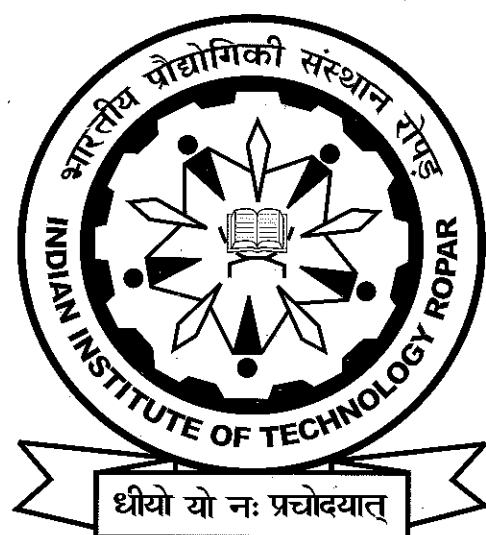




**INDIAN INSTITUTE
OF TECHNOLOGY
ROPAR**

**ANNUAL
REPORT**
2009-2010

INDIAN INSTITUTE OF TECHNOLOGY ROPAR
Nangal Road, Rupnagar, Punjab-140001 (INDIA)



ANNUAL REPORT
2009-2010





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Indian Institute of Technology Ropar (Punjab) is one of the eight new IITs set up by Ministry of Human Resource Development (MHRD), Government of India to expand and enhance the quality of technical education in the country. IIT Ropar is committed to provide state-of-the-art technical education in a variety of fields and also to facilitate transmission of knowledge in keeping with the latest developments in pedagogy. These two areas of focus will enable students to gain exposure to the latest trends in their chosen domain of study and acquire practical experience through a wide variety of activities with the Institute facilitated in its own campus and those in collaboration with industry and other institutes.

The institute started functioning from the academic year 2008-09 from IIT Delhi, its mentor institute. The institute is currently operating from its transit campus the former Government Polytechnic for Women, Rupnagar (Punjab). At the transit campus, a total of 107 students were admitted to B.Tech. and 10 students to Ph.D. program in 2009. 105 students who were admitted at IIT Delhi for IIT Ropar were also shifted to IIT Ropar transit campus in 2009. During the academic year 2009-10 few courses were taught by a few of the faculty by some of the faculty members of IIT Delhi.


The Government of Punjab has allotted 501 acres of land to IIT Ropar by the banks of the river Sutlej. When completed, the campus will be a self-contained township catering to all the needs of faculty, staff and students. The master plan of the Institute is in progress. The renovation work of classrooms, labs, hostels, guest houses, residences, medical centre and sports grounds at the transit campus has been completed.

The overall academic system for IIT Ropar, Punjab has been designed to provide science based engineering education with a view to produce quality engineer-scientists. The curriculum provides broad-based knowledge and simultaneously builds temper for life-long learning and exploring. The undergraduate programme begins with a set of science and general engineering courses which is reflected in the course plan. These courses provide a foundation for further discipline specific courses.

As per the perspective plan of courses, all facilities, and infrastructure are being upgraded. The institute has been actively involved in collaborative programmes with national and international organizations/universities to remain at the forefront of scientific and technological development and to share the knowledge for mutual benefit. The institute has signed MOU's with Imperial College of Science, Technology and Medicine, London, Aston University, U.K. and the Glasgow Research Partnership in Engineering (GRPE) represented by University of Glasgow and the University of Strathclyde, U.K.

At present, the Institute offers Bachelor of Technology (B.Tech.) programme in Computer Science and Engineering, Electrical Engineering and Mechanical Engineering. This programme is spread over a period of eight semesters and the institute admits forty students in each branch through IIT Joint Entrance Examination conducted every year.

The Institute has undertaken number of Research and Consultancy Projects sponsored by a wide spectrum of funding agencies, including the Government and Industry. The major areas of research activities include Quantum Optics and Quantum Control, low energy ion beam physics and material modification, polynomial representation of non-compact knots, unknotting numbers, surface engineering and friction stir welding,



supramolecular synthesis and material chemistry, catalysis and nanochemistry, modeling vitamin B12 Bioinformatics, Archival research on the history of education, the history of education, the history of political philosophy, renewable energy, heat transfer, nanofluids, material processing, manufacturing, microstructure property relationship, composites, adaptive signal processing and wireless communications.

I am thankful to the National / International Institutes who have collaborated with us and hope that they will continue to be partner in success. I would like to put on record the deep appreciation for the support and co-operation received from the Government of India and the Government of Punjab in setting up a new IIT at Ropar. The Institute also wishes to acknowledge the support it has received from the Indian Institute of Technology Delhi, the Mentor institute for IIT Ropar.

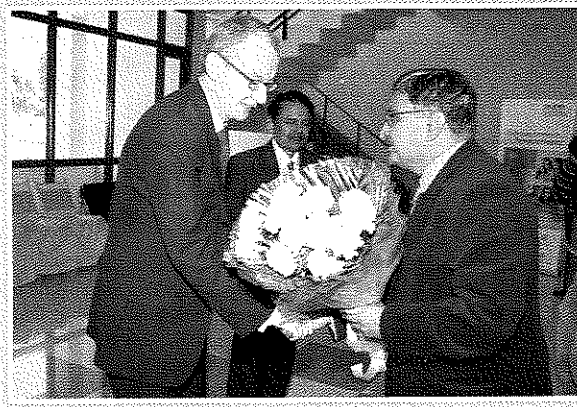
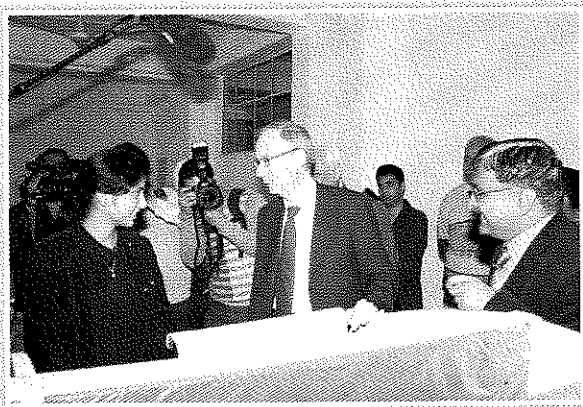
(M.K. SURAPPA)

IIT ROPAR – MILESTONES

Milestone	Date
Date of Notification of IIT Ropar	9th May, 2008
Registered as Society under Societies Registration Act 1860	29th July, 2008
Foundation Stone laid on	24th February, 2009
First Director of the Institute joined on	10th June, 2009
First Registrar of the Institute joined on	10th July, 2009
Inauguration of the Transit Campus	19th August, 2009
Commencement of Classes at the Transit Campus	20th August, 2009

