

1.0 INTRODUCTION

National Institute of Technology Jalandhar was established in the year 1987 as Regional Engineering College and was given the status of National Institute of Technology (Deemed to be University) by the Government of India under the control of Ministry of Human Resource Development, New Delhi on October 17, 2002.

As National Institute of Technology, the institute has a responsibility of providing high quality education in Engineering and Technology to produce competent technical manpower for the country. The institute offers B Tech program in nine disciplines of Engineering and Technology along with research programs leading to M.Sc, M Tech and Ph D. The institute acquires a national character having 50% student intake from the State of Punjab and the rest from other states/union territories of the country.

1.1 Mission Statement

To become a leading and unique institution of higher learning, offering state-of-the-art education, research and training in engineering and technology to students who are able and eager to become change agents for the industrial and economic progress of the nation. To nurture and sustain an academic ambience conducive to the development and growth of committed professionals for sustainable development of the nation and to accomplish its integration into the global economy.

1.2 Objectives

To build a rich intellectual potential embedded with interdisciplinary knowledge, human values and professional ethics among the youth, aspirant of becoming engineers and technologists, so that they contribute to society and create a niche for a successful career

1.3 Education System

- To develop technical human resource of excellence suitable for global requirements
- To ensure good quality academic and industrial research programmes in different areas of engineering, technology and sciences
- To generate industry-institute synergy for shaping technical education to meet the requirement of industry

1.4 New Initiatives

- M Sc program in Mathematics with an intake of 20 students.
- In view of the post graduate programs started in Engineering, Sciences and Management except Leather Technology, institute has already advertised to induct more than 200 teaching positions, for which an Interview shall be conducted in the near future.
- Implementation of OBC reservation in admission in a phased manner w.e.f. July 2008.

2.0 AN OVERVIEW

2.1 Historical Background

National Institute of Technology Jalandhar was established in the year 1987 as Regional Engineering College and was given the status of National Institute of Technology (Deemed to be University) by the Government of India under the control of Ministry of Human Resource Development, New Delhi on October 17, 2002. Since its attaining the status of National Institute of Technology in October 2002, the institute is marching ahead and building on its strengths like modernizing the institutes laboratories, upgrading the faculty sponsoring them for higher studies & short terms training programmes , strengthening interface with industries leading to more and more jobs offers for our students, modernization of the institute library, planning the new institute buildings and so on.

2.2 Location

Jalandhar is an important railway station on Delhi- Amritsar sections of Northern Railways and is situated at about 370 kms north of Delhi. It is also well connected through road route (situated at NH-1). It is renowned industrial centre for sports goods, leather goods and hand tools. The institute is located on GT road, Bye –Pass (leading towards, Amritsar). It is situated at a distance of about 12 kms from Jalandhar Bus Stand, 10 kms from Jalandhar city Railway station and 15 kms from Jalandhar cantt. Railway station and is well accessible through local buses and auto-rikshaw.

2.3 Campus

The institute campus is spread over an area of 154 acres on picturesque land scape. It is a harmonious mix of natural beauty with state of art architecture. The campus is fully residential and having sufficient number of residents for faculty and staff and hostels for students. There are six numbers of boy's hostels and two number of girls hostels. In the campus which can accommodate 1050 boys and 250 girls respectively. Besides this the campus is also having a cricket field, a football ground, volley ball & tennis court, badminton hall, track, table tennis tables and ancillary arrangements for sports activity. In addition to that one Table Tennis table is provided in each hostel. The campus is self contained having shopping complex, computerized Banks, Post office, Faculty Club, Students Activity Center, Guest House, Dispensary and other facilities essential for community living.

2.4 Administration

Dr B R Ambedkar National Institute of Technology, Jalandhar is an autonomous institution under the aegis of Central Government. The institute functions under the overall control and guidance of the Board of Governors, the other authorities of the institute are the Finance Committee, Building and Works Committee and the Senate. The constitutions of the Board of Governors, Finance Committee, Building Works and other Committees are given at Annexure 11.2, 11.3 respectively. The administration of various departments /centers in the institute is looked after by respective head of the departments/Prof-in-charge.

2.5 Academic Programs

In addition to Bachelor's programmes in Engineering, institute also offers Master's and Doctorate programmes in Engineering and Sciences. The academic programs offered by the institute are listed below:-

1. Bachelor of Technology(BTech)
2. Master of Technology (MTech)
3. Master of Technology (Part-time)
4. Master of Science(MSc)
5. Doctorate of Philosophy(PhD)

Academic session

Odd Semester 27th July, 2009 to 17th December , 2009
Even Semester 11th January 2010 to 29th May, 2010

Working hours

During the period under review the institute observed the working hours as under:

Working hours	8.30 a m	to	5.30 p m
	(Monday to Friday)		
Lunch break	12.30 p m	to	1.30 p m

2.6 Courses Offered

The nine major departments have been established with the objective to train the students vigorously in their respective disciplines. Besides these, three Sciences Departments (Physics, Chemistry & Mathematics) and Humanities & Management department coordinates with major departments and provide inputs to the students in addition to their individual identity. More over there is a computer center to cater to the computational needs of the students. The institute has also established center of Training and Placement which arranges in-industry training and campus interviews for the students. The courses offered by the institute are given at Section 4.1

2.7 Admission Procedure

Under Graduate Programme

The admission to undergraduate programmes is provided on the basis of the merit of AIEEE conducted by CBSE through the Central Counselling Board Constituted by MHRD, Government of India. The reservation policy is as per the decision of the MHRD. The eligibility for admission under the home state quota is 10+2 pass in the discipline approved by AICTE from an institution located in Punjab.

Post Graduate Programme

Ph D Programme

Ph D Programmes for Regular Candidates

Master's degree in Engineering/Technology in relevant areas with first class or minimum 60% marks (CGPA 6.5) with valid GATE score, or Master's degree in appropriate branch of Science/Humanities/Social Sciences with first class or minimum 60% marks (CGPA 6.5) with valid GATE score or UGC/CSIR/NET qualified.

Ph D Programmes for Internal Candidates

Faculty/Technical/Scientific staff of NITJ having teaching/industrial experience of more than two years and possessing the same academic qualifications as that for PhD full time scheme are eligible to apply for PhD Programmes. A valid GATE score of UGC/CSIR fellowship is not required.

Ph D Programmes for External Candidates

External candidates specified by Industry/Institute having R & D facility recognized by DST or equivalent/NITJ with industrial experience of two years or more and having same academic qualifications as that for "Ph D programmes for regular candidates" are eligible to apply for PhD Programmes. The valid GATE score of UGC/CSIR fellowship is not required.

Ph D Programmes for Staff under Projects

The project staff working under the projects sponsored by MHRD/DST/UGC or some other government agency and coordinated by the institute's faculty as certified by the Principal Investigator/Coordinator and having the same academic qualifications as that for Ph D Full Time programme are eligible to apply for admission to Ph D Programme provided an adequate financial support for the period of Ph D degree is ensured from project employment or other sources. A valid GATE score of UGC/CSIR fellowship is not required.

2.8 Students

Detail of student's 2005 batch pass out during 2009, at section 4.3

2.9 Examination and Evaluation

The academic system at NIT, Jalandhar is framed on a credit based semester examination system. The credit system envisages a continuous evaluation of student's performance, and provides flexibility for academic progress at an optimum pace based on individual ability and convenience, subject to the constraint of the minimum requirements for continuation in the academic programme. (Details are provided under section 4.8)

2.10 Placement

Placement of final year students (2006-2010 batch)

Campus Interviews were arranged for the final year B.Tech students. A large number of reputed Industrial houses in the country visited the Institution and selected/short listed the final year students as Engineers/Management Trainees. Some of the Companies invited the students to their Corporate Offices for the interviews. (Details are provided under section 4.9)

2.11 Games and Sports

The students entering in the Institute are required to undergo the following non-credit mandatory requirements towards completion of their degree:-

1. N.S.O. (National Sports Organization)
2. N.S.S. (National Service Scheme)

The students have to opt for one of these activities based on the enrolment procedure and their choice. A total of 100 hours of prescribed activities are to be completed after registration in the first year. In case the requirements are not met in the first year, the same shall be completed in the second year i.e. end of the 4th Semester. If a student does not obtain a satisfactory grade in the respective registered course within the first two years of his/her stay at the Institute, he/she will not be registered for the higher semester after second year.

The students will be satisfactorily allowed to register in sports activities of the institute for completing their National Sports Organization requirement in the first year. (Details are provided under section 4.6)

2.12 Staff Position

Sanctioned & Filled posts detail (faculty & staff) as on 31.3.2010

Department/ Centre	Number of Employees							
	Teaching		Non-Teachmg				Total	
	Sancti oned	Actual	Technical		Non-Technical		Sanctio ned	Actual
Sanctio ned			Actual	Sanctio ned	Actual			
Director	01	01						
Professor	30	17						
Asstt. Professor	59	25						
Lecturer	118	61						
Registrar					01	1		
Deputy Registrar					03	--		
Assistant Registrar					03	0		
Chief Medical Officer					01	0		
Senior Medical Officer					02	2		
Assistant Engineer					03	0		
Office Supdt.					05	2		
J.E.					02	2		
Sr. Assistant					05	5		
Sr. Scale Stenographer					01	1		
Hospitality Supervisor					01	1		
Computer Operator					03	3		
Jr. Scale Stenographer					02	2		

Steno-Typist					11	11		
Clerks/Jr. Assistant					21+6	21		
Store Keepers					04	03		
EPABX Operator					03	3		
Receptionist					01	1		
Pharmasist-cum-Dispensor					04	00		
Nurse					04	0		
Dresser					01	1		
Peon/Attendant					17	17		
Chowkidar					05	05		
Sweepers					04	4		
Store Helper					03	03		
Secretary					01	0		
Stenographer					02	0		
Librarian			01	01				
Workshop Supdt.			01	01				
Dy Librarian			01	--				
Assistant Librarian			01	--				
Library Information Assistant			04	--				
Library Assistant			01	01				
System Analyst			01	01				
Sr. Draftsman			01	1				
Tracer			01	1				
Care Taker			01	1				
SAS(Student Activities Sports Officer)			01	0				
Physical Training Officer			01	1				
Asstt. Instructor Workshop			07	7				
Skilled Assistant Workshop			02	02				
Skilled Assistant			16	15				
Lab Technician (Health)			01	1				
Tech. Asstt.			10	04				
Lab Assistant			01	01				
Library Attendant			04	4				
Lab. Attendant/Helper			23	23				
Driver			04	04				
Carpenter			01	01				
Electrician			02	02				
Electrician-cum Meter Reader			01	01				
Sub-Station Attendant			01	01				
Plumber			01	01				
Plumber Helper			01	01				
Sewer Man			01	01				
Book Binder			01	1				
Workshop Helper/Attendant			10	10				
Duplicate Machine Operator			04	04				
Sports attendant			02	02				
Total	208	104	108	94	119	88	435	286

List of Administrative Staff Members

S.No.	Name	Designation
1.	Sh A L Sangal	Registrar
2.	Sh Rajwant Singh	Dy. Registrar
3.	Sh Gurdas Ram	Supdt.
4.	Sh Parbodh Sharma	Supdt.
5.	Sh Anand Kumar	Sr. Asstt.
6.	Sh Rakesh Kakkar	Sr. Asstt.
7.	Ms Harsh Malhotra	Sr. Asstt.
8.	Ms Sarita	Sr. Asstt.
9.	Sh Chaman Lal	Sr. Asstt.
10.	Ms Poonam Arora	Sr. Sc. Steno
11.	Sh Jatinder Singh	Jr. Sc. Steno
12.	Sh Pankaj Sharma	Jr. Sc. Steno
13.	Sh Bhisham Arora	Steno Typist
14.	Ms Sunita Rani-I	Steno Typist
15.	Ms Parveen Kumari	Steno Typist
16.	Sh Balbir Singh	Steno Typist
17.	Sh Ranjit singh	Steno Typist
18.	Ms Kulwinder Kaur	Steno Typist
19.	Ms Asha Rani	Steno Typist
20.	Sh Amarjit Singh	Steno Typist
21.	Sh Jai Dev	Steno Typist
22.	Sh Hardeep Singh	Steno Typist
23.	Ms Sunita II	Steno Typist
24.	Sh Avtar Chand	Driver
25.	Sh Satish Walia	Driver
26.	Sh Gurdeep Singh	Driver
27.	Sh Sant singh	Driver
28.	Sh Rajiv Arora	Jr. Asstt.
29.	Sh Milap Dogra	Jr. Asstt.
30.	Sh Sudesh Kumar	Jr. Asstt.
31.	Ms Sangeeta	Jr. Asstt.
32.	Ms Raminder kaur	Jr. Asstt.
33.	Ms Anita	Jr. Asstt.
34.	Ms Anju	Jr. Asstt.
35.	Sh M.S.Bhalla	Jr. Asstt.
36.	Sh Suresh Kumar	Clerk
37.	Ms Anshu	Clerk
38.	Ms Dimple	Clerk
39.	Ms Pratibha	Clerk
40.	Sh Harmesh Kumar Bhatt	Clerk
41.	Sh V.N.Khanna	Clerk
42.	Sh Rajesh Sharma	Clerk
43.	Sh Sanjeev Kumar	Clerk
44.	Sh Yash Pal	Clerk
45.	Sh Abhay Sharma	Clerk
46.	Ms Nisha Shukla	Clerk
47.	Sh Bhupinder Singh	Clerk
48.	Sh Sunil Kumar	Clerk
49.	Ms Renu	Receptionist
50.	Sh Sansar Chand	Store Keeper
51.	Sh Pargat Singh	Store Keeper
52.	Sh Narinder Kumar	Store Keeper
53.	Ms Soma	DMO
54.	Sh Madan Lal	DMO
55.	Sh Ramesh Chand	DMO

56.	Sh Ganesh Parsad	DMO
57.	Sh Umesh Ram	Attendant
58.	Sh Rajinder Kumar	Attendant
59.	Ms Rajni	Attendant
60.	Sh Kulwant Rai	Attendant
61.	Sh Jagdish Kumar	Attendant
62.	Sh Mathura parsad	Attendant
63.	Sh Ashok Kumar	Attendant
64.	Sh Mohd. Alim	Attendant
65.	Sh Krishan Gir	Attendant
66.	Sh Palvinder Singh	Attendant
67.	Sh Tejvinder Singh	Attendant
68.	Sh Arun Ram	Attendant
69.	Sh Satnam Singh	Attendant
70.	Sh Ram Pal	Attendant
71.	Ms Balwinder Kaur	Attendant
72.	Sh Parvinder Kumar	Attendant
73.	Ms Taro Devi	Attendant
74.	Sh Ranbir Singh	Store Helper
75.	Sh J.S.Rana	Store Helper
76.	Sh Tejinder Singh	Store Helper
77.	Sh Ram Parsad	Chowkidar
78.	Sh Kamta Parsad	Chowkidar
79.	Sh Bhullar Parsad	Chowkidar
80.	Sh Ram Nath	Chowkidar
81.	Sh Ram Kewal	Chowkidar (against Store Helper)
82.	Ms Raj Rani	Sweeper
83.	Ms Sudershna	Sweeper
84.	Sh Santokh Kumar	Sweeper
85.	Sh Sandeep Kumar	Sweeper

List of Technical Staff

Sr.No.	Name	Designation
1.	Sh S P Thapar	Workshop Supdt
2.	Ms Sarbrinder Kaur	Librarian
3.	Ms Daljit Kaur	System Analyst
4.	Sh Tarun Sehgal	Medical Officer
5.	Ms Renu Verma	Medical Officer
6.	Sh Manjit Singh	Tech Asstt
7.	Sh Jaswant Singh	Tech Asstt
8.	Sh Pardeep Kumar	Tech Asstt
9.	Sh Avtar Singh	Tech Asstt
10.	Sh Manjeet Singh	Sr Draftsman
11.	Sh Harpreet Singh	JE (PH)
12.	Sh Anup Gupta	JE (Civil)
13.	Sh R K Shukla	Asstt Instructor
14.	Sh Sukhwinder Singh I	Asstt Instructor
15.	Sh Didar Singh	Asstt Instructor
16.	Sh Bahadur Chand	Asstt Instructor
17.	Sh Gurbachan Singh	Asstt Instructor
18.	Sh Sukhwinder Singh II	Asstt Instructor
19.	Sh Rachhpal Singh	Asstt Instructor
20.	Sh Subhash Yadav	Computer Operator
21.	Sh Ashwani Kumar	Computer Operator
22.	Sh Hemant Thapar	Computer Operator
23.	Sh S K Sayal	PTO

24.	Sh Sukhminder Singh III	Skilled Asstt
25.	Sh Ish Kumar	Skilled Asstt
26.	Sh Navneet Sharma	Skilled Asstt
27.	Sh Kamoj Kumar	Skilled Asstt
28.	Sh Surinder Singh I	Skilled Asstt
29.	Sh Vijay Kumar	Skilled Asstt
30.	Sh Ramesh Kumar	Skilled Asstt
31.	Sh Surinder Singh II	Skilled Asstt
32.	Sh Mahesh Kumar	Skilled Asstt
33.	Sh Gurpreet Singh	Skilled Asstt
34.	Sh Ravinder Singh	Skilled Asstt
35.	Sh Ravi Kumar	Skilled Asstt
36.	Sh Gian Chand	Skilled Asstt
37.	Sh Malkiat Singh	Skilled Asstt
38.	Sh Jagir Singh	Skilled Asstt
39.	Sh Darshan Ram	Skilled Asstt
40.	Sh Ranjit Singh	Skilled Asstt
41.	Sh Hardial Singh	Skilled Asstt
42.	Ms Chhinderpal Kaur	Lab Assistant
43.	Sh Sunil Joshi	Tracer
44.	Sh Amit Kumar	Care Taker
45.	Sh R K Bhardwaj	Lib Asstt
46.	Sh Bikram Chand	Lib Attd
47.	Sh Davinder Kumar	Lib Attd
48.	Sh Mani Ram Yadav	Lib Attd
49.	Ms Jeevan Lata	Lib Attd
50.	Sh Kulwinder Singh	Book Binder
51.	Ms Baljeet Kaur	Dresser
52.	Sh Gurnam Singh	Lab Tech (Health)
53.	Ms Sukhwinder Kaur	EPABX Operator
54.	Sh Rajinder Pathak	EPABX Operator
55.	Sh Tirath Ram	EPABX Operator
56.	Sh Manjit Singh	Electrician
57.	Sh Davinder Singh	Electrician
58.	Sh Shinder Pal Singh	Carpenter
59.	Sh Joga Singh	Plumber
60.	Sh Satish Kumar	Plumber Helper
61.	Sh Balkar Singh	Electrician-cum-Meter Reader
62.	Sh Rajbir Singh	Guest House Supervisor
63.	Sh Sudhir Kumar	Lab Attd
64.	Sh Tarsem Lal	Lab Attd
65.	Sh Nachhatar Singh	Lab Attd
66.	Sh Paramjit Singh	Lab Attd
67.	Sh Ajay Kumar	Lab Attd
68.	Sh Mohinder Pal	Lab Attd
69.	Sh Swinder Singh	Lab Attd
70.	Sh Kuldeep Singh	Lab Attd
71.	Ms Manjeet Kaur	Lab Attd
72.	Ms Aruna Rani	Lab Attd
73.	Mr Rajinder Kumar	Lab Attd
74.	Sh Khushpal Singh	Lab Attd
75.	Sh Sukhminder Singh	Lab Attd
76.	Ms Bimla	Lab Attd
77.	Sh Vijay Kumar I	Lab Attd
78.	Sh Tirlok Singh	Lab Attd
79.	Sh Harvinder Singh	Lab Attd
80.	Sh Harendra Ram	Lab Attd
81.	Sh Malkit Singh	Lab Attd

82.	Sh Sher Singh	Lab Attd
83.	Sh Gurmail Singh	Lab Attd
84.	Sh Shiv Kumar	Lab Attd
85.	Ms Sunita Rani	Lab Attd
86.	Sh Tarsem Singh	Sports Attd
87.	Sh Udhay Bhan	Sports Attd
88.	Sh Talwinder Singh	Sub Stn Attd
89.	Sh Surinder Kumar	Sewerman
90.	Sh A K Tiwari	W/Attd/Helper
91.	Sh Daljit Singh	W/Attd/Helper
92.	Ms Shakuntla	W/Attd/Helper
93.	Sh Ram Kirpal	W/Attd/Helper
94.	Sh R K Mishra	W/Attd/Helper
95.	Sh Sunil Kumar	W/Attd/Helper
96.	Sh Vijay Kumar II	W/Attd/Helper
97.	Sh Dev Dutt	W/Attd/Helper
98.	Sh Bikram Singh	W/Attd/Helper
99.	Sh Jaswant Singh	W/Attd/Helper

2.13 Notable Achievements

(Details at sections 10.2)

3.0 THE STAFF

3.1 Academic Staff (Teaching)

Head of the Departments

Sr No.	Department	Name
1.	Chemistry	Dr B. S. Kaith
2.	Mathematics	Dr Jaspal Singh
3.	Physics	Dr Arvinder Singh
4.	Chemical Engineering	Dr M K Jha
5.	Bio Technology	Dr A K Jana
6.	Civil Engineering	Dr Partap Singh
7.	Computer Centre	Dr Ajay Sharma
8.	Computer Science and Engineering	Dr Ajay Sharma
9.	Electronics and Communication Engineering	Dr R K Sarin
10.	Humanities and Management	Mr Sarabjit Singh Bedi
11.	Instrumentation and Control Engineering	Dr R Jha
13.	Industrial & Production Engineering	Dr Arvind Bhardwaj
14.	Mechanical Engineering	Dr Joseph A. Vaz
15.	Textile Technology	Dr J. N. Chakraborty
16.	Centre of Training and Placement	Dr P K Chatley

Committees

Besides above the institute has planned various other activities, which were accomplished through committees listed below during the period under report.

S No	Name of the Committee	Chairman
1.	Discipline committee of senate	Professor S B S Mishra
2.	Senate committee on academic affairs	Professor S Ghosh
3.	Core committee on curriculum	Professor S B S Mishra
4.	Institute Purchase committee	Professor R Jha
5.	House Allotment committee	Professor S Ghosh

6.	Library committee	Professor N C Kothiyal
7.	Institute budget committee	Professor S B S Mishra
8.	Convocation committee	Professor R Jha
9.	Mock Accreditation Committee	Professor P K Chatley
10.	Committee for B Tech admissions and AIEEE	Professor A L Sangal
11.	Office automation and computerization	Professor A L Sangal
12.	Alumni activities	Professor Arvinder Singh
13.	TEQIP CELL	Professor Rakesh Chandra
14.	HRD and Hindi Cell	Professor A L Sangal
15.	Clubs and Hobbies	Professor N C Kothiyal
16.	Sports	Professor Rakesh Chandra

Faculty and staff

The faculty and staff of each department/centre is run by respective Head of the department/ Prof In – charge along with faculty members. They plan the curriculum and provide essential inputs to the students in the related area. The faculty and staff and their academic qualifications are listed as under:

Departments

Biotechnology

Dr. A. K. Jana	Associate Professor
Mr. Nitin Basak	Assistant Professor

Chemical Engineering

Dr.M.K.Jha	Professor and Head
Dr.Apurba Dey	Associate Professor (on lien at NIT Durgapur)
Dr.Ajay Bansal	Associate Professor
Ms.Renu Gupta	Associate Professor
Ms.Sangeeta Garg	Associate Professor
Ms. Poonam Gera	Associate Professor
Mr.N.K.Srivastava	Assistant Professor
Mr.S. Bajpai	Assistant Professor
Ms.Rubal Preet	Assistant Professor (On Study Leave)
Mr. Jatinder Kumar	Assistant Professor (On Study Leave)

Chemistry

Professor R P Rastogi	Visiting Professor
Dr. S B S Mishra	Professor
Dr. B S Kaith	Professor & Head
Dr N C Kothiyal	Professor
Dr Harsh Kumar	Assistant Professor
Dr Jaspreet Rajput	Assistant Professor
Dr. Rajeev Jindal	Associate Professor
Dr. Sangeeta Obrai	Assistant Professor
Ms Shivani Jindal	Assistant Professor
Ms Rekha Gaba	Assistant Professor

Mathematics

Dr. Sheo Kumar	Professor & Head
Dr. Jaspal Singh	Professor
Dr. Damanjeet Kaur	Associate Professor
Mrs. Geeta Pratap	Associate Professor
Mrs. Alka Bhalla	Associate Professor
Dr. Raghav.R. Sinha	Assistant Professor

Physics

Dr Arvinder Singh	Professor & Head
Dr Sarabjeet Singh	Professor
Dr H M Mittal	Associate Professor
Dr Rohit Mehra	Assistant Professor
Ms Jyoti Bharj	Assistant Professor
Dr Harleen Dahiya	Assistant Professor
Dr Praveen Malik	Assistant Professor

Civil Engineering

Dr.A.K.Agnihotri	Professor
Dr.A.P.Singh	Professor
Dr.Partap Singh	Professor
Dr.S.P.Singh	Professor
Sh.Davinder Singh	Assistant Professor
M/s Shailja Bawa	Assistant Professor
Mr Rizwan Ahmed Khan	Assistant Professor

Computer Science and Engineering

Prof. Ajay Sharma	Professor
Prof. A. L. Sangal	Professor
Dr. Harsh K Verma	Professor
Renu Dhir	Associate Professor
D K Gupta	Associate Professor
Geeta Sikka	Assistant Professor
Rahul Aggarwal	Assistant Professor
Rajneesh Rani	Assistant Professor

Electronics and Communication Engineering

Dr.R.K.Sarin	Professor & Head
Dr.Arun Khosla	Associate Professor
Mrs.Mamta Khosla	Associate Professor
Sh.B.S.Saini	Asstt Professor
Sh.Ramesh Sunkaria	Asstt Professor
Sh. Ashish Raman	Asstt Professor
Ms Deepti Kakkar	Asstt Professor
Ms. Indu Saini	Asstt Professor
Ms Neetu Sood	Asstt Professor

Humanities and Management

Prof S J S Bedi	Associate Professor & Head
Mr Jagwinder Singh	Assistant Professor
Dr Kumar Parag	Assistant Professor
Mr Aditya Prakash	Assistant Professor
Dr Sanjeev Gupta	Assistant Professor

Instrumentation and Control Engineering

Dr R Jha	Professor and Head
Dr A K Jain	Associate Professor
Mr Narinder Singh	Associate Professor
Dr Dilbag Singh	Associate Professor
Mr S K Pahuja	Associate Professor
Mrs Roop Pahuja	Associate Professor
Mrs Sheela Tiwari	Assistant Professor
Mrs Paramjit Kaur	Assistant Professor
Mr Rajesh Singla	Assistant Professor
Mr Kuldeep Singh	Assistant Professor

Industrial & Production Engineering

Dr.Arvind Bhardwaj	Professor
Dr.R.K.Garg	Professor
Dr.Rajiv Sharma	Associate Professor
Dr.Vishal S Sharma	Associate Professor
Mr.Ajay Gupta	Associate Professor
Mr.R.K.Bansal	Associate Professor
Mr.Sarabjit Singh Bal	Associate Professor
Mr. Anish Sachdeva	Assistant Professor
Mr.Lakhwinder Pal Singh	Assistant Professor

Mechanical Engineering

Dr Joseph Anand Vaz	Professor & Head
Dr. Rakesh Chandra	Professor
Dr Subhash Chander	Associate Professor
Sh Ajay Trehan	Assistant Professor
Sh Rajeev Kukreja	Associate Professor
Dr. Pramod Kumar	Associate Professor
Dr R.S. Bharj	Associate Professor
Sh D.K. Shukla	Assistant Professor
Sh Raman Bedi	Assistant Professor
Sh S.K.Tiwari	Assistant Professor

Textile technology

S.Ghosh	Professor
J N Chakraborty	Professor & Head
S.K.Sinha	Associate Professor
A.Mukhopadhyay	Associate Professor
A.Chatterjee	Associate Professor
N.Bhowmick	Associate Professor
M D Roy	Associate Professor

A K Choudhary	Associate Professor
V K Midha	Associate Professor
Monica Sikka	Asstt.Professor
K V P Singh	Asstt.Professor

Centres

Computer Centre

Dr.Ajay Sharma	Professor Incharge
Mrs Daljeet Kaur	System Analyst

Training and Placement

Dr.P.K.Chatley	Professor
Sh.Rajiv Trehan	Assistant Professor

Other Facilities

Library

Sarbrinder Kaur	Librarian
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Workshop

Sh S P Thapar	Workshop Supdt
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Sports

Dr Gurmej Singh	Associate Professor
Sh S K Syal	Physical Training officer

Administrative and Other staff

The general administration of the institute is as under

General Administration

Dr A L Sangal	Registrar
Dr. Rohit Mehra	Deputy Registrar

Hostel Administration

There are 7 boys and 2 girls' hostels which are looked after by respective wardens. However the overall administration rests with the chief warden. The hostel administration is looked after by the faculty as under:

Dr. S K Sinha	Chief Warden and Proctor
Dr Ajay Bansal	Deputy Chief Warden and Warden Hostel III
Mr Vinay Midha	Warden Hostel I
Mr Subash Chander	Warden Hostel II
Mr S Bajpai	Warden Hostel IV
Mr Kuldeep Singh	Warden Hostel V
Dr. Aditya Parkash	Warden Hostel VI
Dr. Anish Sachdeva	Warden Hostel VII
Dr. Jaspreet Rajput	Warden Hostel GH-I
Ms. Daljit Kaur	Warden Hostel GH-II

Dispensary

The institute health needs were looked after by the medical staff as under:

	Actual
SMO	02
Dresser	01
Lab Technician Health	01

Estate office

Estate office (officiating)	Mr. Harpreet Singh
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3.2 Non-Academic Staff (Non-teaching)

Detail at Section 2.12

3.3 Training Status

47 faculty members attended various training programs/workshops etc during the report period.

3.4 Placement of staff for Academics excellence

No provision for long leave but they are allowed for short duration courses.

4.0 TEACHING PROGRAMMES

4.1 Courses Offered

Undergraduate Programmes

Four year Bachelor of Technology (B Tech) Programmes:

- Bio Technology
- Chemical Engineering
- Civil Engineering
- Computer Science and Engineering
- Electronics and Communication Engineering
- Industrial and Production Engineering
- Instrumentation and Control Engineering
- Mechanical Engineering
- Textile Technology

Post Graduate and Research Programmes:

Two year regular M Tech Programmes

- Chemical Engineering
- Computer Science and Engineering
- Control and Instrumentation Engineering
- Electronics and Communication Engineering
- Manufacturing Technology
- Mechanical Engineering
- Structural and Construction Engineering
- Textile Engineering and Management
- VLSI

Three and half year Part-time M Tech Programmes

- Computer Science & Engineering
- Civil Engineering

- Industrial & Production Engineering
 - Material Science and Technology
- Two year regular M Sc Programmes

- Chemistry
- Physics
- Mathematics

Ph D Programmes

The Institute offers Ph D programmes (Part Time and Full time) in all the disciplines.

4.2 Degree awarded during the year 2009-2010:

B Tech (2005 Batch)

Sr.No.	Branch	No. of Degrees Awarded
1.	Chemical & Bio Engineering	52
2.	Civil Engineering	21
3.	Computer Science & Engineering	56
4.	Electronics & Communication Engineering	61
5.	Industrial Engineering	27
6.	Instrumentation & Control Engineering	59
7.	Mechanical Engineering	58
8.	Textile Technology	38
9.	Leather Technology	12
TOTAL		384

M Tech (Full Time)

Sr.No.	Branch	No. of Degrees Awarded
1	Chemical & Bio Engineering	04
2	Civil Engineering	05
3	Computer Science & Engineering	12
4	Electronics & Communication Engineering	09
5	Instrumentation & Control Engineering	11
6	Material Technology	05
7	Mechanical Engineering	09
8	Textile Technology	01
TOTAL		56

M Tech (By Research)

Sr.No.	Branch	No. of Degrees Awarded
1	Chemical Engineering	01
2	Computer Science and Engineering	01
3.	Electronics & Communication Engineering	01
4.	Mechanical Engineering	01
TOTAL		04

M Sc

Sr.No.	Branch	No. of Degrees Awarded
1	Physics	10
2	Chemistry	13
3.	Mathematics	05
TOTAL		28

Ph D

Sr.No.	Branch	No. of Degrees Awarded
1	Instrumentation & Control Engineering	01
2	Mechanical Engineering	02
3	Textile Technology	02
TOTAL		05

4.3 Admission Statistics-UG/PG Programmes, Course wise with sex, caste break-up

B TECH 2009 BATCH																													
S.No.	Branch	CCB	Open			OBC			SC			ST			MHRD			DASA			Non NIT			MEA			Total		
			B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
1	CE	82	38	3	43	17	1	18	13	0	13	6	0	6	1	0	1	2	0	2	0	0	0	1	0	1	79	5	84
			1PH	1PH																									
2	CS	82	34	12	46	13	3	17	10	2	12	4	2	6	0	1	1	0	0	0	3	1	4	3	0	3	68	21	89
						1PH																							
3	EC	82	27	16	43	16	1	18	11	4	15	4	2	6	1	0	1	2	0	2	4	1	5	7	0	7	73	24	97
						1PH																							
4	IC	82	29	17	47	16	1	17	9	3	12	5	1	6	0	0	0	0	0	0	0	1	1	0	0	0	59	24	83
				1PH																									
5	ME	82	43	1	46	17	0	18	12	0	12	6	0	6	2	0	2	3	0	3	3	0	3	3	0	3	91	1	92
			2PH																										
6	TT	81	1	0	1	3	0	3	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	6	0	6
7	BT	41	1	2	3	2	1	3	1	1	2	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	4	7	11
8	CM	81	25	6	31	17	5	22	8	3	11	5	1	6	0	0	0	0	0	0	2	0	2	0	0	0	57	12	72
9	IP	81	13	1	14	16	0	16	11	1	12	5	1	6	0	0	0	0	0	0	2	0	2	0	0	0	48	3	50
TOTAL		694	214	60	274	119	12	131	76	14	90	35	10	45	4	1	5	7	0	7	15	3	18	14	0	14	484	100	584

M TECH –2009 BATCH (Full Time)

Discipline	Sanctioned Intake	Total students Enrolled			SC Category			ST Category			OP Category			OBC/ SPON & NRI		
		B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
Chemical Engineering		07	00	07	02	00	02	00	00	00	04	00	04	01	00	01
Structural & Const. Engg.		09	01	10	01	00	01	00	00	00	06	01	07	02	00	02
Computer Sc. & Engg.		17	04	21	02	01	03	01	00	01	10	03	13	04	00	04
Electronics & Comm. Engg.		10	02	12	02	00	02	00	00	00	05	02	07	03	00	03
VLSI		08	00	08	01	00	01	00	00	00	06	00	06	01	00	01
Manufacturing Technology		07	00	07	02	00	00	00	00	00	03	00	03	02	00	02
Control & Inst. Engg.		11	02	13	02	00	02	00	00	00	06	02	08	03	00	03
Mechanical Engineering		15	00	15	03	00	03	00	00	00	09	00	09	03	00	03
Textile Engineering & Mgt.		09	02	11	02	00	02	00	00	00	07	01	07	00	01	01
Total		93	11	104												

M TECH –2009 BATCH (Part Time)

Computer Sc. & Engg.		06	05	11	01	00	01	00	00	00	02	05	07	03	00	03
Indl. & Prod. Engg.		06	00	06	00	00	00	00	00	00	06	00	06	00	00	00
Textile Technology		03	01	04	00	00	00	00	00	00	03	01	04	00	00	00
Total		15	06	21												

M Sc –2009 BATCH

Discipline	Sanctioned Intake	Total students Enrolled			SC Category			ST Category			OP Category			OBC/ SPON & NRI		
		B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
Chemistry		03	10	13	01	00	01	00	01	01	02	09	11	00	00	00
Physics		02	03	05	02	00	02	00	00	00	00	02	02	00	01	01
Mathematics		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Total		05	13	18												

Ph D –2009 BATCH (Full Time)

Discipline	Sanctioned Intake	Total students Enrolled			SC Category			ST Category			OP Category			OBC/ SPON & NRI		
		B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
Physics		01	02	03	00	00	00	00	00	00	00	02	02	01	00	00
Chemistry		01	02	03	00	00	00	00	00	00	01	02	03	00	00	00
Mathematics		01	00	01	00	00	00	00	00	00	00	00	00	01	00	00
Chemical Engineering		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Civil Engineering		01	01	02	00	00	00	00	00	00	01	01	02	00	00	00
Computer Sc. & Engg.		02	02	04	01	00	01	00	00	00	01	02	03	00	00	00
Electronics & Comm. Engg.		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Industrial & Prod. Engg.		02	00	02	01	00	00	00	00	00	01	00	01	00	00	00
Inst. & Control Engg.		01	00	01	01	00	01	00	00	00	00	00	00	00	00	00
Mechanical Engineering		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Textile Engineering & Mgt.		01	00	01	00	00	00	00	00	00	01	00	01		00	00
Total		10	07	17												

Academic Session: Odd Semester: 27th July, 2009 to 5th December, 2009. Even Semester: 11th January, 2010 to 4th June, 2010

Ph D –2009 BATCH (Part Time)

Discipline	Sanctioned Intake	Total students Enrolled			SC Category			ST Category			OP Category			OBC/SPON & NRI		
		B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
Physics		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Chemistry		00	01	01	00	00	00	00	00	00	00	01	01	00	00	00
Mathematics		01	00	01	00	00	00	00	00	00	01	00	01	00	00	00
Bio Technology		01	00	01	00	00	00	00	00	00	01	00	01	00	00	00
Chemical Engineering		03	00	03	00	00	00	00	00	00	03	00	03	00	00	00
Civil Engineering		00	01	01	00	00	00	00	00	00	00	01	01	00	00	00
Computer Sc. & Engg.		02	02	04	00	00	00	00	00	00	02	02	04	00	00	00
Electronics & Comm. Engg.		01	00	01	00	00	00	00	00	00	01	00	01	00	00	00
Industrial & Prod. Engg.		03	00	03	00	00	00	00	00	00	03	00	03	00	00	00
Inst. & Control Engg.		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Mechanical Engineering		02	00	02	00	00	00	00	00	00	02	00	02	00	00	00
Textile Engineering & Mgt.		00	01	01	00	00	00	00	00	00	00	01	01	00	00	00
Total		13	05	18												

4.4 The Hostels

There are seven numbers of boy's hostels and two number of girls hostels. In the campus which can accommodate 1050 boys and 250 girls respectively.

