiative	Jan. 15-18, 2013
	- National Science Foundation, Arlington, VA22230, USA	To attend Panel of Experts Committee meeting of Belmont Forum for final proposal review	March 19-20, 2013
Dr. N.K. Goel	WMO, Switzerland	Official discussions about collaboration	July 20-21, 2013
Dr. Himanshu Joshi	University of Twente, Enschede, Netherlands	To attend the discussions of the Global Water Footprint Network Committee	July 03-16, 2012
	- University of Portmouth and UK-India Education and Research Initiative (UKIERI)	Academic Interaction under UKIERI grant	Nov. 29 -Dec.23, 2012
Dr. D.S. Arya	Technical University, Hamburg, Hamburg, Germany	To attend International Conference on Hydroinformatics	July 13-15 & 18, 2012
	- Climate Service Centre, Hamburg, Germany	Collaboration in the area of Climate Change	July 16, 2012
	- World Meteorological Organization, Geneva, Switzerland	Collaboration between WMO and the Department	July 16-18, 2012
Dr. M.K. Jain	ASABE, USA	To attend ASABE Annual International Meet at Dallas, Texas, USA	July 29-Aug.01, 2012

5. PARTICIPATION OF FACULTY IN CONFERENCE/SEMI./SYMP./WORKSHOP/GUESTLECTURE

Name of Faculty	Details of Conference / Seminar/ Symposia / Workshop / Guest Lecture	Venue	Dates
Dr. Brijesh K. Yadav	Center for Rural Development and Technology	IIT Delhi	Nov. 30, 2012

6. VISITOR TO THE DEPARTMENT

Name	Designation & Affiliation	Purpose	Dates
Dr. Karyn Sawyer	Director, Joint office for science support University Coorporation for Atmospheric Research (UCAR), Boulder Colorado, USA	To develop collaboration between UCAR and Department of Hydrology faculty on Climate Change Studies	Feb. 21-22, 2013
Dr. Robin Wardlaw	Asian Development Bank Consultant	Integrated Flood Management related activities	May 10, 2013
Mr. Knut Oberhagemann	Asian Development Bank Consultant	Integrated Flood Management related activities	May 10, 2013

Name	Designation & Affiliation	Purpose	Dates
Dr. Thomas Harter	University of California, Davis, USA	To deliver special lecture	April 11-14, 2013

7. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Title of Thesis
Ch. Madhusudana Rao	Indian	Male	A Hydrometric Data-Based Flood Forecasting Model Using a Simplified Routing Technique
Anil Kumar kar	Indian	Male	Flood Estimation and Forecasting in Mahanadi River Basin Using Soft Computing Techniques.
Negash Wagesho Amencho	Ethiopian	Male	Impact of Climate and Catchment Dynamics on Runoff Generation.

8. SHORT TERM/SPONSORED COURSES ORGANISED BY THE DEPARTMENT

Principal Investigator	Name of the Courses	No.of Participants	Dates
Dr D.S. Arya	Remote Sensing and GIS Applications in Hydropower Projects, National Hydro Power Corporation Limited, Faridabad	12	Jan. 14-18, 2013
	- Remote Sensing and GIS Applications in Hydropower Projects, National Hydro Power Corporation Limited, Faridabad	15	Jan. 21-23, 2013
Dr. N.K. Goel	Climate change issues and impacts on water resources management in coastal and seasonal wetlands, Bangladesh	12	March 11-20, 2013
	- Climate change issues and impacts on water resources management in coastal and seasonal wetlands, Bangladesh	15	June 10-19, 2013

9. (I) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs)
Dr. Himanshu Joshi	Development of innovative spentwash treatment systems and resource recovery option for distillery application	DST, New Delhi	69.00
Dr. B.K. Yadav	Bioremediation of LNAPL polluted land under (semi)-arid coastal environment conditions	DST, New Delhi	73.00

(II) NEW CONSULTANCY/TESTING PROJECT

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs)
Dr. N.K. Goel	Estimation of PMF, design flood including determining spillway capacity for Gulf of Khambat development Project- Kalpasar project	Kalpasar Department	62.80
Dr. Himanshu Joshi	Study of Impact of River Bed Mining on Water Winning Structures &Evolution of Policy &Guidelines to Prevent Adverse Impacts	Water Supply & Sanitation Circle, Shimla, HP	12.42

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs)
	- Planning for Optimum Development of Groundwater in Coastal Sand Dune Pockets of Orissa	Hydrology Project, Phase II, Groundwater Survey & Investigation, Bhubaneshwar, Orissa	24.13
	- Application of Remote Sensing Technique for Mapping Water Logged and Salt Affected Areas in the Coastal Tract of Orissa	Hydrology Project, Phase II, Groundwater Survey & Investigation, Bhubaneshwr, Orissa	27.94
Dr. D.C. Singhal	Resistivity Studies for Location of Borewells in selected Villages of Sahaspur Block in Dehradun	DPMU (Swajal Project), UK Peyjal Deptt., Dehradun	1.87
	- Hydrogeological & Geophysical Studies for Finding Groundwater at Bhaguwala (Behat Area), Dist. Saharanpur	M/s Patiala Kings Liquor Pvt. Ltd.	2.00
Dr. M.K. Jain	Geohydrogical and Geophysical Studies of Ranavav Limestone Mine,Distt. Porbandar (Gujarat)	M/s Saurashtra Cement Pvt. Ltd.	11.25

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECT

Estimation of PMF, design flood including determining spillway capacity for Gulf of Khambat development Project- Kalpasar project', sponsored by Kalpasar Department,62.8 lakhs,2012-2013

The Kalpasar Project is a multi -purpose mega project comprising construction of a dam for a total proposed length about 60.0 km, out of which 29 km length is Dam portion in Gulf, 20 km length on main land on western side and 11 km length on main land on eastern side, connecting Aladar in Bharuch District on eastern coast and Kalatalav in Bhavnagar District on western coasts of Gulf of Khambhat. The project envisages the construction of dam across the Gulf of Khambhat consisting of an area over 2000 km2, and barrage on Narmada River near village Bhadbhut with diversion canal to divert Narmada Water to the extent the surplus water during the floods become feasible depending on the site specific topography and other relevant hydraulic parameters, to Kalpasar Reservoir to create a lake of fresh water. The gulf receives flood water from the major rivers namely Narmada, Mahi, Dhadhar, Sabarmati, Tapi on eastern coast and few small rivers from Saurashtra region on west coast.

The objective of the present study is to carry out detailed hydrological study for Estimation of Design flood, Probable Maximum Flood (PMF), Combined effect of PMF from the rivers discharging in to the Gulf at Dam Site, and sizing of Spillway Capacity.

4.12 DEPARTMENT OF MANAGEMENT STUDIES

Academic Staff : 13; Students Admitted : PG-85, Ph.D.-34;
Publications :Book-15, Journals - 38, Conference – 53; New Projects : Research – 1.00 Lacs

1. SALIENT FEATURES

The Department has focused on Teaching, Training and Research activities for academic excellence. The sponsored workshop and seminars have been organized on the emerging trends of management including knowledge management, technology management and entrepreneurship development. The speakers were of National and International repute from Industry, academia and government. The knowledge sharing practices have been motivated amongst faculties and students through peer learning approach. The research scholars are facilitated with updated softwares and expert lectures in the different specific research areas of management. The local industries have been provided with academic input for their employee engagement and to nurture organizational culture and learning. As a part of social responsibility the Department also conducted QIP programs for effective teaching. A number of workshops on research methodology were organized in and outside of the Department and Institute. Campus placement of the department was highly successful with 100% placement of the final year students. All students of the first year were also provided summer internships; with most of them have good stipend. The new electives have been offered at Institute and Departmental level.

2. LIST OF FACULTY MEMBERS

Rangnekar, S., PhD.
Head

Professors

Nangia, V.K., PhD (Gurukul Kangri Univ., Haridwar)
General Management, Finance
Human Resource, Organization Behaviou & Knowledge Management

Singh, J.P., PhD (JMI, Delhi)
Mathematical Finance, Chaos & Fuzzy Mathematics

Associate Professor

Rangnekar, S., PhD (DAV, Indore)
Human Resource, Organization Behaviour & Knowledge Management

Rahman, Z., PhD (AMU, Aligarh)
International Business, MIS & Marketing

Sharma, A.K., PhD (Chandigarh)
Financial Management & Accounting

Assistant Professors

Agarwal, Rajat, PhD (Gurukul Kangri Univ.Haridwar)
Operations Management, Supply Chain Management & Production Management

Sharma, Vinay PhD (UPTU, Lucknow)
Strategic Management, Marketing & Advertising Management

Barua, M.K., PhD (IIT Madras)
Operations Research, Operations Management, SCM, Project Management, Market research, Quality Management

Lenka, Usha, PhD (IIT Kharagpur)
HRM

Nayak J.K.
Emerging issues in marketing management,Rural and Agricultural Marketing, New Product Development, Industrial Research, Research in Advertising and Promotion, Emerging Issues in Consumer Needs, Consumer Behaviour

Rao M.K.
Competency management, Training Effectiveness and Design of Training Systems, Gender differences at work place, impact of developmental initiatives on employee learning and Organisational Learning. HR Analytics and Change management

Dhar R.L.
Human Resource Management, Organisational Behaviour Organisational Development,
Leadership Studies,Emotional Intelligence, Cultural Studies,Society and Organisations,
Educational Management,Stress Management,Workplace spirituality,Worklife balance

A.Ramesh Ph.D
Operations Management, Supply Chain Management, Quality Management

Awards & Achivements

Bloomberg-UTV B-School Excellence awards (17th Feb, 2013)
DOMS IIT Roorkee Ranked 12th in Business Today's Best B-Schools of India-2012 (Oct 28,2012)
DOMS IIT Roorkee Ranked 10th Best Public B School in Career360 published in Dec 2012 issue.

3. HONOURS AND AWARDS TO FACULTY MEMBERS

Rahman, Z.

- Highly Commended Runners Up for 2012 Emerald/IAM South Asia Management Research Fund Award for Kumar, D., Rahman, Z., Qureshi M.N., and Katiiyar, R.,. "Problems and Prospects of Compost Marketing in Uttarakhand, India". {http://www.emeraldinsight.com/research/awards/indianmgmt.htm}.
- Member, Selection Committee, School of Humanities and Social Sciences, IIT Mandi, 2010, 2011, 2012.
- Special Invitee, Selection Committees, IIT Mandi, 2010, 2011, 2012.
- Member, Expert Committees for preparation of the Manual on Sewerage and Sewage Treatment- Part C: Management with JICA and MUD, GoI assistance.

Ramesh A.

- Literati award for Excellence under "Highly Commended Research Paper in Year 2011" category in emerald publications for Journal of Modeling in Management for the following paper "Ramesh, A., Banwet, D.K. and Shankar, Ravi (2010), Modeling the barriers of supply chain collaboration, Journal of Modeling in Management, Vol.5, No.2, pp.176-193."
- Best Paper Award for paper titled "Location of Warehouse in Asia for Humanitarian Supply Network", presented in XVI Annual International Conference of the Society of Operations Management held at IIT Delhi, Dec 21-23, 2012.

4. VISIT OF FACULTY MEMBERS: INTERNATIONAL ONLY

Name of Faculty	Institute/Organization Visited	Purpose of Visit	Date of Visit
Ragnekar, S.	University of Wonju, Korea,	ITAM 9 Conference The 9th International Conference on Information Technology Application and Management,	Dec. 20-22,2012
	_ University of Vienna, Austria,	GLOGIFT-12, Conference	July 30 – August 1, 2012,
	_ Yildiz Technical University Istanbul, Turkey,	ITAM 8 Conference International Conference on IT Applications and Management 2012	June 28-30,
Rahman, Z.	Rome, Italy	European Conference for Academic Disciplines The International Journal of Arts and Sciences.	Oct 27-Nov 1, 2012
	_ Warsaw, Poland . .	Eurasia Business & Economics Society (EBES) 2012 Warsaw Conference,	Nov 1-3, 2012
Agarwal, R.	American University of Rome (AUR), Via Pietro Roselli 4, 00153 Rome	IJAS Conference (To present a paper)	October 29 to November 1, 2012
	_ Warsaw, Poland	EBES Conference (To present a paper)	November1 to November 3, 2012
Dr. Vinay Sharma	Rome	Paper presentation at IJAS Annual Conference	Oct 29- Nov 1, 2012

Name of Faculty	Institute/Organization Visited	Purpose of Visit	Date of Visit
_	Poland	Paper presentation at EBES Annual Conference	Nov 1- Nov 4, 2012
_	Srilanka	NAPSIPAG Annual Conference	12-14 December, 2012

5. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Ashwani Maheswari	CEO	ITC Infotech	IT
Arvind Mohan Mathur	Head	Novartis	Healthcare
Anupam Singh	Founder	SharedReach	Mobile Enabled Business Service
Parag Gupta	MD	Vopak India	Storage tank manufacturer
Siddharth Guharay	Chief Engineer Process	MottMacdonald	Engineering consultancy
Mayank Sharma	Head Africa Unit	Comviva	Mobile solutions
Bhuwan K. Chaturvedi	Independent Director	Eicher	Automobile
Paresh Sheth	CEO	Indus1Advantage	Investment Banking
Jagannadham T.	Head Research	SMC Global Securities	Finance service
P. Balaji	MD	Nokia	Communications and Information Technology
Alok Mahajan	Partner	KPMG	Service
Deepak bhardwaj	Head Govt. Relations & Corporate Affairs	Texas Instruments	Instruments
Mr. Shivansh Tyagi	Core Team Member & SSE, Mobstac,	Mobstac	IT
devesh Singh	advocate and Counceller	Supreme court , India	Law
Sanjay Saxena	AVP	HDFC Ergo	Insurance
Pradeep Ahluwalia	VP	State Street Corp	Finance Service
Ravindra Gupta	Head , Service	MAN TURBO	Diesel Engine
G. Srinivas	Aditional Chief Engineer	NPCIL	Nuclear
Sanjay Keshwani		Dassault System	Software
Deepinder Setia		CONTRAIL Systems	Software
Amitabh Diwakar		Architect	Construction
Arun Agarwal		Shell	Energy and Petrochemicals
Gaurav Saxena	AVP	Reliance Industries	
Shivani Arora	Tech. Manager	Alcatel Lucent	Telecommunications
Amit Dayal	VP Engineering	Yahoo	IT

Name	Designation	Affiliation	Purpose of Visit
Mayank Sharma	Head Africa Unit	Comviva	Mobile Solutions
Pranay Kumar	Chief Energy Officer And Founder	Asma Energy (P) Ltd, Vasudhaecofriends Projects (P) Limited	Renewable energey & Environment
Vineet Suri	Chief training and Quality Officer	Spanco BPO	BPO
Mr Sameer Shah	AVP	SBI Caps	Investment Banking
Dr. Satyabhusan Dash	Associate Professor	IIM-L	Marketing
Kuldeep Khubchandani	Business Consultant	IBM	IT
Deepika Khubchandani	Astt. Manager	Shipping Corporation of India	PSU
Mithilesh Jha	Senior Asso. Consultant	Infosys	IT
Isha Jha	Senior Asso. Consultant	Infosys	IT
Sunil Shankarappa	Manager, OE Consumer Sales	Goodyear	Sale & Manufacturing
Mr. Pankaj Kaushik		Textron	Defence
Amit Pandey	VP, HR & Admin	Tikona Digital Networks Pvt. Ltd	Communications and Information Technology
Arun Raghav	HEAD	ITC	Head
Manoj soni	VP	Jubliiant Life science	Supply Chain
Padmani	HR Head,	ITC infotech	IT
D J Shayam	Retired Executive and Author	BHEL	
S.c.Khare	G.M(CSR)	THDC	Hydro Power
Kishore Chkroborty	VP	MacCann Erickson India	Advertising
Jitendra P. Solanki	Owner	J.S. Financial Advisors	Personal Finance
Gaurav Pal	Chief Executive	Intelivisto	Finance Service
Mukul Gupta	Regional Business manager	Chowgule and Company	
Tarun Srivastava		Infosys Management Consulting Services	IT
Ashish Sawhney	Owner	Sahni Plywood	
Anupriya Munjal	Asso. Manager	Accenture	IT
Mr. Divya Bhushan	Manager	Ericsson	
Ms. Gunjan Bhargava	Manager-Customer Insights	Bharti Retail	FMCG & MR
Bharat Veneshetti	Sr. Manager	Kotak Mahindra Bank	Banking
Shashi Kant	Executive HR	BHEL	PSU
Tanuj Shukla	Executive	BHEL	PSU
Shubham Jain	Executive	BHEL	PSU

Name	Designation	Affiliation	Purpose of Visit
Varun Goel	Executive	BHEL	PSU
Bhuwan K. Chaturvedi	Independent Director	Eicher	Automobile
S. K. Bisawas	Director (Personnel)	THDC India Ltd.	PSU
Parag Kumar	Management Consultant	ISTD Dehradun.	PSU
Avinash Chandra Joshi	AGM (HR)	THDC India Ltd.	PSU
Vipul Jain	VP	Max Life Insurance	Insurance
Jitendra Solanki	Founder	JS Financial Services	Personal Finance
Sanjeev Johar	VP South East Asia	Alere Medical	Healthcare
J. Chandra Mohan	VP south east	Maestro Mediline	Marketing
Gaurav Mittal	VP Marketing	Merit Nation	Marketing
Kumar Rohit	Product Manager	Good Year Tyre	Sale & Manufacturing
Dr. Balvir Talwar	AGM	BHEL, New Delhi	Guest Lecture
Dr. Sunita Singh Sengupta	Professor	FMS, University of Delhi, Delhi	Guest Lecture
Prof. J.K.Mitra	Professor	FMS, University of Delhi, Delhi	Workshop
Prof. Vinod Tare	Professor	IIT Kanpur	Workshop

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Title of thesis
Ashu Upwanshi Wasewar	A Study on Credit Related Experiences of Farmer Households in Vidarbha Region of India.
Satish Kumar	Eva and Conventional Corporate Performance measures: An Empirical Study of Indian Companies.
Faisal Talib	Identifying Implementing and Practices in Select Indian Service Companies.
Rudra Rameshwar	Sustainable Energy Strategy of India. A Comprehensive Evaluation.
Geeta Rana	Work Values and Organizational Justice as Predictor of Managerial Effectiveness.
Shigufta Hena Uzma	A Critical Analysis of Contemporary Approaches to Accounting and Valuation of Intangibles.

7. CONFERENCE/SEMINAR/SYMPOSIUM/WORKSHOP ORGANIZED BY THE DEPARTMENT

Organising Secretary	Details of Conference/ Seminar/ Symposia Workshop	Sponsored by	Dates
Sharma, A.K.	National Conference on Paradigm for Sustainable Business: People , Planet and Profit	NABARD	March8-9,2013
Rahman, Z.	National Conference onEmerging Challenges for Sustainable Business	Godrej Interio	June 1-2, 2012

Organising Secretary	Details of Conference/ Seminar/ Symposia Workshop	Sponsored by	Dates
Agrawal, R. **Rahman, Z.** **Sharma, V.**	One day workshop on Research Orientation in Business & Management	QIP	February 01,2013
Agrawal, R. **Sharma, V.**	Focus Group Discussion on Ganga- Socio Cultural aspects	MoEF, GoI	February 13, 2013
Agrawal, R. **Sharma, V.**	Focus Group Discussion on Ganga- Socio Cultural aspects	MoEF, GoI	February 27,2013

8. SHORT TERM / SPONSORED COURSES ORGANIZED BY THE DEPARTMENT

Coordinator	Name of the courses	No. of Participation	Dates
Prof. P.K.Ghosh **Dr. Rajat Agrawal**	Promotion of Innovation in HEIs	10	March1 to 5, 2013
Dr. Vinay Sharma	How to pursue research in management	18	April 25-27, 2013

9.(I) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (Amount in Lakhs of Rs.)
Sharma, A.K.	Venture Capital : Life-support source for development of innovative technologies, products and services – (A study of trend and progress of venture capital in India)	Department of Scientific & Industrial Research (DSIR), New Delhi	6.00
Singh, J.P.	A Relativistic Field Theoretic Approach to Quantum Computing & Information Science	CSIR	3.00

(II) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (Amount in Lakhs of Rs.)
Nangia, V.K.	Studies Initiative for Integrated Rural Development	Gestalt Technologies Pvt. Ltd., Bangalore	1.00

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES

i. **Ganga River Basin Environment Management Plan-**A project underThe Ministry of Environment & Forests (MoEF) conducted by a consortium of seven IITs for the development of Ganga River Basin Environment Management Plan (GRBEMP). Implementation of this project is expected to result in the restoration of the 'wholesomeness' of all the rivers in the Ganga basin. It is for the first time that a consortium of 7 IITs has come together for a project of such national importance and magnitude. We are associated with the project in the Socio-Economic and Cultural theme segment wherein for past one year we have analysed the impact of river Ganga on the livelihood of the people in the basin and the impact of the livelihoods on the Ganges. In next phase, we are analysing the impact of cultural practices and rituals on the river from Gaumukh in Himalayas to Ganga Sagar in West Bengal.

ii. Conducting a Project on the Cluster development of Weavers

Here market development through capacity development of the weavers in the major thrust area.

11. MAJOR EVENTS ORGANIZED IN THE DEPARTMENT

Summit	Date	Topic and Discussion	Dignitaries
Silver Jubilee Alumni Meet: Shaping the Future	24th and 25th November 2012	DoMS, IIT Roorkee also witnessed it on 24th and 25th November 2012. The occasion was silver jubilee alumni meet, a chance for former students and now industry stalwarts to return to Roorkee after a gap of 25 years.	Mr. Arvind Mohan Mathur (AM): Currently he is the Head, Hospital/Specialty Business at Novartis. Mr. Gaurav Saxena (GS): currently serving as an AVP at Reliance Industries Limited. Mr. Siddhartha Guharay (SG): Currently he is working as Chief Engineer-Process at MottMacDonald Pvt Ltd. Mr. Mayank Sharma (MS): Currently he is the VP and Head - Africa Market Unit at Comviva. Mr. Anupam Singh (AS): Co-founder at SharedReach. Mr. Amit Dayal (AD): currently working as Vice President Engineering, Yahoo. Mrs. Shivani Arora (SA): currently working as technical manager at Alcatel Lucent India Ltd. Mr. Vineet Shukla (VS): currently working as a Program Manager at Tata Technologies Ltd.
Vyan 2012	19th November	Vicissitude: Don't Fear Predicament, Plan It Vicissitude is a national level business plan competition, organized by DoMS, IIT Roorkee. Evangelist: More than Just a Fairytale	Siddhartha Chandurkar CEO & Founder at ShepHertz - A Backend as a Service - BaaS and Platform as a Service - PaaS Cloud Provider Gurgaon, Haryana, India Computer Software Jitin Narang

Summit	Date	Topic and Discussion	Dignitaries
		It is a national level engineering project competition. It gives us a platform to mix technology with business i.e. how technology can be converted into a profitable venture.	Mobile Consultant & Enterpreneur at TechAhead - COO & Sales Head TechAhead | Mobile App Development Company
Vipanan	23rd February, 2013	3 structures of sustainability: Technology, Green management and Social Responsibility	Sanjeev Johar - VP, South East Asia, Alere Medical Healthcare J. Chandra Mohan - VP Marketing South East, Maestro Mediline Gaurav Mittal - VP Marketing, Merit Nation Kumar Rohit - Product Manager - Good Year Tyre Sale & Manufacturing
Manthan	24th February, 2013	1) New Banking Laws, Enabler of Growth? 2) Investor Behaviour During Financial Crisis	Jagannadham Thunuguntla - Head Research, SMC Global Securities Paresh Sheth - CEO, Indus1Advantage iBank Vipul jain - VP, Max Life Insurance Jitendra Solanki - Founder, JS Financial Services Pawan Kumar - Founder, Trishna Trading and Research

4.13 DEPARTMENT OF MATHEMATICS

Academic Staff **: 29;** ***Students Admitted*** **: UG- Int. App. Maths.-26,** ***PG*****-14,** ***Ph.D.*****-32;**
Publications**:** ***Journals*****-77,** ***Conferences*****-17, New Projects: Research: Rs. 28.23 lacs,**

1. SALIENT FEATURES

Department of Mathematics is running 2 years M.Sc. Applied Mathematics and 2 years M.Sc. Industrial Mathematics & Informatics along with 5 year Integrated programme in Applied Mathematics. The 2nd batch of 5 years programme has completed quite successfully with good outcome. Another course on MCA (Interdisciplinary Programme) is also running successfully.

2. LIST OF FACULTY MEMBERS

Professors

Agrawal, P.N., PhD (IIT Kanpur)
Approximation Theory, Numerical Methods and Complex Analysis

Bhargava, Rama (Ms.), PhD (Roorkee)
Head (upto 31.12.2011)
Fluid Dynamics and Numerical Analysis, CFD

Bhargava, R.R. (Ms.), PhD (IIT Bombay)
Elasticity and Fracture Mechanics.

Gakkhar, Sunita, PhD (IIT Kanpur)
Bio-Mathematics, Fluid Dynamics, Mathematical Modelling of Environmental & Ecological Systems, Computer Applications, Industrial Mathematics and Programming Languages.

Gulati, T.R., PhD (IIT Delhi)
Operations Research, Mathematical Programming and Duality Theory.

Gupta, Y.K., PhD (Roorkee)
Relativity, Cosmology and Differential Geometry.

Katiyar, V.K., PhD (IIT Kanpur)
Fluid Dynamics, Industrial Mathematics and Bio-Mathematics

Lal Roshan, PhD (Roorkee)
Elasticity, Vibrations and Numerical Methods

Mittal, M.L., PhD (Roorkee)
Fourier Analysis, Summability & Approximation Theory

Mittal, R.C., PhD (IIT Delhi)
Head (w.e.f. 1.1.2012)
Numerical Analysis, Computer Software and Programming Languages

Sharma, S.P., PhD (Roorkee)
Relativity, Reliability Theory, Cosmology, Graph Theory & Discrete Structures

Srivastava, G.S., PhD (IIT Kanpur)
Complex Analysis, Approximation of Entire Functions, Spaces of Entire, Analytic and Subharmonic Functions.

Deep, Kusum, PhD (Roorkee)
Optimization Techniques, Parallel Computing and Computer Software.

Srivastava, Tanuja, PhD (IIT Kanpur)
Statistics, Computerized Tomography, Statistical Models in Networking, Agriculture Economics & Demography.

Sukavanam, N., PhD (I.I.Sc. Bangalore)
Robotics, Control Theory and Integral Operators

Yadav, S.P., PhD (BHU)
Operations Research, Optimal Control Theory and Numerical Analysis

Associate Professors

Balasubramanian, R., Ph.D. (IIT Madras)
Computer Vision Graphics and Image Processing

Swaminathan, A., Ph.D. (Madras University)
Compuittional Complex Analysis, Special Functions

Banerjee Sandip, Ph.D. (Calcutta Univ.)
Mathematical Biology

Bera, P., Ph.D. (IIT Kanpur)
Computational Fluid Dynamics

Gangopadhyay, S., Ph.D. (IIT Kharagpur)
Algebra, Cryptography

Jain, Madhu, Ph.D. (Agra University)
Computer Communications Networks, Performance Prediction of Wireless Systems, Networking, Operations Research, Stochastic Processes, Queuing Theory, Inventory Models, Software and Hardware reliability, Industrial Maths., Mathematical Modelling,Biomathematics

Assistant Professors

Gangopadhyay Aditi, PhD (IIT Kharagpur)
Statistics, Psychometry, Statistical Simulation, Ranking & Selection, Statistical Inference.

Kumar, Sanjeev, PhD (IIT Roorkee)
Computer Vision, Computational Geometry, Machine Learning

Maheshanand , PhD (Jamia Millia Islamia)
Cooing Theory, Cryptography

Pandey, D.N. , PhD (IIT Kanpur)
Differential Equations , Control Theory

Pratibha, Ph.D (Western Ontario Canada Univ.)
Symbolic Computation and Computational Fluid Dynamics

Singh, Uaday, PhD (C.C.S. University Meerut)
Fourier Approximation, Summability Theory

Nayak, Ameeya Kumar, Ph.D. (IIT Kharagpur)
Computational Fluid Dynamics

3. HONOURS AND AWARDS TO FACULTY MEMBERS

Dr. Sanjeev Kumar,

- Selected and represented Indian delegation to attend DST/EPSRC interaction meeting for future research collaboration in Applied Mathematics between India and UK at ICMS Edinburgh during 11-13, July, 2012.

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Inst./ Organisation visited	Purpose of visit	Dates of visit
Prof. Rama Bhargava	Houston (TX), USA	To attend IEEE Healthcare Innovation Conference	7-8 November, 2012
Dr. Kusum Deep	Brisbane Australia	Presented papers, Chaired a session, IEEE Congress on Evolutionary Computations	June 10-15, 2012
Dr. Sandip Banerjee	University of Nice, France	kick-off meeting and invited talk organized by Indo - French Centre for Applied Mathematics (IFCAM)	Nov 19 – Nov 21, 2012
Dr. R. Balasubramanian	School of Computer Sciences, Universiti Sains Malaysia, Pulau Pinang, MALAYSIA	To deliver an invited talk	7th June 2012
Dr. R. Balasubramanian	School of Computer Sciences, Universiti Sains Malaysia, Pulau Pinang, MALAYSIA	To conduct a workshop on "Advanced Algorithms in Computer vision and imaging using MATLAB	8-9th June 2012
Dr. R. Balasubramanian	IS&T/SPIE symposium on Electronics Imaging, Conference On Image Processing: Machine Vision Application V, 2012, San Francisco, California, USA	To present a paper	3-7 February 2013
Dr. A. Swaminathan	International Symposium on Orthogonal Polynomials Special Functions and Applications (OPSFA – 12) Sousse, Tunisia	To present a paper	March 25 – 29, 2013
Dr. Uaday Singh	AMAT-2012 International Conference on Applied Mathematics & Approximation Theory, Ankara Turkey	To present a paper	May 17-20, 2012
Dr. Uaday Singh	International Congress in the Honour of Prof. H. M. Srivastava ,Bursa, Turkey	To present a paper	August 23-26, 2012
Dr. Sanjeev Kumar	ICMS Edinburgh	To attend DST/EPSRC research meeting	11-13 July 2012
Kumar, S.	IACSIT Singapore	To attend and present a paper in ICIII 2012	Mar. 16-19, 2012

5. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Dr. Pradeep K. Atrey	Associate Professor	Deptt. of Applied Computer Science, The University of Winnipeg.Adjunct Professor, School of Electrical Engg. &	Visited to the Department under Shastri Indo-Canadian Institute fellowship and research discussion with Dr. R. Balasubramanian and Dr. Sanjeev

Name	Designation	Affiliation	Purpose of Visit
		Computer Science, U.O. Ottawa.	Kumar

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Title of Thesis
Shiferaw Feyissa Balcha	Role of Antibodies : A Paradigm in Mathematical Modeling for Cancer Treatment
Sanjay Rawat	Digital Watermarking for Copyright Protection and Authentication
Triloki Pant	Advanced Mathematical Tools for Sar Image Analysis
Hadush Mebrahtu Adane	Design and Applications of Genetic Algorithm for the Travelling Salesman Problem
Anuraj Singh	Order, Chaos, Control and Synchronization in Nonlinear Ecological Systems
Mukesh Kumar Awasthi	Viscous Correction for Potential Flow Analysis of Capillary and Kelvin-Helmholtz Instability
Kamini Rawat	Numerical Simulation of Traffic Flow Problems
Pradeep Malik	Finite Class of Classical Orthogonal Polynomials Defined on the Positive Real Line
Mohit Kumar	Some Results on the Controllability of Semi linear Control Systems
Monika Verma	Parameter Estimation of Some Populations After Selection
Dawit Melese Gebru	Spatio- Temporal Behavior of Some Ecological Systems

7. CONFERENCE/SEMINAR/SYMPOSIA/WORKSHOP ORGANISED BY THE DEPARTMENT

Name of Faculty	Details of Conference/Seminar/ Symposia/Workshop/Guest Lecture	Venue	Dates
Dr. Sanjeev Kumar	STC on Image Processing and Computer Graphics for Scientific Visualization	QIP Centre IIT Roorkee	09-13 July 2012

8. (I) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (Amount in Lakhs of Rs.)
Dr. Sanjeev Kumar	NURBS based 3D Reconstruction of Curves and Surfaces for Object Modeling	MHRD, IIT Roorkee FIG-Scheme-A	1.50
Dr. Sanjeev Kumar	Study and Development of Multispectral Active Stereo Vision System for Video Surveillance	SERB, New Delhi (under fast-track young scientist scheme)	5.30
Co-PI (with Dr. R. Balasubramanian) & Dr. Rama Bhargava	3D Reconstruction and Software Development for City Model Generation from Satellite Images	ISRO, SAC Ahmedabad	7.73

(II) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (Amount in Lakhs of Rs.)
Head, Deptt. of Maths.	FIST	DST	20.50

4.14 DEPARTMENT OF MECHANICAL AND INDUSTRIAL ENGINEERING

Academic Staff : 39; Students Admitted : UG-139,PG-90,PhD-33; Publications : Books/Book Chapter-08,Journals-100, Conferences-61; New Projects : Research- Rs.96.46 Lacs,

1. SALIENT FEATURES
State-of-the-Art Laboratory:

1. Nuclear Thermo-hydraulics and Safety Research Laboratory

The Nuclear Thermo-hydraulics and Safety Research Laboratory has been developed in the Department with the financial assistance from BARC, Mumbai in the form of three projects having a cumulative outlay of approximately 400 Lac. In this Laboratory the Severe accident scenario in the Indian Pressure Heavy Water Reactors (PHWRs) and Advanced Heavy Water Reactors (AHWRs) shall be experimentally simulated in a single full length channel and the Reactor design safety shall be investigated. The generated experimental data will be helpful to validate the channel heat transfer models. The laboratory has state-of-the-art heating facility of 490 kW capacity (70/140VDC and 3500/7000A).

2. Fire Safety and Research Laboratory

The Fire Safety and Research Laboratory has been developed in collaboration with BARC, Mumbai through the sponsored project of 400 Lac outlay. The laboratory consists of fire test facility for defining the design fire environment relevant for Nuclear Power Plants and other establishments. The main features of the facility are the preparation of actual fire temperature–time, fire flux- time curves for actual combustibles (cable, liquid combustibles etc.), to study effect of ventilation on the design fire curves. Further, the acceptance criteria of various equipment, cable and instrumentations against possible design fire is adopted. The facility consists of a cone calorimeter of real time analysis. The FTT make Cone Calorimeter has been procuredto meet all existing Standards and find the heat release, mass loss, smoke production during the room fire.

2. LIST OF FACULTY MEMBERS

Emeritus Professor/Fellow

Gupta, C.P., PhD (Wisconsin)
Mehta, N.K., PhD (PF Univ., Moscow)
Production Engineering, Computer Aided Manufacturing
Prakash, Rajendra, Ph.D. (Roorkee)

Professors

Gakkhar, R.P., PhD (Roorkee)
Combustion, IC Engines, Energy Systems, Combustion Generated Pollution
Gandhi, B.K., PhD (Delhi)

Fluid Engineering, Hydraulic Machines, Erosion, Wear

Gupta, Akhilesh, PhD (Roorkee)
Thermal Engineering, Heat Transfer, Solar Energy, Refrigeration & Air-conditioning

Jain, P.K., PhD (Roorkee)
CAD/CAM/CIM/DFM, Operations Management

Kumar, Dinesh, PhD (Roorkee)
Supply chain management, Industrial Engineering, Maintenance Engineering, Process Planning

Kumar, Pradeep, PhD (Roorkee)
Industrial Engineering, Quality Engineering, Metal Casting, Advanced Manufacturing Processes

Kumar, Ravi, PhD (Roorkee)
Refrigeration & Air-Conditioning, Two-phase Flow & Heat Transfer, Instrumentation & Measurement

Mishra, B.K., PhD (IT, BHU)
Composite materials, Fracture mechanics, Wave propagation

Sahoo, P.K., PhD (IIT Kharagpur)
Refrigeration and Air conditioning, Thermodynamics, CFD, Building Energy

Sharma, Satish C., PhD (Roorkee)
Machine Design, Tribology, Instrumentation & Measurement, Vibrations and Control

Associate Professors

Arora, Navneet, PhD (Kurukshetra)
Welding Engineering, Reliability Engineering

Dwivedi, D.K., PhD (Jaipur)
Welding Engineering, Weld-bonding & Friction stir welding, Surface modification

Harsha, S.P., PhD (BITS Pilani)
Nonlinear Dynamics & Chaos, Unmanned Surface/Air Vehicles, Rotor Vibrations & Control

Kumar, Anil, PhD (Roorkee)
Thermal Engineering, Heat Transfer, Refrigeration & Air-Conditioning

Kumar, Ashok, PhD (Roorkee)
Machine Design

Mishra, Manish, PhD (IIT Kharagpur)
Thermal and Fluids Engineering, Heat exchangers, Renewable Energy, Desiccant Cooling

Murugesan, K., PhD (IIT Madras)
Hydrogen energy, PEM Fuel cell, Heat & Mass Transfer, CFD

Pathak, P.M., PhD (IIT Kharagpur)
Robotics, Dynamics, Control, Bond Graph Modeling

Saran, V.H., ME (Roorkee)
Machine Design, Vehicle Dynamics & Tyre Mechanics

Sharma, A.K., PhD (IIT Madras)
Advance Manufacturing, Microwave Material Processing, Surface Engineering

Singh, Inderdeep, PhD (IIT Delhi)
Composite Materials, FEM

Singh, Indra Vir PhD (BITS Pilani)
FEM, X-FEM, Meshfree Methods, Fracture, Composites, FGM, Nano and Bio-Materials

Singh, K.M., PhD (IIT Kanpur)
DNS, LES, Computational Fluid Dynamics, Computer Aided Engineering, Parallel algorithms

Assistant Professors

Dwivedi, A. PhD (Roorkee)
Metal Matrix Composites, Quality Function Deployment, Advanced Manufacturing Processes

Dutta, Sushanta, PhD (IIT Kanpur)
Active and Passive control of flow field, Optical measurement techniques

Jha, P.K. PhD (IIT Kharagpur)
Modeling of steelmaking processes, Metal Casting Process Modeling

Joglekar, M.M., PhD (IIT Bombay)
Mechanics of MicroElectroMechanical Systems (MEMS), Capacity fade modeling of lithium-ion batteries, Mathematical modeling and simulation

Karunakar, D.B., PhD (IIT Kharagpur)
Metal Casting

Kumar, Anil, PhD (Univ. of Trento, ITALY)
Machine Design,Vibration, System Identification, Vibration MItigation, Piping Systems

Mahapatra, M.M., PhD (IIT Kharagpur)
Welding distortion, Line heating, laser cladding and joining, Improved Al alloys

Mulik, R.S., PhD (IIT Delhi)
Non-conventional machining, abrasive based finishing processes, micro-machining, Rapid Prototyping

Pal, Kaushik, PhD (IIT Kharagpur)
Advanced Composites, Non-conventional machining, Welding of Polymers, Fracture and fatigue mechanism, Nanofillers, Coating and Modification, Wear and Abrasion, Bio polymers

Saxena, Dhish K., PhD (IIT Kanpur)
Engineering Design, Evolutionary Multi-objective Optimiation, Multi-Criteria Decision Making, Machine Learning, C.A.D.

Subudhi, Sudhakar, PhD (IISc Bangalore)
Heat transfer, Ventilation, Energy systems, Natural convection, Natural Ventilation, Unconventional energy systems

Tariq, A., PhD (IIT Kanpur)
Heat Transfer, Thermal Contact Conductance, Flow Control, Turbulence, POD, Micro-fluidics, Optical Techniques

Upadhyay, Sanjay, PhD (Roorkee)
Non-linear Dynamics, Vibration, Smart material and structures

Assistant Superintendent Workshops

Ramaniya, B.K., BE (Chandigarh)

3. HONORS AND AWARDS TO FACULTY MEMBERS

Dwivedi Dwivedi,D.K.

- Member in editorial board of American Journal of Matarials Enginnering and technology.
- Member in editorial board of International Journal of Metals.

Kumar, Pradeep

- Editorial Board Member of the Open Operational Research Journal, Bentham Science Publishers.

- Editorial Board Member of International Journal of Electronic Transport (IJET) ISSEN (Online) : 1742-6960 – ISSN (Print) : 1742-6952.
- Editorial Board Member of International Journal of Mechanical Engineering and Robotics Research, ISSN : 2278-0149.
- Associate editor International Journal of Applied Industrial Engineering (IJAIE), DOI: 10.4018/IJAIE, ISSN: 2155-4153, EISSN: 2155-4161
- Advisory Board Member of Journal of Engineering & Technology, Publisher, M. M. University, India
- Member, Academic Council, GautamBudh Technical University, Lucknow, India
- Chairman, Research Degree Committee, Mechanical Engineering, GautamBudh Technical University, Lucknow, India

Jain, P.K.

- Member of Editorial Board, International Journal of Manufacturing Technology & Industrial Engineering, *International Sciences Press, ISSN: 0976-6251.*

- Member of the Editorial Board of International Journal of Simulation Modelling (IJSM) published by Danube Adria Association for Automation & Manufacturing (DAAAM International) Vienna, ISSN 1726-4529.

- Member, DAAAM International, TU Wien, IFT-IMS, Karlsplatz 13, 1040 Wien, Austria – Europe
- Member of the Editorial Board, International Journal of Logistics & SCM Systems published by The Japan Society of Logistics Systems, JAPAN.
- Member of the Editorial Board, Journal of Advances in Production Engineering and Management, ISSN 1854-6250, University of Maribor.
- Member of Working Group of World Scientific and Engineering Academy and Society (WSEAS) on COMPUTERS.
- Member of Editorial Board, International Journal of Manufacturing Technology & Industrial Engineering, ISSN: 0976-6251.
- Senior Member, International Association of Computer Science and Information Technology (IACSIT), Singapore.
- Member, Board of Studies, Uttarakhand Open University, Haldwani, Vocational Studies Department.
- Member, Academic Council, Shri Mata Veshno Devi University, Jammu.
- Member Journal Advisory Committee, Journal of Engineering and Technology, ISSN 0976-8580.
- Member, National Advisory Committee, All Indian Manufacturing Technology Design and Research Conference, December 2012.
- Member, Acean Conference on Civil, Materials and Mechanical, Tokyo, March 2013
- Guest Editor, International Journal of Internet Manufacturing and Services (IAIMTDR-2012)
- Member international advisory committee, International Conference on "Advanced Engineering Optimization Through Intelligent Techniques (AEOTIT)", Department of Mechanical Engineering, S.V.National Institute of Technology, Surat, India.
- Member of International Advisory Committee, Int. Conf in Innovations in Design and Manufacturing, Inn DeM 2012, IIIT DM, Jabalpur, December 5-7, 2012

Kumar, Ravi

- Chairman, Refrigeration & Air-conditioning Section Committee, Bureau of India Standards (BIS), New Delhi

Mishra, Manish

- Vice President (North) and Chief Project Officer, The Renewable Energy Challenge & Social Development, India (TREC)

Pathak, P.M.

- Member International Federation for the Promotion of Mechanism and Machine Science (IFToMM) Technical committee for Multi Body Dynamics.

Sharma,A.K.

- Principal Member in the Pneumatic Tools Sectional Committee, PGD08 of Production and General Engineering Department at the Bureau of Indian Standards, New Delhi.

Sharma,S.C.

- Member- Apex Advisory Committee(R & D) of THDC India Limited Rishikesh for a period of 03 years.
- Member- IFToMM Technical Committee on Tribology.
- Executive Member- Tribology Society of India (TSI)- for two years (2013-14)

Singh,K.M.

- Research Exchanges with China and India Award, Royal Academy of Engineering, UK (May 2012–July 2013)

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Institute/Organization Visited	Purpose of Visit	Dates
Jha, P. K.	GSTF, Singapore	Presenting paper at International Conference	Nov. 10-20, 2012
Kumar, Pradeep	AIT Bangkok	Academic Interaction	Mar. 6, 2013
Kumar, Ravi	Dept. Of Mechanical & Manufacturing Engineering, Trinity College Dublin, Ireland	Joint Research Project	Jun. 30 – Jul. 15, 2012
Murugesan, K.	Geo Environmental Research Centre, School of Engineering, Cardiff University, Cardiff, U.K.	To carry out joint research on "Ground Source Heat Pump"	Jun. 13 - Jul. 13, 2012
Pathak, P. M.	Catholic university and Keimyung university Daegu, South Korea,	Joint sponsored projectfor Department of Science and Technology, (DST), Government of India and Ministry of Education, Science & Technology of the Republic of Korea	Jun. 17-25, 2012.
Singh, K. M.	Queen Mary University of London, School of Engineering and Materials, London, UK	Collaborative research supported by Research Exchanges with China and India Award, Royal Academy of Engineering, UK (2012–2013)	Jun. 04- Jul. 20, 2012
Tariq, Andallib	ASME 2012 International Mechanical Engineering Congress and Exposition, Houston, Texas, USA	Paper presentation	Nov. 9- 15, 2013

5. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Oisín Fergal Lyons	Research Engineer	Trinity College, Dublin, Ireland	Joint Research Project
Prakash, Braham	Professor	Lulea University of Technology, Lulea , Sweden	Presented a lecture highlighting the Research opportunities at LTU, Lulea

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Title of thesis
Somnath Bhattacharya	Indian	M	Numerical Simulation of Fatigue Failure in Functionally Graded Materials Using Xfem
Pawan Kumar Rakesh	Indian	M	Secondary Processing of Polymer Matrix Composites
Vivek Jain	Indian	M	Some Studies on Development of Microchannels using Micro-Ultrasonic Machining
Dheeraj Gupta	Indian	M	Development and Characterisation of Metal Based Deposits Through Microwave Heating
Adisu Bekele Alemayehu	Ethiopian	M	Thermo-Hydraulic Characteristics of Solar Air Heater With Surface Mounted Obstacles
Atul Sidola	Indian	M	Design and Analysis of Supply Chain for Transport Disruptions Risk Using System Dynamics.
Haresh Kumar Punalal Patolia	Indian	M	Dynamics and control of Dual – ARM Space Robots.
Vikas Mahadeo Phalle	Indian	M	Influence of Wear on the Performance of Multirecess Fluid Film Journal Bearings.
V.L.Krishnan	Indian	M	Modeling and control of Quadruped Robot With Flexible Legs.
Pragya Shandilya	Indian	F	Some Studies on Wire Electric Discharge Machining of Al –Based Metal of Matrix Composite.
Sabin Kumar Mishra	Indian	M	Influence of Nozzle Blockage on Flow Behavior in Curved Wall multistrand Tundish.
Unnati Ramchandra Pandya	Indian	F	Analysis of Corbon nanotube Reinforced Composites .
Prabhkiran Kaur	Indian	F	Studies on Electro-Magnetically Stir Cast Al-Si Alloys.

7. CONFERENCE/ SEMINAR/ SYMPOSIA/ WORKSHOP ORGANISED BY THE DEPARTMENT

Organising Secretary	Name of the Conference/Seminar/symposia/ Workshop	Sponsored by	Dates
Dwivedi, D.K. Jain P.K.	QIP workshop on Advances in joining technologies: friction stir welding	QIP	Nov. 4, 2012

8. SHORT TERM/SPONSORED COURSES ORGANIZED BY THE DEPARTMENT

Coordinator	Name of the Courses	No.of Participants	Dates
Dwivedi, D. K., Jain P. K.	Failure analysis and metallography	06	Aug. 27-31, 2012
Dwivedi D. K.	Manufacturing Process for Quality Assurance	15	Sep. 27-28, 2012
Jha, P. K., Bhargava,Rama	Numerical methods in manufacturing/ materials processing	25	Mar. 30, 2013
Tariq, Andallib, Mishra, Manish	QIP Short Term Course on “Advances in Thermo-fluids Engineering: From Modeling to Experimentation”	30	Jul. 2-6, 2012
Sharma, Apurbba Kumar	One-Day Workshop on Ultrasonic machining approach to fabrication of microchannels”	38	Mar. 13, 2013
	One-Day Workshop on “A Novel Approach to Processing of Green Composites”	26	Mar. 9, 2013
	QIP Short Term Course on “Manufacturing	28	Jul. 09 – 13,

Sharma, Satish C., Harsha, Suraj P., Upadhyay, Sanjay	Excellence through Quality Assurance" Noise Monitoring and Control Techniques (Sponsored by CPCB, Delhi)	09	2012 Dec. 21-23,2012

9. (I) COMPLETED SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Gandhi, B.K.	Investigation on Ash Disposal System of a Thermal Power Plant for Transporting Bottom Ash Slurry at Higher Concentrations	DST	19.03
Harsha, S.P.	Fault Diagnosis and Prognosis of High Speed Rolling Element Bearing	DST	31.85
Murugesan, K.	Numerical and Experimental Investigation of Thermo-Hydro Mechanical Behaviour of High Performance Concrete Exposed to Fire	BARC	28.60
Singh, I.V.	Development of Elasto Plastic Element Free Galerkin Code	BARC	17.24
Sahoo, P.K.	Experimental Investigation of the Debris Bed Heat-up for PHWR	DAE	38.52
Dwivedi, D.K.	Weldbonding of Aluminium Structures	DRDO	22.45
	- Development of Refined High Strength Cast Hypereutectic A1-SL Alloys	CSIR	7.34
	- Development of Fracture and Fatigue Resistant Cast Aluminum Alloys Produced by Semi-Solid Metal Casting and Conventional Casting Process	DST	8.29
	- Structural Instability in Friction Stir Weld Joints of Aluminium Alloys and their Effects on Mechanical Properties	DST	19.01
	- Development of Fracture and Fatigue Resistant Cast Alluminium Alloys Produced by Semi-Solid Metal Casting and Conventional Casting Process	DST	8.29
	- Exploratory Visit to Formulate a Joint Collaborative Research Project on Development of Welding Procedure for Enhanced Fatigued Performance of Marine Aluminum Alloys by New Welding Processes	DST	1.89

(II) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dvivedi, Akshay	Development and Parametric Studies of Grinding Assisted Electro-Chemical Discharge Machining	SERB	35.00
Kumar, Pradeep	Parametric Studies During Machining of Glass and Metal matrix Composite (A1-7075) Using Electro-Chemical Discharge Machining (ECDM)	CSIR	6.50
Kumar, Ravi	Assessment of Radiation Heat Fuel Bundle Under Heat-up Condition	DAE	54.96

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)

Dvivedi, Akshay	Development and Parametric Evaluation of Micro-Ultrasonic Machining for 3-D micro-moulds	Fast Track Young Scientist (SERC) Recommended for funding	27.00 Recommended for funding
Dvivedi, Akshay (PI), **Kumar, Pradeep,** **Sharma, A.K.**	Development and Parametric Study of Grinding Assisted Electro Chemical Discharge Machining	DST (SERC)	35.00
Jain, P.K.	Experimental investigation and performance optimisation of high precision finishing of gears by electro chemical honing (ECH) process	CSIR	13.40
	- Establishing pre-heat time and development of nozzles for reducing pre-heat time while using Bharat Metal Cutting Gas (BMCG)	BPCL	14.04
	- Experimental Investigation on Machining of Ti-6Al-4V Alloy	CSIR	20.66
	- Ultrasonic Vibrations Assisted Electro Chemical Machining with Abrasive Honing Gear	DST	26.50
Kumar, Ravi	Assessment of radiation heat transfer for 19 pin PHWR fuel bundle under heat-up condition	BRNS	54.96
Murugesan, K.	Solar Assisted Ground Source Heat pump System for Domestic and Industrial Applications	CSIR	18.80
Sahoo, P.K. (PI), **Mishra, Manish**	CFD Simulation of a deformed reactor channel under heat-up conditions	BRNS, DAE	14.95
Sharma, Satish C., **Harsha, Suraj P.**	Computation and validation of lube oil and Jacking oil flows/losses as well as Stiffness and damping coefficients in Hydrodynamic Journal Bearings of Steam Turbine.	BHEL Haridwar	12.50

Dvivedi Akshay

- To develop a micro-ultrasonic machining (μ-USM) setup for machining micro-moulds in hard and brittle materials. This machining may involve internal and external form machining.

  To investigate the proposed μ-USM for the effect of various process parameters on the response characteristics (e.g., surface finishing capabilities and material removal rate) based on experimental design such as Taguchi method and Response Surface Methodology (RSM).

  To develop scientific theory to explain the process mechanism of the proposed process by conducting detailed study of the surfaces produced and material removal rate (MRR) relating other process parameters. The process mechanism may be established by imaging techniques and subsequent computational analysis.To develop and validate predictive models for response characteristics of the proposed μ-USM.

Dvivedi Akshay, Kumar Pradeep and Sharma A.K.

- Electric discharge machining (EDM), wire-EDM, and electrochemical machining (ECM) are the most promising processes amongst the non-conventional machining methods, for shaping difficult-to-machine materials. Notwithstanding the merit of these machining methods, there are still problems which need to be solved and improvements to be made before they can be effectively utilized. Electrochemical discharge machining (ECDM) is a hybrid non-conventional manufacturing process which combines the features of electro chemical machining (ECM) and electro discharge machining (EDM). The proposed Grinding Assisted ECDM (GAECDM) process will be different from both the conventional electrochemical discharge grinding process, and the abrasive electrochemical grinding process. Unlike these two processes, the GAECDM process will function under a combined action of electrochemical effects, electrical discharge erosion, and direct mechanical grinding. The integration of the

mechanical action in the form of grinding assistance shall almost eliminate the major problem of 'passivation effect' encountered in normal ECM process, shall remove the re-cast layer formed due to EDM apart from enhancing the MRR which will significantly enhance the process performance.

Jain P.K.

- Experimental investigation and performance optimisation of high precision finishing of gears by electro chemical honing (ECH) process: This project aims at developing the setup for ECH of helical gears and study of effects of process parameters on process performance. Objective of the project is to develop the ECH process as a standard for finishing of gears, which is usually done by conventional methods (gear shaping, gear hobbing etc.)
- Establishing pre-heat time and development of nozzles for reducing pre-heat time while using Bharat Metal Cutting Gas (BMCG): The objective of this project is to study the performance of BMCG using PUG and CNC machine and to establish preheat time for various thicknesses of the metal plates. After study of preheat time with the existing nozzles, the new designs of the nozzles are proposed to reduce the preheat time using BMCG as cutting gas. (Sponsored by: BPCL; Rs. 1404500/)
- **Experimental Investigation on Machining of Ti-6Al-4V Alloy:** The objective of this project is to study the machining behaviour of Ti-6Al-4V Alloy under various conditions such as, minimum quantity lubrication, high pressure cooling, and nanofuids cooling. Investigations will focus on establishing the most appropriate methods of cooling and thereafter the range of suitable machining parameters. (Sponsored by: CSIR; Rs. 20,66000/)

- **Ultrasonic Vibrations Assisted Electro Chemical Machining with Abrasive Honing Gear:** Objective is to study the ECH of gears with ultrasonic vibrations assistance and abrasive honing gear as a tool. The focus will be on establishing the assistance of UV as performance multiplier. (Sponsored by: DST; Rs. 26,50,000/)

Kumar, Ravi

- As a part of Severe Accident Code development and Validation program for Pressure Tube Type Reactors, a set of experiments shall be conducted to recreate the accidental condition in the channel of IPHWR and make detailed heat transfer studies for validating sub module CHASA which is a 3-D model reactor channel model. The CHASA model includes radiative and convective heat transfer model along with chemical reaction model. The generated experimental data will also be helpful to validate the channel heat transfer model with respect to radiation and high temperature chemical reaction model (Zr-oxidation).

Murugesan K.

- In the present energy scenario India uses 30 % energy for building sector. To have sustainable growth, the current conventional system has to be replaced with other alternative systems, such as the ground energy that is green and sustainable. In this research, it is proposed to study the performance of a solar assisted ground source heat pump (SAGSHP) for heating and cooling applications for building as well as industrial applications. The use of solar energy and ground energy will reduce central electricity demand and indirectly helps to reduce the green house gas emission.