Visit of Mr. Pat McFadden, UK to IIT Ropar

**Hon'ble Minister for Business Innovation & Skills
Govt. of UK visited IIT Ropar along with his team
on 16.02.2010 and had interaction with
faculty members, officers and students of IIT Ropar**



BOARD OF GOVERNORS

Dr. T. Ramasami Secretary to Government of India Department of Science & Technology Technology Bhawan New Mehrauli Road New Delhi-110016	Chairman
Prof. M. K. Surappa Director, Indian Institute of Technology Ropar Nangal Road, Rupnagar 140 001 Punjab	Member
Sh. S. C. Agrawal, IAS Chief Secretary to Government of Punjab Punjab Civil Secretariat Chandigarh -160 001	Member
Sh. Ashok Thakur, IAS Additional Secretary (Higher Education) Ministry of Human Resource Development Shastri Bhawan New Delhi-110 001	Member
Sh. Siddharth Shriram Chairman, Usha International Ltd. Plot No.3, Institutional Area Sector-32, Gurgaon- 122 001 Haryana	Member
Sh. S. K. Munjal C. E. O., Hero Corporate Services E-1, Qutab Hotel Complex Shahid Jit Singh Marg New Delhi -110 016	Member
Dr. H. R. Bhojwani C-150, Sarvodaya Enclave New Delhi -110 017	Member
Prof. B.D. Gupta Professor, Department of Chemistry Indian Institute of Technology Ropar Nangal Road, Rupnagar-140 001 Punjab	Member

Prof. Surendra Prasad
Director, Indian Institute of Technology Delhi
Hauz Khas,
New Delhi-110016

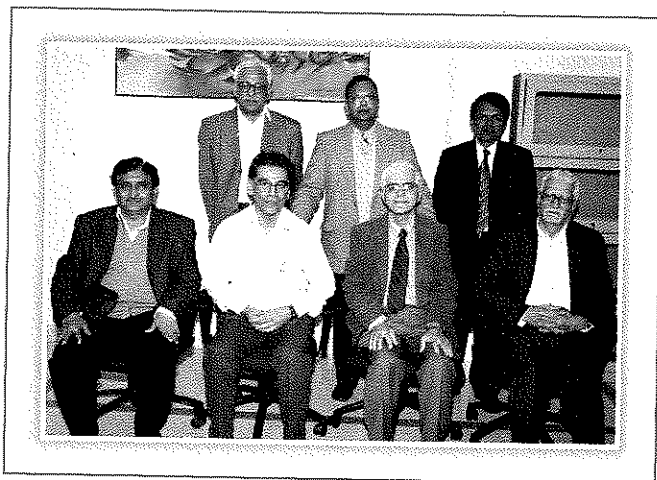
Special Invitee

Prof. B.K. Dhindaw
Visiting Professor
Department of Mechanical Engineering
Indian Institute of Technology Ropar
Nangal Road, Rupnagar-140001
Punjab

Special Invitee

Sh. A. Palanivel
Registrar
Indian Institute of Technology Ropar
Nangal Road, Rupnagar-140 001
Punjab

Secretary



Second Board of Governors Meeting held on 20.12.2009 at IIT Ropar



FINANCE COMMITTEE



Dr. T. Ramasami
Secretary to Government of India
Department of Science & Technology
Technology Bhawan
New Mehrauli Road
New Delhi-110016

Chairman

Prof. M. K. Surappa
Director
Indian Institute of Technology Ropar
Nangal Road, Rupnagar-140 001
Punjab

Member

Sh. Ashok Thakur, IAS
Additional Secretary (Higher Education)
Ministry of Human Resource Development
Shastri Bhawan
New Delhi-110 001

Member

Sh. S.K. Ray, IAS
Additional Secretary & Financial Advisor
Ministry of Human Resource Development
Department of Higher Education
Shastri Bhawan
New Delhi-110 001

Member

Prof. Surendra Prasad
Director
Indian Institute of Technology Delhi
Hauz Khas,
New Delhi -110 016

Member

Prof. B.D. Gupta
Professor, Department of Chemistry
Indian Institute of Technology Ropar
Nangal Road,
Rupnagar-140 001
Punjab

Member

Sh. A. Palanivel
Registrar
Indian Institute of Technology Ropar
Nangal Road, Rupnagar-140 001
Punjab

Secretary

BUILDING AND WORKS COMMITTEE

Prof. M. K. Surappa
Director
Indian Institute of Technology Ropar
Nangal Road, Rupnagar 140 001
Punjab

Chairman

Prof. A. Sridharan
40, West Park Road
Between 13th & 14th Cross
Malleswaram
Bangalore - 560 003

Member

Ms. Rashmi Chaudhary
Director (TS-I)
Ministry of Human Resource Development
Shastri Bhawan
New Delhi -110 114

Member

Er. S. Ramanujam
C/o S. S. Rajan
New No.7, Old No.4, 1st Floor
Mannar Reddy Street
T. Nagar,
Chennai 600 017

Member

Er. A. K. Sarin
Advisor
Commonwealth Games
IInd Floor , Vikas Minar, I. P. Estate
New Delhi 110 002

Member

Sh. A. Palanivel
Registrar
Indian Institute of Technology Ropar
Nangal Road, Rupnagar-140 001
Punjab

Secretary

<p>Prof. M. K. Surappa Director Indian Institute of Technology Ropar Nangal Road, Rupnagar 140 001 Punjab</p>	Chairman
<p>Dr. R. C. Sobti Vice-Chancellor Panjab University Chandigarh-160 014</p>	Member
<p>Prof. N. Sathyamurthy Director Indian Institute of Science Education and Research Mohali MGSIPAP Complex Sector-26, Chandigarh-160 014</p>	Member
<p>Dr. Amit Mitra Secretary General FICCI, Federation House Tansen Marg, New Delhi-110001</p>	Member
<p>Prof. S. R. Kale Professor Department of Mechanical Engineering Indian Institute of Technology Delhi Hauz Khas, New Delhi-110118</p>	Member
<p>Prof. S. M. Ishtiaque Deputy Director (Administration) Indian Institute of Technology Delhi Hauz Khas, New Delhi-110 016</p>	Member
<p>Dr. K. K. Talwar Director Post Graduate Institute of Medical Education & Research Sector-12, Chandigarh-160 012</p>	Member
<p>Prof. B.D. Gupta Professor Department of Chemistry Indian Institute of Technology Ropar Nangal Road, Rupnagar-140 001 Punjab</p>	Member