4.5 Scholarships/Assistance-ship

(Refer Annexure 11.9)

4.6 Games and Sports

1. SPECIAL REQUIREMENT FOR DEGREE:

The students entering in the Institute are required to undergo the following non-credit mandatory requirements towards completion of their degree:-

1. N.S.O. (National Sports Organization)
2. N.S.S. (National Service Scheme)

The students have to opt for one of these activities based on the enrolment procedure and their choice. A total of 100 hours of prescribed activities are to be completed after registration in the first year. In case the requirements are not met in the first year, the same shall be completed in the second year i.e. end of the 4th Semester. If a student does not obtain a satisfactory grade in the respective registered course within the first two years of his/her stay at the Institute, he/she will not be registered for the higher semester after second year.

The students will be satisfactorily allowed to register in sports activities of the institute for completing their National Sports Organization requirement in the first year.

Sports is an important activity for overall development of the students. It has to be carried out in order to promote spirit of Sportsmanship amongst the students and is essentially an activity, which encourages sense of healthy competition feeling of love and to work in unison. Further the sports calendar crowded with sporting games/events is promoting enthusiasm in the day-to-day campus life of the students. The Department of Physical Education and Sports is geared to achieve the following motives: -

- a) *Healthy mind in a healthy body*
- b) *Fit people Fit Nation*
- c) *Make-sports a way of life.*

The institute at present is providing facilities in number of outdoor and indoor games to be the budding engineering students.

2. OUTDOORS GAMES FACILITIES (BOYS & GIRLS) - :

SR. NO.	OUTDOOR GAMES	FACILITIES AVAILABLE
1	Athletics	400 meter Standard Track & Field
2	Cricket	Standard Cricket ground
3	Football	Standard Football ground
4	Basket ball	Two Basket Ball Standard Cemented Courts with Full Flood Lights & Sitting Arrangement
5	Volley ball	Three Volleyball standard grounds with Full Flood Lights & Sitting Arrangement
6	Lawn Tennis	Two Lawn Tennis Cemented courts With Full Flood Lig

3. INDOOR GAMES FACILITIES (BOYS & GIRLS) - :

SR. NO.	INDOOR GAMES	FACILITIES AVAILABLE
1	Badminton	Indoor Badminton Hall with three Badminton courts & Lights
2	Table Tennis	T.T. Table is available in each hostel in addition to that Six tables are available in the Indoor Badminton hall with Lights.
3	Carom	Covered space is available in each hostel in addition to that Carom Boards are available in the Indoor Badminton Hall with Lights.
4	Chess	Covered space is available in each hostel in addition to that Chess Boxes are available in the Indoor Badminton Hall with Lights.

4. WEIGHT TRAINING GYM. FACILITY - :

1	Multipurpose Modern Weight facilities	Weight training gymnasium is available in the students Activity Centre, fully equipped with Modern Weight Training equipments.
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5. SPORTS ACHIEVEMENTS AT INTER - NIT's , IIT's & UNIVERSITIES LEVEL

Sr. No.	Name of Tournament	Game	Date	Position												
1	Inter – University North Zone Basketball (Men) Championship 2009-10 held at NIT Campus, Jal	Basketball	23/10/09 to 28/10/09	Successfully Organized												
2	Annual Athletics Meet (Boys & Girls) 2009-10 organized by Sports Deptt. NIT Campus, Jal	Annual Athletics Meet	06/11/09 to 07/11/09	Successfully Organized												
3	All India Inter - NIT Basketball (Men) Tournament held at NIT, Hamirpur	Basketball	13/11/09 to 14/11/09	Runner-up												
4	All India Inter – NIT Football (Men) Tournament held at NIT, Hamirpur	Football	12/12/09 to 14/12/09	Runner-up												
5	Inter – University North Zone Cricket (Men) championship 2009-10 held at Punjabi Uni. Patiala	Cricket	20/12/09 to 30/12/09	Participation												
	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Match Between</th> <th>Winne</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>NITJ V/s GJU, Hisar</td> <td>NITJ</td> </tr> <tr> <td>2.</td> <td>NITJ V/s LPU, Jal</td> <td>NITJ</td> </tr> <tr> <td>3.</td> <td>NITJ V/s Punjabi Uni. Pat</td> <td>Punjab Uni. P</td> </tr> </tbody> </table>	Sr. No.	Match Between	Winne	1.	NITJ V/s GJU, Hisar	NITJ	2.	NITJ V/s LPU, Jal	NITJ	3.	NITJ V/s Punjabi Uni. Pat	Punjab Uni. P			
Sr. No.	Match Between	Winne														
1.	NITJ V/s GJU, Hisar	NITJ														
2.	NITJ V/s LPU, Jal	NITJ														
3.	NITJ V/s Punjabi Uni. Pat	Punjab Uni. P														

6	All India Inter- NIT Volleyball (Men) Tournament held at MNIT, Jaipur		Volleyball	19/02/10 to 21/02/10	Runner-up	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s ECB, Bikaner				NITJ
	2.	NITJ V/s NIT, Hamirpur				NITJ
	3.	NITJ V/s BITS, Pilani				NITJ
4.	NITJ V/s MNIT, Jaipur	MNIT				
7	All India Inter- NIT Badminton (Men) Tournament held at MNIT, Jaipur		Badminton	19/02/10 to 21/02/10	Runner-up	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s LNMIIT				NITJ
	2.	NITJ V/s GEC, Ajmer				NITJ
	3.	NITJ V/s NIT, Hamirpur				NITJ
4.	NITJ V/s MNIT, Jaipur	MNIT				
8	All India Inter- NIT Badminton (Girls) Tournament held at MNIT, Jaipur		Badminton	19/02/10 to 21/02/10	Participation	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s GEC, Ajmer				NITJ
2.	NITJ V/s BITS, Pilani	BITS, Pilani				
9	All India Inter- NIT Table Tennis (Girls) Tournament held at MNIT, Jaipur		Table Tennis	19/02/10 to 21/02/10	Participation	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s MNIT, Jaipur				NITJ
2.	NITJ V/s LMNIIT	LMNIIT				
10	All India Inter NIT ^s & IIT ^s Sports Festival Sangram 10 for Cricket (Men) held at IIT Roorkee		Cricket	11/03/10 to 14/03/10	Runner-up	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s IITR – A				NITJ
	2.	NITJ V/s JSS, Noida				NITJ
3.	NITJ V/s IITR – B	IITR -				
11	All India Inter NIT ^s & IIT ^s Sports Festival Sangram 10 for Football (Men) held at IIT Roorkee		Football	11/03/10 to 14/03/10	Participation	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s JP Guna				TIE
2.	NITJ V/s Graphic Era	Graph Era				

12	All India Inter NIT ^s & IIT ^s Sports Festival Sangram 10 for Table Tennis (Men) held at IIT Roorkee		Table Tennis	11/03/10 to 14/03/10	Participation	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s Ajmer College				NITJ
	2.	NITJ V/s JP GUNA				NITJ
	3.	NITJ V/s MMEC				NITJ
4.	NITJ V/s IITR	IITR				
13	All India Inter NIT ^s & IIT ^s Sports Festival Sangram 10 for Lawn Tennis (Men) held at IIT Roorkee		Lawn Tennis	11/03/10 to 14/03/10	Participation	
	<i>Sr. No.</i>	<i>Match Between</i>				<i>Winner</i>
	1.	NITJ V/s COER				NITJ
	2.	NITJ V/s SGSITS, Indore				NITJ
	3.	NITJ V/s IITR				IITR

6. INTER - YEAR TOURNAMENT:

Sr. No.	Name of Game	Date	Year	Position
1	Lawn Tennis (Men)	16/11/09 to 18/11/09	Final Year IIIrd Year IIInd Year	Winner Runner-up Third
2.	Lawn Tennis (Women)	19/11/09 to 21/11/09	IIIrd Year IIInd Year	Winner Runner-up
2	Volleyball (Men)	30/03/10 to 05/04/10	IIInd Year IIIrd Year Ist Year	Winner Runner-up Third
3	Chess (Men)	29/03/10 to 31/03/10	1st Year IIInd Year Final Year	Winner Runner-up Third

7. ANNUAL ATHLETICS MEET 2009-10:

The Annual Athletics meet of the Institute was organized from November 06-07, 2009. In all, 14 formal events for Boys and 10 events for Girls were held. **Director, Prof. & Dr. Moin Uddin**, as a Chief Guest inaugurated the meet on November 6, 2009.

Mr. Navdeep Singh Rana 3rd year student, Department of Chemical & Bio Engineering and **Ms. Dilpreet Kaur** 1st year student Department of Chemical Engineering were adjudged the Best Athletes.

A part from the above events participated in 100 meters Race Faculty. **Prof. Ajay Gupta**, Department of Industrial & Production Engineering is First, **Prof. S.S. Bedi** Head, Department of Humanities & Management First Position in Shot put, **Mr. Uday Bhan**, Sports Attendant First position in 100 meters staff race.

Result's of Annual Athletics meet:

1st Place	:	2nd year (Shivalik House) with 83 Points.
2nd Place	:	1st year (Vindyachal House) with 76 Points.
3rd Place	:	3rd year (Himalya House) with 72 Points .

8. Inter–University North Zone Basketball (Men) Championship 2009-10:

The North's Biggest Tournament, Inter University North Zone Basketball (Men) Championship 2009-10, organized from 23rd October to 28th October, 2009 in the institute Campus. **Total 29 Teams participated in this grand and historic tournament.** NIT Jalandhar host this championship successfully. The tournament will be held at Two New Basketball Courts (with full flood lights & Sitting Arrangement) in the campus. **S. Sajan Singh Chemma, Senior Superintend of Police Vigilance, Jalandhar Zone and an Arjun Awardee for Basketball** , as a Chief Guest, inaugurated the tournament on 23rd October 2009. The tournament is organized under the patronage of the **Director, Prof. & Dr. Moin Uddin**, an accomplished sportsman himself. At the time of closing ceremony NIT **Director, Prof. & Dr. Moin Uddin** was chief guest. Trophies were given to the winning teams (1st , 2nd , 3rd & 4th) which are qualified for All India Inter – Zonal Championship. Behavior of the managers, coach and team players was very cooperative. The tournament was conducted in the basketball courts in as clam and peaceful atmosphere.

Result's of Tournament

Winner	:	Delhi University, Delhi
Runners-Up	:	Panjab University, Chandigarh
3rd Place	:	Kurukshetra University, Kurukshetra
4th Place	:	Punjabi University, Patiala

9. N.S.S (NATIONAL SERVICE SCHEME)

The overall aim of National Service Scheme (N.S.S) is to provide an extension dimension to the higher education system and orient young students to community service while they are in the institution.

The broad objectives of N.S.S in the institute are:

1. To make the students understand the community to which they belong
2. To identify the needs and problems of the community and to involve themselves in problem solving process
3. To develop among them a sense of social and civic responsibility
4. To utilize their knowledge in finding practical solution to individual and community problems

4.7 Awards

One Chairperson's Gold Medal and nine institute silver medals were given at the Convocations to the topper students.

4.8 Examination Details

The academic system at NIT, Jalandhar is framed on a credit based semester examination system. The credit system envisages a continuous evaluation of student's performance, and provides flexibility for academic progress at an optimum pace based on individual ability and convenience, subject to the constraint of the minimum requirements for continuation in the academic programme.

The student is awarded a letter grade from the prescribed grading system in each course registered

by him. For each pass grade, the students accumulate the course credits as earned credits. The academic performance of the student is indicated in terms of the number of credits that he/she earns and the weighted grade point average. A specified minimum number of credits should be acquired on semester or session basis in order to qualify for continuation in the academic programme and the award of degree.

Credits

Each lecture/tutorial hour per week per semester is assigned one credit. Each laboratory hour per week per semester is assigned half credit. However, some courses are preparatory in nature and have half the credit weightage of a normal course. The courses without credit are termed as noncredit (NC) courses.

Grades

In grading system, the evaluation in terms of marks is replaced by the award of letter grades. The structure and guidelines for award of grades is given.

Grade	Points	Description of Performance	Recommended Cut Off marks *
S	10	Outstanding	90
A	09	Excellent	80
B	08	Very Good	70
C	07	Good	60
D	06	Average	50
E	04	Marginal	40
U	-	Unsuccessful	-
I	-	Incomplete	-
W	-	Withheld due to shortage of attendance or withdraw	-
NP	-	Audit Pass	-
NF	-	Audit Fail	-

- Subject to confirmation based on standard deviation, if the sample size is greater than 20, and is flexible to the recommendation of the individual course coordinators with proper justification.

The grades will be awarded to a student in each registered course including a laboratory course, based on his/her performance evaluated through a prescribed scheme of evaluation. In theory courses the evaluation is weighted on class tests, tutorial work, home assignment and semester examinations in prescribed proportions. The recommended weightage for class tests is 30%-40%, assignments/tutorial work is 10%-20% and End Semester Exam is 50%. In the laboratory and practical classes, it would be weighted equally on the basis of regular practical work and an examination conducted for the purpose. The credits for the courses in which a student has obtained "E" (minimum passing grade for a course) or a higher grade will be considered as credits earned by him/her. In addition, courses up to a maximum of 8 credits in case of B Tech students in which a student has got "NP" grade will also count towards his/her earned credits. Any course in which a student has obtained "W" or "NF" grade will not be counted towards his/her earned credits.

For the other (elective) courses in which "U" "W" grade have been obtained, the student may take the same course or any other course from the same category when it is offered next. Further, "U" grades secured in any course stay permanently on the grade card. The weightage of these grades is not counted in the calculation of the SGPA and CGPA.

An "I" grade denotes incomplete performance in any course due to absence at the end of semester. Upon completion of all course requirements, the "I" grade is converted to a regular grade.

These grades (NP and NF) are awarded in a course that the student opts to audit. Audit applications are allowed during the first four weeks of a semester. The audit pass (NP) grade is awarded if a minimum "E" grade is obtained in the course and attendance is above 75% in the classes. If either of these requirements is not fulfilled, the audit fail (NF) grade is awarded. In courses, where NP grade is obtained, the corresponding course credits are counted towards earned credits. The grades obtained in an audit course are not considered in the calculation of SGPA or CGPA.

A "W" grade is awarded in a course where the student has opted to withdraw from the course. Withdrawal from a course is permitted until one week after the class test-I.

Grade Point Averages

The performance of a student will be evaluated in terms of two indices, viz. the Semester Grade Point Average (SGPA) which is the Grade Point Average for a semester and Cumulative Grade Point Average (CGPA) which is the Grade Point Average for all the completed semesters at any point of time. The SGPA is calculated on the basis of grades obtained in all courses, except audit courses, registered for in the semester.

$$\text{SGPA} = \frac{\text{(Course credits x Grade point) except audit courses}}{\text{(Course credits) except audit courses Sem.}}$$

The CGPA is calculated on the basis of all pass grades, except audit courses obtained in all completed semesters.

$$\text{CGPA} = \frac{\text{(Course credits x Grade point) for courses with pass grade except audit Sem courses}}{\text{(Course credits) of courses with pass grade except audit courses Sem}}$$

Degree Requirements

For obtaining a degree in a 4 year B Tech programme, the following requirements are to be satisfied:-

1. Earn required 200 credits in all
2. Obtain a minimum Cumulative Grade Point Average (CGPA) of 5.0
3. Complete the requirements of all courses under different categories as prescribed in the Syllabi.
4. Complete the prescribed practical training satisfactorily.
5. Complete the requirement of attending NCC/NSS/NSO activities in their first year or at best by the end of 2nd year (4th semester) satisfactorily.
6. Must have earned the pass grade in discipline courses.

Rules and Regulations for B. Tech Programmes

Registration

Registration is an important procedural part of the academic system which ensure the willingness of the student to continue in the course of study in the institute. No credit is given to the student who attends a course without a formal registration. The name of the registered student only appears on the roll list of the courses registered. Pre-registration for each semester will be done according to a specified schedule prior to the end of the previous semester and paying the requisite tuition fee to the institute. In absentia registration will be allowed only in rare cases at the discretion of Dean (Academic Programme). In case of illness or absence during registration, the student should intimate the same to the Dean (Academic Programme). Each student will be given a Registration Record which will be an official record of courses registered. Add, Drop, Withdrawal and Audit will be marked on this sheet itself by the Academic Section. The Registration Record should be retained by the student until he/she gets the Semester Grade Card for the corresponding semester.

Advice on Courses

At the time of completing the Registration Form, each student should consult his/her HOD concerned to finalize the academic programme, keeping in view minimum/maximum numbers of total and lecture credits, past performance, backlog of courses, SGPA/CGPA, workload and students interests. Special provisions exist for academically weak students.

Limits on Registered Credits

A student must register for a minimum of 15 credits and a maximum of 30 credits in a semester wherein theory credits registered by a student should not be less than 9 credits. There is a minimum number of student registration required to run an elective course and will be decided by the department concerned from time to time.

Late Registration

1. For those students who were not on campus during the period of registration in the previous semester, registration procedure will be completed on a later date with permission of the Dean, Academic Programmes.
2. For reasons beyond his/her control, if a student is not able to register or send an authorized representative with a medical certificate, he/she may apply to the Dean (Academic Arrairs) for late registration. The Dean will consider and may approve late registration in genuine cases on payment of an extra fee of Rs.500/-. Late registration is allowed until one week after the start of the semester.

Addition, Deletion, Audit and Withdrawl from Courses

1. Add and Drop: A student has the option to add or delete courses from his/her registration during the first week of the semester.
2. Audit: A student may also apply for changing a credit course to an audit one within one week of the end of the first class test.
3. Withdrawal: A student who wants to withdraw from a course should apply on a prescribed form within one week of the end of the first class test. A withdrawal grade (W) will be awarded in such cases.

Attendance Requirement

1. All students must attend every lecture, tutorial and practical class. However, to account for late registration, sickness or other such contingencies, the attendance requirement will be a minimum of 75% of the scheduled classes.
2. A student with less than 75% attendance in a course during a semester, will be awarded a W grade in that course irrespective of his/her performance in the tests. The Course Coordinator, while awarding the grades, will take into account the consolidated attendance record for the whole semester. Students who are deficient in attendance shall be awarded W grade, by the course coordinator.
3. In order to maintain the attendance record of a particular course, a roll call will be taken in every scheduled lecture, tutorial and practical class.
4. For the purposes of attendance, every scheduled practical class will count as one unit irrespective of the number of contact hours
5. The Course Coordinator will consolidate the attendance record for the course from the beginning of the semester up to class test-I to class test-II and to the end of the semester. The teacher offering the course shall notify the students having less than 75% attendance with an intimation of the same to the concerned Head of the Department and Dean (Academic Programmes).
6. Every faculty offering a course will take attendance till three calendar days before the last instruction day in the semester. The percentage of attendance, calculated up to this instruction, will be indicated in a code number/letter as follows: Attendance rounded to Code No/letter 95% and above H 85% to 94% 9 75% to 84 % 8 Below 75% L A student who has attendance code letter L will not be allowed to sit for end semester examination in the course in which the short fall exists.

Absence during the Semester

1. A student must inform the Dean (Academic Affairs) immediately of any instance of continuous absence from classes.
2. A student who is absent due to illness or any other emergency, up to a maximum of two weeks, should approach the Course Coordinator for make-up in quizzes, assignments and laboratory work.
3. A student who has been absent from a class test due to illness should approach the Course Coordinator for a make-up test on return to class. This request should be supported with a Medical Certificate from the Institute Medical Officer. A Certificate issued by a registered medical practitioner will also be acceptable in those cases where a student is normally residing off-campus; in such cases the registration number of medical practitioner should

explicitly appear in the medical certificate. Prior to approaching the Course Coordinator, the student must file a copy of the medical certificate with the Academic Section.

4. In case of absence on Medical grounds or other special circumstances, before or during the end semester examination, the student can apply for I-grade. 75% attendance in a course is necessary for being eligible for request of I-grade in that course. An application requesting an I-grade should be made at the earliest, but not later than the last day of the end semester examination. This application should be made to the concerned Head of Department, depending on the merits of the case, will grant the approval. The Head of the concerned Department will inform all the concerned Course Coordinators and Dean (Academic Programmes). The student should, subsequently, complete all course requirements according to the prescribed schedule.
5. In special situations arising due to the students inability to be present at the institute during the stipulated period, the period for conversion of I grade can be extended to the beginning of the next semester. Approval for this extension is granted by Dean (Academic Programmes), on the recommendations of the concerned Head of the Department of the student, the Course Coordinator(s), and the Chief Warden in case of a boarder. A request to this effect should be included in the application for I-grade.
6. In case the period of absence on Medical grounds is more than 20 working days during the semester, a student may apply for withdrawal from the semester i.e. withdrawal from all courses registered in that semester. Such an application must be made as early as possible and latest before the start of the end semester examinations. No application for semester withdrawal will be considered after the end semester exams have commenced. Each application for semester withdrawal will be examined by the Dean (Academic Programmes) and depending on the merit of the case, an appropriate recommendation will be made. Partial withdrawal from courses registered in a semester is not allowed.

4.9 Training and Placement

The Centre of Training & Placement of Dr.B.R.Ambedkar National Institute of Technology, Jalandhar, which started its activities in Dec.1990 serves as a Central facility for all the Departments.

A. PLACEMENT OF FINAL YEAR STUDENTS (2006-2010 Batch)

Campus Interviews were arranged for the final year B.Tech. students. A large number of reputed Industrial houses in the country visited the Institution and selected/shortlisted the final year students as Engineers/Management Trainees. Some of the Companies invited the students to their Corporate Offices for the interviews .

Branch	Total No. of Eligible Students	No. of Job Offers	No. of Double Job offers	No. of Students Placed
CSE	55	76	19	57
ECE	48	61	12	49
ICE	46	56	7	49
ME	49	45	4	41
INE	40	27	1	26
CBE	27	21	1	20
CE	30	31	0	31
TT	19	14	0	14
LT	0	0	0	0
G.Total	314	331	44	287

The following Industrial houses have visited the Institute for 2006-2010 batch

S.No.	Name of Organisation	S.No.	Name of Organisation
1	Nagarro Inc.	27	Trident Group (Abhishek Industries Limited)
2	Indian Army	28	Air Liquide
3	Defence Research Organisation	29	Saint Gobain
4	Grail Research	30	Winsome Textiles
5	Indian Navy	31	ZTE
6	Mecon	32	JCT Limited, Phagwaa
7	Tata Motors Limited	33	Nahar Industrial Enterprises Limited
8	Open Access Technologies Inc.	34	JSW
9	Technip	35	Honda Motorcycle & Scooter India Pvt. Ltd
10	Telcon	36	Sanmar Engineering Corporation
11	National Thermal Power Corporation	37	Tata Consultancy Services (TCS)
12	Vardhman Textiles Limited	38	Tech Mahindra
13	Subros Limited	39	Tata Teleservices
14	Ashok Leyland	40	Media Tek
15	Satluj Jal Vidyut Nigam Limited	41	Simplex Infrastructure
16	KEC International	42	Computer Science Corporation
17	Nestle India Limited	43	Samtel Group
18	Compro	44	Saluja Group
19	Hero Honda	45	Sapient
20	Power Grid Corporation of India	46	IBM
21	Soma Enterprises Limited	47	Shriram Pistons & Rings Ltd.
22	Hindustan Zinc Limited	48	HPCL
23	Maruti Suzuki India Limited	49	Fiserv
24	Infosys Technologies Limited	50	Bharat Electronics Ltd.
25	Samsung Engineering	51	Unitech Group Limited
26	Accenture Services Limited		

B. INDUSTRIAL PRACTICAL TRAINING OF STUDENTS

In the year 2010, 455 students in the various disciplines have been sent to various Industries of repute in different parts of the country for two months practical training from May to July 2010. Arranging the training involved close interaction with the concerned Industry, the preparation for which started much in advance. After the completion of training, each student will be evaluated on the basis of various evaluation components – Seminar, Group discussion, Daily diary, viva voce examination (Internal & External). The list where students have undergone practical training is enclosed.

5.0 RESEARCH AND DEVELOPMENT ACTIVITIES

5.1 Ph.D Programmes- Existing and Proposed

Existing Ph.D Programmes
Chemistry
Mathematics
Physics
Chemical and Bio Engineering
Civil Engineering

Computer Science and Engineering
Electronics and Communication Engineering
Industrial Engineering
Instrumentation and Control Engineering
Textile Technology

Proposed Ph.D Programmes	
Biomedical Instrumentation	--
Power System Control, Operation and Optimization	--
Digital Signal Processing and Applications	
Control Theory applied to power system problems	
Management	

5.2 Details of Ph. D done so far: 14

5.3 Proposed Plan for research

Interdisciplinary Research and Development Centre is being set up for which space and finance is has been sanctioned.

5.4 Institute- Industry Collaboration

1. MOU signed with Alternate Hydro Energy Centre, Roorkee regarding networking of institutions, Signed on July 14 2009.
2. MOU signed with IIT Rorkee as Network Institute to implement the project entitled "VSTA-Enabled Mobile e-Learning Terminal" (referred as MeLT project), funded by MHRD under National Mission on Education through Information Communication, Signed on Jan 28-30 2010.
3. MOU with University of Glasgow on "Establishment of ECG Data Base of Healthy Indian Population" Signed on Feb 20 2010.
4. UKIERI Collaborative Research Project on "Sustainable High Performance Concrete Infrastructure" being undertaken by University of Dundee, UK.

5.5 Innovations and Technology transfer

Sr No.	Name of Proposed Invention/Invention design	Patent Number /Design	Name of Inventor and Designer	Applicant
1	An intelligent Foot mat	Applied through PSCST on May 2009	Kuldeep Singh Nagla	NITJ
2	Sound Direction Guiding Aid for Blind and Deaf persons	Applied for patent search 2009	Kuldeep Singh Nagla	NITJ

6.0 THE COUNCIL, BOG AND OTHER COMMITTEES

6.1 Institute's Council
(Refr Annexure 11.1)

6.2 Board of Governors
(Refr Annexure 11.2)

6.3 Finance Committee
(Refr Annexure 11.3)

6.4 Building & Works Committee
(Refr Annexure 11.3)

6.5 SENATE
(Refr Annexure 11.3)

6.6 OTHER COMMITTEES
(Refr Annexure 11.3)

7.0 CONCESSIONS FOR SC'S, ST'S HANDICAPPED STUDENTS

7.1 Concessions Provided for Students

As per government norms

7.2 Concessions Provided for Staff

Nil

8.0 FINANCIAL STATUS

8.1 Analysis of Plan and Non-Plan Grants

Plan Grant

Plan grant is meant for capital nature expenditure. The expenditure on construction of buildings, purchase of equipment and other facilities. The other facilities includes the following subheads:-

- Furniture and fixture
- Library (Books and equipment)
- Transport
- Office equipment
- Providing AC in the Lab
- Medical equipment
- Telephone exchange
- Audio and visual teaching aids
- Sports amenities
- Up gradation of classroom
- Internet facilities
- Faculty up gradation:
- Membership/registration fee for presenting paper
- Reimbursement of cost of books for teachers
- Equipment for HRD/Hindi cell

Non Plan Grant

The expenditure of revenue nature i.e. salary and allowances, TA/DA, medical reimbursement, training cost, campus maintenance, library expenses and other contingent expenditure are met from the Non Plan Grant.

Normally the whole grant is being utilized for the purpose for which it is sanctioned and the utilization certificate is sent to the ministry accordingly.

8.2 Sources of Funds

The whole Plan and Non plan grants are being received from the Ministry of Human Resource Development (MHRD), New Delhi.

During the year under report a sum of Rs 600Lac & Rs 1580.90 Lac were received as Plan grant & Non Plan grant respectively.

The expenditure for the year 2009-10 is Rs 600.45 Lacs and Rs 2529.80 Lacs under Plan and Non Plan respectively.

8.3 Expenditure position for last three years

Year	Plan Expenditure (Rs in Lacs)	Non Plan Expenditure (Rs in lacs)
2006-07	687.16	856.17
2007-08	624.41	1017.39
2008-09	673.20	1513.14

9.0 CENTRAL FACILITIES AND SERVICES**9.1 Computer Services Centre**

Following equipment procured under TEQIP

- 15 Sun Servers and 03 HP Servers which act as Web, Email, Proxy, DNS and Database servers for the institute.
- One SAN server which is connected with the Web, Email and Database servers.
- 10 Sun workstations.
- Video Conferencing equipment.
- 110 Computers with high configuration for use in Computer Center and language lab.
- 02 High-end network HP Laser Printers.

Research and development activities

- Software Engineering, Photonic Networks.
- Language lab, Photonic Networks and Video conferencing system setup.
- Development of Optical communication systems and networks simulation facility

9.2 Workshops

Faculty: 01 Staff: 08

One Asstistant Professor vacant

One lecturer vacant

Institutional Practical Training

Student after 2nd semester were given Institutional Practical Training in the Workshop for 2 weeks. Regular classes were held during the semester staff was busy for 20- 24 hours a week.

9.3 Library

Introduction:

Flood of literature on our academic scene has enhanced the value and responsibilities of our libraries. A library exists to support teaching and research programs of an educational Institute, to provide facilities for general reading and to disseminate information according to the requirements of its users. Keeping in view all these things Central Library, Dr. B. R. Ambedkar National Institute of Technology was established in 1987 (the same year this institute was established). Since then this center of learning has been functioning with the aim of encouraging self-learning and to supplement academics, boost research and development activities and to promote consultancy activities. The Institute possesses a growing Library. At present central library is housed in a multistoried air-conditioned building situated in the midst of all departments and hostels and is easily accessible to all. For smooth functioning of the library it has been divided into different sections and readers have been allowed open access to the library holdings.

Librarian's Profile:

Name	Academic/Professional qualifications	Post held	Specialization
Dr. Sarbrinder Kaur	Ph.D (Library and Information Science)	Librarian	Reference/ Information service

Library Hours

The Library remains open throughout the year except on Gazetted holidays and any other holidays declared as a special holiday. It remains open from 9.00 A.M. to 9.00 P.M. from Monday through Friday and during Minor and Major examinations up to 12.00 mid-night and on Saturdays up to 4.00 P.M.

Library Resources

- **Collection**

The central Library, NIT, Jalandhar has a strong collection pertaining to engineering and technology, biotechnology, computer and information technology, and management.

The collection of the Library has grown to 1, 07,728 as on 31st March, 2010 including books, bound volumes of journals, standards, technical reports, video cassettes and CDs. The Library has a approximate collection over 18000 books under Text and Book Bank schemes to support undergraduate studies. The reference collection in the Library is maintained separately and is categorized into atlases, bibliographies, handbooks, directories, dictionaries, encyclopedias and Technical data. The Library provides access to more than 1200 online electronic journals and standards, and caters to the demand-based procurement of specialized documents such as patents, standards and specifications and other literature required for teaching and research purpose.

- **Video Library**

The Library is equipped with video viewing facility consisting 29" TV, VCP, Multimedia projector. It has a collection of more than 1,400 videocassettes and CDs and other virtual information resources.

- **Reference Collection**

The Library maintains a separate reference collection consisting of encyclopedias, dictionaries, handbooks, technical data, almanacs, atlases, bibliographies, etc. The reference collection is further organized in sub-categories

- **Electronic Journals and Online Bibliographic Databases**

The library subscribes to a good number of current journals in print. Besides, the institute has access to over 2000 full-text electronic journals. Through the INDEST-AICTE Consortium bibliographic

database of the holdings (Periodical publications) of all IITs, IIMs, IIS is available to the Institute through JCCC- J-Gate Custom Contents for Consortia. Members of this Institute are entitled to get hard copy of any article / paper from periodical publications available with IITs and IIMs free of any Charges. For this they just need to submit an online requisition to the institute holding that particular publication.

Computer and Networking Infrastructure

The library has its own Sub-LAN, which, in turn, is connected to the Campus LAN. Database of the library holding is accessible to all in the Institute campus.

Library Services and Facilities

- **Reader's Assistance**

The Library provides assistance to its users ranging from location of a book to finding specific information required by a user.

- **Untraceable publication register:-**

Untraceable publication register is kept on each floor for users to note down the bibliographic details of the publications not found on shelves. Members are intimated about the status of their request on phone or personally.

- **Reservation of publications: -**

All registered library members are entitled to avail reservation facility, however only one title is reserved at a time and the concerned reader is informed immediately on receipt of the reserved title in the library.

- **Suggestions:**

Suggestions and complaints from library members are always welcome. They can make such suggestions/complaints orally or in writing directly to the librarian.