Sahoo P.K. and Mishra Manish

- The success or failure of in-vessel core retention has a profound effect on the progression of severe accidents. The capability to flood the reactor cavity can have a significant impact on plant design. The work presents an attempt for numerical simulation of a deformed reactor channel under heat-up conditions because of LOCA or otherwise. The results can well be used for prediction of the channel behavior in actual heat-up conditions.

Sharma Satish C. and Harsha Suraj P.

- The project deals with the evaluation of the performance characteristics parameter of steam turbine hydrodynamic journal bearings for application in future designs of steam turbines as well as studying troubleshooting in the existing ones. The project will cover Finite Element Solution of the governing Reynolds equation of fluid film in between journal and bearing for the fluid film pressure distribution between the clearance space. The non- dimensional static and dynamic performance characteristics parameters of the bearing system will be computed. A source program will be generated and will be provided to the BHEL Haridwar.

4.15 DEPTT. OF METALLURGICAL AND MATERIALS ENGINEERING

Academic Staff **: 24; *Students Admitted* : *UG*-107, *PG*-54, *PhD*-16; *Publications* : *Journals*-75, *Conferences*-39; *New Projects* : *Research*, *Consultancy*- Rs. 24.24 Lacs**

1. SALIENT FEATURES

The department has procured state of the art equipment "Thermomechanical simulator (TMS) (cost Rs. 4.2 crores), sponsored by DST, New Delhi under FIST IIT Roorkee, for the research work. Two major sponsored projects in the area of thermo mechanical processing of Zr-Nb alloys and development of erosion resistant duplex stainless steels were sanctioned based on this TMS facility available in our department. Cognizance 2012 was successfully organized by the department. Experts were invited from industries and Research Institutes for key note addresses. Many III year U.G Students went abroad for their internships during this summer vacation. The first batch of dual degree, B.Tech (Met) and M.Tech (Materials Engg) students has joined in our department in this year. The department has prepared the new curriculum for the dual degree students, in which new courses pertaining to electronic and magnetic materials, device materials are introduced.

As usual, the department is providing consultancy and testing facilities to public sector as well as private sector units in this state and around it. The significant work has been done in the area of failure analysis, development of ultrafine grained materials, nanostructured coatings for corrosion resistance and tribological applications, metallic foams, electroless coatings for RADAR, Metallic and Polymer matrix composites, Spray forming, Powder Metallurgy, Friction Stir Processing of Al alloys, Development of materials for hydroelectric power plants and mini hydel projects. NML Jamshedpur has recently associated us in the development of wear resistant material for hydro tubines. The collaboration with BARC, DRDO, ISRO, and DMRL laboratories has been further strengthened and sponsored projects regarding narrow gap welding, and fracture mechanics of pipes are being carried out. A new initiative on multi institutional research between sister I.I.Ts and other research organizations has been undertaken to develop high energy density Li-ion batteries. Active collaboration is continuing with AHEC, Mechanical, Centre of Nanotechnology (CON), Chemistry, and E&C departments in the institute. There has been interaction between our department and MIED, CON, Electronics and Computer Science, and Physics for the joint guidance of research work in the interdisciplinary research areas. The new equipments such as SEM/EDS, Microhardness tester, Indentation Creep, Attritor Mill, Pin-on-Disk tribometer are added in the department for the research activities in the various areas of materials.

2. LIST OF FACULTY MEMBERS

Emeritus Professor/Fellow

Prakash, Satya, Ph.D. (Budapest)
Oxidation and Waste Utilization
Agarwal, Ranchor Das, Ph.D. (Roorkee)
Extractive & Chemical Metallurgy

Professors

S.K.Nath, Ph.D (Roorkee)
Head
Materials Design & Development & Tribology
Ghosh, Prakriti K., PhD (Roorkee)
Joining of Materials
Agarwala, Vijaya (Mrs.), PhD (Roorkee)
Physical Metallurgy & Materials Engineering
Nath, Sumeer K, PhD (Roorkee)
Materials Design & Development & Tribology
Sil, Anjan, PhD (BHU Varanasi)
Electro-Ceramic Materials

Associate Professors

Daniel, B.S.S., PhD (IIT Kanpur)
Composite and Metallurgical Thermodynamics
Jayaganthan, R. PhD (IISC Bangalore)
Nano Materials, Corrosion Engg.
Prakash, Ujjwal, PhD (Sheffield, UK)
Physical Metallurgy
Chawdhary, G.P., PhD (Alabama, USA)
Physical Metallurgy

Assistant Professors

Bhardwaj Mukesh, PhD (IIT Kanpur)
Extractive Metallurgy, Corrosion, Electrocatalysis
Dhabade, Vikram, PhD (IIT Bombay)
Powder Metallurgy

Kumar, Manoj, PhD (IIT Kanput)
Ceramics, Tribology
Sukrit Multa,(IIT Kharagpur)
Nanomaterials, Powder Metallurgy
Indranil Lahiri,(Florida Internationa University,USA)
Nanomaterials
Depruba Lahiri,(Florida International University,USA)
Biomaterials,Tribology, nanocomposites, Energy Materials
Sadan Ghosh, (Karsruhe Institute of Technology, Germany
Physical Metallurgy
Kumar, Sharvan, ME (Roorkee)
Physical & Industrial Metallurgy
Pancholi, Vivek, PhD (IIT Bombay)
Physical Metallurgy
Puri, Devendra, PhD (Roorkee)
Extractive Metallurgy & Waste Utilisation
Singh, Devendra, PhD (IIT Kanpur)
Powder Metallurgy

Visiting Faculty

Agrawal R.Das,Ph.D (Roorkee)
Extractive & Chemical Metallurgy

Surendra Singh,Ph.D (Roorkee)
Physical Metallurgy

3. HONORS AND AWARDS TO FACULTY MEMBERS

Nath S.K.

- Nominated on Experts' Committee constituted by the ministry of Steel,
- Member, Board of Governors, Mahadevi Institute of Technology, Dehradun

Ghosh P.K.

- Member of the Reviewers Board (Key Reader), Metallurgical & Materials Trans. (A), ASM, USA, (Jan 2007-till to date)
- Vice President, Indian Soc. for Construction Mater. & Structures, 2005-till to date.
- Member of Nomination Council for the "Infosys Prize of the year,of the "Infosys Science Foundation".
- Coordinator, curriculum development on "Composites", National programme, NAPTEL

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Name of Institute/ Organisation Visited	Purpose of Visit	Dates of Visit
Ghosh P.K.	IIT Bombay.	IPR Chair Meeting	May 2012
	- Railwheel Factory, Bangalore	Expert Committee Meeting to establish new testing lab	May 2012
	- Technical University, Dresden, Germany	Collaborative Research	June 2012
	- MNIT, Jaipur	Member, Expert Committee of Technical Bid Evaluation Meeting	Feb, 2012
Agarwala Vijaya	VSSC, TVM, Kerala	Review Meeting	June 2012
	- Energy Institute, NTU, Singapore	Discussion meeting	May 2013
	- Nanocore, NUS, Singapore	For Collaborative work.	May 2013
	- ICMAA, Singapore	Presented a paper in the conference	Feb 2013
	- Kottayam, Kerala	Presented a Paper in the Conference.	June, 2012.
	- ANAM, IIT Madras	Presentation of Paper	Feb, 2013
Chaudhari G.P.	Institute of Materials Science and Welding, Technical University, Graz, Austria	Collaborative research work	1 June to 15 July
S.K.Nath	MRS, Cancun, Mexico	Delivered a talk	11-15 July
R.Jayaganthan	Clausthal University of Technology, Zellerfeld, Clausthal Germany	Collaborative Research work.	1 June to 15 July.
Sil Anjan	University of Cambridge, UK	UKIERI , Collabortive Research work	9-22 Sep, 2012
Satya Prakash	PTU, Jalandar, Punjab	Delivered a key note lecture.	5-7 Oct 2012

5. NAME OF CONF./SEMINAR/SYMPOSIA WORKSHOP ETC.

Name of Conf./Seminar/Symposia Workshop	Org. Secretary	Sponsored by	Date
AMPCO, 2012	B.S.S.Daniel	DST, BRNS, INSA	2-4 Nov. 2012
AMPCO 2012	Anjan Sil-Treasurer	-do-	-do-
AMPCO 2012	R.Jayaganthan, Co-Chairman	-do-	-do-
Advanced Techniques in Corrosion Testing and Protection of Materials	R. Jayaganthan, G.P.Chaudhury, Coordinators	QIP, IIT Roorkee	18-22 Feb

6. PARTICIPATION OF FACULTY IN SEMINAR/SYMPOSIA WORKSHOP ETC.

Name of faculty	Name of Conf./Seminar/Symp./ workshop attended	Place	Date
Agarwala Vijaya	QIP Sponsored Workshop on Recent Advances in Nanomedicine	IIT Roorkee	4-8 June, 2012
Ghosh P.K.	3rd International Conference on Thermomechanical Simulation and Processing of Steels	RDCIS, Ranchi	11-14 Dec,2012
Prakash Ujjwal	Thermomechanical Processing of Steel	Sheffield, U.K	8-16 Sep, 2012.
Sil Anjan	AMPCO 2012	IIT Roorkee	2-4 Nov 2012
Ghosh Sadan	AMPCO 2012	IIT Roorkee	2-4 Nov 2012

7. PARTICIPATION OF FACULTY IN SHORT TERM COURSES

Name of faculty	Name of Short Term Course	Place	Date
G.P.Chaudhury	QIP Sponsored Workshop on Advanced Techniques in Corrosion Testing and Protection of Materials	IIT Roorkee	18-22 Feb, 2013
R. Jayaganthan	QIP Sponsored Workshop on Advanced Techniques in Corrosion Testing and Protection of Materials	IIT Roorkee	18-22 Feb, 2013
Satya Prakash	QIP Sponsored Workshop on Advanced Techniques in Corrosion Testing and Protection of Materials	IIT Roorkee	18-22, Feb,2013

8. VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Dr. K. Bhanu Sankara Rao	Professor & Dean	School of Engineering Sciences and Technology, Hyderabad	Delivered a Golden Jubliee Lecture.
Dr. Susanta Sinha Roy	Professor	Department of Mechanical Engineering, University of Alberta, Edmonton, Alberta, CANADA	Delivered an Invited Lecture.
Dr.Baldev Raj	President, INAE	President Research, PSG Institutions, Coimbatore	Delivered an Invited Lecture.
Dr.H.G.Brokmeier		Institute of Materials Science and Engg, Clausthal	Delivered an Invited Lecture.

Name	Designation	Affiliation	Purpose of Visit
		University of Technology & Helmholtz Zentrum Geesthacht, German	
Prof. Dr.-Ing. Uwe Fuessel	Professor	Technical University, Dresden, Germany	Delivered an Invited Lecture.
Mr.Robert Strehle	Academic Head	Zwick Roell, Germany	Delivered an Invited Lecture.
Mr.N.K.Jha	Chief RD (Retd)	SAIL RD, Ranchi	Delivered an Invited Lecture.

9. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Title of thesis
Manoj Mittal	Wear and corrosion studies on plasma sprayed Al_2O_3 Reinforced HS Coatings.
Atikur Rahman	High Temperature Corrosion Studies of Sputter Deposited Nanostructured Coatings.
Vinay Pratap Singh	Characterization and Mechanical Properties of Thermally Sprayed Ceramic Coatings.
Gurbhinder Singh	Studies on Plasma Sprayed pure and Al_2O_3-TIO_2 Reinforced Hydroxyapatite Coatings.
Sachin Tyagi	Studies on Hexaferrite Based Nanocomposites for Rader/Microwave Absorption Application
Mohd. Asif	Development of Hot Powder Preform Forging for Heavy Duty Brake Pads Involving Abrasives and Lubricants

10. (I) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Ghosh P.K.	Optimisation of ultrasonic dual mixing for homogeneous distribution of inorganic nano particles in epoxy based adhesive affecting its thermal and mechanical properties	DST	25.41
	_ Indian partner of HEIP-LINK project under the Erasmus Mundus Action 3 Programme of EC, "Promoting the international dimension of research in HEIs"	European Commission, Alicante University, Spain.	_
	_ To study critical application of pulse current gas tungsten Arching Process in surface processing of steel for desired properties.	CSIR	_
Ray S.(PI), Sil Anjan (Co-PI)	Studies on atomic arrangements and bonding (alloyed) and intercalated carbon nanotubes, graphite and composites	DST (CP—STIO programme)	5.88
Sil Anjan	Development of thin film varistors for low voltage applications.	UKIERI Collaborative Research Project funded by U.K	14.35
Pancholi Vivek(PI), G.P.Chaudhari (CO-PI)	Physical simulation of hot deformation processes (forging and extrusion) in a thermo-mechanical simulator and correlation with evolution of microstructure, texture and micro-texture in Zr-Nb	BRNS, Mumbai	51.50

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
	alloys		
Ray S.,(PI), Sil Anjan (Co-PI)	Development of high energy density lithium ion battery technology.	Ministry of Defence, New Delhi	22.58
Agarwala R.C.,(PI),V.Agrawala (Co-PI)	Development of Ni-P-ZnO nanocomposite coatings for antibacterial and anticorrosion applications (USBD)	USBD	6.1
	_ Studies on Electoless Ni-P-TiO2 Nanocomposite Coating for Wear and Corrosion Applications	UCOST	11.40
	_ Development of Ni-P based nanocomposites (with Al2O3/ZrO2) for wear and corrosion applications	DST	21.00
	_ Novel approach for processing hazardous electronic waste.	Indo-Australia, DST	21.20
Pancholi Vivek	Friction Stir Processing of Al and Mg alloys and their superplastic formability	DST – Fast track proposals for young scientists	12.72
Chaudhari G.P.	Ultra refined plain carbon dual phase steels developed using innovative thermomechanical processing technique.	Indo-Austrian DST-BMWF Joint Research Project, DST-BMWF Austria	6.00
Jayaganthan R.(PI), I.V.Singh(Co-PI)	Mechanical Behavior of Ultrafine grained Zr and Zr-Nb alloys Processed by Cryo-rolling (Experimental & Simulation Studies)	BRNS, Mumbai	48.00
Nath S.K.,(PI), Chaudhari G.P.(Co-PI)	Development of erosion resistant duplex stainless steel for use in hydropower plants	DST New Delhi	26.50
Prakash U.	Development of Iron Aluminides containing Carbon	DST New Delhi	32.52
Dhabade Vikram	Creep resistant ODS steels through powder forging	BRNS, Mumbai	76.22
Ghosh S.	Computational studies on synthesizing high wear resistant non-conventional intermetallics through alloy designing.	IIT Roorkee Initiation Grant.	10.00
Bhardwaj M.	Porous copper electrodeposits with large electrochemically active surface area as a substrate for electrocatalytic materials.	DST, New Delhi	40.57

(II) NEW CONSULTANCY/TESTING PROJECTS

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Agarwala Vijaya	Dynamic Evaluation of Radar Absorbing Materials for Shell Applications.	DRDO	9.20
	_ Mechanical Alloying of Coke-Polymer Blends (In-Au, UNSW)	IN-AUS, UNSW	5.79

Principal Investigator	Title of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Ghosh P.K.	Investigation on possible damage in metallic part of the machines exposed in heat due to fire took place at MV Enterprises plant at Hardwar road, Dehradun.	M/s S.K. Agarwal & Co. (Insurance surveyor & loss assessor), Meerut Cantt.	_
	_ Data mining of thermo-physical properties of steel required for mathematical modeling of hot rolling process	RDCIS, Steel Authority of India Ltd., Ranchi,	9.25
	_ Investigation on clutch wheel breakage due to cracking during production/operation.	M/s. Panalfa Autoelektric Ltd., Begumpur,Khatola, 39th milestone, NH-8 Gurgaon, Haryana	_

11. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

Thermo mechanical Simulator costing Rs 4.2 crores, sponsored by DST under FIST Programme, has been procured in our department and used extensively for the sponsored research projects and M.Tech and Ph.D students' research work. The project titled "Physical simulation of hot deformation processes (forging and extrusion) in a thermo-mechanical simulator and correlation with evolution of microstructure, texture and micro-texture in Zr-Nb alloys" has been sponsored by BRNS, Mumbai and the work is currently in progress. The projects such as mechanical behavior of ultrafine grained Zr and Zr-Nb alloys processed by cryorolling and development of creep resistant ODS steels through powder forging, sponsored by BRNS, Development of erosion resistant duplex stainless steels and Mechanical and Thermal Behaviour of Polymer Nanocomposites, sponsored by DST, are currently being investigated in our department.

Our department has recently purchased SEM/EDS (Zeiss make EVO 18/MA-15) (costs Rs 85 lacs) and it is an invaluable facility for the microstructural characterization of materials. The facilities such as microhardness tester, indentation creep, Simoloyer attritor mill for mechanical alloying, high temperature creep testing, pin-on-disc tribometer are added in the department.

12. SCIENTIFIC AND TECHNICAL REPORTS UNDER SPONSORED RESEARCH PROJECTS

Authors	Title of the Report	Name and Address of the agency to which submitted	Month and Year
Prakash Ujjwal	Development of Iron Aluminides containing Carbon.	DST New Delhi	March 2013
Jayaganthan R.	Effect of Cryorolling on the Precipitation Kinetics of Ultrafine grained Al alloys.	DST New Delhi	March 2013
Agarwala Vijaya	Development of TiAl based IMCs for prospective space applications	ISRO, TVM	2011

4.16 DEPARTMENT OF PAPER TECHNOLOGY

Academic Staff **: 26; *Students Admitted* : *UG*-62, *PG*-17, *Ph.D.*-17; *Publications* :Book/Book Chapters-04 *Journals*-31, *Conferences*-17, Projects : Research – 87.74 lacs, Consultancy –7.20 lacs,**

1. SALIENT FEATURES

The Saharanpur Campus has three departments viz. Department of Paper Technology, Department of Polymer and Process Engineering and Department of Applied Sciences and Engineering.

Department of Paper Technology

The Department of Paper Technology is one of the oldest Departments of the Saharanpur Campus which offers academic programs at various levels in Pulp and Paper Technology. The Department has well developed academic infrastructure. Its faculty is engaged in teaching, research and industrial consultancy. The courses aim to cater to the needs of Paper Industries across the country.

Department of Polymer and Process Engineering

Department of Polymer and Process Engineering (DPPE) is a new Department of the Indian Institute of Technology Roorkee, located in the Saharanpur Campus. The Department offers academic courses leading to B. Tech in Polymer Science & Technology, and a Dual Degree Program of B. Tech in Process Engineering with MBA. The Department also performs fundamental and applied research in Polymer Science and Technology, Process Engineering and Management. The courses aim to cater to the needs of the vastly developing and hugely demanding **"Polymer and Process Industries"** across the globe.

Applied Sciences and Engineering

The Newly incepted Department of Applied Science and Engineering comprises multi-disciplinary faculty members at present mainly related to Physics, Chemistry, Mathematics, Humanities (English literature), Electrical /Electronics Engineering background to cater the need of multi-disciplinary students at Saharanpur Campus of IIT Roorkee. Our faculty members, and scholars provides a home to the most promising doctoral and post-doctoral research with an access to state of art educational/Research Laboratory resources and unparalleled laboratory for both Basic/Applied Science and Engineering research.

- All the above Departments have procured state of the art research and laboratory equipment worth **Rs. 15 Crore including FIST project** sponsored by DST, New Delhi. Most of the instruments have been installed and some of them are in the process of installation. List includes; AFM, Glove Box, Galvanostat, Hot Stage Polarizing Microscope, FE-SEM, Twin Screw Extruder, Micro Injection Molding, Rheometer, U.V. Vis., and other wide range of laboratory equipment for paper, polymer and process programs.
- Sports Complex development is in progress.
- Multi Story Faculty Residential Complex (TRIVENI APARTMENT) has been allotted to the faculty members.
- Air Conditioning of New Technology Block is in progress.
- Library, Auditorium,Guest House are under restructuring and modification process.
- Purchase of Physiotherapy Equipment for Dispensary is in progress.
- Saharanpur Campus is now connected with NKN network

2. LIST OF FACULTY MEMBERS

Professors

Singh, Ajay K., PhD (Roorkee)
Corrosion Engineering, Material Science, Paper Properties

Kumar, Satish, PhD (Roorkee)
Head
Pulp Bleaching, Chloro-Organics Identification and Removal

Singh, Surendra P., PhD (Roorkee)
Printability, Paper Physics, Process Design and Development

***Negi, Yuvraj Singh**, PhD (IIT Delhi)*
Polymer Science & Technology
Prof. In- Charge- Saharanpur Campus

Dutt, Dharm, PhD (Roorkee)
Stock Preparation, Pulping & Bleaching, Fiber Morphology

Associate Professors

Palsule, Sanjay, PhD (Hanis-watt Univ. Edinburg-UK)
Polymer Science & Technology
Sharma, Subhash C., PhD (Roorkee)
Communication & Computer Control
Ghosh, Uttam K., PhD (BHU)
Chemical Engineering, Transport Processes Environmental Engineering
Kumar Vivek , PhD (IIT Delhi)
Environmental Management, Modeling & Simulation
Sharma, Chhaya, PhD (Roorkee)
Environmental Aspects of Paper Making & Analytical Techniques
Ajay, Ph.D. (Pantnagar)
Condensed matter physics - Strongly correlated physics system
Pant, Millie (Ms) PhD (Roorkee)
Soft Computing Numerical Optimization/Parallel Computing
Chattopadhyay, S., Ph.D (IISc Bangalore),
Chemical Engineering Polymeric Membranes

Assistant Professors

Kumar,Ram , ME (Roorkee)
Energy Management Chemical Recovery, Environmental and Energy Management
Mishra, N.C. PhD (Univ. of Potsdam, Germany)
Chemical Engg. & Surface Sc. Structural Bio.
Arora, Rajan, Ph.D. (IIT Bombay)
Applied Mathematics (Fluid Mechanics)
Khanna Ashu (Ms), PhD (Gurukul Kangri, Hardwar)
MBA Finance
Mishra.S.K, (Ph.D.BHU,Varanasi)
Indian Writing in English
Sharma, Yogesh K.,Ph.D (IIT Roorkee)
Materials Science, Polymeric Batteries, Nanomaterials
Jaidev .,Ph.D (IIT Kanpur)
Partial Differential Equation
Mohanty P., Ph.D (IIT kharagpur)
Materials Chemistry, Synthesis and Characterization, Hybrid Materials
Jindal, Akhilesh K., PhD (Roorkee)
Lignin Chemistry, Wood Chemistry
Ramteke, Manoj, K.C. Ph.D, IIT (Kanpur)
Chemical Engineering, Modeling and Simulation, Process Optimization
Manik,G.,Ph.D (IIT Bombay)
Chemical Engineering, Polymer Adhesives, Modeling and Simulation
Bandhopadhyay A., Ph.D (IACS Calcutta)
Polymer Chemistry, Polymers for Smart Materials, Organic-Metallic Hybrid Polymer

Emeritus Fellow
Ray.A.K.
Polymer and Process Engineering.
Visiting Fellow
Chakrabarty.S.K.
Polymer and Process Engineering.

3. HONORS AND AWARDS TO FACULTY MEMBERS

Negi.Y.S.

- National Advisory Committee Member, Asian Polymer Association (APA).
- Project Evaluator-FCT, Purtogal.
- National Advisory Committee Member, Society of Polymer Science.
- Member-Advanced Materials Society, China 2012-13
- Editorial Board- Int. J. Physics and Chemistry.
- Invited Speaker in International Conferences in India and Europe.
- Reviewer-Polymer Journals and Materials Science Journals.
- Key Note Speaker, National Conference on Computing-Devbhoomi Institute, Saharanpur
- Research Advisory Committee, CPPRI, Saharanpur.

Dutt,Dharm

- Member of Core and Peer Committee, Central Pollution Control Board, New Delhi
- Member, TAPPC, Indira Gandhi Open University (IGNOU), New Delhi
- Member of Technical Committee for Paper Procurement, National Council of Education and Research and Training
- Member of Technical Specification Committee for Newsprint, Employment News, Ministry of Information and Broadcasting
- Technical advisors, Sudhir Papers Ltd., Bangalore
- Project Evaluation Committee, Forest Research Institute, Dehradun
- Project Evaluation Committee, Ministry of Environment and Forest, New Delhi
- Life member of Indian Pulp and Paper Technical Association
- Member of selection committee, Central Pulp and Paper Research Institute, Saharanpur

Dr.Ajay

- Member Steering Committee:SETCOR: International Conference on Nanotechnology- to be held at Dubai(UAE)- Oct. 28-30 (2013)

4. PARTICIPATION OF FACULTY MEMBER IN SYMPOSIA/SEMINAR/WORKSHOP ETC.

Name of Faculty	Name Of Faculty Member in Symposia/Seminar/Workshop	Place	Dates
Prof.A.K.Singh	International Conference on "Corrosion in Infrastructure & Chemical Industries"	Vadodara	6-8 December, 2012
_	International Conference on "Biological materials and Bioengineering"	(Hongkong)	19-20 December, 2012
Dr Gaurav Manik	• 'Management of Intellectual Property in Current Scenario" at Chemical Engineering Department, Nirma University, 21st March 2013	NIRMA University, Ahemdabad	March, 21, 2013
	• Product Life Cycle Management' at Chemical Engineering Department, Nirma University, Ahemdabad, 22nd March 2013	NIRMA University, Ahemdabad	March 22, 2013
	• Workshop for revision of course curriculum for Diploma in Chemical Engg., Paint Technology and Rubber Technology on Invitation.	NIRMA University, Ahemdabad	June, 26-27, 2013
Dr S K Mishra	Quest for Salvation : A Comparative Analysis of G B Shaw and Aurobindo" International Coference on SHAW BAKCK IN TOWN	Dublin (Ireland)	29 May- 02 June 2012
Dr Dharm Dutt	Studies on production of high quality pulp from veneer waste of populous species, 20th European Biomass Conference and Exhibition: Setting the course for a biobased economy,	Milan (Italy)	18-22 June 2012
_	Alkali-O2 delignification of solid waste of sofia grass produced after steam distillation, 20th European Biomass Conference and Exhibition: Setting the course for a biobased economy,	Milan (Italy)	
Prof. Y.S. Negi	PolyTech- 2012, Int. Conference on Advances in Polymeric Materials and Nanotechnology (Invited talk)	Bharati Vidyapeeth University, Erandawane, Pune	December 15-17, 2012
_	3rd Int. Symposium on Green Chemistry for Environment, Health and Development (Invited talk)	Skiathos, GREECE (Europe)	October 3-5, 2012
Dr. Sujay Chattopadhyay	Optimimization of Nano-Composite Membrane applied in Electrodialysis	AICHE, Conference-2012	Oct28-Nov.02, 2012
Dr. Ajay	Int. Conference on Strongly Correlated System	ICTP, (Italy)	Aug. 6-18, 2012

5. VISITORS FROM OUTSIDE ORGANIZATION

Name	Designation	Organization
Padam Shri –Anil Joshi	Social Activist	Dehradun, Uttarakhand

Name	Designation	Organization
Prof. S.K. Gupta, FNA	Distinguished Professor	Univ. of Petroleum & Energy Studies, Dehradun, Uttrakhand
Prof. S.K. Gupta, FNA	Distinguished Professor	Univ. of Petroleum & Energy Studies, Dehradun, Uttrakhand
Dr. G.B. Pant	Ex. Director	IITM, Pune
Prof. Stephan Kleemann	Chairman Dept. of Paper Technology	Applied Science of Munich Univ., Germany
Shri T. Abe	Director	Mitsui Chemical, Japan
Mrs. Ayako Omomo	HR Representative	Mitsui Chemical Japan
Dr. A. B. Mathur	Vice President (R & D)	Reliance Industrial Ltd.
Mr. B.B. Gupta	Chief General Manager	JK TYRE & Industries LTD.
Mr. T. Srinivasa Rao	Sr. Manager	Elof Hansson (India) Pvt. Ltd.
Mr. Manos Mukherjee	President	Elof Hansson (India) Pvt. Ltd.
Mr. Dipak Pachkude	Sr. Manager	Elof Hansson (India) Pvt. Ltd.
Jumi Hagarika Kakoty	Joint Director	Ministry of Defense
Dr. M.J. Yanjarappa	Senior Group Leader	AkzoNobel, Bangalore
Shri S. Mitra	Executive Director	Indian Oil Corporation Limited, New Delhi
Shri Sumit Basu	Sr. Manager (Tech. Service)	Indian Oil Corporation Limited, New Delhi
Shri A.K. Upadhyay	A.V.P. Group (HR&IR)	Leayan Global Pvt. Ltd.
Dr. Tamal Ghosh	Principal Scientist/Research Manager	PEPSICO, Hawthone, New York, USA
Prof. Sher Pal Singh	Professor of Packaging Technology	Mischigan University, USA

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of student	Titles of the thesis
Alok Kumar	Production of cellulases and their role in waste paper recycling
Leena Arya	Measurement and Location Prediction in An Indore WLAN Using Optimization and Simulation
Vishal Gupta	Performance Analysis and Effect of Terrain Attenuation on Outdoor Propagation Models
Shiv Kumar	Reduction in Environmental Loads by using eneyme during bleaching of chemical pulps.
Deepak kumar	Mathematical modeling and simulation in Pulp Mill Operations
Manoj Kumar Ghosh	Studies on Microbial Production of Lactic Acid by Batch Fermentation.
Parveen Kumar	Formation and removal of chlorinated organic from Pulp Bleaching Effluents
Sandeep Vijay	Development and Analysis of Energy Efficient infrastacture-less Wireless Networks.

7. RESEARCH PROJECTS

Project title	Year	Sponsoring agency	Outlay (Amount in Lakhs)
Hierarchical Nanoporous Inorganic-Organic Hybrid Materials for Gas Storage and Separation Applications	2012-15	SRIC, IIT Roorkee	4.25
Inorganic-Organic Hybrid Nanoporous Materials for Carbon Dioxide Capture	2012-15	DST, Govt. of India	57.00
Hydrothermal synthesis of nickel oxide nanostructures	2012-13	Indo-Korea Intern program, DST-MEST	1.51
Low-dimensional hybrid hierarchical nanoporous materials for environmental applications	2012-15	Indo-Mexican (DST-CONACYT)	2.75
Fabrication of one dimensional, high aspect ratio and aligned nanofibers of Mn-oxides and their	2012-2015	Department of Atomic Energy-BRNS	17.85

Project title	Year	Sponsoring agency	Outlay (Amount in Lakhs)
application in high energy/power density Li-ion batteries			
Biocorrosion Inhibition by Application of Microbial Extracellular Polymeric Substances	2012	Uttarakhand State Biotechnology Department, Dehradun.	4.38

8. CONSULTANCY PROJECTS

- Ambient Air Quality Monitoring of Saharanpur City - **6.00 Lakhs**
- Adequacy Assessment of ETP for Treatment of Wastewater from Slaughter house plant M/s Al Noor Exports. **0.70 Lakhs**
- Evaluation of various paper making chemicals of Abstract Chemical, Ahmedabad. **0.50 Lakhs**

4.17 DEPARTMENT OF PHYSICS

Academic Staff **: 28; *Students Admitted* : UG-Int. M.Sc. : 24; PG-39, *Ph.D.*-8;**
Publications **: *Journals*-56, *Conferences-67; New Projects : Research - Rs 177.24 Lacs***

1. SALIENT FEATURES

The Department of Physics plays pivotal role in enriching the scientific endeavor of IIT Roorkee. The faculty members of Physics Department provide an excellent teaching environment to its students pursuing their studies for Ph.D., M.Tech. (Solid State Electronic Materials), 5-year Integrated M.Sc., 2-year M.Sc., and B.Tech. students. The Ph.D. programs are focused on advanced topics in several thrust areas of Physics in the fields of Atomic & Molecular Collision Physics, Atmospheric Physics, Condensed Matter Physics, Laser Physics, Nuclear Physics, and High Energy Physics.

The faculty of Physics Department has been actively pursuing research in important areas like High-Tc superconductivity, heavy fermions, transport in anisotropic fluids, magneto-optical properties of transition metal compounds, conducting polymers and device applications, smart electro-ceramics and biomaterials, nano-physics, scattering of spin-polarized electron with atoms and molecules, physics of deformed and super-deformed nuclei, nuclear isomers, exotic radio-activities, nuclear reactions and fission, lightning, auroral and airglow studies, and photonics and fiber Optics. The Department is presently running research projects sponsored by various agencies like DST, ISRO, DAE, AICTE, MIT and CSIR.

The Department has well developed research laboratories in the areas of Smart materials, High-Tc Superconductors, Functional nanomaterials. A new advanced facility of pulsed laser has recently been added and has started functioning. The department presently has about 55 Research Scholars.

The computing facility in the Physics Department consists of two Sun Fire X 2200 M2 X 64 Servers (dual-core dual-CPU), ideal machines for number crunching. In addition about five high speed works-stations have been added. This has helped research workers to handle problems of current interest that require distributed computing and parallelism. More powerful computers/servers are in the process of being procured.

2. LIST OF FACULTY MEMBERS

Professors

Indu, Byas Dev, DPhil (HNB Univ., Garhwal)
Condensed Matter Physics: Theoretical Study of Impurity & anharmonicity Effects on the Acoustical, Optical & Electronic Properties of High Temperature Low Dimensional Super Conductors, Semiconductors & Insulators and effects of lower dimensions.

Jain, Ashok Kumar, PhD (BHU, Varanasi)
Head
Nuclear Physics: High-Spin States, Super-Deformed Nuclei; Semi-Classical Physics: Order & Chaos in Nuclei, Periodic Orbit Theory.

Nath, Ravindra, PhD (IIT Delhi, India)
Condensed Matter Physics: Peizo-Pyro & Ferroelectric Properties of Polymers & Device Applications.

Nautiyal, Tashi, PhD (Roorkee)
Condensed Matter Physics: Theoretical Study of Electronic, Magnetic & Optical Properties of Compounds.

Rai, Jagdish, PhD (BHU, Varanasi)
Atmospheric Physics: Cloud Formation & Lighting; Ratio Propagation; GEC; Industrial Waste Management & Ionosphere.

Singh, Gauri Shankar, PhD (Roorkee)
Condensed Matter Physics: Electronic States in Nanosystems; Band Structures of Photonic Crystals; Transport in Ellipsoidal Fluids (Isotropic & Liquid Crystal Phases)

Singh, Vir, PhD (BHU, Varanasi)
Atmospheric Physics: Atmospheric & Space Science, Auroral & Airglow Studies, Planetary Atmospheres

Srivastava, Rajesh, PhD (BHU, Varanasi)
Atomic and Molecular Collision Physics: Theory of Scattering of Spin Polarized Electrons with Spin Polarized Atomic Systems. Atomic Structure Calculations with Relativistic Effects, Autoionizing States & their Decay.

Associate Professors

Kaur, Davinder, PhD (Delhi University, Delhi)
Experimental Condensed Matter Physics: Thin films & Devices of Solid State Functional Materials Especially High Temperature Superconductors and CMR Materials

Varma, Ghanshyam Das, PhD (BHU)
Experimental Condensed Matter Physics: High Temperature Super Conductor, Nano Carbon Tubes.

Yadav, Kanhaiya Lal, PhD (IIT Kharagpur)
Experimental Condensed Matter Physics, Smart Electro-Ceramics & Biomaterials

Patra, Binoy Krishna, PhD (BHU, Varanasi)
High Energy Nuclear Physics, Quark – Gluon Plasma in ultra-relativistic nucleus-nucleus Collisions and in the early Universe, Low-energy effective field theory, Spectral Representation in finite-temperature field theory.

Misra, Aalok, Ph.D (Rochester Univ. USA)
High Energy Physics: String Theory, Gauge Field Theories, Meson-Baryon Low Energy Effective Field Theories

Rastogi, Vipul, Ph.D (IIT Delhi)
Laser Physics: Fiber Optics, Integrated Optics, Photonics

Assistant Professors

Arumugam P., Ph.D. (MS Univ., Thirunelveli)
Nuclear Structure theory, Nuclear Astrophysics, Hot and rotating nuclei, Relativistic mean field theory

Chatterjee, Rajdeep., Ph.D. (SINP, Calcutta)
Theoretical Nuclear Physics, Nuclear Astrophysics,Low and medium energy nuclear reactions, Unified models of nuclear structure and reactions, exotic radioactivity, physics of dripline nuclei

Gourishetty Anil Kumar PhD (IIT Kharagpur)
Nuclear Physics (Experimental)

Maitra, Tulika, PhD (IIT Kharagpur)
Condensed Matter Theory, Correlated Electronic Systems, frustrated magnetic systems, Organic electronic systems.

Mitra Anirban, PhD (IIT Kanpur)
Laser, opto electronics, Optical properties of semiconductors

M.V. Sunil Krishna PhD (IIT Roorkee)
Atmospheric Physics: Atmospheric & Space Science, Auroral & Airglow Studies, Planetary Atmospheres

Sharma, Lalita Ph.D (IIT Roorkee)
Atomic and Molecular Collision Physics: Theory of Scattering of Spin Polarized Electrons with Spin Polarized Atomic Systems, Atomic Structure Calculations with Relativistic Effects, Autoionizing States & Their Decay

Wasan, Ajay, PhD (IIT Kanpur)
Atomic spectroscopy, Quantum Optics, Bose-Einstein condensation, Quantum computing

Srivastava, P.C., PhD (Allahabad Univ.)
Theoretical Nuclear Structure Physics, Exotic nuclei, Nuclear Models, Large-scale shell model, Double and Neutrinoless double beta decay.

Sanyal, P, PhD (IISc Bengaluru)
Theoretical Solid State Physics

Natraj S. Huliyar, PhD (IIAP, Bengaluru)
Atomic and Molecular Physics, Symmetry violations in atoms and molecules, Atomic and molecular cloaks, Matter-antimatter symmetry.

Maiti, Moumita, PhD (SINP, Kolkata)
Nuclear Physics and its applications, Production of neutron deficient radio nuclides.

Deo, Ajay Y, PhD (Mumbai Univ.)
Experimental Nuclear Physics, Nuclear structure at high-spin, beta-decay studies, heavy-ion induced.

Emeritus Professor/ Fellow

Singh, Ishwar, PhD (Roorkee)
Condensed Matter Physics: Theoretical Studies of Strongly Correlated Electronics Systems including Heavy Fermions and High- Temperature Super Conductors. Conceptual Foundations of Quantum Mechanics.

3. HONORS AND AWARDS TO FACULTY MEMBERS

Jain, A.K.

- Member, Cyclotron Users Committee, Variable Energy Cyclotron Centre (DAE), Kolkata, Since 2013.
- Patron, Indian Association of Physics Teachers, Regional Chapter, Uttarakhand, 2013.
- Member, International Advisory Committee, ND2013 - International Conference on Nuclear Data for Science & Technology, NNDC, Brookhaven Natl. Lab, USA.
- Member, National Advisory Committee, D.A.E. Symposium on Nuclear Physics, 2012, 2013.
- Member, Board of Studies, Thapar University, Patiala, 2013.
- Member, Program Review Committee, Nuclear Data Physics Centre of India, BRNS-DAE, Mumbai, 2012-continue.

Srivastava, Rajesh.

- Member of International Scientific Committee of "International Symposium on (e, 2e), Double Photoionization and Related Topics & the 17th International Symposium on Polarization and Correlation in Electronic and Atomic Collisions" to be held in Hefei, China, August 1- 3, 2013.
- Member of the International Committee of "IAEA's Coordinated Research Project (CRP)" Spectroscopic and Collisional Data for Tungsten from 1 eV to 20 keV
- Member of the program advisory committee on "LASERS, OPTICS, ATOMIC & MOLECULAR PHYSICS" of Department of Science and Technology (DST), Govt. of India (2012-15).
- Member of the National Advisory Committee of "3rd DAE-BRNS Symposium on Atomic, Molecular and Optical Physics", IISER Kolkata, Dec. 14-17, 2012.
- Member of the National Advisory Committee of "National Conference on Electron Collision Processes in Atomic and Molecular Physics", Vallabh Vidyanagar, Gujarat, March 7-9, 2013

4. VISIT OF FACULTY (INTERNATIONAL ONLY)

Name of Faculty	Name of Institute/ Organisation Visited	Purpose of Visit	Dates
Jain, A.K.	Argonne National Laboratory, Argonne, IL, USA	To present two papers in International Conference "Nuclear Structure 2012"	13 – 17 August, 2012
—	Kuwait Foundation for the Advancement of Sciences (KFAS), Kuwait	To attend a Meeting of International Network of Nuclear Structure and Decay Data Evaluators	27 – 31 January, 2013
—	Brookhaven National Laboratory, New York, USA	To present a paper in 2013 International Conference on Nuclear Data for Science & Technology (ND 2013)	4 – 8 March, 2013
Srivastava, R.	York University, Toronto	Research Collaboration	14 June – 15 July, 2012
—	Stonehill College, Massachusetts, U.S.A	Gordon Research Conference	15 – 20 July, 2012
—	Institute for Experimental Physics, Ruhr-University, Bochum, Germany	A meeting for research collaboration and giving a talk	26 – 28 August, 2012
—	Max Planck Institute of Nuclear Physics, Heidelberg, Germany	To attend an IAEA sponsored tungsten data meeting	29 – 31 August, 2012
Misra, Aalok.	Purdue University, USA	Visiting professor for research discussion and to give a seminar	21 – 23 May, 2012
—	McGill University, Canada	Visiting professor for research discussions and to give a seminar	24 – 27 May, 2012
—	Abdus Salam ICTP, Trieste, Italy	Visit as Regular Associate	28 May – 14 July, 2012
Maitra, T.	Max Planck Institute for Physics of Complex Systems, Dresden, Germany	To deliver a talk in the workshop "Itinerant Spin-Orbital Systems: From Magnetic Frustration to Novel Superconductivity"	21 -25 May 2012
_	Thomas Young Centre, Imperial College, London	For Research Collaboration	28 May – 08 June, 2012
Varma, G.D.	RRCAT, Indore	Research & Discussions	22-26 October, 2012
Rastogi, V.	Busan, South Korea	To participate in the conference OECC-2012	01 – 07 July, 2012
—	City Univ. London, Univ. of Soutahmpton, UK	To participate in UKIERI project meeting and workshop	14 – 20 July, 2012

5. PARTICIPATION OF FACULTY IN CONFERENCES/ SEMINAR/ SYMPOSIA/ WORKSHOP ETC.

Name of Faculty	Details of Conference/Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Dates
Jain, A.K.	Nuclear Structure 2012	Argonne National Laboratory, Argonne, IL USA	13 – 17 August, 2012
—	2013 International Conference on Nuclear Data for Science & Technology (ND 2013)	Brookhaven National Laboratory, Upton,	4 – 8 March, 2013

Name of Faculty	Details of Conference/Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Dates
		New York, USA	
	— BRNS Workshop on Evaluation of Nuclear Structure and Decay Data	VECC, Kolkata	26 – 29 November, 2012
	— DAE Symposium on Nuclear Physics	Department of Physics and Astrophysics, University of Delhi	03 – 07 December, 2012
Srivastava, R.	Gordon Research Conference on Atomic and Molecular Interactions	Stonehill College, Massachusetts, U.S.A.	15 – 20 July, 2012
	— 3rd DAE-BRNS Symposium on Atomic, Molecular and Optical Physics	IISER Kolkata	14 – 17 December, 2012
	— National Conference on Electron Collision Processes in Atomic and Molecular Physics	Vallabh Vidaynagar, Gujarat	7 – 9 March, 2013
Singh, Vir.	38th COSPAR Scientific Assembly	Infosys Campus, Mysore	14 – 22 July, 2012
Yadav, K.L.	17th National Seminar on Ferroelectrics and Dielectrics (NSFD17) - 2012	Bhubaneswar, Odhisa	17 – 19 December 2012
Varma, G.D.	National Seminar on Materials and Energy Security (NSMES-2012)	Department of Physics, Banaras Hindu University, Varanasi	31st December, 2012
Rastogi, V.	OECC – 2012	Busan, South Korea	01 – 07 July, 2012
Kaur, D.	International Conference on Magnetism and Magnetic Materials (MMM 2013)	Chicago, USA	14 – 19 January, 2013
Sunil Krishna, M.V.	38th COSPAR Scientific Assembly	Infosys Campus, Mysore	14 – 22 July, 2012
Chatterjee, R.	Summary Speaker, DAE Symposium on Nuclear Physics	Department of Physics and Astrophysics, University of Delhi	03 – 07 December, 2012
	— Invited Speaker, National Conference on Nuclear Dynamics and Nuclear Astrophysics	Department of Physics, University of Calcultta	05 – 06 February, 2013
Maitra, Tulika.	Itinerant Spin-Orbital Systems: From Magnetic Frustration to Novel Superconductivity	Max Planck Institute for Physics of Complex Systems, Dresden, Germany	21 – 25 May, 2012
	— National Workshop on Electron Dynamics in Magnetic Materials	DRDO Complex, Chandipur, Odisha	17 – 19 January, 2013
Sharma, Lilita.	Asian International Conference on Atomic and Molecular Physics	Taipei, Taiwan	23 – 27 October, 2012
	— DST – SERC School on “Highly Charged Ions”	TIFR, Mumbai	11 February – 3 March, 2013
Misra, Aalok	International Conference on New Trends in Field Theories	BHU, Varanasi	23 – 26 November, 2012
	— International Conference on Mathematical Sciences 2012	Shri Shivaji Education Society, Amravati’s Science College, Nagpur	28 – 31 December, 2012
	— World Academy of Science Engineering and Technology ICHEP	Zurich, Switzerland	14 – 15 January, 2013
	— Workshop on Physics and Mathematics	Gurukul Kangri	11 – 12 March, 2013

Name of Faculty	Details of Conference/Seminar/ Symposia/ Workshop/Guest Lecture	Venue	Dates
	of the Universe	Vishvavidyalaya, Haridvar	
—	(Chief guest to give inaugural address at) 125th Birth Anniversary of Srinavasa Ramanujan	Kurukshetra Panorama and Science Centre, National Council of Science Musuems	21 December, 2012
—	(Mentor) Physical Sciences, DST Inspire Program	Kumaun University, Nainital	26 December, 2012
Dr. Moumita Maiti	11th Biennial DAE-BRNS Symposium on Nuclear and Radiochemistry (NUCAR-2013)	Government Model Science College, R. D. University, Jabalpur, India	19 – 23 February, 2013
Dr. Ajay Y. Deo	DAE Symposium on Nuclear Physics	Department of Physics and Astrophysics, University of Delhi, Delhi	
	INGA User Workshop	TIFR Mumbai	9-11 March, 2013

6. PARTICIPATION OF FACULTY IN SHORT TERM COURSES

Name of Faculty	Name of the Courses	Place	Dates
Yadav, K.L.	Essentials of Nanosciene and Nanotechnology	QIP IITR	18-22 February 2013

7. VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose
Dr. Harshal H. Bhadkamkar	Post-Doctoral Fellow	Raman Research Institute, Bengaluru	To deliver a talk
Dr.Rohit Malik	Post-Doctoral Fellow	Chalmers University of Technology, Sweden	To deliver a talk
Dr. Rajendra S. Dhaka	Post-Doctoral Fellow	Iowa State University, Ames, Iowa, USA	To deliver a talk
Dr. Mohammad Abu Shaz	Assistant Professor	Banaras Hindu University, Varanasi	To deliver a talk
Dr. Santanu Karan	Research Associate	National Institute of Material Science (NIMS), Tsukuba, Japan	To deliver a talk
Dr.Lorenzo Fortunato		Department of Physics and Astronomy, University of Padova & I.N.F.N., Italy	Collaboration with Dr. Rajdeep Chatterjee & To deliver a talk
Dr. Prithwish Tribedi		Variable Energy Cyclotron Centre, Kolkata	To deliver a talk
Dr. Andrey Surzhykov	Professor	Head, Theory Group, Institute of Theoretical Physics, University of Heidelberg, Germany	To deliver a talk & Research Collaboration with the group of Prof. Rajesh Srivastava

Name	Designation	Affiliation	Purpose
Prof. P. Jena	Professor	Physics Department, Virginia Commonwealth University, Richmond, Virginia, USA.	To deliver a talk
Dr. Prasanta Kumar Biswas	Scientist - F	CSIR-Central Glass and Ceramic Research Institute, Kolkata	To deliver a talk
Dr. Vidhu Tiwari	Post-Doctoral Fellow	University of Ottawa, Canada	To deliver a talk
Prof. Adam Maj	Professor	Niewodniczanski Institute of Nuclear Physics (IFJ PAN), Krakow, Poland	To deliver a talk
Dr. Sangeeta Sharma	Post-Doctoral Fellow	Max-Plank Institute for Microstructure Physics, Halle, Germany	To deliver a talk
Dr. R.K. Choudhury	Ex Head	NPD, BARC, Mumbai	To deliver a talk
Dr. Eike F. Schwier		Hiroshima Synchrotron Radiation Center, Hiroshima University, Japan & Institute of Physics, University of Fribourg, Switzerland	To deliver a talk
Dr. Vinay Shankar Pandey	Post-Doctoral Fellow	School of Space Research, Kyung Hee University, Gyeonggi, South Korea	To deliver a alk
Dr. Sayan K. Chakrabarthy	Post-Doctoral Fellow	Instituto Superior Técnico, Lisbon, Portugal	To deliver a talk

8. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Category (Gen/SC/ ST/PD	Title of Thesis
Koppole Kamakshi	Indian	Female	GEN	Optical Fibre Designs for Amplifiers and Sensors
Umesh kumar Yadav	Indian	Male		Study of Extended falicov-Kimball model on a triangular lattice for correlated systems.

9. ACADEMIC ACTIVITIES ORGANIZED BY DEPARTMENT

Org. Secretary	Name of Conference / Seminar / Symposia / Workshop	Sponsored by	Dates
Prof. A. K. Jain (Co-Chairman)	International Conference on Recent Trends in Nuclear Physics held at Chitkara University, Chitkara	DST, DAE etc.	19–21 November 2012.
Gourishetty, A.K.	Science promoting activity “Joy of Science” for ABN School students	Indian Physics Association, Roorkee Chapter	16 February, 2013

10. SHORT TERM/SPONSORED COURSE ORGANISED BY THE DEPARTMENT

Coordinator	Name of the Course	Dates
Yadav, K.L.	Essentials of Nanoscience and Nanotechnology	18 – 22 February 2013

11. (I) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (Amount in Lakhs of Rs.)
Dutta, R.K. (PI) Yadav,K.L. (Co-PI)	Ion Beam Assisted Synthesis and Characterization of Novel Optically Active Glass/Polymer	IUC-DAEF, Calcutta Centre	No separate fund allocated
Yadav,K.L.	Structural and dielectric investigation on Grain Growth-Controlled Giant Permittivity in chemically modified perovskite Ceramics	Council of Scientific and Industrial Research, New Delhi, India	~12
Kaur, D.	Development of Nano Structures for MEMS & Optoelectronics	Ministry of Information Technology	484.00
Jain, A.K.	Improved Nuclear Structure and decay data for Nuclear models in the Heavy Nuclides Region	BRNS, BARC, Mumbai	19.63
	Nuclear structure studies of multi-quasiparticle states and nuclear isomers.	Department of Science and Technology, New Delhi	25.93
Krishna Sunil, M.V.	Modeling of Sodium and Hydroxyl airglow emission in the mesosphere	SRIC, IIT-R (FIG)	3.85

(II) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay Rs . in Lakhs
Ghosh, P.K. (PI), Yadav, K.L.(Co-PI)	Optimization of ultrasonic dual mixing for homogeneous distribution of inorganic nano particles in epoxy based adhesive affecting its thermal and mechanical properties	Science and Engineering Research Board, Technology Bhawan, New Delhi, India,	40.00
Patra, B.K.(PI), Misra Aalok (Co-PI)	Some Aspects of Strongly Interacting QGP (Co-investigator with Dr.B.K.Patra) – CSIR project.	Council of Scientific and Industrial Researh, New Delhi	11.00
Maitra, Tulika	Competing and coexisting long range orders in certain correlated systems	Council of Scientific and Industrial Research, New Delhi	14.32
Verma,G.D	Growth and investigation of Fe-Chalcogenide and alkali doped Fe-Selenide Superconductors	Council of Scientific and Industrial Research, New Delhi	14.92
Natrajan, V.(PI), Wasan,A. (Co-PI)	Coherent population trapping and its application to precision measurements	Department of Science and Technology, New Delhi	52.00
Srivasrtava, R.(PI), Sharma,L.(Co-PI)	Electron induced collision processes and plasma modeling	Department of Atomic Energy – Board of Research in Nuclear	22.50

Principal Investigator	Name of Project	Sponsoring Agency	Outlay Rs . in Lakhs
Gourishetty,A.K.	Studies with scintillation detectors	Sciences (DAE – BRNS) Department of Science and Technology, New Delhi.	17.60
-	Studies on coincidence summing effects in scintillation detectors	SRIC, IITR (FIG-A)	4.90

12. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECT

Project Title : Some Aspects of Strongly Interacting QGP (Co-investigator with Dr.B.K.Patra) – CSIR project
PI: Dr. B.K. Patra , **Co-PI:** Dr. Aalok Misra
Summary: Our Project is about the study of some aspects of QGP from an appropriately uplifted M/string theory background, which has been missing in the literature. This includes a study of uplifts to manifolds of G_2-structure/holonomy, e.g., the (resolved) warped deformed conifolds relevant to gravity duals of (non-)zero temperature gauge theory, the noncompact Calabi-Yau's involving other Sasaki-Einstein manifolds relevant to zero and finite temperature D3-D7 brane systems relevant to QGP studies, etc. and subsequent study of various thermodynamic quantities in the corresponding eleven-dimensional supergravity as well as the intermediate mirror type IIA string theory, such as entropy, shear viscosity, diffusion constant, etc.

Project Title: Competing and coexisting long range orders in certain correlated systems
PI: Dr. Tulika Maitra
Funding Agency : CSIR,New Delhi
Amount: 14.32

Summary: The aim of the project is to study correlated electronic systems showing various long-range orders, often co-existing. Of late such systems have become extremely important both from the fundamental and applications point of view. The recent activities in systems like CMR manganites, double-perovskites, multi-ferroics and interface between a correlated and a band insulator testify the importance of a thorough investigation of such systems. In almost all these systems, the ground state shows co-existing LRO at different composition ranges. As a function of external parameters (temperature, pressure, magnetic field, composition etc), they show various other LR ordered phases as well. It is in this context we propose to study them using both electronic structure calculations as well as phenomenological modeling.

4.18 DEPARTMENT OF WATER RESOURCES DEVELOPMENT & MANAGEMENT

Academic Staff: **10; *Students Admitted*: *PG -39*, *Ph.D-07* ; *Publications*: *Journals*-21, *Conferences*-24; *New Projects*: Research-** ***Rs.92.27 lakhs***

1. SALIENT FEATURES

Department of Water Resources Development and Management (formerly WRDTC) was established in the year 1955 by the Government of India with the objective to train serving engineers from Asia, Africa and other developing countries in various aspects of water resources engineering and to bring together engineering talent from these countries for a first hand understanding and appreciation of each others problems and to help evolve , by pooling of knowledge, new techniques in water resources development and management suited to conditions of Afro-Asian region. In addition, the programme of education in the department help foster a feeling of brotherhood amongst the engineers of various countries. Since its creation in 1955 the department has trained 2543 serving engineers from 49 countries

2. LIST OF FACULTY MEMBERS

Professors

Khare, Deepak, PhD (Roorkee)
Ground Water, Earth Dam, Water Resources Management
Head (w.e.f. 1 Jan., 2013)

Sharma, Nayan, PhD (Roorkee)
Head (upto Dec. 2012)
River Engg., Hydraulic Structures & Irrigation Engg.