Prof. B. K. Dhindaw

Member

Visiting Professor

Department of Mechanical Engineering

Indian Institute of Technology Ropar

Nangal Road, Rupnagar-140 001

Punjab

Dr. V. Narayanan

Member

Assistant Professor

Department of Humanities & Social Sciences

Indian Institute of Technology Ropar

Nangal Road, Rupnagar-140 001

Punjab

Dr. M. Prabhakar

Member

Assistant Professor

Department of Mathematics

Indian Institute of Technology Ropar

Nangal Road, Rupnagar-140 001

Punjab

Dr. Harpreet Singh

Member

Assistant Professor

Department of Mechanical Engineering

Indian Institute of Technology Ropar

Nangal Road, Rupnagar-140 001

Punjab

Dr. R. Srivastava

Member

Assistant Professor

Department of Chemistry

Indian Institute of Technology Ropar

Nangal Road, Rupnagar-140 001

Punjab

Sh. A. Palanivel

Secretary

Registrar

Indian Institute of Technology Ropar

Nangal Road, Rupnagar-140 001

Punjab

KEY OFFICIALS OF IIT ROPAR

Director	Prof. M.K. Surappa
Dean(Acad. & Research)	Prof. B. K. Dhindaw
Dean (Students Affairs)	Prof. B.D. Gupta
Registrar	Shri A Palanivel
PG Coordinator	Dr. Rajendra Srivastava
UG Coordinator	Dr. M. Prabhakar
Faculty Incharge Library	Dr. Varadarajan Narayanan
Faculty Incharge Campus Maintenance & Development	Dr. S. Sarkar
Faculty Incharge (Training & Placement)	Dr. Harpreet Singh
Faculty Incharge Guest House	Dr. Narinder Singh
Hostel Wardens	i) Dr. M. Prabhakar ii) Dr. Varadarajan Narayanan
Executive Engineer	Shri Sudeep Singh
Deputy Registrar	Shri A. N. Ramachandra
Assistant Registrar	Shri Lagvish Kumar

NON-FACULTY MEMBERS JOINED DURING THE YEAR 2009-2010

S. No.	Name	Designation
1.	Sh. A. Palanivel	Registrar
2.	Sh. A. N. Ramachandra	Deputy Registrar
3.	Sh. Sudeep Singh	Executive Engineer
4.	Sh. Lagvish Kumar	Assistant Registrar
5.	Sh. Rakesh Kumar	Junior Engineer (Civil)
6.	Sh. Manoj Kumar	Junior Engineer (Electrical)
7.	Sh. Rajpreet Singh	Junior Assistant (Steno)
8.	Ms. Poonam Tiwari	Junior Assistant (Steno)
9.	Sh. Anshu Vaid	Junior Assistant
10.	Sh. Ram Kumar	Junior Attendant (Semi Skilled)
11.	Sh. Karan Singh	Junior Attendant (Semi Skilled)
12.	Sh. Sushil Kumar Pal	Junior Attendant (Semi Skilled)

FACULTY MEMBERS JOINED DURING THE YEAR 2009-2010

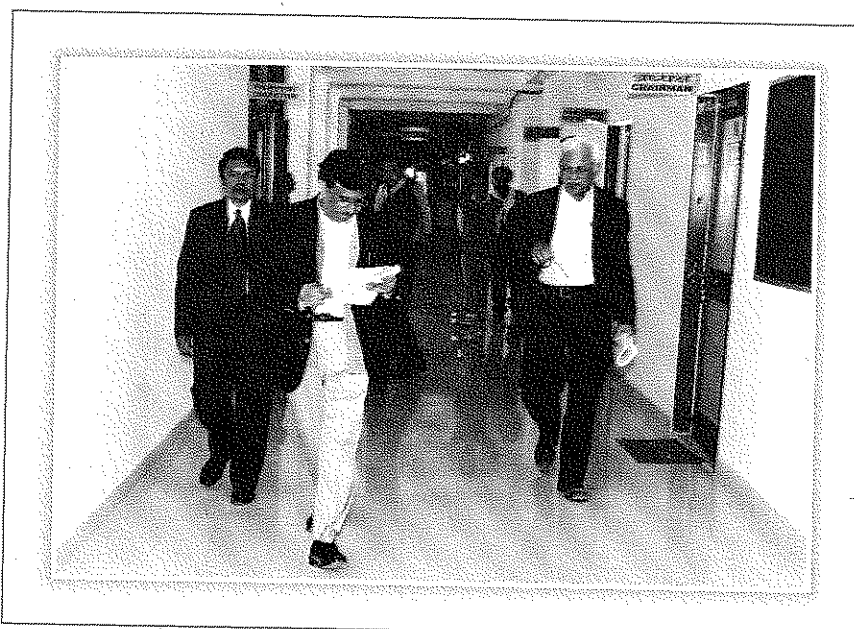
S. No.	Name	Designation	Department
1.	Prof. B. D. Gupta	Professor	Chemistry
2.	Prof. B. K. Dhindaw	Visiting Professor	Mechanical Engg.
3.	Dr. Narinder Singh	Assistant Professor	Chemistry
4.	Dr. Avijit Goswami	Assistant Professor	Chemistry
5.	Dr. Rajendra Srivastava	Assistant Professor	Chemistry
6.	Dr. Harpreet Singh	Assistant Professor	Mechanical Engg.
7.	Dr. Himanshu Tyagi	Assistant Professor	Mechanical Engg.
8.	Dr. Navin Kumar	Assistant Professor	Mechanical Engg.
9.	Dr. Subhendu Sarkar	Assistant Professor	Physics
10.	Dr. Subrangshu Dasgupta	Assistant Professor	Physics
11.	Dr. Parthapratim De	Associate Professor	Electrical Engineering
12.	Dr. M. Prabhakar	Assistant Professor	Mathematics
13.	Dr. Manoranjan Mishra	Assistant Professor	Mathematics
14.	Dr. Varadarajan Narayanan	Assistant Professor	Humanities & Social Sciences
15.	Dr. Daya Ram Gaur	Associate Professor	Computer Science & Engg.
16.	Dr. Apurva Mudgal	Associate Professor	Computer Science & Engg.
17.	Sh. Ashish Ahuja	Visiting Scientist	Computer Science & Engg.