- **Circulation of Books and Library Membership**

The library members, according to their borrowing category can borrow stipulated number of books at a time. During the period under report about 80,000 volumes were borrowed by the members of the Library from general collection. The membership of the Library for different categories of readers is as below:

Undergraduates	1980
Postgraduates	225
Research Scholar	62
Faculty	146
Non-Teaching Staff	210
Total	2 6 2 3

In addition, consultation facilities were extended to around 700 users including students, research scholars and faculty members belonging to other academic institutions.

- **Inter Library Loan (ILL) and Resources Sharing Facility**

The Library arranges to procure books and journals from other libraries on Inter Library Loan (ILL) and Document Delivery Services (DDL). Xerox copies of research articles are also arranged from other IITs under a resource sharing agreement signed by all IITs. Demand based procurement of research publications, photocopies of research articles etc. was done from other IITs and institutions in Delhi as well as from other parts of India

- **Document Delivery service:-**

Under this service faculty and scholars of the Institute are entitled to get reprints/photocopies of research papers from the Institute library. Under this facility information is procured from all over India through NISCAIR (National Institute for Science Communication and Information Resources) NIT is maintaining a permanent account with NISCAIR to ensure uninterrupted supply of required information to the faculty. This service is being provided free of cost to the faculty. The JCCC interface, made available through the INDEST Consortium that facilitates inter-Library loan and

document delivery amongst IITs and IISc, was used extensively.

- **Book Bank Facilities**

The Book Bank holds multiple copies of selected textbooks for making them available to the students for the entire duration of a semester. Students are being given this facility free of any charges.

During the year under review, 1780 students (including SC/ST students) availed of the benefit of the Book Bank Scheme. A total number of 11000 volumes were borrowed by students from book bank. Apart from regular lending of books to members, providing reading room facility, and reference service, central library provides the following services: -

- **Internet Facility/ access to online learning resources: -**

All library members are allowed to use this facility.

- **Media resource center/Audio –visual section:-**

Central library has a good collection of videocassettes and CDs. Video shows are organized from time to time.

Media resource center is equipped with the equipments as detailed below:-

- -Television with 29" screen
- -Video cassette player (VCP)
- -Pentium IV based system
- -Multimedia projector and projection screen

Library Visitors data

Average number of users per day over the last two semesters : 400

Average number of books issued per day over the last two semesters : 250

Virtual library:

A virtual library under the name of **INDEST**-Indian National Digital Library in Sciences and Technology provides desktop access to more than two third of the worlds periodical literature to all members of this library. These web based electronic resources has expedited the delivery of information to the researchers. Under this virtual library following resources are available for NIT:

IEL- IEE/IEEE ELECTRONIC LIBRARY-Periodical publications of IEE&IEEE.

ASME ONLINE: Periodical publications of American Society of Mechanical Engineers.

ASCE ONLINE: Periodical publications of American Society of Civil Engineers.

ACM DIGITAL LIBRARY: Periodical publications of Americans Society for Computing Machinery.

SCIENCE DIRECT: Periodical publications of Elsevier Science and Academic press.

ASTP- Applied Science and Technology Plus –covers periodical publications related to applied sciences and related disciplines.

SPRINGER VERLAG: *Periodical publications of Springer Verlag*

Nature Online: *A Multidisciplinary Journal*

Indian Standards (IS) Total collection of Indian Standards published by Bureau of Indian Standards has become available online to the institute w.e.f. January, 2004

(It is an intranet version)

ASTM standards and journals : All ASTM standards and journals are availableonline.

JCCC -J- Gate Custom contents for Consortia: It is a bibliographic database of the holdings (periodical publications only) of all IITs and IIMs. Members of this Institute are entitled to get hard copy of any article / paper from periodical publications available with IITs and IIMs.For this they just need to submit an online requisition to the institute holding that particular publication.

Membership Eligibility:

1.	Individual Members	Regular students and faculty of the institute
2.	Project staff	All officers and staff engaged in project and any other such activity.
3.	Other members	Retired faculty of NIT
4.	Special members	The visiting Faculty with the approval of the competent authority
5.	Temporary permission	Researchers /Scholars from other Institutes/Universities whom advisory services are rendered by the faculty of NIT, Jalandhar are permitted to use the library resources on producing identity slip duly signed by the respective faculty member.

Members Entitlement:

Category	Maximum number of documents	Refundable security, if any
Faculty/ Academic staff	12 (6 on long term)	
Non- Academic officers and staff- depending upon the category	1-10	
Students:		
B. Tech	02	
Book bank (weaker section)	06-08 (for full semester)	
Book bank(General) (For all students)	06-08 (for full semester)	Rs.1000.00
M,Tech	06	For full degree course
Research Scholars	06	
Visiting faculty	05	
Special members	According to category	
Project staff	As per requirement	

Duration of loan:

Type of Document	Type of Loan	Duration of loan
Books and monographs	Short term Long Term	14 days one semester
Documents purchased under project grants	Long Term	Till the completion of the project
Electronic/Digital documents viz: CDs, floppies, cassettes etc. Individual members Dept./centers	Short term	1day 1 week

Procurement of books:-

Books / other documents are procured in the library against the suggestion/recommendations received from the departments/centers in the prescribed form available in the library. Student's suggestions are also incorporated while finalizing the purchase decision.

9.4 Laboratories

Department of Biotechnology (Further Details at 56)

Department of Chemical Engineering (Further Details at 59)

- Biochemical Laboratory
- Pollution Abatement Laboratory
- Fluid Mechanics Laboratory
- Fuel Technology Laboratory
- Mass Transfer Laboratory
- Unit Operation Laboratory
- Chemical Reaction Engineering Laboratory
- Heat Transfer Laboratory

Department of Chemistry (Further Details at 63)

- Atomic Absorption spectrophotometer
- Double beam uv-visible spectrometer
- Gas-chromatograph
- Millipore Distillation setup
- Digital Melting –point Apparatus
- Photochemical reactor
- Top pan balances
- Stainless steel Modular Fume Hood
- Glasswares & Chemicals.

Department of Civil Engineering (Further Details at 73)

- CAD
- Environmental Engineering
- Geotechnical Engineering
- Structures Testing
- Survey
- Structural Analysis
- Transportation Engineering

Department of Computer Science and Engineering (Further Details at 75)

- Computer Centre
- Computer Programming Laboratory
- Information Security Lab
- Microprocessor Lab
- Computer Networks Laboratory
- Software Development Laboratory
- RDBMS Laboratory
- Natural Language and Pattern Recognition Laboratory
- Wireless Data Communication Laboratory

Department of Electronics and Communication Engineering (Further Details at 86)

- Digital Electronics lab
- T.V. and Microwave Lab
- Power Electronics Lab
- Communication Systems Lab.
- PCB Lab
- Basic Electronics Lab
- DSP Lab

Department of Humanities and Management (Further Details at 91)

- Communication lab (being established)
- High Tech Lab for computing facilities (being established)

Department of Industrial Engineering (Further Details at 95)

- Metrology
- Work Study Lab
- Ergonomics Lab
- Computer Lab
- Modern Tool Room
- Statistical quality and control Laboratory
- CAM & Automation laboratory (CAMAL)

Department of Instrumentation and control Engineering (Further Details at 100)

- Fabrication Unit Laboratory
- Analytical Instrumentation Laboratory
- Electrical Instrumentation and Circuit Laboratory
- Control System Engineering Laboratory
- Process Control and Instrumentation Laboratory
- Electrical Machines laboratory
- Instrumentation System Design Laboratory ISD
- Microprocessor Based Control Laboratory
- Biomedical Instrumentation Laboratory

Department of Mathematics (Further Details at 110)

Department of Mechanical Engineering (Further Details at 111)

- Fluid Machinery
- Heat Engines
- Vibrations
- Refrigeration and Air Conditioning
- Theory of Machines
- Mechanical Measurement
- Automation and Mechatronics
- Experimental Stress Analysis
- Automobile Engineering

Department of Physics (Further Details at 115)

- Applied Physics
- Material Science
- Fiber Optics
- Polymeric Material Testing

Department of Textile Technology (Further Details at 123)

- Yarn Manufacture Laboratory
- Fabric Manufacture Laboratory
- Textile Chemical Processing Laboratory
- Textile Testing Laboratory

9.5 Hospital, Post Office, Shopping Centre

The campus is self contained having shopping complex, computerized Banks, Post office. Dispensary and other facilities essential for community living.

9.6 Physical Facilities

Faculty Club, Students Activity Center, Guest House.

9.7 Games and Sports Facilities

Outdoors Games Facilities

Sr. No.	Outdoor games	Facilities available
1	Athletics	400 meter Standard Track & Field
2	Cricket	Standard Cricket ground
3	Football	Standard Football ground
4	Hockey	Standard Hockey ground
5	Basket ball	Basket Ball Standard Cemented Court
6	Volley ball	Two Volleyball standard grounds
7	Lawn Tennis	Two Lawn Tennis Cemented courts
8	Kabaddi N/S	Kabaddi N/s standard ground

Indoor Games Facilities

Sr. No.	Indoor games	Facilities available
1	Badminton	Indoor Badminton Standard Hall with three courts
2	Table Tennis	T.T. Table is available in each hostel in addition to that four tables are available in the Indoor Badminton hall.
3	Carom	Covered space is available in each hostel in addition to the Carom Boards that are available in the Indoor Badminton Hall.
4	Chess	Covered space is available in each hostel in addition to the Chess Boxes that are available in the Indoor Badminton Hall.

Weight training gym. Facility

1	Multipurpose Modern Weight Training facilities	Weight training gymnasium is available in the students Activity Centre, fully equipped with Modern Weight Training equipments.
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9.8 Other Facilities like Hostels, Messes, Staff Quarters and Administration etc

- Guest House
- Community Centre
- Hostels: 6 Boys, 2 Girls
- Messes:7
- Staff Quarters

10 NOTABLE ACHIEVEMENTS

10.1 Achievements

- Placement of 287 numbers of eligible students in various reputed companies.
- There have been 302 publications in International/national Journals/Conferences during the

year under report.

- Five Faculty members of the institute received their PhD during the year under report.
- 60 faculty members participated in conferences/ workshops/short term courses in several premier institutions in India/ abroad and prominent industries of the country.
- Utkansh-2009 A National level cultural programme, an icon of NIT, Jalandhar with variety of cultural events and competitions comprising cultural bonanza of all Indian States. Around 270 participants around 20 institutions participated in the event.

10.2 Activities/Achievements took Place during the year

1. Dr. S. P. Singh Participated in UKIERI Research Project Meeting at the University of Dundee, Dundee, Scotland, UK.
2. Dr. S. P. Singh chaired a Technical Session II at UKIERI International Seminar held at GNDEC Ludhiana on 17 February 2010.
3. Dr. Harleen Dahiya Participated 3rd Discussion Meeting on INDIA-FAIR/PANDA Collaboration held at IIT, Bombay on August 31 and September 1, 2009.
4. Dr. B. S Kaith chaired the inaugural plenary session in the "Second International Conference on the Polymer Processing and Characterization (ICPPC-2010), January 15-17,2010.
5. Dr. B.S. Kaith chaired the session in 2nd Annual National Conference on "Recent Advances in Chemical & Environment Sciences"(RACES-2010), January 22-23,2010, Multani Mal College, Patiala(Punjab).
6. Dr. B.S Kaith also chaired the last session of the "Second International Conference on Polymer Processing and Characterization (ICPPC-2010), January 15-17, 2010, Kottayam, Kerala.
7. Dr Arun Khosla, Member, Program Committee, International Conference on Swarm Intelligence 2010, China
8. Dr Arun Khosla, Program Chair, International Conference on Intelligent Systems and Networks, IISN 2010, Feb 26-28, 2010, Jagadhari, India
9. Dr. Anand Vaz, invited to deliver a talk at national conference on precision manufacturing NCPM 2010 at Sant Longowal Institute of Engineering & Technology.
10. 153 Journal Publications
11. 149 Conference Publications

11 ANNEXURES**11.1 Insitute's Council****The Council**

- (1) With effect from such dated as the Central Government may, by notification, specify in this behalf, there shall be established for all the Institutes specified in column (3) of the Schedule, a central body to be called the Council.
- (2) The Council shall consist of the following members, namely:-
 - (a) The minister in charge of the Ministry or Department of the Central a Government having administrative control of the technical education, ex officio, as Chairman;
 - (b) The Secretary to the Government of India in charge of the Ministry or Department of the Central Government having administrative control of the technical education, ex officio, as Vice-Chairman;
 - (c) The Chairperson of every Board, ex officio;
 - (d) The Director of every Institute, ex officio;
 - (e) The Chairman, University Grants Commission, ex officio;
 - (f) The Director General, Council of Scientific and Industrial Research, ex officio;
 - (g) Four Secretaries to the Government of India to represent the Ministries or Departments of the Central Government dealing with biotechnology, automic energy, information technology and space, ex officio;
 - (h) The Chairman All India Council for Technical Education, ex officio;
 - (i) Not less than three, but not more than five persons to be nominated by the Visitor, at lease one of whom shall be a woman, having special knowledge or practical experience in respect of education, industry, science or technology;
 - (j) Three members of Parliament, of whom two shall be chosen by the House of the People and one by the Council of States;
 - (k) Two Secretaries to the State Government, from amongst the Ministries or Departments of that Government dealing with technical education where the Institutes are located, ex officio;
 - (l) Financial Advisor, dealing with the Human Resource Development Ministry or Department of the Central Government, ex officio;
 - (m) One offer not below the rank of Joint Secretary to the Government of India in the Ministry or Department of Central Government having administrative control of the Technical Education, ex officio, as Member-Secretary.

11.2 Board of Governors

- | | | |
|----|---|-------------|
| 1. | Ms Sushma Berlia
President, Education Promotion Society of India
and Immediate Past President, PHD, Chamber of Commerce,
Apeejay Satya Group,
14, Commercial Complex,
Masjid Moth, Greater Kailash-II
New Delhi-110048. | Chairperson |
| 2. | Sh N K Sinha, IAS
Joint Secretary (T)
Ministry of Human Resource Development
Department of Higher, Government of India,
Shastri Bhawan,
New Delhi-110001. | Member |
| 3. | The Secretary to Government of Punjab,
Department of Technical Education and Industrial Training,
Mini Secretariat, Sector-9,
Chandigarh-160009. | Member |
| 4. | Dr Surendra Prasad,
Director,
Indian Institute of Technology,
Hauz Khas,
New Delhi-110016. | Member |
| 5. | Dr K Narayana Rao,
Member Secretary
All India Council for Technical Education,
Indira Gandhi Sports Complex,
I.P.Estate,
New Delhi. | Member |
| 6. | Professor Avtar Singh,
Head, Department of Educational Surveys and Data Processing,
National Council for Educational Research and Training,
Sh Aurobindo Marg, Near Indian Institute of Technology,
New Delhi. | Member |
| 7. | Sh Shyam S Bhartia,
Chairman and Managing Director,
Jubliant Organosys Ltd., 1-A Sector 16-A, Industrial Area,
Noida (UP). | Member |
| 8. | Dr T S Banerjee,
Director,
Haldia Institute of Technology,
Midnapur-2 (West Bengal). | Member |
| 9. | Mr Tanmay Mukherji,
Manager,
M/s.Tech Force Composites Pvt.Ltd.,
29/1, R S Shukla Nagar,
Indore-452008. | Member |

- | | | |
|-----|---|------------------|
| 10. | Sh S K Ray,
Financial Advisor,
Finance Division, Ministry of Human Resource Development,
Shastri Bhawan, New Delhi-110001. | Special Invitee |
| 11. | Professor Rakesh Chandra,
Head, Department of Mechanical Engineering,
Dr B R Ambedkar National Institute of Technology,
Jalandhar-144 001. | Member |
| 12. | Sh A L Sangal,
Registrar,
Dr B R Ambedkar National Institute of Technology,
Jalandhar. | Member |
| 13. | Dr Moin Uddin,
Director
Dr B R Ambedkar National Institute of Technology,
Jalandhar | Member Secretary |

11.3 Finance, Building and Works and other Committees

Finance Committee

- | | | |
|----|---|---------------------------|
| 1. | Ms Sushma Berlia
President, Education Promotion Society of India
and Immediate Past President, PHD, Chamber of Commerce,
Apeejay Satya Group,
14, Commercial Complex,
Masjid Moth, Greater Kailash-II
New Delhi-110048. | Chairperson |
| 2. | Sh S K Ray,
Finance Division, Ministry of Human Resource Development,
Shastri Bhawan, New Delhi-110001. | Member Financial Advisor, |
| 3. | Sh Madan Mohan,
Director (NITs).
Ministry of Human Resources Development,
Department of Higher Education,
Government of India, Shastri Bhawan,
New Delhi-110001 | Member |
| 4. | Dr Surendra Prasad,
Director,
Indian Institute of Technology,
Hauz Khas,
New Delhi-110016. | Member |
| 5. | Dr K Narayana Rao,
Member Secretary,
All India Council for Technical Education,
Indira Gandhi Sports Complex,
I.P.Estate,
New Delhi. | Member |
| 6. | Professor Moin Uddin,
Director
Dr B R Ambedkar National Institute of Technology
Jalandhar. | Member |

7. Dr A L Sangal
Registrar
Dr B R Ambedkar National Institute of Technology
Jalandhar. Member Secretary

Building & Works Committee

1. Professor Moin Uddin
Director & Chairman, BWC
Dr B R Ambedkar National Institute of Technology,
Jalandhar
2. Sh Madan Mohan,
Director (NITs)
Ministry of Human Resource Development,
Department of Higher Education,
Shastri Bhawan, New Delhi
3. Professor Avtar Singh,
Department of Education Measurement and Evaluation,
National Council for Education Research and Training,
Sh Aurobindo Marg, Near Indian Institute of Technology,
New Delhi-110016
4. Er Akilesh Kumar
Superintending Engineer (Civil)
CPWD, Jammu Central Circle,
Landoi Satwari Chownk, Jammu
5. Er Vimal Kumar
Superintending Engineer, (Electrical)
CPWD, Kendrya Sadan,
Sector-9A, Chandigarh
6. Professor S P Singh
Dean, Infrastructure Planning & Development,
Dr B R Ambedkar National Institute of Technology,
Jalandhar-144011
7. Dr A L Sangal
Registrar
Dr B R Ambedkar National Institute of Technology
Jalandhar. Member Secretary

SENATE

1. Professor Moin Uddin,
Director,
Dr B R Ambedkar National Institute of Technology,
Jalandhar. Chairman
2. Professor P B Sharma,
Principal,
Delhi College of Engineering,
Bawana Road,
Delhi-110042.

3. Dr S K Salwan,
Apeejay Institute of Management,
Greater Noida, U.P.
4. Sh B P Singh,
Executive Director,
NTPC, Plot No. A-14, Sector-1,
PDIL Building, NOIDA.
5. Professor P C Upadhyay,
Chairman,
Chattisgarh Private Universities,
Regulatory Commission,
Govt. of Chattisgarh,
29/776, Plot No.5, Block No.3,
Opp.Ram Mandir, Shanti Nagar,
Madhur Pillai Chowk,
Raipur-492007
6. Professor Chander Shekhar,
Department of Instrument Design & Development Centre,
Indian Institute of Technology,
Delhi.
7. Professor R C Joshi,
Department of Electronics & Computer Engg.
Indian Institute of Technology,
Roorkee.
8. Mrs Kamna Aggarwal,
Industrialist,
GDPA Fasteners,
Near Railway Godown,
Jalandhar-144004
9. Professor R K Wanchoo,
Director,
National Institute of Technology,
SRINAGAR.
10. Sh P G Niyogi,
President,
Oswal Denims Nahar Complex,
P.O. Dappar, Lalru,
Punjab-140506.
11. Professor B S Kaith,
Head, Department of Chemistry
13. Professor P K Chatley,
Head, Training and Placement Centre
14. Professor R Jha,
Head, Department of Instrumentation and Control Engineering.
15. Professor J N Chakraborty
Head, Department of Textile Technology

16. Professor Joseph A. Vaz,
Head, Department of Mechanical Engineering
17. Professor Ajay K Sharma,
Head, Department of Computer Science and Engineering
18. Professor R K Sarin,
Head, Department of Electronics & Communication Engineering
19. Professor, S. Ghosh
Department of Textile Technology
20. Professor R K Garg,
Dean, Research & Industrial Liaison
21. Professor Arvind Bhardwaj
Head, Department of Industrial Engineering
22. Professor S P Singh,
Dean, Infrastructure & Planning Development
23. Professor Arvind Agnihotri,
Dean, Academic Programmes
24. Professor Arvinder Singh
Dean, Students and Alumni
25. Professor Jaspal Singh Aujla,
Head, Department of Mathematics
26. Professor N C Kothiyal
Department of Chemistry
27. Professor Partap Singh,
Head, Department of Civil Engineering
28. Professor A P Singh,
Department of Civil Engineering
29. Professor Sarabjit Singh,
Head, Department of Physics
30. Dr Sheo Kumar,
Professor, Department of Mathematics
31. Professor B S Kaith,
Department of Chemistry
32. Professor Joseph Anand Vaz.
Department of Mechanical Engineering
33. Professor Shamsheer Singh,
Department of Mechanical Engineering
34. Sh S J S Bedi,
Head, Department of Humanities and Management
35. Dr Apurba Dey
Head, Department of Chemical Engineering

36. Sh S K Sinha
Proctor-cum-Chief Warden
37. Dr A K Jana,
Head, Department of Bio Technology
38. Dr A L Sangal,
Registrar
- Secretary

OTHER COMMITTEES

S No	Name of the Committee	Chairman
1.	Discipline committee of senate	Professor S B S Mishra
2.	Senate committee on academic affairs	Professor S Ghosh
3.	Core committee on curriculum	Professor S B S Mishra
4.	Institute Purchase committee	Professor R Jha
5.	House Allotment committee	Professor S Ghosh
6.	Library committee	Professor N C Kothiyal
7.	Institute budget committee	Professor S B S Mishra
8.	Convocation committee	Professor R Jha
9.	Mock Accreditation Committee	Professor P K Chatley
10.	Committee for B Tech admissions and AIEEE	Professor A L Sangal
11.	Office automation and computerization	Professor A L Sangal
12.	Alumni activities	Professor Arvinder Singh
13.	TEQIP CELL	Professor Rakesh Chandra
14.	HRD and Hindi Cell	Professor A L Sangal
15.	Clubs and Hobbies	Professor N C Kothiyal
16.	Sports	Professor Rakesh Chandra

11.4 Research Projects and Consultation Jobs

Department of Chemical Engineering

MHRD Sponsored project "Modernization of Chemical Process Control Laboratory" (8.0 lacs)

Department of Chemistry

Testing of Water and Other Chemicals

Department of Civil Engineering

- The Department of Civil Engineering is continuously engaged in providing consultancy to various Governments, Semi Government and Private Organizations in the area of Structural Design of buildings, Water Tanks; soil exploration studies, Testing of Soil and other building materials such as Cement, Aggregates, Bricks, Steel etc, The Department is also engaged in the Design of Concrete Mixes of various grades. A number of assignments have been completed and are presently in hand. The total amount of consultancy carried out by the department is Rs. 15 lacs - during year 2009-2010 (as on date)

Computer Science and Engineering

- On going project - Information Security Lab development under Information Security Awareness Programme (ISEA) of Ministry of Communication & Information Technology, New Delhi.
- Designing and Simulation of High Data Rate Optical Fiber Transmission Systems (**Ongoing**) Funded by Ministry of Human Resource Development (MHRD) Govt. of India, New Delhi (2004-2007), NIT, Jalandhar.

Department of Electronics and Communication Engineering

Project Title	Project Duration	Amount Received (Rs. in lacs)	Funding Agency	Status (Completed/ In progress)
SMDP-II	5 yrs	1.1 Crores	MCIT, Govt. of India	In Progress
Soft computing based techniques for modeling of medical imaging systems	3.5 yrs	8.00	MHRD	In Progress
Investigations on Reconfigurable Computing	3.5 yrs	8.00	MHRD	In Progress

Department of Instrumentation and Control Engineering

- A project Modernization of Process Control & Instrumentation Lab was sanctioned to the Department under MODROB scheme and a grant of Rs.5.00 lacs was received from MHRD in the year 1994-95, which has been fully utilized.
- A project Modernization of Advance Chemical Process Control Lab was sanctioned to the Department under TAPTEC scheme and a grant of Rs.8.00 lacs was received from MHRD on 30-04-1998, which has been fully utilized.
- A project Calibration, Testing & Maintenance lab (Part-I) under Plan Scheme for Modernization and removal of obsolescence of Laboratories and Workshops has been sanctioned from MHRD during the Financial Year 1999-2000 (Plan), which has been fully utilized.
- R&D project entitled, "Robot for Railway to clean the surface below the railway tracks at platform" has been sanctioned by MHRD to the tune of Rs.13 lacs in the year 2004-05, which is ongoing and likely to be completed within sanction period.
- Design and Development of Underwater Robot: (In Progress), Funding agency Dr. BR Ambedkar National Institute of Technology Jalandhar.
- Over 150 ECGs recorded for ongoing project 'ESTABLISHMENT OF A DATABASE OF ECGs RECORDED FROM A HEALTHY NATIVE INDIAN POPULATION' in collaboration with Prof. P.W. Macfarlane, University of Glasgow; Prof. Vinod Kumar, IIT Roorkee; Dr. S.T. Hamde & Mrs.V.R. Thool, SGGS Institute of Engineering & Technology, Nanded.

The following activities have been carried out in collaboration with industries and institutions:

Consultancy services completed / on going

Sr No	Industries / Institutions	Nature of Activity
1	IIT Roorkee	Performance testing and evaluation of Small hydro Plants (MoU Signed) on Jan 30, 2010
2	IIT Roorkee, University of Glasgow and S.G.G.S. Institute of Engg. & Technology, Nanded, Maharashtra	Collaborative ECG data collection for standard database on Indian population (MoU Signed) on 20.02.2010
3	Ministry of Railways	Installation of robot for railway at northern Railways (Ambala Cantt railway station) for cleaning the tracks and external parts of the train (in process)
4	IIT Bombay	Agreement to Start Pilot Project on Robotics (e-Yantra), Nov. 2009
5	Agreement with Corporate	20 No. of Corporates signed an advance

	agreement to purchase the patents from NITJ (December-2009)
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Department of Industrial Engineering

Consultancy

1	Capacity estimation of M/S Pensla Exports Jalandhar	Dr R K Garg and Mr Ajay Gupta	M/S Pensla Exports Jalandhar	2009 (one week)	Rs 5,000/-
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Department of Physics

a) Projects Completed

S.No.	Title of the Project	Funding Agency
1.	Electrical Properties of Polymers	Ministry of Human Resource Development, Govt. of India.
2.	Modernization of Removal of Obsolescence of Applied Physics Lab.	Ministry of Human Resource Development, Govt. of India.
3.	Modernization of Removal of Obsolescence of Fiber Optic and Laser Lab	All India Council of Technical Education, New Delhi.

b) Projects on going :

S.No.	Title of the Project	Funding Agency	Funding
1.	Hyperon Semi-leptonic Weak Decays in Chiral Constituent Quark Model	Department of Science and Technology, New Delhi	Rs. 11 lac.

c) Projects Submitted

S.No.	Title of the Project	Funding Agency
1.	Measurement of Radon, Thoron and their Progeny Distribution in the Different Type of Houses in Punjab.	BRNS, BARC, Mumbai
2.	Preparation and Characterization of Nano-material Liquid Crystal Composite Thin Films	Defence Research & Development Organization, New Delhi

Department of Textile Engineering

A Mukherjee	Designing Nonwoven fabric for pulse jet filtration	Rs.15 Lac
A Chatterjee	Optimisation of production process of PP/Carbon nanofibre composite filament	Rs. 22 Lac
V Midha	Development of Needle Punched Nonwoven Blanket Fabric	Rs. 15 Lac

11.5 Faculty Positions available at Sr. No. 2.12

11.6 Administrative position available at Sr. No. 2.12

11.7 Staff Members deputed/Sponsored for Workshop/training, learning

S No	Name of the Coordinator(s)	Designation	Department	Short Term Courses/ Workshop/ Training
1	Dr. S. P. Singh Dr. Rizwan Khan	Professor Assistant Professor	CE	Training Programme on "Earthquake Risk Management", for the field engineers of Punjab Government Dec 14-19, 2009,
2	Dr. S. P. Singh	Professor	CE	Workshop on "Sustainable High Performance Concrete Infrastructure", at NIT Jalandhar, Feb 15-16, 2010
3	Dr. S. P. Singh	Professor	CE	Workshop on "Information Education and Communication (IEC) in Disaster Management for Master Trainers", Sep 9, 2009
4	Dr. Ajay K. Sharma	Professor	CS	Workshop on Information Security, ISEA, 2009-2010
5	Dr. B.S Saini	Asstt. Professor	EC	Organized an AICTE/MHRD sponsored Winter School on "Instrumentation & Signal Processing" at NITJ, Jan 11-15, 2010
6	Dr. B.S Saini	Assistant Professor	EC	Organized an AICTE/MHRD sponsored STC on "Modern Practices in Measurement & Instrumentation Engg." at NITJ, July 13-17, 2009
7	Dr. B.S Saini	Assistant Professor	EC	Organized an expert talk on "Electrocardiography and Modeling of Heart" at NITJ, Oct 7, 2009
8	Dr. Dilbag Singh	Associate Professor	IC	Short Term Course entitled, "Instrumentation and Signal Processing", Jan 11-15, 2010
9	Dr. Dilbag Singh	Associate Professor	IC	Short Terms Course on "Modern Practise in Measurement & Instrumentation, Jul 13-17, 2009
10	Dr. Arvind Bhardwaj Dr. Rajiv Sharma	Professor Associate Professor	IP	Enhancing Competitiveness in Manufacturing & Service Organization, Jul 2009
11	Dr. Rajiv Sharma Mr. Sarabjit Singh Mr L P Singh	Associate Professor Associate Professor Asstt. Professor	IP	Supply Chain Management Issues and Challenges, NIT Jalandhar , Jul 2009
12	Dr. Anish Sachdeva	Assistant Professor	IP	Prospective of Welding Technology Dec 28-Jan 2, 2010,
13	Dr. R K Garg Dr. Anish Sachdeva	Professor Assistant Professor	IP	Brainstorming session on "Enhancing Organizational Competitiveness through Knowledge Management" at NIT Jalandhar, Jan 2010
14	Dr. Rajiv Sharma Mr L P Singh Mr. Sarabjit Singh	Associate Professor Asstt. Professor Associate Professor	IP	Enhancing Organizational Competitiveness in the era of Globalization & Liberalization, Jan 2010

11.8 Courses and Admission

Name of Programme	Batch Year	Actual number of Students (FT + PT)	Boys	Girls
B. Tech	2009	584	484	100
M. Tech (FT)	2009	104	93	11
M. Tech (PT)	2009	21	15	06
M.Sc	2009	18	05	13
Ph.D	2009	17	10	07
Ph. D (Part Time)	2009	18	13	05
Total:		762	620	142

11.9 Scholarship and Awards

SCHOLARSHIP RECEIVED DURING THE YEAR 2009-10.

01.04.09 to 31.03.10

Sr No.	Name of Students	Roll No.	Branch	Amount	Source
1	Ms.Minny	06101042	CB	46,040/-	DTE Chandigarh
2	Mukesh Shrestha	08104040	EC	10,800/-	Edcil HouseNoida
3	Bimal Raj Joshi	08104013	EC	10,800/-	-do-
4	Subas Poudel	08104067	EC	10,800/-	-do-
5	Mahendra Bhujel	08104031	EC	10,800/-	-do-
6	Binay Shah	08104014	EC	10,800/-	-do-
7	Avinash Jha	08104010	EC	10,800/-	-do-
8	Jagdish Chaudhary	08113054	IPE	10,800/-	-do-
9	Chandan Kumar Gupta	05105003	IPE	10,800/-	-do-
10	Sanam Shakya	05106050	IC	10,800/-	-do-
11	Abhishek Neupane	06105003	IN	10,800/-	-do-
12	Rajib Acharya	07109060	ME	10,800/-	-do-
13	Peeyush Pandey	07104063	EC	10,800/-	-do-
14	Abhinash Kumar Dev	07109059	ME	10,800/-	-do-
15	Rabindra Sah	07104042	EC	10,800/-	-do-
16	Biswajeet Kumar Jha	07104062	EC	10,800/-	-do-
17	Alok Mishra	07109058	ME	10,800/-	-do-
18	Anoop Sharma	07106009	ME	3600/-	Deputy Controller F.A DTE Sunder Nagar H.P.
19	Shivali	08111011	BT	6000/-	-do-
20	Kapish Gupta	08111003	BT	3600/-	-do-
21	Neeraj Bhardwaj	07111014	BT	3600/-	-do-
22	Mr Avteet Chayal	05103010	CS	34,180/-	Distt. Welfare Officer Hisar
23	Anil Digwal	08110008	CH	35,300/-	Distt. Welfare Officer Fatehabad
24	Naresh Kumar	05104032	EC	40,880/-	Distt. Welfare Officer Narnaul
25	Ajay Kumar	06109003	ME	33,400/-	ChiefAccounts Officer Directorate Of Social WelfareJammu
26	Rajesh Kumar	06105032	IE	33,400/-	-do-
27	Sujil Chandran K	06106026	IC	19,430/-	Joint Director Of Sch. Caste Kerala

28	Abhilash K	07106002	IC	16,477/-	-do-
29	K V Smitha	07101014	CB	23,100/-	-do-
30	Sajini P.T.	07102045	CE	23,100/-	-do-
31	K Sujil Chandran K	06106026	IC	23,100/-	-do-
32	Mahendra Singh Jatav	06110026	TT	16,750/-	Distt Organizer Tribal Welfare Bhopal
33	Sakhare Shrikant Yogesh	05110031	TT	35,300/-	Special Distt. Social Welfare Officer Nagpur
34	Rahulkar Mithun Ishwar	04101015	CB	21,100/-	-do-
35	Khushal Kumar	07111019	BT	29,200/-	-do-
36	Angad Singh	07105005	CE	6000/-	NCERT New Delhi
37	Jagdeep Saigal	08106025	IC	6000/-	NCERT New Delhi
38	Arshdeep Singh	07105007	CE	6000/-	-do-
39	Aashim Sareen	05109001	ME	6000/-	-do-
40	Nitish Sikka	07106034	IC	6000/-	-do-
41	Anmol Sikka	06104009	EC	6000/-	-do-
42	Manash Dipto Dey	08113077	IPE	10,800/-	ICCR Chandigarh
43	Manash Dipto Dey	08113077	IPE	11,032/-	-do-
44	Manash Dipto Dey	08113077	IPE	11,032/-	-do-
45	Harish Kumar	05101013	CM	2500/-	Director Tech. Education Raipur
46	Harman Singh	08109023	ME	43,500/-	Distt. Social Welfare Officer Jalandhar
47	Mukesh Shrestha	08104040	EC	32,400/-	Edcil House Noida
48	Bimal Raj Joshi	08104013	EC	32,400/-	-do-
49	Subas Poudel	08104067	EC	32,400/-	-do-
50	Mahendra Bhujel	08104031	EC	32,400/-	-do-
51	Binay Shah	08104014	EC	32,400/-	-do-
52	Avinash Jha	08104010	EC	32,400/-	-do-
53	Jagdish Chaudhary	08113054	IPE	32,400/-	-do-
54	Anup Jalan	09204102	VLSI M.TECH.	45,000/-	-do-
55	Nishant Kumar	08110010	CH	6000/-	Director Of Technical Education H.P.
56	Ishan Chawla	08104024	EC	6000/-	NCERT New Delhi
57	Manash Dipto Dey	08113077	IPE	18000/-	ICCR Chandigarh

11.10 Training & Placement Statistics

Branch	Total No. of Eligible Students	No. of Job Offers	No. of Double Job offers	No. of Students Placed
CSE	55	76	19	57
ECE	48	61	12	49
ICE	46	56	7	49
ME	49	45	4	41
INE	40	27	1	26
CBE	27	21	1	20
CE	30	31	0	31
TT	19	14	0	14
LT	0	0	0	0
G.Total	314	331	44	287

11.11 Department wise-details

DEPARTMENT OF BIOTECHNOLOGY

1. ACADEMIC PROGRAMME

- B.Tech in Biotechnology
- Full and Part time Ph.D Programmes in Biotechnology

Departmental computer facility: The department has created computer facility to cater the need of the students. The facility is under the process of Upgradation.