Chaube, U.C., PhD (IIT Delhi)
Water Resources, Hydrology, Irrigation and Environmental Management of Rivers

Tripathi, S.K., PhD (Allahabad)
Agronomy, Irrigation Water Management and Agricultural Planning

Kansal, M.L., PhD (Delhi Univ.)
Water Resources Systems, Operation Management and Drinking Water

Associate Professors

Mishra, S.K. PhD (Roorkee)
Irrigation Water Management, Hydrology

Assistant Professors

Pandey, Ashish, Ph.D (IIT Kharagpur)
Irrigation Water Management, Hydrological Modeling of Watershed, Remote Sensing and GIS Applications

Chelliah Thanga Raj, Ph.D (IIT Roorkee)
Hydro Energy Storage, Energy Optimal Control of Induction Motars

Emeritus Fellow

Das, Devadutta, ME (Roorkee)
Hydro-Electric System Engineering, Energy Systems Planning & Economics

Professor (on Contract)

Chauhan, Gopal, ME (Roorkee)
Design of Hydro-mechanical and Construction Equipment

Programmer
Sunita, Devi, (Ms), PhD (Roorkee)
Optimization of Water Resources System

3. HONOURS AND AWARDS TO FACULTY MEMBERS

Tripathi, S.K.

- Member of the Task Group on WALMI's / IMTI's of Ministry of Water Resources Govt. of India New Delhi
- Chairman, Meteorological Instruments Sectional Committee PG 21, Bureau of Indian Standards, New Delhi
- Member, Working Group on "Agricultural Research & Education" for 12th 5 year plan (2012-2017) of Planning Commission Govt of India.
- Member, Research Advisory Committee, Directorate of Water Management (ICAR), Chandrasekharpur, Bhubaneswar.
- Fellow, Indian Society of Agronomy, Fellowship presented on Nov. 26, 2012 at 3rd International Agronomy Congress held at IARI, New Delhi.

- ICAR Team Member, Accreditation Team for CCS Haryana Agriculture University, Hissar Feb.12-14,2013.

Sharma, Nayan

- Member of Hydrometry Sectional Committee, WRD 01, Bureau of Indian Standards, Govt. of India, 2013-.
- Member of Hydraulic Structures Instrumentation sectional Committee, WRD 16, Bureau of Indian Standards, Govt. of India, 2013-.
- Member of Indian National Committee on Surface Water (INCSW), constituted by Central Water Commission, INCSW Secretariat, New Delhi, September 2012
- Member of the Expert Committee for Preparation of Bihar Flood Hazard Atlas, constituted by National Disaster Management Authority, Govt. of India in 2012
- Panel Expert for Kosi Bandh Katan Judicial Enquiry Commission, Govt. of Bihar,2010-2013 headed by Chief Justice (Retd.) of Patna High Court.
- Member Barrages And Weirs Sectional Committee–RAV 20 Bureau of Indian Standards, Govt. of India.
- Member of Sectional Committee on River Training and Diversion Works, WRD-22 of Bureau of Indian Standards, Govt. of India.
- Member of Board of Studies for Department of Rural Technology, HemvatiNandanBahugunaGarhwalUniversity, Srinagar, Uttarakhand (A CentralUniversity) 2012-2013.
- Member of Expert Committee for Scientific Assessment of Flood Prone Areas in India, Constituted by Ministry of Water Resources (Ganga Wing), Govt. of India 2012-2013.
- Member of the International Scientific Committee for Workshop on Labyrinth and Piano Key weirs – PKW 2013 to be held in Paris , France during November 2013.
- Member of Technical Expert Committee for Review of Asiganga-I and Asiganga-II Small Hydro Projects in district Uttarkashi, UttarakhandState, constituted by Uttarakhand Jal Vidyut Nigam Ltd., 2012-2013.
- Member of Advisory Group of Experts on Flood and Erosion and Water Management, constituted by Govt. of Assam on 2012-2013.
- Member of ITRA – Water Review Panel under initiative entitled IT Based Innovations to Sustainability of Water Resources, constituted by Information Technology Research Academy (ITRA), Govt. of India, 2013.
- Member of ITRA – Water Review Panel under initiative entitled IT Based Innovations to Sustainability of Water Resources, constituted by Information Technology Research Academy (ITRA), Govt. of India, 2013.
- Member of Dams and Spillways Sectional Committee, WRD 9, Bureau of Indian Standards, Govt. of India, 2011-2013.
- Member of Apex Advisory Committee on R&D for Planning/ Monitoring, of various R&D activities related to Hydro Sector, Tehri Hydro Development Cooperation India Ltd.(THDCIL), Rishikesh, 2012-2013.

Khare, Deepak.,

- “Independent Expert Member” of the "APEX COMMITTEE" for Sustainable Development by Tehri Hydro Development Corporation Ltd. (THDC).
- Member of the Expert Committee formed by government of Uttarakhnad for technical examination of dam affected areas located above MFL of Tehri /Koteshwar reservoir.

Mishra, S.K.

- Member, Expert Appraisal Committee, Ministry of Environment and Forests, Govt. of India, New Delhi.

Pandey, Ashish

- Member of Indian National Committee on Surface Water (INCSW)of Ministry of Water Resources, Govt of India constituted by Central Water Commission, INCSW Secretariat, New Delhi, August 13, 2012.

Chelliah,T.R.,

- Awarded best paper award at IEEE International Conference on Advanced Computing and Communication Technologies,Rohtak (INDIA).

4. VISIT OF FACULTY MEMBERS : INTERNATIONAL ONLY

Name of Faculty	Name of Institute/ Organisation Visited	Purpose of Visit	Dates
Tripathi, S.K.	University of South Australia, Adelaide	Presented a paper at 4th International conference on Sustainable Irrigation 2012 held at University of South Australia, Adelaide	Dec. 11-13, 2012
Chelliah T.R	Massachusetts Institute of Technology (MIT), USA	Discussion with Electric Vehicle Team during a conference	31-01-2013
_	Harvard University (USA)	To attend Conference	30-01-2013
_	The Hong Kong Poly. University	To attend Conference & visit of Electric machines and Power Electronics Laboratories and have discussions with the experts	24-08-2012
_	University of Hong Kong	To visit Electric machines and Electric Vehicle laboratories visit and have discussions with the experts	22-08-2012
Pandey, Ashish	Dallas, Texas, United States of America	To present paper in the American Society of Agricultural and Bilogical Engineer's Annual International Meeting - 2012	July 27 - August 03, 2012

5. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name	Designation	Affiliation	Purpose of Visit
Prof. Ganesh Chand	Vice Chancellor	Fiji National University	To deliver a lecture
Dr. Sanjay Shukla	Assistant Professor	TFAS Southeast Florida Research & Education Center, North Immokalee	To deliver a lecture
Mr. Sanju Upadhyay	UNFAO	Afghanistan	To have discussions
Dr. Richard Scott, Dr. Andrew Watson, Dr. Gopal Santana Phani Madabhushi, Dr.Alan R. Chambers, Prof. David C. Bsrton, Prof. Alison Hodge, Prof. Alison Noble, Dr. Anil Namdeo, Dr. Brian Connolly, Prof. Karen M. Holford and Prof. Robert Bery	From Sterling Group	U.K. Universities	To have discussions on future research collaborations

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Category (Gen/SC/ ST/PD)	Title of thesis
Md. Surabuddin Mondal	Indian	Male	Gen	Land use Land cover Modelling in a Part of Brahmputra Basin Using Geoinformatics
Anupama Nayak	Indian	Female	SC	Experimental Study of Jack JettySystems for River Training
Nikam Bhaskar Ramachandra	Indian	Male	Gen	Distributed Conjunctive use Modeling using Remote Sensing and GIS
Raj Avtar Singh	Indian	Male	Gen	Study of Downpull on Hydraulic Gates
Soban Singh Rawat	Indian	Male	Gen	Rainfall Runoff Sediment Yield Modeling of Mountainous Watersheds
Mr. Shakti Suryavanshi	Indian	Male	Gen	Long Term Prediction of Hydro-Meteorological Variables in Betwa Basin
Satyanarain	Indian	Male	Gen	Waste water treatment using certain water plants

7. ACADEMIC ACTIVITIES ORGANIZED BY DEPARTMENT:

Org. Secretary	Name of Conference/Seminar/ Symposia/ Workshop attended	Sponsored by	Dates
Dr. Nayan Sharma Chairman, PKWISD-2012 and Dr. Ashish Pandey, Org. Secretary	International Workshop on Piano Key Weir for In-stream Storage and Dam Safety (PKWISD-2012)	MoWR, Govt. of India and other sponsors	May 30 – June 1, 2012.

8. SHORT TERM/SPONSORED COURSES ORGANIZED BY THE DEPARTMENT

Coordinator	Name of the Courses	No.of Participants	Dates
Dr. Ashish Pandey (PI), Dr. S.K. Mishra and Prof. U.C. Chaube	Modern Irrigation Practices	15	March 04-05, 2013
Dr. Deepak Khare	Capacity Building of Minor Irrigation Organisation	20	Feb. 26 – March 3, 2013
Dr. Ashish Pandey (PI), Dr. S.K. Mishra and Prof. U.C. Chaube	Water Resources Project Administration	17	Jan. 27 – Feb. 16, 2013
Dr. Deepak Khare	Project Management for River Valley Projects	13	Jan. 21 - 25, 2013

Coordinator	Name of the Courses	No.of Participants	Dates
Dr. Ashish Pandey (PI) and Dr. S.K. Mishra	Water Resources Engineering	12	Dec. 07-08, 2012
Dr. Thanga Raj Chelliah	Power Electronics in Mini/Micro Hydropower Generation	21	Nov. 29 –Dec. 01, 2012
Dr. Deepak Khare	Project Management for River Valley Projects	15	Oct. 29 – Nov. 2, 2012
Dr. Ashish Pandey (PI) and Dr. S.K. Mishra	Livelihood in River Basin	16	Sept. 27 – Oct. 23, 2012
Dr. Ashish Pandey (PI) and Dr. S.K. Mishra	Economic Development for Rural and Smaller Communities	14	July 02-08, 2012
Dr. Ashish Pandey (PI)	Operation and Maintenance of Irrigation Schemes	22	June 11-16, 2012

9. (I) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. Nayan Sharma	FIST Programme DST-435 -WRC	DST, New Delhi	135.00
Dr. Nayan Sharma	Experimental Study of Jack Jetty and Porcupine Systems for River Training	INCH, MoWR	29.35
Dr. Nayan Sharma	Assessing Health, Livelihoods, Ecosystem Services and Poverty Alleviation in Populous Deltas	Natural Environment Research Council, UK	247.03
Dr. Deepak Khare	Conjunctive Use Planning of Water Resources considering Spatial Variation in cropping Pattern Using Remote sensing & GIS MOW-433- WRC	Ministry of Water Resources, New Delhi	23.83
Dr. Deepak Khare	Assessment of Climate Change & its Impact on urban Hydrology: Indian Perspectives, AIC-566-WRC	AICTE, New Delhi	40.00
Dr.S.K. Tripathi	Forecasting Agricultural Output Using Space, Agrometeorology and Land Based Observations (FASAL)	MoES	18.50
Dr.S.K. Tripathi	Experimental Agromet Advisory Service (Gramin Krishi Mausam Seva) 2012-13	NCMRWF	3.6

(II) NEW SPONSORED RESEARCH PROJECTS

Principal Investigator	Name of Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. S.K. Mishra	Experimental verification of SCS runoff curve numbers for selected soils and land uses No. MOW-627 WRD dt. 9.5.12	Ministry of W.R. New Delhi	44.15
Dr. Ashsish Pandey	Hydrological Response of a River basin in changing climate No. MOW-628 WRD dt. 9.5.12	Ministry of W.R. New Delhi	30.66
Ms. Radha Thanga Raj	Evolutionary computing and performance guarantee (evocon) No. SER-641 WRD dt. 14.7.12	Science and Engineering Research Board, New Delhi	17.46

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECT

The Major Sponsored Research Projects of about Rs. 4,97,31,000/- and Major Sponsored Consultancy Projects of about Rs. 1,33,16,904/- are under progress.

4.19 ALTERNATE HYDRO ENERGY CENTRE

Academic Staff :07; Students Admitted : PG-44, Ph.D.-15;
***Publications : Journals* -41, *Conferences*-38;**

1. SALIENT FEATURES

Various activities related to education, research and technical expertise are undertaken by AHEC during the year in the area of small hydro power and other renewable energy development as well as environmental management of water bodies.

The planning and design of SHP for various states of the country has been undertaken.The centre has conducted several National and International training programmes attended by large number of professionals. Technical assistance & support was provided to Govt. of Arunachal Pradesh for development of SHP stations in the border areas of north & north-eastern region under Ministry of New and Renewable Energy, Govt. of India.

A number of consultancy & research projects are received and completed. AHEC provided technical support to the public utilities of the state of UP, Uttarakhand, Chhattisgarh, Bihar, HP, Andman & Nicobar, Mizoram, Arunachal Pradesh, Gujarat, Madhya Pradesh, J&K and Financial Institutions viz. PTC, MNRE etc. in small hydropower sector.

The setting up of Small hydro power hydraulic turbine laboratory at AHEC with the support of Ministry of New and Renewable energy, Government of India is in progress.

2. LIST OF FACULTY MEMBERS

Associate Professors

Saini, Rajeshwar P., PhD (Roorkee)
Head (w.e.f. 1.1.2012)
Hydro mechanical Equipment, Solar Energy, Wind Energy, Modelling of IRES, EIA Environment Auditing and Energy Conservation.

Sharma, Mahendra P., PhD (Roorkee)
Bio Energy, Solar Energy, Wind Energy, Modelling of IRES, EIA, Energy Auditing, Energy Conservation of industries & Hydropower plants, water quality assessment and conservation of rivers & lakes.

Chief Scientific Officer

Kumar, Arun, PhD (Roorkee)
Head (till 31.12.2011)
Planning, Investigations, Designs of Small Hydropower Energy *Economics and Policy, Project Management.*

Senior Scientific Officers

Singal, Sunil K., Ph.D. (Roorkee)
Planning, Design of Civil Works for SHP projects, Financing and Economics of SHP projects.

Singh, Shyam N., ME (Roorkee)
Electrical Machines, Control & protection, Rural Transmission and Distribution lines of SHP stations, E&M works for small Hydropower stations, wind energy conversion and energy conservation.

Singhal, Mukesh K., ME (Roorkee)
Planning, Design and Analysis of Civil Works, Development of Software.

Assistant Professor

Khatod, Dheeraj K. PhD (Roorkee)
Planning of distributed generation systems.

3. HONORS AND AWARDS TO FACULTY MEMBERS

Saini, R. P.

- Outstanding Teacher Award 2012 - Indian Institute of Technology Roorkee

Sharma, M.P

- Member, Advisory Board of TERI for Higher Education, Professional and Reference Publishing Programme, Sept. 2011 – Aug. 2013.

Kumar Arun

- Invited to assist Inter Ministerial Group constituted by NGBRA, Ministry of Environment and Forests for considering the issues relating to hydropower plants and environmental flows 2012-13
- Invited for by Arena International as key speaker at 4th annual Small Hydro 2012 conference being organized by Arena International during 25th – 26th April 2012 in Toronto, Canada
- Invited to Chair the first plenary session on "Small hydro in Europe and worldwide" at Hidroenergia 2012, international conference organized by European Small Hydropower Association (ESHA) and the Polish Association for Small Hydropower Development (TRMEW) during may 23-26, 2012 at Wroclaw, Poland.

- Invited by UNIDO to visit and prepare a report for capacity building and visited Dar es salaam, Tanzania during June 6-11, 2012.
- Invited as expert member of delegation of DST, Govt. of India for the 'Indo Swiss Symposium on Renewable Energies and Rational Energy End-use" and presented "Small Hydro In India" held at EPFL, Lausanne, Switzerland from October 22 – 25, 2012
- Invited as guest speaker on Hydropower in Rural Development - Overview of solutions in India at symposium on "The Place of Water Power in the Renewable Energy Panel" held during November 20 – 21, 2012, in Grenoble, France".
- Invited as expert for small hydro development during IRENA General Assembly meeting on Jan 13 – 14, 2013 and presented two themes at Abu Dhabi, UAE
- Invited as expert to deliver lecture for "UN-CECAR postgraduate course on Renewable Energy" organized by United Nations University Institute of Sustainability and Peace (UNU-ISP), Tokyo, Japan on March 04 & 05, 2013.

4. VISIT OF FACULTY: INTERNATIONAL ONLY

Name of Faculty	Name of Institute/ Organisation Visited	Purpose of Visit	Dates
Saini, R.P	Beijing (China)	To attend a Seminar on "Small hydropower projects in China"	Oct.21-24, 2012
Arun Kumar	Toronto, Canada	Participation in 4th Annual Small Hydro 2012 conference organized by Arena International at	Apr. 25–26, 2012
	- Wroclaw, Poland	Participation in international conference hidroenergia 2012 organized by ESHA and TRMEW	May 23 – 26, 2012
	- Wroclaw, Poland	Participation in international conference hidroenergia 2012 organized by ESHA and TRMEW	May 23 – 26, 2012
	- College of Engineering Technology, Dar-es-salem, Tanzania	For consultation in Small hydropower development	Jun 05 – 12, 2012
	- EPFL, Lausanne, Switzerland	To act as guest speaker in Indo Swiss Symposium	Oct 22 – 25, 2012
	- Grenoble, France	To act as speaker in symposium	Nov 20 – 21, 2012
	- Abu Dhabi, UAE	To deliver a presentation at International workshop on Fuelling excess to energy through small hydropower organized by International Renewable Energy Agency	Jan 14, 2013
	- METI, Japan	To visit the facilities regarding Japanese technology in the field of small hydropower	Feb 18 – 21, 2013
	- United Nations University Institute of Sustainability and Peace (UNU-ISP), Tokyo, Japan	To deliver lectures as resource person for the UN-CECAR postgraduate course on Renewable Energy	March 04 – 05, 2013

Name of Faculty	Name of Institute/ Organisation Visited	Purpose of Visit	Dates
S N Singh	Inner Mongolia University, China	To present a research paper in the "International Conference on Energy and Environmental Protection (ICEEP-2012)"	Jun 21- 25, 2012
	- Hotels Metropol, Ohrid, Republic of Macedonia (Organised by SDEWES Conference FMENA, University of Zagreb, Croatia)	To present a research paper in the UNESCO Sponsored 7th Conference on "Sustainable Development of Energy, Water and Environment Systems"	Jun 30-Jul 08, 2012
M.K.Singhal	Voith Hydro Holding GmbH & Co. KG Heidenheim	To attend meetings and visit the Hydraulic Turbine Testing Lab.	Jun 14-15, 2012
	- Visit to HSLU Lab (Luzern) Switzerland	To attend meetings and visit the Hydraulic Turbine Testing Lab.	Jun 18-19, 2012

5. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name	Designation & Affiliation	Purpose	Dates
Prof. Dr. Uwe W.	Schulz Program Director Business Engineering-Sustainable Energy Systems : Lucerne University of Applied Sciences and Arts School of Engineering and Architecture, Switzerland	To visit the facility of AHEC. IIT Roorkee has a MoU with Lucerne University, Switzerland	May 14-15, 2012
Mr Manfred Gohringer	Expert on Hydraulic Turbine Lab : Voith Hydro Germany	To get expert services for Project of Setting up of Small Hydro Hydraulic Turbine R&D Laboratory at AHEC, IIT Roorkee	Sept 18-Oct 18, 2012
Mr. Stephen Kargbo	Head of UNIDO : UNIDO, Sierra Leone		
Ms. Naasu Fofanah	Advisor (Gender) to president-UNIDO , Sierra Leone		
Madam Anyaa Vohiri	GEF focal point, Sierra Leone	To discuss the training programme on Small Hydro	Oct 11-12, 2012
Mr. Mahama Kappiah	DG, ECOWAS, Nigeria	To visit the facility at AHEC IIT Roorkee	--
Mr. Momodou B. Sarr	GEF focal point, Gambia	--	
Mr. Rana P. Singh	UNIDO Vienna	--	--
Shankar Haldar	Sr. Program Manager Inspire Network for Environment , New Delhi	To see the facility of AHEC	Oct. 09, 2012

6. LIST OF CANDIDATES AWARDED PH.D. DEGREE

Name of Student	Nationality	Gender (Male/ Female)	Category (Gen/SC/ ST/PD/OBC)	Title of thesis
Siddartha Jain	Indian	Male	Gen	Stability studies of biodiesel from Jatropha curcas oil

7. ACADEMIC ACTIVITIES ORGANIZED BY DEPARTMENT

Name of the Conf./ Seminar/Symp./Workshop	Org. Secretary	Sponsored by	Dates
Dr. S.K.Singal			
Member, Executive Committee	Golden Jubilee Symposium	ISET	Oct 20-21, 2012

8. SHORT TERM/SPONSORED COURSES ORGANIZED BY THE DEPARTMENT

Coordinator	Name of the Courses	No.of Participants	Dates
Dr.R.P.Saini	• Performance Testing and evaluation for SHP Stations	16	Jan 11-15, 2012
	• Renewable Energy Technology specially solar	13	July 18-21, 2012
Dr. Arun Kumar	• Small Hydropower Development with emphasis on Investigations and Report Preparation for participants from Mozambique	4	Mar 25–Apr 05, 2013
	• Rural Electrification with Small Hydropower Development for participants from African countries Under India - Africa Forum Summit - II	33	May 21–Jun 02, 2012
S.N.Singh	• Small Hydropower Development	17	Feb. 18 -22 2013
	• Operation and Maintenance of Small Hydro Power	14	June 05-08, 2012
Dr. S.K.Singal	• SHP Plant Engineers In-Service on Real Time Digital Simulator	11	Feb 18-23, 2013
	• Operation and Maintenance of SHP Stations in Arunachal Pradesh	02	Feb 25-March 01, 2013
	• DPR Preparation and Evaluation for SHP Projects	07	April 11-14, 2012
	• Rural Electrification with Small Hydropower Development	33	May 21 –June 02, 2012
	• Small Hydropower Development	16	June 18-22, 2012
M.K.Singhal	• International Training Course On "Small Hydropower Development" Feb 05- Feb 16, 2013	35	Feb.05-16, 2013
	• Small hydropower Development	23	Feb. 22-26,2012
	• Short Term Course on “Training of ITI Trainers for SHP Development”	12	March 18-22, 2013
	• Simulator based training for in-service SHP plant technicians	06	April 10-19, 2012
	• Simulator based training for in-service SHP plant technicians	06	May 07-12, 2012
	• Simulator based training for in-service SHP plant technicians	07	Oct. 15-20,2012
Dr. D.K.Khatod	• Simulator based training for in-service SHP Plant Engineer	6	Feb 13-18, 2012
	• SHP Plant Engineers In-Service on Real Time Digital Simulator	11	Feb 18-23, 2013
	• Simulator based training for in-service SHP Plant Technicians	5	Mar 12-21, 2012
	• SHP Plant Technicians on Real Time Digital Simulator	04	Jun 05-14, 2012

9. (I) COMPLETED SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
NIL			

(II) CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lakhs of Rs.)
Dr. Arun Kumar	Setting up of Small Hydro Hydraulic Turbine R&D laboratory at AHEC, IIT Roorkee	MNRE, NEW DELHI	1468.00
Head, AHEC	FIST support to AHEC to strengthen the research and teaching on Hydropower Generation	DST New Delhi	92.00
Dr Arun Kumar	Capital Subsidy to IIT Roorkee for Installation of Solar Water Heating Systems at Various Locations in the Campus during 2012-13 under JNNSM	MNRE, New Delhi	303.33

10. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

Ministry of new and Renewable Energy (MNRE) has put considerable emphasis in recent years on the satisfactory performance of new SHP stations which are linked by financial incentives for the developer. Alternate Hydro Energy Centre (AHEC) was identified as the test agency for performance evaluation of SHP plants. Following plants have been assigned for their performance by AHEC during 2012-13:

- Beaskund SHP(9 MW) Disk. Kullu, Himachal Pradesh – M/s Kapil Mohan & Asso. Hydro Power Pvt. Ltd., Chandigarh (11.0 Lacs)
- Phatakwadi SHP(24MW) Dist. Kolhapur, Maharashtra – DM Corporation Pvt. Ltd., Kolhapur, Maharashtra (11.0 Lacs)
- **SHP Institution Building in Tanzania–** UNIDO, Vienna sponsored assignment to prepare a detailed feasibility report for establishing a SHP Technology Centre at the College of Engineering and Technology, University of Dar es salaam to build capacity to develop Small Hydropower (SHP) potential in Tanzania.
- **Solar Energy Use for IIT Roorkee Campus:** Ministry of New and Renewable Energy, Govt. of India sanctioned three research projects for Solar Energy Use for IIT Roorkee Campus. The Proposed Solar Systems, once installed in the Campus, would lead to huge savings both in terms of financial resources as well as environmental resources and shall be a good demonstration of the Technology to all the students, faculty and the visitors. Showcasing of the Technology would act as a catalyst for large scale deployment of Solar Systems
- Installation of SPV power plant on roof top of buildings at IIT Roorkee with subsidy of 90% of final cost or Rs. 30.99 crores which is lower.
- Installation of Solar water heating system at various locations in the IITR campus with subsidy of 60% of final cost or Rs. 3.03 crores which is lower.
- Installation of solar steam cooking system at premises of IIT Roorkee with subsidy of 60% of final cost or Rs. 0.91 crore which is lower.
- **RMU and RLA Study of Penstock for Kuttiadi** (3x25 MW) HEP in Kerala: Kerala State Electricity Board sponsored study to carry out the study on the combined water conducting system of Kuttiadi

scheme and to suggest remedy for anomalous reduction in power output which included field measurements and CFD analysis.

- **Study on Potential Assessment**: Seabell International Co. Ltd. Tokyo on behalf of the Ministry of Economy, Trade and Industry of Japan (METI) sponsored a study on potential assessment for very low head micro hydro sites on irrigation canals, drinking water channels, sewage channels and cooling water return channels in thermal power plants in the states Gujarat, Karnataka and Meghalaya. Such potential assessment shall be useful for micro hydro units on existing facilities.
- **Cumulative Environment Impact Assessment of Hydropower Projects on River Yamuna and Tons & Its Tributaries in Uttarakhand:** Uttrakhand Jal Vidyut Nigam sponsored assignment as partner institutions to prepare Cumulative Environmental Impact Assessment (CEIA) and Management Plan for Hydro-Electric Projects of River Yamuna & Tons and its tributaries in Uttarakhand for considering the development of hydropower sites in future
- **Bathymetric Survey of Ramgarh Lake:** UP Jal Nigam, Gorakhpur sponsored an assignment to carry out the pre-dredging and post dredging bathymetric surveys of Ramgarh Taal, Gorakhpur (U.P.) along with NIH Roorkee for lake conservation which is highly eutrophic presently.
- **Cumulative Environment Impact Assessment of Hydropower Projects on River Alaknanda and Bhagirathi and its Tributaries in Uttarakhand:** Uttarakhand Jal Vidyut Nigam Ltd. (UJVNL), - a Government of Uttarakhand Enterprise assigned a study to Alternate Hydro Energy Centre (AHEC), IIT Roorkee, for "Cumulative Impact Study of Hydro Power Projects on Alaknanda and Bhagirathi River Basins" for considering the development of hydropower sites in future.
- **Efficiency Testing of the Generation Unit of Bassi Hydropower Station (4x16.5 MW):** Andritz Hydro Private Limited, Palwal assigned the efficiency testing of the generating units of Bassi Hydropower Station (4 $\times$ 16.5 MW) in Mandi District of Himachal Pradesh using head and discharge method with e UTTF for their recently renovated turbines.
- Techno-Economic Review for Pakke Bung-III HEP (30 MW) and Pakke Bung-IV HEP (12 MW) in Ar. Pradesh - DHPD, Govt. of Ar. Pradesh, Urja Bhawan, Itanagar and Boom Systems Pvt. Ltd., SCO – 9, 2nd floor, City Plaza, Sector-16 Market, Faridabad.
- Techno-Economic Review for Marjingla (37 MW), Marjingla Lower (49.5 MW), Pakke Bung-I (46 MW) and Pakke Bung-II (16 MW) in Ar. Pradesh - DHPD, Govt. of Ar. Pradesh, Urja Bhawan, Itanagar and Energy Development Co. Ltd., SF-3, SCO – 9, City Plaza, Sector-16 Market, Faridabad.
- Techno-Economic Review for Pachuk-II Lower (55 MW) and Tsachu-I (37 MW) SHP in Ar. Pradesh – DHPD, Govt. of Ar. Pradesh, Urja Bhawan, Itanagar and Energy Development Co. Ltd., SF-3, SCO – 9, City Plaza, Sector-16 Market, Faridabad.
- Techno-Economic appraisal for Simang-I HEP Ar. Pradesh – DHPD, Govt. of Ar. Pradesh, Itanagar and M/s Adishankar Power Pvt. Ltd., C-12, 1st Floor, Green Parik Main, New Delhi.
- Review of Detailed Project Report Sipit (2x22.5 MW) HEP – M/s Aswani Power Projects Pvt. Ltd., Ameerpet, Hyderabad – 500073, Arunachal Pradesh (Rs. 12.00 Lac)

5. Centres of Excellence

5.1 Centre of Transportation Systems
5.2 Centre of Nano Technology
5.3 Centre of Disaster Mitigation and Management

5.1 CENTRE FOR TRANSPORTATION SYSTEMS (CTRANS)

Journals – 05, Conferences – 14, New Project : Consultancy - ` 463.63 Lakh

1. SALIENT FEATURES

- CTRANS is a Centre of Excellence of IIT Roorkee in the area of Transportation Systems with an aim to promote multidisciplinary and high quality research and education in Transportation Systems with collective participation of Engineers, Scientists and Researchers from Science & Technology, Humanities and Social Sciences, Architecture & Planning and Management Studies background. The Research and Education in multidisciplinary areas covers all modes of transport like Road Transport, Rail Transport, Air Transport, Inland Navigation & Water Transport & Pipe Line Transport.
- The research areas are Public Transport System, Airfield and Highway Pavement Management System, Intelligent Transport System, Design of Comfort (Rail Transport), Environmental Impact Assessment, Environmental Management, Biofuels for Automobiles, Air Quality Modeling, Mathematical Modelling, Supply Chain Management & Logistics, Electric Trolley System, Traction Technology, Remote Sensing, GPS & GIS Applications, Inland Water Transport, Polymer Applications in Transportation Systems, Accident Modelling and Road Safety, Urban Transportation Policy, Management of Transport Systems, Visual Communication Design System, Aesthetics, etc.
- The Centre is equipped with a number of modern equipments i.e., Road Measuring Data Acquisition System (ROMDAS), Portable Automatic Traffic Counter-cum-Classifier, Trimble IR 5600 Robotic Total Station, Electrodymic Vibration System, Falcon Handheld Stationary Radar with Data Logger for Measurement of Vehicular Speeds, Integrating-averaging Noise Level Meter, 50" Plasma TV for Traffic Analysis study, Portable Falling Weight Deflectometer, Diamond Core Drilling System, Portable Reference Measurement System, Ground Pentration Radar (GPR) for Utility Detection and High Cell Density Bio-Reactor, Electronic Portable Static Wheel/Axle Weight Scale, Hand held Analyser with Sound Level meter for Aircraft Noise measurement and Electronic Portable Static Wheel/Axle Weight Scale.
- The Centre has Sound Plan, HEADS, TRANSCAD VISUM & VISSIM softwares for a variety of transportation system problem anlaysis. The Centre has a good computing facility for modelling and simulation of transportation systems.
- The DST, GOI has sanctioned a R&D Project on "Design and Analysis of Urban Multimodal Mass Transportation System" CTRANS is also offering Advise and Consultancy Services.
- The CTRANS is providing Consultancy Services to CPWD for Development of State Highways in Bihar State for a Consultancy amount of Rs. 5.6 crors. The completed part of this project found helpful for getting services quickly.
- Five research scholars are pursuing Ph.D. on the identified multi-disciplinary research areas at CTRANS.
- The Ministry of Road Transport and Highways, Govt. of India has established Professorial Chair at CTRANS in the area of "Development of Highway System in the Country".
- The CTRANS has research collaboration with Queensland University of Technology (QUT) Brisbance, Australia.
- The CTRANS has developed following laboratories:
  + Transport Asett Management
  + Biofuels for Automobiles
  + Simulation Modelling
  + Environmental Impact Assessment
  + Electrocynamic Vibration Simulation
- A new M.Tech Program in "Infrastructure Systems" developed by CTRANS has been approved by the senate of IIT Roorkee to be started from July 2013.

2. LIST OF ASSOCIATED FACULTY

MEMBERS

Professor

Garg, P.K., Ph.D. (Bristol, U.K.)
Surveying & GPS. Remote Sensing & GIS
Ghosh, S.K., Ph.D. (Glas., U.K.)
Surveying & GPS, Remote Sensing & GIS
Gupta, V.K., ME (Roorkee)
Structural Engg. Ferrocement Concrete Structures
Jain, Pramod K., Ph.D. (Roorkee)
CAD/CAN/CIM/DFM. Operations Management
Kumar Pradeep, Ph.D. (Roorkee)
Industrial Engineering, Supply Chain Management, Quality Engineering
Jain, S.S., Ph.D. (Roorkee)
Traffic Safety, Transport Enviornment Interaction, Integrated Design of Public Transport System, Pavement Management System
Katiyar, V.K., Ph.D. (Kanpur)
Fluid dynamics, Industrial Mathematics and Bio-Mathematics
Kulkarni, S.Y., M.Arch. (Roorkee)
Street Scaping, Aesthetics
Kumar, Surendra., Ph.D. (Hannover, Germany)
Environmental Management, Biofuels for Automobiles
Kumar, Vinod., Ph.D. (Roorkee)
Measurement & Instrumentation, Digital Signal Processing, Medical Instrumentation Computer Aided Testing
Mohanty, Bikash., Ph.D. (Roorkee)
Pipe-line Transport, Process Integration Simulation
Nauriyal, Dinesh K., Ph.D. (Garhwal)
International Economics, Human Capital, Demography
Negi, Y.S.,Ph.D. (IIT Delhi)
Transportation Energy, Polymer Applications in Transportation System, Polymer Science & Technology
Parida, M., Ph.D. (Roorkee) **- Head**
Traffic Engineering, Transportation Planning, Pavement Management System
Sharma, Nayan, Ph.D. (Roorkee)
Inland Water Transport & Navigation

Associate Professor

Chani, P.S., Ph.D. (Roorkee)
Street Design, Comprehensive Energy Analysis
Garg, R.D., Ph.D. (Roorkee)
Remote Sensing & GIS Application in Transportain System
Gupta, Ila (Mrs)., Ph.D. (Meerut)
Visual Aesthetics, Noise Barriers
Gurjar, B.R., Ph.D. (IIT Delhi)
Air Pollution, Transport Infrastructure Risk Analysis
Harsha S.P., Ph.D. (BITS, Pilani)
Vibrations & Control, Nonlinear Dynamics & Chaos.
Kumar, Vivek., Ph.D. (I.I.T. Delhi)
EIA, Airpollution Modelling, Transport Policy
Pruthi Vikas., Ph.D. (PU, Chandigarh)
Molecular Microbilogy
Rangnekar, S., Ph.D. (Indore)
Human Resoruce, Organization Behaviour & Knowledge Management
Saran, V.H., Ph.D. (Roorkee)
Vehicle Dynamics, Tyre Mechanics

Assistant Professor

Biswas Prakash
Biofuels and bioenergy
Nayak Amiya Kumar
Modelling Traffic Flow for High Speed Network
Raheja Gaurav, Ph.D. (Roorkee)
Architecture Design, Universal Design, Visual Communication Systems
Ramesh A., Ph.D. (I.I.T. Delhi)
Supply Chain Management

3. HONORS AND AWARDS TO FACULTY MEMBERS

The faculty associated with the CTRANS have been appointed/nominated to the apex / Technical Committees.

Jain, S.S.

- Member, Science & Technology Advisory Council, Ministry of Road Transport & Highways (MoRT&H), Govt. of India.
- Member, Highway Research Board (HRB) IRC/MoRT&H, GoI.
- Member, CORE Group of HRB.
- Co-convener, Road Asset Management Committee of Indian Roads Congress (IRC)
- Member, IRC Committee on Public-Private-Partnerhsip (PPP).

Parida, M.

- IMRA Committee, Indian Roads Congress
- Member BOG, KNIT Sultanpur
- Member, BOG, DCRUST, Murthal

Parida, M.

- Dr. M. Parida as Co Convener organized successfully 28th National Seminar on Role of Infrastructure for Sustainable Development under the aegis of Civil Engineering division Board, IEI during October 12-14, 2012.

4. NEW CONSULTANCY/ TESTING PROJECTS : (above Rs. 1,00,000/- only)

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of `)
	Site Visit Discussion at Site and advice for Quality Assurance for Development of Bihar State under RSVY by CPWD	CPWD, Patna (Bihar)	229.61
	— Field and Laboratory Studies for Quality Assurance for Development of Bihar State under RSVY & CPWD	CPWD, Patna (Bihar)	229.61
	— Identification and Analysis of Sub-Surface Cavities/Utilities by GPR in Delhi Roads	E.E., PWD, M-112, New Delhi	4.41

5.2 CENTRE FOR NANOTECHNOLOGY

Journals – 02, Conferences – 04, New Research Project- 617.35 lacs.

1. SALIENT FEATURES

Centre for Nanotechnology (CNT) has further strengthened its mission of academic excellence with the active participation of its faculty drawn from different departments. Its faculty has made significant research contributions in upcoming areas of Nanotechnology. CNT has successfully admitted students to the fifth batch of M.Tech. program.

CNT is now equipped with several state-of-the-art facilities namely, Zetasizer, DSC, LCR meter with magnetic measurements set up, Surface profiler, Upright microscope with fluorescent attachment. UV-VIS-NIR spectrophotometer and Fluorimeter, Spin coater, Gel-doc system, High speed refrigerated centrifuge, Laminar airflow hood, Orbital shaking incubator, Deep freezer for its M.Tech/ Research students. Molecular modeling software has been installed for Modeling and Simulation work.

2. LIST OF ASSOCIATED FACULTY MEMBERS

Professors

Agarwala, Vijaya, (w.e.f. 01.01.2013)
Metallurgical and Materials Engg.
(Head)
Nath, S.K., (up to December, 2012)
Metallurgical and Materials Engg. Nanotechnology
(Head)
Chaudhary, A.K., Institute Instrumentation Centre
Goyal, R.N., Chemistry
Indu, B.D., Physics
Katiyar, V.K., Mathematics
Kumar, Anil, Chemistry
Kumar, Ravi., Mechanical & Industrial Engg
Nath, Ravindra, Physics
Sil, A., Metallurgical and Materials Engg.
Singh, R.P., Biotechnology
Nautiyal, Tashi, Physics
Singh, Dharmendra, **Electronics & Computer Engg.**

Associate Professor

Daniel, B.S.S., Metallurgical and Materials Engg.
Jayaganthan, R. Metallurgical and Materials Engg.
Kaur, Davinder, Physics
Chandra, R., Institute Instrumentation Centre
Verma, G.D., Physics
Yadav, K.L., Physics
Dutta, R.K., Chemistry
Justin Thomas, K.R., Chemistry
Jeevanandam, P., Chemistry
Chowdhary, G.P., Metallurgical and Material Engg.
Kumar, P., Biotechnology
Sharma, A.K., Biotechnology
Pathak, NP., Electronic and Computer Engg.

Assistant Professors

Manhas, S., Electronic and Computer Engg.
Navani, Naveen., Biotechnology
Pathania, Ranjana., Biotechnology
Tomar, Shaily., Biotechnology
Gopinath, P., Centre for Nanotechnology
Debrupa Lahiri, Metallurgical and Material Engg.
Indranil Lahiri, Metallurgical I and Material Engg.
Sankar, M., Chemistry
Mandal,T., Chemistry
Pal, K., Mechanical and Industrial Engg.
Anand, B., Electronic and Computer Engg.

3. HONORS AND AWARDS TO FACULTY MEMBERS

Dr. P. Gopinath received "Bharat Jyoti Award" from Dr. Bhishma Narain Singh (Former Governor of Tamil Nadu and Assam) at a seminar on "Economic growth and National Integration" at New Delhi on 29th August 2012.

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Inst./Organization Visit	Purpose of visit	Dates of visit
Dr. Vijaya Agarwala MMED, IITR	VSSC, TVM, KOTAYAM	Review meeting Presenting paper in conf.	June, 2012
-do-	ANAM, IITM	Presenting paper in	Feb., 2013

Name of Faculty	Inst./Organization Visit	Purpose of visit	Dates of visit
		conf.	

5. ACADEMIC ACTIVITIES ORGANIZED BY DEPARTMENT

Name of Conf,/Seminar/Sym./Workshop	Org. Secretary	Sponsored by	Dates
Recent Advances in Nanomedicine (From bench to bedside)	Dr. P.Gopinath Dr. K.R.Justin Thomas	AICTE sponsored	04.06.2012 to 08.06.2012
Micro & Nano-scale Transport Processes for Energy and Environment Applications	Prof. S.K.Nath	---	05.12.2012
Hands-On Training For The Formulation of Smart Nanodevices	Prof. Vijaya Agarwala	QIP sponsored	02.02.2013 to 03.02.2013
Bionanotechnology: Biological nanostructures and its applications	Dr. P.Gopinath	QIP sponsored	16.03.2013

6. SHORT TERM/SPONSORED COURSES ORGANIZED BY THE DEPARTMENT

Coordinator	Name of the Courses	No. of participation	Dates
Dr. P.Gopinath Dr. K.R.Justin Thomas	AICTE sponsored short term course on "Recent Advances in Nanomedicine (From bench to bedside)"	30	04.06.2012 to 08.06.2012
Prof. S.K.Nath	One day workshop on"Micro & Nano-scale Transport Processes for Energy and Environment Applications"	55	05.12.2012
Prof. Vijaya Agarwala	QIP sponsored Two day workshop on "Hands-On Training For The Formulation of Smart Nanodevices"	47	02.02.2013 to 03.02.2013
Dr. P.Gopinath	QIP sponsored One day workshop on "Bionanotechnology: Biological nanostructures and its applications"	46	16.03.2013

7. DISTINGUISHED VISITORS TO THE DEPARTMENT

Name of Visitor	Designation & Affiliation	Purpose of Visit	Dates
Dr. Prabhakar Sharma	Asstt. Professor Uppsala University, Sweden	Guest Lecture & research collaboration	15.02.2013 to 18.02.2013

8. MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS (NEW PROJECTS)

Sl. No.	Title of the Project	Sponsoring Agency	Investigators	Outlay (Rs. in Lakh)
i.	Cancer Nanotheranostics: Development of Multifunctional Nanocomposite for Tumor Targeted Delivery of Suicide Gene and Imaging Probe	DBT	Dr.P.Gopinath	Rs.26.20
ii.	Tumor targeted multifunctional chitosan nanocomposite for cancer theranostic applications	SERB	Dr.P.Gopinath	Rs.21.90
iii.	Novel approach for managing hazardous e-waste	DST	Prof. Vijaya Agarwala & Dr.R.K.Dutta	Rs.19.67
iv.	Development of an aptamer based biosensing system for detection of water-borne pathogen Escherichia coli O157:H7	DBT	Dr.Naveen Navani	Rs.46.73
v.	Terahertz Nano Antenna and its Application	DST,WOS-A	Mrs. S.Agarwal, Prof. D.Singh	Rs.18.85
vi.	Continuing major research project in thrust area of Nanotechnology of Out of this grant state of the art Research Laboratory on Functional Nanomaterials has been developed in the Department of Physics equipped with various synthesis & characterization techniques	Ministry of Information Technology	--	Rs. 484.00

5.3 CENTRE FOR DISASTER MITIGATION AND MANAGEMENT

Journals –04, Conferences –08,New Project : Research – 41.60, Consultancy -42.99 Lacs,

1. SALIENT FEATURES

A Centre of Excellence in Disaster Mitigation and Management was established at IIT Roorkee in March 2006 for national capacity building in Disaster Mitigation and Management. The Centre has many objectives.

- National capacity building in Disaster Mitigation through Human Resource Development
- Dissemination of technical know-how by conducting short term courses in Disaster Mitigation & Management
- Dissemination of technical know-how to meet the challenges arising of disasters through consultancy services
- Minimize the impact of natural disasters through R & D and extension activities by providing engineering solutions in the area of Disaster Mitigation
- Evolving strategies for mitigation and management of disasters and establishment of national technical data base for rapid dissemination of information and knowledge
- Conduct research in related areas leading to Ph.D. degree in Disaster Mitigation and Management
- Targets Achieved :
- Full M.Tech. Program in Disaster Mitigation & Management approved by the Senate of the Institute.
- One Ph.D. awarded in year 2012

The Centre of Excellence in Disaster Mitigation and Management is very young Centre. This draws strength of faculty members of other Departments to solve important problems. The Centre has already prepared the syllabus of a new M.Tech program in Disaster Mitigation and Management and soon this course will be launched.

2. LIST OF ASSOCIATED FACULTY MEMBERS

Dr. Ajay Gairola, Head
Prof. D.K. Paul, Earthquake Engg.
Prof. Arun Saraf, Earth Sciences
Prof. R. Anbalagan, Earth Sciences
Prof. Amita Sinvhal, Earthquake Engg.
Prof. P.K. Garg, Civil Engg.
Prof. M.L. Sharma, Earthquake Engg.
Dr. Ashok Kumar, Earthquake Engg.
Dr. M. Perumal, Hydrology
Dr. N.K. Goel, Hydrology
Dr. D.S. Arya, Hydrology
Dr. Yogendra Singh, Earthquake Engg.
Dr. B.R. Gurjar, Civil Engg.
Dr. Pankaj Agarwal, Earthquake Engg.
Dr. Kamal, Earth Science
Dr. Mahua Mukherjee, Arch. & Plng.
Dr. Anil K. Sharma, Management Studies
Dr. Shishir Sinha, Chemical Engineering
Dr. Ranjana Pathania, Biotechnology
Dr. N.K. Nawani, Biotechnology
Dr. Amit Dhiman, Chemical Engineering
Dr. B.K. Maheshwari, Earthquake Engg.
Dr. Rajat Agarwal, Management Studies
Dr. Inderdeep Singh, Mechanical & Industrial Engg.
Dr. R.D. Garg, Civil Engineering
Dr. Anand Joshi, Earth Sciences
Dr. Ravi Shankar Jakka, Earthquake Engg
Dr. J.D. Das, Earthquake Engg.

3. PARTICIPATION OF FACULTY IN SHORT TERM COURSES

Name of the Courses	Place	Dates
SAARC course on Techniques for earthquake resistant Structures for Engineers & Architects	CoEDMM & DEQ, IITR,/ SAARC	June 18-29 2012

3.a Short Term/Sponsored Courses organized by the Deptt. (excluding QIP & Cont. Education)

Coordinator	Name of the Courses	No. of Participation	Dates

Dr. Y. Singh	Techniques for Earthquake Resistant Structures for Engineers and Architects	30	18-29 June, 2012

4. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Inst./Organization Visited	Purpose of Visit	Dates of Visit
Ajay Gairola	Lal Bahadur Shastri National Academy of Administration, Mussoorie	To Conduct the Selection Interview	13-9-2012
Ajay Gairola	Office of Principal Secretary, Government of Uttarakhand	To participate in the meeting of Task Force constituted by Ministry of Home Affairs	24-9-2012
Ajay Gairola	Rajiv Gandhi Prodyogiki Vishwavidayala, Bhopal	Conducting Ph.D. Viva-Voce Examination	29-9-2012

5. DISTINGUISHED VISITORS TO THE DEPTT.

Name	Designation & Affiliation	Purpose of Visit	Dates
Dr. S.S. Chakraborty	Chairman and Managing Director – CES (I) Pvt. Ltd	Visiting Professor awarded by INAE, New Delhi	Feb 2013
Dr. Mahapatra	NDMA, New Delhi	To deliver lecture for M.Tech. Students	Mar 2013
Dr. Chandan Ghosh	NIDM, New Delhi	To deliver lecture for M.Tech. Students	Mar 2013
Dr. O.P. Mishra	SDMC, New Delhi	Inaugurated the Conference and delivering keynote speech	Mar 2013
Japanese Delegates	sponsored by NIDM, Delhi	regarding Landslides Monitoring & Mitigation	Mar 2013

Extension/Extra Mural Lectures by Eminent Engineers/Scientists.

i. Prof. G.B. Pant, Visiting Professor, Doon University, Dehradoon

ii. Dr. Harsh Gupta, Ministry of Earth Sciences,

iii. Prof. P.K. Pande, Formerly Professor of Civil Engineering, University of Roorkee, Roorkee

iv. Dr. Achal Kumar Mittal, Scientist, CBRI Roorkee

v. Dr. S.K Singh, Scientist, CBRI Roorkee

vi. Dr. Suvir Singh, Scientist, CBRI Roorkee

6. ACADEMIC ACTIVITIES ORGANIZED BY THE CENTRE.

Name of Conf,/ Seminar/Sym./ Workshop	Org. Secretary	Sponsored by	Dates
Indo-Taiwan Training Program on "Earthquake Early Warning system"	Dr. Ashok Kumar, Earthquake Engg. Deptt	sponsored by Ministry of Earth Sciences, Govt. of India and NSTC, Taiwan	15-18 Jan 2013
International Conference on "Challenges in Disaster	Dr. Shishir Sinha, ChED Dr. N. K. Navani,	UCOSE, Dehradun; CSIR, N.Delhi; RGIPT,	15-17 Feb 2013

Mitigation & Management"		Biotechnology Deptt	Rae Bareli; NHAI, N.Delhi and Industrial Support	
Two weeks SAARC Countries Training Programme on Earthquake Resistant Structures		Dr. D. K. Paul & Dr. Yogendra Singh, Earthquake Engg. Deptt	SAARC, New Delhi	18-29 June 2012

7. PARTICIPATION OF FACULTY IN SEMINAR/SYMPOSIA/WORKSHOP ETC.

Name of Faculty	Name of Conf./Seminar/Symp./ Workshop attended	Place	Dates
Ajay Gairola	7thWorkshop on Regional Harmonization of Wind Loading and Wind Environmental Specifications in Asia-Pacific Economies (APEC-WW-2012)	Vietnam	12-13 Nov 2012

8. MAJOR SPONSORED RESEARCH PROJECTS

(A) Sponsored Research Projects Completed

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. Y. Singh	Seismic Vulnerability Assessment of Building Types in India	NIDM, New Delhi	Rs. 10.08

(B) Continuing Sponsored Research Projects

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Dr. Ranjana Pathania	Hazard Characterization and Isolation of Pesticide degrading Bacteria for Mitigating the Contaminated Environment	Uttarakhand State Council for Science and Technology	Rs. 05.91
Dr. Ranajana Pathania	Development of Bacterial Pesticide Degrading System for Bioremediation of Pesticides Accumulated in the Local Environment	UCOST Dehradun	Rs.0 2.50
Dr. Y. Singh	Study on Seismic Strengthening Technologies and Comparative Assessment of Various Retrofit Techniques for Unreinforced Masonry (URM) School Buildings in India	Nannyang Technical University, Singapore	Rs. 39.10

(C) New Research Projects

Title of the Project	Sponsoring Agency	Investigators	Outlay (in lakh, Rupees)
Study & Characterization of Biological & Bio-chemical hazards (e.g. infections agent, screen for multiple dry residence bacteria. Biological agents controlling & mitigating man made Biological/Bio-chemical disaster such as pesticides degrading bacteria	Uttarakhand Council for Science & Technology Dehradoon	Dr. Ranjana Pathania and Dr. Navin K. Navani (Deptt. of Biotechnology)	28.49 lacs

9. SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS

Hazard Characterization and Isolation of Pesticide Degrading Bacteria for Mitigating the Environment

Absorption, desorption and degradation of pesticides are important processes affecting the leaching through the soil. Once pesticides move part the surface of the soil, there is a hazard of ground water contamination. Some of the pesticides are systemic toxic chemicals. Pesticides present danger to consumers, bystanders and the workers during manufacture, transport or during and after use. The pesticides wreak havoc by causing depression, allergies, miscarriages, birth defects, chromosomal abnormalities, neurological disorders and cancer. It is well known that Bhopal disaster which released 40 tons of methyl isothiocyanate (MIC), a chemical intermediate in have of the carbonate pesticide killing nearly 3000 people and ultimately caused 15000 deaths. Public concern over pesticide residues in food has been increasing during the last decade. Recovering from the euphoria of green revolution, India is also now battling from residual effects of extensively used chemical fertilizers and pesticides such as HCH, DDT, endosulfan, phorate, Imidacloprid and others. Pesticide residue pollution to the local environment (air, soil and surface water) affects the lives of birds, wildlife, domestic animals, fish, livestock and human beings. Human health hazards vary with the type of the pesticides and also with the extent of exposure. Moderate human health hazards from the misapplication of pesticides include mild headaches, flu, skin rashes, blurred vision and other neurological disorders while rare, but severe human health hazards include paralysis, blindness and even death.

It is well established that microorganisms are the major or the only means of degradation/ detoxification of several pesticides in the environment. In addition, microbial degradation is advantageous because a wide variety of pesticides can be degraded completely even under mild conditions compared with degradation through physical and chemical means.
The project explores the rich bio-diversity of Uttarakhand, for the isolation and characterization of Pesticide degrading bacterial strains particularly, endosulfan (Organochlorine) and Imidacloprid (Neonecotinoids) degrading strain, that will initialy, help us to understand the biodegradation of these pesticides. Later, we plan to identify the gene responsible for pesticide degradation and will also provide a platform for developing genetically engineered bacteria, which could grow in pesticides contaminated areas and act as a tool for bioremediation.

10. SHORT TERM/SPONSORED COURSES ORGANIZED BY THE DEPTT.(EXCLUDING QIP & CONT. EDUCATION)

Coordinator	Name of the Project	No. of Participation	Dates
Dr. Y. Singh	Techniques for Earthquake Resistant Structures for Engineers and Architects	30	18.29 June, 2012

Participation of Faculty in Short Term Courses.

Name of the Courses	Place / Sponsored by	Dates
SAARC course on "Techniques for earthquake resistant Structures for Engineers & Architects "	CoEDMM & DEQ, IITR,/ SAARC	18-29 June 2012

Trainings

1. Participated in two days training course on PHAST- 6.7 organized by DNV (Mumbai), June 24th- 25th, 2012. (Attended by Mr. Ravi K. Sharma, Research Scholar)

2. Attended the training workshop on Communication skills for Researchers organized by the British Council and IIT Roorkee 4th- 7th March 2013. (Attended by Mr. Ravi K. Sharma, Research Scholar)

3. Attending an internship training on “Disaster Mitigation” at Gujarat State Disaster Management Authority, Ahmadabad. (Ms. Akansha Jain, M.Tech. Student)

4. Attending an internship training on “Cyber Security” at NIC Dehradoon. (Ms. Annie Singla, M.Tech. Student).

5. Attending an internship training on “Tracing System for Humanitaria Supply Chain Management in Rescue & Relief Operations” at SATCOP, GPS Solutions, PUNE. (Mr. Patel Purvishkumar Hemantbhai, M.Tech. Student)

6. Service Centres

6.1 Continuing Education Centre
6.2 Institute Computer Centre
6.3 Institute Instrumentation Centre
6.4 Information Superhighway Centre
6.5 Quality Improvement Programme Centre

6.1 CONTINUING EDUCATION CENTRE

Academic Staff: 01, Short Term Courses-72,

1. SALIENT FEATURES :

It is a pioneering centre in the area of continuing education. It has completed more than 55 years of service and has played a very important role in the promotion of knowledge upgradation activity in our country by organizing refresher/specialist courses and workshops for in-service technocrats and professionals. This centre acts as a single window to disseminate information and technology on latest developments. The activities organised by this centre are innovative, refreshing and stimulating and address to the current needs of the participants. Apart from the technical expertise available in the departments and centres of the Institute, experts from industries and R&D organisations are also invited to deliver talks/ lectures wherever necessary.

Around 60 to 70 short term training programmes are being conducted every year in various disciplines of management, engineering, science and technology for participants from all parts of the country as well as from the neighboring countries. This year the Centre has conducted 72 courses including 12 International Courses in which about 1054 participants have been trained.

2. LIST OF ASSOCIATED FACULTY MEMBER

Professor & Head
Kumar, Dinesh, PhD.