Senate Meeting

FINANCIAL DATA 2009 - 2010

RECEIPTS	AMOUNT (Rs.)	PAYMENTS	AMOUNT (Rs.)
Opening Balance (Bank Balances)		EXPENSES	
a) In Savings Accounts	59943754.00	a) Establishment Expenses	10718923.00
Grants Received		b) Administrative Expenses	68662761.00
a) From Govt. of India	200000000.00	Purchase of Fixed Assets	65070395.00
b) From Other Sources	3165000.00		
Interest Received		Other Payments	25344911.00
a) On Bank Deposits	2307299.00		
b) Interest on Investment	4149.00		
Fees & Subscription	9034500.00	Closing Balance	
		a) In Saving Accounts	105058771.00
		b) In NPS Account	712118.00
Other Receipts	1113177.00		
TOTAL	275567879.00	TOTAL	275567879.00



Director, Dean and Registrar of IIT Ropar

ACADEMIC REPORT

The Institute started functioning from the transit campus from 19th August 2009. The Institute admitted 107 students to the B.Tech. programmes during the academic year 2009-2010. These students were selected through the All India Joint Entrance Examination. The Institute offers courses in Computer Science & Engineering, Electrical Engineering and Mechanical Engineering. The detail of students admitted to the various programmes is as under :-

Branch-wise & Gender-wise distribution of admitted students

Branch	2008		
	M	F	Total
Computer Science & Engineering	31	5	36
Electrical Engineering	34	5	39
Mechanical Engineering	30	0	30
TOTAL	95	10	105

Branch	2009		
	M	F	Total
Computer Science & Engineering	36	2	38
Electrical Engineering	30	6	36
Mechanical Engineering	31	2	33
TOTAL	97	10	107

Category-wise & Gender-wise distribution of admitted students

Category	2008		
	M	F	Total
GEN	48	5	53
SC	13	3	16
OBC	33	2	35
ST	1	0	1
PD	0	0	0
TOTAL	95	10	105

Category	2009		
	M	F	Total
GEN	51	6	57
SC	17	1	18
OBC	29	3	32
ST	0	0	0
PD	0	0	0
TOTAL	97	10	107

FINANCIAL ASSISTANCE TO STUDENTS

The institute offers various scholarships to the students.

- i) **MERIT-CUM-MEANS SCHOLARSHIP** : The Institute is providing Merit-cum-Means scholarships to 25% of the under-graduate students. The present value of merit-cum-means scholarship is Rs.1000/- per month for general students and the recipient is exempted from paying tuition fee. The criterion of merit for first year is All India Rank in the JEE. The merit-cum-means scholarship have been provided to the following students.

BATCH : 2008

S.No.	Entry No.	Name
1.	P2008CS1003	Ashish Kumar Gola
2.	P2008CS1026	Priyanshu Raj
3.	P2008CS1030	Sahil Gupta
4.	P2008CS1033	Shlok Chaurasia
5.	P2008CS1035	Suresh Kumar Yadav
6.	P2008EE1064	Dhawal Pratap Singh
7.	P2008EE1067	Javed Ali
8.	P2008EE1071	Manish Gupta
9.	P2008EE1077	Pawan Kumar
10.	P2008EE1079	Pooja Yadav
11.	P2008EE1085	Shoeb Ahmad
12.	P2008ME1103	Aditya Saini
13.	P2008ME1116	Nitin Singhal
14.	P2008CS1004	Ashish Prasad
15.	P2008CS1013	Kanumetta Chandrakanta
16.	P2008EE1073	Neetu Bhadana
17.	P2008EE1084	Shashank Chaudhary

BATCH : 2009

S.No.	Entry No.	Name
1.	P2009ME1081	Tahir Sheikh
2.	P2009ME1082	Shiv Kumar
3.	P2009ME1084	Vikas Jawaria
4.	P2009ME1098	Javed Khan
5.	P2009ME1099	Lal Singh
6.	P2009EE1112	Nikant Vohra
7.	P2009EE1116	Anshul Garg
8.	P2009EE1066	Ankit Bansal
9.	P2009EE1069	Ankush Jain
10.	P2009EE1053	Arun Singh
11.	P2009EE1039	Kolbudhe Sneha
12.	P2009CS1110	Deepak Sachdeva
13.	P2009CS1043	Sonu Kumar Giri
14.	P2009CS1022	Vikas Yadav
15.	P2009ME1029	Yashpal Chowki
16.	P2009CS1021	Madhu Rani
17.	P2009CS1016	Santosh Kumar
18.	P2009CS1012	Kapil Kumar
19.	P2009CS1007	Pankaj Verma
20.	P2009CS1005	Rishi Aggarwal
21.	P2009CS1002	Prateek Mukati
22.	P2009CS1001	Pravesh Jain
23.	P2009EE1054	Santosh Kumar
24.	P2009CS1030	Akinapally Praveen
25.	P2009CS1036	Vikas Mittal

- ii) **INSTITUTE TOP STUDENTS SCHOLARSHIP** : This scholarship is provided to the top 7% students. A total amount of Rs. 2500/- and a merit certificate is granted to these students. The following students received this scholarship during the year 2009-10 :

BATCH 2008 :

Sr. No.	Name	Entry No.
1	Ishan Chhabra	P2008CS1012
2	Yogesh Aggarwal	P2008ME1135
3	Prashant Pratap Singh	P2008ME1119
4	Bhargav Mangipudi	P2008CS1006
5	Vikas Aggarwal	P2008EE1132
6	Divya Mahajan	P2008EE1065
7	Arpit Jain	P2008EE1061

BATCH 2009 :

Sr. No.	Name	Entry No.
1	Tania Garg	P2009CS1034
2	Rohit Aggarwal	P2009CS1037
3	Shruti Tripathi	P2009CS1101
4	Sonu Kumar Giri	P2009CS1043
5	Nikant Vohra	P2009EE1112
6	Anshul Garg	P2009EE1116
7	Ankush Jain	P2009EE1069
8	Gayathri Lakshmi Kulukuru	P2009ME1062

- iii) **CENTRAL SECTOR SCHOLARSHIP SCHEME** : This scholarship is provided by the Ministry of Social Welfare, Government of India to SC/ ST students. In this scholarship, the awardees receive a total of Rs. 55020/- towards annual fee, other refundable charges, boarding & lodging, books & stationery, PC etc. This scholarship has been provided to the following students.