2. INFRASTRUCTURAL FACILITIES ADDED

Major equipments in the laboratories added during the time under consideration:

S.No.	Name / Items	Make	Present Condition
1	Vertical Autoclave	MAC India	OK
2	COD Digester	MAC India	OK
3	Gel rocking Unit	Metrex	OK
4	Microcentrifuge	Genei	OK
5	Vortex Mixer	Genei	OK
6	Online UPS (10 KVA) and requisite battery	ETN Powerware	OK
7	Filtration kit alongwith requisite pump	Millipore	OK
8	pH meter, microprocessor based	ELICO	OK
9	Ultra pure water purification system	Millipore	OK
10	Hot Air Oven	Century	OK
11	Double door frost free Refrigerator	LG	OK
12	Cross flow filtration unit	Millipore	OK

3. R & D ACTIVITIES

The faculty members of the Department are actively engaged in the research related to Microbial Biotechnology, Enzyme Engineering, Biohydrogen production, Nanobiotechnology and Biological Waste Treatment etc.

A. Expert Lecture Organized:

1. Dr. S. Dey, Professor, Department of Biotechnology, IIT Kharagpur, delivered expert lectures on "Recent advances in Plant Biotechnology and Genomics" and "Plant Biotechnology activities in IIT Kharagpur" on August 12-13, 2009.

- B. **Visit to Industry:** The Faculty and Students of the Department visited **M/s Jagatjit Industries Limited, Hamira** on 21st November, 2009.

C. Conference/ Seminars/ Workshop/ Short Term Course attended by Faculty:

1. Nitai Basak attended 02 days Workshop on “Bioinformatics in Genomics and Proteomics”, in Department of Biotechnology, IIT Kharagpur, October 09-10, 2009.

4. RESEARCH PUBLICATION

International Journals (Total)	:	10
National Journals (Total)	:	20
International Conferences (Total)	:	10
National Conferences (Total)	:	17

Research Publication in International and National Journals and International Conferences (during last 01 year):**A) International Journals:**

- Nitai Basak and Debabrata Das, “Photofermentative hydrogen production using Purple non sulfur Bacteria *Rhodobacter sphaeroides* O.U.001 in an annular photobioreactor: A case study”, Biomass and Bioenergy, Elsevier, Vol.33, Issue 6-7, July 2009, pp 911-919.
- Neetu Divya , Ajay Bansal and **Asim K. Jana**, “Surface Modification, Characterization and Photocatalytic Performance of Nano-Sized Titania modified with Silver and Bentonite clay”, Bulletin of Chemical Reaction Engineering & Catalysis, Vol. 4(2), 2009, pp 43-53.
- A. Uma Maheshwar Kiran¹, **Asim Kumar Jana**, “Control of continuous fed-batch fermentation process using neural network based model predictive controller”, Bioprocess and Biosystems Engineering, Vol. 32, 2009, pp 801-808.
- Neetu Divya, Ajay Bansal and **Asim K. Jana**, “Degradation of acidic Orange G dye using UV-H₂O₂ in batch photoreactor”, Int. J. Biol. Chem. Sci, Vol. 3(1), 2009, pp 54-62.

B) National Journals:

- Kumar, J and **Asim K. Jana**, “Cell Growth Prediction for *Bacillus licheniformis* Through Artificial Neural Network at Simultaneous Multiple Variation in Concentration of Nutrients in Media”, The ICFAI Journal of Chemical Engineering, Vol.1 (1): 2009, pp 65-72

C) International Conferences:

- Sangeeta Garg and **Asim Kumar Jana** (2009): Studies on the Properties and Characteristics of Starch-LDPE Blend Films using Acetylated Starches with Different DS, International Conference on Emerging Technologies in Environmental Science and Engineering, Department of Civil Engineering Z.H.College of Engineering & Technology, A.M.U., Aligarh in conjunction with The University Of Toledo Ohio, U.S.A., October 26 – 28, 2009.
- Neetu Divya, Ajay Bansal and **Asim K. Jana**, “Performance of Titania based Nano-Photocatalysts on the Degradation of Orange G Azo dye”, International conference on Energy & Environment, University of Cambridge, UK, February 23-25, 2010.

5. FACULTY AS REVIEWER OF INTERNATIONAL REVIEWED JOURNAL:

Sr. No.	Name of the Faculty	Name of the Journal
1.	Dr. A.K.Jana	<ul style="list-style-type: none"> • Canadian Journal of Chemical Engineering • Journal of Applied Polymer Science
2.	Er. Nitai Basak	<ul style="list-style-type: none"> • Bioresource Technology (ELSEVIER) • International Journal of H₂ Energy (ELSEVIER)

		<ul style="list-style-type: none"> International Journal of Environment and Waste Management (Wiley Interscience)
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6. STUDENT ACTIVITY:

(i) 3rd year (6th Semester) students of the Department of Biotechnology have cleared **GATE 2010** in Biotechnology. The list is as follow:

Sr. No.	Name of the Students	GATE Roll No.	GATE Score	All India Rank
1.	Mr. Akshay Mahajan	BT 3051055	493	272
2.	Ms. Yachna Jain	BT 3060228	396	844
3.	Mr. Debasish Panda	BT 3051287	305	2136
4.	Ms. Mamta	BT 3051179	219	4175

(ii) SOBER (Society of Biotech Engineers and Researchers), the student society of the Department organized following events during TECHNITI 2009, September 18-20, 2009:

- I) "Foren 6", programme for identifying culprit based on DNA Finger printing
- II) Biotechnology Model making Competition, Mega event
- III) Basic Biotechnology Quiz

(iii) SOBER (Society of Biotech Engineers and Researchers), the student society of the Department organized "Fresher Welcome" to the new students in the VIP Seminar Hall of the Institute on November 17, 2010.

Department of Chemical Engineering

1. Academic Programmes

- B. Tech. in Chemical Engineering
- M. Tech. in Chemical Engineering
- M.Tech (By Research) in Chemical Engineering
- Ph. D. in Chemical Engineering (Full time)
- Ph. D. in Chemical Engineering (Part time)

3. Development of Laboratories

The following equipments have been procured in various laboratories:

S.No.	Name of Equipment
1.	Precision Balance
2.	Orbital Incubator Shaker
3.	High speed Refrigerated Centrifuge
4.	COD Digestor
5.	High Pressure Reactor

4. Research and Development activities

The faculty members of the Department are actively engaged in guiding research in the areas of Chemical Engineering, Biochemical Engineering, Petroleum Engineering, Energy and Environment, Biodegradable Plastics etc.

5. Students registered for Ph.D and M.Tech

S.N.	Name of the Student	Degree
1.	Mr.N.K.Srivastava	Ph.D (Part time)
2.	Mr.Manoj Kumar Jindal	Ph.D (Part time)
3.	Mr. Shishir Kumar Mishra	Ph.D (Part time)
4.	Arvind Gupta	M.Tech (Full time)
5.	Paritosh Agnihotri	M.Tech (Full time)
6.	Rahul Ramteke	M.Tech (Full time)
7.	Sorbh Manra	M.Tech (Full time)
8.	Saurabh Saxena	M.Tech (Full time)
9.	Sunil Kumar	M.Tech (Full time)
10.	Vijay Kumar	M.Tech (Full time)

6. Research Publications

International Journals

- Neetu Divya, Ajay Bansal, Asim K Jana, "Surface Modification, Characterization and Photocatalytic Performance of Nano-Sized Titania modified with Silver and Bentonite clay" Bulletin of Chemical Reaction Engineering & Catalysis" 4(2), 43-53, 2009.
- K.R. Ayyappan, Amrit Toor, Ritu Gupta, Ajay Bansal and R.K. Wanchoo, "Catalytic Hydrolysis of Ethyl Acetate using Cation Exchange Resin (Amberlyst 15) : A Kinetic Study" Bulletin of Chemical Reaction Engineering & Catalysis," 4(1), 16-22, 2009.
- Gunjan Bhalla, Arvind Kumar, Ajay Bansal, "Characterization of Leachate from Municipal Solid Waste Landfill" Eco-Chronicle An International Journal of Environmental and social Sciences" 6, 231-237, 2009.

- S. Bajpai, Ghirish Jung and Apurba Dey, Batch studies on chromium removal from tannery effluent using cationic exchange resin, *Journal of Environmental Research and Development*, vol. 4, 77-82, 2009.
- Jatinder Kumar, Ajay Bansal, "Application of Neural Network For Estimating Properties Of Diesel-Biodieselblends" *International Journal of Computers and Applications*, Vol. 32, No. 1, 2010.
- S. Bajpai, A. Sachdeva and J. P. Gupta, Security risk assessment: Applying the concepts of fuzzy logic, *Journal of Hazardous Materials*, Elsevier Publication 173, 258-264, 2010,.

Participation in International Conferences

- Dr.Ajay Bansal presented a paper entitled "Photo degradation of orange G under Solar Irradiations" in International Conference on Emerging Technologies in Environmental Science and Engineering held at AMU, Aligarh from October 26 – 28, 2009.
- Ms.Sangeeta Garg presented a paper entitled "Studies on the Properties and Characteristics of Starch LDPE blend films by using acetylated Starches with different DS" in International Conference on Emerging Technologies in Environmental Science and Engineering held at AMU, Aligarh from October 26 – 28,2009.
- Dr.Ajay Bansal presented a paper entitled 'Integrated Solid Waste Management Approach For Jalandhar City, Punjab' in International Conference on Emerging Technologies in Environmental Science and Engineering held at AMU, Aligarh from October 26 – 28, 2009.
- Ms.Poonam Gera presented a paper entitled "Use of basic heterogeneous catalysts for biodiesel production: A Review" in First International Conference on New Frontiers in Biofuels organized by Delhi Technological University, Delhi at India Habitat Centre New Delhi from January 18-19,2010
- Dr. M K Jha presented a paper entitled "Turn Waste into Clean Energy: A Technological Overview" in First International Conference on New Frontiers in Biofuels organized by Delhi Technological University, Delhi at India Habitat Centre New Delhi from January 18-19,2010.
- Dr.Ajay Bansal presented a paper entitled "Performance of titanium based nanophotocatalysts on the degradation of orange G azo dye" in International Conference on Energy and Environment 2010 at University of Cambridge, U.K from February 23-25, 2010
- Mr.Jatinder Kumar presented a paper entitled " Photo catalytic degradation of amaranth dye over immobilized nano crystals of TiO_2 " in International Conference on Energy and Environment 2010 at University of Cambridge, U.K from February 23-25, 2010

Participation in National Conference

- Dr.Ajay Bansal presented a paper entitled "Orange G degradation Kinetics using UV/H₂O₂ and UV/H₂O₂/ZnO based advanced oxidation processes," at National symposium on Reaction Engineering held at NIT Raipur from January 22-23, 2010

7. Projects ongoing

MHRD Sponsored project "Modernization of Chemical Process Control Laboratory" (8.0 lacs)

8. Foreign Visits

Dr.Ajay Bansal and Mr. Jatinder Kumar presented their research papers in International Conference on Energy and Environment 2010 at University of Cambridge, U.K from February 23-25, 2010

9. Short Term Courses /Workshop attended by faculty

- Mr.S.Bajpai and Mr.N.K.Srivastava attended a short term programme on "Petroleum Refining & Petrochemicals" at Indian Institute of Petroleum Management, Gurgaon from June 1-6, 2009
- Dr.Ajay Bansal attended AICTE/MHRD sponsored short term course on Supply Chain

management: Issues and challenges at National Institute of Technology, Jalandhar from 13-17 July 2009

- Dr.M.K.Jha attended Indian Chemical Engineering Congress (CHEMCON 2009), the 62nd Annual Session of the Indian Institute of Chemical Engineers and National Seminar on “Role Chemical Engineers in Pharma Industry” organized by Indian Institute of Chemical Engineers Waltair Regional Centre in Collaboration with Department of Chemical Engineering, Andhra University, Visakhapatnam from December 27-30, 2009.
- Ms.Rubal Preet attended Winter school on ‘Enhancing organizational competitiveness in the era of globalization and industrialization’ at National Institute of Technology, Jalandhar from January 4-9, 2010.
- Dr.Ajay Bansal participated in National Symposium on Reaction Engineering at National Institute of Technology, Raipur from January 22-23, 2010.
- Dr.M.K.Jha attended workshop on “Physical Properties, test methods prediction and blending characteristics of petroleum products” organized by School of Petroleum Products and application, Mumbai from March 4-6,2010.

10. Expert Lectures Delivered by Outside experts

- Dr.M.A.Siddiqui Executive Director, Bharat Petroleum Corporation Ltd.,Corporate R & D Centre, Greater Noida (U.P) delivered an expert lecture on the topic entitled “Petroleum Refinery” on August 30, 2009
- Dr. V. K. Srivastava, Ex-Professor, Department of Chemical Engineering and Ex-Dean, IRD, Indian Institute of Technology, New Delhi delivered expert lecture on the topic entitled “Modeling of Cooling Tower” on November 18,2009.
- Dr.M.A.Siddiqui Executive Director, Bharat Petroleum Corporation Ltd.,Corporate R & D Centre, Greater Noida (U.P) delivered an expert lecture on the topic entitled “Emerging Energy Scenario” on February 15, 2010
- Dr.Ram B.Gupta ,Programme Chair , Department of Chemical Engineering, Auburn University, USA delivered expert lectures on the topic entitled “ Petrol, Diesel and Ethanol Fuels from Grasses and Plants” and “Opportunities of Higher Education in USA”on March 12, 2010.

11. Expert Lectures Delivered by faculty

- Dr.Ajay Bansal delivered an expert lecture on the topic entitled “Identification, Analysis and Modeling of flow-regime transition in a multiphase trickle bed reactor” at National symposium on Reaction Engineering at NIT Raipur from January 22-23, 2010

12. Faculty Achievements

- The Biographies of Dr. Ajay Bansal, Mr.N.K.Srivastava, and Mr.S. Bajpai have been listed in the Marquis who’s who in the world, 2010 Edition for significant contribution in the field of Engineering and Technology on July, 2009.
- Dr. M K Jha has been nominated as Member Evaluation Committee by Vice Chancellor Guru Nanak Dev University, Amritsar for Career Advancement Scheme in the Discipline Applied Chemical Sciences and Technology on July 30, 2009
- Dr. Ajay Bansal has been elected Fellow of Institution of Engineers (India) Kolkata w.e.f September, 2009
- Dr. Ajay Bansal has been conferred with Rashtriya Gaurav award by India International Friendship Society New Delhi for his contributions to Engineering Education and Research on October 10, 2009.
- Dr. M K Jha has been nominated as Member Editorial Board in International Journal of Engineering and Information Technology from the year October, 2009
- Dr. Ajay Bansal has been conferred with Best citizen of India award by Best Citizen Publishing House New Delhi on November 13, 2009.
- Dr. M K Jha chaired the Technical Session – 4 on the theme “Novel Separation Techniques” during 62nd Annual Session of Indian Institute of Chemical Engineers (Chemcon 2009) at the

Department of Chemical Engineering Andhra University Visakhapatnam on December 30, 2009.

- Dr. M K Jha was honored as member National Advisory Committee of the National Seminar on “Chemical Industry in India: Opportunities and Challenges” (CIIOC-2010) organized by Department of Chemical Technology Sant Longowal Institute of Engineering & Technology, Longowal Sangrur from March 5-6, 2010.
- Dr. Ajay Bansal has been appointed as member of Research Degree Committee of the Energy Research Centre Punjab University, Chandigarh for a period of two years w.e.f. January 1,2010 to December 31,2011.
- Dr. M K Jha has been elected Honorary Controller of Examination in the first Executive Council meeting of the Indian Institute of Chemical Engineers Kolkata at Department of Chemical Engineering Andhra University, Visakhapatnam and also nominated as Convener of Institute’s Education and Examination Committee for the year 2010 as intimated on January 7, 2010.
- Dr. Ajay Bansal has been nominated as Member of Institute’s Education and Examination Committee for the year 2010 as intimated on January 7, 2010.
- Dr. M K Jha has been nominated as Member of the Selection Committee for Selection of Lecturer in the Department of Chemical Technology Sant Longowal Institute of Engineering and Technology (Deemed to be University) Longowal, Sangrur on January 8, 2010.
- Dr. M K Jha has been elected as Honorary Chairman of Indian Institute of Chemical Engineers Doaba Regional Centre located at Department of Chemical Engineering National Institute of Technology, Jalandhar on January 16, 2010.
- Dr. Ajay Bansal has been elected as Honorary Secretary of Indian Institute of Chemical Engineers Doaba Regional Centre located at Department of Chemical Engineering National Institute of Technology, Jalandhar on January 16, 2010.
- Dr. Ajay Bansal has been nominated as Member of National Advisory Committee of National Symposium on Reaction Engineering, NSRE – 10 organised by NIT Raipur from January 22-23, 2010
- Dr. M K Jha has been nominated as Member of Student Chapter Affairs Committee and Member of Chemcon Protocol Committee for the year 2010 by Indian Institute of Chemical Engineers, Kolkata on February 15, 2010
- Dr. M K Jha has been nominated as Member National Advisory Committee of the National Seminar on “Chemical Industry in India: Opportunities and Challenges” (CIIOC-2010) organized by Department of Chemical Technology Sant Longowal Institute of Engineering & Technology, Longowal Sangrur from March 5-6, 2010.

13. Students’ Activities

- Upma Vermani a student of B.Tech 5th Semester received a scholarship from Indian Institute of Chemical Engineers worth Rs. 15000/- for the year 2009-2010.
- Bhola Nath Mishra M.Tech , 3rd Semester and Raghvendra Tripathi B.Tech 7th Semester presented a paper entitled “An Innovative Method of Power Generation Using Solar Updraft Tower Technology” at SCHEMCON-2009 at IIT Roorkee. on September 20,2009
- Sandeep Kaur and Vishal Tuli of B.Tech 5th Semester presented a paper entitled “ Starch Based Biodegradable Blends” at SCHEMCON-2009 at IIT Roorkee on September 20,2009
- Krittika Swamee and Utkarsh Rustagi of B.Tech 5th Semester presented two papers entitled “ Optimum Design of Double Pipe Heat Exchanger” and CO₂ sequestration using algal Photobioreactor” at SCHEMCON-2009 at IIT Roorkee on September 20,2009
- Mr.Shailendra Kumar Singh, Research Scholar presented a paper entitled “Biofuel : An Introduction and Global Status” at 2nd Algae Biofuel Summit 2009 at Growdiesel Climate Care Council, New Delhi on September 14,2009.
- Ms. Krishna Jain B Tech 7th Semester student was selected, out of 100 meritorious students from all over the country invited, to attend the Republic Day Parade 2010 from the Prime Minister’s Box at Rajpath on January 26, 2010.
- 30 out of 33 students of B.Tech final year and 6 out of 51 students of BTech Third Year have appeared in GATE Examination on February 14, 2010.

Department of Chemistry

1. Introduction:

The Department of Chemistry – NITJ is one of the fourteen Departments of the Institute. The coherent, cohesive and homely environment of the Department is attributed to the students, faculty and staff with tremendous potential and opportunities to grow academically, emotionally and spiritually. The department started functioning in 1989 for teaching undergraduate (B Tech) students. M Sc and Ph D Programs were initiated in July 2006. The department is striving to emerge as a premier Centre of Chemistry teaching and research of the country. Within a short span of three and half years of commencement of post graduate classes the Department has achieved results which reflect upon the growth pattern of the Department.

2. R & D activities going on: Nanochemistry, Smart Polymers, Synthetic Organic Chemistry, Coordination Chemistry, Solution Thermodynamics, Physical Chemistry and Environmental Chemistry.

3. Research Scholars Pursuing for Ph. D Degree

1. Ms. Mithu Maiti (Thesis Submitted)
2. Mr. Vaneet Thakur
3. Mr. Hemant Mittal
4. Ms. Jaspreet Kaur Bhatia
5. Ms. Deepali Sharma
6. Ms. Kirtan Jot Kaur
7. Ms. Gagandeep Kaur
8. Mr. Rakesh Kumar
9. Ms. Saruchi
10. Ms. Sapna Sethi (Part time)
11. Ms. Aparna Sharma (Part time)
12. Ms. Taruna (Part Time)

(Highest Number of Ph D scholars among other Departments of the Institute)

4. Academic Programmes:

B. Tech (Undergraduate Courses) - Core courses and elective courses as per requirement of individual Departments.

M. Sc. Program - Four years Intake = 53 [2006 – 2009]

Ph D Program – Intake (as per Institute's norms)

Special Features of M Sc Chemistry Program

In addition to traditional courses on Inorganic, Organic, Physical, Analytical Chemistry and Spectroscopy following courses are mandatory for all students.

- Intellectual Property Rights
- Electronics for Chemists
- Computational Techniques for Chemists
- Pharmaceutical Chemistry
- Summer Training in IITs, CSIR Labs or Industry
- Scientific Documentation and Presentation skills
- Project work in III and IV semesters
- Comprehensive viva voce at the end of the course
- Three departmental and one open elective courses to be chosen by students as per their aptitude

5. AWARD(s)/ Recognitions

- Young Scientist Award on the research paper titled “**Antimicrobial Investigations of ZnO Nanostructures**” authored by **Deepali Sharma, B. S. Kaith, Jaspreet Rajput and Sapna Sharma**, in 2nd Annual National Conference on “Recent Advances in Chemical & Environmental Sciences” [RACES-2010], January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab). **The paper was presented by Ms. Deepali Sharma.**
- Best Poster Presentation Award on the research paper titled “**Carbon Nano-tubes from Petroleum waste-Synthesis, Characterization and Derivatization for their applications as Superabsorbents**”, authored by **B. S. Kaith, Rajeev Jindal and Hemant Mittal**, in 2nd Annual National Conference on “Recent Advances in Chemical & Environmental Sciences” [RACES-2010], January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab). **The paper was presented by Mr. Hemant Mittal.**
- Chaired the session in 2nd Annual National Conference on “Recent Advances in Chemical & Environmental Sciences” [RACES-2010], January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- Delivered invited Expert talk on “Environment Friendly Composite Materials” in 2nd Annual National Conference on “Recent Advances in Chemical & Environmental Sciences” [RACES-2010], January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- Best Paper Award Mr. Vaneet Thakur, 1st International Conference on New Frontiers in Biofuels, at Delhi Technological University, Delhi January 18-19, 2010

6. Research Papers Published in Reputed / Refereed Journals

YEAR-2010

- **Kaith B. S.**, Jindal, R., Maiti, Mithu and Jana A. K., “Development of corn starch based green composites reinforced with Saccharum spontaneum L fiber and graft copolymers - Evaluation of thermal, physico-chemical and mechanical properties” *Bioresource Technology* (In press, Elsevier).
- **Kaith, B. S.**, Singha, A. S. and Ranjata, S., "Synthesis, Characterization and Swelling Studies of Gum arabic grafted Methacrylic acid polymeric network" *International Journal of Polymer Analysis and Characterization* [In Press, Taylor and Francis].
- Non-ideal behavior of binary liquid mixtures and different approaches to calculate ideal expansibility **Harsh Kumar** *Collection Czech Chem Comm* **2010**, 75, 187-200.
- *Mixing Properties for Binary Liquid Mixtures of Methyl tert-Butyl Ether with Propylamine and Dipropylamine at Temperatures from 288.15 to 303.15 K* Amalendu Pal, **Harsh Kumar**, Sanjay Sharma, Ritu Maan, Harish Kumar Sharma *Journal of Chemical and Engineering Data* **2010** doi: 10.1021/jc900597n.

YEAR-2009

- Kalia, S. and **Kaith, B. S.** "Synthesis of flax-g-copolymers under pressure for use in phenolic composites as reinforcement" *J. Chil. Chem. Soc.*, **54**(2), 108-112(2009).
- Kalia, S, Kumar, S and **Kaith, B. S.** "Effect of microwave radiations induced grafting on crystalline structure of flax cellulose" *Malaysian Polymer Journal*, **4**(2), **46-51**(2009).
- **Kaith, B. S.**, Jindal, R and Maiti, Mithu, "Induction of Chemical and Moisture Resistance in Saccharum spontaneum – L Fiber through Graft Copolymerization with Methyl methacrylate and Study of Morphological Changes" *Journal of Applied Polymer Science* **113**, 1781-1791(2009) [Wiley Periodicals, Inc., USA].
- **Kaith, B. S.**, Jindal, R and Maiti, Mithu, "Graft Copolymerization of Methylmethacrylate onto Acetylated *Saccharum spontaneum* L. Using FAS-KPS as a Redox Initiator and Evaluation of Physical, Chemical, and Thermal Properties " *International Journal of Polymer Analysis and Characterization*, **14**, (3) 210 - 230 (2009).
- **Kaith, B. S.**, Jindal, R and Maiti, Mithu, "Rapid Synthesis of Graft Copolymer of MMA Onto *Saccharum spontaneum* L. Under Microwave Irradiation for Enhanced Thermal Modifications" *International Journal of Polymer Analysis and Characterization*, **14** (4) 364 – 387 (2009).
- **Kaith, B. S.**, Jindal, R and Maiti, Mithu, "Characterization and evaluation of methylmethacrylate-acetylated *Saccharum spontaneum* L graft copolymers prepared under Microwave" *Carbohydrate polymers*, **78**, 987-996(2009) [Elsevier Publication].
- **Kaith, B. S.**, Jindal, R , Asim k Jana and Maiti, Mithu, "Ferrous-persulphate induced graft copolymerization of monomer mixtures onto *Saccharum Spontaneum* L" *Iranian polymer journal* , **18**(10), 789-800(2009).
- **Kaith, B. S.**, Jindal, R , Asim k Jana and Maiti, Mithu, "Rapid synthesis of graft copolymers of binary vinyl monomer mixtures onto *Saccharum spontaneum* L under microwave irradiation and characterization" *Journal of polymer and environment* [under review, Springer publications].
- **Kaith, B. S.**, Jindal, R , Asim k Jana and Maiti, Mithu, "Synthesis of graft copolymers of binary vinyl monomer mixtures onto acetylated *Saccharum spontaneum* L and characterization" *Journal of Applied Polymer Science* [Communicated].
- **Kaith, B. S.**, Jindal, R , Asim k Jana and Maiti, Mithu, "Microwave enhanced synthesis of graft co-polymer of binary vinyl monomer mixtures onto acetylated *Saccharum spontaneum* L and evaluation of physico-chemical properties", *Cellulose* [Communicated, Springer publications].
- Kalia, S, **Kaith, B. S.** and Kaur I., "Pre-treatments of Natural Fibers and their Application as Reinforcing Material in Polymer Composites – A Review, *Polymer Engineering and Science*, Published online, John Wiley Interscience, www.interscience.wiley.com, 2009 [DOI 10.1002/pen.21328].
- Jaspreet Rajput, , Baldev Singh, Kewal Krishan Singal, **One-Pot Synthesis of Isoxazoline-4, 6-diones via Nitrile Oxides.** *Chemistry of Heterocyclic Compounds*.Vol. 45, No.3, 2009.
- **Harsh Kumar**, Bhupinder Kumar, Ashvinder Kumar, Tenzin Angmo and Surekha Yadav, Densities and excess molar volumes of Cyclopentane (1) + 1-alkanol (2) systems at (298.15 and 308.15) K, *Journal of Chemical and Engineering Data* **2009**, **54**, 165-167.
- Tejwant Singh, Arvind Kumar, Mandeep Kaur, Gurpreet Kaur and **Harsh Kumar** Non-ideal behaviour of imidazonium based room temperature ionic liquids in ethylene glycol at T = (298.15 to 318.15 K), *Journal of Chemical Thermodynamics*, **2009**, **41**, 717-723.

7. PAPERS PUBLISHED IN THE PROCEEDINGS OF INTERNATIONAL CONFERENCES :**YEAR-2010**

- **Kaith, B. S.**, Jindal, R. and Bhatia, Jaspreet Kaur, " Synthesis and Characterization of SPC-g-poly (Ethylmethacrylate) and Evaluation of Thermal Stability" *Proceedings of the Second International Conference on Polymer Processing and Characterization*, **IL-177**, January 15-17, 2010, Kottayam, Kerala.
- **Kaith, B. S.**, Jindal, R., Jana A. K. and Maiti, Mithu, " Graft copolymerization of binary vinyl monomer mixtures onto *Saccharum spontaneum* L under microwave irradiation and

characterization” *Proceedings of the Second International Conference on Polymer Processing and Characterization*, **P-9**, January 15-17, 2010, Kottayam, Kerala.

- **Kaith, B. S.**, Jindal, R. and Mittal, H., “Graft copolymerization of Acrylamide onto Gum xantham based hydrogels under the Influence of microwave radiations” *Proceedings of the Second International Conference on Polymer Processing and Characterization*, **P-39**, January 15-17, 2010, Kottayam, Kerala.
- **Kaith, B. S.**, “ Functionalized Bio-polymers and Their Applications” *Proceedings of the Second International Conference on Polymer Processing and Characterization*, **IL-169**, January 15-17, 2010, Kottayam, Kerala.
- Jindal, R., **Kaith, B. S.** and Maiti. Mithu, “ Physico-chemical transformations of acetylated Saccharum spontaneum L through graft copolymerization with binary vinyl monomer mixture” *Proceedings of the Second International Conference on Polymer Processing and Characterization*, **IL-39**, January 15-17, 2010, Kottayam, Kerala.

YEAR-2009

- Sharma, Deepali, Kaur, Jaspreet and **Kaith, B. S.**, “Synthesis and Characterization of Zinc oxide Nano-structures under different reaction conditions” *Proceedings of the Trends in Nano-technology (TNT-2009) September 07 - 11, 2009, Barcelona (Spain)*.
- **Kaith, B. S.**, Maiti, M and Jindal, R “Use of Natural Fiber Based Graft Copolymer as Reinforcing Materials to Develop Corn Starch Based Green Composites” (PaperID-3975) *Proceedings of the ENVIROENERGY 2009: International Conference on Energy and Environment* March 19 - 21, 2009, Chandigarh.
- **Kaith, B. S.**, Mittal, H and Jindal, R “Synthesis of Carbon Nano-particles from Petroleum-waste and its Application as Super-absorbent in Oil-Sector” *Proceedings of the 8th International Oil & Gas Conference and Exhibition*, January 11-15, 2009, New Delhi.
- **Kaith, B. S.** and Kumar, K, “Gamma-radiation initiated synthesis of Psyllium based Super-absorbent and its Application in Selective Removal of Water from different Petroleum Fraction-Water Emulsions” *Proceedings of the 8th International Oil & Gas Conference and Exhibition*, January 11-15, 2009, New Delhi.

8. PAPERS PUBLISHED IN THE PROCEEDINGS OF NATIONAL CONFERENCES / WORKSHOPS :

YEAR-2010

- Mittal H., Jindal R. and **Kaith, B. S.**, “Pressure Induced Synthesis of Gum ghatti and acrylamide based hydrogels and evaluation of electrical stimulus on its deswelling behavior”, *Proceedings of the National Symposium on “Recent Advances in Analytical Sciences” [3rd NSAS]*, April 12-14, 2010, H. P. University, Summer-Hill (H. P.), Organized by Indian Society of Analytical Scientists-Delhi Chapter. (A055)
- Jindal R., Mittal H. and **Kaith B. S.**, “Synthesis of Acrylamide –Gum ghatti based hydrogels under the influence of microwave radiations for the selective removal of saline from different petroleum fraction-saline emulsions” *Proceedings of the National Symposium on “Recent Advances in Analytical Sciences” [3rd NSAS]*, April 12-14, 2010, H. P. University, Summer-Hill (H. P.), Organized by Indian Society of Analytical Scientists-Delhi Chapter.(A054)
- Kumari Anjna, **Kaith B. S.**, Singha A. S. and Kalia Susheel, “Selective water uptake study by synthesized Psyllium and acrylamide based hydrogel using in-air copolymerization method from different oil-water emulsions” *Proceedings of the National Symposium on “Recent Advances in Analytical Sciences” [3rd NSAS]*, April 12-14, 2010, H. P. University, Summer-Hill (H. P.), Organized by Indian Society of Analytical Scientists-Delhi Chapter. (A166)

- **Kaith B. S.**, Singha A. S. and Ranjita Shabnam, "Synthesis and characterization of gum arabic and acrylamide based hydrogel and study of its swelling behavior in different petroleum fraction-water emulsions" *Proceedings of the National Symposium on "Recent Advances in Analytical Sciences" [3rd NSAS]*, April 12-14, 2010, H. P. University, Summer-Hill (H. P.), Organized by Indian Society of Analytical Scientists-Delhi Chapter. (A156)
- **Kaith B. S.**, Jindal R., and Mittal H., "Preparation of Derivatization of wsCNTs-Their applications as Super-absorbents" *Proceedings of the National Symposium on "Recent Advances in Analytical Sciences" [3rd NSAS]*, April 12-14, 2010, H. P. University, Summer-Hill (H. P.), Organized by Indian Society of Analytical Scientists-Delhi Chapter. (A053)
- **Kaith, B. S.**, Jindal, R. and Bhatia, J. K., "Enhancement of thermal stability and morphological advancements in soy protein concentrate through graft copolymerization technique" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 80, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.**, Jindal, R. and Bhatia, J. K., "Microwave induced Chemical-moisture resistance and thermal enhancement in soy protein concentrate through graft copolymerization" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 79, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- Sharma, Deepali, **Kaith, B. S.** Rajput, J, and Sharma, Sapna, "Antifungal investigations of ZnO nanostructures" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 78, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- Sharma, Deepali, **Kaith, B. S.** Rajput, J, and Sharma, Sapna, "Antimicrobial investigations of ZnO nanostructures" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 77, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.**, Jindal, R, Mittal, H and Sharma, Pooja, "In air synthesis and characterization of Gum xanthan and acrylamide based hydrogels and study of their salt resistant behavior" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 61, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.**, Jindal, R, Mittal, H and Kaur, Jasjeet, "Synthesis of water soluble carbon nano-particles by cold percolation method from mustard oil" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 51, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.**, Jindal, R, Mittal, H and Kondal, Usha "In microwave synthesis of Gum Xanthan and acrylamide based hydro-gels and study of effect of electrical stimulus on its swelling/deswelling behavior" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 58, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.**, Jindal, R, Mittal, H and Singh, Ajay "In microwave synthesis and characterization of Gum Xanthan and acrylamide based hydro-gels for selective absorption of saline from different petroleum-saline emulsions" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 59, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.**, Jindal, R and Mittal, H, "In air synthesis and characterization of acrylamide onto Gum ghatti based three dimensional cross-linked net-works for their potential applications in petroleum sector" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 56, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.**, Jindal, R and Mittal, H, "Carbon nano-tube from petroleum waste-Synthesis, characterization and Derivatization for their application as super absorbent" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 52, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- Sharma, Deepali, **Kaith, B. S.** Rajput, J, and Sharma, Sapna "Synthesis of ZnO Nano-particles and study of their anti-bacterial and anti-fungal property" *Proceedings of the 2nd*

Annual National Conference on "Recent Advances in Chemical & Environmental Sciences" [RACES-2010], pp 19, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).