3. SHORT TERM / SPONSORED COURSES ORGANISED BY THE CENTRE

Co-ordinator(s)	Name of the Courses	No. of Participants	Dates
Dr. D.K. Khatod (AHEC)	Real Time Digital Simulator for SHP Development	6	April 10-19, 2012
Dr. S.K. Singhal (AHEC)	DPR Preparation and Evaluation for SHP Projects	5	April 11-14, 2012
Dr. M.K. Barua (DOMS)	Research Methodology : Tools and Techniques	12	April 13-15, 2012
Dr. S. Rangnekar DOMS)	Administration Management in Academic and Research Institutes	10	April 14-15, 2012
Dr. M.K. Singhal (AHEC)	Real Time Digital Simulator for Small Hydropower Development	6	May 7-12, 2012
Dr. Umesh K. Sharma (Civil)	Latest Trends in Building Materials and Construction Techniques	25	May 16-19, 2012

Co-ordinator(s)	Name of the Courses	No. of Participants	Dates
Dr. Arun Kumar (AHEC)	Int. Training Course on Rural Electrification with Small Hydropower	33	May 21-June 2, 2012
Dr. S.N. Singh (AHEC)	Operation and Maintenance of Small Hydro Stations	14	June 5-8, 2012
Dr. D.K. Khatod (AHEC)	Real Time Digital Simulator for Small Hydropow Development	4	June 5-14, 2012
Dr. Ashish Pandey (WRDM)	Int. Training Course on Operation and Mainte of Irrigation Schemes	22	June 11-16, 2012
Dr. N.K. Goel (Hydrology)	Int. Training Course on Hydrological Analysi Water Resources Planning and Management	15	June 11-20, 2012
Dr. S.K. Singha (AHEC)	Small Hydropower Development	16	June 18-22, 2012
Dr. Chhaya Sharma (IDPT)	Technical Aspects of pulp and Paper Making Pr	15	June 18-22, 2012
Dr. D.K. Paul & Dr. Y. Singh (Earthquake)	Int. Training Course on Techniques for Earthqua Resistant Structures	30	June 18-29, 2012
Dr. Ashish Pandey (WRDM)	Int. Training Course on Economic Development Rural and Smaller Communities	16	July 2-28, 2012
Dr. R.P. Saini (AHEC)	Renewable Energy Technology Specially Solar	13	July 18-21, 2012
Dr. Satyendra Mittal (Civil)	Roads, Bridges and Buildings	20	July 23-27, 2012
Dr. R.D. Garg (Civil)	GIS Applications	15	August 25, 2012
Dr. D.K. Dwivedi & Dr. P.K. Jain (M&I.E.)	Failure Analysis and Metallography	4	August 27-31, 2012
Dr. B. Das (ELECT.)	Efficiency Improvement Measures in Distri System	12	August 31, 2012
Dr. R.D. Garg (CIVIL)	GIS Applications	15	August 25, 2012
Dr. D.K. Dwivedi (MECH.)	Manufacturing Processes and Quality Assuranc	15	Sept. 26-28, 2012
Dr. M.K. Singhal (AHEC)	Real Time Digital Simulator for SHP Developme	7	Oct. 15-20, 2012
Dr. Ashish Pandey (WRDM)	Int. Training Course on Livelihood in River Basir	14	Sept. 27-Oct. 23, 2012
Dr. S.K. Ghosh (Civil)	Surveying Technology for SDO's of Defense	19	Oct. 8-18, 2012
Dr. S.K. Mishra &	River Training Works	10	Oct. 27-Nov.1, 2012

Co-ordinator(s)	Name of the Courses	No. of Participants	Dates
Dr. Ashish Pandey Dr. Deepak Khare (WRDM)	Project Management for River Valley Projects	13	Oct. 29-Nov. 2, 2012
Dr. Dharmendra Singh (E&CE)	Introduction to Wireless Sensor Networks	11	Nov. 5-9, 2012
Dr. S.K. Tripathi (WRDM)	Climate Change	21	Nov. 5-11, 2012
Dr. T. R. Chelliah (WRDM)	Power Electronics in Mini/Micro Hydro Power Pr	21	Nov. 29-Dec. 1, 2012
Dr. Ashish Pandey (WRDM)	Water Resources Engineering	12	Dec. 7-28, 2012
Dr. Vinod Kumar (ELECT.)	Biomedical Signal Analysis	29	Dec. 10-15, 2012
Dr. S.C. Sharma, Dr. S.P. Harsha& Dr. S.H.Upadhayay (M&I.E.)	Noise Monitoring and Control Techniques	18	Dec. 21-23, 2012
Dr. I.V. Singh (M& I.E.)	Numerical Simulations Using FEM, XFEM Meshfree Methods	22	Dec. 24-28, 2012
Dr. Y. Singh (EARTHQUAKE)	Codal Practices on Earthquake Resistant Desig Construction (held at Delhi)	25	Dec. 27-29, 2012
Dr. M.K. Barua (DOMS)	Research Methodology : Tools and Techniques	15	Dec. 28-30, 2012
Dr. R.D. Garg (CIVIL)	GIS Applications	16	Jan. 3-5, 2013
Dr. R.D. Garg (CIVIL)	GIS Applications	15	Jan. 3-5, 2013
Dr. B. Mohanty & Dr. Shabina Khanam (CHEMICAL)	Maximising Energy Savings in Process In Using Pinch Analysis	15	Jan. 7-9, 2013
Dr. Sandeep Kumar (E&C.E.)	Learning the Architectural Modeling Tool Research in Software Engineering and related a	12	Jan. 7-11, 2013
Dr. Pravindra Kumar, Dr. A.K. Sharma Dr. Sanjay Ghosh & Dr. P. Gopinath (BIOTECH.)	Modern Technique in Biotechnology	20	Jan. 7-11, 2013
Dr. N.K. Goel & Dr. D.S. Arya (HYDROLOGY)	Remote Sensing and GIS Applications in HP Pr	15	Jan. 14-18, 2013
Dr. Dinesh Kumar (CEC)	Material Management & Quality Assurance	21	Jan. 16-18, 2013
Dr. Vinod Kumar	Metering Technology & AMR Application	23	Jan. 21-23, 2013

Co-ordinator(s)	Name of the Courses	No. of Participants	Dates
(ELECT.)			
Dr. N.K. Goel & Dr. D.S. Arya	Remote Sensing and GIS Applications in HP Pr	10	Jan. 21-23, 2013
Dr. V.C. Srivastava (CHEMICAL)	Monitoring and Analysis of VOCs in Wa Wastewater	16	Jan. 28-30, 2013
Dr. G.B. Kumbhar (ELECT.)	Efficiency Improvement Measures in Distributior	16	Jan. 31-Feb.2, 2013
Dr. Deepak Khare (WRDM)	Project Management for River Valley Projects	8	Jan. 21-25, 2013
Dr. Ashish Pandey (WRDM)	International Course on Water Resources Proje	18	Jan. 22-Feb. 18,2013
Dr. M.K. Singhal (AHEC)	International Course on Small Hydropower Development	35	Feb. 5-16, 2013
Dr. M.L. Sharma (EARTHQUAKE)	Seismic Safety of School Buildings	42	Feb. 11-March 1, 2013
Dr. S.N. Singh (AHEC)	Small `Hydropower Development	19	Feb. 18-22, 2013
Dr. D.K. Khatod (AHEC)	Simulator Based Training for in Service SHP Pla Engineers	11	Feb. 18-23, 2013
Dr. N.P. Padhy (ELECT.)	Regulatory	11	Feb. 22-24, 2013
Dr. M.K. Singhal (AHEC)	International Course on Small Hydropower Development	35	Feb. 5-16, 2013
Dr. M.L. Sharma (EARTHQUAKE)	Seismic Safety of School Buildings	42	Feb. 11-March 1, 2013
Dr. S.N. Singh (AHEC)	Small `Hydropower Development	19	Feb. 18-22, 2013
Dr. D.K. Khatod (AHEC)	Simulator Based Training for in Service SHP Pla Engineers	11	Feb. 18-23, 2013
Dr. N.P. Padhy (ELECT.)	Regulatory	11	Feb. 22-24, 2013
Dr. R.D. Garg (CIVIL)	GIS Applications	13	Feb. 25-27,2013
Dr. Praveen Kumar (CIVIL)	Survey Investigation and Design of Flexible and Pavements	18	Feb. 25 – March 1, 2013
Dr. S.K. Singhal (AHEC)	Operation & Maintenance of SHP Stations	2	Feb. 25 - March 1, 2013
Dr. Deepak Khare (WRDM)	Capacity Building of Minor Irrigation organisati	20	Feb. 26-March 3, 2013
Dr. P.K. Ghosh & Dr. Rajat Agarwal	Promotion of Innovation in Higher Educa Institutions	13	March 1-5, 2013
Dr. M.K. Singhal	Small Hydropower Development	9	March 4-7, 2013

Co-ordinator(s)	Name of the Courses	No. of Participants	Dates
(AHEC)			
Dr. Ashish Pandey (WRDM)	International Course on Modern Irrigation Practi	15	March 4-15, 2013
Dr. Praveen Kumar (CIVIL)	Survey Investigation and Design of Flexible anc Pavements	20	March 11-15, 2013
Dr. N.K. Goel (HYDROLOGY)	International Course on Climate Change Issues Impact on Water Resources	12	March 11-20,2013
Dr. M.L. Sharma (EARTHQUAKE)	Seismic Retrofitting of School Buildings	27	March 11-29, 2013
Dr. Mahendra Singh (CIVIL)	Rock Engineering for Hydroelectric Projects	6	March 18-20, 2013
Dr. Arun Kumar & Dr. S.K. Singhal (AHEC)	Small Hydropower Development	12	March 18-22, 2013
Dr. Arun Kumar & Dr. S.K. Singhal (AHEC)	Small Hydro Power Development with empha Investigations and Report Preparation	4	March 25-April 5, 2013
	Total Participants Trained	**1054**	

6.2 INSTITUTE COMPUTER CENTRE

Academic Staff: 07, Short Term Courses-3, Publication-3, Conference-19

SALIENT FEATURES : The Institute Computer Centre (ICC) is an academic service centre providing the following:

(i) Facilities for B.Tech/M.Tech/MCA computer related laboratory classes
(ii) Special needs for hardware/software of Research Scholars
(iii) Central bulk licensing of Engineering/Scientific software
(iv) High-Performance Computing
(v) Central data storage facility

The Centre maintains a comfortable environment, conducive for research & training for both students and faculty. It has eight job-specific labs with about 250 workstations/desktops/thin clients of latest configuration in 100/1000 mbps CAT 6 based structured network having Gigabit Managed Switches with Internet connectivity at every system. The range of servers covers from Intel based servers to high-end RISC servers from SUN, IBM, SGI and NAS (Network Attached Storage) servers of 2x1.6 TB (terabytes) capacity. Centre is also equipped with colour laser printer, network laser printers and scanners. PARAM, Linux based HPC Cluster and all the other servers (including software licensing servers) can be accessed within the campus including DPT Saharanpur Campus.

ICC has state-of-the-art hardware and software for applications such as: CAD/MCAD, Computational Fluid Dynamics (CFD), FEM & FEA Image Processing / Scientific Visualization, 3DAnimation/ Visual Simulation/ Geospatial imaging and analysis. Centre has mid-range to high-end configured graphics workstations.

ICC's software licensing facilities provide the following major engineering and scientific software available throughout the campus over LAN:

- ANSYS Academic Research v 14.0
- ArcGIS 10.1
- Autodesk Revit Architecture Suite 2009 & Educational Solution Set 2009
- Abaqus 6.8.1
- Bentley Suite of Products under Academic subscription with a set of 53 software along with *Microstation* software
- ChemOffice Ultra 10.0
- ERDAS Imagine 2011 with LPS and Imagine Developers Toolkit and ER Mapper
- Felix for NMR
- Hytran 3.7.3-7
- Intel Visual Fortran 9.0
- LabVIEW 2013
- MATLAB R2012b with various tool boxes & Distributed Computing Engine
- Mathematica 5.0
- Mechanical Autodesk Inventor Series 11
- MagNet 64 bit v 6.22.1
- NAG Libraries and Compilers
- Oracle 9i & 10g
- Pro/ENGINEER Wildfire 4.0
- SARscape 4.2 with ENVI 4.7
- SAP 2000 v 15.0; ETABS Non-linear v 9.7.2 and SAFE v 12.3.1
- SPSS 16.0
- Solid Edge 18.0
- Adobe Acrobat 9.0 Prof. (Academic Version)
- Microsoft software products under School and Campus Agreement.

The academic activities supported by ICC are:

1. EC-101A/B practical class (both semesters) with C++ and JAVA programming environment on windows with NAS facility at ICC.
2. CE-201 (Computer Graphics) practical class – both semesters based on Bentley Microstation software served through Bentley Academic Select Server deployed at ICC with network floating licenses.
3. CE – 321 (Geomatics Engineering)) practical classes based on ArcGIS and Erdas Imagine.
4. CE – 291 (Introduction to Geomatics Techniques) practical classes based on ArcGIS and Erdas Imagine.
5. CE – 636 (Geomatics Engineering)) practical classes based on ArcGIS and Erdas Imagine.
6. CA-604: (Simulations and Modelling) practical classes based on VC++and JAVA programming environment on Windows/Linux.
7. ICE-02 (Digital Image Processing) practical classes based ArcGIS and Erdas Imagine.
8. CA-612 (Simulations and Network Programming) practical classes based on VC++ and JAVA programming environment on Windows/Linux
9. MA - 301/365 (DBMS practical) based on Oracle 9i server and clients
10. MCA practical classes of CA-711 and CA- 611 with facility for remote login for Linux based cluster for Parallel computing with MPI, network programming environment and Oracle server and clients at ICC.

11. Dedicated systems with specialized software required by students of M.Tech, and Ph.D scholars during their dissertation/thesis period in the Research Scholars lab at ICC. These are high- end workstations with multi-core with high processing speed and high capacity memory and graphics adaptors in network with remote access facility on 365x24x7 basis. Scientific and engineering software licenses being served through servers at ICC.
12. Online subject registration of undergraduate students
    03 – MNC (for placement in foreign) ~ 500 students appeared
    12 – MNC (for placement in India) ~ 3000 students appeared

13. Companies giving presentations and trainings to highlight latest development in Information Technology

    Computer Centre is spread over two floors having two control rooms. For strengthening of these labs the following hardware/software and peripherals have been added in the reporting period:

Hardware strengthening:

During the reporting period new systems have been deployed to keep in tandem with the research requirements of all the engineering and sciences departments:

(i) Mid-level Workstations 05 Nos. HP Z 600- Intel Xeon Hexa(6) core processor based/ 24 GB DDR3 RAM/1TB HDD/Graphics-/NVIDIA QUADRO 2000(1GB)// HP ZR 2440w -24" TFT Monitor High resolution Graphics (1920x1200)
(ii) High-End Workstation – 01 No. HP Z820 - Dual CPU (2x Intel Xeon 8 core based based processors with liquid cooling /64 GB RAM ECC DDR3 1600 Mhz/2x600GB 10K SAS, 1TB SATA HDD/NVIDIA QUADRO 2000(1GB)/GPU Computing – NVIDIA Tesla C2075/HP ZR 272740w 27" LED S_IPS Monitor.

Software strengthening:

ICC is following one-point installation of Engineering/Scientific software for creating a central hub of software usage. The following new software/upgradation has been done at ICC and made them available throughout the campus over the LAN.

(i) ANSYS Academic Research v 14.0- perpetual licenses incremented from 5 tasks to 15 tasks) - This software for Computational Fluid Dynamics (CFD) is used for research in the following departments - MIED, Earthquake, Civil, Chemical and Electrical Engineering
(ii) MATLAB with various tool boxes upgraded to v R2012b (50 users) - All academic departments/centres use this software for technical computing

(iii) NI LabVIEW upgraded to v 2013 (Academic Site license) – This software is in use for B.Tech Projects, M.Tech Dissertation and research in the following centres/departments - AHEC, E&CE, EED, EQD, MIED

(iv) ArcGIS upgraded to v 10.1 (30 users)– This is a major software suite for processing and analysis dealing in geospatial and is in use for GIS curriculum and research in the following centres/departments - AHEC, Earthquake, Earth Sciences, Civil, Hydrology, WRDM, E&CE, Centre of excellence for Transportation and Centre of excellence for Disaster Mitigation and Management.

(v) Microsoft Campus Agreement under academic pricing for major and latest Microsoft software products ranging from latest versions of OSs (32/64 bit - Standard and Enterprise) for Server/Workstation/ Desktop along with .NET development environment and Office Applications suites, have been licensed for the period April 2012 – March 2013 for whole Institute under that agreement.

These software are available throughout the campus over the network.

Computer Centre runs in two shifts from Monday to Friday from 8:00 AM to 11:00 PM and on Saturday and Sunday 8:45 AM to 11:00 PM. It is rendering services all 7 days/week. Computing and software license serving facilities are available on 24x7 basis within the campus including DPT Saharanpur.

LIST OF ASSOCIATED FACULTY MEMBER

Professor & Head
Kartikeyan, M.V., Professor & Head, E & CE
Millimeter Wave Engineering
Kartikeyan, M.V.

Deputy Coordinator
Misra, Manoj, Professor, E & CE
Distributed Computing and Performance Evaluation

Assistant Professor
Lal, Mohan, PhD (Roorkee)
RDBMS/Networking

System Programmer
Gupta, Navneet K., PhD (HNB Garhwal)
RDBMS/ Web Technologies/Digital Image Processing and GIS

Programmer
Sachdev, Rajesh, PG Dip.(Kurukshetra)
Internet/Intranet

Jr. Programmer
Chauhan, Ravi , MCA (GEC, Jabalpur)
RDBMS/Intranet/System Analysis and Design

Scientific Officer Grade-II
Shukla, Sanjeev, M.Tech (CSE) (Roorkee)
LAN-WAN designing and implementation/ System Admin (Linux & Win 9x)

Centre Advisory Committee

Chairman
Kumar, Padam
Professor & Head, CSE

Convener

Kartikeyan, M.V.
Professor and Head, E & CE

Member
Singh, U.P.
Professor, Chemistry

Member
Jain, P.K.
Professor & Head, M.I.E.D.

Member
Mishra, Manoj
Professor ,CSE

Member
Das, B.
Professor, EED

Member
Sil, Anjan
Professor, MMED

Member
Singh, Dharmendra
Assoc. Professor, E&C

VISIT OF FACULTY:

Name of faculty	***Inst./ Organization visit***	***Purpose of Visit***	***Dates of visit***
Dr. Guido Link Senior Scientist & Project Leader	Institute for Pulsed Power and Microwave Technology, Karlsruhe, Germany	Technical discussion and to see the Central Computing Facilities at IIT Roorkee	October 11 – 12, 2012

Short Term /Sponsored Courses Organised by the Centre:

Coordinator(s)	***Name of the Courses***	***No. of Participation***	***Dates***
Navneet Kr. Gupta	Introduction to NI LabVIEW 2012	40	26th Sept. 2012
M.V. Kartikeyan	Training on Ansys Academic Research v 14.0	20	16th -17th Oct., 2012
Navneet Kr. Gupta	Training on Ansys Fluent v14.0	26	6th -7th Feb., 2013

6.3 INSTITUTE INSTRUMENTATION CENTRE

Academic Staff : 02; Publications : Journals-07, Conferences-02; New Projects : Research - ` 12.46 Lacs

SALIENT FEATURES

IIC runs & maintains twenty Analytical Laboratories with modern Equipment for research and teaching of UG, PG and Ph.D students, as listed below:

Besides these, Electronics Repair Laboratory takes care of in-house repair and maintenance of equipment at IIC and other departments. As support facilities, a Mechanical Workshop and a Refrigeration/Air Conditioning Workshop are also maintained.

1. OVERALL PERFORMANCE OF THE CENTRE DURING 01.04.2012 to 31.03.2013

S. No	Laboratory	No. of Samples Analyzed	No. of Users served
1	Atomic Absorption Spectrophotometer(AAS)	3388	78
2	DTA/ TGA	1625	285
3	Electron Probe Micro Analyzer (EPMA)	171	53
4	FE- Scanning Electron Microscope (FE-SEM)	4232	573
5	Fluorescence Life Time System (FLTS)	64	05
6	Laser Ablation Micro Analyzer (LA-ICP-MS)	1509	30
7	Macromolecular Crystallography Unit (MCU)	3135	62
8	Scanning Electron Microscope (SEM)	1294	91
9	SPM	740	145
10	SQUID	650	120
11	Transmission Electron Microscope (TEM)	1500	400
12	Thermal Ionization Mass Spectrometer (TIMS)	690	112
13	Universal Testing Machine (UTM)	105	26
14	Vibrating Sample Magnetometer (VSM)	270	59
15	X-Ray Diffractrometer (Powder)	4404	881
16	X-Ray Diffractrometer (Single Crystal)	47	37
17	X-Ray Diffractrometer (Small Angle)	649	149
18	Liquid Nitrogen Plant	13,050 liters	364
19	Instrumentation Laboratory	One external B. Tech. student Summer Training (40 days)	
20	Electronics Repair Laboratory	Total equipment repaired- 93 (Sophisticated- 20, Analytical- 44, General- 29)	
	Total 3470 users served, 24,473 samples analyzed		

2. SUPPORTING FACILITIES FOR IIC:

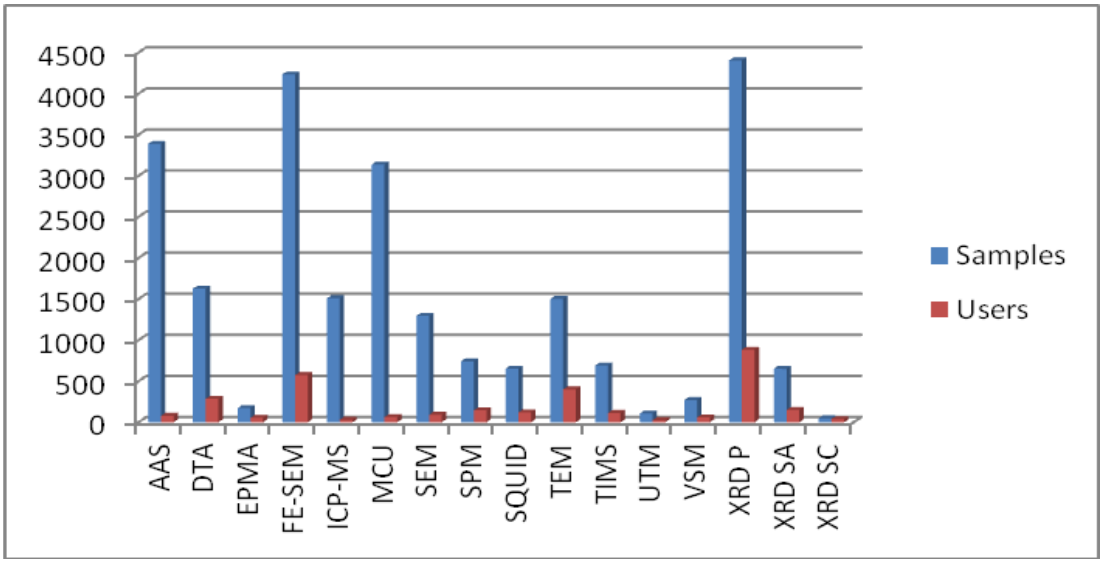
(i) **Workshop**: For in-house fabrication of various mechanical parts of different equipment being used in the centre.

(ii) **Refrigeration/Air Conditioning Maintenance**: In house maintenance of the air conditioners and refrigerators installed at the centre.

3. INITIATIVES:

[1] Indigenization of ICPMS RF Load Coil thus saving hundreds of dollars in foreign currency per year.

[2] Made PTFE Ion- separation micro- columns, for TIMS Laboratory.



4. LIST OF ASSOCIATED FACULTY MEMBER

Professor & Head
Chandra, Ramesh, PhD (IIT Delhi)
Experimental Condensed Material Physics, Nanotechnology

Professor
Chaudhary, A.K., PhD (Gujarat)
Physics Geotechnology

Scientific Officer
Singh, Jagdish, M. Phil (Roorkee)

Scientific Officer
Gotyan, K. S., B. E. Ec & T (Aurangabad)

5. VISITORS TO THE DEPARTMENT

Name	Designation & Affiliation	Purpose	Dates
	Vice Chancellor & Faculties of Vall-E-ASR University of Rafsanjan of Iran		
Prof. Peter J. Coloe	Pro VC & Vice President, College of Science, Engineering and Health, RIMT University, Melbourne, Australia	To see facilities at the centre	06-02-13

6. **SUMMARY OF MAJOR SPONSORED RESEARCH SCHEMES AND CONSULTANCY PROJECTS (>RS. 10 LACS)**

Name of the PI	Title of the Project	Sponsoring Agency	Total Outlay
Dr. Ramesh Chandra	Project "Synthesis and Characterization of Metal Oxide Nanoparticles by Physical Vapour Deposition Process for Strategic Application"	DRDO	Rs. 12.46 lacs

6.4 INFORMATION SUPERHIGHWAY CENTRE

Academic Staff : 03

SALIENT FEATURES: The Information Superhighway Centre (ISC) was established in March 1996. It is the nodal centre for outside/inside connectivity to the campus and serves as an Information Technology Center for promoting the effective use of IT, IT Systems, resource management and facilities for modernization/automation of the IP Infrastructure of the Campus

The Institute has a star topology Gigabit Ethernet Switch based, state-of-the-art Enterprise class network with data, voice and video communication capabilities. All department and Centres are connected to the Information Superhighway through Optical Fiber. The network covers 365 acres of area through 35 Km of OFC and 70 km of CAT6/E CAT 5 UTP, connecting all Departments/Centres, Hostels and Saharanpur Campus. The Intranet has 3000+ wired-line I/Os and 3200+ points through Wireless access, providing internet/intranet and e-mail facility to all faculty, students, staff, library and laboratories.

Institute has1.0 Gbps internet lease line link of National Knowledge Network (NKN) from NIC under MHRD Govt of India initiative , 200 Mbps internet leased line link from TATA Communication, New Delhi, 100 Mbps internet leased line link from BSNL Haridwar, 2 Mbps Lease Line link from ERNET India, New Delhi 34 Mbps dedicated leased line (RailTel) in a close group to Saharanpur Campus and 100Mbps internet lease line link of National Knowledge Network (NKN) from NIC under MHRD Govt of India initiative to Saharanpur Campus.

Recently Institute has upgraded the Oracle Sun Java Mail messaging system successfully to provide a better and uninterrupted spam free mail services to the Institute Users. Now Institute has 8000 user license for users. Upgraded mail messaging system installed in active-active mode with full redundancy with separate storage. So that now user can have more mail space with the facility of calendaring and instant messaging also. Now all the two girls hostels are fully wired Internet connectivity. Superhighway Centre is also involved in **Multipoint Video Conferencing to c**onduct interviews of overseas candidates appearing in absentia for the post of faculty in various department using Video-Audio conferencing and conducted **Multicast Video Streaming** for Convocation over campus LAN and at Internet.

LIST OF ASSOCIATED FACULTY MEMBER

1. Professor & Head

Singh, Dharmendra, PhD (BHU)*(w.e.f. 1.1.2012)*
Polarimetric, Interferometric application of Radas, Electromagnetic wave interaction with various media, Microwave techniques for buried object detection, Microwave and Optical remote sensing.

System Programmer *(deputed at ISC)*

Kumar Mukesh, M.Sc., PGDCA

Enterprise LAN/WAN designing, integration, management and trouble shooting, Internet/Intranet Application server hosting and management

Scientific Officer Grade-II *(in project on contract)*

Shukla, Naveen, M.Tech,. I.T.
Network Design and Implementation

2. FACILITIES AVAILABLE

Network Structure and Facilities

- State-of-the-Art Data/Audio/Video capable campus wide network. with Enterprise Class Core, and Access switches, firewall etc.
- 10G and 1G Ethernet optical fiber (SMF/MMF) based backbone for campus wide connectivity to all departments, centres and hostels in star topology.
- Network Access security at gateway and time based management of internet access at the hostels.
- Wired line CAT 6 Internet / Intranet connectivity in each room of all research scholar hostels, new hostels and all girls hostels.
- Wireless Internet/Intranet connectivity in each room of Undergraduate/Graduate hostels through 802.11g Wi-Fi network.
- Cyber café equipped with 20 desktop for internet connectivity in Undergraduate/Graduate hostels.
- ADSL based broad band internet connectivity at faculty residences.
- RAS (Remote Access Server) dial up internet connectivity at staff residences.

Internet Bandwidth

- 1.0 Gbps internet lease line link of National Knowledge Network (NKN) from NIC under MHRD Govt of India initiative**.**
- 200 Mbps internet leased line link from TATA Communication, New Delhi,
- 100 Mbps internet leased line link from BSNL Haridwar
- 2 Mbps Lease Line link from ERNET India, New Delhi.
- 34 Mbps dedicated leased line (RailTel) in a close group to Saharanpur Campus.
- 100Mbps internet lease line link of National Knowledge Network (NKN) from NIC under MHRD Govt. of India initiative to Saharanpur Campus.

Application Server

- High Performance Internet/Intranet Applications servers for Upgraded E-mail, institute Internet/Intranet WebSite, DNS, DHCP, Radius etc.
- Anti Virus Solution for E-mail Gateway and Desktops.

Other Facilities

- E-mail Facilities to all faculty/Students and officials.
- E-notice Board, Portal for Online Placement for Campus interview, Online Undergraduate Registration, Alumni Portal,
- Publish online interactive JEE, JMET, JAM, GATE examination brochures and results.
- Channel-I and Internet site maintained by IMG students.

3. IMPORTANT ACTIVITIES

(for the period from 1.4.2012 to 31.3.2013)

Upgrade Internet Bandwidth

- Upgraded 100 Mbps to 200 Mbps internet leased line link from Tata Communication, New Delhi.

This ensures us uninterrupted interest gateway access in the event of failure of one of our internet gateway.

Upgraded Mail Messaging System

Recently upgraded Oracle Sun Java Mail messaging system installed successfully to provide a better and uninterrupted spam free mail services to the Institute Users. Now Institute has 8000 user license for users. Upgraded mail messaging system installed in active-active mode with full redundancy with separate storage. So that now user can have more mail space with the facility of calendaring and instant messaging also.

Wire-line Internet in Girls Hostel

Installed State-of-the-Art using Core-Distribution-Access based architect wire-line internet with 10 Gbps uplink of 1 Gbps at user end in Sarojini Bhawan.

Antivirus at E-mail Gateway and Desktops of Campus

Upgraded Trend Micro (InterScan messaging security virtual Appliance) with SPS (Spam Prevention Solution) and Trend Office Scan Corporate Edition with its upgraded versions.

Subscribe Norton Symantec End Point Protection for desktops.

Multipoint Video Conferencing

Conducted interviews of overseas candidates appearing in absentia for the post of faculty in various department using Video-Audio conferencing.

Multicast Video Streaming

Performed multicast video streaming for Convocation over campus LAN and at Internet.

6.5 QUALITY IMPROVEMENT PROGRAMME CENTRE

Academic Staff : 01; Short Term Courses-12

1. SALIENT FEATURES: The Government of India launched the Quality Improvement Programme (QIP) in the year 1971 to upgrade the expertise and capabilities of the faculty members of the degree level engineering colleges/institutes in the country. This programme is now being implemented and monitored by the All India Council for Technical Education.

At present, there are three principal activities under QIP scheme being carried out by the QIP Centre, IIT Roorkee.

(i) Providing opportunities for faculty members of AICTE recognized degree level engineering Colleges/institutes to improve their qualifications, i.e., Masters and Ph.D. degree programmes.

(ii) Organizing Short Term Courses for serving teachers working in engineering institutes/colleges

(iii) C.D. cell activities which include curriculum development (CD) as well as its revision, preparation of monographs and text books, laboratory manuals, examination reforms, undertaking of inter-institutional programmes, holding of seminars, **one day workshops** and panel discussions, developing educational technology, preparation of resource materials and undertaking of any other activity which helps to improve classroom teaching.

This year the QIP Center at IIT Roorkee has offered admission to 25 engineering college teachers for Ph.D programme and 16 teachers for M.Tech programme .

2. ASSOCIATED FACULTY MEMBER

Bhargava, Rama, PhD
Professor & Coordinator

3. VISIT OF FACULTY MEMBERS TO OTHER INSTITUTIONS

Name of Faculty	Institute/ Organisation Visited	*Purpose of Visit*	Dates
Bhargava, Rama	IISc Bangalore	To attend NQCC meeting	April 17 to 20, 2012
Bhargava, Rama	IISc Bangalore	To attend NQCC meeting	Sept. 09 to 12, 2012
Bhargava, Rama	IISc Bangalore	To attend NQCC meeting	Nov. 26 to 28, 2012

(Note:Please Exclude visited Related to Examination/Consultancy/Conference/Seminar/Symposia)

4. CONFERENCE/ SEMINAR/ SYMPOSIA/ WORKSHOP ORGANISED BY THE DEPARTMENT

Org. Secretary	Deptt.	Name of Conference / Seminar / Symposia/ Workshop	Dates
Dr. B. V. Manoj Kumar Dr. Surendra Singh	Met. & Mat. Engineering	Two days workshop on "Establishment of Concepts Materials Research Laboratory to meet the Futuristic Demands of Cutting Edge Technology"	Sept. 22-23, 2012
Dr. Santosh Rangnekar	Management Studies	One day workshop on "Brainstorming Session on Emerging Economies and Managerial Practices"	Oct. 6, 2012
Dr. Rama Bhargava	Mathematics	One day Workshop on "Vocational	Oct. 26, 2012

Org. Secretary	Deptt.	Name of Conference / Seminar / Symposia/ Workshop	Dates
		Training of Handicapped in Anushruti"	
Dr. S. P. Singh	Humanities & Social Sciences	Two days 16th Annual Conference of Indian Political Economy Association (IPEA)	Oct. 26-27, 2012
Dr. D. K. Dwivedi Dr. P. K. Jain	Mechanical & Industrial Engineering	One day workshop on "Advances in Joining Technologies : Friction Stir Welding"	Nov. 3, 2012
Dr. Anuj Sharma	Chemistry	Development and updating of Curriculum	Nov. 5, 2012
Dr. Z. Rahman	Management Studies	One day workshop on "Developing Research orientation in Business and Management"	Feb. 1, 2013
Dr. (Mrs.) Vijaya Agarwala	Centre of Nanotechnology	"Hands-on Training for the Formulation of Smart Nanodevices"	Feb. 2-3, 2013
Dr. D. K. Nauriyal	Humanities & Social Sciences	Two day Workshop on "Panel Data Regression Analysis for the research scholars and faculty of HSS, DOMS and other departments	March 7-8, 2013
Dr. Inderdeep Singh Dr. A. K. Sharma	Mechanical & Industrial Engineering	One day Workshop on "A Novel Approach to Processing of Green Composites"	March 9, 2013
Dr. A. K. Sharma Dr. Pradeep Kumar	Mechanical & Industrial Engineering	One day workshop on "Ultrasonic Machining Approach to Fabrication of Microchannels"	March 13, 2013
Dr. P. Gopinath	Centre of Nanotechnology	One day Workshop on "Bionanotechnology : Biological Nanostructures and Its Applications"	March 16 , 2013
Dr. Kamaluddin	Chemistry	Three days International Workshop on "Chemical Evolution and Origin of Life"	March 21-23, 2013
Dr. Smita Jha Dr. Rashmi Gaur	Humanities & Social Sciences	One day Workshop on "Translation in Post – Colonial India"	March 22 , 2013
Dr. Pradeep Kumar Jha Dr. Rama Bhargava	Mechanical & Industrial Engineering	One day workshop on "Numerical Methods in Manufacturing / Materials Processing"	March 30, 2013
Dr. Manas Mohan Mahapatra	Mechanical & Industrial Engineering	One day Workshop on "Advancements in Aerospace Materials Joining"	March 30, 2013
Dr. V. K. Katiyar	Mathematics	One day workshop on "Workshop on Breathing Mechanics"	March 31, 2013

5(i).SHORT TERM /SPONSORED COURSES ORGANISED BY THE DEPTT. (EXCLUDING CONTD. EDUCATION)

Coordinator	Department	Name of the Courses	No. of Participants	Dates
Dr. Ganesh Balu Kumbhar Dr. Manoj Tripathy	Electrical Engineering	Power Transformer: Trends in Design, Analysis, Protection and Condition Monitoring	26	June 4-8, 2012
Dr. P. Gopinath Dr. K. R. Justin Thomas	Centre of Nanotechnology & Chemistry	Recent Advances in Nanomedicine (From bench to bedside)	29	June 4-8, 2012
Dr. I. D. Mall Dr. V. C. Srivastava	Chemical Engineering	Hazardous Waste, Batteries Waste and E-Waste Management	29	June 11-15, 2012

Coordinator	Department	Name of the Courses	No. of Participants	Dates
Dr. Rashmi Gaur Dr. Smita Jha	Humanities & Social Sciences	Critical Perspectives on Research Methodology	39	June 11-15, 2012
Dr. Vaskar Raychoudhury	Electronics & Computer Engg.	Applying Pervasive Computing and Social Networks to Accelerate the Growth of Rural and Urban India	20	June 25-29, 2012
Dr. Kusum Deep Dr. Millie Pant	Mathematics & Paper Technology	Recent Advances in Genetic Algorithms and their Applications in Engineering Design	32	June 25-29, 2012
Prof. P. K. Garg Prof. S. K. Ghosh Dr. R. D. Garg	Civil Engineering	Engineering Surveying Using Modern Instruments	26	July 2-6, 2012
Dr. Manish Mishra Dr. Andallib Tariq	Mechanical & Ind. Engg.	Advances in Thermo-Fluids Engineering: From Modeling to Experimentation	29	July 2-6, 2012
Dr. Pradeep Kumar Dr. A. K. Sharma Dr. Inderdeep Singh	Mechanical & Ind. Engg.	Manufacturing Excellence Through Quality Assurance	25	July 9-13, 2012
Dr. R. Balasubramanian Dr. Sanjeev Kumar	Mathematics	Image Processing and Computer Graphics for Scientific Visualization	31	July 9-13, 2012
Dr. K. L. Yadav	Physics	Essentials of Nanoscience and Nanotechnology	30	Feb. 18 – 22, 2013
Dr. R. Jayaganthan Dr. G. P. Chaudhari	Met. & Mat. Engg.	Advanced Techniques in Corrosion Testing and Protection of Materials	22	Feb. 18 – 22, 2013

(ii). SPECIAL LECTURES ORGANIZED

Name of Speaker	Designation	Affiliation	Topic	Duration
Dr. Arun Kumar	Professor	Centre for Economic Studies and Planning Jawahar Lal Nehru University New Delhi	Understanding the Black Economy in India	August 28, 2012
Dr K. Satyanarayana	Co-ordinator	Department of Health Research & Editor Emeritus, Indian Journal of Medical Research New Delhi	Successful publishing:Choosing the most appropriate journal for publication	October 9, 2012

(iii). BOOK WRITING

Name	Department	Title of Work
Dr. Sandip Banerjee	Mathematics	Mathematical Modeling : Models, Analysis and application
Dr. Jayanta Kumar Ghosh	Civil Engineering	Fundamentals of GPS Surveying

(iv). MONOGRAPH

Name	Topic	Dates
Dr. Rama Bhargava Professor Department of Mathematics.	Mathematical Models on Nanofluids: from Past to Present	--

(v). COURSE MATERIAL PREPARATION

Name	Department	Title of Work
Dr. M. K. Barua Dr. Usha Lenka	Management Studies	Capability building program for Children of Roorkee school for deaf

(vi) ACTIVITIES RELATED TO TECHNICAL EDUCATION AND VOCATIONAL TRAINING OF HANDICAPPED:

Name	Department	Title of work
Dr. M. K. Barua Dr. Usha Lenka	Management Studies	Capability building program for Children of Roorkee school for deaf

7. Other Units

7.1 Mahatma Gandhi Central Library

7.2 Educational Technology Cell

7.1 MAHATMA GANDHI CENTRAL LIBRARY

Academic Staff : 05, Journals:800, Conference: 21

1. SALIENT FEATURES

Keeping in vision that library and information centers are backbone of any research institution of national importance, MGCL makes all efforts to fulfill its promises to provide best possible information support to students, research scholars and faculty. Like previous year this year also focus was on the strengthening of e-resources, collection development and implementation of latest information and communication technologies (ICT) in services. More than 2162+ latest eBooks have also been added in the collection. More than 1300+ theses have been digitized for instant access.

MGCL took initiative for the procurement, installation and training of Internet based Anti-Plagiarism software TURNITIN for checking of duplicity of contents of theses and dissertations submitted by IITR students.

Budgetary Details

MGCL received an allocation of Rs. 1227.35 lacs under PLAN and Rs. 28.21 lacs under NON-PLAN expenditure during the year under report. Out of the allocated Plan funds, Rs. 51.88 lacs has been utilized for purchase of books, Rs. 844.83 lacs for subscription to journals, Rs. 247.05 lacs for e-Books and Rs. 36.65 lacs for equipment purchase. Apart from this Rs. 6.83 lacs has been spent for digitization of 1300 theses. Table-1 gives the comparative expenditure details of allocated funds during last three consecutive financial years.

List of 'A' Class Staff (as on 31.03.2013):-

Librarian
Sri Yogendra Singh, M.Sc., (Zoology), M.L.I.Sc. (Delhi), FSIS

Deputy Librarian
Smt.Sushma Gupta, M.Sc.(Chemistry), M.L.I.Sc.(Annamalai)

Asstt. Librarians
Sri Som Pal Singh, M.A., (Eng. Lit.) , M.L.I.Sc.(Kurukshetra)
Sri Amarendra Sharma, B.Sc.,M L.I.Sc.(BHU), PGDCA (Kurukshetra)

Scientific Officer
Smt. Nisha, M.C.A. (GKU, Haridwar), B.Lib.Sc. (IGNOU)

Table 1: Grant receipts and their utilization during the years 2010-11, 2011-12 & 2012-13

(Amounts in lacs of `)

SN	Financial Year	2010-2011		2011-2012		2012-13		
	Source	Allocat-ion	Utilizat-ion (In lacs)	Allocat-ion (In lacs)	Utilizat-ion (In lacs)	Allocation (In lacs)		Utilization (In lacs)
1.	MHRD Non Plan Grant	330.01	330.01	27.00	27.00		28.21	28.21
2.	MHRD Plan Grant (GEN)	396.94	396.94	791.81	791.81	965.95	1227.35	988.58
3.	MHRD Plan Grant (SC)	-	-	-	-	183.23		131.71
4.	MHRD Plan Grant (ST)	-	-	-	-	78.17		66.81
	GRAND TOTAL	**739.38**	**739.38**	**818.81**	**818.81**		**1255.56**	**1215.31**

PERIODICAL SELECTION

During the FY 2012-13, MGCL added 133 new journals titles to its subscription list and renewed the subscription of 841 titles subscribed in previous years. The major additions were the subscription to the full package of Humanities, Social Sciences and Management collection of Sage journals having 82 titles. Thus total 974 print/ print + online journals are being subscribed by MGCL. Besides this, renewal of 117 journals and one database pertaining to previous FY 2011-12 have also been done. Back files of American Chemical Society (ACS) and Institute of Physics (IOP) were renewed for this year too.

More than 14,500 e-journals published by almost all major publishers of Science & Technology, Humanities and Social Science were also renewed through INDEST-AICTE Consortium and made available to library users. Total expenditure incurred on periodical subscription was Rs.844.83 lacs.

Table 2: Number of journals subscribed & amount spent on them during the past 3 years

Year	Recommended Titles	Subscribed Titles	Amount (` in lacs)
2010-2011	1056	928	545.82
2011-2012	1167	836	728.37
2012-2013	1092	903	844.83

*Includes 117 journals and 1 databases subscribed for 2012-13. Remaining titles were not subscribed due to their availability online or some other technical reasons.

e-Journals Access through INDEST-AICTE Consortium

Access to e-Journals through INDEST-AICTE Consortium remained available through this year also. The total number of full text e-Journals reached to over 14500+ The details of the resources available through INDEST are given below-

Full Text Journal Access

Table 3: List of Journal Titles - Full-Text Access

SN	Title	No. of Titles	No. of Users
1.	ABI / Inform Complete	5988	Unlimited
2.	ACM Digital Library	61	Unlimited
3.	ASCE Journals	33	Unlimited
4.	ASME Journals (+ A M R)	25	Unlimited
5.	EBSCO Full Text	9095	Unlimited
6.	Elsevier's ScienceDirect	3230	Unlimited
7.	Emerald Management Xtra	290	Unlimited
8.	IEEE / IEE Electronic Library Online (IEL)	150+	15 Users
9.	JSTOR	1000+	Unlimited
10.	Nature	27	Unlimited
11.	Optical Society of America (OSA)	25	Unlimited
12.	Springer Link	2540	Unlimited
13.	Taylor & Francis Online Journals	1600+	Unlimited

Bibliographic/Factual Databases
Details of bibliographic/factual databases is given below.

Table 4: List of Bibliographic Databases

SN	Title	No.of Titles Covered	No. of Users
1.	SCOPUS	20,250+	Unlimited
2.	EBSCOhost	13712	
2.	INSPEC on EI Village	5000	Unlimited
3.	J-Gate Custom Content for Consortia (JCCC)	28,000+	Unlimited
4.	MathSciNet	2,000,000 reviews	Unlimited
5.	SciFinder Scholar	10,000+	5 Users
6.	Web of Science	12,000+ Books, 10,000+ journals, 148,500+ conference proceedings	Unlimited

7.	Capitaline	Information about companies listed on Indian Stock Exchanges	Unlimited
8.	Euromonitor (GMID)	Global Marketing Information Database. Covers 350 markets from 207 countries	Unlimited

E-Journals Access through IITR Arrangements

MG Central Library is also subscribing to several full-text Online Journals as well as secondary Online/CD-ROM databases, apart from the resources available from INDEST. The details are given below-

Full Text Journal Access

Table 5: List of Journal Titles: Full-Text Access

SN	Publisher	Nos. of Titles	No. of Users
1.	American Chemical Society (ACS) (all titles with archives)	42	Unlimited
2.	American Institute of Physics	10	Unlimited
3.	American Physical Society (APS)	10	Unlimited
4.	American Soc. for Microbiology	11	Unlimited
5.	ASTM Standards	06	Unlimited
6.	Elsevier	84	Unlimited
7.	InderScience	06	Unlimited
8.	IndianJournals.com	78	Unlimited
9.	Institute of Mechanical Engineers (I Mech E (16 Journals)	16	Unlimited
10.	Institute of Physics Publishing (IOP) with Archive	27	Unlimited
11.	Maney	07	Unlimited
12.	PaperVillage (Only Abstracts)	50	Unlimited
13.	Portland Customer Service	08	Unlimited
14.	Royal Society of Chemistry (RSC)	13	Unlimited
15.	Sage Publishers	82	Unlimited
16.	Society of Industrial and Applied Mathematics (SIAM)	06	Unlimited
17.	Springer	39	Unlimited
18.	Taylor & Francis journals (Print+Online)	33	Unlimited
19.	Trans Tech. Pub.	13	Unlimited
20.	Wiley InterScience	88	Unlimited
21.	World Scientific	12	Unlimited
22.	Others	84	Unlimited

Usage Statistics of Electronic Resources

Full Text Resources

There is a significant increase in use pattern of electronic resources namely ASCE, IEL-IEEE, Science Direct and Taylor & Francis journals. However, the other resources have little decrease in use pattern due to some technical problems specially in case of Springer.

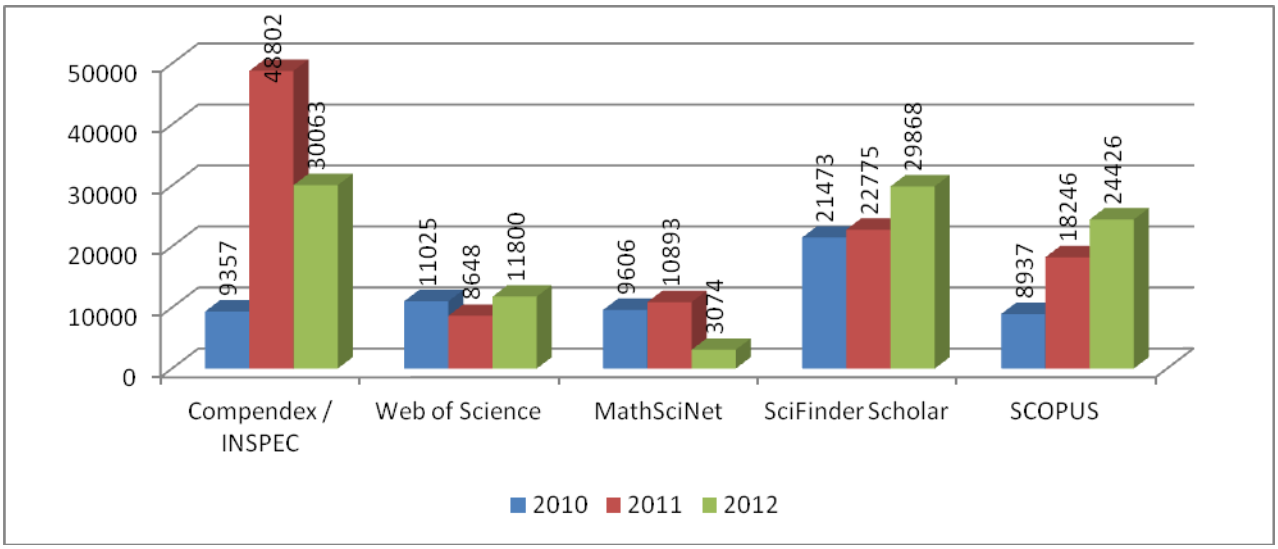
Table 6: Usage of major full text resources

SN	Source	Usage Statistics		
		2010	2011	2012
1	ASCE	13260	12809	24633
2	ASME	1794	2567	NA
3	IEL-IEEE	264830	283436	318774
4	Springer	57583	59686	52541
5	Emerald	13371	19891	14341
6	Science Direct (Journals)	511718	506460	617146
7	Taylor & Francis	13769	14222	22419

Secondary Resources

The usage of secondary online resources has shown a significant decrease in case of INSPEC and MathSciNet. The usage of web of Science has increased marginally while the usage of SiFinder Scholar and Scopus has increased considerably. Usage statistics of last three consecutive years in respect of major secondary resources is presented below.

Figure: Usage of major secondary resources



ACQUISITION SECTION

Print Document Collection

During the year under report 2787 new books, 1663+ e-Books and 800 bound volumes of Journals were added to the Library. In addition to this, library has also acquired 453 Hindi books and 345 books on gratis from the Government, R&D Organizations, students and voluntary agencies. Besides this, 920 theses and dissertations were also added to library collection received from Ph.D. and M.Tech. students. The total number of documents in the collection has reached a significant figure of 3,87,017 volumes.

eBooks Collection-

To make MGCL users more satisfied and fulfill their needs timely for research and academic activities, MGCL have enriched its collection of e-books with the purchase of 2163+ new eBooks this year. Now we have 32143+ e-books available in its collection for full access and download.

TECHNICAL PROCESSING SERVICES

Technical Processing (Classification, Cataloguing and Indexing) and data entry in Library Management Software Libsys for creating electronic catalogue of more than 5000 new and old books, which were received during this period, have been successfully completed. Bibliographical services were provided to users in a much improved way. Technical processing & data entry of 920 theses and dissertations has also been carried out in this year

Table 8: Comparative Figures of Annual Intake of Reading Material in the Library

Year	e-Books	Books*	Bound Journals	Annual Intake	Total Bound Volumes	Total Collection
2010-11	1500	5882*	1225	8607	55671	374630
2011-12	11013	2563*	1060	6077	56731	381767
2012-13	1663	2787*	800	5250	57531	387017

* includes books received on gratis, theses and dissertations also.

SN	COLLECTION	PERIOD	Additions in 2013	TOTAL BOOKS
1	Cambridge University Press	2005-11	--	1323
2	CRC NetBase (T&F)	2007-12	500+	9300+
3	Elsevier ScienceDirect	2007-12	365	2270
4	John Wiley	2007-08	--	250
5	John Wiley	2011-12	1162	1162
6	Oxford University Press	2007-13	136	691
7	Springer Verlag	1999-12	--	16097

8	Tata McGraw Hill	2005-11	--	500
		Total	**2163+**	**32143+**

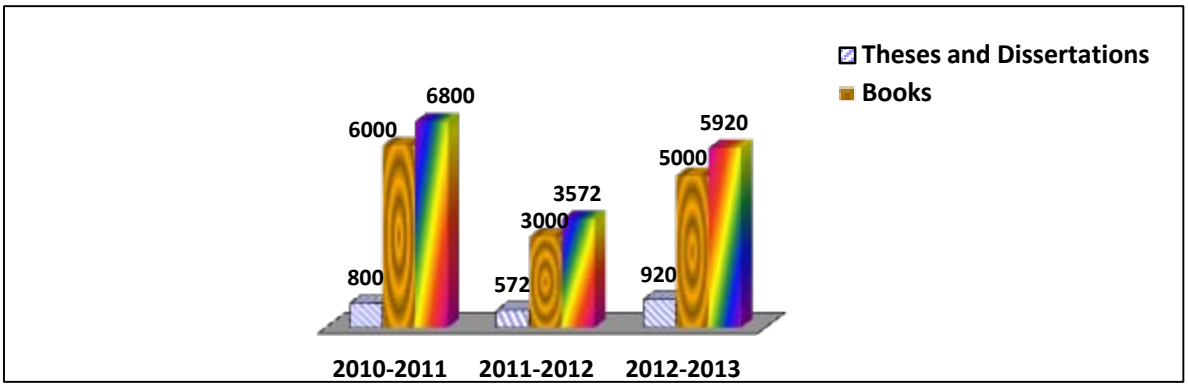


Figure 1 : No. of documents processed during last three fiscal years

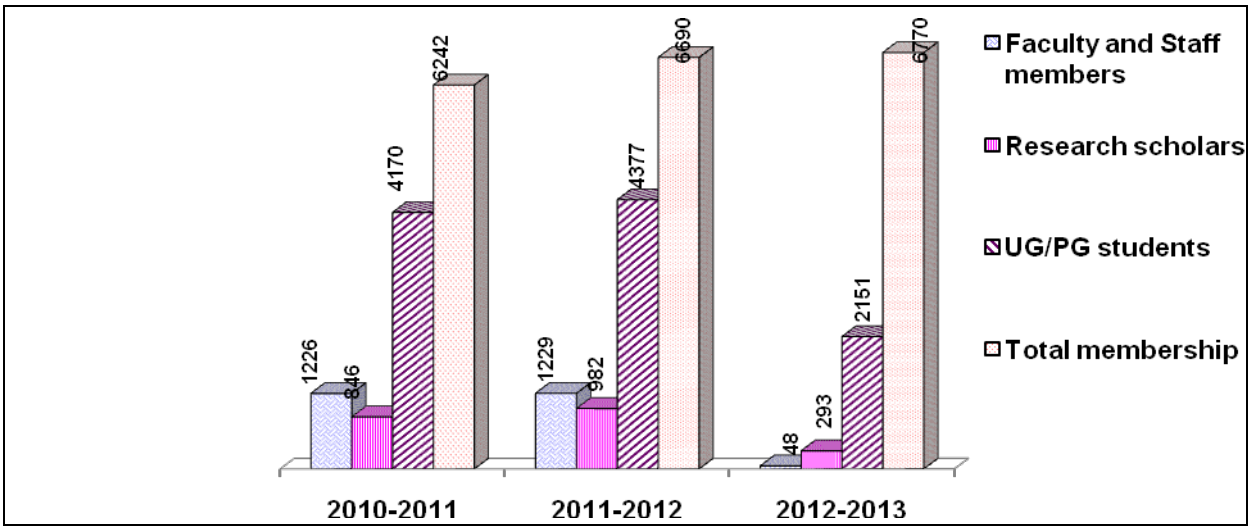
BINDING OF BOOKS AND JOURNALS

During this year, 720 books and 800 journals volumes were got bounded and an amount of 1,30,600/- lacs was spent on binding work.