Sr. No.	Name	Entry No.
1.	Dinesh Kumar	P2009CS1013
2.	Varinder Singh	P2009CS1035
3.	Ashish K. Choudhary	P2009EE1055
4.	Gaddam Sunil Kumar	P2008CS1010
5.	Ashish Kumar	P2008EE1062

RESEARCH PROGRAMMES

The Institute provides facilities for research leading to the Degree of Doctor of Philosophy (Ph.D). Ph.D degree is awarded based on satisfactory performance of the students in the prescribed course works, seminar, thesis and viva voce. The thesis shall be the report of research work characterized by either discovery of new facts or a new interpretation of known facts and theory, or an independent design and or development of new instrument/ technology.

The Ph.D. students are provided Institute fellowship for pursuing their Ph.D. programme. The areas of research is as follows :-

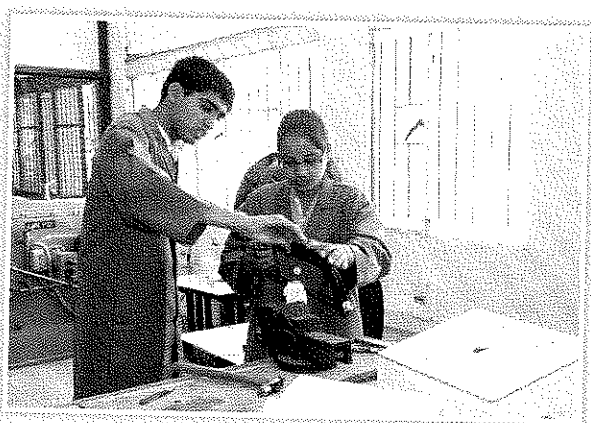
1. Quantum optics and quantum control
2. Low energy ion beam physics and materials modification
3. Polynomial representation of non-compact knots
4. Unknotting numbers
5. Surface Engineering and friction stir welding
6. Supramolecular synthesis and materials chemistry
7. Catalysis and Nanochemistry
8. Modeling vitamin B 12
9. Bioinformatics
10. Archival research on history of education
11. History of political philosophy

12. Renewable energy
13. Heat transfer
14. Nanofluids
15. Material processing
16. Manufacturing
17. Microstructure property relationship
18. Composites
19. Adaptive Signal processing
20. Wireless communication

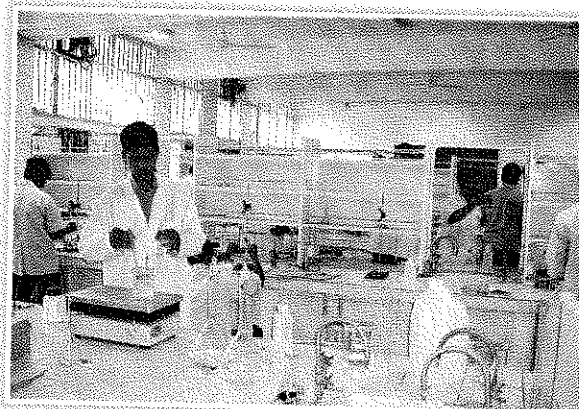
STUDENTS ENROLLED FOR Ph.D PROGRAMMES

The Following students are pursuing Ph.D programmes at the Indian Institute of Technology Ropar during the year 2009-2010.

S.No.	Name (Mr./Ms.)	Department
1	Anu Prathap M.U.	Chemistry
2	Preeti Saluja	Chemistry
3	Pallab Bhattacharya	Chemistry
4	Kamalpreet Kaur	Chemistry
5	Prabhjeet Dhillon	Physics
6	Harpreet Singh Arora	Mechanical Engg.
7	Vikrant Khullar	Mechanical Engg.
8	Sukhjeet Singh	Mechanical Engg.
9	Sanjeev Soni	Mechanical Engg.
10	Sarabpreet Kaur	Electrical Engg.



Mechanical Lab



Chemistry Lab

i) DEPARTMENT OF MECHANICAL ENGINEERING

HEAD OF THE DEPARTMENT : Prof. B.K. Dhindaw (O)

Name & Designation	Qualification	Area of research
M. K. Surappa Professor & Director	Ph.D. (IISc. Bangalore)	Metal matrix composites
B. K. Dhindaw Visiting Professor	Ph.D. (IIT Kharagpur)	Solidification processing, composite friction stir processing, steel technology
Harpreet Singh Assistant Professor	Ph. D. (IIT Roorkee)	Surface Engineering and Sustainable Machining
Himanshu Tyagi, Assistant Professor	Ph. D. (Arizona State University)	Thermo-fluids Engineering, Nanofluids, Sustainable Energy, Solar Energy
Navin Kumar, Assistant Professor	Ph. D. (IIT Delhi)	Nanocomposites, Carbon Nanotubes, Nanomicro Device Experimentation.

Brief description of ongoing activities :

- Research in the area of Metal forming, Machining and related advanced areas. In addition to UG/PG teaching, the department currently pursues research to develop thermal spray coatings for various applications such as power plant boilers, hydraulic turbines and biomedical applications, tool development for sustainable manufacturing. Research has also been started in Bio-energy. At present research is underway on several fronts, primarily to harness solar energy for use in heating, cooling and other related applications. It is imperative to reduce reliance on conventional sources of energy and also restrain carbon emissions. Both solar and biomass energy sources provide a viable alternative to this issue. The use of superior radiative and thermal properties of nanoparticle-laden fluids (nanofluids) is envisaged to achieve higher thermal efficiencies than conventional solar collectors. In addition the role of nanoparticles in reducing the effects of cancerous tumor as well as in the treatment of cancer in conjunction with existing techniques such as radiotherapy are being explored. Some technical publications have been achieved and several are underway as a result of the work done by PhD students under guidance at this Institute. Several other research areas are also being explored in collaboration with teams from Aston University/Imperial College, London, Lulea University of Technology Lulea, Sweden. Research is underway in the area of Friction Stir processing.

Thrust Areas :

- Analysis of Metal Forming Processes, Deformation Analysis, CAD/CAM
- Surface Engineering, Bio-energy and Sustainable Machining
- Thermo-fluids Engineering, Nanofluids, Renewable Energy
- Steel technology
- New and renewable energy.

Member-Editorial Board

Prof. B. K. Dhindaw is a member of the Editorial Board of International Cast Metals Research Journal Published by MANEY Publishing U.K.