- **Kaith, B. S.**, Jindal, R. and Bhatia, J. K., "Modification of Soy Protein Concentrate through incorporation of Binary monomer chains for the improvement in moisture, chemical and thermal behavior" *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 12, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).
- **Kaith, B. S.** "Environment Friendly Composite Materials", *Proceedings of the 2nd Annual National Conference on "Recent Advances in Chemical & Environmental Sciences"* [RACES-2010], pp 08, January 22-23, 2010, Multani Mal Modi College, Patiala (Punjab).

YEAR-2009

- **Kaith, B. S.**, Jindal, R. and Mittal, H. "In Air Synthesis and Characterization of Gum Arabica and Acrylamide based Hydrogels and Study of their salt resistant behavior" *Proceedings of the 1st National Conference on "recent Advances in Chemical and Environmental Sciences"*, page No. 90, January 16-17, 2009, M. M. Modi College, Patiala (Pb.).
- **Kaith, B. S.**, Jindal, R., Maiti, Mithu, Mittal, H. and Bhatia, Deeksha "Bio-Degradable Composites of Soy" *Proceedings of the 1st National Conference on "recent Advances in Chemical and Environmental Sciences"*, page No. 91, January 16-17, 2009, M. M. Modi College, Patiala (Pb.).
- **Kaith, B. S.**, Jindal, R., Maiti, M., Mittal H. and Ekta Bala "**Biodegradable Composites of Pea-nuts**" *Proceedings of the 1st National Conference on "recent Advances in Chemical and Environmental Sciences"*, page No. 93, January 16-17, 2009, M. M. Modi College, Patiala (Pb.).
- **Kaith, B. S.**, Jindal, R., Maiti, M., Mittal, H. and Naik, Rama "**Biodegradable composites of corn-starch**" *Proceedings of the 1st National Conference on "Recent Advances in Chemical and Environmental Sciences"*, page No. 94, January 16-17, 2009, M. M. Modi College, Patiala (Pb.).
- **Kaith, B. S.**, Jindal, R., Mittal, H., Maiti, M. and Sharma, Reena "**Biodegradable Composites of Blackgram**" *Proceedings of the 1st National Conference on "Recent Advances in Chemical and Environmental Sciences"*, page No. 97, January 16-17, 2009, M. M. Modi College, Patiala (Pb.).

9. M. Sc. Chemistry Project Work

SNo.	Name of the Students	Roll No.	Name of the Supervisor / Co-supervisor (if any)	Title / Broad area of the major project undertaken
1	Mr. Ajay Singh	08311101	Dr. Rajeev Jindal / Dr. B. S. Kaith	In air synthesis of smart polymers from Gum xanthan-acrylamide and its application in petroleum Industry
2	Ms. Akanksha	08311102	Dr. Harsh Kumar	Solution Thermodynamics
3	Ms. Dimple	08311104	Dr. N. C. Kothiyal	Carbon Nanotube Applications in Civil Engineering
4	Mr. Harminder Singh	08311105	Dr. Jaspreet Rajput	Nanosynthesis
5	Ms. Jasjeet Kaur	08311106	Dr. B. S. Kaith / Dr. Rajeev Jindal	Synthesis of CNT-based smart Polymer-characterization and evaluation of AC/DC stimulated shrinkage behavior
6	Ms. Meenu Singla	08311107	Dr. Harsh Kumar	Solution Thermodynamics
7	Ms. Pooja Sharma	08311108	Dr. Rajeev Jindal / Dr. B. S. Kaith	Ion-dependent salt resistant swelling behavior of Gum-xanthan-acrylamide based

				Hydrogel synthesized under vacuum
8	Ms. Ravinder Kaur	08311109	Dr. Jaspreet Rajput	Heterocyclic synthesis
9	Ms. Usha Kondal	08311110	Dr. B. S. Kaith / Dr. Rajeev Jindal	Preparation of Electrical Stimulate sensitive smart polymer from Gum xanthan-arylamide using microwave irradiation
10	Mr. Variender Singh	08311111	Dr. Sangeeta Obrai	Synthesis of complexes & their studies

10. HONOURS / DISTINCTIONS OF INDIVIDUAL FACULTY MEMBERS

Professor B. S. Kaith

MEMBERSHIPS:

Life-member, Indian Society for Technical Education (ISTE, LM-17275)

Fellow, Indian Chemical Society (F/4968)

Life-member, Indian Society of Analytical Scientists (ISAS, LM- 1097)

Fellow, Society for Chemistry and Environment (A/B 21)

Member, Indian Holistic Medical Society, Associated with International Open University, Colombo (1090).

Fellow, International Journal of Chemical Sciences, Sadguru Publications, Udaipur (Rajasthan), India.

REVIEWER FOR INTERNATIONAL JOURNALS:

Referee for the Royal Society of Chemistry (RSC) Journals (Chemical Communications, Chemical Science, Chemical Society Reviews, New Journal Chemistry and Journal of Materials Chemistry), Cambridge, UK.

Referee for e-Polymer (UK).

Referee for the Journal of Applied Polymer Science, USA (John Wiley & Sons).

Referee for the Carbohydrate Polymers, Elsevier.

Referee for eXPRESS Polymer Letters.

Referee for Polymer Composites Journal , Society of Plastics Engineers

Referee for Polymer Engineering & Science Journal Society of Plastics Engineers

Referee for Bulletin of Materials Science

Referee for Journal of Hazardous Materials

Referee for International Journal of Pharmaceutics

Referee for the Iranian Polymer Journal

Editor:

1. International Journal of Theoretical & Applied Sciences
2. Rasayan Journal of Chemistry

Dr. Harsh Kumar

Dr. Harsh Kumar awarded IISc-INSA-IAS Summer Teacher Fellowship- 2009.

11. Networking Activities :- Joint Research Guidance and other Activities

R & D Activities & Ph. Ds produced / Thesis Submitted

SNo.	Name of the Ph. D Student Produced	Year	Net-working Institute	Name of the Supervisor
1	Dr. Sanjeev Kumar Sharma	2008	Singhania University, Rajasthan	Professor B. S. Kaith
2	Dr. Kiran Kumar	2009	NIT- Hamirpur	Professor B. S. Kaith
3	Dr. Susheel Kumar Sharma	2009	PTU, Jalandhar	Professor B. S. Kaith
4	Dr. Anjali Sharma	2009	NIT- Hamirpur	Professor B. S. Kaith
5	Dr. Ashish Kumar Chauhan	Thesis submitted in 2009	PTU, Jalandhar	Professor B. S. Kaith
6	Ms. Shabnam Ranjta	Thesis Submitted in 2010	NIT- Hamirpur	Professor B. S. Kaith

12. Expert Lecturers Delivered by the External Experts

Sr. No.	Date	Speaker	Address of Speaker	Topic
1	August 17, 2009	Dr. R. K. Garg	Dean Research & Industrial Liaison, National Institute of Technology, Jalandhar	Research Practices in Indian Context
2	September 24, 2009	Prof. C. K. Varshney (Retd.)	School of Environmental Studies, JNU, New Delhi	Ozoen Layer
3	October 13, 2009	Prof. A. K. Chakraborty	Head Medicinal Chemistry Department , NIPER, Mohali (Chandigarh)	Implementing a few Green Chemistry Principles in Academic Research
4	October 23, 2009	Prof. G. S. Chauhan	Department of Chemistry, HP University, Shimla	Smart Polymers as Drug Delivery Devices
5	November 04, 2009	Er. K. S. Nagla	Department of Instrumentation and Control Engg., NIT- Jalandhar	IPR – Practical Experiences
6	February 05, 2010	Professor P K Swamee	Civil Engg., NIT- Jalandhar	Research : Environment, Motivation, Methods and Credits of its Outcome
7	February 26, 2010	Dr. Aurobindo Chatterjee	Textile Engg., NIT- Jalandhar	Polymer- Nanocomposites

8	March 05, 2010	Dr. Arun Khosla	Electronics & Communication Engg., NIT-Jalandhar	Power of Matlab
9	March 12, 2010	Dr. Subodh Kumar	Department of Chemistry, GNDU- Amritsar	Chemical Sensors / Supramolecular Chemistry
10	March 26, 2010	Dr. Ajay Bansal	Chemical Engg., NIT-Jalandhar	Gas-Liquid Flow Phenomenon & Regime Transition in Trickle-Bed-Reactors
11	April 16, 2010	Professor B D Gupta	IIT- Ropar	The Role of History in Research – B ₁₂
12	April 19, 2010	Dr. Sanjeev Gupta	CLRI, Chennai	Application of Polymers
13	April 30, 2010	Dr. M. K. Jha	Chemical Engg., NIT-Jalandhar	Petroleum Technology

13. Achievements of Students

Ms. Meenu Singla, M. Sc. Final year Student and Mr. Hemant Mittal, Ph D Student, attended 2nd Science Conclave Interaction with Nobel Laureates and Eminent Scientists, December 08-14, 2009.
Ms. Jasjeet Kaur, Ms. Pooja Sharma, Mr. Variender Singh and Mr. Harminder Singh, M. Sc. Students were awarded IIT- Kanpur SURGE summer fellowship.
Jasjeet Kaur was awarded Jawaharlal Lal Nehru Centre for advance Scientific Research Bangalore summer fellowships at Indian Institute of Science, Bangalore.
Gurpreet Kaur qualified NET and GATE Exams (M. Sc. 2009 Batch).

Passed out M. Sc. Chemistry students pursuing Ph D abroad

1. Mr. Ajay Singh, Ireland
2. Ms. Mayuri Gupta, National University, Norway
3. Ms. Anshul Sharma, University of Manitoba, Canada
4. Ms. Amita Joshi, University of Dublin, Ireland

14. Research Papers Presented in International

Conferences by Ph D Students

Ms. Deepali Sharma presented paper on "Synthesis and characterization of Zinc Oxide Nanostructures under different reaction conditions" in International conference, Trends in Nanotechnology [TNT - 2009], Barcelona (Spain) September 07-11, 2009.

Mr. Vaneet Kumar attended and Presented paper (Oral) "Assessment of polycyclic Aromatic hydrocarbons in Soil at major Intercept within Jalandhar City and their correlation with distance from the roadside" has been accepted in international Conference from 26- 28 October 2009 at AMU Aligarh

15. Summer Training of M. Sc. Students

(June / July 2009)

- Four at IIT- Kanpur
- Two at CSMCRI - Bhavnagar

- One at IIIM- Jammu
- One at NIPER- Mohali
- One at IOCL, R&D Centre – Faridabad
- One at IHBT- Palampur

(June / July 2010)

- One at NCL- Pune
- Two at IIT- Kanpur
- One at IISC – Bangalore
- One at INSA – Jadavpur
- One at IISER- Mohali
- Three at IHBT- Palampur
- One at Bhavnagar

16. Creative Chemistry Club (C³)

Organized 2nd Amrit Kaur Memorial Science Conclave- 2009 [AKMSC-09] on November 14, 2009.

Organized Educational tour to HP University, Shimla and Indian Institute of Advanced Study, Shimla on September 11-13, 2009.

Organized welcome party / fresher's day (2009 batch) on October.22, 2009.

Mr. Gagandeep Singh was selected Mr. Fresher on October 22, 2009.

Ms. Sapna Devi was selected Ms. Fresher on October 22, 2009.

Organized Diwali celebration October 15, 2009.

Organized Departmental Sports Day, February 06, 2010

Organized CHEMMANIA – 2010, February 09, 2010

Organized Industrial tour to Usha Martin Ltd, Reliance Ltd and Verka Milk Plant, Hoshiarpur on April 02, 2010.

Department of Civil Engineering

1. Academic Programs

- Bachelor of Technology in Civil Engineering
- Master of Technology in Structural and Construction Engineering (Full Time)
- Master of Technology in Structural and Construction Engineering (Part-Time)
- Ph.D in various specializations of Civil Engineering (Full Time and Part-Time)

2. Development of Laboratories

The Department is having state of the art facilities in various laboratories. The following new instruments/equipments/software have been added in year 2009-10:

- ZWCAD 2009 (20 User) Professional
- UV Visible double beam spectrophotometer
- Precision Balances
- Initial Surface Absorption Test Apparatus for Concrete
- Universal Concrete specimen cutting machine
- Rapid Chloride Penetration Test Apparatus for concrete
- Buoyancy Balance
- Concrete Carbonation chamber
- Non-destructive Test Equipment for concrete
- Accelerating Curing Tank
- Concrete Impermeability Apparatus as per DIN and BS Standards
- Concrete Permeability Apparatus
- J – Ring, V- funnel and L – Box to determine workability of Self – Compacting Concrete
- Dessicators

3. Research and Development Activities

- Members of faculty are continuously engaged in the research activities and as a result a number of publications are coming up in various International & National Journals and International Conferences

4. Students Registered for M.Tech. 10

• Research Publications

- Y Mohammadi, S P Singh, S K Kaushik (2009), "Impact Resistance of Steel Fibrous Concrete Beams Containing Fibres of Mixed Aspect Ratio", *Construction and Building Materials*, Elsevier Science, 23, pp. 183-189, UK .
- Swamee, P.K., Aggarwal, N., and Bhobhiya, K., "Optimum design of cyclone separator." *AICHEJ*(American Institute of Chemical Engineer Journal) 55(9), Sep. 2009, 2279-2283.
- Swamee, P.K., and Swamee, N., "Discharge equation of a circular sharp-edged orifice." *J. Hydraulic Research.*, IAHR, (accepted for publication).

- Singh, S.K., and Swamee, P.K., "Approximate simple invertible equations for consolidation curves under triangular excess pore-water pressures." *Geotechnical and Geological Engineering*, Springer, (accepted for publication).
- S P Singh, Y Mohammadi, S K Kaushik, "Flexural Fatigue Strength Prediction of Steel Fibre Reinforced Concrete", *Electronic Journal of Structural Engineering*, Australia, (*Accepted*).
- Y. Mohammadi, S. P. Singh, S. K. Kaushik, "Properties of Steel Fibrous Concrete Containing Mixed Fibres in Fresh and Hardened State", *Construction and Building Materials*, Elsevier Science, UK (*In Press*).
- Rizwan A. Khan and Suhail Ahmad (2009), "Probabilistic Fatigue Safety Analysis of Oil and Gas Risers under random Loads", *Proceedings International Conference on offshore Mechanics and Arctic Engineering (OMAE 2010)ASME*, 6th June-11th June, 2010, Shanghai, China.(Accepted).

5. Short Term Courses/Training Program/Seminars /Conferences organized /attended by the faculty.

- Dr. S. P. Singh attended UKIERI Research Project meetings at the University of Dundee, Dundee, Scotland, UK in July 2009
- Dr. S. P. Singh and Dr. Rizwan Khan organized one day Workshop on "Information Education and Communication (IEC) in Disaster Management for Master Trainers" on 9th Sep 2009.
- Dr. S. P. Singh attended International Symposium on Brittle Matrix Composites (BMC-09) at Poland (Warsaw) in October 2009.
- Dr. Rizwan Khan attended a Short term course on "Disaster & Earthquake Risk Management for rural and Urban Housing, at MBM Engg college, Jodhpur, from 07.12.09 - 11.12.2009.
- Dr. S. P. Singh and Dr. Rizwan Khan organized 6 days training programme on "Earthquake Risk Management", for the field engineers of Punjab Government, from 14th -19th Dec 2009 under National Programme for capacity Building of Engineers in Earthquake Risk Management.
- Mrs. Shailja attended a Short term course on "GIS and Transportation system planning" at NIT Hamirpur from 20-12-09 to 25 -12-09.
- Dr. S. P. Singh conducted 2 days UKIERI Research Project Workshop on "Sustainable High Performance Concrete Infrastructure", at NIT Jalandhar from February 15 - 16, 2010.
- Dr. S. P. Singh and Dr. A .P. Singh attended UKIERI International Seminar held at GNDEC Ludhiana on February 17, 2010.
- Technical Lecture on Ready Mixed Concrete on 11 March 2010– sponsored by Ultra Tech Cement

8. Consultancy Services completed/On going

- The Department of Civil Engineering is continuously engaged in providing consultancy to various Government, Semi Government and Private Organizations in the area of Structural Design of buildings, Water Tanks; soil exploration studies, Testing of Soil and other building materials such as Cement, Aggregates, Bricks, Steel etc, The Department is also engaged in the Design of Concrete Mixes of various grades. A number of assignments have been completed and are presently in hand. The total amount of consultancy carried out by the department is Rs. 15 lacs - during year 2009-2010 (as on date)

Department of Computer Science and Engineering

1. Academic Programmes

Undergraduate Programmes

- B. Tech. in Computer Science and Engineering

Postgraduate Programmes

- M. Tech. in Computer Science and Engineering
- M. Tech. Part Time in Computer Science and Engineering
- Full and part Time Ph.D. Programmes in Computer Science and Engineering

2. Development of laboratories

- Information and Security Lab under ISEA by MCIT, New Delhi.
- Software Engineering & Linux Laboratory
- RDBMS & Programming Language Laboratory
- Data Communication & Computer Networks Laboratory
- Microprocessor & Digital Circuit & Logic Design Laboratory
- Wireless Networks Laboratory
- Embedded System Laboratory

3. Research and development activities

Dr Ajay K Sharma involved in research activities in the area of:

- **Optical Communication Systems:** Performance Analysis and Dispersion Compensation for Broadband Optical Systems and Networks (Linear and Non-linear), Radio-over-Fiber, Soliton Transmission links.
- **Optical Networks:** WDM/DWDM Networks their performance analysis and cross-talk evaluation.
- **Wireless Communication Systems:** Performance analysis and simulation of wireless systems, wireless LAN and wireless sensor networks using MATLAB, OPNET, OMNeT++ and NS2.

Dr. A. L. Sangal is involved in activities in the area of:

- Scientific Computing and Computer Networks

Dr. Harsh K Verma is involved in activities in the area of:

- Numerical Computing, Information Security and Software Systems.

Dr. Renu Dhir is involved in activities in the area of:

- Image Processing, Cryptography and Information Security Systems.

Ms. Geeta Sikka is involved in activities in the area of:

- Software Engineering and Data Mining

4. **Students registered for M. Tech., M.Tech by Research and Ph. D. (Number, Area of Research)**

Sr. No.	Name of the Student	Registered for	Completed /On going
1.	Ms. Maninderjit Kaur	Ph. D (Full Time)	On Going
2.	Mr. Sukhvinder Singh	Ph. D (Full Time)	On Going
3.	Mr. Raman Kumar	Ph. D (Part Time)	On Going
4.	Ms. Neetu Sood	Ph. D (Part Time)	On Going
5.	Mr. Vinit Grewal	Ph. D (Full Time)	On Going
6.	Ms Geeta Sikka	Ph. D (Part Time)	On Going
7.	Mr Vishal Sharma	M Tech by Research in Software Engineering	Completed
8.	Mr Santosh Mishra	M Tech by Research in Adhoc Networks	Completed
9.	Ms. Sheenam Goyal	Ph. D (Full Time)	On Going
10.	Ms. Deepti Gupta	Ph. D (Full Time)	On Going
11.	Ms. Rajneesh Rani	Ph. D (Part Time)	On Going
12.	Mr. H. S. Bindra	Ph. D (Full Time)	On Going
13.	Mr. Sandeep Mehmi	Ph. D (Part Time)	On Going
14.	Ms. Gausia Qazi	Ph. D (Part Time)	On Going
15.	Mr. Nischay Bahl	Ph. D (Part Time)	On Going
16.	Mr. Sunil Gupta	Ph. D (Part Time)	On Going

5. **Research Publications (in Bibliographic format)**

a) **International Journals / National Journals**

- Paramjeet Singh, **Ajay K. Sharma** and Shaveta Rani “**Distributed control based routing and wavelength assignment strategy for WDM optical networks**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Volume 121, Issue 8, Pages 679-683, April 2010.
- Neetu Sood, **Ajay K Sharma** and Moin Uddin “**On Channel Estimation of OFDM-BPSK and -QPSK over Generalized Alpha-Mu Fading Distribution**”, *Int'l J. of Communications, Network and System Sciences*, Scientific Research Publishing, ISSN Print: 1913-3715, ISSN Online: 1913-3723, (Accepted)
- Manjit Singh, **Ajay K. Sharma**, R.S. Kaler “**On duty cycle selection of RZ optical pulse to optimize the performance of dispersion compensated 10 Gbps single channel optical communication system using dispersion compensating fibers**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Volume 121, Issue 8, Pages 689-695, April 2010.
- Manjit Singh, **Ajay K. Sharma** and R.S. Kaler “**Investigations on order and width of RZ super Gaussian pulse in pre-, post- and symmetrical-dispersion compensated 10 Gb/s optical communication system using standard and dispersion compensating fibers**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Volume 121, Issue 7, Pages 609-616, April, 2010.
- Manjit Singh, **Ajay K. Sharma** and R.S. Kaler “**Reduction in timing jitter by chirp selection for externally modulated return to zero optical soliton pulse at 10 Gb/s**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Volume 121, Issue 7, Pages 665-672, April 2010.
- Anu Sheetal, **Ajay K. Sharma** and R.S. Kaler “**Simulation of high capacity 40 Gb/s long haul DWDM system using different modulation formats and dispersion compensation schemes in the presence of Kerr's effect**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Volume 121, Issue 8, Pages 739-749, April 2010.
- Anu Sheetal, **Ajay K. Sharma** and R.S. Kaler “**Minimization of self-steepening of ultra short higher-order soliton pulse at 40 Gb/s by the optimization of initial frequency chirp**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Volume 121, Issue 5, Pages 471-477, March 2010.

- Anu Sheetal, **Ajay K. Sharma** and R.S. Kaler “**Impact of optical modulation formats on SPM-limited fiber transmission in 10 and 40 Gb/s optimum dispersion-managed lightwave systems**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Volume 121, Issue 3, Pages 246-252, February 2010.
- Amarpal Singh, **Ajay K. Sharma**, Sharanjot Singh and Paramjit Singh “**Performance analysis of OTDM system in the presence of FEC using symmetric Mach-Zehnder Switch**”, Elsevier Science, *Optik, International J. for Light and Electron Optics, Germany, Elsevier Science*, Volume 121, Issue 4, Pages 326-329, February 2010.
- Vinod Kapoor, **Ajay K. Sharma** and R A Agarwala “**Analytical Investigations on Crosstalk in Fiber Raman Amplification for WDM Systems**”, Elsevier Science, *Optik, International J. for Light and Electron Optics, Germany, Elsevier Science*, Vol. 121 pp. 50–53, January 2010.
- Vinod Kumar, **Ajay K. Sharma** and R.A. Agarwala “**Investigation on interchannel crosstalk at ADM for an optical ring network**” Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Vol. 121 pp. 45–49, January 2010.
- Manoj Kumar, **Ajay K. Sharma** and T.S. Kamal “**Performance evaluation of path-averaged soliton pulses in loss-managed 10-Gbps soliton transmission link over a long haul**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics*, Vol. 121, 68–76, January 2010.
- Shaveta Rani, **Ajay K. Sharma** and Paramjeet Singh “**Restoration optimization strategy for multifiber optical networks**”, Elsevier Science, *Optik-International Journal for Light and Electron Optics*, Volume 121, Issue 2, Pages 174-177, January 2010.
- Manjit Singh, **Ajay K. Sharma** and R. S. Kaler “**Investigations on Timing Jitter by Chirp Selection of External Modulator in Return-to-Zero Optical Soliton Pulse Transmission at 10 Gb/s**” Fiber and Integrated Optics, Taylor & Francis Group, USA, vol. 28, pp. 354–365, April 2009.
- **Ajay K. Sharma**, Amarpal Singh, Manisha “**Impact of FEC on different modulation formats in optical communication systems**” International Journal of Communication Networks and Distributed Systems, Vol. 3, Issue 1, pp. 3-14, June 2009.
- Vishal Sharma, Amarpal Singh and **Ajay K. Sharma** “**Simulative Investigation on the Impact of Laser- Spectral Width in Single-tone Radio over Fiber Transmission System using Optical Single Side-band Technique**”, Elsevier Science, *Optics and Lasers in Engineering*, Vol. 47, Issue 11, Pages 1145-1149, November 2009.
- **Ajay K. Sharma** and Amarpal Singh “**Impact of FEC on different modulation formats in optical communication systems**” International Journal of Communication Networks and Distributed Systems, Volume 3, Number 1 / 2009, pages 3–14, 2009.
- Vishal Sharma, Amarpal Singh, **Ajay K. Sharma** “**Simulative investigation of nonlinear distortion in single- and two-tone RoF systems using direct- and external-modulation techniques**” *Optik - International Journal for Light and Electron Optics, In Press, Corrected Proof, Available online 28 August 2009.*
- **Ajay K. Sharma** and Sandeep K. Arya “**Improved analysis for SRS- and XPM-induced crosstalk in SCM-WDM transmission link in the presence of HOD**”, *Optik - International Journal for Light and Electron Optics*, vol. 120, pp. 773–781, October 2009.
- Vishal Sharma, Amarpal Singh and **Ajay K. Sharma** “**Simulative investigation of the impact of EDFA and SOA over BER of a single-tone RoF system**”, Elsevier Science, *Optik - International Journal for Light and Electron Optics, In Press, Corrected Proof, Available online 6 May 2009.*
- Shaveta Rani, **Ajay K. Sharma** and Paramjeet Singh “**Survivability strategies with backup multiplexing in WDM optical networks**”, Elsevier Science, Elsevier Science, *Optik - International Journal for Light and Electron Optics, Volume 120, Issue 10, June 2009, pp. 497-503.*
- **Harsh Kumar Verma**, Ramanpreet Kaur and Raman Kumar, *Random Sample Audio Watermarking Scheme for Compressed Wave Files*, *International Journal of Computer Science and Network Security*, 283-287, Nov, 2009.
- **Harsh Kumar Verma**, Abhishek Narayan Singh and Raman Kumar, *Robustness of Digital Image Watermarking Techniques against Brightness and Rotation Attack*, *International Journal of Computer Science and Information Security*, 036-040, Sept., 2009.
- **Harsh K Verma** and Suraj Srivastava, *Performance Evaluation of Mining Algorithm for Multiple-level Association Rules*, *European Journal of Scientific Research*, Volume 4, No. 10, 40 -45,

2010.

- Raman Kumar and **Harsh Kumar Verma**, *Secure Threshold Proxy Signature Scheme for Known Signers*, **Journal of Information Assurance and Security, Volume 5 , 319-326, 2010.**
- Raman Kumar and **Harsh Kumar Verma**, *Wireless Application Software Platform, Enterprise Information Systems in 21st Century Opportunities and Challenges*, **516-526, 2009.**
- Amandeep Kaur , **Renu Dhir** , **Geeta Sikka** “**A New Image Steganography based on First Component Alteration Techniques**” published in International Journal of Computer Science and Information Security 2009.

b) **International Conferences**

- Vinit Grewal and **Ajay K Sharma** “**On QoS Aspects with Different Coding and Channel Conditions for a WiMAX based Network**” IEEE 2nd International Advance Computing Conference (IEEE IACC 2010) held at Thapar University, Patiala, pp 181-184, 19-20th February, 2010.
- Neetu Sood, **Ajay K Sharma** and Moin Uddin “**BER Performance of OFDM-BPSK and -QPSK over Nakagami-m Fading Channels**” IEEE 2nd International Advance Computing Conference (IEEE IACC 2010) held at Thapar University, Patiala, India, pp. 88-90, 19-20th February, 2010.
- **Ms. Geeta Sikka**, Dr. Arvinder Kaur, Dr. Moin Uddin “**Comparison of Imputation Techniques for Software Fault proneness in models**” presented at International Conference on Computer, Electrical, and System Science and Engineering ICCESSE 2010 organized by World Academy of Science, Engineering and Technology (WASET), Penang, Malaysia. Feb 2010.
- **Harsh K Verma** and Vishal Sharma “**Handling Imprecisions in Inputs using Fuzzy Logic to Predict Effort in Software Development**” presented at IEEE 2nd International Advance Computing Conference (IEEE IACC 2010) held on 19-20th February, 2010 at Thapar University, Patiala
- Raman Kumar and **Harsh K Verma** “**An Advanced Secure (t,n) Threshold Proxy Signature Scheme Based on RSA Cryptosystem for Known Signers**” presented at IEEE 2nd International Advance Computing Conference (IEEE IACC 2010) held on 19-20th February, 2010 at Thapar University, Patiala
- Sunil Gupta, **Harsh Kumar Verma** and A. L. Sangal, *Authentication Protocol for Sensor Networks, International Conference on Communication and Information Technology, ICCITE 2010, Paris, France, Issue 66, 592-598, 2010.*
- **Renu Dhir**, “**Moment based Invariant Feature Extraction Techniques for Bilingual Character Recognition** “, in the IEEE International Conference of Education Technology and Computer (ICETC)-2010 held at Shanghai, China Vol. No.4, Pp. 80-84 June 22-24, 2010.
- Kawal jeet Kaur and **Renu dhir** “**Maso: A tool for Aiding the management of Schedule overrun**”, IEEE International Advance Computing Conference IACC-2010 held at Thapar Institute of Engineering and Technology, India February 19-20 2010.
- Sheenum, Kiran Deep, and **Renu Dhir**, “**Cyber Law in Cyber space**”, in *The Proceedings of All India Seminars on Advance Computing-2010*, held at Doaba Institute of Engineering & Technology, Mohali, India, March 11-12, 2010.
- Anuj and **Renu Dhir** “**A Wordset Based Document Clustering Algorithm for Large Datasets**”, International Conference on Methods and Models in Computer Science (ICM2CS09) held at JNU Delhi, India, Pp. 32-38 14 -15 December 2009.
- **Ms. Geeta Sikka**, Dr. Arvinder Kaur, Dr. Moin Uddin “**Estimating Function points: Using Machine learning and Regression models**” presented at International Conference on Education Technology and Computer (ICETC) at Shanghai , China, June 2010

c) **Books**

NIL

d) **RESEARCH SUPERVISION**

Dr Ajay K Sharma**SUPERVISION OF Ph.D. STUDENTS:****Supervised:**

Sr	<u>Year</u>	<u>Candidate</u>	<u>Thesis Title and Affiliation</u>
1.	2009	S K. Wadhwa Dept. of Computer Science and Engineering, VIET, Dadri	<i>Physical Impairments in Wavelength Switched Optical Networks</i> , February 19, 2003, Punjab Technical University, Jalandhar <u>Defended on May 11, 2009.</u>
2.		Shaveta Rani, Assistant Professor, Dept. of CS, GZSCET, Bathinda, Punjab	<i>Investigations on the Survivability Strategies for Wavelength Division Multiplexing (WDM) Optical Networks</i> , 20 th May 2004, BITS, Pilani, Rajasthan. <u>Defended on June 5, 2009.</u>
3.		Jyotesh Malhotra, Lecturer GNDU Regional Campus, Jalandhar	<i>Performance Evaluation and Simulation of Wireless Communication Systems in the presence of Fading</i> , 14 th May 2003, Punjab Technical University, Jalandhar. <u>Defended on October 27, 2009</u>
4.		Manjit Singh, Reader, Punjabi University, Patiala	<i>Analysis and Simulation of Timing Jitter in Optical Communication Systems and Networks</i> , 2 nd June 2003, Punjab Technical University, Jalandhar <u>Submitted on June 17, 2009</u>

SUPERVISION OF M.TECH STUDENTS:**Supervised:**

Sr	<u>Year</u>	<u>Candidate</u>	<u>Thesis Title and Affiliation</u>
1.	2009	Neeraj Chaudhry, M.Tech CSE Student	<i>Simulation and Performance Evaluation of Wireless Sensor Networks for Different Path Models</i> , January 2009, National Institute of Technology, Jalandhar <u>Defended on November 21, 2009</u>
2.		Deepti Gupta, M.Tech CSE Student	<i>Performance Evaluation of Routing Protocols for Wireless Sensor Networks with different Radio Models</i> , January 2009, National Institute of Technology, Jalandhar <u>Defended on October 28, 2009</u>
3.		Monica, M.Tech CSE Student	<i>Simulative Investigations on Energy Consumption for Wireless Sensor Networks using OMNeT++</i> , January 2009, National Institute of Technology, Jalandhar <u>Defended on October 28, 2009</u>

Dr A.L. Sangal**SUPERVISION OF Ph.D. STUDENTS:****Under Supervision:**

Sr No	Year	Candidate	Area of Research and Affiliation
1	2010	Sandeep Mehmi, RS, NIT, Jalandhar	<i>Evaluation of various Aspects of Computer Networks</i> , National Institute of Technology, Jalandhar
2	2010	Sunil Gupta, Gurgaon	<i>Information Security</i> , National Institute of Technology, Jalandhar
3	2009	H S Bindra, RS, NIT, Jalandhar	<i>Evaluation of various Aspects of Computer Networks</i> , National Institute of Technology, Jalandhar

SUPERVISION OF M.TECH STUDENTS:**Supervised:**

Sr	Year	Candidate	Thesis Title and Affiliation
1.	2010	Mr. Sunil Kumar	<i>Traffic Pattern Based Performance Comparison of MANET Routing Protocols For Various Mobility Models</i> , June 2010, National Institute of Technology, Jalandhar <u>Defended on June 14, 2010</u>

Dr Harsh K Verma**SUPERVISION OF Ph.D. STUDENTS:****Under Supervision:**

Sr No	Year	Candidate	Area of Research and Affiliation
1.	2010	Nishchay Behal, Assistant Professor CSE, DAV College Jalandhar	<i>Wireless Sensor Networks</i> , National Institute of Technology, Jalandhar
2.	2010	Sandeep Mehmi, RS, NIT, Jalandhar	<i>Information Security</i> , National Institute of Technology, Jalandhar
3.	2010	Sunil Gupta, Gurgaon	<i>Information Security</i> , National Institute of Technology, Jalandhar
4.	2007	Maninderjit Kaur, RS, NIT, Jalandhar	<i>Web metrics analysis of Indian Language Script</i> , PTU Jalandhar
5.	2007	Raman Kumar , Lecturer, DAVIET Jalandhar.	<i>Information Security</i> , National Institute of Technology, Jalandhar

SUPERVISION OF M.TECH STUDENTS:**Supervised:**

Sr No	Year	Candidate	<u>Thesis Title and Affiliation</u>
1.	2009	Mr. Pundreek Rattan	<i>Workflow Optimization in ETL Using Genetic Algorithms</i> December 2009, National Institute of Technology, Jalandhar Defended on December 20, 2009
2.		Mr. Ramanpreet Kaur	<i>Random Sample Audio Watermarking Scheme</i> December 2009, National Institute of Technology, Jalandhar Defended on December 05, 2009
3.		Mr. V M Rao	<i>Self-Organizing Chord P2P Overlay</i> December 2009, National Institute of Technology, Jalandhar Defended on December 05, 2009
4.		Mr. Neeraj Kumar	<i>A Bit Table Based Knowledge Discovery System for Large Transactional Database</i> October 2009, National Institute of Technology, Jalandhar Defended on October 13, 2009
5.		Ms. Abhshek Narayan Singh	<i>Robustness of Digital Image Watermarking Techniques against Brightness and Rotation Attack</i> October 2009, National Institute of Technology, Jalandhar Defended on October 13, 2009
6.		Mr. Suraj Srivasatava	<i>Performance Evaluation of Mining Algorithm for Multi-level Association Rules</i> December 2009, National Institute of Technology, Jalandhar Defended on December 20, 2009

Dr Renu Dhir**SUPERVISION OF Ph.D. STUDENTS:****Under Supervision:**

Sr	Year	Candidate	<u>Area of Research and Affiliation</u>
1.	2010	Rajneesh Rani, Assistant Professor CSE & RS, NIT Jalandhar	<i>Image and Natural Language Processing</i> , National Institute of Technology, Jalandhar
2.	2009	Sheenam Goyal, RS, NIT, Jalandhar	<i>Information Security</i> , National Institute of Technology, Jalandhar
3.	2008	Rupinder Kaur, Lecturer, Khalsa College Chandigarh	<i>Web metrics analysis of Indian Language Script</i> , PTU Jalandhar
4.	2007	Raman Kumar, Lecturer, DAVIET Jalandhar.	<i>Information Security</i> , National Institute of Technology, Jalandhar

SUPERVISION OF M.TECH STUDENTS:**Supervised:**

1.	2009	Mr. Anuj Sharma	<i>A Word sets based Document Clustering Algorithm for Large Document datasets</i> , September 2009, National Institute of Technology, Jalandhar <u>Defended on September 14, 2009</u>
2.		Ms. Aman Preet Kaur	<i>Enhanced Image Steganographic Technique for both Colored and Gay-scale Images</i> , December 2009, National Institute of Technology, Jalandhar <u>Defended on December 11, 2010</u>
3.		Mr. Deepak Xaxa	<i>Parallel Task Assignment using Graph Matching</i> , December 2009, National Institute of Technology, Jalandhar <u>Defended on December 11, 2010</u>
4.		Mr. Krishan Kumar	<i>Detection of Anomaly in Online Transaction</i> , December 2009, National Institute of Technology, Jalandhar <u>Defended on December 11, 2010</u>

Ms. Geeta Sikka**SUPERVISION OF M.TECH STUDENTS:****Supervised:**

1	2009	Ms. Aman Preet Kaur	<i>Enhanced Image Steganographic Technique for both Colored and Gay-scale Images</i> December 2009, National Institute of Technology, Jalandhar <u>Defended on December 11, 2010</u>
2		Mr. Neeraj Kumar	<i>A Bit Table Based Knowledge Discovery System for Large Transactional Database</i> October 2009, National Institute of Technology, Jalandhar <u>Defended on October 13, 2009</u>

7. Projects Completed/On Going/sponsored projects

- On going project - Information Security Lab development under Information Security Awareness Programme (ISEA) of Ministry of Communication & Information Technology, New Delhi.
- Designing and Simulation of High Data Rate Optical Fiber Transmission Systems (**Ongoing**) Funded by Ministry of Human Resource Development (MHRD) Govt. of India, New Delhi (2004-2007), NIT, Jalandhar.