MEMBERSHIP

During this year, 2151 new undergraduates & postgraduate students, 48 faculty & staff members, 293 new research scholars and special members were enrolled as library users making the total membership of the library around 6800. During this year, on an average 93 books and periodicals per day were issued for home study and approx. 900+ students visited the library. A sum of Rs. 2,00,172.00 was collected as overdue charges from the users and deposited in the Institute Treasury during the FY 2012-2013.

Figure : Comparative Data of Library Membership

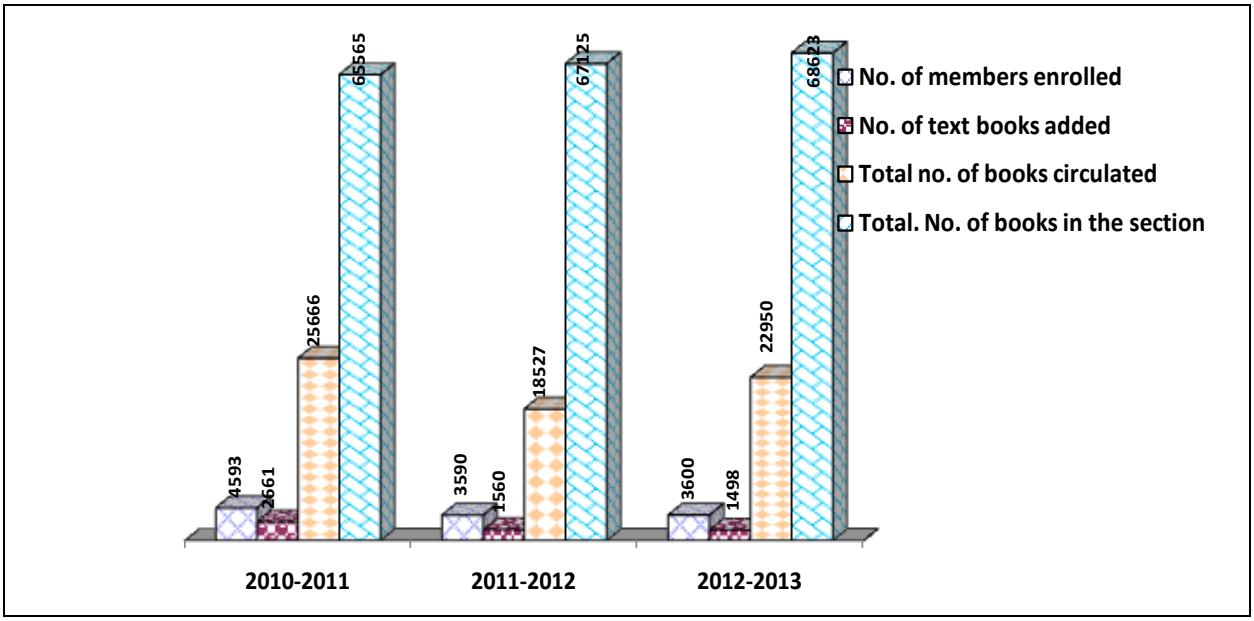


TEXT BOOK LOAN SCHEME (Book Bank Facility)

The services of TBLS is opened to BE/B.Arch. and M.Sc./M.Tech. (Earth Sc.) student. All Undergraduate and PG students are entitled to get these books for one semester duration which can be exchanged on any day in a week. This section remains open from 10 AM to 5 PM in week days for issue and return of books throughout the year. This year around 3600 students were benefited by this scheme in both the semesters and more than 23,000+ books were issued to them and also returned from at time to time and at semesters end. After getting the recommendations from faculty members, around 1500+ copies of new textbooks were added to the collection. The total number of books in this collection has gone up to 68,623 volumes this year.

The following table gives total number of members enrolled in TBLS scheme, new books added to the Section, number of books issued per year and total number of books available in the section for last three consecutive years.

Figure : Statistics of TBLS Section



REFERENCE / GENERAL BOOKS SECTION

This section remains open from 9 AM to 10 PM on all working days and from 9.45 AM to 6.30 PM on all weekends and holidays. Generally, two copies of every textbook is available in General Books Section. This collection is regularly updated; new books are added as and when required after getting recommendations from faculty members. This section also has reserved category of textbooks. These are available for consultation within the library only.

A total 19,412 General books and 421 Reference books from this section were issued and 19,826 books were returned during the period under report.

AUTOMATION AND NETWORKING SECTION-

Management of e-Repository & Scanning

1. More than 25,000 pages of various official documents, archival books etc. were scanned, cleaned, cropped for PDF creation for adding in Institutional Repository - Bhagirathi.
   345 backlog files of rare/ archival books were also checked and uploaded in repository for access.

Automation Work of Departmental Libraries

2. Training provided to staff & apprentices for automation, cataloguing and rectification of

catalogue of departmental libraries of Management, E&C, and Hydrology dept.

Creation of users' IDs and passwords

3. For implementing self check-in & check-out (issue/return) services, approximately 350 login IDs with passwords were created and distributed through e-mail to the students/faculty/staff of IITR for self-managing online library accounts.

DOCUMENT DELIVERY SERVICES

The Library being the level one member of INDEST–AICTE Consortium is well aware of its responsibilities towards the institutions those do not have access to many information resources. The Library receives continuous requests from other IITs, NITs and other institutions for technical literatures. During this period, a total 90 articles request was fulfilled. Besides, 103 visitors from the other institutions also visited the library during this period.

(i) Xerox/ Printing

Through reprographic service, 160053 computerized prints and xerox pages has been provided to its users. During the FY 2012-2013 a sum of Rs. 1,53,108.00 was collected for these services from the users and deposited in the Institute Treasury.

1. Digitization of more than 1300 Ph.D. theses has been completed. Further work is under process.
2. MGCL has started checking the Dissertations and Ph.D. theses submitted by our research scholars through Turnitin - an Anti-Plagiarism software. More than 50+ dissertations and theses have been checked during this period.

AWARDS AND HONOURS

IIT Roorkee was awarded the First best Users Award for ASCE Journals and Second best Users Award for EBSCO Databases for the year 2012-13 among all IITs during 9th Annual Meet and workshop of INDEST-AICTE Consortium held from 17-19 Jan 2013 at IIM, Ahmedabad.

OTHER IMPORTANT DATA ABOUT THE LIBRARY

Total Working days	:	354
Total Nos. of Holidays	:	11
Total number of staff	:	31
(a) Professionals	:	21
(b) Non Professionals	:	10
(e) Secretarial staff	:	01
(d) Others (including contract):		06

Seminars/Workshops/ Short Term /Sponsored Courses Organized By Mahatma Gandhi Central Library

SN	Name of the Programme	Date
1.	Elsevier Publisher's Connect	23 Nov 2012
2.	Turnitin: An Anti-Plagiarism software training	23 Jan 3013
3.	Workshop on KOHA under NMEICT	1-4 Nov 2012
4.	Orientation program for PG students and Res Scholars	5 Sep 2012

IMPORTANT EVENTS and EXHIBITIONS-
MGCL organized the following exhibitions-

1) Observed and celebrated birth centenary of Gurudev Ravindranath Tagore and organized an exhibition of books on and by Gurudev Ravindranath Tagore during 07-12 May, 2012
2) Exhibition of Hindi Books on Hindi Diwas during 14-21 Sep, 2012.
3) MGCL organized a Technological Book Fair during 26-28 September, 2012.
4) Mahatma Gandhi Central Library observed and celebrated birthday of nations father Mahatma Gandhi on 2nd Oct. 2012 and organized an exhibition Gandhian Literature during 01-07 Oct.,2012
5) Observed and celebrated birthday of Pt. Jawahar Lal Nehru as BAL DIWAS and organized an exhibition of books on and by Pt. Jawahar Lal Nehru during 11-17 November, 2012.

VISIT OF ACADEMIC STAFF TO CONFERENCE/SEMINARS/OTHER INSTITUTIONS

Name of faculty	Instt/ Organization	Purpose of visit	Date of Visit

Name of faculty	Instt/ Organization	Purpose of visit	Date of Visit
Singh Yogendra Librarian	University of Panjab, Bhatinda	Attended a meeting as an expert for the new library building.	14 May, 2012
	IIT Delhi, New Delhi	Attended the second meeting (INFLIBNET) of the Resources Selection Committee for NLIST Project at Central Library, IIT Delhi,	22 June, 2012
	MHRD, New Delhi	Participated as an expert in the Review Committee Meeting of NMEICT regarding MELT Project	28 June, 2012
	IGNOU Campus, New Delhi	Attended the PRSG meeting for Library Automation and Networking Project of NMEICT, MHRD	8 Sept, 2012
	Gautam Buddha University, Greater Noida.	Delivered an invited lecture on "Library Management System Current Trends" at the National Conference on "Beyond Librarianship Search for New Frontier -2012"	21-22 Sept, 2012
	IIM, Indore	Chaired a session at the "International Conference on Creating Wisdom and Knowledge through Shared Learning: Roles of Librarians and Information Managers"	11-13 Oct., 2012
	MHRD, New Delhi	Participated as an expert in the Review Committee Meeting of NMEICT regarding MELT Project	17 Oct., 2012
	BIMTECH, Noida	Chaired a session at SAARC Conference	30 Nov. - 1 Dec, 2012
	UGC, South Regional Office Bangalore	Participated as an expert in "LIBRARY SCIENCE" Minor Research Project Review Meeting.	11 Jan 2013.
	UGC, New Delhi	Participated as an expert committee meeting on Mid-Term Evaluation of ongoing projects	15 Jan, 2013
	IGNOU, New Delhi	Attended the Review Committee meeting a PRSG meeting for Library Automation and Networking Project of NMEICT, MHRD	2 Feb., 2013
	(ICAL) IP University, Delhi	Chaired a session and delivered a lecture on "Library Management System: Future Trends" in International Conference.	12-15th Feb., 2013
	INFLIBNET, Ahmedabad	Chaired a session in the Convention also moderate the panel discussion on "Library Vision 2020: Moving Towards the Future Trends".	21-23 Feb., 2013.
	Rajasthan Technical University, Kota (Raj.)	Attended a selection committee	10 March, 2013
Smt. Shusma Gupta, Dy.Librarian	Gautam Buddha University, Greater Noida.	Attended the National Conference on "Beyond Librarianship Search for New Frontier -2012"	21-22 Sept, 2012
	IIM, Indore	Attended the International Conference on "Creating Wisdom and Knowledge through Shared Learning: Roles of Librarians and Information Managers".	11-13 Oct., 2012
	MS University, Baroda	Attended the "NACLIN-2013" conference.	20-22 Nov., 2012

Name of faculty	Instt/ Organization	Purpose of visit	Date of Visit
	Bimtech, Noida	Attended the SARC Conference.	2-3 Dec., 2012
	IIM, Ahmedabad	9th Annual Meeting and workshop of INDEST-AICTE Consortium at IIM, Ahmedabad	17-19Jan, 2013,
	IP University, Delhi.	Attended the "International Conference on Academic Libraries (ICAL)"	12-15th Feb, 2013
	Karnataka University, Dharwad	Jointly contributed an article on "Institutional Repositories in India :Growth and Development" in ILA Conference.	24-27 Feb., 2013

DISTINGUISHED VISITORS TO THE LIBRARY

Date of Visit	Name & Designation/Address	Comments
14/5/2012	Prof. Dr. Uwe W. Schulz Program Director, Business Engg. - Sustainable Energy Systems, Head of International Office Lucerne University of Applied Sciences & Arts, Switzerland.	Many thanks for the detailed tour of this fascinating library. I am impressed by the thoughts that went into it, outlining the history with modern technology. Congratulations to value its worth for the students and researchers.
19/5/2012	Mr Anil Kumar Saini Head, L&T Metro Rail Ltd.Hyd.	I visited the IIT/R after a span of about 21 years and felt extremely happy to visit the new library. It's indeed a big knowledge base for the students and faculty members. I am thankful to Mr. Yogendra Singh who has shown the each and every part of the library to me and I am really happy to put on record his association in developing the modern infrastructure done in this place.
19/6/2012	Prof. Raju B. Mankar, Vice-Chancellor Dr. Babasaheb Amedkar Technological University, Lonere, Raigad, Maharastra	Today, I got the opportunity to visit Mahatma Gandhi Central Library of IIT Roorkee. Sri Yogendra Singh, Librarian, briefed about the e-contents, archives and bound volumes of books, periodicals and the digitization work done by this library. He also showed the library building, all sections and the facilities like conference Hall, Reading section etc. I must mention here that, I am thoroughly impressed with the architecture of this building and the neat and clean maintenance of whole premises.
24/6/2012	Mr. Sunil Kumar GAIL (India) Ltd. Sector 16 A, Noida-201301	A very impressive world class facility excellently maintained.
24/7/2012	Prof. Karen Howard, School of Engineering, CARDIFF	Beautiful space to study .
24/7/2012	Prof. Alison Noble, University of Oxford, UK.	A wonderful library.
24/7/2012	Dr. Anil Namdeo, Newcastle University, UK.	Excellent building designed for Students.

24/7/2012	Dr. S.J. Antony, University of Leeds, UK.	One of the spaceiest library of world class.
28/7/2012	Dr. Roma Mitra, & Dr. Usha Mujoo Munshi, IIPA, New Delhi	A Group had visited from Indian Institute of Public Administration (IIPA, New Delhi), Which comprises of scientist and technologists from Pan India. The Library is huge, and great. We were astonished to explore the collection and other infrastructure. The Staff were cordial and Mr. Yogendra Singh was an absolute fine person. We would like to thank him for his cordial and nice attitude to us. Visit that we all cherished. A nice experience to visit the library. Thanks
14/9/2012	आचार्य डॉ0 विष्णुदत्त राकेश पूर्व संकायाध्यक्ष मानविकी एवं प्रोफेसर हिन्दी तथा पत्रकारिता गुरूकुल कांगड़ी विश्वविद्यालय, हरिद्वार।	प्रौद्योगिकी और आधुनिक ज्ञान–विज्ञान के इस महान केन्द्र में आकर प्रसन्नता हुई। भारतीय भाषाओं–विशेसतः राष्ट्रभाषा हिन्दी में यदि विज्ञान, जनसंचार एवं प्रौद्योगिकी से सम्बंधित सामग्री यहॉ के मेधावी एवं राष्ट्रभक्त छात्र स्तरीय स्तर पर प्रस्तुत कर सके तो देश की बडी सेवा होगी। यहॉ के आचार्यों की गौरवमयी परम्परा रही है, मैं उसका हृदय से अभिनन्दन करता हूँ।
9/10/2012	Prof. Indira Samarasekhara, President & Vice-Chancellor University of Alberta, Edmonton, Canada	I am honoured to visit the IIT Roorkee Library named after the great Mahatma Gandhi. My visit to IIT Roorkee and my good friend and Director Prof. Pradipta Banrerji is a highlight of my tour of India.
29/10/2012	Dr. Anshuman Awasthi, Deputy General Manger, Mercedes-Benz R&D India Bangalore.	It's a great feeling to come an institution, where I wanted to study engineering. The Mahatma Gandhi Central Library at IIT Roorkee is a symbol of the culture of learning & openness at the institution itself. My best wishes to the library - may the library grows in the future and become a symbol of permanent learning.
3/11/2012	Dr. B.K. Jha, G M (Product) RDGS, SAIL, Ranchi- 834002	Excellent facility available with all matters related to any state of art library in India or abroad.
6/11/2012	Mr. Sudhir Kumar, GM, & K.C. RAO Jt. GM, & Sunil Kumar Gupta, Jt. GM L&T MHI Boilers.	We were very happy to be here to see a huge collection of books & Journals & brand new facilities. The library team was courteous & enthusiastic. We wish IIT-R Library continues to spread light. All the best.
25/11/2012	Mr. Umesh Chanda Verma, B.E. (Elect.) 1987 Executive Engineer, Electricity Distribution Div., Hathnee	Very well equipped. काश! 25 वर्ष पहले ऐसी सुविधा सम्पन्न लाइब्रेरी होती! A Very nice, well maintained, keep it up!
25/11/2012	Mr. Siddarth Guitary, B.E. Chemical, 1987 30/1 PHOOLBAGAN ROAD Kolkata-700086	This new library is a world class & one of the best in the country. I felt great to see a library being great to see such a library being built in my almamater.
27/11/2012	Er. Gyanendra Kumar, B.S.(Electricals), 1962 B-712, Gaur House, Govindpuram, Ghaziabad-201013	Very-2 impressive structure with state of art features and I am proud of it.
27/11/2012	Mr. Ranjeet Singh, KC 162, Ghaziabad.	Very Good high quality construction & Magnificent look and good design. Really thrilled.
19/12/2012	Er. Mir Ahmed, World Bank Office.	I found it very equipped and interesting.
19/12/2012	Sayed Sharif Shobais Project Coordination and Chief	I wish all the best and success for the management of the library. I was really my

	Engineer, FAO, Afghanistan Ministry of Energy and water, Main Guidins , Main Darulaman Road, Kabul- Afganistan	presume to visited and talked to them and they provide valuable information.

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7.2 EDUCATIONAL TECHNOLOGY CELL

Academic Staff : 01, Research Projects:Rs.293.70 Lakhs

1. SALIENT FEATURES

Educational Technology Cell, a part and parcel of IIT Roorkee is situated near the building of Center for Continuing Education. This cell was primarily conceived to produce high quality Video/ Web/ Multimedia based instructional material, syllabus based content development for the National Programme for Technology Enhanced Learning (NPTEL) project and to train faculty for the development of pedagogy based video/web courses.However, over the period of time, its role has been expanded to absorb new paradigms of e-learning and training of faculty from other institute, to utilize the power of video streaming, for creation of on-line question banks, for use of learning management system, for quality control of e-content and conduct of research related to pedagogies in e-learning.

The cell is under the process of modernization from SD format to complete HD format.
The cell has state-of-the- art, High Definition video cameras, non-linear editing system (Apple, Avid & Adobe based), high quality audio video systems, teaching aids, HD video conferencing system, 3D video editing system, 2D & 3D animation and virtual environment, high quality still photography, a number of i7 computers, servers and required software to produce studio quality Web/Video based materials. The cell has already produced 6 web based and 9 video based courses in NPTEL Phase-I. These courses are accessible to anyone in India and abroad through the website http://nptel.iitr.ernet.in. During NPTEL Phase-II,the cell has already produced 809 web lectures and 355 video lectures. Further, 143 Web and 314 Video lectures are in pipeline. This centre is also connected to satellite through EDUSAT for conducting country-wide class room. For last two years, the cell has been streaming video lectures to in campus IITR students round the clock.

2. LIST OF ASSOCIATED FACULTY MEMBER

Professor & Coordinator

Mohanty, Bikash, Ph.D. (Roorkee)

3. CONTINUING SPONSORED RESEARCH PROJECTS

Principal Investigator	Title of the Project	Sponsoring Agency	Outlay (amount in Lacs of Rs.)
Mohanty, Bikash	National Programme for Technology Enhanced Learning (Phase-II)	MHRD, New Delhi	293.70

8. Institute Accounts

8.1 Summary of Balance Sheet
8.2 Summary of Total Income and Expenditure
8.3 Details of MHRD Plan Receipts and Expenditure
8.4 Details of MHRD Non Plan Receipts and Expenditure
8.5 Details of Other Accounts
8.5.1 Sponsored Research Projects
8.5.2 Consultancy and Testing Projects
8.5.3 Institute Development Fund
8.5.4 Grant/Assistance received from AICTE
8.5.5 Grant/Assistance received from UGC
8.5.6 Grant/Assistance received from CSIR
8.5.7 Receipts from Seminar and conference
8.6 Donations Received

8.1 SUMMARY OF BALANCE SHEET AS AT 31ST MARCH 2013

8.1 Summary of Balance Sheet as at 31st March 2013

PARTICULARS	SCH. NO.	CURRENT YEAR AMOUNT (Rs.)	CURRENT YEAR AMOUNT (Rs.)	PREVIOUS YEAR AMOUNT (Rs.)	PREVIOUS YEAR AMOUNT (Rs.)
SOURCES OF FUNDS					
CORPUS FUND					
a. Capital Fund	1	3,688,629,331.35		6,649,582, 205.20	
b. Institute Development Fund	1A	1,332,064,077.92		1,419,329,554.92	
c. Trusts Fund	1B	159,913,187.40		177,870,183.40	
d. JEE Fund	1C	120,037,728.78		95,184,633.78	
e. JAM Fund	1D	13,338,766.35		8,849,110.35	
f. GATE Fund	1E	163,862,213.26	5,477,845,305.06	88,073,415.26	8,438,889,102.91
CURRENT LIABILITIES & PROVISIONS					
A. Current Liabilities:					
a. Univ. Grant Commission Fund	2A	6,814,409.38		1,942,999.38	
b. Govt. of India Fund	2B	48,317,546.16		47,558,399.16	
c. SRIC Fund	2C	1,989,442,192.55	2,044,574,148.09	1,610,425,571.60	1,659,926,970.14
Unutilised Grant of CSIR A/C			4,778,437.00		3,307,112.00
EXPENSES PAYABLE/OTHER PAYABLES					
PROVISION FOR EMPLOYEE'S BENEFITS	3	106,756,367.00		98,372,215.85	
OBLIGATION		6,886,403,722.00		6,384,163,934,00	
SECURITY DEPOSITS	3A-3C	71,240,264.73	7,064,400,353.73	54,532,632.87	6,537,068,782,72
TOTAL [RS.]			14,591,598,243.88		16,639,191,967.77
APPLICATION OF FUNDS					
FIXED ASSETS	4A-4C		8,837,215,628.01		12,429,944,108.80
INVESTMENTS	5		83,600,000.00		83,869,000.00
CURRENT ASSETS, LOANS & ADVANCES					
A. Current Assets:					
a. Closing Stock of Medicines		585,218.44		429,026.00	
b. Non-Plan Grant Received from MHRD	6A-	527,800,000.00		-	
c. Cash & Bank Balances	6C	3,891,646,298.41		3,279,205,120.80	
d. Interest Accrued on Investments		165,215,215.77	4,585,246,732.62	228,598,612.77	3,508,232,759.57
Advances Recoverable in Cash or in Kind:					
a. Advance against Foreign L.C. issued by banks (pending adjustment)	7-7A	1,030,628,265.00		579,852,755.00	
b. Sundry Advances	8-8B	46,571,017.25		28,956,743.40	
c. Securities	9	8,336,601.00		8,336,601.00	617,146,099.40
TOTAL [RS.]			14,591,598,243.88		16,639,191,967.77
SIGNIFICANT ACCOUNTING POLICIES & NOTES TO ACCOUNTS	10		-		

8.2 SUMMARY OF TOTAL INCOME AND EXPENDITURE

(Rs. in lacs)

Head of Accounts	Opening Balance	Receipts	Other Receipts	Total	Payments
I. MHRD					
(a) Plan Grant	1026.10	14620.00	0	15646.10	12687.58
(b) Non Plan Grant	1002.24	16778.00	3019.51	20799.75	17360.38
II. UGC	19.30	317.17	50.00	386.47	318.45
III. CSIR	285.33	278.23	25.72	589.28	263.52
IV. Institute Receipts					
(a) Fee	1416.84	3820.29	580.56	5817.69	5041.19
(b) Bhawan Receipt Payment Fund	413.44	150.88	0	564.32	103.50
V. Sponsored Research Projects	1843.41	3831.79	91.98	5767.18	2584.34
VI. Consultancy & Testing Projects	3086.62	3733.84	1096.65	7917.12	4788.78
TOTAL	**9093.28**	**43530.20**	**4864.42**	**57487.91**	**43147.74**

8.3 DETAILS OF MHRD PLAN EXPENDITURE

(Rs. in lacs)

Sl.	Head of Accounts	Expenditure
1.	**Equipment**	
(i)	Replacement of obsolete equipment & modernization of laboratories	6163.13
(ii)	Equipment of new department/placement cell education Tech. Cell/NPTEL	237.81
(iii)	New Programme (a) Equipment (b) NMR	22.30
(iv)	Office equipment/Automation (a) A few new offices (b) Computerization of Adms. Functions	680.49
2.	**Audio Visual**	**0**
3.	**Up gradation of Computing facilities**	**376.37**
4.	**Up gradation of Networking & Multimedia Facilities**	**262.35**
5.	**Strengthening of library**	**1203.28**

6.	**Staff / Student Amenities (other than buildings)**	
	(a) DOSW (Clubs & Sports)	62.50
	(b) Security	21.08
	(c) Hospital	18.70
	(d) Dairy	0.00
	(e) Sports	107.66
	(f) Transportation	84.28
	(g) New Guest House	5.34
	(h) KIH	0.00
7.	**Renovation/Extension of Buildings (including support services)**	**0**
(i)	(i) New 11 KV DG Set	0.00
(ii)	(j) HT and LT Cables	155.48
(iii)	(k) Tube Well/Pipe Line in Roorkee Campus	97.90
(iv)	(l) Ground Water Drainage System in Roorkee Campus	0
(v)	(m) Ground Water Drainage System in SRE Campus	0
(vi)	(n) Sewerage System and STP Roorkee Campus	0
(vii)	(o) Sewerage System and STP SRE Campus	0
(viii)	(p) Dining Hall Trainee Officers Hostel & CEC	0
(ix)	(q) Ext./Renovation of Acad & Admn Bldg Hostels etc	222.05
(x)	(r) Residential Buildings	149.11
(xi)	(s) Student Hostels & Amenities	226.46
(xii)	(t) Rewiring of Department/Residences in IITR	46.62
(xiii)	(u) Greater NOIDA	0.00
(xiv)	(v) Sports-IE	74.64
(xv)	(w) Furniture-for Hostels and Departments	85.97
(xvi)	(x) Multi-Activity Centre	0.00
(xvii)	(y) Road	9.20
(xviii)	(z) A-Category Residence at DPT,SRE 21 NOs.	0.00
(xix)	(aa) AC Plant For Biotech Deptt	0.22
(xx)	(bb) Over Head Tank	136.07
		0
8.	**Assistantship / Fellowship**	2238.57
	Total	**12687.58**

8.4 DETAILS OF MHRD NON PLAN RECEIPTS & EXPENDITURE

(Rs. in lacs)

Sl. No.	Head of Expenditure	2012-2013
1.	**Establishment Expenses**	
(i)	Pay & Allowance	8266.56
(ii)	OTA and Honorarium	5.45
(iii)	Traveling Allowance & LTC	387.23
(iv)	Children Education Allowance	110.54
(v)	Fund Contribution	0.00
(vi)	Pension and Gratuity	3718.57
(vii)	Advances	0.00
(viii)	Security and other agencies	217.32
(ix)	Mess Subsidy	203.95
(x)	Medical Expenses	380.84
(xi)	Staff development and HRD	0.08
(xii)	Professor Development Allowance (PDA)	373.81
(xiii)	Transfer to DPT SRE	956.02
	TOTAL	**14620.37**
2.	**Academic and Educational Expenses**	
(i)	Departmental Operating Costs	276.65
(ii)	Preparatory Course	0.00
(iii)	Assistantship/Fellowships/Merit-cum-means	178.66
(iv)	Library	28.21
(v)	Other Educational Expenses	367.92
	TOTAL	**851.44**
3.	**Computerization & Comp. Support Services**	**7.10**
	TOTAL	**7.10**
4.	**Maintenance Expenses**	
(i)	Estate Maintenance	738.48
(ii)	Water Power & Fuel/Electricity	786.73
(iii)	Property Tax	3.80
(iv)	Repair & Maintenance of Equipment	12.30
	TOTAL	**1541.31**
5.	**Other Expenses**	**340.16**
	TOTAL	**340.16**
	GRAND TOTAL	**17360.38**

8.5 DETAILS OF OTHER ACCOUNT

8.5.1 SPONSORED RESEARCH PROJECTS

(Rs. in lacs)

Description	Amount
Opening Balance (Including FDR)	1843.41
Receipts	3923.77
Expenditure	2584.34
Closing Balance (Including FDR)	3182.84

8.5.2 CONSULTANCY AND TESTING PROJECTS

(Rs. in lacs)

Description	Amount
Opening Balance (Including FDR)	3086.62
Receipts	4830.49
Expenditure	4788.78
Closing Balance (Including FDR)	3128.33

8.5.3 INSTITUTE DEVELOPMENT FUND

(Rs. in lacs)

Description	Amount
Opening Balance (Including FDR)	14193.30
Receipts	1307.34
Expenditure	2180.00
Closing Balance (Including FDR)	13320.64

8.5.4 SPONSORED RESEARCH PROJECTS - PAPER TECHNOLOGY

(Rs. in lacs)

Description	Amount
Opening Balance (Including FDR)	0.00
Receipts	0.00
Expenditure	0.00
Closing Balance (Including FDR)	0.00

8.5.5 CONSULTANCY AND TESTING PROJECTS - PAPER TECHNOLOGY

(Rs. in lacs)

Description	Amount
Opening Balance (Including FDR)	0.00
Receipts	0.00
expenditure	0.00
Closing Balance (Including FDR)	0.00

8.5.6 GRANTS/ASSISTANCE RECEIVED FROM AICTE

(Rs. in lacs)

Scheme/Programmes	Amount received
QIP	137.11
AHEC	0.00
Others	11.22
TOTAL	148.33

8.5.7 GRANT/ASSISTANCE RECEIVED FROM UGC

(Rs. in lacs)

Scheme/Programmes	Amount received
JRF/SRF/Fellow	317.17
Others	0.00
TOTAL	**317.17**

8.5.8 GRANT/ASSISTANCE RECEIVED FROM CSIR

(Rs. in lacs)

Scheme/Programmes	Amount received
JRF/SRF/Fellow	278.23
Others	0.00
TOTAL	278.23

8.5.9 RECEIPTS FOR SEMINAR AND CONFERENCE

(Rs. in lacs)

Scheme/Programmes	Amount received
Conference Receipt	79.51
DST	0
CSIR	0
TOTAL	79.51

8.6 DONATION RECEIVED

(Rs. in lacs)

Donor (s)	Date	Amount Received
Donation Receipt	--	0
	TOTAL	0

9. Sponsored Research and Industrial Consultancy

9.1 Sponsored Research and Industrial Consultancy activities
9.2 Conference / Symposia / Seminars
9.3 Sponsored Research Projects
9.4 Research Publications
9.5 Industrial Consultancy/ Testing
9.6 Faculty Initiation Grant
9.7 Intellectual Property Rights (IPR) Cell
9.8 Intellectual Property Rights (IPR) Chair

9.1 SPONSORED RESEARCH AND INDUSTRIAL CONSULTANCY ACTIVITIES

During the year 2012-2013, 79 new sponsored research projects by Department of Science and Technology (DST), CPRI Bangalore, Council of Scientific and Industrial Research, DRDO, Department of Atomic Energy, Ministry of Human Resource and Development, MNRE, ISRO, MIT, MoES, Ministry of Rural Development, Ministry of Water Resources and other agencies with an outlay of Rs. 7021.41lacs' were taken up and 622 new consultancy projects were taken up across the various departments with an outlay of Rs.3607.80 lacs'.

9.2 CONFERENCES / SYMPOSIA / SEMINARS

A large number of National and International conferences, symposia and seminars were organized by various departments and centres of the Institute. The details regarding titles, dates and other relevant information about these activities are given in the information provided by the concerned departments. The financial support for these events amounting to Rs.80.82 lacs were obtained from DST, CSIR and other funding agencies.

9.3 SPONSORED RESEARCH PROJECTS

Almost all the departments of the Institute participated in these projects. 66 projects with a total outlay of Rs.1375.07 lacs were completed while 154 projects with an outlay of Rs.9852.85 lacs continued for study and investigation during the year.The department-wise and agency-wise breakup of these sponsored projects are given in tables. Tables 9.3.1 A and B give the details of completed projects. Tables 9.3.2 A and B list the ongoing projects whereas Tables 9.3.3 A and B contain newly started projects.

Table 9.3.1 A. Sponsored Research Projects Completed (Deptt.-wise)

Department	No. of Project	Outlay in Lacs of Rs.
AHEC	1	15.40
Biotechnology	4	77.57
Civil Engineering	12	176.16
Centre for Transportation System	1	38.59
Chemistry	6	93.04
Department of Paper Technology	2	20.20
Centre of Excellence in Disaster Mitigation Management	2	31.11
Electronics & Computer Engineering	6	117.73
Earthquake Engineering	4	333.29
Electrical Engineering	1	16.26
Earth Sciences	3	52.69
Hum. & Social Sciences	1	25.00
Hydrology	1	11.37
Institute Instrumentation Centre	1	16.16
Mathematics	1	29.28
Met. & Mat. Engineering	5	123.84
Mech. & Ind. Engineering	9	151.41
Management Studies	2	9.00
Physics	3	36.47
WRD&M	1	0.50
Total	**66**	**1375.07**

Table 9.3.1 B. Sponsored Research Projects Completed (Agency-wise)

Organizations/ Agencies	No. of Projects	Outlay (in Lacs

AICTE, New Delhi	1	0.50
BASF, Navi Mumbai	1	19.50
BRNS, Mumbai	1	16.10
College of Military Engineering (CME), Pune	1	40.00
CSIR, New Delhi	13	165.84
Department of Atomic Energy, BARC, Mumbai	3	66.00
Department of Scientific & Industrial Research, New Delhi	1	6.00
DRDO, New Delhi	1	39.39
DST, New Delhi	28	611.98
IBM India Pvt. Ltd., Bangalore	1	3.50
Indian Veterinary Research Institute, Izatnagar	1	5.00
Indo-US Science & Technology Forum, New Delhi	1	4.82
MCIT	1	10.28
MHRD, New Delhi	1	240.00
Ministry and New Renewable Energy, New Delhi	1	15.40
Ministry of Rural Development, Department of Drinking Water & Sanitation, New Delhi	1	14.45
MoEF, New Delhi	2	25.35
National Disaster Management Authority, New Delhi	1	25.20
National Institute of Rural Development (NIRD), Hyderabad	1	25.00
Petroleum Conservation Research Association, New Delhi	1	6.32
Total	**62**	**1340.63**

Table 9.3.2 A. Sponsored Research Projects Continuing (Deptt.-wise)

Department	**No. of Project**	**Outlay in Lacs of Rs.**
AHEC	3	1563.52
Biotechnology	14	689.39
Civil Engineering	23	888.05
Chemical Engineering	6	317.67
Chemistry	9	323.69
Centre of Nanotechnology	3	514.83
Department of Paper Technology	2	16.66
Centre of Excellence in Disaster Mitigation Management	1	39.10
Electronics & Computer Engineering	13	359.80
Electrical Engineering	8	1477.86
Earthquake Engineering	5	276.68
Earth Sciences	12	362.75
Educational Technology Cell	1	58.00
IPR Cell	1	8.00
Hydrology	2	107.97
Institute Computer Centre	2	31.80
Institute Instrumentation Centre	3	186.76
Mathematics	4	50.72
Met. & Mat. Engineering	9	784.82
Mech. & Ind. Engineering	18	1309.61
Management Studies	1	1.00
Physics	7	217.39
WRD&M	7	266.78
Total	**154**	**9852.85**

Table 9.3.2 B. Sponsored Research Projects Continuing (Agency-wise)

Organizations/ Agencies	**No. of Projects**	**Outlay (` in Lacs)**
AICTE, New Delhi	1	40.00
Atomic Energy Regulatory Board, Mumbai	1	22.60
BRNS, BARC, Mumbai	4	139.04
Building Materials & Technology Promotion Council, New Delhi	1	11.60
Central Power Research Institute (CPRI), Bangalore	3	220.11
CSIR, New Delhi	13	206.96
DAE, Mumbai	10	954.69
DBT, New Delhi	4	142.17

Department of Scientific & Industrial Research, New Delhi	1	8.00
Dr. Vinod Tare, IIT Kanpur	1	25.00
DRDO, New Delhi	5	162.90
DRDO, Tezpur (Assam)	1	9.48
DST, New Delhi	52	2991.18
European Commission	1	48.67
Gestalt Technologies Pvt. Ltd., Bangalore	1	1.00
Govt. of Uttarakhand	1	6.00
IAEA, Vienna International Centre, Vienna, Austria	1	2.03
IIT Roorkee	1	20.00
International Business Machine Corporation	2	33.00
ISRO, Ahmedabad	2	18.82
ISRO, Bangalore	1	18.00
Japanese Ministry of Education, Culture Sports, Science and Technology (MEXT) through Meisei University, Tokyo, Japan	1	2.40
Max Planck Society, Germany	1	33.13
Ministry of Communications & Information Technology, Deptt. of Information Technology New Delhi	3	605.75
Ministry of Earth Sciences, New Delhi	7	496.47
Ministry of Human Resource Development, New Delhi	6	1219.80
Ministry of New and Renewable Energy, New Delhi	1	1468.00
Ministry of Rural Development, New Delhi	1	13.97
Ministry of Shipping, Roads Transport & Highways, New Delhi	1	24.43
Ministry of Textiles, Office of the Development Commissioner (Handicrafts),New Delhi	1	90.00
Ministry of Water Resources, New Delhi	4	103.37
MOEF, New Delhi	2	22.69
Nanyang Technical University, Singapore	1	39.10
National Agricultural Innovation Project (NAIP), New Delhi	1	271.47
National Centre for Medium Range Weather Forecasting	1	4.69
Nuclear Power Corporation of India Ltd., Mumbai	2	127.27
Rajendra Memorial Research Institute of Medical Sciences, ICMR, Ministry of Health & Family Welfare, Govt. of India, Patna	1	11.98
Remote Sensing Based Debris-Cover Analysis of Chhota-Shigri Glacier, Himalaya	1	23.43
Science and Engineering Research Board, New Delhi	1	26.58
State Biotechnology Department, Govt. of Uttarakhand, Dehradun	1	7.02
THDC	2	73.99
UGC	1	0.25
UGC-DAE Consortium for Scientific Research, Kolkata	1	0.25
UKIERI	1	30.56
UKIERI (British Council), University of Cambridge, UK	1	15.04
UKIERI,Edinburgh Research and Innovation Ltd.,The University of Edinburgh, Scotland	1	33.36
United Nations University, International Organizations Center, Yokohama, Japan	1	18.60
Uttarakhand State Biotechnology Department, Govt. of Uttarakhand, Dehradun	1	6.10
Uttarakhand State Council for Science and Technology, Dehradun	1	1.90
Total	**154**	**9852.85**

Table 9.3.3 A. New Sponsored Research Projects (Deptt.-wise)

Department	No. of Projects	Outlay (` in Lacs)
AHEC	4	4217.56
Arch. & Planning	1	2.92
Biotechnology	7	187.61
Civil Engineering	12	660.40
Chemical	1	8.51
Chemistry	7	197.53
Department of Paper	5	496.64

Technology		
Electronics & Computer Engineering	3	52.68
Electrical Engineering	1	12.96
Earthquake Engineering	1	120.46
Earth Sciences	2	81.39
Hum. & Social Sciences	1	5.22
Hydrology	3	143.53
IPR Cell	1	2.19
Institute Instrumentation Centre	1	12.46
Mathematics	4	35.23
Met. & Mat. Engineering	6	118.04
Mech. & Ind. Engineering	3	96.46
Disaster Mitigation Centre	1	2.46
Centre of Nanotechnology	4	114.50
Physics	7	151.41
WRD&M	4	301.25
Total	**79**	**7021.41**

Table 9.3.3 B. New Sponsored Research Projects (Agency-wise)

Organisations/ Agencies	No. of Projects	Outlay (` in Lacs)
Building Materials & Technology Promotion Council, New Delhi	1	9.96
CSIR, New Delhi	8	199.57
Department of Atomic Energy, BARC, Mumbai	6	228.04
DBT, New Delhi	3	95.65
DRDO, New Delhi	2	60.45
DST, New Delhi	12	1078.57
European Commission	1	2.19
IBM, TJ Watson Research Center, 1101 Kitchawan Road, Yorktown Heights, NY 10598	1	3.98
Indian Council of Medical Research (ICMR), New Delhi	3	77.55
Indian Council of Social Sciences Research (ICSSR), New Delhi	1	5.22
ISRO, Ahmedabad	2	12.60
ISRO, Bangalore	3	45.65
Ministry of Earth Sciences, New Delhi	1	114.74
MNRE, New Delhi	3	4125.56
Ministry of Water Resources, New Delhi	2	74.81
Ministry of Drinking Water and Sanitation, New Delhi	1	8.51
NORSAR, Norway	1	120.46
Natural Environment Research Council (NERC), Polaris House, North Star Avenue, Swindon, Wiltshire, United Kingdom SN2 IEU	1	208.98
Science and Engineering Research Board, New Delhi	20	527.26
UKERI British Council Division of British High Commission, N. Delhi	1	2.64
Uttarakhand State Biotechnology Department , Govt. of Uttarakhand, Dehradun	1	4.38
Uttrakhand State Council for Science and Technology, Dehradun	5	14.64
Total	**79**	**7021.41**

9.4 RESEARCH PUBLICATIONS

Department-wise details of research publications under the following four categories are given in Table 9.4.

A- Books/ Chapters in books/monograph
B- Papers in Journals
C- Papers in Conferences / Symposia / Seminar/ Workshop
D- Scientific & Technical Reports

Table - 9.4 Research Publications

Department	A	B	C	D	Total
AHEC	0	41	38	0	79
Arch. and Planning	2	15	13	0	30
Biotechnology	5	50	30	0	85
Chemical Engg.	2	60	52	0	114
Chemistry	2	113	36	0	151
Civil Engg.	2	196	157	0	355
Earthquake Engg.	0	52	44	0	96
Earth Sciences	0	20	18	0	38
Electrical Engg.	0	11	30	0	41
Elec.&Comp. Engg.	0	26	79	0	105
Hum.& Soc. Sc.	13	37	25	0	75
Hydrology	2	14	17	0	33
Management	0	0	0	0	0
Mathematics	15	68	0	0	83

Mech.& Ind. Engg.	8	101	61	0	170
Met. & Mat. Engg.	0	75	39	0	114
Paper Technology	0	0	0	0	0
Physics	0	56	68	0	124
WRD&M	0	14	19	0	33
CTRANS	0	5	14	0	19
Nanotechnology	0	2	4	0	6
Disaster Mitigation & Management	1	4	8	0	13
ICC	0	3	19	0	22
IIC	0	7	2	0	9
Total	**52**	**970**	**773**	**0**	**1795**

9.5 INDUSTRIAL CONSULTANCY / TESTING

During the year 2012 -2013, 622 new consultancy projects were taken up by different departments; major contributors are as:

Table 9.5 gives the details about number and outlay of consultancy projects incl. without lab facilities, with lab facilities and testing works.

9.6 FACULTY INITIATION GRANT (2012-2013)

From the resource generated through SRIC activities the research initiation grants are awarded to the new faculty members joining the institute. The details of research areas and the faculty who received the grant is given in Table below:

SCHEME (OUT OF SRIC FUNDS)

(Rs. in Lacs)

S.No.	Date	Name of Faculty Members & Deptt.	Project Title	Duration (Period)	Amount sanctioned
1	23.05.12	Dr. Anil Kumar Gourishetty, Asstt. Professor, Physics Deptt.	Studies on coincidence summing effects in scintillation detectors	3 years	4.90
2	23.05.12	Dr. Jaydev, Asstt. Professor, Deptt. of Paper Technology	To investigate existence and uniqueness of some fractional order differential equations with impulsive conditions	3 years	2.75
3	23.05.12	Dr. Manoj Kumar Charandas Ramteke, Asstt. Professor, Deptt. of Paper Technology	Study of Polymer Rheological Properties using Soft-Sensors in Computer Controlled Glass Reactor	3 years	4.25
4	23.05.12	Dr. Paritosh Mohanty, Asstt. Professor, Deptt. of Paper Technology	Hierarchical Nanoporous Inorganic-Organic Hybrid Materials for Gas Storage and Separation Applications.	3 years	4.25
5	23.05.12	Dr. Sujay Chattopadhyay. Asstt. Professor, Deptt. of Paper Technology	Engineering aspects in recovering Pharmaceutical Ingredients from Plants	3 years	4.25

6	23.05.12	Dr. Pratibha, Asstt. Professor, Mathematics Department	Particle Interactions in Electro rheological Fluids	3 years	2.75
7	23.05.12	Dr. Anuj Sharma, Asstt. Professor, Chemistry Department	A Diversity Oriented Synthesis of Cyclopenta-azulenones as Prospective Hemazoin Inhibitors in Malarial Chemotherapy	3 years	4.75
8	23.05.12	Dr. Tapas Kumar Mandal, Asstt. Professor, Chemistry Department	Design and synthesis of novel layered oxides and oxyhalides: Potential visible-light photocatalysts for hydrogen production	3 years	4.75
9	23.05.12	Dr. M. Shankar, Asstt. Professor, Chemistry Department	Synthesis of Zn (II) complexes of Carboxylic acid Substituted Porphyrins for Dye-Sensitized Solar Cells (DSSC) Applications	3 years	4.75
10	23.05.12	Dr. Lalita Sharma, Asstt. Professor, Physics Department	Photoionization and Radiative recombination of highly charged ion.	3 years	3.50
11	23.05.12	Dr. Usha Lenka, Asstt. Professor, Deptt. of Management Studies	Exploring dynamics of potential women entrepreneurs	3 years	2.25
12	23.05.12	Dr. P. Mondal, Asstt. Professor, Chemical Engg. Department	Production of hydrogen rich gas from Indian Coal through catalytic steam gasification	3 years	4.25
13	29.05.13	Dr. Vaskar Ray Choudhry, Asstt. Prof., E&C Engg. Deptt.	Development of an Internet-of-Things (I to T) framework for navigating the physical world	3 years	10.00
				Total Rs. in Lacs	57.40

9.7 INTELLECTUAL PROPERTY RIGHTS (IPR) CELL

PATENT FILING

During the period 1st April, 2012 to 31st March, 2013, the IPR Cell received 21 new disclosures for patent filing. In this duration these disclosures along with 3 carried over from the previous year amounting to 24 disclosures have been preprocessed for patent filing. Out of these 1 patent has been filed by the inventor.

EVENTS OF IPR CELL

A. WORLD IP DAY

World IP Day was celebrated on April 21, 2012. The Chief Guest was Dean (Academic Research). The CEO of M/s Sanshadow Consultants Pvt. Ltd., New Delhi delivered the expert lecture and the team accompanying her conducted a "Brainstorming Workshop" for the students. A team from Foundation for Innovation and Technology Transfer (FITT), New Delhi and Samsung Electronics India Ltd., New Delhi, also participated in this function, delivered expert lectures and launched SAMSUNG INNOVATION AWARD-2012.

B. Guest Lecture On RSBY

A guest lecture-cum-interactive session on Rashtriya Swathya Bima Yojna (RSBY): An innovative healthcare Management Model was organized on 16 Feb, 2013 in the Bose Auditorium of Physics Department. Mr. Anil Swarup, Director General Labour Welfare, Govt. of India was the speaker. Mr. Swarup pointed out health insurance coverage of BPL families through RSBY. Many faculty members, students and employees were present in the event.

C. Activity in Cognizence

IPR Cell hosted "IGenesis-Innovation" on event for presentation of ideas on March 23, 2013 (Saturday) in the COGNIZANCE-2013. 45 entries were received from all over India. Out of these 15 entries were selected for the presentation. First 3 entries were given the certificates of merit and cash prize.

TECHNOPRENEURE PROMOTION PROGRAMME OUTREACH CENTRE ACTIVITIES:

During this period the TePP Outreach Centre (TUC), IITR received 5 proposals for funding of Micro Technopreneureship Supports (TS) scheme. The entire proposals are in process and two projects are funded from DSIR.

ANY OTHER ACTIVITY RELATED TO TEPP WORKSHOP ON SPARK INNOVATION AT TUC, IPR CELL, IIT ROORKEE-AUG. 11, 2012

❖ Expert talk about **ALUMNI TALK AND INTERACTIVE SESSION** by **Mr. K.V.Jagannath, CEO Choice Solutions, Hyderabad with Mr. Chand Narayan on Sep. 14, 2012**

✓ **Talk on:**

- **Innovation and Its process**
- **Enterpreneurship Development**
- **Attainment of financial support for INNOVATIONS from alumni.**

9.8 INTELLECTUAL PROPERTY RIGHTS (IPR) CHAIR

National Conclave on "Innovation and Entrepreneurship in Higher Educational Institutes"

A Two days national conclave on "Innovation and Entrepreneurship in Higher Educational Institutes" from March 2-3, 2013 at IIT Roorkee was organized under MHRD-IPR Chair, IIT Roorkee.
The main objective of organizing this conclave is to understand the perspective of learned stakeholders about the prospects, scope, the relevance and the methodology of Innovation to be steered by Higher Educational Institutions in India.

Key Speakers of the Conclave Mr. Sam Pitroda, Adviser to the Prime Minister on Public Information Infrastructure & Innovations was invited as Chief Guest at this conclave. He addressed the gathering of eminent thinkers and the students though video conferencing from (Chicago USA) wherein he shared his views with pertinent points elaborating his personal experience on propelling innovation through his invention of digital diary and then patenting it and using it commercially.

Key Discussion Points of the Conclave were : (1) Propelling innovation at grass root levels and the necessary radical changes to be incorporated in the system. (2) Various initiatives by Government in HEIs for building a culture of innovation among students, scholars and faculties. (3) Industry perspective on innovation and need for University-Industry collaboration .

Outcome of the Conclave : (1) Fundamental outcomes for propelling structured innovation culture have to be developed through industry-university collaboration. (2) A National Roadmap was prepared which identifies the various key players along with the tasks and deliverables for propelling structured innovation in HEIs.

Short Term Course on "Promotion of Innovation in Higher Educational Institutes (HEIs)

A Short Term Training Course, ToT (Training of Trainers) on "Promotion of Innovation in Higher Educational Institutions (HEIs)" was organised during March 01 – 05, 2013 at Centre for Continuing Education, IIT Roorkee.
The core objective of organizing this ToT program is to educate the IP facilitators and managers of HEIs on the following aspects of innovation.

Creating awareness about the need and importance of innovative research.
Counselling and organizing research work for deliverable innovation.
Identifying value in research and education.
Developing suitable infrastructures for protection and management of innovation.
Appropriate strategies for commercialization of innovation.

The course were attended by 13 participants (Researchers, students, faculty members) from various Higher Educational institutes viz. IIT Roorkee, NLU Jodhpur, TMU- Moradabad, OIMT-Rishikesh, College of Technology & Engineering Udaipur, CSIR-IHBT Palampur, GKU Haridwar, CSIR-CLRI Chennai etc.

HEIP- link Erasmus Mundus Project

HEIP-link is a cooperation of 11 HEIs from Europe, Latin America, BRICS countries and ASEAN countries covering around 60 countries. The project is an initiative under HEIP-link, co-funded by the European Commission within the Erasmus Mundus Programme.

The objective of this international project is designed with an aim of promoting structured cooperation between Higher Education Institutions (referring to HEIs in Europe and third countries). The project was initiated in the month of January 2013 and is currently executing under the aegis of MHRD IPR Chair.

Scope of the Project : The project is currently running through the data collection phase under which data will be collected from 60 countries in Asia, Latin America, BRICS and Europe. India, South Korea and Sri Lanka are the countries from where the data collection is being done. The data template includes six domains; first domain includes data for possible sources of research financing, national agencies or other bodies supporting researchers. Further domains include information on intellectual property regime at national level and HEIs specific IP rules. Third domain requires data on ownership rules of research results prevailing in India and fourth domain includes data of rules for dissemination/publication of research results. Further domain contains data on rules for exploitation of research results. A domain devoted to model contracts for collaboration of projects and consortium agreements is also included.

10. Students Amenities and Activities

10.1 General
10.2 Students' Welfare and Facilities
10.3 National Cadet Corps (NCC)
10.4 Institute Sports Council
10.5 Institute Students' Club
10.6 Hobbies Club
10.7 Cultural Council
10.8 Himalayan Explorers Club
10.9 Foreign Student's Activities
10.10 Training & Placement Cell

10.1 GENERAL

During the year 2012-2013, the students performed extremely well in academics, displaying high sense of responsibility and discipline. They also excelled in organizing extracurricular activities and also in the management of hostels and mess facilities. Due to increased strength of students, the extension of several hostels and messes were carried out and various messes were modernized. Students' activities were multifarious and predominantly included participation in the Hobbies Club, Students Club, National Cadet Corps (NCC), Sports Association, Cultural Society, NSS/NSO, Cinema Club and Himalayan Explorers' Club.

The Sports Association continued organizing its activities with usual vigor during the year 2012-2013 and our students participated in Inter-IITs annual sports meet at IIT Roorkee. Our girls won the women's championship and in the general championship stood at 3rd position.

The Annual Technical Festival, Cognizance was organized during March 22-24, 2013. The events attracted about 2000 participants from various reputed Technical Institutions across India.

Under the aegis of NSS, our students did commendable social work. Blood donation camps were organized. The other notable activities included helping handicapped people, holding classes for poor children, and visiting nearby villages to increase awareness regarding general and personal hygiene.

10.2 STUDENTS' WELFARE AND FACILITIES

The Elections of Students Affairs Council (SAC) for 2012-2013 were held in Sept. 2012. The Students Senate was elected and other bodies of SAC were constituted. Mr. Nikhil Kumar, M.Tech. (Corrosion), II Yr. was elected General Secretary of the SAC for 2012-2013. The Students' Affairs Council was constituted under the Chairmanship of the Director. The Coordinating Committee of the Bhawans were also constituted and these bodies started functioning immediately. Simultaneously, the Executive committee and Discipline committee of the Institute were constituted according to the constitution of SAC.
A 'Students Loan and Aid Fund' scheme was started in 1957, to enable meritorious but financially weaker students to pursue their education. For the past few years, a cash grant-in-aid is being provided to needy students instead of a loan. During the year 2012-2013, 104 students were given aid under this scheme and a sum of Rs. 13,59,000.00 was distributed to needy and deserving students as per the criteria made by a committee and approved by the Director. As a part of student welfare measures, an insurance policy has been taken from United India Insurance Company Ltd. which provides the reimbursement of medial expenses and compensation for laptop and cycle theft.

10.3 NATIONAL CADET CORPS (NCC)

General

The Training year of NCC Cadets under the aegis of 3 UK Comp Tech Regt NCC Roorkee, started with Enrolment of Cadets at IIT, Roorkee, on 25 Jul 2012, and same was completed by 30 Jul 2012. The training year completes on 31 March 2012. NCC 'B' and 'C' Certificate Exam were conducted on 12 & 13 Feb. 2013 and 24 & 25 Feb. 2013 respectively.

Enrollment

For academic year 2012-13 enrollment in NCC was as under:-

	I Year	II Year	III Year	Total
(a) Engr Coy	174	23	-	197
(b) EME Coy	95	22	-	117
(c) Sig Coy	101	05	-	106
Total	**370**	**50**	**-**	**420**

Training

The Commanding Officer NCC and the Associate NCC Officers of the IIT, took keen interest in imparting training to the cadets. A two week special cadre was conducted to enable cadets present a Guard of Honors to Honorable Director, Chief Guest IIT, Roorkee, on Independence Day 2012. The personal interest taken by Dean of Students Welfare Dr. S.N Sinha , NCC liaison Officer, whole hearted efforts by the Associate NCC Officers and active participation by the cadets & JCOs /NCOs of training staff, resulted in a befitting standards of parades during Independence day and Republic day.

Regular training classes were conducted in addition, training was imparted in Drill, Weapon handling/shooting, Map Reading, Battle Craft and Camp training. The cadets also contributed towards tree plantation and Blood donation. Cadets were exposed to limited sports activities also.

Certificate Examination – 2012-13

NCC certificate examination details are as under:-

Exam Conduction	Appeared	Passed	% of pass	Failed	Absent
Certificate 'B'	369	308	83.46	03	58
Certificate 'C'	22	22	100	-	-

Important Events

The NCC Cadets of the IIT, Roorkee, presented Guard of Honor to Director IIT Roorkee, on the occasions of Independence Day 2012 and Republic Day 2013.