Sponsored Research Projects :

Title of the projects	Funding agency	Amount (Rs.)
Experimental investigation of concentrated direct absorption solar collector (DAC) using nanofluids	IIT Ropar	8 Lacs
Development and performance evaluation of bioactive coatings for biomedical applications	IIT Ropar	7 Lacs

Detail of Invited lectures by faculty members :

- Dr. Harpreet Singh delivered an invited lecture on "Friction Stir Welding-Technology and Future Potential" at Yadwindra College of Engineering, Talwandi Sabo, India on 20 Feb, 2010.

ii) DEPARTMENT OF ELECTRICAL ENGINEERING

Head of the Department : Prof. B.K. Dhindaw (O)

Name & Designation	Qualification	Area of research
Parthapratim De Associate Professor	Ph. D (University of Cincinnati, USA)	Adaptive signal processing and its applications to wireless communications, channel estimation, OFDM, MIMO systems, and CDMA.

Brief description of ongoing activities :

- Three new laboratories are in the process of being set up in the areas of (a) Communication engineering, (b) Electromagnetics and (c) Power & Energy Computation. These will support the conduct of laboratory courses as well as research in relevant subjects. All three laboratories are expected to become operational by the end of 2010.

Thrust Areas :

- Directive antennas
- Metamaterials
- Signal processing
- Image processing

iii) DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

HEAD OF THE DEPARTMENT : Dr. Daya Ram Gaur

Name & Designation	Qualification	Area of research
Daya Ram Gaur Associate Professor	Ph. D (SFU, Canada)	Approximation Algorithms, Discrete and Combinatorial Optimization, Algorithms in Bioinformatics
Apurva Mudgal Assistant Professor	Ph. D (Georgia Institute of Technology, USA)	Theoretical robotics, computational geometry,
Ashish Ahuja Visiting Scientist	B. Tech, M.S (University of Texas)	---

Brief description of ongoing activities :

- Teaching & Research

Thrust Areas :

- Real time systems
- Theoretical Robotics
- Large scale Optimization
- Approximation Algorithms
- Bioinformatics.

Lecture by visiting experts :

- Baljeet Malhotra, University of Alberta, Canada delivered lecture on Data Management in Sensor Networks on 5th Feb` 2010.

Sponsored Research Projects :

Title of the project	Funding Agency	Amount (Rs.)
Real time scheduling of multiprocessor	IIT Ropar	5.03 Lacs
Algorithms for probabilistic robot navigation	IIT Ropar	0.75 Lacs

Detail of Invited lectures by faculty members :

- Dr. Daya Ram Gaur delivered lecture on a primal-dual algorithm for the unconstrained charge problem, University of Lethbridge, Canada during Jan.4, 2010.

iv) DEPARTMENT OF CHEMISTRY

HEAD OF THE DEPARTMENT : Prof. B.D. Gupta

Name & Designation	Qualification	Area of research
B. D. Gupta Professor	Ph. D (Flinders University, Australia)	Organometallic Chemistry
Narinder Singh Assistant Professor	Ph. D (GNDU, Amritsar)	Supramolecular & Materials Chemistry
Rajendra Srivastava Assistant Professor	Ph.D (University of Pune)	Catalysis & Nanoporous materials
Avijit Goswami, Assistant Professor	Ph.D (Heidelberg University, Germany)	Catalysis Chemistry 1) Organic Chemistry 2) Homogeneous Catalysis 3) Organic polymer Chemistry

Brief description of ongoing activities : Teaching & Research

Thrust Areas :

- Supramolecular & Materials Chemistry
- Catalysis and Nano-materials
- Development of new and easily accessible transition metal homogeneous/ heterogeneous catalysts for fine organic compounds as well as for biologically active compounds.
- Small molecule activation and catalysts development.

Sponsored Research Projects :

Sr. No.	Title of the projects	Funding agency	Amount (Rs.)
01	Synthesis and Catalytic Applications of Hierarchical/ Nanocrystalline Zeolite Catalysts	DST	33.516 Lacs
02	Synthesis of Dicationic & Amino acid Derived Ionic Liquid and their Application in Catalysis and Materials Synthesis	IIT Ropar	7 Lacs
03	Cobaloximes with S and Sedioximes: Synthesis, structure-property relationship and C-O-C Bond reactivity studies	IIT Ropar	8.3 Lacs
04	Synthesis and recognition properties of new tripodal and "Tetrapodal Framework"	IIT Ropar	7.3 Lacs

v) DEPARTMENT OF PHYSICS

HEAD OF THE DEPARTMENT : Prof. B.K. Dhindaw (O)

Name & Designation	Qualification	Area of research
Subhrangshu Dasgupta Assistant Professor	Ph. D (M.S.U., Udaipur)	Physical modeling in quantum optics, nano systems and decoherence in physical systems.
Subhendu Sarkar Assistant Professor	Ph. D (University of Kolkata)	Low energy ion beam physics, fabrication of nanostructures on semiconductor surfaces using low energy ion beams.

Brief description of ongoing activities : Teaching & Research

- Setting up of state-of-the-art facility for scanning probe microscopy (SPM) laboratory.
- Processes are underway for laboratory setups and setting up of computation facilities.

Thrust Areas :

- Physical modeling of control and decoherence in quantum optical systems.
- Fabrication of nanostructures.
- Scaling studies of semiconductor surfaces via chemical and physical erosion techniques.

Sponsored Research Projects :

Sr. No.	Title of the projects	Funding agency	Amount (Rs.)
01	Quantum control of nonradiative transitions In nanocrystal quantum dots towards an Event-ready source of entangled photons	IIT Ropar	5 Lacs
02	Fabrication of surface and embedded nanostructures using a no-case specific technique: A top-down self reorganisation approach	IIT Ropar	3 Lacs



MOU with GRPE, UK



MOU with Imperial College, UK

vi) DEPARTMENT OF MATHEMATICS

HEAD OF THE DEPARTMENT : Dr. Daya Ram Gaur

Name & Designation	Qualification	Area of research
M Prabhakar Assistant Professor	Ph. D. (IIT Delhi)	Unknotting Numbers, Minimal Degree Sequence for Knots
Manoranjan Mishra Assistant Professor	Ph. D. (IISc. Bangalore)	Fluid Dynamics

Brief description of ongoing activities : • Teaching & Research

Thrust Areas :

- Fluid dynamics, Group algebra
- Mathematical modelling
- Numerical computing, topology.