8. Details of faculty, who have upgraded qualifications

NIL

9. Details of faculty who have enrolled for higher qualifications:

- Rajneesh Rani enrolled for Ph D at Dr. B R Ambedkar National Institute of Technology, Jalandhar

10. Short term courses/training programs/seminars/ conferences/ workshops/symposia attended by the faculty

- Dr Ajay K Sharma attended One-day workshop on Information Security at IIT Roorkee on September-2009.
- Dr A L Sangal attended tutorials on Security Engineering at IISC Bangalore during Dec. 14-16, 2009.
- Dr Harsh Verma attended one day Workshop on Information Security in September 2009 at IIT Roorkee
- Dr Harsh Verma attended Expert Lectures/ Tutorials by Professor Ross Anderson, University of Cambridge in September 2009 at IISc Bangalore.
- Dr Renu Dhir attended and Presented paper in the IEEE International Advance Computing Conference IACC-2009 held at Thapar Institute of Engineering and Technology, India, pp. 119-124, March 6-7 2009
- Dr Renu Dhir attended and Presented paper in the International Conference on Methods and Models in Computer Science (ICM2CS09) held at JNU Delhi, India, Pp. 32-38 14 -15 December 2009.
- Dr Renu Dhir attended and Presented paper in the IEEE International Advance Computing Conference IACC-2010 held at Thapar Institute of Engineering and Technology, India February 19-20 2010.
- Ms. Geeta Sikka attended One week workshop on *Instrumentation and Signal Processing* NIT, Jalandhar sponsored by MHRD from 11-15 January, 2010
- Mr D.K .Gupta attended one week Short Term Course on Instrumentation and Signal Processing organized by Dr. B.R. Ambedkar National Institute of Technology , Jalandhar sponsored by AICTE/MHRD (11-01-2010 to 15-01-2010)
- Mr D.K .Gupta attended one week Short Term Course on Enhancing Competitiveness in Manufacturing & Services Organizations organized by Dr. B.R. Ambedkar National Institute of Technology , Jalandhar sponsored by AICTE/MHRD (20-07-2009 to 24-07-2009)
- Mr D.K .Gupta attended one week Short Term Course on Modern Practices in Measurement & Instrumentation Engineering organized by Dr. B.R. Ambedkar National Institute of Technology , Jalandhar sponsored by AICTE/MHRD (13-07-2009 to 17-07-2009)
- Mr Rahul Aggarwal attended one week workshop on *Instrumentation and Signal Processing* 11-15 January, 2010 sponsored by MHRD
- Mrs. Rajneesh Rani attended AICTE/MHRD sponsored short term Course "Modern Practices in Measurement & Instrumentation Engineering" from July 13, 2009 to July 17, 2009 at NIT Jalandhar.
- Mrs. Rajneesh Rani attended one day National Seminar RAFIP 2010 on 30th March , 2010 at Punjabi University Patiala.
- Mrs. Rajneesh Rani attended Coordinators workshop on "Effective teaching/ Learning of Computer Programming" on May 2-5, 2010 at IIT Bombay.

11. Short term courses/workshops/seminars organized:

- Dr Ajay K Sharma and Dr Harsh K Verma organized One-Day Workshop on Information Security at Dr. B R Ambedkar National Institute of Technology, Jalandhar on Feb 6, 2010.

- Dr Ajay Sharma and Mrs. Rajneesh Rani acted as remote center coordinator for the ISTE Workshop “Effective Teaching/Learning of Computer Programming” conducted by IIT Bombay from June 28 to July 10, 2010.

12. Patents secured/applied:

- Joint patent on “A Novel Method of FWM Suppression for DWDM and WDM Optical Transmission Links” with Center for Optoelectronics & Optical Communications University of North Carolina, Charlotte, USA by Dr. Ajay Sharma.

13. Expert talks delivered:

Name Of Resource Person	Topics Covered	Dates
Col Sh. Ashish Saxena F/o Late Mr. Akash Saxena New Delhi	Emerging Threats and Risk Mitigation in Cyber Space	May 14, 2010

14. Consultancy services completed/on going:

NIL

15. Students’ activities organized by PACE

- Organized Technical Robotics event of White line follower Autonomous Robot Event 22nd April, 2009.
- Organized an event of MOCK Placement examination for three days from 30th March to 1st April 2009.

16. Membership to professional bodies

Dr Ajay K Sharma

- Appointed as **member** of technical Committee on Telecom under International Association of Science and Technology Development (IASTD) Canada for the term 2004-2007.
- **Technical reviewer** for The Journal of SPIE- The International Society for Optical Engineering, USA.
- **Technical reviewer** for the Journal Optics Letters Optical Society of America, USA.
- **Technical reviewer** for the Journal Optics Communication, Elsevier, USA.
- **Technical reviewer** for the Journal Digital Signal Processing (DSP), Elsevier, USA.
- **Life member** of Indian Society for Technical Education (I.S.T.E.), New Delhi.
- Appointed as **Research Board of advisers** by the American Biographical Institute, USA for the Year 1999.
- **Member**, National Advisory Committee, 3rd National Conference On Communications & Networking (NCCN-10) March 12-13, 2010. Department of Electronics & Communication Engineering, Sant Longowal Institute of Engineering & Technology, LONGOWAL-148106
- **Member**, Technical Committee, IEEE 2nd International Advance Computing Conference (IACC 2010) on February 19-20, 2010, TU, Patiala.
- **Member**, Editorial Board, International Journal on Computer Engineering and Information Technology, Scientific Engineering Research Corporation, India and USA
- **Member**, International Review Board, *The International Journal of Engineering Research & Innovation (IJERI)*, California State University, Northridge, CA, USA
- **Member**, International Scientific Committee, 3rd International Conference on Intelligent Systems and Networks (IISN-2009) (February 14-16, 2009), Klawad, Distt.Yamuna Nagar (Haryana)
- **Chief Guest**, National Conference on Recent Trends in Computer Science and IT, (RTCS & IT) August 16, 2008, BCET, Gurdaspur, Punjab, India

- **Chief Guest**, Valedictory Function, National Conference on Recent Advances in Electronics and Communication Technology, (RAECT-06), GNDEC, Ludhiana, Punjab, (India) on 10 November 2006.
- Awarded the Indian Railways S/Ship for 4 years during B.E. (1982-86).
- Awarded certificate for being Secretary of Physico Chemical Society during pre-engineering.
- Awarded certificate for being 1st in Physics and Mathematics in University during pre-engineering.
- Awarded certificate for participation at National Level Essay Competition during pre-engineering.

Dr Harsh K Verma

- Dr Harsh K Verma, Awarded by Punjab Unaided Technical Institutions Association for Outstanding Contribution to technical education
- **Life member** of Indian Society for Technical Education (I.S.T.E.), New Delhi

17 Any other significant achievement

- **Ms Maninder Kaur**, RS of **Dr Harsh K Verma and Dr Moin Uddin** has been short listed for the Commonwealth fellowship at UK for conducting her research in the area of Cognitive Radio.
- Among Top 25 article in the year 2009:
Four-wave mixing analysis in WDM optical communication systems with higher-order dispersion *Optik - International Journal for Light and Electron Optics*, Volume 119, Issue 16, December 2008, Pages 788-792
Singh, A.; **Sharma, A.K.**; Kamal, T.S.
- **Rohit Raghunathan**, B.Tech. (CSE), 2009 graduate.
Secured full scholarship worth \$12,000 per academic year out of 1200 International students.
- **Pankaj Yadav, Sumit K Saini** (3rd year, CSE) and Arvind Deorani (final year, ICE)
 - 2nd prize in the robotics event named Xtension at KHITIJ 2010 (IIT Kharagpur techfest)
 - Among top 6 in National competition of Robowars among 60 teams. Techfest 2009 (IIT Bombay techfest)
- Prof. A. L. Sangal is coordinator AIEEE admissions in 2008 and 2009.
- Books purchased worth Rs. 2.00 Lacs (approximately) for the Information security Lab under ISEA Project.
- MOU signed with HP for the conduct of major projects.

Department of Electronics and Communication

1. ACADEMIC PROGRAMS

- B.Tech (ECE),
- M.Tech (ECE) Regular
- M.Tech (VLSI Design) Regular
- Ph.D (Part Time/ Regular)

2. NEW EQUIPMENT PROCURED

AMOUNT (IN RS)

- Software tool procured – Qualnet 4 lacs
- Recommendations made for procurement of software tools - Network Design Module, IDL and Mathematica 8.95 Lacs
- Universal Programmer 5 lacs
- Zig Bee Wireless Application Systems 16500/-
- Radio frequency Application Board 35000/-
- Embedded GSM Development Board 23000/-
- Embedded Bluetooth Development 26000/-
- Wi Fi (IEEE 082.11b) 26000/-
- RF ID Application System 48000/-
- Embedded 8051 TCP/IP Application Board 26000/-
- Embedded Biometric Board 20000/-
- Embedded Biometric Board 35000/-

3. RESEARCH AND DEVELOPMENT ACTIVITIES

VLSI, Microwaves, Optical and Wireless Communication, Fuzzy Systems, Neural Networks and Soft Computing, Biomedical Signal Processing.

4. PG DISSERTATION COMPLETED

Topic	Candidate Name	Supervisor
Performance Aspects And Handover Study In Wimax Radio Systems And Networks	Mr. Vijay Kumar	Dr. Arun Khosla
Implementation Of 3-D Ray Tracing Propagation Model For Indoor Wireless Communication	Ms. Ashita	Dr. Arun Khosla
Design Of 2.4 Ghz CMOS LNA For W Lan And ISM Band Applications	Anil Kumar Bhardwaj	Dr. R.K sarin
A Fuzzy Based Congestion Controller For 3g Networks	Chamandeep Kaur	Dr. Arun Khosla

Design Of Large Bandwidth Fully Differential Folded Cascode Ota	Shailendra Singh	Dr. R.K Sarin
High Throughput Fir Filter Using Distributed Arithmetic	Subvesh Rai Chand	Ashish Raman
Optimization Of Fir Filter Using Rag Algorithm	Tarandip Singh	Indu saini

5. STUDENTS REGISTERED FOR Ph.D

- 10 students registered for Ph.D in ECE Department

6. STUDENTS ACTIVITIES ORGANIZED

Event	Date	Detail
Fresher Party	9.11.2009	Welcome Party <i>for first year students</i>
Aptitude Test by P.T	20.01.2010	An aptitude test The MBA format conducted by educational institute P.T
ORCAD Workshop	29-30.03.2010	ORCAD workshop conducted by the Members of S for the students of NITJ
Farewell Party	30.04.2010	Farewell party given by the students of ECE to the current Final year students.

7. RESEARCH PUBLICATIONS IN INTERNATIONAL AND NATIONAL JOURNALS AND INTERNATIONAL CONFERENCES

International Conferences

- Anvesh Kumar , Ashish Raman, R K Sarin, Arun Khosla, "Small area Reconfigurable FFT Design by Vedic Mathematics", *2nd International Conference on Computer and Automation Engineering (ICAAE), Singapore on 26-28 Feb. 2010.*
- Prabhjot Kaur, Moin Uddin, Arun Khosla, "An Efficient Spectrum Mobility Management Strategy in Cognitive Radio Networks", IEEE first UK-India International workshop on Cognitive wireless systems, UKIWCWS-2009 cosponsored IEEE Delhi, IEEE UK and DST. 11-12 December, 2009. IIT, Delhi.
- Prabhjot Kaur, Moin Uddin, Arun Khosla, "Cognitive Radio as Common Information Exchange Reference Model for Interoperability between Heterogeneous Networks", *IEEE first UK-India International workshop on Cognitive wireless systems, UKIWCWS-2009 cosponsored IEEE Delhi, IEEE UK and DST. 11-12 December, 2009.* IIT, Delhi.
- B S Saini, Dilbag Singh, Vinod Kumar, K K Deepak and Jagroop Singh, "Improved HRV characterization using OCDWT," in *Proceedings of 31st IEEE, EMBS Annual International Conference*, Minneapolis, Minnesota, USA, September 2-6 2009.
- R. K. Sunkaria, S.C.Saxena, Vinod Kumar and Shirley Telles, "HRV dynamics under meditation and random thoughts," International Conference on Applications in Electrical Engineering Recent Advances-2009. Indian Institute of Technology Roorkee, India
- Tarandeep Singh, Indu Saini, " Area and Speed Optimization of FIR filter", 2nd International Conference on Wireless Networks and Embedded Systems-WECON-2009, Rajpura, Punjab, vol.-2, pp. 14-15, 23-24th October 2009.
- Neetu Sood, Ajay K Sharma and Moin Uddin, "BER Performance of OFDM-BPSK and -QPSK over Nakagami-m Fading Channels,". IACC-2010, PP 88-90, Feb, India
- Neetu Sood, Ajay K Sharma and Moin Uddin, "BER Performance of OFDM-BPSK and -QPSK over Generalized Alpha-Mu Fading Distribution," IEEE International Advance Computing Conference, IACC-2009, pp 1197-1199, March 2009, Patiala, India.
- Anvesh Kumar, Er Ashish Raman, "Low power ALU Design by Ancient Mathematics", *2nd International Conference on Computer and Automation Engineering (ICAAE), Singapore on 26-28 Feb. 2010.*

International Journals

- Prabhjot Kaur, Moin Uddin and Arun Khosla, "Hierarchical Fuzzy System for Opportunistic Access in Cognitive Radio Networks using Spectrum Overlay", *Springer Journal on Wireless Personal Communications*, communicated, October 2009.
- Prabhjot Kaur, Moin Uddin, Arun Khosla, "Medium Access Control Design and Distributed Queuing Analytical Model for Cognitive Radio Networks", *IEEE Journal on Selected Areas in Communication*, communicated, December 2009.
- Prabhjot Kaur, Arun Khosla, Moin Uddin, "Adaptive Bandwidth Allocation Scheme for Cognitive Radios", *International Journal of Advancements in Computing Technology. Communicated.* January, 2010.
- Prabhjot Kaur, Arun Khosla, Moin Uddin, "Latency Analysis and Adaptive Bandwidth Allocation Scheme for Media Access in Cognitive Radio Networks ", *Inderscience - International Journal of Computer Networks and Distributed Systems.* Communicated. January, 2010.
- B S Saini, Dilbag Singh, and Vinod Kumar, "Optimal Lomb transform variant in HRV assessment," *International Journal of Medical Engineering and Informatics, (UK)*, vol. 2, no. 2, pp. 177-194, 2010.
- B S Saini, Dilbag Singh, and Vinod Kumar, "Optimal Lomb transform variant in HRV assessment," *International Journal of Medical Engineering and Informatics, (UK)*, vol. 2, no. 2, pp. 177-194, 2010.
- B S Saini, Dilbag Singh, and Vinod Kumar, "Comparison of re-sampling methods in the spectral analysis of RR-interval series data," *Signal Processing – An International Journal*, Accepted Dec 2009, publication expected in June 2010.
- R.K. Sunkaria, V.Kumar and S.C.Saxena, "A comparative study on spectral parameters of HRV in yogic and non-yogic practitioners," *Int.J. of Medical Engineering and Informatics*, Vol. 2, No. 1, pp. 1-14, 2010.
- R.K. Sunkaria, S.C.Saxena, V.Kumar and A. M. Singhal, "Wavelet based R-peak detection for HRV studies," *Journal of Medical Engineering and Technology.* Vol. 34, No.0 2, pp. 108-115, February 2010
- Butta Singh, B S Saini, Dilbag Singh, "Signal processing for heart rate variability: Part-I," *MR International Journal of Engineering and Technology*, Accepted August 2009, publication expected in March 2010.
- Butta Singh, B S Saini, Dilbag Singh, "Signal processing for heart rate variability: Part-II," *MR International Journal of Engineering and Technology*, Accepted August 2009, publication expected in March 2010.
- B S Saini, Dilbag Singh, Moin Uddin, Vinod Kumar and Ashok Jariyal, "Matched wavelet as autonomic signatures for cardiovascular variability assessment," *Submitted to IEEE Transactions on Biomedical Engineering, USA*, under revision.
- B S Saini, Dilbag Singh, Moin Uddin, and Vinod Kumar, "Improved power spectrum estimation for RR-interval time series," accepted as a *book chapter in a book on Advance Technologies by IN-TECH publishing house*, Vienna, Austria, June 2009.
- Neetu Sood, Ajay K Sharma and Moin Uddin, "On Channel estimation of OFDM-BPSK and – QPSK over Generalized Alpha-mu Fading Distribution," Accepted for publication in *International Journal of Communication, Network and System Sciences (IJCNS)*, China.

8. SPONSORED PROJECTS

Project Title	Project Duration	Amount Received (Rs. in lacs)	Funding Agency	Status (Completed/ In progress)
SMDP-II	5 yrs	1.1 Crores	MCIT, Govt. of India	In Progress
Soft computing based techniques for modeling of medical imaging systems	3.5 yrs	8.00	MHRD	In Progress
Investigations on Reconfigurable Computing	3.5 yrs	8.00	MHRD	In Progress

9. QUALIFICATION IMPROVEMENT (FACULTY)

1. Er. B S Saini completed PhD
2. Er R K Sunkaria submitted PhD thesis
3. Er Mamta Khosla, Er Indu Saini, Er Deepti Kakkar, Er Ashish Raman, Er Neetu Sood pursuing PhD

10. CONFERENCES/SEMINARS/WINTER/SUMMER SCHOOLS ORGANIZED

- Organized an AICTE/MHRD sponsored STC on “Modern Practices in Measurement & Instrumentation Engg.” at NITJ (Dr B S Saini)
- Organized an expert talk on “Electrocardiography and Modeling of Heart” at NITJ (Dr B S Saini)
- Organized an AICTE/MHRD sponsored Winter School on “Instrumentation & Signal Processing” at NITJ (Dr B S Saini)
- One day workshop on 8051 Microcontroller for polytechnic students (Er. Indu Saini)
- Delivered expert lecture on Wireless networks and cardiac healthcare in short term course on Modern Practices in Measurement & Instrumentation Engineering organised by Dr. B.R.Ambedkar National Institute of Technology, Jalandhar from July 13-17, 2009. (Er. R K Sunkaria)
- Delivered expert lecture on Biomedical signal processing in short term course on Concepts and Applications on Virtual Instrumentation organised by Sant Baba Bhag Institute of Engineering and Technology from August 3-7, 2009. (Er. R K Sunkaria)

11. SHORT TERM COURSES/WORKSHOP ATTENDED BY FACULTY

Faculty	Course	Place	Date	Sponsored
R K Sarin	5 th ZOPP workshop	IISc Bangalore	18-19, Feb 2010	NIT Jalandhar (SMDP-II)
B S Saini	STC on “Biomedical Signal Processing”	IITR	29 th June - 3 rd June 2009	
B S Saini	STC on “Bioelectrical Signals and Fields”	IITR	12 th Oct - 13 th Oct 2009	
B S Saini	STC on “Ultrasound Imaging, Processing & Clinical Applications”	IITR	27 th Jan - 29 th Jan 2010	
R K Sunkaria	Biomedical Signal Processing	I.I.T. Roorkee	29-06-2009 03- 07-2009	NIT Jalandhar
R K Sunkaria	Modern Practices in Measurement & Instrumentation Engineering	NIT Jalandhar	13-07-2009 17- 07-2009	NIT Jalandhar
Indu Saini	Short term course on Biomedical Signal Processing	IIT, Roorkee	29th June 2009- 3rd July 2009	NIT, Jalandhar
Indu Saini	Short term course on Modern Practices in Measurement and Instrumentation Engineering	NIT, Jalandhar	13th July-17th July 2009	NIT, Jalandhar
Indu Saini	Short term course on Instrumentation and Signal Processing	NIT, Jalandhar	11th Jan.-15th Jan.2010	NIT, Jalandhar
Ajay Sharma	5 th ZOPP workshop	IISc Bangalore	18-19, Feb 2010	NIT Jalandhar (SMDP-II)

Ajay Sharma	"FPGA Laboratory"	IIT Delhi	July 13-18, 2009	NIT Jalandhar (SMDP-II)
Ajay Sharma	"Technology CAD for VLSI"	IIT Kharagpur	June 14-27, 2009	NIT Jalandhar (SMDP-II)
Anil Bhardwaj	"System Modeling Using VHDL / SystemC / SystemVerilog"	Thapar University, Patiala	December 14-23, 2009	NIT Jalandhar (SMDP-II)

13. OTHER ACHIEVEMENTS/ INITIATIVES (FACULTY)

- Dr. R. K Sarin, Member of BOS in Electronics and Communication Engineering, Punjabi University, Patiala
- Two M Tech Programs M.Tech, ECE and M Tech VLSI being run successfully
- Dr RK Sarin, Reviewer, Journal of Engineering Science & Technology, Malaysia (<http://jestec.taylors.edu.my/>).
- Dr RK Sarin, Reviewer, Maejo International Journal of Science and Technology, Thailand.(MIJST) (ISSN 1905-7873 © 2007).
- Dr RK Sarin, Member IEEE, and Fellow, IETE
- Dr Arun Khosla, Member, Editorial Review Board, International Journal of Swarm Intelligence Research
- Dr Arun Khosla, Reviewer, Information Sciences (Elsevier)
- Dr Arun Khosla, Reviewer, IEEE Transactions on Information Technology in BioMedicine.
- Dr Arun Khosla, Member, Program Committee and Reviewer, International Conference on Swarm Intelligence, China, 2010
- Dr B S saini was coordinator of the MHRD Sponsored project on "Mobile e-learning Terminals (MeLt)"- A joint activity with IITR.
- Er. R K Sunkaria delivered expert lecture on Wireless networks and cardiac healthcare in short term course on Modern Practices in Measurement & Instrumentation Engineering organised by Dr. B.R. Ambedkar National Institute of Technology, Jalandhar from July 13-17, 2009.
- Er. R K Sunkaria delivered expert lecture on Biomedical signal processing in short term course on Concepts and Applications on Virtual Instrumentation organised by SBBIET from August 3-7, 2009.

Humanities & Management

1. ACADEMIC PROGRAMMES

The Department offers the core and Elective courses to the B Tech students of all Engineering disciplines. The compulsory courses in the B Tech new scheme are English Communication Skills, Introduction to Management, Psychology of Human Behavior, and Communication Laboratory.

In the new scheme of B Tech 3rd to 8th Semester, Department has introduced eleven new interdisciplinary courses. The list for the same is given as below:

2. COURSES OFFERED IN B. TECH SCHEME

(i) (Compulsory Courses)

Sr. NO.	COURSE CODE	SUBJECT	SEMESTER	PERIODS			CONTACT HOURS
				L	T	P	
1.	HM-101	Psychology of Human Behavior	I/ II	2	0	0	2
2.	HM-102	Introduction to Management	I/II	2	0	0	2
3.	HM-103	English Communication	I/II	3	0	0	3
4.	HM-104	English Communication Laboratory	I/II	0	2	0	2
5.	HM-201	Engineering Economics and Industrial Management	IC III BT V CS VI	3	0	1	4
6.	HM-202	Entrepreneurial Development & Management	IC IV BT VI	3	0	0	3
7.	HM-304	Human Resource Management & Industrial Relations	TT V BT V	3	0	0	3

(ii) OPEN ELECTIVES

Sr No.	Course Code	Course Title	Semester	Periods			Contact Hours
				L	T	P	
1.	HM-201	Engineering Economics and Industrial Management	V th to VIII th	3	0	0	3
2.	HM-202	Entrepreneurial Development & Management	-do-	3	0	0	3
3.	HM-301	Business Environment	-do-	3	0	0	3

4.	HM-302	Organizational Behaviour	-do-	3 0 0	3
5.	HM-303	Logistics and Distribution Management	-do-	3 0 0	3
6.	HM-304	Human Resource Management & Industrial Relations	-do-	3 0 0	3
7.	HM-305	Industrial Psychology	-do-	3 0 0	3
8.	HM-306	Marketing Management	-do-	3 0 0	3
9.	HM-307	Readings in literature & Linguistics	-do-	3 0 0	3
10.	HM-308	Business Ethics	-do-	3 0 0	3
11.	HM-309	Knowledge Management	-do-	3 0 0	3

TWO-YEAR FULL TIME MBA PROGRAMME

The Department is shortly going to offer two year full time MBA Programme from the next session i.e. June 2010-2011, at par with leading Management Schools conferring specializations in Marketing Management, Human Resource Management, Financial Management, Operations Management & Information Technology.

MEMBER ADVISORY COMMITTEE

Prof Sarbjit Singh Bedi, Head Department of Humanities & Management appointed as a Member of National Advisory Committee for National Conference on "Modern Management Practices & Information Technology Trends" held on 17 -18 April, 2009 organized by DAV Institute of Engineering and Technology, Jalandhar, Punjab.

3. RESEARCH

- Research is central to the vision of the department and consistent with this, a thriving research culture has been developed. The department has achieved significant success in terms of publications in national & international referred journals.
- In addition, faculty members of the department have papers and articles published in national and international journals and books. The active research culture is further enhanced by faculty members presenting papers at national and international conferences.

4. DEPARTMENT'S AREAS OF RESEARCH

- Entrepreneurship Development and Management: Research in entrepreneurship is being conducted mainly in the area of Entrepreneurship Development and Management.
- Marketing Management: Research in the Marketing Division is carried out in two broad areas, Strategic and International Marketing, Communications and Consumer Behaviour.
- Finance and Energy Economics: Finance and Energy Economics is an active research group.
- Forecasting: Research is conducted for generating short-term and long-term forecasts of various economic parameters at micro and macro level.
- Communication Skills: Stress will be laid on Para-linguistics, Phonetics and Business communication.

5. FOREIGN VISITS

Dr. Sanjeev Gupta presented a research paper entitled, "Future Prospects of Small Scale Industrial Sector of Punjab: An Empirical Assessment" at 11 IBIMA International conference held on 4-6 January 2009 at Cairo, Egypt.

6. PAPERS PRESENTED

- Prof. Sarbjit Singh, Head, Department of Humanities & Management presented a research paper entitled “Role of Entrepreneurship Development Organizations in Promoting and Developing Entrepreneurship” in the international conference entitled “*Haryana School of Business (HSB) IInd Annual Conference on Business & Management*” held on 23-24 March, 2010 and organized by Haryana Business School, Guru Jambheshwar University of Science and Technology, Hisar (Haryana).
- Prof. Sarbjit Singh presented a paper entitled “Trends in performance and productivity of leather industry in Punjab” in the National Seminar entitled “Growth of Indian Industrial Sector: A Roadmap for success” held on 27-28 February, 2009 at College of Management, Shri Mata Vaishno Devi University, Katra, J&K.
- Dr. Sanjeev Gupta presented a paper entitled “Artificial Intelligence: A Management Perspective” in the National Conference on “Modern Management Practices & Information Technology Trends” held on 17 -18 April, 2009 organized by DAV Institute of Engineering and Technology, Jalandhar, Punjab.
- Dr. Sanjeev Gupta presented a paper entitled “Trends in performance and productivity of leather industry in Punjab” in the National Seminar entitled “Growth of Indian Industrial Sector: A Roadmap for Success” held on 27 - 28 February, 2009 at College of Management, Shri Mata Vaishno Devi University, Katra, J&K.
- Dr. Sanjeev Gupta presented a paper entitled “Health Services by Public Sector in Punjab: An Empirical Analysis” in the National Seminar on Social and Physical Infrastructure in Punjab: Status and Implication for Development held on 14-15 February, 2009 at Punjab school of Economics, Guru Nanak Dev University, Amritsar, Punjab.
- Dr. Sanjeev Gupta, Assistant Professor, Department of Humanities & Management presented a research paper entitled, “Future Prospects of Small Scale Industrial Sector of Punjab: An Empirical Assessment” at 11 IBIMA International Conference held on 4-6 January 2009 at Cairo, Egypt.

7. PAPERS PUBLISHED

- Prof. Sarbjit Singh and Dr. H.L. Verma’s paper entitled “Impact of Entrepreneurship Training on the Development of Entrepreneurs” is published in *Interdisciplinary Journal of Contemporary Research in Business*, Vol.1.(10), pp 61-82, (ISSN 2073 7122) (February, 2010) UK Chapter, Canterbury, Kent, CT2, 7PE, United Kingdom.
- Prof. Sarbjit Singh and Dr. H.L. Verma’s paper entitled “Entrepreneurship Development in Punjab Haryana: A study with special reference to Entrepreneurship Development Programmes’ is submitted and duly accepted is due for publication in the forthcoming *International Journal of Dronacharya College of Engineering*, Gurgaon (Haryana) in March (2010) volume.
- Prof. Jagwinder Singh and B B Goyal (2010), Influences of Family Members on Household Buying - A comparative Study of Rural and Urban Households, *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 1 (10), pp 152-176. Published in January, 2010.
- Prof. Jagwinder Singh and B B Goyal (2010), Brand Decisions and Brand Influence: A comparison of Rural and Urban Consumers, *Global Journal of Management and Business Research*, Vol. 10 (1), pp 159-171. Published in February, 2010.
- Prof. Jagwinder Singh and Mr B B Goyal paper entitled ‘Mobile Handset Buying Behavior of Different Age and Gender Groups’, published in the *International Journal of Business and Management*, Vol. 4 (5), pp 179-187(May 2009).
- Dr Sanjeev Gupta’s paper entitled “Future Prospects of Small Scale Industrial Sector of Punjab: An Empirical Assessment” published in *Communications of the IBIMA*, Volume 7, Number 11, (2009), pp. 102-110.
- Dr Sanjeev Gupta’s paper entitled “An Empirical Study to Explore the Dimensions of Effective Exit Interviews” published in *Management Perspective*, Vol. 1, No.1, (2009), pp. 44-48.
- Dr Sanjeev Gupta’s paper entitled “WTO and Indian Agriculture – An Empirical Analysis” published in *ENVISION*, Vol. 3, No.1, (2009), pp. 83-90.
- Dr Sanjeev Gupta’s paper entitled “Survey of Capital Budgeting Practices in Corporate India” published in *VISION*, Vol. 13, No.3, (2009), pp. xx.

8. WORKSHOP ORGANISED AND ATTENDED

- Prof Sarbjit Singh Bedi attended One-day Workshop on “Entrepreneurship Opportunity for Youth in Changing Economic Scenario” and interacted with the participants. The workshop was organized by Regional Centre for Entrepreneurship Development at Chandigarh on 9th March, 2010.
- Prof Sarbjit Singh Bedi, Head Department of Humanities & Management attended State level workshop and orientation programme on Prime Minister Employment Generation Programme(PMEGP), organized at Guru Jambheshwar University of Science and Technology, Hissar on March 17 2009
- Mr. Jagwinder Singh attended AICTE sponsored Short Term Course on Enhancing Organizational competitiveness in the Era of Globalization and Liberalization, from January-04-09, 2010 at Dept. of Industrial and Production Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar.

9. OTHER INITIATIVES

- Department is shortly going to offer two-year MBA programme from the next session i.e. 2010-2011, at par with leading Management Schools offering specializations in Marketing Management, Human Resource Management, Financial Management, Information Technology and Operations Management. The Senate has approved the same.
- New Computation Laboratory having 12 new computers is being set up in the department
- New Building for the Department of Humanities and Management is in the forthcoming plan of construction of the institute.
- Mr. Jagwinder Singh, Assistant Professor, Department of Humanities and Management has submitted the Phd. thesis.
- Prof. Sarbjit Singh, Head and Associate Professor, Department of Humanities and Management is going to submit his Phd. thesis shortly.
- Well equipped English Communication Lab is being handed over to Department of Humanities and Management shortly.
- The Department intends to organize following *Workshops*:
- Workshop on “Communication skills” for budding engineers of the institute to enhance their communication skills
- Workshop on “Entrepreneurship Awareness” To inculcate spirit of initiative and enterprise among the budding engineers.
- Workshop on “Management Development Programme” for existing entrepreneurs and managers.