Annual Training Camp

The Annual Training Camp was organized under agises of 3 UK Comp Tech Regt NCC, Roorkee, at Rajendra Bhawan IIT Campus Roorkee w.e.f. 06 Dec. 2012 to 15 Dec. 2012. NCC Cadets attended the Annual Training camp. Following training activities were carried out during the camp:-

(a) Institutional Training - Drill, Weapon Training, Field Craft, Battle Craft and Map Reading.

(b) Range Classification – Cadets fired fire arms as part of annual range classification.

(c) Physical Training - Game and Physical training were held.

(d) Motivational Training
  (i) Guest Lectures
    (a) Lec on "Disaster Management" by (Dr.) Suvir Singh, Head fire research deptt CBRI Roorkee.
    (b) Lec on "Carrier Counseling" by Professional counselors from Dehradun.
    (c) Lec on " Discipline of Good Citizen" by Capt R K Garg ANO K L P Roorkee.
    (d) Lec on "BENEFITS OF NCC" by Capt Ashok Kumar, ANO K L P Roorkee.

(e) Social Service - Cadets were exposed to Social Service during NCC Camp.

(f) Awareness Lectures -

Lecture on Cancer Awareness by Lt. Col. B.S. Khunga Station Health Organization Roorkee Cantt.

(g) Sports/Games - Inter Company games and competitions were held during evenings.

(h) Cultural Training - Cultural programmes were held after 1800 hrs.

(i) Competitions - Drill, Firing, Games/Sport and Best Cadets competitions

.**Conclusion**

The NCC Training was imparted to Cadets according to syllabus, cadets took keen interest and large numbers of cadets have applied for enrollment in second year of NCC Training.

10.4 INSTITUTE SPORTS COUNCIL

Physical fitness is of the utmost importance for everyone, young and old. Participation in games and sports invariably ensures good health, fitness and, generally, freedom from ailments of various types.

Sports also offer an enjoyable, exciting environment in which to learn how to handle both failure and success. Everyone wins and loses some of the time in both sports and other endeavors. Winning feels great and empowering but can also cause a young person to feel pressure and anxiety the next attempt to win. Losing usually produces feelings of sadness, depression, and disappointment. Learning how to cope with these different feelings fosters good mental health.

The result has been the creation of a healthy, well-developed, disciplined and efficient society in which people know the right proportions in life, put everything in the right perspective, and seldom conduct themselves in an unsporting, ungentlemanly and unbecoming manner. Playing the game on the playground naturally instructs people to play the game of life in the right spirit, which is what matters most, not victory or defeat.

SPORTS COUNCIL STAFF:
Sports Officer
Shri K.Sukumar

ASSTT. SPORTS OFFICER
Shri Hemant Sharma
Dr.Alok Kumar Pandey

PHYSICAL TRAINING INSTRUCTOR
Smt. Hema Pant
Shri Mukesh Choudhary (Saharanpur Campus)

ASSTT. COACH (BADMINTON)
Shri S.N Goel

OFFICE INCHARGE
Shri Muzahir hussain

2. TOURNAMENTS CONDUCTED AND PARTICIPATED

(a) INTERNAL (INTRAMURAL) TOURNAMENTS
"Intramural" means literally" "within the walls" and refers to activities that take place entirely within an Institution. In order to encourage 100% students participation in the Sports activities various tournaments were organized within the IIT Roorkee (Intramural) Inter Bhawan matches, Inter Year tournaments & for Racquet games. Institute Open tournaments were also organized:

(i) Results of Inter Bhawan matches-2012-13

Activity	Bhawan	
	Winners	**Runners-Up**
Athletics	Jawahar Bhawan	Azad Bhawan
Badminton	Radha Krishnan Bhawan	Ravindra Bhawan
Basketball	Rajiv Bhawan	Jawahar Bhawan
Cricket	Govind Bhawan	Azad Bhawan
Football	Ganga Bhawan	Ravindra Bhawan
Hockey	Rajiv Bhawan	Radha Krishnan Bhawan
Table Tennis	Radha Krishnan Bhawan	Rajiv Bhawan
Volleyball	Govind Bhawan	Ravindra
		Bhawan
Squash	Jawahar Bhawan	Radhakrishnan Bhawan
Tennis	Rajiv Bhawan	Rajendra Bhawan

(ii) Results of Inter-Year Tournaments-2012-13

Activity	Winners	Runner-Up
Basketball	IV Year	II Year
Cricket	II Year	I Year
Football	II Year	III Year
Hockey	II Year	I Year
Volleyball	PG	II Year

(iii) Results of Weight Lifting Competition-2012-13

Weight Category 56 Kg		**Position**
1.	Mr. Om Prakash Meena, B. Tech. II Year, PEM	I
2.	Mr. Manohar Gupta, B. Tech. III Year, Mech.	II
3.	Mr. Sukh Bir, B. Tech. II Year, Meta.	III
Weight Category 56 - 62 Kg		
1.	Mr. Devendra Singh Meena, B.Tech II Yr, Meta	I
2.	Mr. Vikrant Yadav, B.Tech I Yr, Meta	II
3.	Mr. Shankar Jain, B.Tech II Yr, Chemical	III
Weight Category 62 - 69 Kg		
1.	Mr. Kailash Lohiya, B.Tech III Yr, Civil	I
2.	Mr. Maninder Jeet Singh, B.Tech II Yr	II
3.	Mr. Rajeev, B.Tech III Yr, Meta	III
Weight Category 69 - 77 Kg		
1.	Mr. Gaurav Yadav, B.Tech III Yr, Civil	I
2.	Mr.Gagandeep Shergill, IDD, Msc. Chemistry	II
3.	Mr.Ritu Raj Ahirwar, Phd, Civil	III
Above 77 kg		
1.	Mr. Mahendra Mundel, B.Tech III Yr, Civil	I
2.	Mr. Jitendra Bhakal, B.Tech III Yr, Meta	II
3.	Mr. Amitesh, B.Tech II Yr, Meta	III

(iv) Power Lifting Competition-2012-13

Weight Category 56 Kg		**Position**
1.	Mr. Manohar Gupta, B.Tech III Yr Mech.	I
2.	Mr. Ayush Jain, B.Tech IV Yr, Civil	II
3.	Mr. Rakesh Kumar, B.Tech IV Yr, Meta	III
Weight Category 57 - 62 Kg		
1.	Mr. Rohit Sharma, , B.Tech II Yr, Civil	I
2.	Mr. Vikrant Yadav, B.Tech I Yr, Meta	II
3.	Mr. Ravi Garg, M.Tech I Yr, Mech.	III
Weight Category 62 - 69 Kg		
1.	Mr. Deepak Swami, Phd, Civil	I
2.	Mr. Kailash Lohiya, B.Tech III Yr, Civil	II
3.	Mr. Devendra Singh Meena, B.Tech II Yr, Meta	III
Weight Category 69 - 77 Kg		
1.	Mr. Gaurav Yadav, B.Tech III Yr, Civil	I
2.	Mr.Ritu Raj Ahirwar, Phd, Civil	II
3.	Mr. R.D Dwevadi, phd, Civil	III
Above 77kg		
1.	Mr. Mahendra Mundel, B.Tech III Yr, Civil	I
2.	Mr Harvinder Singh, B.Tech III Yr, CSC	II
3.	Mr.Gagandeep Shergill, IDD, Msc. Chemistry	III

(v) SQUASH – COMPETITION-2012-13

Open Championship		
1.	Mr. Shashank Khatri, IMT GLT V Yr	I
2.	Mr. Karan Vashisth, B. Arch., II Year	II

(vi) TENNIS - INSTITUTE OPEN CHAMPIONSHIP-2012-13

Singles		**Position**
1.	Mr. Rahul Adhikari, B. Tech., I Year, Civil	I
2.	Mr. Salil Jain, Int. MSc. I Yr.	II
Doubles		
1.	Mr. Mohit Choudhary, B. Tech., IV Year, P&I Mr. Salil Jain, Int. MSc. I Yr.	I
2.	Mr. Rahul Adhikari,B.Tech., I Year, Civil Mr. Arvind Poonia, B.Tech I Year, Civil	II
Singles (Girls)		
1.	Ms. Shreya Bhardwaj, B. Arch IV Year	I
2.	Ms. Pooja Arya, B.Tech III Year, P&P	II

(vii) BADMINTON INSTITUTE OPEN CHAMPIONSHIP-2012-13

Singles		**Position**
1.	Mr. Saurabh Saini, B.Tech III Year,CHH	I
2.	Mr. Ajay Krishna, M.Tech I Year, ELE	II
Doubles		
1.	Mr. Ajay Krishna, M.Tech I Year, ELE Mr. Ajith, M.Tech II Year Civil	I
2.	Mr. Saurabh Saini, III Year, Chem. Mr. Gaurav Garg, B.Tech III Year EE	II
Singles (Girls)		
1.	Ms. Sarita Nandwani, B.tech III Yr, GT.	I
2.	Ms. Mohini Mangla, B.Tech III Yr MSM	II
Mixed Doubles		
1.	Ms. Mohini Mangla, B.Tech III Yr MSM Ms. Anshuka Rangi, B.tech IV Yr ECE	I
2.	Ms.Divya Pande, B.Tech Ist Yr Meta Ms. Viregaonkar Rutuja Kisan, I Yr Bio	II

(viii) TABLE TENNIS - INSTITUTE OPEN CHAMPIONSHIP

Singles (Men)		**Position**
1.	Mr.Aditya Goel, B.Tech II Yr GPT	I
2.	Mr. Saquib Ali, B.tech III Yr GPT	II

4(a) 5 KM Road Race for Boys

The Institute Sports Council has organized 5 km race for boys & 2.5 km race for girls on September 29, 2012. Around 64 boys & 24 girls took part in the race and the following students were the prize winners.

Sl.	Name	Branch & Year	Position
1.	Mr. Sandeep Verma	B.Tech. III Year, Elect.	I
2.	Mr. Rajneesh Kumar Meena	B.Tech II Yr P&P	II
3.	Mr. Praveen Yadav	B. Tech III Yr ECE	III
4.	Mr. Deepak Swarnkar	B. Tech II Yr, META	IV
5.	Mr. Sagar Kumar	B. Tech I Yr CSE	V

(b) 2.5 KM Road Race For Girls

Sl.	Name	Branch & Year	Position
1.	Ms.Nidhi Kumari	B. Tech I Yr CHEM IDD	I
2.	Ms.Saritha Nandwani	M.tech III Yr, IMT GT	II
3.	Ms. Akanksha Patel	B. Tech I Yr ECW	III

(c) Annual Athletic Meet-2012-13

Annual Athletic Meet for the session 2012-13 was held on 13th & 14th October, 2012. Following are the Medal & Trophy winners: Following are the winners of trophies/cup in Annual Athletic Meet for the session 2012-13:

Sl	Cup/Trophies	Names & Class
1.	Lion Trophy	Mr. Sachit Sanan,B.Tech IV Yr, CE
2.	Stampe Cup	Ms. Nishigandha Sakhardande, B.Arch III Yr
3.	Bernett Cup	Mr. Sandeep Verma, B.Tech III Yr, EE
4.	Krishna Hudda Cup	Ms.Nidhi Kumari, B. Tech I Yr CHEM IDD
5.	Vizianagram Cup	Mr. B.S.V Sagar, B. Tech IV Yr, MT

(5) Individual Yoga Competition

The Individual Yoga competition was held on 12th Oct, 2012 at Yoga Hall. Many boys & girls participated in the competition. The Results of the competition are as follows:

Sl	Name	Branch & Year
1.	KESHAV KUMAR	M.Tech, E&C I Yr
2.	NITESH AHIR	Phd, EQ.
3.	SUPRIYO MARIK	M.Tech,CIVIL II Yr
4.	AJIT SINGH	B.Tech. CIVIL, IV yr
5.	VIJAY PRAKASH KUMAWAT	B.Tech. Mech.IV Yr
6.	TINKU BISWAS	M.Tech EQ. II Yr
7.	RAM SEWAK MEENA	B.Tech. Mech. II Yr
8.	VEER SINGH MEENA	IMT, GLT III Yr
9.	VIJAY KUMAR	M.Tech II Yr

These students alongwith the Secretary Mr.Shishir Kumar, B. Tech. IV Year, CE will form the Institute Yoga Team.

Girls

Sl	Name	Branch & Year
1.	HIMANI AGARWAL	B.Tech, Civil IV yr
2.	SUPRIYA	B.Tech Chemical, IV yr
3.	SAUMYA	B.Tech, Bio Tech V

(b) EXTERNAL TOURNAMENTS

In order to improve the performance and to give more exposure to the IITR Teams in various activities, a number of external tournaments were organized.

(i) Volleyball Team, Hockey Team and Football Teams of IIT Roorkee played matches with BEG & Centre, Roorkee, with ICFRE, FRI Dehradun and with few local Teams.

(ii) Friendly cricket matches were played with AIS Glass factory team and with Roorkee Town Club Cricket Team.

(iii) Friendly Basketball & Volleyball Matches were played with College of Engineering, Roorkee (COER), BEG & Centre, Roorkee, Haridwar.

(iv) Water polo matches were played with BEG & Centre Teams.

(v) Badminton & Table Tennis & Squash matches were played with BEG & Centre, Roorkee & with local team.

3. National Sports Organization (NSO)

NSO (National Sports Organization) scheme was launched to spread awareness of physical fitness and importance of Sports among students. About 200 students from Ist Year were_selected and fitness/ Coaching classes were conducted four days in a week. It was found that there was a marked improvement in their physical fitness level. A number of the NSO _students have represented Institute's team (IIT Roorkee), participated & performed well in various games & Athletic events in the 48th Inter IIT Sports Meet-2012.

1. COACHING CAMPS CONDUCTED FOR IIT ROORKEE STUDENTS AND FOR OTHERS

(a) Basic coaching camps were conducted for all Indoor and outdoor games.

(b) Advanced coaching camps were conducted for the selected players of IIT Roorkee contingent to enable them to participate in the 48th Inter IIT Sports Meet 2012, Roorkee.

(c) Basic and Advance Coaching camps were conducted in swimming events.

(d) Summer Coaching Camp for school going children of the campus were organized in Badminton, Tennis and Swimming.

(e) Coaching Camps were also conducted in Yoga, Swimming for the faculty and Staff of IITR and others organization established in IITR campus.

(f) Advanced coaching camp for the participants of the Inter IIT Aquatic Meet 2012-13.

6. Participation in the 48th Inter IIT Sports Meet – 2012 at IIT Roorkee

This year Inter IIT Sports Meet- 2012 was organized by IIT Roorkee. In first phase IIT Roorkee has organized the 48th Inter IIT Aquatic Meet from October 2 to 5, 2012. Approximate 140 students participated in various events among 13 IITs. Prof. S.K Bhattacharya, Director, CBRI Roorkee was the Chief Guest and prof. Pradipta Banerji, Director, IIT Roorkee presided over the function.

1. **Performance of IIT Roorkee in the Inter IIT Aquatic Meet**

IIT Roorkee's contingent consisting of 11 boys and 05 girls took part in the swimming events and Water Polo (Boys) game in the 48th Inter IIT Aquatic Meet-2012. The swimming girls & boys team won following Medal:

Sl	Name	Event	Position
1.	Ms. Nivedita Sharma	50m Free Style	Gold
2.	Ms. Nivedita Sharma	100m Free Style	Gold
3.	Ms. Nivedita Sharma	50m Breast Stroke	Gold
4.	Ms. Nivedita Sharma	50m Back Stroke	Gold
5.	Ms. Nivedita Sharma	50m Butter Fly	Gold
6.	Ms. Nishigandha Sakhardande	50m Breast Stroke	Silver
7.	Ms. Chandana R.	50m Freestyle	Fourth Place
8.	Ms. Nivedita Sharma Ms. Sneha Nagrajan Ms. Pranshu Ratra Ms. Chandana R	4x50m Relay	Silver
9.	Mr. Jackob Mathew	100m Butter Fly	Silver
10.	Mr. Jackob Mathew	1500m Free Style	Bronze
11.	Mr. Jackob Mathew	400m Free Style	Bronze
12	Mr. Jackob Mathew Mr. Ojas Agnihotri Mr. Mahender Meena Mr. Kavya Kamal	4x100m Free Style Relay	Fourth Place

The women's swimming championship Trophy was won by IIT Roorkee. In Water Polo, IIT Roorkee stood in 4th Place.

Ms. Nivedita Sharma IIT Roorkee was declared the **"Best Swimmer"** of the 48th Inter IIT Aquatic Meet-2012.

2. Inter – IIT Main Sports Meet

The 48th Inter IIT Sports Meet was organized by IIT Roorkee from December 17 – 24, 2012.The Chief Guest of the opening ceremony was Sub. Maj. Vijay Kumar, 2012 London Olympics Silver Medalist & recipient of Rajeev Gandhi Khel Ratna Award 2011-12.Prof. Pradipta Banerji, Director, IIT Roorkee presided over the function.

Sports Contingent of IIT Roorkee consisting of 134 students (32 girls & 102 boys) participated in the Sports Meet. Approximately 1700 students from 15 IITs have taken part in this Meet. In March Past, IIT Roorkee contingent excelled and received the March past trophy for the Best marching team, & secured Ist position with 8.86 points.IIT Roorkee Contingent

won the following position in Athletic & other team games.

Athletic

Sl	Name	Events	Position
Men			
1.	Mr. Sandeep Kumar Verma	800 M	Bronze
2.	Mr. Vikas	5000 M	Bronze
3.	Mr. Kuber Dutt Sharma	Shot Put	Gold
4.	Mr. Harvinder	Shot Put	Fourth Place
5.	Mr. Akshay Singh	High Jump	Fourth Place
6.	Mr. Sachit Sanan	200 M	Bronze
Women			
1.	Ms. Nishigandha Sakhardande	100M	Gold
2.	Ms.Shivani Gupta	Long Jump	Fourth Place

Performance of IIT Roorkee in Team Games

Sl	Game	Men/ Women	Medal
1.	Badminton	Men	Silver
2.	Basketball	Women	Gold
3.	Basketball	Men	Silver
4.	Football	Men	Gold
5.	Hockey	Men	Fourth Place
6.	Squash	Men	Gold
7.	Table Tennis	Men	Fourth Place
8.	Tennis	Men	Silver
9.	Volleyball	Women	Gold
10.	Water Polo	Men	Fourth Place
11.	Wt. Lifting	Men	Bronze

Weight Lifting

Sl. No.	Name	Category	Position
1.	Mr. Mahendra Mundel	Above 77 KG	Bronze
2.	Mr. Gaurav	Above 77 KG	Fourth Place
3.	Mr. Kailash Lohiya	Body Building	Silver

Overall Position for General Championship in the 48th Inter - IIT Sports Meet

Sl	Position	Points	Name of IIT
Women			
1.	Ist Position	30.86	Roorkee
2.	IInd Position	26.86	Bombay
3.	IIIrd Position	25.92	Kharagpur
Men			
4.	Ist Position	81.86	Bombay
5.	IInd Position	74.80	Madras
6.	IIIrd Position	54.86	Roorkee

In the overall points tally for the General Championship, In women section IIT Roorkee hold overall championship consecutively from three years with 30.86 points & men section IIT Roorkee contingent secured third place with 54.86 points.

7. Sports Award Winners for the Year 2012-13

In order to encourage the Sportsmen / women (students of IITR) participating in various activities, the Institute Sports Council has selected a few outstanding sports persons who performed extremely well in their activity during the year 2012-13 and honored with few special sports awards. The following sports men/women were the recipient of the Institute Sports Awards for the year 2012-13.

Sl	Award	Name	Branch & Year
1	Institute Colour Award	Ms.Nivedita Sharma Ms.Nishigandha Sakhardande Mr. Shashank Khatri	B.TechPST,III Yr B.Arch. III Yr IMT GLT V Yr
2	Best Sports Men Award	Mr.Niranjan Anand Joshi	B.Tech IV Yr,
3	Best Sports-women Award	Ms. Miranda Boro	B.Arch II Yr
4	Rohit Guruwara Award	Mr. Kamlesh kaji	IMT GT I Yr.
5	Special Prize Award	Ms. Ms.Nivedita Sharma Ms. Shreya Bhardwaj Mr. Shashank Khatri	B.Tech PST, III Yr. B.Arch IV Yr IMT GLT V Yr

8. UP GRADATION OF SPORTS FACILITIES FOR THE YEAR 2012-13

Sports facilities work completed

1. Construction of Three Synthetic Tennis courts & one Basketball Synthetic court was done.
2. Up gradation of weight Lifting hall: Purchase of latest gym equipments.
4. Renovation of Badminton Wooden floor
5. Renovation of Squash flooring
6. Relaying of volleyball Court
7. Fencing around the volleyball area & practice wall was done.
8. Construction of turf pitch was done.

Sports Facilities maintenance work to be undertaken:

1. Old Mosaic flooring to be changed.
2. New Electrical wiring to be done (Copper wire, underground wiring)
3. Re- arranging furniture of the Office.
4. Installation of office Automation
5. Layout & construction of drainage system for play grounds.

10.5 INSTITUTE STUDENTS CLUB

The Students Club Council for the year 2012-13 is hereby constituted as:

1	Dr. S.K. Ghosh, Professor (Civil) Chief Club Advisor, Students Club	Chairman
2	Dr. Pravindra Kumar, Asstt. Professor, (Biotechnology Deptt.) Dy. Chief Club Advisor, Students Club	Member
3	Dr. Dharmendra Singh, Assoc. Professor, (E & C Deptt.), Club Advisor, Alaknanda Club	Member
4	Dr. Rajat Rastogi, Asstt. Prof., (Civil Engg. Deptt.) Club Advisor, Jawahar Club	Member
5	Mr. Karan Baweja, B.Tech. IV yr. (Met. & Mat.),S-153, Azad Bhawan, General Secretary	Member
6	Mr. Saquib Ali, Int. M. Tech. III yr. (GPT), 332, Radha Krishnan Bhawan, Joint Secretary	Member
7	Mr. Harshavardhan, M. Tech. I yr. (Chemical), FT-05, Cautely Bhawan	Member
8	Mr. Marigank Singh, M. Tech. IV yr. (Elect.), G-83 , Ravindra Bhawan	Member
9	Mr. Yash Vardhan Chaurvedi, Int. M. Sc. I yr. (Mathes), S-39, Rajendra Bhawan	Member
10	Mr. Amit Kumar, Ph.D. (AHEC), F-146, Azad Bhawan	Member
11	Mr. Ankit Kalanki, B.Tech. IV yr. (Mech), G-71, Govind Bhawan	Member
12	Mr. Nikhlesh Kumar Singh, Int. M. Tech. II yr. (GPT), S-60 , Ganga Bhawan	Member
13	Mr. Mayank Malviya, Int. M. Tech. IV yr. (GT), FF-03, Jawahar Bhawan	Member
14	Mr. Sandep Kumar Verma, B. Tech. III yr. (Elect.) , 278, Radha Krishanan Bhawan	Member
15	Mr. Siddharth Mahajan, B. Tech. II yr. (Civil), B-019, Rajiv Bhawan	Member
16	Ms. Arushi Saxena, M.Tech. IV yr. (ESC), S-89, Sarojini Bhawan	Member
17	Ms. Priti, M. Sc. II yr. (Physics), A-130, Kasturba Bhawan	Member
18	Mr. Anurag Anand , (Chemical II Year), A-620, Rajiv Bhawan	Member
19	Mr. Prashant Negi, (GPT III Year)	Member
20	Mr. Kunal Arora ,(Chemical III Year)	Member
21	Mr. Nikhil Goel, (Meta IV Year)	Member
22	Ms. Shivastha Chauhan, (Biotech IV Year)	Member
23	Ms. S. Deepthi, (GPT III Year)	Member
24	Ms. Tanveen Kaur Randhava, (Biotech II Year)	Member

During the year 2012-13 the following activates were organized by the different club units:-

Billiards :

- Students Club Open Singles 15.02.13 to 14.03.13
- Students Club Open Doubles 15.02.13 to 14.03.13
- Inter Bhawan Billiards 01.11.12 to 07.11.12
- Inter Year Billiards 22.01.13 to 29.01.13

Snooker :

- Students Club Open Singles 15.02.13 to 14.03.13
- Students Club Open Doubles 15.02.13 to 14.03.13

- Inter Bhawan Billiards 01.11.12 to 07.11.12
- Inter Year Billiards 22.01.13 to 29.01.13

Pool (8 ball and 9 ball) :
- Students Club Open Singles 15.02.13 to 14.03.13
- Students Club Open Doubles 15.02.13 to 14.03.13
- Inter Bhawan Billiards 01.11.12 to 07.11.12
- Inter Year Billiards 22.01.13 to 29.01.13

Indoor Games:
- Table Tennis, Students Club Open 15.02.13 to 14.03.13
- Carom, Students Club Open 15.02.13 to 14.03.13
- Chess, Students Club Open 15.02.13 to 14.03.13
- Football, Students Club Open 15.02.13 to 14.03.13

Students Club is the hub of various activities related to students on the campus. A large number of students daily visit and participate in different Indoor and Cue sports activities housed in the Club. Students Club is central to large number of other student's activities as well viz. COGNIZANCE, SRISHTI and THOMSO.

Students Club has improved in several aspects, club ambience and the facilities being the prime focus. ***We have added two Air Hockey tables also to our existing facilities.***

10.6 HOBBIES CLUB

Hobbies Club started its activities with the nomination of Council Secretary in its 1st council meeting held on 4th August 2012. After that an introductory cum orientation program was organized for 1st year students on 24th August 2012. An introductory talk was also delivered in Kasturba Bhawan for female students on 20th August, 2012. The students were invited to join the sections as members or as proficiency holders. The total membership in Hobbies Club was around 2600 students which included 650 proficiency holders.

In addition to the routine activities, a thorough analysis of the requirements of the Hobbies Club in terms of infrastructure was conducted in the Council Meetings held throughout the year. The secretaries of the various sections prepared detailed proposals for the improvement of infrastructure in their sections in consultation with the Staff Advisors.

As per past records, Hobbies Club served as platform for some students to complete their SURA projects and B.Tech projects of Electronics & Computer, Electrical, Mechanical and Industrial Engineering Departments.

This year following activities were undertaken by various sections.

Software Development Section

1. The section started an intranet portal for IITR students with services like DC++ file sharing, live streaming of sports and institute events, online music player, self-updating software repository, a SMS Notice Service and pleothera of other services for students that run 24x7.
2. Lectures were conducted throughout the year on the following topics:-

a. HTML/CSS
b. PHP
c. Javascript
d. Android development
e. Photoshop
f. CorelDraw
g. Video editing

A Linux user group was formed to discuss and solve issues faced by various linux users on campus. The group had an initial meeting in October and since then there have been active discussions on various problems while using linux.

The group also conducted a lecture followed by a hands-on session for using linux and ubuntu.

Three online coding competitions were conducted for students of the campus. The competitions lasted for around 12 hours each and solutions were submitted and evaluated in many languages including C, C++, Java, PHP, Python and PASCAL.

An android application called campus buddy was developed which had various features including an institute map, phonebook, timetable etc.

An android application was developed for THOMSO the technical festival of IITR.

A web application was developed for students to upload and share study material with each other.

An online discussion forum was developed for the students of the college to discuss various issues pertaining to the college.

Achievements:

- Students won the Deloitte Collegiagate Cyber Threat Competition CCTC organised by Deloitte in

Hyderabad among all the IITs second time in a row, winning a prize of 1.2 Lakh Rupees.

- Student Team of section stood first in the HackU event organised by Yahoo in IIT Delhi (being the only team from Roorkee).
- Student team from the section stood first in Adobe App Development Contest and won a Sony PS3

Gardening Section
This year we organized various workshops on–

1. Tree plantation
2. Topiary workshop
3. Drip irrigation
4. Gardening tools workshop

Philately and Numismatics Section
Awards and Achievements:

Member students of Philately and Numismatics Section have participated in INDIPEX (Exhibition of Stamps and Coins held at PragatiMaidan, New Delhi) and won prizes and learnt more about new developments held in their related field of collection.
Initiatives:
Philately and Numismatics Section organizes Stamp Designing event for the students of Deaf and Dumb school and National Service Scheme (NSS) students which enhances their knowledge about the importance of stamps and coins in life and also gives them a chance to show their art and creativity.

Electronics Section –
Awards and Achievements:

1. Two Teams of three students, consisting of Electronics Section members qualified for the finals of Texas Instrument's TI MCU design competition. It is a global level Microcontroller based application design competition for college graduates and undergraduates. One of the team reached the quarterfinals (final 8 teams) while the other qualified for the semifinals.
2. Member students of Electronics Section have participated and won a number of electronics and robotics theme based events in technical festivals of other IITs (IIT Bombay and IIT Kanpur).
3. Recently we have forayed into image processing applications. Faiz Akram, a specialist on image processing, has developed a code to use the computers via gesture recognition and facial expression.

Initiatives:

1. Electronics Section organizes numerous open-for-all workshops in which the objective is to deliver the functional and operational knowledge of electronics hardware and software. This year, we have organized more than 20 workshops covering a wide theme of topics such as:

a. Image processing – basic and advanced using MATLAB.
b. Printed Circuit Board (PCB) design and fabrication.
c. Soldering Techniques and PCB Optimization
d. Microcontroller Applications – basic and advanced on AVR and Arduino platforms
e. Digital design and synthesis using Field Programmable Gate Arrays.
f. Robotics workshop
g. IC applications, analog design and circuits.

2. We are working on ambitious projects such as GSM based automation, learning aids for the disabled, Gestures based action at distance, Sound processing on FPGA and arduino, automatic tuning of laser transceivers etc.

Fine Arts

Workshops: The following workshops conducted by the section attracted large participation from members and non-members alike:
• Sketching Workshop
• Painting Workshop
• Origami
• Electronic Art

Activities:
Art Mela:

The ultimate test of an artist and an outstanding platform to showcaseone's imagination, Art Mela is the flagship event of the Fine Arts section.

D Wall:

The wall painting competition of the section, it is where the southern wall of the Hobbies' Club gets a life of its own with colourful and meaningful graffiti.

Craft Pitara:

It is a craft making competition which aims at coupling the aesthetic and scientific bents of one's mind.
Taboo: It is a tattoo-making competition, a unique way of leaving an indelible mark.

Anushruti:

As a testimony to our unwavering commitment towards our social responsibilities as a premier institute, Fine Arts section has been a front runner in providing an excellent platform to the physically less privileged students of Anushruti to showcase their remarkable talents in the field of Fine Arts. Our initiatives include presenting them with an exclusive area for displaying their exhibits and exclusive prizes for them in their competition besides a number of other such steps in order toencourage them. The student and teachers of Anushruti have also expressed their heartfelt appreciation for our sustained efforts in this direction.

Star Gazing

I. COSMIC VOYAGE 2011

For the first time in the history of IIT Roorkee, the section organized a 3 day astronomy fest by the name Cosmic Voyage in 2011. It included workshops on measurement of Earth's diameter, telescope handling, solar photography, sky orientation, working with radio frequency and a guest lecture on The String Theory by Dr. AlokMisra.

II. COSMIC VOYAGE 2012

The second edition was even bigger with inclusion of workshop on intensity and wavelength determination using spectroscopy which 80+ participants. The events repeated from the previous edition saw a rise of more than 300 % in the number of participants.

III. WEBINAR WITH NASA

A web conference with Dr. AshwinVasawada, Deputy Project Scientist from the Jet Propulsion Laboratory, NASA saw a turnout of more than 200 students from IIT Roorkee. The webinar was arranged to know in depth about Curiousty Rover sent to the surface of Mars.

IV. KURT

The section now owns a personal Radio Telescope developed by the students of 3rd year from the Department of Physics, IIT Roorkee.

V. WEBSITE

The section has developed its own website by the name www.astronomyiitr.org to keep the world updated about the various activities of the section.

Photography Section

Photography Section for the first time has organized online photography competition on various themes and has got very good response from the students as large number of students participated in it.
Themes for the competition:
1. Campus Photography
2. Festival
3. Food ,Travel and Living

Photography Section has covered most of the sport and cultural events throughout the year.
Some of the Events are:
1. Republic Day
2. Fuzon
3. Inter IIT Sport Meet and Inter IIT Aquatic Meet
4. Esctasy
5. Dhunn
6. PehlaNasha
7. Choreo Section

Photography Section has now more than 1,600 online member most of them are from IIT Roorkee. We are planning to conduct online workshop so that maximum students can watch those workshop at their wish at any time. We are also planning to include students from outside of IIT Roorkee so that students can learn from each other too.

Model & Robotics Section

1. Member students of Models Section have participated and won a number of robotics events in technical festivals of other IITs and BITS Pilani.
2. All the robotics event of Cognizance are coordinated by the members of Models and Robotics Section.
3. A team of 20 students participated in an Asia Pacific Robotics Competition ABU Robocon 2012 held in Pune in which the team performed very well. We are also participating this year with much more experience.
4. Some members of the Models section are working on a numerous sponsored research projects in association with Mechanical and Industrial Engineering Department.
5. Last year's exhibition in Srishti attracted a lot of crowd coming from distant places to just have a look of our certain projects like dish washing robot, automated irrigation system, Mobile door locking system, Floor Mopping Robot etc.

Initiatives:

1. Models And Robotics Section organizes numerous open-for-all workshops in which the objective is to deliver the functional and operational knowledge ofRobotics and Electronics. This year, we have organized more than 15 workshops covering a wide theme of topics such as:
6. Image processing – basic and advanced using MATLAB.
7. Printed Circuit Board (PCB) design and fabrication.
8. Industrial Robots
9. Microcontroller Applications – basic and advanced on AVR and Arduino platforms
10. Fabrication of Robots
11. Basic Robotics
12. We are working on numerous projects with main focus to make our life easier with the application of robots. Our projects include Automatic Waiter for Hotels, Rubik Cube Solver, Automatic Toll tax system, Electric vehicle for old people, Blind people assistance technology, Mobile operated irrigation application, Fire Fighting Robot, Robotic Soccer, Magnetic Wall Climber robot, Automatic Gardener Robot etc.

Srishti 2012-13

The 54th Annual Exhibition of Hobbies Club, Srishti 2013 was organized from 15th March to 17th March 2013. The working team and budget for Srishti was decided in the Hobbies Club council meeting held on 30th January 2013.
The inauguration ceremony (15th March) was held inside the Hobbies Club premises with Prof. S.P. Srivastava, ADOSW(Mess), I.I.T. Roorkee being the Chief Guest on the occasion. The exhibition was attended by approximately 7000 visitors from different walks of life. Students in high numbers participated in this event.
The official website of Srishti 2013 (developed by students of Web Designing Section) was launched on 1st March and was hosted on http://www.srishtiiitr.in. The website had approximately 92 visits per day in the period of 1st March – 15th March. The major exhibits of various sections were:

Software Development Section-

The leapmotion kit – Gesture recognition based gaming
The Skynet – Distributed cluster of old computers
Muzi – Online music player
Echo – An online ebook sharing site

Electronics-

Touch Based Musical instrument
Gesture recognition based Google Earth
Rotating LED display

Philately and Numismatics –

This year's Philately Exhibition for srishti was based on the 4 categories nature, culture, events, and personalities. The display this time was very colourful and highly appreciated.

Models and robotics section-

Its exhibitions like hand gesture recognition, wall climbing, pole climbing bots and ball following bots were immensely applauded.

Fine Arts-

The theme for this year was 'Kabila' and it had one of the best exhibits in Hobbies Club. This year in its pursuit of embracing the ever-widening horizon of art, the section explored new and exciting dimensions of creativity, like origami, wire-modelling, candle modelling, chalk carving, glass painting, bubble painting and electronic art.

Gardening-

For srishti, it had Flowering plants exhibition, Non flowering plants exhibition, garden flags and garden poster exhibitions.

Photography –

This year the section had varied themes and highly appreciable participation.

Star Gazing-

Cosmic Vistas, Astrophotographs , Knowledge Center, New Frontiers in Astronomy, Simulated were the exhibitions in Srishti by this section.

The Valedictory function was held in Civil Auditorium on 17thMarch.

10.7 CULTURAL COUNCIL

The Valedictory Function
The valedictory function was organized on April 21, 2012 Certificates and mementoes were given to the sectional Secretaries and members of passing out batch (2011-12). A new student executive body for the session 2012-13 was installed.

Independence Day
The students of Music section performed Kulgeet & National Anthem on August 15th 2012.

Intro-talk
Intro-talk Function was held on August 18th 2012.
The students of fresh batch (2011-12) were introduced to various activities of the Cultural Council on August , 18th 2012 at Convocation Hall Consequent to this audition of new entrants was organized for different sections as per the choice and talent of fresh students.

Pandit Govind Ballabh Pant Jayanti

Student of Music Section performed Bhajan on Pandit Govind Balabh Pant Jayanti on 10th September 2012.

Pahla Nasha
The Music Section organized "Pahala Nasha" on September, 26th 2012, in which only the fresher of the session 2012-13 performed.

Gandhi Jayanti
Students of Music section performed Bhajan on October, 2nd 2012

Jashn
The Choreo/Dance Section presented a dance show "Jashn" on October 14th 2012.

Ek Aur Dronacharya
The Dramatics Section Staged a long length Hindi play "Ek Aur Dronacharya" on October 17th, 2012.

Cultural Night
Students of Music section presented **"FUZON**" on 21st December 2012.

Republic Day
Students of Music section performed Kulgeet & National Anthem on January 26th, 2013.

Cultural Week (13th-17th Feb., 2013)
The Choreo/Dance Section presented a dance show **"ECSTACY"** on 13th February 2013. Music Section presented **"DHUN"** on 15th February, 2013. The Dramatics Section Staged an English play "**THINK TWICE"** on 16th & 17th February 2013.

10.8 HIMALAYAN EXPLORERS CLUB

During the mid-semester vacations, following treks were performed by the HEC students:

Long treks:
120 students participated in the following treks during mid-semester break (Dusshera Break).

Hard treks:
Roopkund completed in record 3 days.
Kedartal completed after two unsuccessful attempts in previous two years.
Girls Treks:

18 girls completed the long trek of Madmaheshwar

Moderate treks:
Rupin pass, Kuari pass, Gaumukh -Tapovan and Satopanth Tal were successfully completed.
Rock Climbing Camp at Nanital: 30 students participated for 5 days during the mid- semester break (Holi Vacations) in the camp held at National Mountaineering Club, Nanital.

Short Treks:
Two treks each to Nagtibba and Bhadraj were organized on 29th -30th September and 6th -7th October 2012 in which 80 boys and 21 girls participated.

Annual Cycle Race: One of the biggest on-campus event in which 190 boys and 43 girls participated was organized on 9 February, 2013. The race was of 36 kilometers long for Boys and 18 kilometers for girls.

Boys : 1. Ratnesh Madaan
2. Pushkar Kumar
3. Puneet Kumar
Girls: 1. Nidhi Kumari
2. Bhawana Verma
3. Sneha N.

Udghosh 2012: A 13 member team of IIT Roorkee represented Taekwondo in the annual sports festival of IIT Kanpur (29th -30th September 2012) and won 21 medals.

Senior Category Individual:
Puneet Kumar-Gold
Anirudh Jonnadula- Bronze

Breaking Girls:
Harsimran Kaur – Gold
Jyoti Chopra –silver
Bhawana Verma-bronze

Junior Category Individual:
Bhawana Verma – Silver
Jaswanth Siriprolu- Bronze
Harsimran Kaur & Shephali Diwan -Bronze

Girls Pair:
Shephali Diwan & Jyoti Chopra -Silver

Boys pair:
Raghvendra Bazari & Bhuwan Kahsyap-silver

Boys group:
Prithwish Ghosh, Raghvendra Bazari & Mukesh Kumawat-Silver
Bhuwan Kashyap , Pushkar Kumar & Jaswanth Siriprolu-Bronze

Taekwondo camp:

10 days camp to encourage student participation in the sport was organized, which was attended by 100 students.

White water rafting: 72 students took part in the 35 kilometers of rafting with night camp at camp gold coast organized on 13th and 14th October 2012. This trip saw a tremendous increase in number of students, when organized in February, a total of 104 students took part.

Skiing Camp: 24 students attended the camp during the Holi Vacations, held at Auli.

Jim Corbett Wildlife Safari: Organized for the first time, the trip was attended by 23 girls and 29 boys.

Late Mahendra Pant Memorial Function: To cherish the contribution and memories of one of the founders of the club, a memorial service was organized on 10 March, 2013. This ceremony was attended by the alumni of 77-78 batch and family members.

Commando Assault Test: Held in the training grounds of Bengal Engineers Group during second week of March. The camp was attended by 140 students for 7 days.

10.9 FOREIGN STUDENTS' ACTIVITIES

This year, 69 students from various countries were registered in various undergraduate, postgraduate and Ph.D. programmes. The Institute is proud of imparting education and training to the students from various countries of Asia and Africa in different disciplines of Science and Engineering. The foreign students stay in hostels along with other students and take part in the extra-curricular activities of the Institute.

10.10 TRAINING AND PLACEMENT CELL

The placement and training activities continue to grow under the guidance of Professor-in-Charge, Training and Placement (T & P) Office. A student core placement team and the Placement Advisory Council consisting of student representatives from the final year academic programmes and the faculty in-charge from each academic department work round the year to look after smooth execution of the activities.

The progress in placement over the years, as can be seen from the bar chart given below has been made possible due to following initiatives:

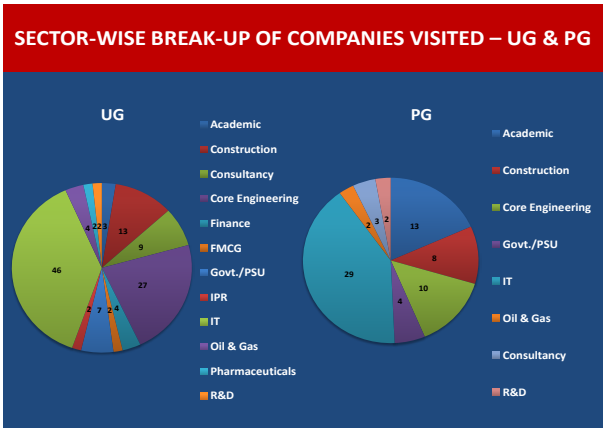
i. Proactive approach in inviting companies
ii. Multiple sessions of campus recruitment on each day
iii. Complete computerization of the placement process
iv. Active co-operation and participation by the students in assisting the companies during their stay in campus
v. Personal visits to companies and establishing relationships and contacts at the highest level

Since the start of 'on-campus recruitment' for the session 2012-2013, from 1st December 2012, 152 companies visited the campus.

Many big names visited the institute for the first time. Companies like Epic, Google Inc, Goldman Sachs (Strategies Group), WM Global Technology Services India Pvt. Ltd. Anand Automotive Ltd., Groupon India Pvt. Ltd., RBS Business Services Pvt. Ltd., GSK Consumer Healthcare, GEIPER, and many others recruited for the first time from IIT Roorkee. Some other key companies that visited the campus were Microsoft (Redmond), Rio Tinto, Schlumberger, Google, Shell, Reliance Industries Ltd. They were indeed impressed by the technical knowledge and the quality of students and did recruit a significant number of students. This year's placement session also had a healthy and uniform participation from various sectors like Finance, Core engineering, FMCG (Fast Moving Consumer Goods), Oil/Energy etc. Companies with financial operations, such as like Goldman Sachs (Strategies Group), RBS, Capital One, extended full time recruitment offers to most of the summer interns and also recruited students upon conducting the process at the Institute itself.

Besides IT, core engineering was also as popular among the students. Regular recruiters like Caterpillar, Analog Devices, Texas Instruments, Qualcomm, Tata motors, Hero Motocorp, Nestle etc. followed the same trends as the past few years and hired students for their operations pertaining to core engineering..

The sector wise break-up (UG & PG) of the companies visiting the campus this year is given the following figure



The Institute also witnessed a huge increase in terms of the number of offers received from companies for overseas recruitment. Some of the firms which have hired students for their overseas operations are - Epic, Google Inc, Rio Tinto, Microsoft India Development Centre (REDMOND), MIDAS IT Co. Ltd., Finisar Malaysia Sdn Bhd. A total of 903 offers were made. The company wise break-up of offers is given in Appendix 1.

The maximum and average overseas annual salary packages offered were Rs. 65 Lakhs and Rs. 38.00 Lakhs, whereas the maximum and average domestic annual salary packages offered were Rs. 28.00 Lakhs and Rs. 7.01 Lakhs across all branches of different academic programmes.

A glance at overall placement statistics in the following table and the figure clearly reflects that the campus placement for the 2012-13 has been quite satisfying across all the academic programme.

* Excluding a few students who opted out of placement to pursue other career opportunities or higher studies.

The branch/discipline wise placement statistics of undergraduate and postgraduate students is given in Appendix 2.

Academic programme	Number of students registered for placement	Number of offers made	Maximum CTC (Rs. in lac)		Average CTC (Rs. in lac)	
			Domestic	International	Domestic	International
B.Tech/ B.Arch	651	482	28	65	7.59	32.25
IDD	72	57	28	65	8.37	62.51
IMT	53	38	18	-	8.27	-
IMSc	29	15	16	-	6.22	-
M.Tech/ MURP/ M.Arch	541	267	28	61.27	5.80	43.17
M.Sc/ MCA	136	31	16	-	8.02	-
Ph.D	42	13	10.80	-	8.62	-
Total	**1524**	**903 ***				

The T & P office was also able to secure significant number of offers for the mandatory summer internships of the pre-final year students from companies such as ITC Ltd., Schlumberger Asia Services Ltd., Microsoft, Reliance Industries, IBM, Goldman Sachs, Adobe Systems India Pvt. Ltd., Deloitte Consulting, TATA Steel Ltd., Infosys Technologies Ltd., Mahindra & Mahindra, Robert Bosch Engineering and Business Solution Ltd. iRunway India Pvt. Ltd. Samsung R&D Institute etc. among others. A total of 234 internships were arranged by the office.

11. Central Facilities

11.1 Estate and Works
11.2 Institute Hospital
11.3 Institute Dairy
11.4 Hindi Cell
11.5 Central Purchase Office

11.1 ESTATE AND WORKS

The following major works carried out by the Estate & Works during 2012-13 are as follows.

Sl.No.	Name of Works	Physical Progress
1.	Construction of "A" Category Residences (21 Nos.) at Saharanpur Campus	Work nearly Completed
2.	Sewerage System and STP Roorkee and Saharanpur campus	Work in progress (75%)
3.	Construction of Multi Activity Centre in IIT Roorkee Campus	Work in progress (50%)
4.	Storm Water Drainage System at IIT Roorkee & Saharanpur Campus	Work in progress (75%)
5.	Construction of 2 Nos. Overhead Water Tank each of 500 KL capacity at IITR Campus	Work in progress (75%)

11.2 INSTITUTE HOSPITAL

Special Events

1. Blood Donation Camps

Blood Donation Camp in Coordination with NSS, IIT Roorkee was organized in September 22, 2012 at the Institute Hospital. Donors from IIT community consisting of Students, Employees and Faculty donated the Blood during the camp. The donated Blood was collected by the Blood Bank of Himalayan Institute Hospital Trust, Dehradun and Blood Bank of Indian Medical Association, Dehradun.

2. Pulse Polio Camp

Pulse Polio Camp under National Pulse Polio Programme are organized regularly as per schedule. The Staff of the institute hospital is continuously providing their services into this programme of national interest.

3. Complete makeover of Operation Theater, Labour Room and Indoor Duty Room in the Institute Hospital

These all vital facilities have been completely transformed into far more hygienic and medically safe facilities well equipped with all essential medical gadgets and machines.

OPD Patients	
Total Number of visits made by the Patients	133731
X-Ray (Radiology)	
X-Ray Radiology	2600
ECG	801
Physiotherapy Unit	
Total Number of Patients	12634
Traction (Lumber/Cervical)	9453
Heat (SWD/IPR/PWB/HD)	11300
Stimulation (IFT/TENS/MS)	10602
Ray's (US/Laser)	9210
Other's (Exerciser/ Massager/ Cold Pack)	12006
Pathology Reports	
Blood Sugar	6411
Blood Sugar (with Accucheck Glucometr	450
Urea	1310
Creatinine	1596
Uric Acid	615
Serum Billirubin	1048
SGOT	860
SGPT	1092
Serum Amylase	96
Lipid Profile	1270
Serum Cholesterol	84
Serum Protein Serum Bilirubin	42
Sodium/Potassium	61
Complete Blood Count (CBC) MS9	4250
Hb (Hemoglobin) Widal	159
AEC (Absolute Eosinophill Count)	101
GBP	12

Blood Grouping & Rh typing	210
MP (Malaria Parasite)	439
WIDAL	419
ESR	426
Dengue (IgG, IgM) HbAc1	48
RA Factor	109
CRP (C-Reactive Protein)	258
HbA_1C	247
HBsAg	142
VDRL	68
Urine Gravindex Test (UPT)	140
Urine Examination (RE/ME)	1890
STOOL Examination (RE/ME & Occult Blood)	78
T_3 & T_4	852
TSH	929
PRL (Prolactin)	48
HIV	12
HCV	13
Indoor Patients	
New Admissions	968
Referred	46
Discharged after Treatment	915
Death	07
Surgery	
Minor Operations	60
Major Operations	10
Gynecology	
Deliveries Full Term Normal Delivery (FTND)	07
Lower Segment Caesarian Section (LSCS)	06
Hystectomy Vaginal	15
Hystectomy Abdominal	20
Tubectomy	-
Minor Operation (D&C etc.)	35
Copper T inserted	40
Copper T removed	25
Vulva Cyst, Bartholin Cyst etc.	10
Pills Distributed	100
Depoprovera Injection (contraceptive)	30

11.3 INSTITUTE DAIRY

- During the financial year 2012-13, the Community Dairy has maintained its regular supply of high quality milk to various student messes and residents of the institute campus as per their requirements.
- Weekly milk analysis report is being uploaded regularly on the Institute website (Channel I– more links–dairy report). The Dairy has made its sincere effort to maintain high quality of the milk and to supply it at reasonable price.
- The total transaction during the financial year 2012-13 was Rs.1,56,32,736.90 (~156 lakh) and the total milk distribution was 4,73,719.300 liters (~474 KL).
- The dairy has been able to partially pay of Rs. 6.81 lakhs towards the arrears of 6th Pay Commission to its employees.
- Accounts of the financial years 2008-09, 09-10, 10-11 and 11-12 have been audited.
- Safety cabinet has been installed for connecting multiple gas cylinders.
- Dr. Shri Chand, Professor, Department of Chemical Engineering and Dr. P. Mondal, Assistant Professor, Department of Chemical Engineering have served as Chairman and Dy. Chairman(Admin.), respectively, throughout the year. Dr. Vijay Kumar, Associate Professor, Department of E&C has served during the period (01.04.12 - 31.10.12) as Dy. Chairman (Accounts). Dr. Naseem Ahmed, has joined as Dy. Chairman (Accounts) w.e.f 01.11.12.

11.4 HINDI CELL

Officers: 02, Publications: 01 & Annual Hindi Magazine 'MANTHAN')

1. Background

Since the very beginning of University Of Roorkee (Now IIT Roorkee) Dr.Chandrika Prasad, Head Mathematics Department, Dr.R.S.Mittal, Head Earth Sciences Department, Dr. K.K.Singh, Professor, Earth Sciences Department, and Dr. R.K.Goel, Reader, Earth Sciences Department have been associated with the Creation of scientific & technical Hindi vocabulary.

Besides this the faculty has also made a great contribution towards the progress of Official Language, by working as members of Official Language committees, Hindi Scientific Literature Council and by contributing Hindi papers on Scientific and Technological topics. They have also been active in making computers more suitable for Hindi work and have published many scientific reports on Hindi topics etc.

In 1965 a seminar was organized in Roorkee university on the topic 'Vaigyanik kaaryo me Hindi ka prayog' only 04 papers were presented in this seminar.

After two years again a Hindi seminar was organized in which the number of Hindi papers increased to 06.

A huge exhibition in the senate hall of University of Roorkee was organised on the topic 'Hindi ka badhata hua prayog' which went on for 5 days and attracted several thousand people.

With the success of this exhibition again one Hindi seminar was organized in University of Roorkee which was inaugurated by the then Vice-chancellor shri Mulk Raj Chopra and a total 12 of papers were presented in this seminar.

In 1978 again an all India Hindi seminar was organized in university of Roorkee in which 44 papers were presented by the participants who came from different parts of India. Total 250 delegates attended this seminar including Vice-Chancellors of five Universities, Directors of 2 national laboratories and many famous scientists. The quality of the papers presented in this seminar was so high that a special issue of the journal of the Institution of Engineers was published to include these papers. The seminar was inaugurated by Dr. Atma Ram the Chairman of National Committee for Science and Technology

On 22 August 1979 another Hindi seminar was organized in the Q.I.P. Centre of University of Roorkee on the topic 'Hindi Madhyam me Takneekee Shiksha, ek kaalbaddh yojana'. 11 senior professors presented their Hindi paper in this seminar.

From July 5 to 7, 1984 University of Roorkee organized one more All India Seminar under chairmanship of the then Vice-chancellor Professor Bharat Singh. The topic of this All India Hindi Seminar was 'Urja Sansadhan- Vikas evam Pariyojanaayen'. Total 35 experts presented their papers in this seminar.

Since 1980 the Institute is organizing Hindi Day every year on 14 September. The list of eminent Hindi Scholars who visited as Chief guests of this function is as follows:-

S. No.	Year	Name of the Chief Guest of Hindi Day
1	1980	Acharya Kishori Das Vajpayee
2	1982	Pandit Shreenarayan Chaturvedi
3	1983	Dr. Kshem Chandra Suman
4	1984	Dr. Vidya Nivas Mishra
5	1985	Shri Viyogi Hari
6	1986	Dr. Ram Kumar Verma
7	1987	Shri Amrit Lal Naagar
8	1988	Shriyut Shreelal Shukla
9	1989	Pandit Seetaram Chaturvedi
10	1990	Dr. Vijyendra Snatak
11	1991	Dr. Kshem Chandra Suman
12	1992	Shri Akshay Kumar Jain
13	1993	His Excellency Gyanee Zail Singh
14	1994	Dr. Ved Pratap Vaidik
15	1995	Dr. Amba Prasad Suman
16	1996	Shri Rajendra Avasthi
17	1997	His Excellency Prof. Siddheshwar Prasad
18	1998	Dr. Naamvar Singh
19	1999	Shri Vishnu Prabhakar
20	2000	Dr. Shyam Singh Shashi
21	2001	Dr. Gopal Das Neeraj
22	2002	His Exelancy Shri B.Satyanarayan Reddy
23	2003	Dr. Ratnakar Pandey and Specvial Guest Prof. Bansh Bahadur Tripathi
24	2004	Achrya Rammurty Tripathi
25	2005	Shri Prabhash Joshi
26	2006	Dr. Laxmimal Singhvi
27	2007	Dr. Kanahiya Lal Nandan
28	2008	Dr. Som Thakur
29	2009	Dr. Narendra Kohali

30	2010	Dr Yogendra Nath Sharma 'Arun'
31	2011	Shri Kuber Datt and special guest Shri Shyam Sushil
32	2012	Dr. Vishnu 'Rakesh'

Implementation of Official Language

After conversion of the university of Roorkee into an IIT, in 2002 an 'Institute Official Language Implementation Committee' was constituted under the chairmanship of the Director IIT Roorkee for the purpose of successful implementation of the provisions of the Constitution relating to the Official Language. The progress of Official Language is being monitored regularly by the committee by holding meetings after every three months. At present following are the members of 'Institute Official Language Implementation Committee':-

Sl. No	Name		Designation
1	Prof. Pradipta Banerji	Director	Chairman
2	Prof. S.P. Gupta	Dy. Director	Member
3	Prof. I.M. Mishra	Chairman, Hindi Cell	Member
4	Dr.G.D. Rans inching R.N.	Asstt. Prof. Deptt. of Civil Engg.	Member (Other Language Speaking)
5	Professor Dharemendra Singh	Head Information Super Highway	Member
6	Shri Yogendra Singh	Librarian, Mahatma Gandhi Central Library	
7	Shri Shyam Narayan	Dy. Registrar Estt. 'A'	Member
8	Shri Prashant Garg	Dy. Registrar Estt. 'B'	Member
9	Shri suman Kumar	Central Purchase Officer	Member
9	Shri Naresh Kumar	Director (O.L.) MHRD	Representative of the of the Ministry
10	Dr. Nagendra Kumar	Associate Professor	Member Coordinator

Awards and Honors

For doing maximum official work in Hindi, every year some Institute Employees are encouraged & awarded under many schemes approved by BOG.