Sponsored Research Projects :

Title of the project	Funding Agency	Amount (Rs.)
Unknotting Numbers	IIT Ropar	5.27 Lacs

vii) DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

HEAD OF THE DEPARTMENT : Prof. B.K. Dhindaw (O)

Name & Designation	Qualification	Area of research
Varadarajan Narayanan Assistant Professor	Ph. D. (IIT Kanpur)	German idealism, political philosophy, history of the book

Brief description of ongoing activities :

a) Teaching UG and Preparatory courses

- Introduction to Philosophy (UG)
- Topics in Philosophy (UG)
- Introduction to Humanities and Social Sciences (UG)
- Preparatory Course (English)

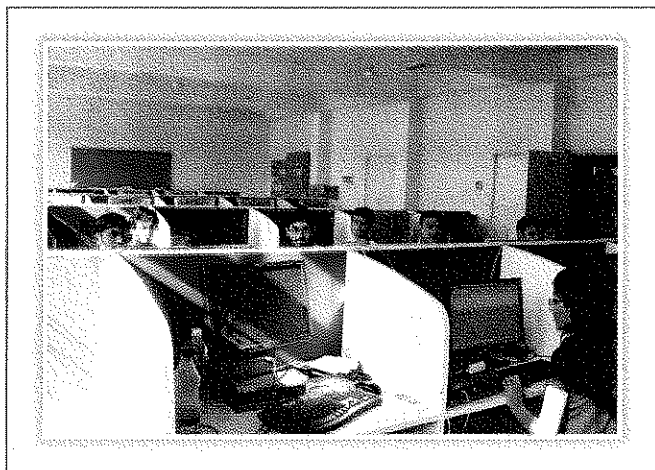
Sponsored Research Projects :

Title of the project	Funding Agency	Amount (Rs.)
Editing records concerning education written during the colonial period	IIT Ropar	5 Lacs

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2. A benzimidazole-based single molecular multianalyte fluorescent probe for the simultaneous analysis of Cu^{2+} and Fe^{3+} Doo Youn Lee, Narinder Singh, Doo Ok Jang *Tetrahedron Letters*, 2010, 51, 1103-1106.
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7. A new fluorescent chemosensor for iron (III) based on the γ -aminobisulfonate receptor. Narinder Singh, Navneet Kaur, John Dunn, Martha MacKay, John F. Callan; *Tetrahedron Letters*, 2009, 50, 953-956.
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9. Selective Anion Recognition by Retarding the Cooperative Polarization Effect of Amide Linkages. Gang Woo Lee, Narinder Singh, Hee Jung Jung, Doo Ok Jang; *Tetrahedron Letters*, 2009, 50, 807-810.
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13. Synthesis of calix[4]arene-based dipodal receptor: competitive solvent extraction and liquid bulk membrane transport for selective recovery of Cu^{2+} . Narinder Singh, Doo Ok Jang; *Supramol. Chem.* 2009, 21, 351-358
14. Incorporation of Siderophore Binding Sites in a Dipodal Fluorescent Sensor for Fe(III) Narinder Singh, Navneet Kaur, John F. Callan; *J. Fluorescence* 2009, 19, 649-654.
15. Mishra, M., Martin, M. and De Wit, A. (2010) Influence of miscible viscous fingering with negative log-mobility ratio on spreading of adsorbed analytes, *Chem. Engg. Sci.* Vol 65 2392-2398.
16. Haddad, K., Ertunc, O., Mishra, M., and Delgado, A. (2010) Pulsating laminar fully developed channel and pipe flows, *Phys Rev E.* Vol. 81, 016303.
17. Maes, R., Rousseaux, G., Scheid, B., Mishra, M., Colinet, P. and De Wit, A. (2010) Experimental study of dispersion and miscible viscous fingering of initially circular samples in Hele-Shaw cells, *Physics of Fluids*, Vol. 22, 123104.
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Computer Lab



Diwali celebration at IIT Ropar

RESEARCH PROJECTS

Sponsored research is an important part of IIT activities. We have maintained a steady and sustained growth in our interaction with industry and other agencies in terms of the number and value of sponsored research projects. The number of active sponsored projects during the year 2009-2010 is as follows:-

Sr. No.	Title of project	To whom sanctioned	Total funds approved for project (Rs.)	Funding agency
1	Synthesis and catalytic applications of hierarchical nano crystalline zeolite catalysts	Dr. Rajendra Srivastava, Assistant Professor Dept of chemistry	33.52 Lacs	Department of Science & Technology, Govt. of India

START UP GRANT

IIT Ropar provided grant under faculty initiation grant. The grant is sanctioned to new faculty members for developing his/her research infrastructure for a period of three years. The new faculty members must apply for this grant within one year from the date of his/her joining the institute under funding for this grant which will be met from ISIRD fund. The grant is utilized for the purpose of laboratory equipment, consumables and software and for technical visits.

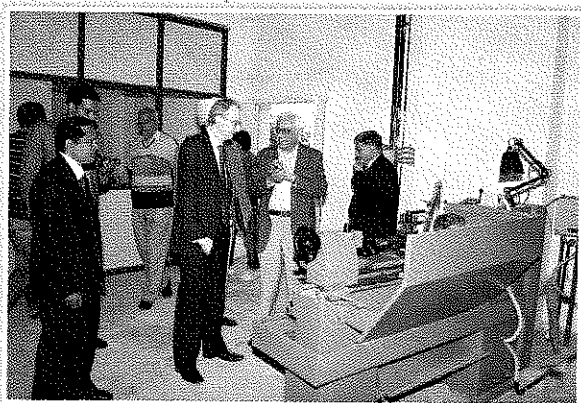
The following faculty members have been sanctioned grants for carrying out research projects.

S.No.	Title of project	To whom sanctioned	Total funds approved for project (Rs.)
1	Synthesis of dicationic and amino acid derived ionic liquids and their application in catalysis and materials synthesis	Dr. Rajendra Srivastava Assistant Professor Dept. of Chemistry	7,00,000/-
2	Cobaloximes with S and Sedioximes: Synthesis, structure-property relationship and C-O-C Bond reactivity studies	Prof. B. D. Gupta, Professor Dept. of Chemistry	8,30,000/-
3	Unknotting Numbers	Dr. M. Prabhakar, Assistant Professor Dept. of Mathematics	5,26,900/-
4	Editing records concerning education written during the colonial period	Dr. Varadarajan Narayanan Assistant Professor Dept. of Humanities & Social Sciences	5,00,000/-
5	Fabrication of surface and embedded nanostructures using a no-case specific technique: a top down self reorganization approach	Dr. Subhendu Sarkar Assistant Professor Dept. of Physics	3,00,000/-