Department of Industrial & Production Engineering

1. Academic Programmes

- B Tech in Industrial and Production Engineering w.e.f. 2009.
- M Tech (full time) in Manufacturing Technology
- M Tech (part time) in Industrial Engineering
- Ph D programme (full time)
- Ph D (part time) programme

2. M Tech Thesis-completed/Submitted- 5

Branch/ Specialisation	Title of the Thesis	Year	Supervisor(s)
Industrial Engg.	Management of change of small scale industries in the state of Punjab	2009 (Completed)	Dr R K Garg
Production Engg.	Cutting stock optimization using genetic algorithm	2009 (Completed)	Dr R K Garg
Industrial Engg.	Optimization of Process Parameters for Hard facing of Carbon Steel by SAW	2010 (submitted)	Dr Anish Sachdev & Sh. D K Shukla
Industrial Engg.	Optimization of EDM Process Parameters using Taguchi Method	2010 (submitted)	Dr Arvind Bhardwaj
Industrial Engg.	Effect of Cryogenic Treatment on Tungsten Carbide	2009 (Completed)	Dr Arvind Bhardwaj

3. Summer/ Winter Schools organized by IPE Department

Sl.No.	Name of the Short-term course	QIP/CEP/I STE	Year	No. of Participants	Coordinator(s)
1	Supply Chain Management, Issues and Challenges	AICTE/MHRD	July, 2009	55	Dr A Bhardwaj and Dr Anish sachdeva
2	Enhancing Competitiveness in Manufacturing & Service Organizations	AICTE/MHRD	July, 2009	65	Dr R K Garg and Dr Anish sachdeva
3	Enhancing Organizational Competitiveness in the Era of Globalization & Liberalization	AICTE/MHRD	Jan, 2010	75	Dr R K Garg and Dr Anish sachdeva

4. Workshop organized by IPE Department

Sr.No.	Name of the Workshop/Seminar/Conference	Sponsored By	Year	No. of Participants	Coordinator(s)
1	Brain storming session on "Enhancing Organisational Competitiveness through Knowledge Management	IIT Roorkee	2010	27	Dr R K Garg and Dr A Sachdeva

5. STC/ International & National Conferences/ Seminars/Workshops/Expert Lectures Attended by the Faculty

Sr. No.	Title	Conferences	Organized by	Year	Faculty
1.	Maintenance criticality analysis using TOPSIS		IEEE		Dr Anish sachdeva

2.	Occupational Health & safety practices in Casting & forging SMEs – An Exploratory Study	HWWE -09 Humanizing Work & Work Environment	Calcutta University, Calcutta		Sh. LP Singh
3.	Pre & post Workshop HWWE -09 Humanizing Work & Work Environment		Calcutta University, Calcutta		Sh. LP Singh
4.	Occupational Noise & Hearing Conservation Of Industrial Workers in Casting & forging Industry in Northern india	Sustainability, Human Geography & Environmental Studies	Polo Centre for Sustainability, Imperia - Italy		Sh. LP Singh
5.	Re-cycling strategies for trade effluents of a textile processing industry based on physical, chemical and biological treatment in India	Sustainability, Human Geography & Environmental Studies	Polo Centre for Sustainability, Imperia - Italy		Sh. Sarbjit Singh,

6. Workshop(s)/STC(s) organized by IPE Department

SI.No.	Name of the Workshop/STC	Organised At	Year	Faculty Participants
1	Brainstorming session on "Enhancing Organizational Competitiveness through Knowledge Management"	NIT, Jalandhar	Jan, 2010	Dr R K Garg Dr Anish sachdeva
2	Supply Chain Management, Issues and Challenges	NIT, Jalandhar	July, 2009	Dr LP Singh, Sh. Sarbjit Singh, Dr Rajiv Sharma
3	Enhancing Competitiveness in Manufacturing & Service Organizations	NIT, Jalandhar	July, 2009	Dr Arvind Bhardwaj & Dr Rajiv Sharma
4	Perspectives of Welding Technology	NIT, Jalandhar	Dec 2009	Dr Anish sachdeva
5	Enhancing Organizational Competitiveness in the Era of Globalization & Liberalization	NIT, Jalandhar	Jan, 2010	Dr LP Singh, Sh. Sarbjit Singh, Dr Rajiv Sharma

7. Research Publications in International & National Journals by IPE Faculty

Sr. No.	Title of Research paper	Title of the Journal	Year	Vol./ issue No
1.	Management of change in Indian Automobile Industry – A Survey	AR/NO/1299/05) In Industrial Engineering Journal of IIIE Press.	2009	Paper accepted for publication,
2.	Experimental investigations of electrical discharge machining of high carbon high chromium steel	Journal of Manufacturing Engineering, 2009	2009	Accepted for publication
3.	Status of Continuity forces in Indian Industry: A Survey	<i>Int. J. Business Continuity and Risk Management</i> (<i>Inderscience Publishers</i>)	2010	Accepted for publication
4.	Review of research work in sinking EDM and WEDM on metal matrix composite	International Journal of Manufacturing Technology and	2010	Accepted for publication

	materials	Management (IJMTM).			
5.	Total productive maintenance (TPM) implementation: a case study	International Journal of Business Research ISSN:1555-1296 issued by the Library of Congress, Washington	2010	Accepted for publication	
6.	An overview of technology and research in electrode design and manufacturing in sinking electrical discharge machining"	International Journal of Manufacturing Technology and Management (IJMTM).	2010	Accepted for publication	
7.	"OEE Improvement by TPM: A Case Study"	International Journal of Advanced Operations Management (IJAOM).	2010	Accepted for publication	
8.	Improving material removal rate in sinking electrical discharge machining: A review	International Journal of Materials and Manufacturing Processes	2010	Accepted for publication	
9.	A study of continuity forces in Indian industry	Journal of International Business and Economics, ISSN:1544-8037 issued by the Library of Congress, Washington	2010	Accepted for publication	
10.	Occupational exposure in small and medium scale industry with specific reference to heat and noise	<i>Noise & Health,</i>	<i>January-March 2010</i>	12:46	37-48
11.	Occupational Noise Exposure in Small Scale Hand Tools Manufacturing (Forging) Industry (SSI) in Northern India (Field Study)	Industrial Health	2009,	47	423-43
12.	Occupational heat exposure in extreme weather conditions in small and medium enterprises (SME) in India	International Journal Of Human Geography And Environmental Studies December	2009,	Volume 1, Number 1,	pp-32-38
13.	Occupational noise and hearing conservation of industrial workers in casting, forging industry in Northern India	International Journal Of Human Geography And Environmental Studies,	2009	Volume 1, Number 1	Pp-46-51.
14.	Recycling strategies of trade effluents of a textile processing industry based on physical, chemical and biological treatment in India	International Journal of Sustainability Science and Studies	2009, 1	Volume 1, Number	pp-64-66.
15.	Behavioral and Performance Analysis of Feeding System using Stochastic Reward Nets	International Journal of Advanced Manufacturing Technology	2009	Vol. 45	156-169
16.	The Impact of Quality Management Tools on Performance: An Exploratory Study on SMES	The IUP Journal of Operations Management	2009	Vol. 8, Nos. 3 & 4	61-70
17.	Security risk assessment: Applying the concepts of fuzzy logic	Journal of Hazardous Materials	2010	Vol. 173	258-264
18.	Security risk assessment:	Journal of Hazardous	2010	Vol. 173	258-

	Applying the concepts of fuzzy logic	Materials			264
19.	Review of research work in sinking EDM and WEDM on metal matrix composite materials,	International Journal of Advanced Manufacturing Technology (Springer Publications)	Accepted for Publication, 2010		
20.	Tool Wear, Chip formation and Work piece surface issues in CBN Hard Turning: A Review	International Journal of Precision Engineering and Manufacturing	Accepted for Publication, 2010		
21.	Review of research work in sinking EDM and WEDM on metal matrix composite materials,	International Journal of Advanced Manufacturing Technology (Springer Publications)	Accepted for Publication, 2010		
22.	Tool Wear, Chip formation and Workpiece surface issues in CBN Hard Turning: A Review	International Journal of Precision Engineering and Manufacturing	Accepted for Publication, 2010		
23	Theory of constraints based approach to effective change management	International Journal of Research	Vol 1 pp 40-48		

8. Research Publications in International & National Conferences

Status of continuity forces in Indian industry: a survey	IABE-2010 Las Vegas- Annual Conference, Circus Circus Hotel-Casino, Las Vegas, USA, October 17-20, 2010.	International Academy of Business and Economics	Accepted for presentation		
Total productive maintenance (TPM) implementation: a case study	IABE-2010 Las Vegas- Annual Conference, Circus Circus Hotel-Casino, Las Vegas, USA, October 17-20, 2010.	International Academy of Business and Economics	Accepted for presentation		
Maintenance criticality analysis using TOPSIS	IEEE International Conference on Industrial Engineering and Engineering Management (IEEM 2009), HongKong	IEEE	2009	199 - 203	

8. Sharing of Resources

Sr.No.	Name of the Workshop/STC	Organised by	Collaboration with	Year	Faculty Participants
1	Brainstorming session on "Enhancing Organizational Competitiveness through Knowledge Management"	IPE Deptt. NIT, Jalandhar	IIT, Roorkee	Jan, 2010	Dr R K Garg Dr Anish sachdeva

9. Consultancy

1	Capacity estimation of M/S Pensla Exports Jalandhar	Dr R K Garg and Mr Ajay Gupta	M/S Pensla Exports Jalandhar	2009 (one week)	Rs 5,000/-
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10. Post Doctoral Fellowship by Faculty of IPE Department

Dr. Vishal S Sharma completed one year (March 2009- March 2010) post doctoral fellowship from Arts et Metiers ParisTech, France in the area of machining (Dimensional accuracy of threads produced on milling)."

11. Use of Modern teaching/learning aids and methods

Teachers are using case studies based approach for teaching different courses. This makes the students conversant with the real life application of different concepts. Most of the faculty members of the department are regularly using multimedia projector for delivering lectures.

12. Industrial Visits by IPE students

Sr. No.	Organization Visited	No. of Students	Date
1	Central Institute of Hand Tools, Jalandhar	56 of B Tech 4 th Sem	02.02. 2010
2	Rail Coach Factory, Kapurthala	33 of B Tech 6 th Sem	10.04.2010

13. Activities Organized by IPE Students under TIES, a society of IPE Students

Name of event	No. of students participants	Dates
Design of Smart Table	68 (34 teams)	Sept. 2009
Expert talk on "Living your Dreams and Achieving Them"	150	27/01/10
Mock Placement	139	17/02/10
Sports quiz	100	10/03/10

Department of Instrumentation and Control Engineering

1. Academic Programmes

- f) B Tech in Instrumentation and Control Engineering w.e.f. 1990.
- g) M Tech in Control & Instrumentation Engineering w.e.f. August 2006
- h) The department is also consolidating its efforts to start UG-programme in Electrical Engineering. The Board of Governors of the institute and MHRD have approved the same
- i) Ph.D programme in Instrumentation and Control Engineering
- j) M Tech (by research) was started w.e.f. the year 2004.

2. Development of Laboratories

The Department has fully established and now making efforts to modernize the following laboratories:

1. Analytical Instrumentation Laboratory
2. Control Engineering Laboratory
3. Electrical Machines and Drives Laboratory
4. Electrical Measurement and Circuit Laboratory
5. Fabrication Unit and Transducers Laboratory
6. Microprocessor based Instrumentation Laboratory
7. Process Control Instrumentation Laboratory
8. Biomedical Instrumentation Laboratory
9. Virtual Instrumentation Laboratory
10. Robotics Laboratory

In addition to above, the Department is in the process of developing the following new laboratories:

11. Calibration Laboratory
12. Signal Processing Laboratory

3. Research and Development Activities

All efforts are being made to motivate interested faculty members to pursue research in their concerned areas. Some infrastructure to support research activities is being developed in the Department and some incentives are also being planned to be offered to researchers at the institute level.

- i) Ph.D programme of Mr B S Saini, Ph D Scholar under the supervision of Dr Dilbag Singh was completed and awarded degree on 23.04.2010. The topic of his Ph D was "Signal Processing of Heart Rate Variability".

4. Students Registered for M Tech, M Tech by Research and Ph.D (Number, area of Research)

- i) 14-students are registered to M Tech Programme in Control & Instrumentation Engineering during the session 2009-10.
- ii) One student has registered for Ph.D programme (Full-Time) in the area of Wireless Networks.

5.. Research Publications (in Bibliographic format)

a) International Journals

R Jha

- Veena Sharma, R Jha and R Naresh, "A neural network optimiser for scheduling hydro-power generations", International Journal of Power and Energy Systems, ACTA Press, vol 29, No. 4, pp 233-240, Canada-2009
- Veena Sharma, R Jha and R Naresh, "Quadratic Programming Neural Network Approach for Multi-reservoir Network Control", Accepted for publication in International Journal of Engineering Intelligent Systems, CRL Publishing Ltd., UK-2009
- Veena Sharma, R Jha and R Naresh, "Hydro-scheduling using a feedback neural network optimizer", Communicated to International Journal of Engineering Intelligent Systems, CRL Publishing Ltd., UK-2009

Dilbag Singh

- Butta Singh, B. S. Saini, and Dilbag Singh, "Signal Processing for heart rate variability: Part-I," MR International Journal of Engineering and Technology, vol. 1(2), pp. 63-73, 2009.
- Butta Singh, B. S. Saini, and Dilbag Singh, "Signal Processing for heart rate variability: Part-II," MR International Journal of Engineering and Technology, 2009 (Accepted).
- Jagroop Singh, Sukhwinder Singh, Dilbag Singh and Moin Uddin, "Efficient DCT domain measurement of blocking artifacts," Journal of Information & Computing Science (Accepted).
- B. S. Saini, Dilbag Singh, and Vinod Kumar, "Optimal Lomb transform variant in HRV assessment," International Journal of Medical Engineering and Informatics, vol. 2(2), pp. 177-194, 2010.

Rajesh Singla

- A paper titled "Brain Initiated interaction" appeared in the Journal of Biomedical Sciences and engineering (JBISE), Vol 1, No 3, November 2008, pg (170-172). Published online www.scrip.org/journal/jbise.

b) National Journals

N.A. for the period under report

c) International Conferences

R Jha

- Hari Singh, Rajesh Singla, and R Jha, "The effect of Mental states on Blood Pressure and Electrocardiogram", was published in ICBBE 09, IEEE conference, 3rd International Conference on Bio-informatics and biomedical engineering, held from (11-13) June, 2009 at Beijing, China. Pg (1-4). Paper is in IEEE explore with digital object identifier as 10.1109/icbbe.2009.5163600.
- Hari Singh, Rajesh Singla, Navleen Singh Rekhi, and R Jha, "EOG and EMG Based Virtual Keyboard: A Brain-Computer Interface" has been published in ICCSIT 2009(2nd IEEE international conference on computer science and information technology) held from 8-11 August, 2009 at Beijing, China. Pg(259-262). Paper is in IEEE explore with digital object identifier 10.1109/ICCSIT 2009.5234951

Narinder Singh

- Narinder Singh, "Experimental implementation of pole-placement technique for active vibration control of smart structures" International multi conference of engineers & computer scientists-2010, HongKong March 17-19, 2010, pp. 1081-1087.

Dilbag Singh

- Navleen S Rekhi, A S Arora, Dilbag Singh, Sukhwinder Singh, "Multi-Class SVM Classification of Surface EMG Signal for Upper Limb Function" Proceedings of 3rd IEEE International Conference on Bioinformatics and Biomedical Engineering (iCBBE 2009) held at Beijing Friendship Hotel, Beijing, China, June 11-13, 2009. volume 4, pp 375-79

- K.S. Nagla, MoinUddin, Dilbag Singh “Recent Trends in Cleaning Service Robots” World Conference on Education, Jalandhar INDIA, August 03-05, 2009
- B. S. Saini, Dilbag Singh, Vinod Kumar, K. K. Deepak, and Jagroop Singh, “Improved HRV characterization using OCDWT,” Proceedings of 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society: Engineering the future of BioMedicine, Hilton Minneapolis, Minnesota, USA, Sept. 2-6, 2009, pp. 420-423.
- Butta Singh and Dilbag Singh, "Ectopic Beats in Poincaré Plot Based HRV Assessment" 4th International Conference on Computer Applications in Electrical Engineering-Recent Advance CERA-09, IIT Roorkee, pp 18, 19-21 Feb 2010.
- Jagroop Singh, Sukwinder Singh, Dilbag Singh and Moin Uddin, "Blocking Artifact Detection in Compressed Images" 4th International Conference on Computer Applications in Electrical Engineering-Recent Advance CERA-09, IIT Roorkee, pp 39, 19-21 Feb 2010

S K Pahuja

- Sarwan Kumar, Sneha Anand, Amit Sengupta , “Mathematical Model for Distribution of Conductivity Inside the Closed Object for Given Boundary Conditions”, IEEE International Conference on Control, Automation, Communication and Energy Conservation (INCACEC – 2009), 4 - 6 June 2009, Kongu Engineering College , Perundurai.
- Sarwan Kumar, Sneha Anand, Amit Sengupta, “Markov Based Mathematical Model of the Fetal Circulation and Analysis” WORLDCOMP’09, CSC’09: Scientific Computing, July 13-16, 2009, Las Vegas, USA.
- Sarwan Kumar, Sneha Anand, Amitsen Gupta, “Real –Time Monitoring of Fetus Movements and Uterine Contractions Using MEMS Acoustic Sensor”, IEEE 7th international conference on Information Technology at USA from April 12-14, 2010, pp. 317-320.

Rajesh Singla

- Hari Singh, Rajesh Singla, and R Jha, The effect of Mental states on Blood Pressure and Electrocardiogram”, was published in ICBBE 09, IEEE conference, 3rd International Conference on Bio-informatics and biomedical engineering, held from (11-13) June, 2009 at Beijing, China. Pg (1-4). Paper is in IEEE explore with digital object identifier as 10.1109/icbbe.2009.5163600.
- Hari Singh, Rajesh Singla, Navleen Singh Rekhi, and R Jha, EOG and EMG Based Virtual Keyboard: A Brain-Computer Interface “has been published in ICCSIT 2009(2nd IEEE international conference on computer science and information technology) held from 8-11 August, 2009 at Beijing, China. Pg(259-262).Paper is in IEEE explore with digital object identifier 10.1109/ICCSIT 2009.5234951
- Rajesh Singla and Kalpana Saini, Application of finger print recognition in process control” has been published in CISP 2009(2nd IEEE international conference on Image and Signal Processing) held from 17-19 October 2009, Tianjin, China. Pg (165-169).Paper is in IEEE explore with digital object identifier 10.1109/CISP 2009.5300864..
- Rajesh Singla, Bhupinder Singh, “A paper titled ”Brain actuated Interaction: An application of BCI ” has been published in AICI 2009(The 2009 international conference on Artificial Intelligence and computational intelligence), sponsored by IEEE computer society and Springer, held from 7-8 November 2009, Shanghai, China. Pg(580-582). Paper is in IEEE explore with digital object identifier 10.1109/AICI.2009.334

Kuldeep Singh Nagla

- K.S. Nagla, MoinUddin, Dilbag Singh “Recent Trends in Cleaning Service Robots” World Conference on Education, Jalandhar INDIA, August 03-05, 2009

d) **National Conferences****R Jha**

- Navleen Singh Rekhi, R Jha and Hari Singh, "Effective Feature Extraction of Surface EMG Signal using Wavelet Packet Energy", Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 152-154.
- Hari Singh, S K Pahuja, R Jha, and N S Rekhi, "A Doctor through Telemetric System: Biotelemetry", Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 167-171.
- Hari Singh, R Singla, and R Jha, "Non-muscular Channel for Sending Messages and Commands to the External World", Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 187-191.
- Sheela Tiwari, R Jha, and R Naresh, "Application of Unified Power Flow Controller for improvement in Transient Stability of a single machine Infinite Bus system", Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 233-238.
- Vikas Mohan, V. Sharma and R Jha, "State Space Controller Design for Inverted Pendulum System", Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 305-311
- A K Jain, S C Sharma and R Jha, "Research Issues in Mobile Ad Hoc Networks," Published in National Conference on "Recent Advances in Electrical and Electronics Engineering (RAEEE-09) held at NIT Hamirpur, Dec. 23-24, 2009, pp 379-386.

A K Jain

- A K Jain, S C Sharma and R Jha, "Research Issues in Mobile Ad Hoc Networks," Published in National Conference on "Recent Advances in Electrical and Electronics Engineering (RAEEE-09) held at NIT Hamirpur, Dec. 23-24, 2009, pp 379-386.

Dilbag Singh

- Navleen S Rekhi, A S Arora, Dilbag Singh, Sukhwinder Singh, "Multi-Class SVM Classification of Surface EMG Signal for Upper Limb Function" Proceedings of National Journal of Biomechanics held at IIT Roorkee, March 9-11, 2009, pp 36-39
- Akshay Katyal and Dilbag Singh, " ECG signal analysis using Hilbert Transform", Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 147-151.
- Madhwendra Nath & Dilbag Singh, Phonocardiography: Past, Present & Future", Proc. of National Conference (TICE-09), Thapar University Patiala, October 29-30, 2009.

S K Pahuja

- Hari Singh, S K Pahuja, R Jha, and N S Rekhi, "A Doctor through Telemetric System: Biotelemetry", Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 167-171.
- Ruhi Mahajan, S K Pahuja, "Design of real-time impedance measuring system," National Conference on ,Bikaner ,23rd Aug 2009.
- Ruhi Mahajan, S K Pahuja, "Design of high speed data acquisition system," National Conference on Recent Trends in instrumentation and control, TIET 2009, Patiala Oct 29-30, 2009.

Sheela Tiwari

- Sheela Tiwari, R Jha, and R Naresh, “*Application of Unified Power Flow Controller for improvement in Transient Stability of a single machine Infinite Bus system*”, Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 233-238.

Rajesh Singla

- Hari Singh, Rajesh Singla, and R Jha, “*Non-muscular Channel for Sending Messages and Commands to the External World*”, Proceedings of the National Conference on Technological Advances and Computational Techniques in Electrical Engineering (TACT 2009), NIT Hamirpur (HP), March 16-17, 2009, pp 187-191.

6. Projects Completed / on going / sponsored projects

- A project Modernization of Process Control & Instrumentation Lab was sanctioned to the Department under MODROB scheme and a grant of Rs.5.00 lacs was received from MHRD in the year 1994-95, which has been fully utilized.
- A project Modernization of Advance Chemical Process Control Lab was sanctioned to the Department under TAPTEC scheme and a grant of Rs.8.00 lacs was received from MHRD on 30-04-1998, which has been fully utilized.
- A project Calibration, Testing & Maintenance lab (Part-I) under Plan Scheme for Modernization and removal of obsolescence of Laboratories and Workshops has been sanctioned from MHRD during the Financial Year 1999-2000 (Plan), which has been fully utilized.
- R&D project entitled, “Robot for Railway to clean the surface below the railway tracks at platform” has been sanctioned by MHRD to the tune of Rs.13 lacs in the year 2004-05, which is ongoing and likely to be completed within sanction period.
- Design and Development of Underwater Robot: (In Progress), Funding agency Dr. BR Ambedkar National Institute of Technology Jalandhar.
- Over 150 ECGs recorded for ongoing project ‘ESTABLISHMENT OF A DATABASE OF ECGs RECORDED FROM A HEALTHY NATIVE INDIAN POPULATION’ in collaboration with Prof. P.W. Macfarlane, University of Glasgow; Prof. Vinod Kumar, IIT Roorkee; Dr. S.T. Hamde & Mrs.V.R. Thool, SGGS Institute of Engineering & Technology, Nanded.

7. Details of faculty, who have upgraded qualifications

N.A. for the period under report

8. Details of faculty who have enrolled for higher qualifications

N.A. for the period under report

9. Short term courses / training programmes / seminars / conferences / workshops / symposia attended by the faculty**Dilbag Singh**

- Training Programme on “Ultrasound Imaging, Processing and Clinical Applications,” Continuing Education Centre, IIT Roorkee during January 27-29, 2010.
- QIP Workshop on “Bioelectrical Signals & Fields” organized by Dept. of Electrical Engg, IIT Roorkee during October 12-13, 2009.
- Attended “Coordination Committee Meeting of North Zone for Finishing School Participating Institutes” on March 13, 2009.

S K Pahuja

- Attended and presented a paper entitled “Robust Mathematical Algorithm for power line cancellation in monitoring and recording of Feto Maternal interference” in International Conference organized by Instrumentation Society of India, held at Pune from Jan. 21-23, 2010
- Attended and presented a paper entitled “Robust Mathematical Algorithm for power line cancellation in monitoring and recording of Feto Maternal interference” in International Conference organized by Instrumentation Society of India, held at Pune from Jan. 21-23, 2010.
- Attended and presented a paper entitled “Electrical Impedance reconstruction using finite element methods” in International Conference organized by Instrumentation Society of India, held at Pune from Jan. 21-23, 2010
- Attended and presented a paper entitled “Real time monitoring of heart sound using MEMs Acoustic Sensor” in International Conference organized by Instrumentation Society of India, held at Pune from Jan. 21-23, 2010.
- Attended and presented a paper entitled “Markov based mathematical model for scientific fetal circulatory computing analysis” in International conference, USA from July 13-16, 2009.
- Attended and presented a paper entitled “Mathematical Model for distribution of connectivity inside the close object for given boundary conditions” in International Conference (INCACEC-2009) at Tamilnadu from June 4-6, 2009.

Rajesh Singla

- Attended a one week STC on “Dynamics of professional excellence: State of Art teaching Methodology” held at IIT Roorkee from March 2-6, 2009.
- Attended a one week STC on “Enhancing competitiveness in manufacturing and service organizations” held at NIT Jalandhar from July 20-24, 2009.

10. **Short term courses / training programmes / seminars / conferences / workshops / symposia organized**

- The Department of Instrumentation and Control Engineering organized an AICTE/MHRD sponsored short-term entitled, “Instrumentation and Signal Processing” from January 11-15, 2010.
- The Department of Instrumentation and Control Engineering organized an AICTE/MHRD sponsored short-term entitled, “Modern Practices in Measurement & Instrumentation” from July 13-17, 2009.
- First introductory Workshop (3-hours) on Robotics (IIT Bombay & NITJ) conducted at NIT Jalandhar in February 2010.

11. **Patents secured / applied**

One of the faculty members of Instrumentation and Control Engineering has initiated filing of patents detailed below:

Sr. No	Name of Proposed Invention/Invention/ Design	Patent Number/ Design	Name of Inventor and Designer
1.	An intelligent Foot mat	Applied through PSCST on May 2009	Kuldeep Singh Nagla
2.	A Method and Mechanism to Control the Position and Orientation of Cleaning Nozzle of Robot	2489/DEL/2009 applied on 3 rd December 2009	Kuldeep Singh Nagla, Dr. Moin Uddin, Dr. R Jha

12. **Expert talks organized / delivered (name of the expert, topic and date)****Expert Talks Delivered****R Jha**

- Delivered an invited Expert talk on “Analysis and Synthesis of Digital Control Systems” on September 21, 2009 at IET Bhadal.
- Delivered an invited Expert talk on “Applications of Advanced Sensors to automobiles” on December 11, 2009 at IET Bhadal.
- Delivered an invited Expert talk on “IEEE standardization of smart sensors and applications” on March 04, 2010 AT NIT Hamirpur.

A K Jain

- Delivered an invited lecture on “An Overview on quality of Service in High Speed Networks” during AICTE/MHRD sponsored short-term course on “Instrumentation and Signal Processing” at NIT Jalandhar January 15, 2010.

Dilbag Singh

- Delivered an invited talk on “Biomedical Signal Processing for Mobile Computing Applications”, during AICTE Winter School: Recent Advances in Mobile Computing and Communication, December 22, 2008 to January 02, 2009 at NIT Jalandhar.
- Delivered a Guest Lecture on “Current Trends in Measurement & Instrumentation”, March 20, 2009 at Seth Jai Parkash Mukand Lal Institute of Engineering and Technology, Radaur.
- Delivered an invited lecture on “Biomedical Signal Processing” during AICTE/MHRD sponsored short-term course on “Instrumentation and Signal Processing” at NIT Jalandhar January 11, 2010.

S K Pahuja

- Delivered an invited lecture on “Electrical based Instrument” at Deenbandhu Chhotu Ram univ. of Science & Tech. in Nov.-2009.
- Delivered an invited lecture on “Electrical Image Reconstruction” during AICTE/MHRD sponsored short-term course on “Instrumentation and Signal Processing” at NIT Jalandhar January 11, 2010.

Kuldeep Singh Nagla

- Delivered a talk on “ Soorji Photovoltaic Upkarn” at All India Radio Jalandhar, date of Broadcast 12/2/2009 .
- Panel member of expert discussion on title “Immigration Bane or Boon” at Doordarshan kinder Jalandhar , date of Broadcast 19/9/2008

Expert Talk Organized

- The Department has organized an Expert Lecture under Institute Lecture Series on “Hot Topics of Medical Engineering” by Prof Dr. rer. Nat. Olaf Dossel, Institute of Biomedical Engineering, Univ. of Karlsruhe (TH), Germany on 9th October, 2009.

13. Consultancy services completed / on going

The following activities have been carried out in collaboration with industries and institutions:

Sr No	Industries / Institutions	Nature of Activity
1	IIT Roorkee	Performance testing and evaluation of Small hydro Plants (MoU Signed) on Jan 30, 2010
2	IIT Roorkee, University of Glasgow and S.G.G.S. Institute of Engg. & Technology, Nanded, Maharashtra	Collaborative ECG data collection for standard database on Indian population (MoU Signed) on 20.02.2010
3	Ministry of Railways	Installation of robot for railway at northern Railways (Ambala Cantt railway station) for cleaning the tracks and external parts of the train (in process)
4	IIT Bombay	Agreement to Start Pilot Project on Robotics (e-Yantra), Nov. 2009
5	Agreement with Corporate	20 No. of Corporates signed an advance agreement to purchase the patents from NITJ (December-2009)

14. Students Activities

- (a) **SPICE:** Society for promotion of Instrumentation and Control Engineering was set up in December 1994 for the students & the faculty with an aim to offer a forum for exchange of thoughts in emerging areas related to Instrumentation & Control Engineering and is working since then in this direction. Various activities such as paper presentation, quizzes, guest lectures, mock interview etc. are organized from time to time under the aegis of the Society.
- (b) **IEE (UK) Student Chapter:** Student chapter of Institute of Electrical Engineers (IEE, U.K.) has been successfully established which is affiliated to International Centre, New Delhi. The objectives of the Society are
- To help student members to exchange knowledge and ideas in the associated fields of engineering with a view to promotion of their technical activities and to bring them up to date with latest trends in their respective fields.
 - To assist student members in developing their facilities and there by enable them to play their full part in contributing to the engineering community and society as also to raise their standing and visibility in their future professional careers.

The Society has constituted its own Executive Committee with Dr R Jha as the student counselor.

However, because of abnormal hike in membership fee, membership drive is not successful.

- (c) **ISTE Student Chapter:** An ISTE Student Chapter has been established in the institute. The students of IC Department contribute significantly to various activities of the Chapter.
- (d) The Society of Progressive Instrumentation and Control Engineers (SPICE) organized a get-together function to bid fare well to final year students in the month of April, 2009.
- (e) One of our UG-students (2004-08) Mr Supratim Ghosh was directly admitted to Ph D Programme in USA with scholarship and performing exceedingly well. He is working in the Control System Research area under the guidance of the Adviser, Ji-Woong Lee, Department of Electrical Engineering, Penn state University, USA. He has been awarded the title of "Student spotlight of the month" for the month of January 2010.

15. Membership of Professional Bodies

The following faculty members of IC Department are members of professional bodies, the details of which are given below:

S No	Name	Name of Professional Body	Membership No.
1.	Dr R Jha	ISTE	LM 6052
2.	Dr A K Jain	ISTE	LM 8852
3.	Mr Narinder Singh	IE, IETE	107815/6, 102863
4.	Dr Dilbag Singh	a. ISTE b. ISI (Bangalore)	ISTE LM 22453 LM833
5.	Mr S K Pahuja	ISTE	LM 22452
6.	Mrs Sheela Tiwari	ISTE	LM 26873
7.	Mr K S Nagla	a. Student member of IEEE b. Member of RAS (Robotics & Automation Society) c. Life Member of India Innovator Association	No. 80428592 - -

16. Ph.D Programmes – Existing and Proposed

- Biomedical Instrumentation and Signal Processing
- Power System Control, Operation and Optimization

17. Proposed Plan for Research

In addition to the above existing programmes, the department is planning to introduce the Ph.D programme in the following areas:

- Digital Signal Processing and Applications
- Control Theory applied to power system problems
- Image processing and related areas
- Wireless Networks
- Sensor fusion

18. **Industry-Institute Collaboration**

Sr No	Industries / Institutions	Nature of Activity
1	IIT Roorkee	Performance testing and evaluation of Small hydro Plants (MoU Signed) on Jan 30, 2010
2	IIT Roorkee, University of Glasgow and S.G.G.S. Institute of Engg. & Technology, Nanded, Maharashtra	Collaborative ECG data collection for standard database on Indian population (MoU Signed) on 20.02.2010
3	Ministry of Railways	Installation of robot for railway at northern Railways (Ambala Cantt railway station) for cleaning the tracks and external parts of the train (in process)
4	IIT Bombay	Agreement to Start Pilot Project on Robotics (e-Yantra), Nov. 2009
5	Agreement with Corporate	20 No. of Corporates signed an advance agreement to purchase the patents from NITJ (December-2009)

19. **Innovation and technology transfer**

Department is planning to tie up with other institutes and renowned industries under TIFAC for new innovative ideas and technology transfer.

Department of Mathematics

Programme offered in Department : M.Sc & Ph.D in Mathematics

Research Publications

- Rajneesh Kumar, Mrs. Geeta Pratap “Axi-symmetric Vibrations in a Micro stretch Viscoelastic plate”, Applied Mathematics & Information Science 3(1) (2009), 25-44.
- Rajneesh Kumar, Mrs. Geeta Pratap “Propagation of Waves in Micropolar Thermoelastic cubic crystals”, Applied Mathematics & Information Science 4(1) (2010), 107-123.
- Rajneesh Kumar, Mrs. Geeta Pratap “Wave Propagation in Circumferential direction in Micropolar Generalised Thermoelastic Cylindrical curve plate” Int.J. Appl. Math and Mech. 6(2) 54-66 (2010).
- Rajneesh Kumar, Mrs. Geeta Pratap “Free Vibration in micropolar Thermoelastic plate with viscous fluid with two relaxation times” Int.J. Appl. Math and Mech. 5(8) pp 39-58 (2009).
- Jagjit Singh Matharu and Jaspal Singh Aujla, “Hadamard product versions of the Chebyshev and Kantorovich inequalities”, Journal of Inequalities in Pure and Applied Mathematics, Volume 10 (2009), Issue 2, Article draft, 6 pp.
- Jagjit Singh Matharu and Jaspal Singh Aujla, “Some inequalities for operator means and Hadamard product”, Mathematical Inequalities and Applications, in press
- Jagjit Singh Matharu and Jaspal Singh Aujla, “Some majorization inequalities for convex functions of several variables”, Accepted for publication in Mathematical Inequalities and Application.
- Jagjit Singh Matharu and Jaspal Singh Aujla, “Some singular value inequalities and a generalization of Bohr's Inequality”, Communicated
- B. B. Khare and R. R. Sinha(2009): On Class of Estimators for Population Mean Using Multi-Auxiliary Character in Presence of Non-Response, Statistics in Transition-new series, 10, 3-14.
- J.N.sharma and D.Kaur: “Modelling of circumferential waves in cylindrical thermo elastic plates with voids” Applied Mathematical Modelling, 34(2010), 2,254-265.

Department of Mechanical Engineering

Infrastructure Development:

Construction work of department block is in progress for 2nd floor and plan for phase-2 is ready with estate office (for horizontal and vertical expansion).