On 26th January 2013 following employees were awarded for their commendable contribution in the development and use of Hindi for official purposes:-

"Scheme to encourage original Hindi noting/ drafting in official work"

Sl. No	Name	Designation	Prize
1	Sh. Raman Lal	Asstt. Registrar (Administration)	I st
2	Md. Javed	Jr. Asstt. Estt. 'A' Section	I st
3	Sh. Babu Ram	Jr. Supdt., Esstt. 'B'	2nd
4	Sh. Ram Prakash Tiluja	Jr. Supdt., Dean Academic Office	2nd
5	Sh. Ramesh Chand	Jr. Asstt. Finance & Accounts	2nd
6	Sh. Rajendra Kumar	Sr. Asstt. General Section	3rd
7	Sh. Tejindrjeet Singh	Jr. Asstt. Estt. 'B' Section	3rd
8	Sh. Sanjeev Kumar	Senior Assistant, Esstt. 'B'	3rd
9	Sh. Mukesh Kumar	Jr. Attendant, General Section	3rd

Hindi Essay Writing

Sl. No	Name	Designation	Prize
1	Sh.Sanjeev Kumar	Jr. Attendant, General Section	Ist
2	Sh. Deenanath	Attendant, Civil Engg. Deptt	2nd

Articles published in the 10th issue of Institute's Annual Hindi Magazine "MANTHAN" ranked 1st, 2nd & 3rd

Sl. No	Title of the Article	Author	Rank
1	Khel Pradarshan aur hamara	Dr. A.K. Pandey, A.S.O. IITR	Ist

	hirday		
2	Vrikhsaropan evam vaaniki dwara paryavaran sanrakshan	A.A.Ansari, Principal Scientist & Rakesh Kumar, Sr.Tech.Suptd. CBRI Roorkee	2nd
3	Mamaty	Smt. Kamelsh	3rd

	vigyan	Lal, Retd. SLIA Mahatma Gandhi Central Library, IIT Roorkee	

Participation in Conferences/Symposiums/Workshops/Meetings etc.

Name	Name of Conference/ Symposium/ Workshop/ Meeting attended	Place	Date
Dr. Nagendra Kumar, In-charge Hindi Cell	14th Half Yearly meeting of Haridwar Nagar Rajbhasha Karyanvayan Samiti	Hotel JahnviDel Bypass Road, Haridwar	Aug. 7, 2012
—	15th Half Yearly meeting of Haridwar Nagar Rajbhasha Karyanvayan Samiti	BHEL, Haridwar	Jan. 23, 2013
Prof. I.M. Mishra, Chairman Hindi Cell	Hindi Workshop	Saharanpur Campus, IIT Roorkee	Feb., 26, 2013
Dr. Nagendra Kumar, In-charge Hindi Cell	Hindi Workshop	Saharanpur Campus, IIT Roorkee	Feb., 26, 2013
Prof. I.M. Mishra, Chairman Hindi Cell	Hindi Coordinators meet of the member Institutes of TOLIC, Haridwar	IIT Roorkee	March 18, 2013
Dr. Nagendra Kumar, In-charge Hindi Cell	Hindi Coordinators meet of the member Institutes of TOLIC, Haridwar	IIT Roorkee	March 18, 2013

Events Organised

Sl. No.	Event	Title	Chief Guest/Speaker	Date
1	Birth Anniversary	Pt. Govind Ballabh Pant	Director, Prof. Pradipta Banerjee	Sept. 10, 2012
2	Exhibition	Hindi Book Exhibition	Shri Vishnu Datt 'Rakesh'	Sept. 14, 2012
3	Hindi Divas Samaroh	Hindi Divas Samaroh	Shri Vishnu Datt 'Rakesh'	Sept. 14, 2012
4	Birth Anniversary	Gandhi Jayanti	Director, Prof. Pradipta Banerjee	Oct. 02, 2012
5	Hindi Prize Distribution	Hindi Prize Distribution	Director, Prof. Pradipta Banerjee	Jan. 26, 2013
6	Hindi Workshop	Hindi Workshop at Saharanpur Campus	Prof. I.M. Mishra, Chairman Hindi Cell	Feb. 26, 2013
7	Coordinaor's Meet	Hindi Coordinators meet of the member Institute of TOLIC, Haridwar	Director, Prof. Pradipta Banerjee	March 18, 2013

11.5 CENTRAL PURCHASE OFFICE

The Institute has a Central Purchase, functioning under the control of the Central Purchase Officer (C.P.O.) Shri Suman Kumar, Asstt. Registrar (Accounts & Audit). At present the charge of CPO is assigned to him as an additional duty.

There are following purchase committees (before coming into force the revised purchase and Stores rules) for considering the purchase cases received from various Departments/Offices/Centres of the Institute. The Central Purchase Officer is the member secretary of all the committees.

Sl. No.	G.P.C.'s	Name of Chairman
1.	G.P.C.-I	Dr. A.K. Jain, Prof. & Head, Civil Engg. Deptt.
2.	G.P.C.-II	Dr. Padam Kumar, Prof. & Head, E&CE Engg. Deptt.
3.	G.P.C.-III	Dr. H. Sinvhal, Prof. & Head, Earth Science Engg. Deptt.(upto July 2012)/Prof. Deepak Kashyap, Civil Engg. Deptt. (w.e.f. Aug. 2012)
4.	S.P.C.(Project)	Dr Pradeep Bhargava, Dean (SRIC)
5.	S.P.C. (Software)	Dr. A.K. Sarje, E & CE
6.	GPC (DPT)	Dr. I M Mishra, Dean, Saharanpur Campus

After coming into force the revised purchase and Stores rules on 15.01.2013, the following purchase committees were constituted for considering the all purchase cases received from various Departments/Offices/Centres of the Institute as per Revised Purchase and Stores Rules. The Central Purchase Officer is the member secretary of all these committees.

Sl. No.	IPC/PPC	Name of Chairman
1.	IPC	Prof. Pradeep Kumar, Mech. Engg. Deptt. (w.e.f. 24.01.2013)
2.	PPC	Dr Pradeep Bhargava, Dean (SRIC) (w.e.f. 24.01.2013)

Month-wise details of purchase orders pre-audited during the year 2012-13 by the C.P.O. amounting above Rs. 1.0 lac (during the period 01.04.2012 to 14.01.2013) and purchase orders pre-audited amounting above Rs. 5.0 lac as per revised purchase rules for the period 15.01.2013 to 31.03.2013:

Month	Number of Purchase Orders	Approximate amount of Purchase Order (In Rupees)
April	13	9592201.10
May	23	11292739.90
June	14	11135776.00
July	21	8337285.14
Aug.	31	14698310.59
Sept.	39	18864513.40
Oct.	59	25198862.10
Nov	75	42359431.79
Dec	71	45749937.60
Jan	111	162275026.20
Feb	147	208075636.40
March	111	245529575
TOTAL	**715**	**803109295.22**

(Eighty Crore Thirty One Lacks Nine Thousand Two Hundred Ninety Five & Twenty Two Paise Only)

Besides above purchase cases, the Central Purchase Officer has also finalized the under mentioned Rate Contracts in the interest of Institute work.

1. Rate contract of Clearing Agent
2. Rate contract of Furniture items (Godrej - Furniture of Category -A & Category-B)

3. Rate contracts for supply of Chemicals & Glassware
4. AMC of Various Photo Copier Machines.
5. AMC of AC/Cooler/Water Cooler etc.

12. Other Activities on Campus

12.1 Technology Incubation and Entrepreneurship Development Activity (TIEDA) Centre
12.2 Alumni Affairs
12.3 Asmita
12.4 Adarsh Bal Niketan Sr. Sec. School
12.5 Anushruti

12.1 TECHNOLOGY INCUBATION AND ENTREPRENEURSHIP DEVELOPMENT ACTIVITY (TIEDA) CENTRE

1. BUSINESS INCUBATION ACTIVITY

TIEDA Centre invited proposals for Incubation under TIDE Scheme of Department of Information Technology, Govt. of India. Total 22 proposals were received in the areas of electronics, Information & Communication Technology (ICT) & Management from students of IIT Roorkee. After reviewing these proposals by Screening Committee and Executive Committee of the Centre, two (2) proposals were recommended for Incubation. Second advertisement for inviting proposals were also released in the Month 2013.

2. ENTREPRENEURSHIP TRAINING PROGRAMMES:

- The Entrepreneurship Development Cell (EDC) organized E-Summit 2012 Competition from April 14-19, 2012.
- EDC organized Samadhan-2012 on 27th Sept. 2012 on the theme "How Social Start ups":
- On Oct 3-4, 2012 an Introductory talk to foster the sprit of Entrepreneurship amongst students of IIT Roorkee was held in Rajendra Bhawan.
- On Oct 5, 2012 an open meeting on 'when, Why and How to Start-up" was organized.
- On Feb 9, 2013 EDC organized TEDx event on the topic of "Being & Becoming":
- On 17th March, 2013 an open meet on Social Media marketing was held.

3. FOLLOWING PERSONS VISITED TIEDA CENTRE DURING THE YEAR 2012-13:

- Mr. Harish Natrajan, Bausch & Lomb, Gurgaon, Haryana
- Mr. Mohit Saxena, in Mobi Pvt. Ltd., Bangalore
- Mr. Anup Tapadia, Pune
- Mrs. Jodie Vnderhill, Waste Warriors, Dehradun

12.2 ALUMNI AFFAIRS

The office of Dean Alumni Affairs organised various activities in the Institute for strengthening and forging the bonds between the alumni and Institute fraternity. The year 2012-2013 saw some important visits and get together of our alumni.

Following are the important events that have taken place during the period April 1, 2012 to March 31, 2013.

1. DISTINGUISHED ALUMNI AWARDS 2012

The Distinguished Alumni Awards were presented to Seven Alumni who have made major contribution in their respective fields on Alumni Day i.e. Nov. 25, 2012. The recipients of the Distinguished Alumnus Awards for the year 2012 were:

(i) Prof. Prem Krishna {B.E. (Civil) 1959, M.E. (Structure) 1961}, Former Professor of Civil Engineering, UOR, received the Distinguished Alumnus Award under the category Academic/Research

(ii) Prof. Harpreet Singh {M.E. (E&C) 1966, Ph.D. 1971}, Professor, Dept. Of Electrical & Computer Engg., Wayne State University (WSU),Detroit Michigan USA, received the Distinguished Alumnus Award under the category Academic/Research

(iii) Dr. Amit Singhal {B.E. (Computer Science) 1989}, Google Fellow, Google Inc., USA, received the Distinguished Alumnus Award under the category Corporate Development

(iv) Shri. Ravi Sharma {B.E. (EE) 1984}, Formerly Chief Executive Officer- Adani Power Limited, Ahmedabad, Gujarat, received the Distinguished Alumnus Award under the category Corporate Development

(v) Shri Arvind K. Singhal {B.E. (E&C) 1979}, Chairman, Technopak Advisors Pvt. Ltd., New Delhi, received the Distinguished Alumnus Award under the category Corporate Development

(vi) Dr. Harsh K. Gupta {Ph. D. (1970)}, Member, National Disaster Management Authority, NDMA Bhawan, New Delhi, received the Distinguished Alumnus Award under the category Corporate Development/Administration

(vii) Shri B. K Chaturvedi {B.E. (Mech) 1969}, Formerly Managing Director, Eicher Ltd., Gurgaon, received the Distinguished Alumnus Award under the category Corporate Development

2. RECENTLY INSTITUTED AWARDS/SCHOLARSHIPS

Following Donations were received between April 2012-March 2013:

(i.) Prof. S.N. Sinha, Former Professor E&CE Deptt., IIT Roorkee instituted "EC-72 Merit-cum- means Scholarship" which carries a cash award of Rs. 10,000/- per year for the student of B.Tech. (E&C), 3rd Year. Amount of Rs. 2,65,000/- has been received for this purpose.

(ii.) Mr. Mukul Dixit, B.Tech., Chemical Engineering, 1985 batch instituted a Cash Prize of Rs. 5,100/- per year in the name of "Aastha Mukul Dixit Prize" for the best Engineering Project in Final Year of B.Tech. Chemical Engineering.

3. TRAVEL GRANT AWARD

Under the scheme a token travel grant of Rs. 10,000/- per student has been given to 18 UG/PG/Ph.D. students for presenting their research papers in Conferences held in India and abroad during the period (1 April 2012 to 31 March 2013) from funds donated by Alumni for this purposes, as per details given below:

	National Conferences	International Conferences	Total
No. of UG Students	8	4	12
No. of PG Students	26	7	33
Ph.D.	13	27	40
Total			**85**

4. ALUMNI GET-TOGETHER

REGALIA 2013

The Department of Management Studies (DoMS), IIT Roorkee hosted Regalia' 13, the Annual Alumni Meet of the DoMS, on 16th February 2013. The meet was attended by Alumni of batches the right from 2000 to 2011.

CHEMICAL ALUMNI MEET

Department of Chemical Engineering celebrated its Golden Jubilee this year, 2013. To commemorate the 5O years of its existence, an Alumni Meet was convened for the period February 24-25, 2013.The Department of Chemical Engineering came to its being in the year 1963. The Alumni Meet was attended by 70 alumni, and their families, of the 1967 batch, the first batch of the department.

5. IITR ALUMNI ASSOCIATION

The Association as on 31.3.2013 has 24838 alumni registered as life members. Today, the IIR Alumni Association has spread its wings through local chapters all over world including 35 cities in India. During the year 2012-2013, Prof. J.L.Gaindhar(1958), Former Professor, Mechanical & Industrial Engineering Department, IIT Roorkee and Dr. N. K. Samadhiya (1999), Professor, Civil Engineering Department, IIT Roorkee have been the President and Honorary Secretary of the IITR Alumni Association. During the current year : i.e. 2013-2014, Prof. J.L.Gaindhar (1958) and Dr. Pradeep Kumar (1986), Principal Scientist, CSIR-Central Building Research Institute, Roorkee have been nominated as the President and Honorary Secretary respectively.

Silver Jubilee Alumni Meet-2012 and the Diamond & Golden Jubilee Alumni Meet-2012 were celebrated with great enthusiasm consecutively on November 24-25 November, 2012 followed by 25-26, November 2012. Those attended these functions included – 8 Diamond Jubilee Alumni (1952 batch), 97 Golden Jubilee Alumni (1962 batch), 136 Silver Jubilee Alumni (1987 batch & B. Arch 1988 batch). Most of them have attended the meets with their families. Some of the alumni reported that they came for the first time after their graduation from this institute.

All the Jubilee Alumni along with their families had separately met with their respective batch mates with great zeal and nostalgia. They shared their joy through playing various games in Lal Bahadur Shastri Stadium with great gusto.

On November 24, 2012, the Silver Jubilee Alumni of 1987 and 1988 (B. Arch.) batches and on November 26, 2012, the Diamond & Golden Jubileee Alumni of 1952 & 1962 batches were felicitated and presented with mementoes in the O. P. Jain Auditorium of Civil Engineering Department.

On November 25, 2012 the IIT Roorkee celebrated for the first time "The Alumni Day" near the Institute Flag which commemorated the Foundation Day of Thomason College and Charter Day of University of Roorkee. Seven Distinguished Alumni Awards were presented. Jubilee alumni also witnessed this great event.

On November 25, 2012, the 63rd Annual General Body Meeting of the Association was held in O.P. Jain Auditorium and was attended by over 200 members. The President of the Association in the presence of Prof. Pradipta Banerji, the Director, IIT Roorkee, welcomed all the EC members and the Jubilee Alumni who had graced the function.

On November 24 & 25, 2012, the alumni and student interaction programme called "Manthan-shaping the Future" was held at 2 to 3:00PM in the Department of Management Studies very enthusiastically involving mainly Silver Jubilee Alumni.

6. STERLING ACHIEVEMENTS OF ROORKEE ALUMNI

Mr. Ramesh Chandra, 1960 Batch (Civil) Alumnus a noted and eminent Professional in the field of Engineering has been nominated as a member of IBC (International Biographical Center, UK) for the year 2013.

Mr. Subodh Jain, Batch (Civil) Alumnus takes over as new member engineering, Railway Board and ex-officio secretary to Government of India. Prior to this new posting, he served as General Manager, Central Railway (CR), Mumbai, from 9th November 2011 to 11th April 2013.

7. IIT ROORKEE HERITAGE FOUNDATION

IIT Roorkee Heritage Foundation (University of Roorkee Foundation) is a voluntary non-profit foundation established in the USA with the aim of promoting networking and works towards professional and personal development and welfare of the present and past students of IIT Roorkee (formerly University of Roorkee). It has been established to help foster better understanding and cooperation between members of the foundation and IIT Roorkee community by instituting

- IIT Roorkee Heritage Foundation Awards for IITR students of outstanding academic, co-curricular and extra-curricular achievements.
- IIT Roorkee heritage foundation – Business Plan Competition Awards,
- Travel Grants for presenting papers in conferences,
- Organizing lectures at IIT Roorkee by alumni visiting India,
- Mentoring students in choosing career options and initial settling in socially and culturally different environments

The Foundation's major activities on campus students are summarized year wise as below:

Year	Academic Excellence Awards to excellence performers of different UG/IDD courses	Research Paper Grant for presenting research papers by students in National/International conferences	Business Plan Award
2012	51 Awards @Rs. 5,000/- each	Awarded to 5 students of Ph.D./B.Tech.; Funds awarded :Rs 1.0 lacs	Awarded to 3 Students Funds awarded :Rs 1.25 lacs
2011	53 Awards @Rs. 5,000/- each	Awarded to 4 students of Ph.D./M.Tech. Funds awarded: Rs 1.05 lacs	6 students/ Alumni Funds awarded : Rs 1.5 lacs

12.3 A Skill Management Improvement and Training Academy (ASMITA)

ASMITA SOCIETY FOR WOMEN:

ASMITA society for women was registered as a non-profit society under Indian Society's act during the year 2012-2013.

ASMITA stands for a Skill Management, Improvement and Training Academy for women. Under the Skill Management part, we provide employment for fully skilled girls and women. The Skill Improvement part looks into imparting knowledge on designing and tailoring aspects to half skilled girls and women and is at times hired temporarily as interns. Skill Training looks into training unskilled girls and women in Stitching, Embroidery and overall grooming.
Looking ahead, ASMITA has five initiatives. I am delighted to highlight for 2012-2013. In order to ensure ASMITA continues to be a transformative force and growth for underprivileged women, we need innovative ideas, resources, volunteers and support of corporate across India and internationally. Join us to make a difference in the lives of young girls and women, to ensure that we build a firm future.

Whether it is an idea, a few hours of your time as a volunteer or a financial commitment, together we can change few lives of our women at ASMITA.
.
Highlights of the activities carried out in various sections of ASMITA are given below for the period of 1-4-2012 to 31-3-2013.

Activities for the period of April 2012 to 31st March 2013

1. **Stitching Section:**

   42 female students are enrolled in the diploma and choice course programme in stitching and tailoring at the centre. Out of these11 students have opted for choice course and 31 students opted for a 6 month diploma course.

2. **Gift Section:**
   In this section good quality stitched items like home linen, bags, kitchen linen are made by trained ladies for their income generation and for other visitors on regular basis. This section serves as an **income generating opportunity for less privileged women in the neighbouring rural community of Roorkee and families of IITR staff residing in D colony.** The program aims **to empower women to become income earners in their family by providing them with the resources and training for producing and selling handicrafts**. With design and market assistance from our volunteers, the women stitch linens, cushion covers, handbags, placemat sets and a variety of beautifully handmade products, which are sold throughout the local community. The women receive the full benefits of their labor and are able to produce a sustainable income to ensure proper education, health and hygiene for their family. Last year these gift items were exhibited at the Alumni Day and Diwali Mela to raise donations for the Academy This program aims to impart new skills to women, enabling them to become financially independent members of their families.

3. **Spice Preparation Section:**

   100% pure spice powders and flours are being prepared and packed at the centre . Few ladies from the less privileged are employed on regular basis and few others are working on temporary for this section under the able supervision of our volunteers

4. **E- Learning Section:**

   Women are trained in basic computer skills. Trained tutors and volunteers assist in this section and two batches comprising of total number of 20 students have graduated successfully.

5. **Adult Education or Praura Shiksha Abhiyan:**

   In this new section uneducated and unversed ladies from nearby areas are being given basic education along with awareness on health, hygiene, and other lifestyle tips.

6. **Special Activities: Apart from the above mentioned**

   Activities, we conduct free workshops and events at The Academy from time to time in order to encourage our students and workers. These included an ethnic function like Monsoon Mania- "Sawan", fabric painting workshop, Embroidery workshop, Mehndi competition on the festival of Karvachauth, painted deeyas and other items for Diwali.
   Skill enhancement workshop in the stitching unit was conducted with assistance from a local boutique.

A Way Forward: Our future endeavours include an internship program, initiated this summer for our Diploma students of the Stitching section who are completing their Diploma course. Some of these girls are assisting teachers as well as making specific products that ASMITA exhibits in the gift section. These girls will also be offered with basic Computer skills and a two week program targeted for enhancing their tailoring and handicraft skills.

Financial Report 2012-2013:

Total Fundraising in the year 2012-2013:

Rs. 2, 76,848.00/-
(Major fundraising came from the fees from the students, gift, masala and E-learning sections and donations from the individuals.)

Total expenditure in the year 2012-2013: Rs. 2, 56,331.00/-

Major expenses involved salaries for staff and temporary workers, purchase of new equipments and day to day expenses for a stable operation and maintenance of the Academy.

ANNUAL BALANCE SHEET for the Year 2012-2013

Balance Sheet from April 1, 2012 to March 31, 2013

HEADS	FUNDS RAISED	EXPENSES	TOTAL EXPENSES
Academic Section (Stitching and Embroidery classes)	Rs.65,220.00 collected from fees of students	a) Rs.40,710.00 for salary b) Rs.2,173.00 maintenance for of machines c) Rs.12,044.00 for new equipment	Rs.54,927.00
Spice Section	Rs.37,835.00	a) Rs.34,410.00 raw material+ container purchase b) Rs.2,260.00 weighing machine purchase c) Rs.600.00 packing material	Rs.37,270.00
Gift Section	Rs.97,793.00	Rs.70,497.00 purchase of cloth accessories and labour charges	Rs. 70,497.00
Computer Section	Rs.19,000.00	Rs.8,000.00 salary of teacher	Rs. 8,000.00
Running Expenses		a) Rs.4,461.00 electricity bill b) Rs.2,140.00 stationary + printing c) Rs.38,438.00 salary of Office staff d) Rs.16,224.00 registration of ASMITA e) Rs. 5,900.00 Events f) Rs. 16940.00 Maintenance g) Rs. 1534.00 Miscellaneous	Rs. 85,637.00
Donations from individuals	Rs.57,000.00		
Total Amount Rs.	Rs. 2,76,848.00		Rs. 2,56,331.00

Note: Excess balance shown in the Income column is utilized for incidental expenses eg. Transport charges for procuring raw materials, organisining competitions etc.
ASMITA's accounts are audited every year by a recognized Chartered Accountant of the city.

12.4 ADARSH BAL NIKETAN, SENIOR SECONDARY SCHOOL

Adarsh Bal Niketan was established in 1956 to cater educational facilities to the wards of faculty and staff of the University of Roorkee and other citizens. Since then it has grown in to a full-fledged senior secondary school due to keen interest taken by its management, the professors of University of Roorkee and now IIT Roorkee.

Education is imparted in ABN from nursery level to class XII and each class has two sections up to class X and three sections at plus two level. Two sections in science and one on commerce stream. Computer science is one of the important subjects taught in the science group. The total strength of the school is 1600.

The school also imparts NCC training (Senior Group).

The school has a majestic building in two parts, well designed and constructed by CPWD. It is well lighted and ventilated, with a big assembly, Hall library and an air conditioned Computer Lab, fully equipped with Pentium-4 computers.

The Assembly Hall is used to students for playing games like badminton, table tennis and carom etc. Small cultural functions also are organized in this hall.

The result of Board classes were par excellence (100%). Many students brought laurels to the school by scoring marks above 85%. A good number of students have been selected in different professional courses like engineering, medical & others.

School Management committee also awarded the best teachers from both Senior and Primary sections for their remarkable services towards academic performance and other areas of duties in school.

It is a matter of great satisfaction that the school is financially self reliant.

The E-Learning centre at ABN is set up as technology demonstration centre of MHRD funded project titled "VSAT- Enabled Mobile E-Learning terminals". The project was taken up in April 2009 in Electrical Engineering Department with Prof. H.K.Verma as its Principal investigator.

Efforts are continuously being made to make the school one of the best schools of Uttrakhand.

12.5 ANUSHRUTI

ACADEMIC HIGHLIGHTS

Anushruti's annual result was 95.23% for the year 2012 – 13.The highest percentage of marks in primary section were 94.10% secured by Master Avi Saini and in secondary section were 90.50 % secured by Miss Riya Jain. Prof. (Ms.) Rama Bhargava alongwith Dr. Gaurav Raheja (Manager, SMC) & Dr. Sandip Banerji (Assoc. Manager, SMC) distributed the prizes to the meritorious students for academics, co-curricular and vocational activities on an Annual Prize Distribution function held on 02.04. 2013.

Awards & Achievements

- Anushruti students team won medals at International Deaf Awarness Week programme organized at ONGC Dehradun, Deaf Welfare Association & National Association of Deaf.
- A triumphant presentation was made during Ganesh Mahotasava -2012 at Roorkee and received awards for the same.
- Master Tarun Saini's painting was selected at National Level through a competition for a twelve leaf calendar of 2013, launched by Dept. of Energy, Govt. of India. Paintings of three other students (Amar Tyagi , Rashmi Chaudhary and Shivani Prajapati)were selected in top 50 students among 2000 participants.

- Six students (Asiya , Bhavyadeep Chetan Saini, Sajid Hassan, Amar Tyagi and Afnan Siddiqui) cleared Senior Secondary Certificate Examination (Class X) successfully.
- Mrs. Neelam Madhok, Anushruti faculty, received Guru Vandan Award from Bharat Vikas Parishad Samarpan, Roorkee for her meritorious services to the society.
- Mrs. Pavati Pandey, Principal, Anushruti was felicitated with Paul Harris Fellow by Rotary Club of Midtown, Roorkee.

VOCATIONAL TRAINING

Following Workshops were organized at Anushruti, providing a wide exposure to Anushruti students and to society at large.

S.No.	Date	Title	Organised by
1.	14.05.2012	Workshop on Deafness	Dr. Sanjeev Garg, ENT Specialist
2.	15.05.2012	Workshop on Art & Craft	Mr. Azam Khan
3.	16.05.2012	Workshop on Drawing & Painting	Mrs. Swarn Lata, Head of Dept., SDPC Girls College, Roorkee
4.	18.05.2012	Workshop on Baking	Ms. Gunjan Singh
5.	26.10.2012	Workshop on "Paper Mache & Paper Making Process" and "Candle Making"	QIP Centre, IIT Roorkee

EVENT DETAILS

Date	Precise Information on Events organized at Anushruti
APRIL	
04.04.2012	Anushruti students visited botanical gardens at Director's Lodge, IIT Roorkee.
23.04.2012	Roorkee School for the Deaf rechristened into a new identity 'ANUSHRUTI' nurturing silence, creating lives. Passed as per Resolution No. BG/24/2012, 34th BOG Meeting held on 12.03.2004.
24.04.2012	Dr. Radhakant Padhi, Assoc. Professor, Department of Aerospace Engineering, Indian Institute of Sciences, Bangalore, visited Anushruti alogwith his family appreciating the school's environment and its activities.
25.04. 2012	Competitions organized by the students of CRY, IIT Roorkee Chapter.
27.04.2012	Prof. H.S. Shankar, Department of Chemical Engineering, IIT Bombay, alongwith his spouse Mrs. Uma Shankar visited the school to shower his blessings on Anushruti kids. He was highly impressed with the quality, neatness and the total setup of the school.
MAY	
05.05.2012	Inspirational Talks on Control of Mind, Harmony in relations and Personality Development organized by Brahmakumari Sister Shivani Jee, Sister BK Neelam Ji & others from Prajapita Bhramakumari Ishwariya Vishwavidyalya Local Chapter, Roorkee for the parents and teachers of Anushurti.
14.05.2012 to 22.05.2012	Summer camp 2012 was organized, focusing on activities related to Personality Development and Vocational Skills. Several workshops on Deafness, Art & Craft, Drawing & Painting, Baking, etc. were conducted with an enthusiastic participation.
15.05.2012	Sh. Rajendra Kiri, from M/s Kiri Associate Pvt. Ltd., New Delhi and Col. Siddhartha Bose, visited the school and were highly impressed with the setup.
JUNE	
01.06.2012	**SHORT NOTE ON WORK SHOP OF INDIAN SIGN LANGUAGE HELD AT IGNOU,NEW DELHI**

	Mrs Parvati Pandey, Principal Anushruti and teachers including Mrs Neelam Madhok, Mrs Shazia Farhat and Mr Rajendra Yadav attended a one Day Workshop on "Needs of Deaf Education" at Convention Centre Indira Gandhi National Open University (IGNOU), New Delhi. The workshop was conducted by Dr. Madan Vasishta, a professor at Gallaudet University, Washington DC.
JULY	
3.07.2012	Mehndi competition organized at Anushruti followed by prize distribution by Revered Smt. Reeba Bhattacharya
AUGUST	
04.08.2012	Anushruti students welcomed HRD Minister Hon'ble Sh. Kapil Sibal and Sh. AnalJit Singh, Chariman BOG ,IIT Roorkee & Founder Chairman of Max India Limited and other dignitaries on the occasion of IIT R convocation. Also, they prepared a Rangoli of IITR Logo which received appreciation from all visitors.
15.08.2012	Independence Day Celebrations President, SMC Ms. Anasuya Banerji hoisted the flag alongwith Guest of Honour revered Smt. Reeba Bhattacharya. Students of Department of Mathematics and Computer Application, IITR also joined this function. Anushruti students also made a thrilling performance on the occasion of Independence Day at the Main Building.
SEPTEMBER	
03.09.2012	E-learning Centre Activity: Mr. Nagendra Kumar, Research Scholar, Department of Electrical Engineering, IIT Roorkee, Ms. Grishma Sharma & Ms. Pritika, DRDO, Institute of Nuclear Medicine and Allied Sciences (INMAS), New Delhi conducted Psycho Physiological tests for Anushruti students. The same was conducted as a part of "Analysis of Physiological Parameters to study Cognitive Enhancement" under the guidance of Dr. S. Mukherjee and Dr. Vinod Kumar, Professor, Electrical Engineering ,IIT Roorkee.
05.09.2012	Teacher's day was celebrated with full fervor and enthusiasm by Anushruti students. Anushruti alumni were also present and participated on this occasion.
08.09.2013- 15.09.2013	Cutting & Tailoring Centre: Organized several stitching skills oriented training programme Anushruti students. Products produced at this centre are - Side Bag, Potli Bag, Table Matt, Table Cloth, Dining Table Runner, Hand Towels, Bed Sheets, etc.
10.09.2012 – 20.09.2012	Yoga classes organized for school students, teachers & staff members for their wellness by Sh. Rakesh Malik.
23.09.2012	The students of Anushruti and the visiting team brought laurels to the school by winning medals in International Deaf Awareness Week programme organized at ONGC Dehradun by Deaf Welfare Association & National Association of Deaf.
24.09.2012	Our Anushruti Students performing TRIUMPHANT presentation during Ganesh Mahotasava - 2012 and Durga Pooja at Roorkee.
30.09.2012	Mrs. Neelam Madhok, received Guru Vandan Award from Bharat Vikash Parishad Samarpan for her meritorious services to the society.
OCTOBER	
October -2012	Dr. (Mrs.) Indira V. Samarasekera, President and Vice Chancellor of the University of Alberta, one of Canada's most respected research-intensive universities visited Anushruti alongwith Prof. Pradipta Banerji, Director, IIT Roorkee.
08.10.2012	Anushruti students attended One day Disability Awareness Camp organized by Department of Social Welfare, District Haridwar for giving Aids and appliances to the disabled. Cabinet Minister of Department of Social Welfare UK Government, CDO Haridwar, DSWO, SDM Roorkee and Nagar Vidhayak Roorkee, presided over the function.
18.10.2012	Students of ESPEE Global school visited Anushruti.
26.10.2012	QIP Centre organized one day workshop on "Paper Mache & Paper Making Process" and "Candle Making".
NOVEMBER	

6.11.2012	Visit of Prof. Erward Baier from Germany alongwith our school President organized, and he gave Professional Guidance for Growth of Academic and Skill Development programme of Anushruti. Er. Sushil Chandra, Head, Bio Medical Engineering, Institute of Nuclear Medicine and Allied Sciences (INMAS, New Delhi) Interacted with Our students on 6.11.2012 and Give feedback for Skill Development Centre and Disability related issues in Visuals Designing.
07.11.2012	Mrs. Kavita Banthia & Prof. Nem Kumar Banthia, Department of Civil Engineering, The University of British Columbia, Canada visited Anushruti and blessed the children.
8.11.2012	Revd. Mark Anderson visited Anushruti, from Cody City, USA and performed heart touching Live Concert for our Special Children alongwith special prayers and blessings for Anushruti kids.
25.11.2012	Celebrated as Foundation day of IITR. Anushruti students prepared and served breakfast to the visiting jubilee alumni. Around 500 Jubilee Alumnus of IITR visited the school. Mr. Arvind Singhal, Mr. Ravi Sharma & Mr. Vivek were present during the function. Mr. Ravi Sharma announced to open an Anushruti Cafeteria as a new concept for Anushruti Students. Generous contributions amounting to Rs. 1.43 Lacs for the welfare of hearing impaired students were received from Jubilee Alumnus of IITR
DECEMBER	
03.12.2012	International Day for Persons with Disabilities commemorated at Senate Hall, IIT R with an active participation from Anushruti presenting 'Silent National Anthem'
14.12.2012	Anushruti students and faculty participated in an event jointly organized by the Times of India and Uttarakhand Renewable Energy Development Agency (UREDA) at ONGC, Dehradun. A Drawing Competition on Energy Conservation & Alternate Energy Source : A key to progressive India was organized. Paintings of three students from Anushruti, Amar Tyagi , Rashmi Chaudhary and Shivani Prajapati were selected in top 50 students among 2000 participants. In Top 12 entries, painting by Ma. Tarun Saini was selected which has already been featured in the Calendar of 2013. These Calendars were to have a wide circulation, esp. in Department of Energy, Govt. of India and state. Awards were conferred upon to winners of the said event at ONGC Dehradun by Mr. Ashish Joshi, Director, UREDA, and other dignitaries from Times of India, University of Petroleum and Energy Studies, Dehradun , ONGC.
14.12.2012	NIOS Board result declared, Four(4) Anushruti students (Chetan Saini, Sajid Hassan, Amar Tyagi and Afnan Siddiqui) cleared senior secondary certificate i.e. class X examination.
JANUARY	
02.01.2013	New SMC constituted for a period of 3 years as per constitution, takes over the responsibilities of Anushruti as approved by BoG, IIT Roorkee. The following office bearers were nominated to take charge with immediate effect: - (i) President : Mrs. Anasuya Banerji (ii) Vice –President : Prof. M. V. Kartikeyan, (Deptt. of E&CE) (iii) Manager : Prof. Gaurav Raheja, (Deptt. of Arch. & Planning) (iv) Associate Manager : Prof. Sandip Banerjee, (Deptt, of Mathematics) (v) Treasurer : Prof. Arun Kumar, (Deptt. of AHEC) (vi) Secretary : Mrs. Parvati Pandey, (Principal , Anushruti) Other members of the SMC include Dr.Sugato Gangopadhyaya, Ms. Kulina Shah, Dr. (Ms.)Variza, Ms. Shazia Farhat.
18.01.2013	Mrs. Kalyani Sridhar from Australia, visited Anushruti

19.01.2013	Mr. Ravi Sharma, Founder Prama Jyoti foundation visited Anushtruti with his entire team to discuss various issues related to starting of Anushruti Café on IITR campus.
26. 01.2013	President SMC, Ms. Anasuya Banerji hoisted the flag joined by other SMC members and school staff and children. Anushruti students also made a thrilling cultural performance at Main Building during Republic Day celebrations.
28.01.2013	M/s Hindustan Petroleum Ltd., Dehradun Region organized drawing and poster making competitions on the topic "Save Fuel & Money." 55 students from Anushruti participated and Ms. Shazia Mirza won the first prize.
29.01.2013	Girls students of B.Sc. Home Science from City Public school, Roorkee visited Anushruti to see the teaching learning methods and processes.
FEBRUARY	
04.02.2013	Dr. Hersh Kumar, Educationist and Social worker visited Anushtruti and contributed Rs. 1.0 Lac for the education of needy girl students of Anushruti.
07.02.2013	Sh. Manmohan Singh, District Governor, (RID 3080) visited Anushruti. Ms. Parvati Pandey felicitated with Paul Harris Fellow by Rotary Club of Midtown , Roorkee.
23.02.2013 to 24.02.2013	Rotary Club of Roorkee Midtown organized " Ijliaas –e-Aman", an International event of the Rotary District Conference at Chandigarh. Over 100 Warli paintings prepared by Anushruti students exhibited.
MARCH	
March 2013	Annual Examinations held as per schedule. Students participated in Shrishti -2013 Anushruti Welfare Group from IIT Roorkee organized a one day interactive session- cum-workshop event titled 'Silence Calling' during Cognizance 2013. The event was a huge success with enthusiastic participation by young teams at national level.

FINANCIAL REPORT

Statement of Donations Received During Financial Year: 2012 -2013

1.	General Donations (One Time, Monthly, Quarterly, Half Yearly, Yearly)	Rs.705363.00
2.	General Donations received from Alumni Function	Rs.116401.00
3.	Collection through Greeting Cards / Other Products	Rs.155191.00
4.	Corpus Fund Donations	Rs. 77000.00
TOTAL		**Rs. 1053955.00**

A1 Details of IITR Results (2011-2012)
A2 Details of Awards
A3 Hostel Accommodation on the Campus
A4 On Campus Recruitment
A5 Scholarships and Financial Aid to Students

A1 - DETAILS OF IITR RESULTS (2012-2013)

Sl. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	B.Tech./B.Arch./IDD/Int.M.Tech./M.Sc. 1st Year	1099	1099	
2.	B.Tech./B.Arch./IDD 2nd Year	1052	1052	
3.	B.Tech./B.Arch./IDD 3rd Year	1031	1031	
4.	B.Tech./B.Arch./IDD 4th Year	1310	1310	
5.	B.Arch./IDD 5th Year	212	159	
	Total	**4704**	**4651**	
B.Tech./B.Arch.(First Year)				
1.	B.Arch.	36	36	
2.	Biotechnology	44	44	
3.	Chemical	81	81	
4.	Civil	126	126	
5.	CSE	20	20	
6.	E & C	56	56	
7.	Electrical	126	126	
8.	Industrial	61	61	
9.	Mechanical	81	81	
10.	Metallurgical	89	89	
11.	Pulp & Paper	32	32	
	Total	**752**	**752**	
B.Tech./B.Arch. (Second Year)				
1.	B.Arch.	49	49	
2.	Biotechnology	43	43	
3.	Chemical	57	57	
4.	Civil	116	116	
5.	CSE	50	50	
6.	E & C	57	57	
7.	Electrical	121	121	
8.	Industrial	44	44	
9.	Mechanical	82	82	
10.	Metallurgical	90	90	
11.	Pulp & Paper	80	80	
	Total	**789**	**789**	
B.Tech./B.Arch. (Third Year)				
1.	B.Arch.	53	53	
2.	Biotechnology	42	42	
3.	Chemical	57	57	
4.	Civil	119	119	
5.	CSE	55	55	
6.	E & C	55	55	
7.	Electrical	123	123	
8.	Industrial	50	50	
9.	Mechanical	84	84	
10.	Metallurgical	92	92	
11.	Pulp & Paper	54	54	
	Total	**784**	**784**	

B.Tech./B.Arch./IDD (Final Year)				
1.	B.Arch.	48	48	
2.	Biotechnology	44	44	
3.	Chemical	53	53	
4.	Civil	121	121	
5.	CSE	52	52	
6.	E & C	59	59	
7.	Electrical	115	115	
8.	Industrial	50	50	
9.	Mechanical	76	76	
10.	Metallurgical	82	82	
11.	Pulp & Paper	56	56	
	Total	**756**	**756**	
Integrated Dual Degree (First Year)				
1.	CH/HC	32	32	
2.	E & C/WC	20	20	
3.	CSE.IT	-	-	
4.	Elect./PE	14	14	
5.	PMBA	26	26	
	Total	**92**	**92**	
Integrated Dual Degree (Second Year)				
1.	CH/HC	23	23	
2.	E & C/WC	19	19	
3.	CSE.IT	27	27	
4.	Elect./PE	15	15	
5.	PMBA	26	26	
	Total	**110**	**110**	
Integrated Dual Degree (Third Year)				
1.	CH/HC	27	27	
2.	E & C/WC	18	18	
3.	CSE.IT	28	28	
4.	Elect./PE	14	14	
5.	PMBA	23	23	
	Total	**110**	**110**	
Integrated Dual Degree (Fourth Year)				
1.	CH/HC	19	19	
2.	E & C/WC	15	15	
3.	CSE.IT	23	23	
4.	Elect./PE	14	14	
5.	PMBA	23	23	
	Total	**94**	**94**	
B. Arch. (Fifth Year)				
1.	B. Arch.	38	38	
	Total	**38**	**38**	
Integrated Dual Degree (Fifth Year)				
1.	CH/HC	21	21	
2.	E & C/WC	16	16	
3.	CSE.IT	29	29	
4.	Elect./PE	12	12	
5.	PMBA	14	14	
	Total	**92**	**92**	
Integrated M.Tech. (First Year)				
1.	PST	36	36	
2.	Geological Technology	30	30	
3.	Geophysical Technology	31	31	
	Total	**97**	**97**	

Integrated M.Tech. (Second Year)				
1.	PST	80	80	
2.	Geological Technology	27	27	
3.	Geophysical Technology	27	27	
	Total	**134**	**134**	
Integrated M.Tech. (Third Year)				
1.	PST	17	17	
2.	Geological Technology	26	26	
3.	Geophysical Technology	32	32	
	Total	**75**	**75**	
Integrated M.Tech. (Fourth Year)				
1.	PST	16	16	
2.	Geological Technology	23	22	
3.	Geophysical Technology	24	24	
	Total	**63**	**62**	
Integrated M.Tech. (Fifth Year)				
1.	PST	15	15	
2.	Geological Technology	22	22	
3.	Geophysical Technology	22	22	
	Total	**59**	**59**	
Integrated M.Sc. (First Year)				
1.	Physics	26	26	
2.	Chemistry	12	12	
3.	Applied Maths.	29	29	
	Total	**67**	**67**	
Integrated M.Sc. (Second Year)				
1.	Physics	19	19	
2.	Chemistry	19	19	
3.	Applied Maths.	27	27	
	Total	**65**	**65**	
Integrated M.Sc. (Third Year)				
1.	Physics	15	15	
2.	Chemistry	06	06	
3.	Applied Maths.	14	14	
	Total	**35**	**35**	
Integrated M.Sc. (Fourth Year)				
1.	Physics	15	15	
2.	Chemistry	04	04	
3.	Applied Maths.	15	15	
	Total	**34**	**34**	
Integrated M.Sc. (Fifth Year)				
1.	Physics	10	10	
2.	Chemistry	09	09	
3.	Applied Maths.	13	13	
	Total	**32**	**32**	

M.Sc. First Year

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	Indl. Math. & Informatics	11	11	—
2.	Applied Mathematics	15	15	—
3.	Biotechnology	23	23	—
4.	Chemistry	19	19	—
5.	Applied Geology	13	13	—
6.	Physics	16	16	—
	TOTAL	**97**	**97**	—

M.Sc. Final Year

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	Indl. Math. & Informatics	13	13	—
2.	Applied Mathematics	17	17	—
3.	Biotechnology	29	29	—
4.	Chemistry	23	23	—
5.	Applied Geology	15	15	—
6.	Physics	16	16	—
	TOTAL	**113**	**113**	—

M.Tech. (Earth Sciences) First Year

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	Geophysical Technology	9	8	1 student not earned required credits
2.	Geological Technology	7	7	—
	TOTAL	**16**	**15**	1 student not earned required credits

M.Tech. (Earth Sciences) Second Year

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	Geophysical Technology	8	8	—
2.	Geological Technology	12	12	—
	TOTAL	**20**	**20**	—

M.Tech. (Earth Sciences) Final Year

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	Applied Geology	12	12	—
2.	Applied Geophysics	12	12	—
	TOTAL	**24**	**24**	—

M.B.A.

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	M.B.A. First Year	87	87	—
2.	M.B.A. Final Year	69	69	—
	TOTAL	**156**	**156**	—

M.C.A.

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	M.C.A. First Year	45	42	3 student not earned required credits
2.	M.C.A. Second Year	47	47	
3.	M.C.A. Final Year	43	43	—
	TOTAL	**135**	**132**	3 student not earned required credits

Master of Architecture/Master of Urban & Rural Planning (First Year)

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	M. Arch.	18	18	—
2.	MURP	18	18	—
	TOTAL	**36**	**36**	—

Master of Technology (First Year)

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
Chemical Engineering				
1.	Indl. Pollution Abatement	23	23	—
2.	Com. Aided Process Plant Design	24	23	1 student not earned required credits
3.	Indl. Safety & Hazard Mgt.	12	11	1 student not earned required credits
	TOTAL	**59**	**57**	2 student not earned required credits
Civil Engineering				
1.	Building Science & Tech.	14	14	—
2.	Environmental Engineering	13	12	1 student not earned required credits
3.	Geotechnical Engineering	22	22	—
4.	Hydraulic Engineering	18	18	—
5.	Geomatic Engineering	17	17	—
6.	Structural Engineering	18	18	—
7.	Transportation Engineering	28	28	—
	TOTAL	**130**	**129**	1 students not earned required credits
Earthquake Engineering				
1.	Soil Dynamics	16	16	—
2.	Structural Dynamics	26	26	—
3.	Seismic Vuluierability & Risk Assessment	12	12	
	TOTAL	**54**	**54**	—

S. No.	Name of Class	Main Exam.		Remarks
Electrical Engineering				
1.	Electric Drives & Power Electronics	17	16	1 student not earned required credits
2.	Power System Engineering	19	19	—
3.	Instrumentation & Signal Processing	24	24	—
4.	System Control	24	23	1 student not earned required credits
	TOTAL	**84**	**82**	2 student not earned required credits
Metallurgical & Materials Engineering				
1.	Industrial Metallurgy	17	16	1 student not earned required credits
2.	Physical Metallurgy	14	14	—
3.	Corrosion Engineering	14	14	—
	TOTAL	**45**	**44**	1 student not earned required credits
Electronics & Computer Engineering				
1.	Communication Systems	16	16	—
2.	Computer Science & Engg.	52	46	6 student not earned required credits
3.	System modeling & Control	12	12	—
4.	R.F. & Microwave Engg.	13	13	—
5.	Micro Electronics & VLSI	16	16	—
	TOTAL	**109**	**103**	6 students not earned required credits
Paper Technology Saharanpur				
1.	Pulp & Paper	**14**	**14**	----
Mechanical & Industrial Engineering				
1.	Machine Design	15	15	**----**
2.	Production & Ind. Systems	19	18	1 student not earned required credits
3.	Welding	14	13	1 students not earned required credits
4.	Thermal	13	11	2 student not earned required credits
5.	CAD CAM & Robotics	13	13	—
	TOTAL	**74**	**70**	4 students not earned required credits
Disaster Mitigation & Management				
1.	Disaster Mitigation & Management	14	14	**----**
	TOTAL	**14**	**14**	**----**

Information Technology

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	M. Tech. I.T. First Year	--	--	----
2.	M. Tech. I.T. Final Year	21	21	—
	TOTAL	**21**	**21**	----

Solid State Electronic Materials

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	M. Tech. (S.S.E.M.) First Yr.	18	18	—
2.	M. Tech. (S.S.E.M.) Final Yr.	10	10	—
	TOTAL	**28**	**28**	—
Chemistry				
1.	Advanced Chemical Analysis First year	11	11	----

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
2.	Advanced Chemical Analysis Final	13	13	—
	TOTAL	**24**	**24**	----
Alternate Hydro Energy Centre				
1.	A.H.E.S. I year	28	28	----
2.	EMRL I year	13	13	—
P.G Diploma /M. Tech. I Yr. (Hydrology)				
1.	Hydrology	21	21	----
P.G Diploma /M. Tech. I Yr. (Water Resources Development)				
1.	WRD&M	29	29	—
2.	I.W.M.	07	07	—
	TOTAL	**36**	**36**	—

Nanotechnology				
1.	M. Tech N.T. First Year	13	13	—
2.	M. Tech. N.T. Final Year	14	14	—
	TOTAL	**27**	**27**	—

Master of Architecture & Rural Planning (Final Year)

S. No.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
1.	M. Arch.	12	12	—
2.	MURP	10	10	—
	TOTAL	**22**	**22**	—

Master of Technology Courses Final Year

S. N.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
Chemical Engineering				
1.	Indl. Pollution Abatement	19	19	—
2.	Com.Aided Process Plant Design	21	21	—
3	Industrial Safety & Hazards Management	10	10	—
	TOTAL	**50**	**50**	—
Civil Engineering				
1.	Building Science & Tech.	11	11	—
2.	Computer Aided Design	05	05	—
3.	Environmental Engineering	13	13	—
4.	Geo-technical Engineering	10	10	—
5.	Hydraulic Engineering	09	09	—
6.	Geomatics Engineering	15	15	—
7.	Structural Engineering	17	17	—
8.	Transportation Engineering	15	15	—
	TOTAL	**95**	**95**	—
S. No.	**Name of Class**	**Main Exam.**		**Remarks**
Earthquake Engineering				
1.	Soil Dynamics	09	09	—
2.	Structural Dynamics	26	26	—
	TOTAL	**35**	**35**	—

S. N.	Name of Class	Main Exam.		Remarks
		Appeared	Passed	
Electrical Engineering				
1.	Electric Drives and Power Electronics	20	20	—
2.	Power System Engineering	22	20	2 student not earned required credits
3.	Measurement and Instr.	01	01	—
	TOTAL	**43**	**41**	2 student not earned required credits
Metallurgical & Materials Engineering				
1.	Industrial Metallurgy	14	14	—
2.	Physical Metallurgy	—	—	—
3.	Corrosion Engineering	08	08	—
	TOTAL	**22**	**22**	—
Electronics & Computer Engineering				
1.	Communication System	12	12	—
2.	Computer Sc. and Engg.	29	29	—
3.	Systems Modeling & Control	10	10	—
4.	RF & Microwave	06	06	—
5.	Micro Electronics & VLSI	07	07	—
	TOTAL	**64**	**64**	—
Mechanical & Industrial Engineering				
1.	Machine Design	13	13	—
2.	Production & Ind. Systems	16	16	—
3.	Welding	16	16	—
4.	Thermal	14	14	—
5.	CAD,CAM & Robotics	12	12	—
	TOTAL	**71**	**71**	—
Alternate Hydro Energy Centre (Final Year)				
1.	A.H.E.S.	18	18	—
2.	Environmental & Management of Rivers & Lakes	12	12	—
	TOTAL	**30**	**30**	—
M. Tech. (Hydrology) (Final Year)				
1.	Hydrology	17	17	—
M. Tech. (Final Year) (Water Resources Development)				
1.	WRD	16	16	—
2.	I.W.M.	13	13	—
	TOTAL	**29**	**29**	—
Pulp & Paper				
1.	Pulp and Paper	16	16	—

A2 - DETAILS OF AWARDS

CONVOCATION FUNCTION

President's Gold Medal

1. Tarun Verma, B.Tech. (Mechanical Engg.)

For obtaining highest C.G.P.A. amongst the undergraduating students of the Institute

Director's Gold Medal

1. Saurav Prakash, B.Tech. (MMED)

For the best all-rounder performance amongst the undergraduating students of the Bachelor of Technology/Bachelor of Architecture.

2. The President of India, Dr. Shankar Dayal Sharma Gold Medal

Saurav Prakash, B.Tech. (MMED)

For outstanding proficiency including character, conduct and excellence in academics performance, extra-curricular activities and social services.

3. Dr. Jai Krishna Gold Medal

Saurav Prakash, B.Tech. (MMED)

For the best student in B.Tech./B.Arch. Courses for having outstanding performance in Academics and Sports.

Institute Silver Medal

1. For obtaining the highest C.G.P.A. amongst the students undergraduating / IDD Program in their respective disciplines as follows :

(i) Sreekant, P.S., B. Arch.
(ii) Vasudha Khurana, B.Tech. (Biotech.)
(iii) Akansha Agrawal, B.Tech. (Chemical)
(iv) Baridhi Malakar, B.Tech. (Civil)
(v) Mayank Garg, B.Tech. (Computer Sc. & Engg.)
(vi) Anunaya Jha, B.Tech. (Electrical)
(vii) Vishvendra Kumar, B.Tech. (E & C)
(viii) Ankit Jain, B.Tech. (Met. & Mat. Engg.)
(ix) Anurag Paul, B. Tech. (Prod. & Ind. Engg.)
(x) Sambhav S. Shah, B.Tech. (Pulp & Paper)
(xi) Ankit Kumar, IDD - B.Tech. (Chemical) & M.Tech. (CHH)
(xii) Abhinav Duggal, IDD - B.Tech. (Computer Sc.) & M.Tech. (CSI)
(xiii) Srikonda Hari Kishan, IDD - B.Tech. (Electrical) & M.Tech.) (EPE)
(xiv) Charul Agrawal, IDD - B.Tech. (E & C) & M.Tech. (ECW)
(xv) Hande Aharnish Bhojaraj, IDD - B.Tech. (Process Engg.) & MBA
(xvi) Rajeev Rakesh Tamhankar, Int. M. Tech. (Polymer Sc. & Tech.)
(xvii) Keswani Urvashi Jethanand, Int. M. Tech (Geophysical Tech.)
(xviii) Abhishek Moharana, Int. M. Tech (Geological Tech.)
(xix) Sulabh Mali, Int. M. Sc. (Applied Mathematics)
(xx) Jyotiranjan Beuria, Int. M. Sc. (Physics)
(xxi) Amit Kumar, Int. M. Sc. (Chemistry)

PRIZE DISTRIBUTION FUNCTION

BACHELOR OF TECHNOLOGY/BACHELOR OF ARCHITECTURE

Institute Medal

For Best Project in Engineering & Architecture amongst the undergraduate students in their respective disciplines as follows:

(i) Siddharth Mahim Bansal, B. Arch.
(ii) Nimish Gopal, B.Tech. (Biotech.)
(iii) Himanshu Goyal, B.Tech. (Chemical)
(iv) Pratima Singh, B.Tech. (Civil)
(v) Saket Saurabh, B.Tech. (Computer Sc. & Engg.)
(vi) Tanvir Kaur, B.Tech. (Electrical)
(vii) Swapnil Agrawal, B.Tech. (E & C)
(viii) Ayush Awadhiya, B.Tech. (Mech.)
(ix) Ankit Jain, B. Tech. (Metallurgical & Materials Engg.)
(x) Navdeep Agarwal, B.Tech. (Prod. & Ind. Engg.)
(xi) Sambhav S. Shah, B. Tech. (P & P)

1. **Akansha Agarwal, B. Tech. (Chemical)**
Prem Prakash Gupta Medal for the student obtaining highest CGPA in B.Tech. (Chemical) final year.

2. **Baridhi Malakar, B. Tech. (Civil Engg.)**
Rani Devi Bansal Medal for the boy student for obtaining highest CGPA in B.Tech. (Civil).