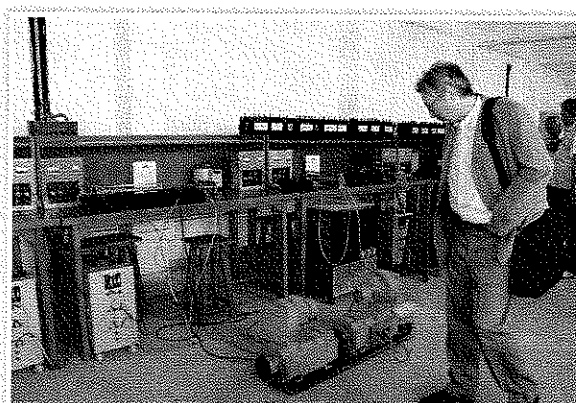
6	Development and performance evaluation of bioactive coatings for biomedical applications	Dr. Harpreet Singh Assistant Professor Dept. of Mech.Engg.	7,00,000/-
7	Quantum control of nonradiative transitions in nanocrystal quantum dots towards and event- ready source of entangled photons	Dr. Shubhrangshu Dasgupta, Assistant Professor Dept. of Physics	5,00,000/-
8	Experimental investigation of concentrated direct absorption solar collector (DAC) using nanofluids	Dr. Himanshu Tyagi Assistant Professor Dept. of Mech.Engg.	8,00,000/-
9	Synthesis and recognition properties of new tripodal and "Tetrapodal Framework"	Dr. Narinder Singh, Assistant Professor, Dept. of Chemistry	7,30,000/-

NATIONAL KNOWLEDGE NETWORK

Indian Institute of Technology Ropar has partnered with All India National Knowledge Network as a part of MHRD mission. Connectivity has been successfully established with IIT Delhi. Presently it is being used in for participation in live lectures from IIT Delhi. IIT Ropar has also received Rs.11.8 lacs from National Informatics Centre for setting up of video conferencing facility.



Mechanical Engineering Lab



Electrical Engineering Lab

STUDENTS ACTIVITIES

The students of IIT Ropar take keen interest in sports and various extra curricular activities like singing, dancing, theatre and painting. The spirit of sportsmanship was evident and they brought laurels to the campus. Students celebrated one of the best Holi and Diwalis of their lives with friends and faculty members.

Freshers Night (September 2009)

Freshers Night was organized by the second year students for their juniors. Stunning dance performances, skits, superb singing and delightful mimicry added to the charm of the evening. Also a competitive edge was introduced to the event in the form of three exciting rounds to select Mr. and Ms. Fresher.

Inter IIT Sports Meet

A contingent of 44 players and athletes was sent to the 45th INTER-IIT SPORTS MEET held at IIT Kanpur. In spite of being tagged as a "New IIT" it brought home a Silver medal in Weightlifting and the title of "Mr. IIT" also. Our football team stood a joint fifth with IIT Madras leaving behind IIT Delhi and IIT Guwahati.

Literary Week

A literary week was organized by the literary society (LITSOC) of the college during November 2009. Events such as individual/ group mimicry/ comedy, bilingual debate, spin a yarn, group discussion were organized with an aim to encourage students to improve their soft skills and enhance their stage confidence.

Robotics Workshop

A workshop by Prof. S.K. Saha from IIT Delhi was organized by the Robotics Club to give the students an insight into the challenging world of technology.

Extra curricular activities

Society for Publication and Communication Skills Development, Music Society, Dance Society, Dramatics Society, Society for Literary Activities and Computer Games Society.....



The Central Library of IIT Ropar is functions as the primary information resource and repository for all teaching and research activities at the institute. Apart from textbooks and recommended reading material prescribed for each course offered at the institute, the library houses a growing collection of research monographs, reports, multi-volume reference works, dictionaries, encyclopedias, handbooks, and so on. In addition, the library also facilitates access to a number of journals through its participation in consortia such as INDEST-AICTE. At present, users can consult more than 3500 books (available on shelves) and hundreds of journals (through electronic subscription).

Services

Central Library is offering the following major services:

- (i) Reference
- (ii) Consultation
- (iii) Circulation
- (iv) Electronic Document Delivery
- (v) Inter Library Loan
- (vi) Current Awareness Service (CAS)
- (vii) Selective Dissemination of Information (SDI)
- (viii) Web Online Public Access Catalogue (OPAC)

Working Hours

Week Days:	9:00 am to 12:00 midnight
During Major & Minor Examinations :	9:00 am to 02:00 am

Electronic Resources :

The Central Library of IIT Ropar having access to the following Full-text Electronic Resources and books:

1. American Chemical Society (ACS) Archives
2. American Society for Mechanical Engineers
3. American Society for Civil Engineers
4. American Society for Testing and Materials (ASTM) Standards and Digital Library
5. Association of Computing Machinery (ACM) Digital Library
6. Digital Engineering Library (DEL) - McGraw Hill's E-Books
7. Institute of Electrical and Electronics Engineers (IEEE) Electronic Library - IEL Online
8. Science Direct
9. Springer Link

INFRASTRUCTURE DEVELOPMENT

WORKS CARRIED OUT (TRANSIT CAMPUS)

S. No. Name of work

- | | |
|--|---|
| <ol style="list-style-type: none">1. Boring & Installation2. Renovation work of<ol style="list-style-type: none">i) Administrative Blockii) Workshop Buildingiii) Classroomsiv) Student Hostelsv) Residential accommodation for Faculty & Staffvi) Student Activity Centrevii) Guest Housesviii) Multipurpose Hallix) Libraryx) Medical Centre | <ol style="list-style-type: none">3. Development of Playgrounds :<ol style="list-style-type: none">i) Tennis Courtii) Cricket Groundiii) Hockey Groundiv) Basket Ball Groundv) Volley Ball Groundvi) Football Ground4. Indoor games : Table Tennis & Badminton5. Carpeting of Roads6. Landscaping & Horticulture7. Sewage Treatment Plant8. Water Supply9. Electrical Sub Station with Hot Line Electricity Connection |
|--|---|

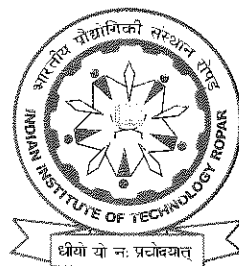
CAMPUS AMENITIES

The Institute has the following facilities in addition to the classrooms, laboratories in the transit campus.

- ★ Separate Hostels for boys and girls with dining facilities, recreation facilities, indoor games and internet connectivity.
- ★ Medical centre with basic medical facilities
- ★ Sports facilities like Cricket Ground, Football Ground, Volley ball Ground, Hockey Ground and Tennis Court indoor games like Table Tennis & Badminton etc.
- ★ Residential accommodation for faculty and staff
- ★ Guest houses
- ★ State Bank of India branch
- ★ Post office







INDIAN INSTITUTE OF TECHNOLOGY ROPAR
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