3. **Swapnil Agrawal, B. Tech. (E & C Engg.)**
Rani Devi Bansal Medal for the girl student obtaining highest CGPA in B.Tech. (Civil / E & C)/B.Arch. courses.

4. **Baridhi Malakar, B. Tech. (Civil Engg.)**
Madhusudan Dayal Mithal Medal for obtaining highest CGPA in B.Tech. (Civil)

5. **Deeksha Sood, B. Tech. (Computer Sc. & Engg.)**
Dr. G. Pande Medal for the girl student for standing first amongst the girl student in all B.Tech./B.Arch. courses.

6. **Baridhi Malakar, B. Tech. (Civil)**
Rai Bahadur Sohal Lal Bhatia Medal for obtaining highest CGPA in B.Tech. (Civil).

7. **Tarun Verma, B. Tech. (Mech.)**
Ram Saran Advocate Medal for obtaining highest CGPA in B.Tech. (Mechanical)

8. **Tarun Verma, (Mech.)**
Dr. A.N. Khosla Medal for the student obtaining highest CGPA in all B.Tech. courses.

9. **Tarun Verma, (Mech.)**
Smt. Shashi Krishna Medal for the student obtaining highest CGPA all B.Tech/B.Arch. course.

10. **Sambhav S. Shah, B. Tech. (Pulp & Paper Tech.)**
Federation of Paper Traders Association of India Medal for obtaining highest CGPA in B.Tech. (Pulp & Paper).

11. **Akansha Agrawal, B. Tech. (Chemical)**
Smt. Kaushalaya Arya Cash Prize of Rs. 4000/- for the Next best girl student in B.Tech./B.Arch. IV year.

12. **Anunaya Jha, B. Tech. (Electrical)**
Dr. A.S. Arya Cash Prize of Rs. 4000/- for the second best student (boy) in B.Tech./B.Arch. Final Year.

13. **Pratima Singh, B. Tech. (Civil)**
Brig. Harish Chandra Cash Prize of Rs. 1000/- for the B.Tech. Civil final year student on the basis of the best Design (Project).

14. **Vibhor Gupta, B. Tech. (Civil)**
Sri M.A. Rao Cash Prize of Rs. 1000/- for the student standing second in order of merit in B.Tech. (Civil) final year.

15. **Pratima Singh, B. Tech. (Civil)**
Sri M.A. Rao cash Prize of Rs. 1000/- for the best girl student obtaining highest CGPA amongst girl student in B.Tech. Civil.

16. **Saurav Prakash, B. Tech. (MMED)**
Sri M.A. Rao Cash Prize of Rs. 1000/- for having all round best performance in studies and sports in B.Tech.

17. **Gursheen Kaur, B. Tech. (Civil)**
Laxmi Devi and Shri Banadri Das Cash Prize of Rs. 5000/- for the best and outstanding girl student with excrellance in academics amongst all girls in B.Tech./B.Arch. Courses.

18. **Pratima Singh, B. Tech. (Civil)**
Tara Chand Kanti Devi Cash Prizes of Rs. 2500/- to the best student doing best design project in B.Tech. (Civil).

19. **Anunaya Jha, B. Tech. (Electrical)**
Late Smt. Kilash Devi Goyal W/O Sri Kanhaiyalal Goyal of Firozabad Memorial Cash Prize of Rs. 2500/- for the student obtaining highest CGPA in B.Tech. (Elect.)final year.

20. **Baridhi Malakar, B. Tech. (Civil)**
"Prabhakar Swarup Civil Engineering Award" of Rs. 10,000/- to a student of B.Tech. Civil IV year who obtained highest CGPA in B.Tech. Civil IV year.

21. **Akansha Agrawal, B. Tech. (Chemical)**
Prem Prakash Gupta Cash Prize of Rs. 5000/- for the student obtaining highest CGPA in B.Tech. (Chemical) final year.

22. **Gursheen Kaur, B. Tech. (Civil)**
Durga Award of Rs. 5000/- to a girl student for outstanding proficiency including character, conduct and excellence in academics performance, extra-curricular activities and social services.

23. **Ankit Jain, B. Tech. (Met. & Mat.)**
Mrs. Leila Saxena Memorial Cash Award of Rs. 5000/- for the student who obtains highest CGPA in B.Tech. Metallurgical & Materials final year.

24. **Sreekanth P.S., B. Arch.**
Everest Award of Excellence of Rs. 10,000/- for the student who obtains highest CGPA in B.Arch. final year.

25. **Ankit Jain, B. Tech. (Met. & Mat.)**
G.P. Bagchi Metallurgical & Materials Engineering Cash Prize of Rs. 5000/- for highest CGPA to a final year student of Met. & Matl.

26. **Akansha Agrawal, B. Tech. (Chemical)**

"Prof. Ranvir Singh Shastry" Cash Prize of Rs. 6000/- to a girl student of B.Tech. final year who obtaining 2nd highest CGPA.

27. **Gursheen Kaur, B. Tech. (Civil)**
"Om Bala Thapar" Cash Prize of Rs. 12000/- for the best all round girl student in the B. Tech. degree programme.

28. **Deeksha Sood, B. Tech. (Computer Sc. & Engg.)**
"Col. Bajpal" Cash Prize of Rs. 5000/- for the firsl student obtaining highest CGPA amongst girsl students in undergraduate programme.

29. **Baridhi Malakar, B. Tech. (Civil)**
"Shri Shiv Nandan Swaroop and Avadh Narayan Bhatnagar" Cash Prize of Rs. 5000/- to a student of B. Tech. (Civil) Final Year batch topper.

30. **Deeksha Sood, B. Tech. (Computer Sc. & Engg.)**
"Smt. Rama Devi Krishna Bhatnagar" Cash Prize of Rs. 5000/- for the girl student amongst girl students in all branches undergraduate programmes.

31. **Tarun Verma, B. Tech. (Mechanical)**
"Kedar Nath Agarwal I.S.E. Memorial" trophy and Cash Award of Rs. 5000/- for Academic Excellence and outstanding community services.

32. **Vibhor Gupta, B. Tech. (Civil)**
"Vinay Krishna" Cash Prize of Rs. 5000/- for a student of B. Tech. Civil Engg. Final Year who obtained second highest CGPA.

33. **Saurav Prakash, B. Tech. (MMED)**
Sarojini Naidu Cup for work and play.

M.TECH./M.ARCH./M.U.R.P.M.PHIL./M.TECH(ES)/ M.SC.

1. **Shweta Bansal, M.Tech. (Civil) (Geomatics)**
Tara Chand Kanti Devi Cash Prizes of Rs. 3000/- to the best student of M.Tech. (Civil).

2. **Jyothi P. Menon, M.Tech. (Civil) (Geotech.)**
Tara Chand Kanti Devi Cash Prizes of Rs. 2000/- to the best student of M.Tech. (Geotech).

3. **Sitara Sarada, M. Tech. (Earthquake Engg.) (Structural Dynamics)**
The Indian Service of Engineers Cash Prize of Rs. 2000/- for standing first in class in "Soil Dynamics".

4. **Harshita Sharma, M. Tech. (Electrical) (Inst. Signal Process)**
Late Smt. Uma Goyal, W/o Sri Uday shankar Goyal Memorial Cash Prize of Rs. 2500/- for obtaining highest CGPA in M.Tech. Electrical final year.

5. **Harinarayan Tiwari, (WRDM)**
Dr. Jai Krishna Medal for obtaining highest CGPA in all M.Tech. course.

6. **Harinarayan Tiwari, M. Tech. (WRDM)**
Laxmi Devi and Shri Banadri Das Cash Prizes of Rs. 5000/- for the best student with excerllance in academic amongst all the student in M.Tech. Engg./M.Arch. courses.

7. **Anirban Basak, M.Tech. (E & C) (Microelectronics + VLS)**
Late Sri Kanahiya Lal Goyal F/o Sri Uday Shanker Goyal Cash Prize of Rs. 2500/- for obtaining highest CGPA in M.Tech. (E & C) final year.

8. **Neeraj Upadhyay, M.Tech. (E & C) (Computer Science and Engg.)**
Goyal Cash Prize of Rs. 1500/- for obtaining highest CGPA in M.Tech. (CSE)

9. **Sandra Edith Mongelos Canete, M.Tech. (Hydrology) (HWM)**
Puran Mal Gupta Medal for obtaining highest CGPA in M.Tech. (Hydrology) courses.

10. **Harinarayan Tiwari, M. Tech. (WRDM)**
Dr. A.N. Khosla Medal for obtaining highest CGPA in M.Tech. WRD courses in various specialization in WRD.

11. **Harinarayan Tiwari, M. Tech. (WRDM)**
Dr. P.S. Nigam-Nirmala Cash Prize of Rs. 1000/- for the best project in M.Tech. WRD.

12. **Rajat Kanti Samal, M. Tech. (WRDM)**
Kathpalia Award of Rs. 5000/- for the best dissertation in M.Tech. (Environment Engg.) in the area of Environment aspects shared between two.

13. **Sonal Panwar, M.Tech. (AHEC)**
Hydro Award of Rs. 10,000/- for a candidate obtaining highest CGPA in M.Tech. (AHEC) II year.

14. **Piyoosh Jaysaval, M. Tech. (Earth Sc.) (Geophysical Technology)**
Dr. A.N. Khosla Medal for obtaining highest CGPA in M.Sc./M.Tech. (Science) courses.

15. **Aatraye Almast, M.Sc. (Biotech.)**
Smt. Sushilavati Khosla Medal for the girl student obtaining highest CGPA in M.Sc./M.Tech. (Science) courses.

16. **Aatraye Almast, M.Sc. (Biotech.)**
G. Pande Medal for the girl student obtaining highest CGPA in M.Sc.final year Examination.

17. **Oishika Panda, M.Sc. (Chemistry)**
Dr. Hari G. Garg Prize of Rs. 5000/- for obtaining highest CGPA in M.Sc. Chemistry final year.

18. **Shweta Bansal, M.Tech. (Civil) (Geomatics)**
Amba Prasad – Kalawati Memorial Cash Prize of Rs. 5000/- to a student for obtaining highest CGPA in M.Tech. (Geomatics).

19. **Sonal Panwar, M. Tech. (AHEC)**
"Electro Steel Award" of Rs. 10000/- for M. Tech. (AHEC), IInd Year for best dissertation.

A3 - HOSTEL ACCOMMODATION ON THE CAMPUS

Co-ordinating Committee of Bhawans (CCB) takes care of the overall management of all the hostels and messes under the Chairmanship of Dean of Students Welfare/Associate Dean of Students Welfare (Mess) respectively. There are 09 bachelor hostels for boys and girls, providing accommodation to under graduate, post graduate and Ph.D. students. Married hostels are also available for married students. All bachelor hostels have their own messes. Bhawan and Mess councils are constituted for each Bhawan under the Chairmanship of the Chief Warden with the Warden, Asstt. Warden and elected students representatives as members to ensure smooth functioning of the Bhawans and messes. Last year the kitchen of almost all Messes have been modernized to cater to the growing needs of the students. With this set up the students of the Institute are enjoying their meals in different messes which has improved the hygiene and cleanliness within the messes. Automatic chapatti making machines have also been installed in all the messes to meet the requirement of increased intake in different courses.

A4 - ON CAMPUS RECRUITMENT

S. No.	Name of Company	Total
1	AbsolutData Research and Analytics	5
2	Accolite Software India Pvt. Ltd.	1
3	Adobe Systems India Pvt. Ltd.	1
4	Affine Analytics Pvt. Ltd.	2
5	Amazon Development Center (India) Pvt. Ltd.	2
6	Analog Devices India Pvt. Ltd.	2
7	Anand Automotive Ltd.	5
8	Arup India Pvt. Ltd.	1
9	Aspire Systems	3
10	Atrenta India Pvt. Ltd.	1
11	Axtria India Pvt. Ltd.	6
12	BeeHyv Software Solutions Pvt. Ltd.	5
13	Benjamin West India Pvt. Ltd.	5
14	BIT Group of Institutions, Meerut	4
15	Cadence	1
16	Cairn India Ltd.	1
17	Capital One Services (India)	1
18	Caterpillar India Pvt. Ltd.	2
19	Centre for Development of Telematics	2
20	Chambal Fertilisers and Chemicals Ltd.	3
21	Cisco Systems (India) Pvt. Ltd.	10
22	CloudChowk	1
23	Clues Network (P) Limited	3
24	CMC Ltd.	3
25	Cognizant Technology Solutions	12
26	Contata Solutions Pvt. Ltd.	1
27	Continental India Ltd.	2
28	D.E. Shaw & Co.	1
29	Dar Al Handasah Consultants (Shair & Partners) India Pvt. Ltd.	28
30	Deloitte Consulting India Pvt.	20

	Ltd.	
31	Directi	1
32	Dolcera ITES (P) Ltd.	2
33	DRDO	8
34	Epic	5
35	Era Grup	6
36	Ericsson India Global Services	3
37	Essar Group	2
38	Expicient Software Pvt. Ltd.	4
39	Facebook	0
40	Feedback Infrastructure Services Pvt. Ltd.	2
41	Finisar Malaysia Sdn Bhd	1
42	Flipkart India Pvt. Ltd.	14
43	Fluidyn India	2
44	Frost and Sullivan	3
45	Futures First Info Services PL.	8
46	Galgotias University	10
47	GE ITC	2
48	GEIPER	3
49	Gifford India Pvt. Ltd.	4
50	GLA University	8
51	Global Analytics India	8
52	Goldman Sachs (Strategies Group)	5
53	Goldman Sachs (Technology Group)	2
54	Google	4
55	Graphic Era University	21
56	GreyB Research Private Limited	5
57	Groupon India Pvt. Ltd.	3
58	GSK Consumer Healthcare	1
59	HCL Technologies Ltd.	3
60	Hero MotoCorp Ltd.	6
61	Housing.co.in	3
62	HPCL	4
63	IBM - GBS	35
64	IBM - ISL	0
65	IBM India Pvt. Ltd. - Consulting	3
66	IIMT Institute of Engineering & Technology	6
67	Impetus Technologies	0
68	Infibeam.com	1
69	Informatica Business Solutions	1
70	Infosys Ltd.	5
71	iRunway India Pvt. Ltd.	6
72	ITC Ltd.	7
73	Ittiam Systems Private Limited	1
74	J.K. Paper Ltd.	4
75	Jain Irrigation Systems Limited	5
76	Jaiprakash Associates Ltd.	10
77	Jindal Steel & Power Limited	12
78	JK Tyre	5
79	Jones Lang Lasalle	2
80	Kellogg Brown & Root Engineering & Construction India Pvt. Ltd.	2
81	Larsen & Toubro Limited	8
82	Lovely Professional University	23
83	Mangalayatan Universiy	4
84	Marwadi Education Foundation's Group of Institutions	6
85	MECON Ltd.	2
86	Mewar University	4
87	Microsoft India Development Centre	12
88	MIDAS IT Co. Ltd.	4
89	Mu Sigma Business Solutions Pvt. Ltd.	18
90	Mygola Technologies Pvt. Ltd.	1
91	National Engineering Industries Ltd. (NBC)	3
92	National Highways Authority of India	6
93	Nestle India Limited	2
94	NetApp	5
95	NKG Infrastructure Ltd.	5
96	NVidia Graphics Pvt. Ltd.	5
97	Ophio	2
98	ORACLE	27
99	Oxigen Services India Pvt. Ltd.	3
100	PayPal India Pvt. Ltd.	3
101	Plancess Edusolutions	4
102	Power Grid Corporation of India Limited	6
103	Qualcomm India Pvt. Ltd.	8
104	Raheja Developers Ltd.	10
105	Rajiv Gandhi University of Knowledge Technologies	30
106	Rays Power Experts Pvt. Ltd.	4
107	RBS Business Services Pvt. Ltd.	3

108	Relaxo Footwear Ltd.	2
109	Reliance Industries Ltd.	27
110	Rio Tinto	4
111	RMS India	1
112	Robert Bosch Engineering and Business Solutions	4
113	RSPL Limited	1
114	Samsung Engineering India Pvt. Ltd.	3
115	Samsung India Electronics Software Engineering Lab	0
116	Samsung Operations Pvt. Ltd. (SISO)	18
117	Sapient Corporation	5
118	Schlumberger Asia Services Ltd.	32
119	Shell Technology Centre	7
120	Shivalik College of Engineering	6
121	Shri Ramswaroop Memorial University	8
122	Shubhashray Housing India	1
123	Sodel Solutions	7
124	Spectrum Techno Consultant Pvt. Ltd.	1
125	SRF Ltd.	3
126	Symantec Software India Pvt. Ltd.	6
127	Tata Advanced Systems Ltd.	1
128	Tata Consultancy Services	34
129	TATA Consulting Engineers Ltd.	7
130	Tata Steel	13
131	Tejas Networks Ltd.	6
132	Texas Instruments India Pvt. Ltd.	4
133	Thermax India Ltd.	3
134	Total Environment Buildings Systems Pvt Ltd.	6
135	TransBit Technologies Software Private Limited	2
136	Trident Group	5
137	Triune Energy Services Pvt. Ltd.	1
138	Usha International Ltd.	2
139	Value & Budget Housing Corporation Pvt. Ltd.	1
140	VE Commercial Vehicles Ltd.	4
141	Venkateshwara Group of Institutions	25
142	Viz Experts India Pvt. Ltd.	1
143	W.S.Atkins India Pvt. Ltd.	7
144	WAPCOS	5
145	Wipro Technologies	13
146	WM Global Technology Services India Pvt. Ltd.	4
147	Wockhardt Biotech Park	2
148	Y Media Labs	5
149	Yahoo	1
150	Yamaha India Motor Pvt. Ltd.	4
151	Zillious Solutions Private Limited	3
152	ZS Associates	8
	Total	903

Table Showing Placement of Undergraduate and Postgraduate students branch-wise

S. No.	Branch	Undergraduate		Postgraduate	
		Job Offered	Effective Placement	Job Offered	Effective Placement
1	AHEC	-	-	17	15
2	Architecture and Planning	19	17	11	11
3	Biotechnology	17	13	-	-
4	Chemical Engg.	36	35	18	16
5	Civil Engg.	85	76	47	43
6	Computer Science Engg.	45	43	20	20
7	Electrical Engg.	79	75	17	17
8	E&C Engg.	40	39	16	16
9	Production & Industrial Engg.	30	30	-	-
10	Mechanical Engg.	63	57	43	40
11	Metallurgical & Materials Engg.	44	37	14	13
12	Pulp & Paper Technology	23	22	1	1
13	IDD - B.Tech. (Chemical Engg.) and M.Tech. (Hydrocarbon Engg.)	16	16	-	-

14	IDD - B.Tech. (Computer Science & Engg.) M.Tech. (Information Technology)	17	16	-	-
15	IDD - B.Tech. (Electronics & Communication Engg.) M.Tech. (Wireless Communication)	9	9	-	-
16	IDD - B.Tech. (Electrical Engineering) and M.Tech. (Power Electronics)	7	6	-	-
17	IDD - B.Tech. (Process Engineering) and M.B.A.	8	8	-	-
18	IMT - M.Tech Polymer Science and Technology	12	9	-	-
19	IMT - M.Tech. (Geological Technology)	13	12	-	-
20	IMT - M.Tech Geophysical Technology	13	13	-	-
21	IMSc (Physics)	3	3	-	-
22	IMSc (Chemistry)	2	2	-	-
23	IMSc (Applied Mathematics)	11	10	-	-
24	Hydrology Engg.	-	-	5	4
25	Earthquake Engg.	-	-	23	23
26	Information Technology	-	-	19	18
27	SSEM Engg.	-	-	3	3
28	M. Tech Geophysical Technology	-	-	3	3
29	M. Tech Geological Technology	-	-	3	3
30	M. Tech Advance Chemical	-	-	-	-
31	M.Tech Nanotechnology	-	-	1	1
32	M. Tech WRDM	-	-	6	5
33	MCA	-	-	22	22
34	M. Sc. Appl. Geology	-	-	-	-
35	M. Sc. Physics	-	-	2	2
36	M. Sc. Chemistry	-	-	0	0
37	M. Sc. Mathematics	-	-	7	7
38	M. Sc. Biotechnology	-	-	-	-
	Ph.D.	-	-	13	13
Total		**592**	**548**	**311**	**296**

Total Job Offers - 903 Effective placements - 844

A5- INSTITUTE MERIT-CUM-MEANS SCHOLARSHIP

Institute Merit-Cum-Means Scholarship @ Rs 1000/- p.m in addition to tuition fee is given to 25% of the sanctioned strength in each of B.Tech./B.Arch. The mode of award is based upon the condition that CGPA must be a 6.0 or more, and earned credits should not be less than 22 times the number of semesters registered for, as well as SGPA in the previous semester must be 6.0 or more, subject to condition that parents/guardians' total annual income from all sources should be up to rupees two lacs. Details of such students are given below in the tables A5-1 to A5-19 for the Academic Session 2012-2013.

Table A5-1 B. Architecture

I Year	II Year	III Year	IV Year	V Year
Gaurav Chaudhary Prabhjot Kaur Tejveer Singh Shubham Rathor Akanksha Sharma Ashish Patil Niketa Bhawana Soni Kuldeep Singh Kushwah	Akhil Thomas Apoorva Mudgal Akash Garg Murtaza Mohammadi Priyanshu Mani Vishal Kesarwani Pimparwar Sheetal Pradeep T. Dheeraj Kumar Reddy Aman Awasthy Nupur Jain Gaurav Kumar Singhal	Divya Saxena Jha Ashutosh Sone Lal Ammar Nawab Rini Agarwal Daksh Sharma Saurabh Biyani Mayur Karodia Kishlay Kishore Mayank Singhal Gourav Goyal	Shafquat Ali Avish Thakral Rahul Roy Shivam Gupta Anshuman Tripathi Gaurav Sharma Rohit Kumar Ansuman Shah Shaik Abdul Kalam Azad Siddharth Inani Anchal Arora Kasoju Karthik	Garima Shah Paras Pathak Deepak Korrapati Gr Samanth Kumar Siddarth Mahadevan Karthik Sai Enduri Ashish Kumar

Table A5-2 B.Tech (Civil)

I Year	II Year	III Year	IV Year
Sumit Kumar Vaibhav Gupta Nikunj Aeron Adarsh Singh Ankit Mittal Vedullapalli Sri Vihari Mohit Singhal Anurup Kedia Kamal Singhal Sunil Kumar Sharma Vishal Bansal Aman Agarwal Abhiraj Sharma Sagar Kumar Garg Keshav Mehta Kushagra Agarwal Parveen Shubham Mangal Nawneet Kumar Akhil Gupta Akash Garg Krishna Khandelwal Prithu Raj Chandra Shekhar Singh Harishankar Roy Ashok Togra Ram Chandra Nikhil Vaishnav Md Wamique Mujeebi Akshay Soni	Tarun Gangwar Akash Agarwal Himanshu Chawla Punit Mittal Maitresh Agarwal Gaurav Kumar Gupta Ravinder Dhruv Garg Harsh Goel Ankit Kr Yadav Ishita Ravi Verma Harshvardhan Akshay Goyal Hemant Raj Sharma Pallav Ranjan Siddharth Panwar Tarun Mittal Nikhil Gupta Shashank Jha Jerripothula V Naveen Kumar Pratyush Kumar Abhishek Singla Rishab Garg Prashant Chaturvedi Pushkar Kumar Anubhav Singh Dheeraj Goyal Devkishan Kumhar Rajat Singla Gitin Arora Parmeshwar Suthar	Amit Gill Palash Gupta Rohit Kashwani Shivam Garg Pooja Choudhary Mohit Sahu Anurag Pandey Shubham Jain S Prateek Sailesh Agrawal Karan Arora Chetan Jain Nikita Mehta Vijay Kumar Sharma Ongkar Nath Ankit Jain Divya Agrawal Ashutosh Gaurav Manish Kumar Chauhan Daya Shankar Yadav Ashirwad Barnwal Nishant Tyagi Rahul Balhara Chandra Shekhar Verma Nitin Soni Anshu Kumar Satyapal Sannu Sanjay Garg Vineet Kumar	Aakash Mittal Vishal Mahajan Umesh Kumar Garg Jaju Darshit Hariprasad Anubhav Bansal Kanishka Sahni Karan Preet Singh Kapil Dev Bansal Manohar Amit Purwar Ashwini Kumar Ashish Sharma Ritesh Agrawal Manoj Gupta Rohit Garg Sahil Arora Ajit Singh Umath Rajesh Kumar Tak Virendra Jain Sachit Sanan Harshvardhan Patel Sumit Kumar Jha Kanchan Kaswan Santhapuri Prashanthi Rahul Gupta Anjeev Kumar Maurya Revanshu Paliwal Lavlesh Shukla Dinesh Kumar Patel Gopal Kandoi

Table A5-3 B.Tech (Industrial)

I Year	II Year	III Year	IV Year
Novel Jindal	Tarun Khandelwal	Shanbhag Yash Vikas	Raghav Gupta
Botla Srinivasa Rao	Shatrughan Singh Bhati	Anish Kumar Nemani	Kavita Yadav
Yatin Gupta	Ankush Agarwal	Tammana Sai Sameer	Akanksha
Abhishek Agrawal	Sourabh Agrawal	Anurag Singh	Deepak Jaroli
Shivam Bhatt	Mahaveer Rathi	Salil K Lalit	Patel Maunik Bharatbhai
Subhash Choudhary	Suyash Patel	Harsh Chandaliya	Lokesh Sardana
Avinash Kumar Soni	Sirikonda Snehapriya	Mohit Choudhary	Gaurav Garg
Ajay Kumar Dhewa	Revti Raman	Surya Pratap Singh	Rajesh Kumar Natwadiya
Divya Tawra	Vishal Raj	Bhartendu Sirohi	Shritam Duga
Badhe Sanket Manohar		Himanshu Sharma	
Neeraj Kumar Verma		Gurinder Pal Singh Gill	
Pappu Lal Dhaker		Anuj Gang	
Satyendra Dahare			
Ashwin Suresh Ambala			

Table A5-4 B.Tech (Mechanical)

I Year	II Year	III Year	IV Year
Manglani Dharmesh	Jeevan Shankar Balagam	Shubham Mittal	Vijay Prakash
Sunilkumar	Amit Kumar Gupta	Shobhit Mittal	Kumawat
Manmohan	Rajat Gupta	Ankit Gupta	Harsimran Singh
Pranjal	Rohit Mittal	Rahul Garg	Khural
Shakti Rana	Shubham Gupta	Ravi Ranjan	Bikramjeet Singh
Ankur Agrawal	Bipin Kumar	Ishendra Kashyap	Shikha Panwar
Nitish Garg	Divyam Aggarwal	Ashutosh Kumar	Raman Goyal
Nitesh Tolani	Nihar Agarwal	Jitendra Singh	Ravi Bhushan
Nilesh Raj	Aditya Pokra	Salman Naim	Pandey
Tamoghna Hiraklal Biswas	Chirag Dhull	Shubham Kumar Khandelwal	Pankaj Goyal
Prakhar Agrawal	Rahul Kumar Raghava	Inderpreet Singh	Rahul Trivedi
Sachin Raman	Reddi	Amit Singh	Pawan Kumar Verma
Varnit Jain	Aman Mittal	Manish Kumar Sahu	Rakesh Kumar Yadav
Pushpendra Yadav	Abhishek Chaurasia	Vikas Agarwal	Gaurav Rakhecha
Manav Bansal	Saurabh Dudani	Kadapathri Saichand	Keshav Mohta
Ayush Kumar Tiwari	Harshit Gupta	Prashant Kumar	Avik Kathuria
Divy Bansal	Sharad Gangwar	Sagar Bhauraoji Zade	Aman Jain
Shubham Kumawat	Deepanshu Saini	Utkarsh Rajak	Ayush Bansal
Suman Kumar Sahoo	Manish Rathore	Nitesh Kumar	Rahul Kumar
Vangala Bhavik Kumar	Shivraj Nagar	Rahul Kumar Yadav	Amar Prakash Roy
Sangeeta	Sachin Kumar	Bhanu Pratap	Ankit Kalanki
Gagandeep Singh	Atul Miglani		Jogendra Dhaka

Table A5-5 B.Tech (Electrical)

I Year	II Year	III Year	IV Year
Gopal Sharma	E Phani Srikar	Archit Singhal	Vellaboyana Bharath
Rajat Agrawal	Nikhil Agrawal	Varun Mishra	Reddy
Anuj Pandey	Piyush Agrawal	Ketan Kanchan Srivastava	Aditya Tomar
Arpit Kumar Agrawal	Ashu Agrawal	Ravi Mangal	Harshit Saxena
Vinay Kumar	M V Surya Prakash	G Sethu Nachiappan	Mukul Kumar Jain
Anuj Arora	Palak Jajoo	Suricha Goel	Kinshuk Sharma
Ponduru Prakash Naidu	Harshavardhan Gupta	Deepak Kumar Pal	Niraj Lodha
Murtuza Raja	Saurabh Gupta	Ajit Kumar Vishwakarma	Pavel Gupta
Sarbjeet Singh	Gautam Kumar	Tejinderbir Singh	Arpit Jain
Manjul Manivesh	Richa Jain	Doddi Durga Prasanna	Ashutosh Badal
Kartik Sharma	Amol Jadhav	Ramireddy Shiva Bhasker	Amit Patel
Mahim Agarwal	Anjani Kumar Yadav	Reddy	Raushan Kumar
Kashyap Tibrewal	Nikhil Jain	Mohit Tibrewal	Kanhaiya Singh
Pavuluri Bhargav	Adarsh Fogawat	Rahul Kumar	Kushwaha
Rohit Chauhan	Shivam Gupta	Prafulla Kumar Choubey	Amit Kumar Tiwari
Mohit Sharma	Aman Tripathi	Ayush Kumar Bagaria	Deepesh Patidar
Sachin Goyal	Durgesh Suthar	Nikita Duseja	Vimlesh Kumar

Pande Padmanabh Shriniwas Raj Garg Vaibhav Agrawal G. Veerabharathchandrareddy Shah Viraj Jayminkumar Sunil Patel Sunil Kumar Githala Faiyaz Hussain Himalay Puri Goswami Sunil Kumar Amit Kumar Polubothu Santhosh Kumar Vishnu Dayal Jat Rajender Jyani	Sanapureddy Revanth Reddy Rahul Ranjan Surender Saharan Abhishek Nayak Amit Kumar Singh Dashrath Kumar Saini Ritesh Kumar Sourabh Kumar Mamodia Jai Pal Rohit Gupta Mohit Jain Aman Prince Ganesh Yadav Akash Gaurav	Mayank Gelani Arpit Jhanwar Bhatt Anshul Jyotinbhai Sushant Kumar Singh Aadil Ahmad Malik Avnish Kumar Rahul Jangid Ayush Poddar Sandeep Kumar Verma Priyanshu Sharma Anand Mohan Sinha Chandra Prakash Nagar Akash Kumar Modi Laldhari Kumar Harsh Deo	Piyush Dangaich Rajat Gupta Laxmi Kant Harshit Todi Rishabh Garcha G Venkat Kiran Amit Kumar Gupta

Table A5-6 B.Tech (ECE)

I Year	II Year	III Year	IV Year
Madala Vamshi Chowdary Ashutosh Mittal Kawaljeet Singh Mikul K Patel Rahul Jain Adabala Sri Lakshmi Akshit Budhraja Prateek Shrivastava Brijesh Khandelwal K Saiteja Ankit Goel Shubham Karnani Kapil Yadav Anurag Kumar Thakur	Archit Agrawal Rachamadugu Shiva Tejesh Avijit Singh Yadav Vineet Singla Adury Surya Kiran Gutala Sriramachandra Murthy Harshit Sihare Akshay Kumar Sanghai Rishav Soni Vijay Jain Saurabh Suman Sajal Anand Kamran Alam Kurella Akhila Reddy Puneet Kumar	Mukul Jindal Andhavarapu Sandeep Kumar Priyanshi Goyal Vivek Vihar Praveen Yadav Ankush Kumar Ankit Kumar Ritesh Kewlani Ankit Mittal Shivam Mishra Kapil Sharma Guramrit Singh	Abhanshu Gupta Allada Revanth Kumar Pushpender Tomer Tarun Mahajan Bhanu Bedi Bhawna Setia Pudi N S Anjan Kumar Akshay Taneja Rakshith K Simranjyot Singh Gill Arpit Jain Gaurav Kumar Amitesh Singh Shubham Mishra Ashish Tewari

Table A5-7 B.Tech. (CSE)

I Year	II Year	III Year	IV Year
Aman Kumar Kedia Bharat Gaind Pravendra Singh Rathore Anindya Chakravarti Shubhi Jain Amit Narender Prakhar Gupta Diksha Saxena Anshul Singhal Mohite Kishor Namdeo Aman Sharma Pathik Roy Yashpal Choudhary	Sanket Vaibhav Mehta Rahul Kumar Sahu Jitin Singla Rahul Raj Surendra Kumar Gadwal Ranjith Kumar Reddy G Ankit Patel Anu Yadav Shivam Mangla Pankaj Bishnoi Farheen Abbasi Anshul Singhal Ashish Kumar Singh Manisha Varshney	Payal Bajaj Vikram Singh Rathore Harsh Jhamtani Kanik Gupta Ashish Agrawal Sandeep Singh Sandha Bhogi Suleep Kumar Vishal Mittal Mohit Bakshi Pawan Kumar D Siddharth Maheshwari Vaibhav Gupta Pavan Patil Lakhvinder Gaba	Aditya Gupta Mohit Pahuja Sandeep Kumar Manish Sharma Pranay Kumar Pankaj Vishwajeet Singh Kailash Bagaria Shubham Modi Ram Chandra Sankhala Shubham Singhal Krishan Kanhaiya Patidar Kapil Agarwal

Table A5-8 B.Tech (Chemical)

I Year	II Year	III Year	IV Year
Shraiyas Joshi Himanshu Tyagi Arpit Jain Vibhor Agarwal M Satyam Abhishek Joshi	Surya Pratap Singh Solanki Prachi Sahu Pooja Kumari Virender Pratap Singh Shubham Taunk Sonal Maheshwari	Rubal Garg Rajat Gandhi Vivek Ramachandran R Raju Kumar Sahil Gandhi Sagar Dhingra	Voggu Vikas Reddy Bhaskar Kumar Aman Gupta Rahul Arora Akshay Gangrade Saurabh Sharma

Shashank Raj Mohit Goyal Krishnakant Agarwal Abhishek Modi Gaurav Kumar Sahu Dharmendra Kumar Choudhary Ravikant Kumar Faisal Saifi Prashant Saini Irfan Ahmad Ishtyaque Ahmed Ansari Amarjeet Kumar Gupta Anil Kumar Saini Vijender Trilok Chand	Pramil Anand Siddharth Saraswat Nishant Bansal Jasvinder Singh Nishish Agrawal Akhil Mehta Kadali Jaya Krishna	Shreesh Mohan Verma Himanshu Gupta Rakesh Bhardwaj Ronak Jain Tanuj Agrawal Harsh Yadav Maninderjeet Singh Vinod Kumar Burdak Nitin Saini	Amit Jain Amit Kumar Shivam Singh Amandeep Singh Bamrah Himanshu Goyal Akash Jaiswal Mahesh Kumar Singh Dadi K Venkata Rama Krishna

Table A5-9 B.Tech (Metallurgical & Materials)

I Year	II Year	III Year	IV Year
Rohan Kalia Girendra Singh Md Rasheed Alam Prithwish Ghosh Anurag Singh Gurucharan Mohapatra Nikhil Jain Aman Kumar Singh Yatharth Bhatia Anshu Kumar Guntuka Sudheer Sunkana Krishna Sai Naimisha Gaurav Kumar Ajay Kumar Ravi Ranjan Amit Kumar Mahendra Singh Gurjar Himanshu Dubey Mitesh Kumar Narendra Choudhary Somvir Sashidhar Jakkamsetti Sourabh Singh	Karimi Abhishek Das Gaurav Kumar Akshay V Singhal Mayank Patwa Tanmay Kumar Ghosh Shubham Jain Pawan Kumar Ankita Gagrani Gupta Shubham Rajesh Natu Divakar Anant Puneet Sharma Shashi Chaudhary Pooja Preeti Agnihotri Ojas Chaitanya Nishit Misra Pratik Khandelwal Bhanu Pratap Singh Shashank Shekhar Siddharth Jain Nitin Varshney Rajeev Sharma	Atindra Bandi Abhay Gupta Vikhyat Kumar Gupta Sandeep Kumar Gaurav Chawla Satya Prakash Singh Md Muntashir Hayat Arushi Mishra Gaurav Goswami Shubham Samkaria Sandeep Narayan Ashish Gupta Piyush Sinha Amit Kumar Vipin Bansal Divya Singh K. Chandresh Subhashchand Rahul Agrawal Manish Kumar Anoop Kulhria Rohit Saini	Falgun Bhupendra Shah Ram Niwas Yadav Prateek Mantri Abhishek Pandey Brijesh Patel Nitesh Rawat Ashok Kumar Dhaker Gaurav Singla Vikrant Singh Yogendra Nagar Pankaj Kumar Nilesh Raman Patil Nishant Tomer Kankanala Karthik Burada Sai Vidyasagar

Table A5-10 B.Tech (Pulp & Paper)

I Year	II Year	III Year	IV Year
Abhishek Dutt Dheeraj Karwa Akash Chugh Tarun Soni Tulsi Ram Darwal Amit Khedar	Deep Jain Tanya Singhal Vaibhav Gautam Raj Guru Dixit Kapil Aggarwal Amar Vaish Abhisek Dash Mayank Gupta Sachin Kumar Neha Bansal Tanuj Choudhary Arun Kumar Agarwal Sasanka Bhagabati Kumar Chitresh Shamsher Singh Rahul Rajesh Mishra Ankit Kumar Jha	Murukuti Sai Prabhath Reddy Shanky Garg Kumar Goel Zohair Parvez Khan Dharma Aniruddha Narayan Patlolla Harishwar Reddy Gunjan Rajput Kavya Kamal Manish Singh Satya Prakash Dash Priyanshu Pankaj Prateek Kumar Shashank Jain	Sukant Arora Konda Chaitanya Chowdary Rishi Pateriya Md Shahid Ali Ankit Jain Rohit Kumar Naveen Kumar Chaudhary Kamlesh Kumar Musuku Shashank Singh Akshay Hubedar Kodila Pranith Manoj Kumar Addikila Kush Kothari

	Abhishek Tyagi Abhay Prakash Aashish Jindal Aditya Sharma		

Table A5-11 B.Tech (Biotechnology)

I Year	II Year	III Year	IV Year
Divyansh Jain Prem Prakash Yatin Garg N Saikiran Challa Manoj Shubham Kumar Nayak Abhijeet Kumar Krishan Kumar Charugulla Sai Yuva Sandeep	Vishal Rathi Gurpreet Singh Mehul Kumar Diddi Anil Kumar Saurabh Kushwaha Jitendra Kumar Pritam Singh Munish Kumar Prashasti Godara Avvaru Akshay Kumar Charan Sevakula Chetty Arun	Ishika Arora Surbhi Jain Nidhi Lashkari Anuj Paliwal H A S Shri Kishore Naveen Nagar Rajat Yadav Pramod Kumar Tarun Valecha Abin Ghosh Vc Ram Prakash	Siddhant Jain Rahul Yadav Yash Jain Peeyush Kumar Manjeet Kumar Mehta Akshanshu Singh Pal

Table A5-12 Integrated Dual Degree (E&C)

I Year	II Year	III Year	IV Year
Amrishreddy Knotham V Shreyas Jai Datt Poonia Rambabu Kumar Shubham Gupta	Yatin Tyagi Daksh Verma Nagmani Kumar Boddula Srikanth Kundarapu Vinaykumar	Pradyumna Paliwal Prahlad Kumar Chandra Prakash Mishra Yogesh Kapila	G. Gopala Krishna Murthy Chiluvuri Siva Prasad Varma Amit Hooda Neeraj Gangwar

Table A5-13 Integrated Dual Degree (CSI)

I Year	II Year	III Year	IV Year
	Tarun Bansal Somnath Asati Shadab Naseem Sudarshna Peeyush Jain Sumit Kumar Smit Parsania Vijay Patidar	Rishabh Jain Jitesh Khandelwal Deepak Kumar Anurag Chauhan Intwala Nayan Vinodkumar	Devesh Varshney Harpreet Bansal Sumit Harish Panwar Nikhil Gupta Deepak Kushwah

Table A5-14 Integrated Dual Degree (Chemical)

I Year	II Year	III Year	IV Year
Anurag Gupta Abhishek Rana Saransh Singhal Hari Om Choudhary Ankita Soni Ahmed Yasir Rohit Kumar Patel Sachin Kumar Mahato	Subhash Sahni Arvind G Rahul Gurjar Manish Kumar Shailendra Kumar Sharma Banvari	Ishani Gupta Ankit Shakya Arvind Suthar Keval Pareta Kunal Arora Naveen Kumar Mishra Suraj Anthwal	Vivek Kumar Verma Sandeep Kumar Sumit Patel Prashant A Nirpharake Rahul Wadhwani

Table A5-15 M.Tech. Polymer Science & Technology			
I Year	**II Year**	**III Year**	**IV Year**
	Vivek Pandey Parth Gupta Joginder Bansal	Anubha Malav Pankaj Kumar Kapil Sharma Nirav Gupta	Pallavi Bhambri Pratap Reddy N Kunal Kumar Shyopat Ram

Table A5-16 M.Tech. Geological Technology				
I Year	**II Year**	**III Year**	**IV Year**	**V Year**
Mohit Kumar Phophliya Pragyanand Kartik Bhatnagar Jami Varun Tej Anurag Tak Abhinav Kumar Vishnuraayan G Parag Nandi	Nikhlesh Kumar Singh Kislay Kumud Yash Gupta Roopak Malik Ekta Yadav Abhishek Vishal Akash Rishishwar	Sristi Dixit Harshul Khandelwal Anchit Gupta Apurv Badal Dutt Mathur Amit Kumar Agrawal Piyush Kumar Jain	Lawrence Kanyan Smruti Sourav Rout Mayank Malviya Abhishek Jaiswal Avinash Kumar	Prateek Kataria

Table A5-17 M.Tech. Geophysical Technology				
I Year	**II Year**	**III Year**	**IV Year**	**V Year**
Adarsh Goyal Harshit Agrawal Aayushi Garg Dev Ashish Hans Siddharth Verma Rahul Eb Aaraellu D Sarath Kumar Jitendra Yadav	Rohit Raj Kshitiz Gupta Utkarsh Sharma Harpreet Singh Sethi	Jasbir Siddharth Kejriwal Wagh Saurabh Dilip Alkesh Goyal Lavika Aggarwal Vaibhav Soni Dishant Singla Prince Grover	Shiv Pratap Singh Sachin Mangal	Ebrahim

Table A5-18 Process Engg. With MBA				
I Year	**II Year**	**III Year**	**IV Year**	**V Year**
Ayush Goyal Saurav Jain Marutesh Agarwal Parag Bandil Nikhil Pareek Lilly Kumari Durgesh Kumar Kumawat Aditya Narayan Singh	Sunit Arora Kanishk Jain Ankur Porwal Vivek Kumar Om Prakash Singh Rahul Upadhyay Piyush Dixit	Rajesh Ranjan Mutyapu Sushanth Saurav Kumar Sahil Adam Muhammad Nara Vinay Kumar	Hemant Manwani Sharath Chandra Malkani Ravi Shankar Azad Agam Kuchhal Pawan Kumar Yalla Adapa Aditya	Himanshu Khera Sriniwas Jha Ravikant Kumar Awadhesh Kumar

Table A5-19 Integrated Dual Degree (Elect.)			
I Year	**II Year**	**III Year**	**IV Year**
Gaurav Singh Mahal Pranav Kumar Jha Vats	Ishitva Maitray Markari Navateja	Ravi Bhushan Vipul Kumar Akarshan Singh Jain Chanakya Manoj	Mohd. Faizan Malik Shubham Gupta Pankaj Kumar Prasad Umesh Mishra

Table A5-20 B.Tech. Polymer Science & Technology			
I Year	**II Year**	**III Year**	**IV Year**
Bhanupratap Singh Chouhan Vaishnavi Shukla Mukesh Kumar Yadav Amarjeet Kumar Nehal Ramesh Nupnar Hemant Saini Ashwani Kumar Jaiswal Navaneet Madhoor Jitesh Mittal			

Table A5-21 Integrated Dual Degree (Civil)			
I Year	**II Year**	**III Year**	**IV Year**
Vatsal Barthwal Vishal Kumawat			

Table A5-22 Integrated Dual Degree (MT)			
I Year	**II Year**	**III Year**	**IV Year**
Nikhil Singla Gourav Ranjan Sinha Kumar Subham Amlan Baishya Gadde Mani Kanta			

4. ACADEMIC DEPARTMENT & CENTRE

4.1 ARCHITECTURE AND PLANNING

(a) Conferences/Symp./Seminars

1. Gupta Niruti, Devadas V, "Role Of Technology Management In Development", Driving The Economy Through Innovation & Entrepreneurship, Dec 2012.
2. Kumari Rashmi, Devadas V, "Analysis of Inter-Regional Disparity In India", International Conference On Managing Inclusive Growth: The Bottom Up Approach For Harmonious Development, New Delhi, 15-16 MARCH, 2013.
3. Nigam Pooja, Devadas V, "Urban Land Management: The Retrospect Of 3 Metropolitan Cities Of India", Dept Of Management Studies, ISC Bangalore, DEC 2012.
4. Sangeetha P, Shankar R,"A Proposal For The Smart Growth Of Chennai", National Congress of ITPI Held In Ahmedabad, FEB 8-10, 2013.
5. Sharma Rohita, Gupta Ila, "Applications and Impact of Culture In Career Enhancement", "Indian Values & Culture – Role in Career Enhancement In Institute of Hotel & Tourism Management, MDU Rohtak, 21 FEB 2012.
6. Sharma Rohita, Gupta Ila, "Applications and Impacts Of Culture In Promotion Of Hospitality & Tourism In Concept Of Mughal Era Architecture & Mural Decoration", Nourishing The Balance Of The Universe: Through Tourism & Cultures, DSVV Haridwar, MARCH 3-5, 2012.
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8. Tejas S. Rawal, Devadas V, "Sustainability Assessment on Ahmadabad Bus Rapid Transit System", National Conference On Sustainable Cities In Arid Region, MNIT Jaipur, December 26-28, 2012.

(b) International Conferences

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2. Bansal Neha, Mukherjee M. and Gairola, A., "Ushering Changes in Indian Cities", Cities Under Change, 17-19 Oct, 2012.
3. Chani P.S, "Energy Assessment Of Multistoried Apartments In Roorkee", International Conference of Civil Engineering and Architecture, AUG. 2012.
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(c) International Journals

1. A Naphade, A. Sharma, Chani, P.S., Garg, P., "Green Building Retrofit for the Library of Indian Institute of Technology Roorkee", Journal of the Institution of Engineers (India), Series A, March 2013, Vol. 94, Issue 1, pp 35-42.
2. Bansal, N., and Mukherjee, M., "Urban Risk Reduction-Basics of Sustainability, Abacus, 2012 PAGE NO. PP 29-45.
3. Mohan K., Faly R.G.J., Gairola, Kwatra N. and Mukherjee M., "Roll Of Landscape Elements Amelioration Adverse Pedestrian Level Winds In The Vicinity Of Tall Buildings", Bonfring International Journal of Industrial Engineering and Management Sciences, 2012 PAGE NO. 41-50
4. Pushplata and Kumar Ashwani, "Building Regulations: As A Means of Engineering Sustainable Development in Hill Towns", Journal of Environment Research and Development, Vol. 7A No. 1A, July-September 2012 pp 553-560.
5. Pushplata, Kumar Ashwani, "Conservation and Built Heritage of Shimla", ABACUS, MONSOON 2012, Vol.7, pp 92-98.
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2. Bhaskar De , Mukherjee M., " One More Chance on Energy Efficient Retrofit", Time Space & People, Vol.12, Issue 5th May,2012, PP 39-43.
3. Gutpa Ila , Sharma Rohita, "Painted Decoration In The Tomb of Salim Chisti, IUP", Journal Of Architecture. The ICFAI University Press, Vol 4, No. 1, Pp-33-43,2012.
4. Mukherjee M., " Architecture is a 24x7 Learning Process, Time Space & People, 2012, pp.
5. Mukherjee M., Energy Sustainable Site Management- Lean Construction, Indian Building Congress, 2012, pp 157-162.
6. Shaila S.B., Shankar R, and Mukherjee M., " Ushering In An Area of Campus Sustainability-Helping Reducing The Carbon Foot Print Literally", The Journal of Indian Institute of Architects, 2012, PP 24-28
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(e) Books:

1. Gupta Ila and Sharma Pooja,"Inlay Designs in The Mughal Monuments, Lap Lambert Academic Publishing, USA, 2012.
2. Das Dillip and Devadas V,"Regional Tourism Development Planning, Lap Lambert Academic Publishing, USA, 2012.

4.2 BIOTECHNOLOGY

Papers/ Journals

1. Awasthi A, Paul P, Kumar S, Verma S. K., Prasad R., Dhaliwa H.S. (2012). Abnormal endosperm development causes female sterility in rice insertional mutant OsAPC6. Plant Science, 183, 167–174 .
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4. Bhatia, A., Jitendra, S., Madan, S., Ali, M., Pathania, R., Kazmi, A.A., (2012) Diversity of bacterial isolates during full scale rotary drum composting. Waste Management.
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12. Kumar, P., Mohammadi, M., Dhindwal, S., Pham, T. T. M., Bolin, J. T., & Sylvestre, M.. Structural insights into the metabolism of 2-

chlorodibenzofuran by an evolved biphenyl dioxygenase. Biochemical and Biophysical Research Communications. (2012) 421, Issue 4, 757–762.
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with an Emerging Threat to Human. Current Bioinformatics, (2012) 7(4), 467-477.
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4.4 CHEMISTRY

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19. Nangia V.K., Arora S., and Agrawal R. (2012), "Risk Modelling in Banks with Special Reference to 'Value at Risk': A Re-Examination", Eurasia Business and Economics Society (EBES) 2012 Conference, Warsaw, November 1-3
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23. Agrawal R., Nangia V.K., Reddy K.S. (2012), Does debt risk transferable?–Contracts and earnouts in M&A dialogue. International Conference on Banking and Finance, International Management Institute (IMI), New Delhi, December 13-15

Conferences Attended:

1. Presented " A Framework for the assessment of Brand Loyalty: An AHP Approach" at European Conference for Academic Disciplines organized by The International Journal of Arts and Sciences held in Rome, Italy from Oct 27-Nov 1, 2012 and also chaired a session.
2. Presented "Are Indian Hospitality Companies aware of Total Quality Management? An Emprical Investigation")", in Eurasia Business & Economics Society (EBES) 2012 Warsaw Conference, held in Warsaw, Poland from Nov 1-3, 2012

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3. Samit Kumar and Y.S. Negi "Agro-waste Corn Cob Xylan Nanoparticles: Ester Prodrug of 5-Aminosalicylic acid" Third International Symposium on Green Chemistry for Environment, Health, and Development (ISBN 978-960-6865-53-4), Skiathos, Greece. October 3-5, 2012 (Poster Presentation)
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4.19 ALTERNATE HYDRO ENERGY CENTRE

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Symposium / Conferences / Seminars

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2. Kumar A., Saini R.P. and Saini J.S., "Heat transfer enhancement in the multi v-shaped ribs with gap roughened solar air heater duct", National Conference on Emerging Ternds in Renewable Energy Technology (ETRET-2012), UDML, Jaipur (Rajasthan), April 20-21, 2012.
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gap downstream ribs roughened surface solar air heater duct", National Conference on Renewable Energy, Eternal University, Badu Sahib, Himachal Pradesh (India), May 5-6, 2012.
4. Agarwal Tarang and Saini R.P., "Numerical analysis of silt erosion in Pump as Turbine (PAT)", International Conference on Renewable Energy, Eternal University (Himachal Pradesh, India), May 5-6, 2012.
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6. Panwar S. and Saini R.P., "A Sensorless Sun Tracker for Performance Enhancement of Solar PV System", National Conference on Recent Trends in Mechanical Engineering, ITM University, Gurgaon, Haryana, pp.501-507, 1st June 2012.
7. Vats Harsh, Saini R.P., "Investigation on combined effect of cavitation and silt ersosion on Francis turbine", International Conference on Science & Information Technology (ICSIT)-Dehradun, pp.159-161, 3rd June, 2012.
8. Panwar S. and Saini R.P., "Maximum Peak Power Tracking Techniques for Solar Photovoltaic System", National Conference on Emerging Trends in Mechanical & Electrical Engineering (NCETMEE-12), Integral University, Lucknow (UP), 12-13 June 2012.
9. Mishra A., Saini R.P. and Singhal M.K., "CFD Based Performance Analysis of Kaplan Turbine for Micro Hydro Power", International Conference on Mechanical & Industrial Engineering (ICMIE), 17 June, 2012.
10. Alam T., Saini R.P., and Saini J.S., "A review on performance measuring techniques of solar air heater duct" International Conference on Advances in Chemical Engineering (ACE 2013), IIT Roorkee, India, February 22-24, 2013.
11. Singh Harmeet, Saini R. P., and Saini J. S., "Investigation on Stratification in a Packed Bed Solar Energy Storage System" International Conference on Advances in Chemical Engineering (ACE 2013), IIT Roorkee, India, February 22-24, 2013.
12. Malik Monu, and Saini R. P., "Techno-Economical Evaluation of Solar Thermal Power Plant" International Conference on Advances in Chemical Engineering (ACE 2013), IIT Roorkee, India, February 22-24, 2013.
13. Dutt Nitesh, Saini R. P., Sharma M.P., and Awasthi M.K., "Study of heat transfer characteristics of sensible heat storage for solar thermal energy" International Conference on Advances in Chemical Engineering (ACE 2013), IIT Roorkee, India, February 22-24, 2013.
14. Kumar Amit, Kumar Ashutosh and Sharma M.P., "Mechanism and Factors Affecting Methane Emissions in Hydropower Reservoirs: A Review", in International Conference on Energy Resources & Technologies for Sustainable Development (ICERTSD 2013" held on 7-9 Feb. 2013 at Bengal Engineering and Science University, Shibpur Howrah, West Bengal.
15. Naik Gopiya S., Khatod D.K. and Sharma M.P., "Sizing and Siting of Distributed Generation in Distribution network for Real Power Loss Minimization using Analytical Approach", in International Conference on Power, Energy & Control (ICPEC 13)" held on Feb. 06-08, 2013 at Department of Electrical and Electronics Engineering, PSNA CET.
16. Kumar Amit and Sharma M.P., "Role of Organic Carbon in Green House Gas Emissions from Reservoirs", In proceedings of International Conference on Advances in Chemical Engineering (ACE 2013) held on Feb 22-24, 2013 at IIT Roorkee, India.
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22. Kumar A, "Hydropower in Rural Development - Overview of solutions in India" at International symposium on "The Place of Water Power in the Renewable Energy Panel held during November 20 – 21, 2012, in Grenoble, France". (Invited).
23. Kumar A, "Small Hydro Resource Assessment" ASEAN-India Workshop on Cooperation in New and Renewable Energy by Ministry of New and Renewable Energy on Nov 06, 2012 at New Delhi. (Invited).
24. Kumar A, "Small Hydro in India", Indo Swiss Symposium on Renewable Energies and Rational Energy End-use held at EPFL, Lausanne, Switzerland from October 22 – 25, 2012. (Invited).
25. Kumar A, "Environmental and Social Impact of SHP Projects" in the Conference on "Small Hydro in India - Issues and Opportunities" during Oct 15 –16, 2012 at New Delhi (Invited).
26. Kumar, A "Establishing The Role Small Hydro Can Play In Developing Countries Through Case Study Analysis", 4th annual Small Hydro 2012 conference , 25th – 26th April 2012 in Toronto, Canada (Invited).
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Indian Institute of Technology Roorkee

Roorkee – 247 667

Telephone : 01332- 285270
Fax : 01332-285822, 273560
Email : deanfap_f@iitr.ac.in
Website : www.iitr.ac.in