Lab Equipment/Instruments Purchased

Sr. NO	Item	Price (In Rs.)
1.	Mechanics Research (India) Ltd Bangalore display Pre & Post processed with following accessories i) Statics Linear ii) Non Linear Composite and contact iii) Advanced Dynamics (Fi-gen Extraction Model Dynamometer iv) Heat Steady and Trasient heat transfer v) Enduse (Fatigue and Frature analys vi) Nisa Pt (optanization) vii) 3 D Fluid (conspodnel)	69375-00 69375-00 104063-00
	Total	69375-00
		69375-00
		138750-00
		185000-00
		1954313-00
2.	Transfer Moulding Machine	580000-00
3.	Transfer Moulding Strip 75mm X 300mm	8500-00
4.	Workstation with Monitor (2 Nos)	426040-00
5.	Computer P-IV HP D X2280 (15 Nos)	705075-00
6.	Software (Abaqus Engg. India)	906675-00
7.	Smokemeter AVL with Accessories	297587-00
8.	Digital storage Oscilloscope 200 MHZ	143520-00
9.	Vatell Heat Flux Sensor	197000-00
10.	Vatell Amplifier Model Amp-6	245065-00
11.	Transfer Model for Dumbler Specimen	60,000-00
12.	Software Symbols Shakti	4,50000-00
13.	Nisa FEM two users unlimited network	1954313-00
14.	Computers P IV HP DX 256 MB DDR2 160 GB	705075-00

	HDD combo drive 17" TFT display	
15.	Heavy duty close chamber abrasive cut off Machine	3,25,500-00
16.	Fixing of Seminal Chairs in seminar Hall	1,71,000-00
17.	Automatic multispecimen grinder polisher	3,99,500-00
18.	Burner assembly and 3D burner traversing mechanism	40,000-00
19.	Methane gas cylinders and regulators	45,500-00
20.	Computers	8,00,000-00
21.	Micromanometer	1,80,000-00
22.	Anemometer	1,49,800-00
23.	Microflux heat sensor	3,20,000-00
24.	Hot temperature water bath	65,000-00
25.	Radiometer	2,35,000-00
26.	Fine wire thermocouples with readouts	3,32,000-00
	Total	11246467-50

Order Placed Items:

Sr. No	Item	Amount
1.	Rotating Machine Fault Simulator System	7,11,787-00
2.	Model Exciter Amplifier & Signal Generator	9,17,500-00
3.	Universal Testing machine with Fatigue Loading	1,00,00,000-00
4.	HP work station Model Wo XW 6600	4,42,308-00
	Add on Ram	27,368-00
	TFT Monitor	59,900-00
5.	Material for solar air heating project	87,000-00
6.	Automatic specimen mounting press	1,97,500-00
7.	Micro Hardness tester	10,51,600-00
8.	CNC Vertical Machine	22,00,000-00
	Total	

M Tech /Ph D Awarded:

- Mr. Parmod Kumar, Associate Professor, Department of Mechanical Engineering successfully completed Ph D thesis entitled "Investigation of Damping in Fiber Reinforced Composite Materials" on June 4, 2009. He worked under the guidance of Dr. Rakesh Chandra, Prof & Head, Mechanical Engineering.
- Mr Dinesh Shukla, Assistant Professor, Department of Mechanical Engineering submitted his Ph D thesis entitled "Dilution Control through Advanced submerged and welding", at Indian Institute of Technology, Delhi on April, 2009.

- Mr. R.S.Bharaj, Associate Professor, Department of Mechanical Engineering successfully completed Ph D thesis entitled “Fuzzy Modelling & Performance Evaluation of a Hybrid fueled Vehicle using gasoline & LPG”, on June 19, 2009. He worked under the guidance of Dr. Subhash Chander, Asstt. Prof., Mechanical Engineering, NIT, Jalandhar and Dr. Nirmal Singh, Prof. of Mechanical Engg, Beant College of Engineering.
- Mr. Ajay Trehan, Assistant Professor, Department of Mechanical Engineering successfully completed his M Tech (by research) thesis entitled “ Evaluation of Incylinder Combustion of Biodiesel Blends of Jatropha Curcas”, on May 2, 2009. He worked under the guidance of Dr. S. Chander Asstt Prof., Mechanical Engineering.
- Mr. Tripat Narayan successfully completed his M Tech (Mechanical) thesis entitled “A Comprative study of performance and emission characteristic of SI engine enset using LPG and Kerosene as alternate fuel on 17 July 2009. He worked under the guidance of Subash Chander, Assistant Professor Mechanical Engineering.
- Mr. Valleboyan Nagarjun successfully completed his M Tech (Mechanical) thesis entitled “ Prediction and experimental Invetigation of Damping and young’s modulus in glass/epoxy composites on 17 July 2009. He worked under the guidance of Mr. Parmod Kumar, Assistant Professor Mechanical Engineering.
- Mr. Lokendra Kurrey successfully completed his M Tech (Mechanical) thesis entitled “Performance simulation and Design optimization of shell tube Heat Excahnger in Matlab on. He worked under the guidance of Mr.Rajiv Kukreja, Assistant Professor Mechanical Engineering.
- Mr. K. Prasanna Kumar successfully completed his M Tech (Mechanical) thesis entitled “Numerical Study of Heat Transfer Characteristic of Turbulent isothermal Jet Impinging on a Flat Surface” on 09 Jan 2010. He worked under the guidance of, Assistant Professor Mechanical Engineering.
- Ms. Simrandeep Kaur Brar successfully completed his M Tech (Mechanical) thesis entitled “Parametric Evaluation of Damping of Polyester Polymer Concrete on 31 Oct 2009. He worked under the guidance of, Mr Raman Bedi Assistant Professor Mechanical Engineering.
- Mr. Pawan Kumar successfully completed his M Tech (Mechanical) thesis entitled “ Studies om Mechanical Behaviour of Epoxy Polymer Concrete on 31 Oct 2009. He worked under the guidance of,Mr. Raman Bedi & Mr. Dinesh Shukla Assistant Professor Mechanical Engineering.

Admission to M Tech / Ph D :

M Tech student on rolls: Twenty

No. of students enrolled for Ph D: four (Two Regular and Two Part Time)

Conference Attended:

- **Mr. S K Tiwari** Deptt of ME has been attended the summer school on Tribology at Gurgaon on 10//6/09 to 13/06/09.
- **Dr. R. S Bharj** Deptt of ME has been attended the International Conference cum workshop on Nanoscience & Nano Technology at Gurgaon On 12/10/09 to 16/10/09.
- **Dr. Parmod Kumar** Deptt of ME has been attended the International Conference on International Conference & Exhibition on Total Engineering Analysis and Manufacturing Technologies at Banglore on 19/11/09 to 21/11/09.
- **Mr. Rajeev Kukreja** Deptt of ME has been attended Workshop on Advances in small scale heat exchangers and fuel cell Thermal management for process at IIT Delhi on 08/01/10 to 9/01/10.
- **Mr. S K Tiwari** Deptt of ME has been attended the International Conference on Polymer Processing and Characterization at Kottayam, Kerela on 15/01/10 to 17/01/10.
- **Mr. Raman Bedi** Deptt of ME has been attended the International Conference on Polymer Processing and Characterization at Kottayam, Kerela on 15/01/10 to 17/01/10.

- **Prof. Joseph Anand Vaz** , Deptt. of ME has been invited to LAIL, Ecole Centrale d" lille, France for one month in June/July 2010 as an invited Professor to collaborate on Bond Graph based research and to deliver some lectures.
- **Prof. Joseph Anand Vaz** , Deptt. of ME has been invited to SLIET Longowal to talk during their National Conference on Precision Manufacturing NCPM 2010, on March 26-27, 2010.
- **Dr. Parmod Kumar**, Deptt. of ME has been attend the training programme on Balancing & Allgnment held at RMI, Pune from June 01-03,2010.
- **Mr. S.K.Tiwari**, Deptt. of ME has been attend the training programme on Balancing & Allgnment held at RMI, Pune from June 01-03,2010.
- **Mr. Ajay Trehan**, Deptt. of ME has been attend the training programme on Balancing & Allgnment held at RMI, Pune from June 01-03,2010.
- **Mr Rajeev Kukreja** Deptt. of ME has been attend the short term course titled " Fundamentals of Microscale Heat Transfer : Boiling condensation, single phase and two phase flow to be held at Laussane Switzerland from June 07- 11,2010

Conferences/Seminars/Winter/Summer Schools organized:

- Mr. Dinesh Shukla Organised MHRD Sponsored one week Winter School on " Perspective of Welding Technology" from 28 Dec 2009 to 2nd Jan 2010.

Students Activities:

- Mr. Sukhwinder Singh Batti 2009 pass out student of the department has been nominated as Young Ambassador under (DAAD) (The German Academic Exchange Service) for 2010-11 by German Embassy.
- Mr. Kartik Datwani 3rd year student of Mech Engg. Deptt has been offered Practical Training in Germany under the International Association for the exchange of students for technical experience (IAESTE, DAAD) at TU Dresden Germany from 1/6/2010 to 26/7/2010.

Department of Physics

1. a) **Undergraduate:** The Department offers the following courses to the students of various B.Tech programmes.

I/II Semester (Common to all branches)

Physics PH-101 (Theory)

Physics PH-103 (Practical)

III Semester (IPE)

Material Science & Technology PH-201 (Theory)

III Semester (EC)

Material Science (Nano Science) PH-206 (Theory)

IV Semester (EC)

Electromagnetic Field Theory PH-203 (Theory)

IV Semester (CB)

Material Science & Engineering PH-204 (Theory)

Material Science & Engineering PH-214 (Practical)

V Semester (IC)

Material Science (Nano Science) PH-206 (Theory)

- b) **Postgraduate:** The Department is running a M.Sc. Physics Programme since 2006 and offers the following courses.

I Semester

PH-511 Classical Mechanics

PH-512 Mathematical Physics

PH-513 Electronics

PH-514 Computational Techniques

PH-541 Electronics Lab.

PH-542 Computer Lab.

II Semester

PH-515 Quantum Mechanics -I

PH-516 Solid State Physics - I

PH-517 Atomic and Molecular Spectroscopy

PH-518 Electrodynamics
 PH-543 Solid State Physics Lab.
 PH-544 Spectroscopy Lab.

III Semester

PH-519 Quantum Mechanics -II
 PH-520 Solid State Physics - II
 PH-521 Plasma Physics
 PH-522 Nuclear Physics
 PH-545 Nuclear Physics Lab.
 PH-546 Plasma Lab.

IV Semester

PH-523 Particle Physics
 PH-524 Statistical Physics
 PH- Elective- I
 PH- Open Elective-
 PH-561 Project

b) Ph.D Programme:

Eleven regular & one part time research scholars are working under the supervision of faculty members of the Department for pursuing their Ph.D.

c) R& D ACTIVITIES

a) Projects Completed

S.No.	Title of the Project	Funding Agency
1.	Electrical Properties of Polymers	Ministry of Human Resource Development, Govt. of India.
2.	Modernization of Removal of Obsolescence of Applied Physics Lab.	Ministry of Human Resource Development, Govt. of India.
3.	Modernization of Removal of Obsolescence of Fiber Optic and Laser Lab	All India Council of Technical Education, New Delhi.

b) Projects on going :

S.No.	Title of the Project	Funding Agency	Funding
1.	Hyperon Semi-leptonic Weak Decays in Chiral Constituent Quark Model	Department of Science and Technology, New Delhi	Rs. 11 lac.

c) **Projects Submitted**

S.No.	Title of the Project	Funding Agency
1.	Measurement of Radon, Thoron and their Progeny Distribution in the Different Type of Houses in Punjab.	BRNS, BARC, Mumbai
2.	Preparation and Characterization of Nano-material Liquid Crystal Composite Thin Films	Defence Research & Development Organization, New Delhi

2. **Research Publications**a) **International Journals**

- **Arvinder Singh**, Munish Aggarwal, Tarsem Singh Gill, "Dynamics of filament formation in magnetized laser produced plasma" *Physica Scripta*, Royal Swedish Academy 80 (2009) 015502
- **Arvinder Singh**, Munish Aggarwal, Tarsem Singh Gill, "Dynamics of Gaussian spikes on Gaussian laser beam in relativistic plasma" *Laser and Particle Beams*, Cambridge Journals 27 (2009) 587-593
- **Arvinder Singh**, Munish Aggarwal, Tarsem Singh Gill, "Dynamics of Filament Formation in Laser Produced Collisional Magnetoplasma" *Contrib. Plasma Physics* 50, No. 2 (2010) 156-165. Wiley-VCH Verlag.
- Keshav Walia and **Arvinder Singh**, "Comparison of two theories for the relativistic self-focusing of laser beams in plasma "(2010). *Contrib. Plasma Physics* ,Wiley-VCH Verlag.(Accepted)
- **Arvinder Singh** and Navpreet Singh "Optical Guiding of Laser Beam in an Axially Nonuniform Plasma Channel" *Laser and Particle Beams*, Cambridge University Press.USA.(Accepted)Doi:10.1017/S0263034610000133
- Vidya Devi and H.M. Mittal "Two parameter formula for ground band energy spectra of A=120-200 mass region nuclei."- *International Journal of Nuclear Energy Science and Technology*, Vol. 5 (2010) 134-142
- H.M. Mittal and Vidya Devi "**Evidence for possible O(6) symmetry in A=120-200 mass region**"- *Armenian Journal of Physics*, Vol. 2 (2009) 146-156.
- **Rohit Mehra**, Surinder Singh and Kulwant Singh "Assessment of the Average Effective Dose from the Analysis of ^{226}Ra , ^{232}Th and ^{40}K in soil samples from Punjab, India", *Geochemical Journal*, (2009) In press.
- **Rohit Mehra**, "Use of Gamma Ray Spectroscopy Measurements for Assessment of the Average Effective Dose from the Analysis of ^{226}Ra , ^{232}Th and ^{40}K in Soil Samples", *Indoor and Built Environment*, Vol.18 (2009) issue3 pp 270-275
- **Rohit Mehra**, Sandeep Kumar, R. Sonkawade, N.P. Singh, Komal Badhan,"Analysis Of Terrestrial Naturally Occurring Radionuclides In Soil Samples From Some Areas Of Sirsa District of Haryana, India Using Gamma Ray Spectrometry" *Environmental Earth Sciences*, Vol.59 (2009) 1159-1164
- Neetika Sharma, **Harleen Dahiya**, **P. K. Chatley**, and Manmohan Gupta,"Weak vector and axial-vector form factors in the chiral constituent quark model with configuration mixing" *Phys. Rev. D* 7 (2009) 077503
- **Harleen Dahiya**, Neetika Sharma, **P.K. Chatley**, Manmohan Gupta "Semi-leptonic octet Baryon decays in chiral constituent Quark model" *AIP Conf. Proc.* 1149:361-364, (2009).
- P. Malik, A. Chowdhary and K.K.Raina Dielectric studies of carbon nanotube doped ferroelectric liquid crystal by , *Asian Journal of Chemistry*, 21, 10 (2009) S095-098

- P. Malik and K. K. Raina, "Dichroic dye dependent studies in guest- host polymer dispersed liquid crystal films", Physics B Condensed Matter, 405 (2010) 161-166
- **H.M. Mittal** and Vidya Devi, "The systematic study of odd-even staggering in A=130-200 region", International Journal of Theoretical and Applied Sciences Vol.1 Issue 1 (2009) 96-102
- **H.M. Mittal** and Vidya Devi, "Study of two parameter formula for gamma band energies in Xe-Pt nuclei", International Journal of Theoretical and Applied Sciences Vol.1 Issue 2 (2009) 5-8
- **H.M. Mittal**, Vidya Devi and J. B. Gupta, "Validity of Single-term formula for ground band energies in light Xe-Gd nuclei" Physica Scripta, 81(2010) 015202
- **Rohit Mehra**, Surinder Singh, Sandeep Kumar, "Passive integrating radon studies for environmental monitoring in Sirsa district, Haryana, India using solid state nuclear track detectors " Indian Journal of Physics Vol.83/08 (2009) 1-6
- **Rohit Mehra**, Surendra Singh and Kulwant Singh "Analysis of ^{226}Ra , ^{232}Th and ^{40}K of the Soil Samples for the Assessment of the Average Effective Dose", Indian Journal of Physics Vol.83/07 (2009) 201-207
- **Rohit Mehra**, Komal Badhan, R. Sonkawade and Surinder Singh, "Use of gamma ray spectroscopy for assessment of natural radioactive dose in some samples of building materials" Asian Journal of Chemistry Vol.21/10 (2009) 207-211
- **Rohit Mehra**, Komal Badhan, R. Sonkawade and Surinder Singh, "Measurement of natural radioactivity in brick samples using gamma ray spectroscopy" Asian Journal of Chemistry Vol.21/10 (2009) 212-215
- **Rohit Mehra**, Vijay Kumar, A.S. Dhaliwal and R. Sonkawade, "Study of neutron induced modification on optical band gap of CR-39 polymeric detector" Asian Journal of Chemistry Vol.21/10 (2009) 279-283
- Neetika Sharma, **Harleen Dahiya**, **P.K. Chatley**, and Manmohan Gupta "Spin $1/2^+$, spin $3/2^+$ and transition magnetic momentum of low lying and Charmed baryons ", Phys. Rev. D 81, 073001 (2010).
- Neetika Sharma, **Harleen Dahiya**, and **P.K. Chatley** "Extraction of CKM matrix element V_{us} from the hyperon semileptonic decays ", Eur. Jol. Phys. A 44, 125 (2010).

b) National Journals

- **Harleen Dahiya**, "Chiral constituent quark model and strangeness in the nucleon", Pramana-J. Physics, 279 (2009)
- **Harleen Dahiya**, L Magnea, R Basu, A Tripathi, M C Kumar, L Gamberg, S Arunagiri, P Mathews and V Ravindran "Eikonal approximation and power corrections for event shapes" Pramana-J. Physics 280 (2009)
- **Harleen Dahiya**, L Magnea, R Basu, A Tripathi, M C Kumar, S Arunagiri and V Ravindran "Soft gluon resummation beyond leading power" Pramana-J. Physics, 281 (2009)
- **Harleen Dahiya**, R Godbole, P Mulders, A Mukherjee, and L Gamberg "Heavy quarkonium production and a collinear physics" Pramana - J. Phys., Vol. 72, 282 (2009).
- **Rohit Mehra**, Surinder Singh and Sandeep Kumar, "Measurement of Indoor Radon Levels in dwellings of Sirsa District, Haryana and Estimation of Average Annual Dose", Journal of Environment Science and Engineering, Vol. 51/02,(2009) 103-106.

c) International Conferences

- **Sarabjeet Singh**, Navdeep Singh and J.M.Rathod, "Bandwidth Enhancement of Microstrip Patch Antenna using Two Different Feeding Techniques with ANN model" International Conference on Microwaves, Antenna, Propagation & Remote Sensing held at Jodhpur ,Rajasthan ,India from 19th December to 21st December,2009

- **Arvinder Singh** and Keshav Walia, "Comparison of two theories during Self-focusing of laser beams in relativistic plasma", 13th International Conference on physics of non ideal plasmas" held at Chernogolovka, Russia from September 13th -18th, 2009.
- **H. M. Mittal** and Vidya Devi "Search for O(6) behavior: Approximate formula of the energy spectra in O(6) limit with three-body potential"- 7th International Conference on Nuclear and Particle Physics held at Sharm El-Sheikh, Egypt from Nov. 11-15 (2009).
- **Arvinder Singh** and Keshav Walia, "Self –focusing of laser beams in a relativistic plasma by moment theory approach", International Conference on Frontiers of Plasma Physics, Kathmandu, Nepal from June 2-5, 2009.
- Neetika Sharma, **Harleen Dahiya**, **P.K. Chatley**, "Charm baryons magnetic moments in chiral constituent quark model" International Symposium of Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (INDIA) from December 8-12, 2009.
- **H. M. Mittal** , Vidya Devi and J.B. Gupta, "Comparative study of two parameter formulae for A=120-200 mass region" International Symposium of Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) from December 8-12, 2009. Vol 54 (2009) 166
- **H. M. Mittal** and Vidya Devi, "Study of Triaxial rotor model and calculation of deformation parameter beta and gamma in A=120-200 mass region" International Symposium of Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) from December 8-12, 2009. Vol 54 (2009) 168
- **H. M. Mittal** and Vidya Devi , "Study of identical bands with NpNn scheme in A=120-200 mass region" International Symposium of Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) from December 8-12, 2009. Vol 54 (2009) 170
- Vidya Devi , Neha Sharma and **H. M. Mittal** , "Search of O(6) symmetry in A=120-200 mass region" International Symposium of Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) from December 8-12, 2009. Vol 54 (2009) 172
- Keshav Walia and **Arvinder Singh** "Relativistic Self-focusing of elliptical laser beam in plasmas and its effect on Stimulated Brillouin Scattering process" presented in a International Symposium on Waves, Coherent Structures and Turbulence in Plasmas IPR, Gandhinagar, Gujrat, India. January 12 – 15, 2010.
- **Arvinder Singh** and Keshav Walia, "Enhanced Raman Scattering of elliptical laser beam in a Collisionless plasma" presented in a "International Symposium on Waves, Coherent Structures and Turbulence in Plasmas" IPR, Gandhinagar ,Gujrat, India. January 12 – 15, 2010.
- Navpreet Singh and **Arvinder Singh** , "Laser Propagation Through An Axially Nonuniform Collisionless Plasma Channel" presented in a "International Symposium on Waves, Coherent Structures and Turbulence in Plasmas" IPR, Gandhinagar ,Gujrat, India. January 12 – 15, 2010.
- Pavanjeet Kaur, Navpreet Singh, Rishu Bharti and **Arvinder Singh** , "Optical Guiding Of Gaussian Laser Beam In Collisional Plasma" presented in a "International Symposium on Waves, Coherent Structures and Turbulence in Plasmas" IPR, Gandhinagar ,Gujrat, India. January 12 – 15, 2010.
- Munish Aggarwal, **Arvinder Singh**, Tarsem Singh Gill, "Effect Of Ponderomotive And Relativistic Nonlinearity On The Dynamics Of Gaussian Spikes On Gaussian Laser Beam In Plasma" presented in a "International Symposium on Waves, Coherent Structures and Turbulence in Plasmas" IPR, Gandhinagar ,Gujrat, India. January 12 – 15, 2010.
- Harjit Pal Singh, **Sarabjeet Singh**, Jasvir Singh, "Processing of VoIP Signal Using TMS320C6713 in Digital Domain", In the Proceeding of Second International Conference on Computer Engineering and Applications, ICCEA 2010, Bali Indonesia, Vol.1, 2010, pp.606-610
- Harjit Pal Singh, **Sarabjeet Singh**, Jasvir Singh, "Computer Modeling & Performance Analysis of VoIP under Different Strategic Conditions" , In the Proceeding of Second International Conference on Computer Engineering and Applications, ICCEA 2010, Bali Indonesia, Vol.1, 2010, pp.611-615
- Harjit Pal Singh, **Sarabjeet Singh**, Jasvir Singh, " Role of FIR Interpolation Filters in VoIP Analysis", Accepted in International Conference on Control, Communication and Power Engineering 2010 - CCPE 2010, Chennai, India

- **H.M. Mittal** and Vidya Devi “Study of ground and gamma band energies using Soft Rotor Formula for A=120-150 mass region nuclei” accepted in 3rd International Conference on Current Problems in Nuclear Physics and Atomic Energy to be held at Kyiv, Ukraine from June 7-12, 2010.
- Vidya Devi and **H.M. Mittal** “Study of symmetry in F-spin multiplet for A=120-200 mass region nuclei” accepted in 3rd International Conference on Current Problems in Nuclear Physics and Atomic Energy to be held at Kyiv, Ukraine from June 7-12, 2010.
- Jitendra K. Kushwaha¹, **Praveen Malik**, K. K. Raina and V. P. Arora,, “Dielectric spectroscopy of wide temperature range nematic liquid crystal mixtures” in 23rd International Liquid Crystal Conference to be held at Krakow, Poland from July 11- 17, 2010,
- **Praveen Malik**, Ashok Chaudhary, Arti Sharma, Rohit Mehra and K. K. Raina, “Electro-optic and Dielectric Study in Silica doped Ferroelectric Liquid Crystal films”, 23rd International Liquid Crystal Conference to be held at Krakow, Poland from July 11- 17, 2010,
- Dielectric Investigations In Multi Wall Carbon Nanotube -Ferroelectric Liquid Crystal Composite, **Praveen Malik**, Ashok Chaudhary, Rohit Mehra and K. K. Raina, Electronic Process In Organic And Inorganic Materials, 17-22, May 2010.

d) National Conferences

- Keshav Walia and **Arvinder Singh**, “Self-focusing of elliptical laser beam in relativistic plasmas and its effect on Stimulated Raman Scattering”, presented in “24th National Symposium on Plasma Science and Technology” NIT, Hamirpur, Dec. 8 -13, 2009.
- Navpreet Singh and **Arvinder Singh**, “Optical Guiding of Laser Beam in an Axially Nonuniform Plasma Channel. Presented in “24th National Symposium on Plasma Science and Technology” NIT, Hamirpur, Dec. 8 -13, 2009.
- **Arvinder Singh** and Navpreet Singh, “Optical Guiding of Laser Beam in an Axially Nonuniform Relativistic Plasma Channel” presented in “24th National Symposium on Plasma Science and Technology” at NIT, Hamirpur, Dec. 8 -13, 2009.
- Pavanjeet Kaur, Navpreet Singh, Rishu Bharti and **Arvinder Singh**, “Optical Guiding of Cylindrical Gaussian Laser Beam in Collisionless Plasma” presented in “24th National Symposium on Plasma Science and Technology” at NIT, Hamirpur, Dec. 8 -13, 2009.
- **Praveen Malik**, K. K. Raina and Rajbir Singh “Electro-optic switching and dielectric spectroscopy studies in high and low polarization ferroelectric liquid crystals mixture”, India–Japan Workshop on Biomolecular Electronics and Organic Nanotechnology For Environment Preservation, 17-20 Dec. 2009, NPL, India.
- **Praveen Malik**, K. K. Raina and A.K. Gathania, “Effect of polymer viscosity on the polymerization switching and electro-optical properties of unaligned liquid crystal/UV curable polymer composites”, India –Japan Workshop on Biomolecular Electronics and Organic Nanotechnology For Environment Preservation, 17-20 Dec. 2009, NPL, India
- Neetika Sharma, **Harleen Dahiya**, P.K. Chatley, and Manmohan Gupta , Radiative Decays of Charmed baryons“ paper presented at National Conference on High Energy Physics from February 4-5, 2010 at D.A.V. College -Jalandhar, Punjab (India).
- Komal Badhan, **Rohit Mehra**, R. G. Sonkawade, “Assessment of radium and radon exhalation rate in soil and building material samples using LR-115 plastic track detectors” in National Seminar-cum-Workshop on Solid State Nuclear Track Detectors & Applications at New Delhi

1. Conference/Workshops/ Short term courses attended by the Faculty

- **Dr Arvinder Singh** presented a paper entitled “Optical Guiding of Laser Beam in an Axially Nonuniform Relativistic Plasma Channel” in “24th National Symposium on Plasma Science and Technology” held at NIT, Hamirpur, during Dec. 8 -13, 2009.

- **Dr Arvinder Singh** presented a paper entitled 'Enhanced Raman Scattering of elliptical laser beam in a Collisionless plasma' in a "International Symposium on Waves, Coherent Structures and Turbulence in Plasmas" IPR, Gandhinagar , Gujrat, from January 12 – 15, 2010.
- **Dr H M Mittal** presented a paper entitled "Investigation of identical band in light Te-Gd nuclei" in International Symposium on Nuclear Physics held at Bhabha Atomic Research Centre, Mumbai from December 8-12, 2009.
- **Dr Rohit Mehra** presented a paper entitled "Radiological risk assessment in soil samples of Western Haryana, India" in International Conference on Energy, Environment, Sustainable Development" held in Paris, France during June 24-26, 2009.
- **Dr Rohit Mehra** presented a paper entitled "Measurements of Natural Radionuclides in Soil Samples for Assessment of the Average Effective Dose' in 9th Biennial DAE-BRNS Symposium (NUCAR 2009) organized by BARC, Mumbai from Jan. 07-10, 2009.
- **Dr Harleen Dahiya** attended the "3rd Discussion Meeting on India- FAIR/PANDA Collaboration" held at IIT Bombay, Mumbai during August 31 and September 1, 2009.
- **Dr Harleen Dahiya** invited to participate and present a paper at the workshop "Angular Momentum of Partons in Hadrons" held at the European Centre for Theoretical Studies in Nuclear Physics, Trento, ITALY during November 9-13, 2009.
- **Dr Harleen Dahiya** participated and made a oral presentation in the "XIII International Conference on Hadron Spectroscopy" held at the Florida State University, Tallahassee, Florida, USA during November 29-December 4, 2009.
- **Praveen Malik**, presented a paper entitled "Optical properties of carbon nanotube doped nematic liquid crystal films", in *National Conference on Recent Advances in Condensed Matters Physics* (RACMP-09), NIT Hamirpur, from May 23- 24, 2009.

5. Students Visit

- Munish Aggarwal, Ph.D. student of Department of Physics attended "24th National Symposium on Plasma Science and Technology" held at NIT Hamirpur during 8th-13th December 2009.
- Munish Aggarwal, Ph.D. student of Department of Physics attended and presented a paper entitled "Effect Of Ponderomotive And Relativistic Nonlinearity On The Dynamics Of Gaussian Spikes On Gaussian Laser Beam In Plasma" in a International Symposium on Waves, Coherent Structures and Turbulence in Plasmas IPR, Gandhinagar ,Gujrat, from January 12 – 15, 2010.
- Navdeep Singh, Ph.D. student of Department of Physics attended and presented a paper entitled : "Bandwidth enhancement of microstrip patch antenna using two different feeding techniques with ann model" in a International conference on microwaves, antenna, propagation and remote sensing" (icmars-2009) , Jodhpur, Rajasthan from Dec.19-21, 2009.
- Keshav Walia, Ph.D. student of Department of Physics attended and presented a paper entitled "Self-focusing of elliptical laser beam in relativistic plasmas and its effect on Stimulated Raman Scattering" in "24th National Symposium on Plasma Science and Technology" held at NIT, Hamirpur, during Dec. 8 -13, 2009.
- Navpreet Singh, Ph.D. student of Department of Physics attended and presented a paper entitled "Optical Guiding of Laser Beam in an Axially Nonuniform Plasma Channel" in "24th National Symposium on Plasma Science and Technology" held at NIT, Hamirpur, during Dec. 8 -13, 2009.
- Pavanjeet Kaur, Navpreet Singh and Rishu Bharti students of Department of Physics attended and presented a paper entitled "Optical Guiding of Cylindrical Gaussian Laser Beam in Collisionless Plasma" in "24th National Symposium on Plasma Science and Technology" held at NIT, Hamirpur, during Dec. 8 -13, 2009.
- Keshav Walia, Ph.D. student of Department of Physics attended and presented a paper entitled "Self focusing of laser beam in relativistic plasmas by moment theory approach" in International Conference on frontiers of Physics" held at Kathmandu, Nepal during June 1 - 6, 2009.

- Keshav Walia, Ph.D. student of Department of Physics attended and presented a paper entitled “Comparison of two theories for the relativistic self-focusing of laser beam in plasmas” and “Non-Linear Propagation of intense laser beams through Collisional plasmas” in 13th International Conference on Physics of non-ideal Plasmas held at Chernogolovka, Russia during September 13 –18, 2009.
- Keshav Walia, Ph.D. student of Department of Physics attended and presented a paper entitled “Relativistic Self-focusing of elliptical laser beam in plasmas and its effect on Stimulated Brillouin Scattering process” in a “International Symposium on Waves, Coherent Structures and Turbulence in Plasmas” held at IPR, Gandhinagar ,Gujrat, from January 12 – 15, 2010.
- Navpreet Singh, Ph.D. student of Department of Physics attended and presented a paper entitled “Laser Propagation Through An Axially Nonuniform Collision less Plasma Channel” in a “International Symposium on Waves, Coherent Structures and Turbulence in Plasmas” held at IPR, Gandhinagar ,Gujrat, from January 12 – 15, 2010.
- Pavanjeet Kaur, Navpreet Singh and Rishu Bharti students of Department of Physics attended and presented a paper entitled Optical Guiding Of Gaussian Laser Beam In Collisional Plasma” in a “International Symposium on Waves, Coherent Structures and Turbulence in Plasmas” held at IPR, Gandhinagar ,Gujrat, from January 12 – 15, 2010.
- Neetika Sharma, Ph.D. student of Department of Physics attended and presented a paper in International Symposium on Nuclear Physics held at Bhabha Atomic Research Center (BARC), Mumbai, INDIA during Dec. 8- 12, 2009.
- Neetika Sharma, Ph.D. student of Department of Physics attended and presented a paper entitled “Radiative Decays of Charmed baryons at “National Conference on High Energy Physics” held at D.A.V. College -Jalandhar, Punjab during Feb. 4-5, 2010.
- Neetika Sharma, Ph.D. student of Department of Physics participated in workshop on “Learning Effective Document Writing using LaTeX 2010” at DAVIET, Jalandhar
- Ms. Vidya Devi, Ph.D. student of Department of Physics attended a School cum workshop on “Spectroscopy of yrast and near yrast states” at IIT Rookee , Uttarakhand from Oct. 26-30, 2009.
- Ms. Vidya Devi, Ph.D. student of Department of Physics presented a paper entitled “Comparative study of two parameter formulae for A=120-200 mass region” in International Symposium on Nuclear Physics held at Bhabha Atomic Research Centre, Mumbai from December 8-12, 2009.
- Ms. Vidya Devi, Ph.D. student of Department of Physics attended a workshop on “Nuclear Reaction Mechanism” at Punjab University, Chandigarh from March 17-19, 2010.
- Komal Badhan, Ph.D. student of Department of Physics presented a paper entitled “Assessment of radium and radon exhalation rate in soil and building material samples using LR-115 plastic track detectors” in National Seminar-cum-Workshop on Solid State Nuclear Track Detectors & Applications at GNDU, Amritsar from November 9-11, 2009.
- Komal Badhan, Ph.D. student of Department of Physics attended a National Conference on Accelerator and Low level Radiation Safety at IUAC, New Delhi from November 18-20, 2009
- Ashok Chaudhary, Ph.D. student of Department of Physics presented a paper entitled “Optical properties of carbon nanotube doped nematic liquid crystal films” in National Conference on Recent Advances in Condensed Matters Physics (RACMP-09) at NIT Hamirpur, from May 23- 24, 2009.
- Ms. Neha Sharma, Ph.D. student of Department of Physics attended a School cum workshop on “Spectroscopy of yrast and near yrast states” at IIT Rookee , Uttarakhand from Oct. 26-30, 2009.
- Ms. Neha Sharma, Ph.D. student of Department of Physics presented a paper entitled “Search of O(6) symmetry in A=120-200 mass region” in International Symposium on Nuclear Physics held at Bhabha Atomic Research Centre, Mumbai from December 8-12, 2009.

DEPARTMENT OF TEXTILE TECHNOLOGY

Academic Programmes run by the department :-

1. B Tech in Textile Technology
2. M Tech In Textile Engineering & Management (Full time)
3. M Tech in Textile Technology (Part time)
4. Ph D (Full- Time)
5. Ph D (Part- Time)

Students Registered for Higher Education

Category / courses	Year	Numner of students enrolled
M Tech		nil
Ph D		nil

Students Completed Higher Education

Ms. Ramnik, "Influence of yarn characteristics on tearing strength of fabric", June 2009, under guidance of Dr. S K Sinha and Mr. M D Roy

Research Publications

International & National Journals and conferences

SR.	NAME	CONFERENCE/JOURNAL	TITLE OF THE PAPER
1.	Midha, V.K., Chattopadhyay, R., Kothari, V.K. and Mukhopadhyay, A.	Textile Research Journal 2010	Effect of Process and Machine Parameters on Changes in Tensile Properties of Threads during High Speed Industrial Sewing.
2.	Midha, V.K., Kothari, V.K., Chattopadhyay, R., and Mukhopadhyay, A.	Journal of Engineered Fibers and Fabrics, 2010.	Effect of Workwear Fabric Characteristics on the Changes in Tensile Properties of Sewing Threads after Sewing.
3.	Midha, V.K., Mukhopadhyay, A., Chattopadhyay, R. and Kothari, V.K.	Textile Research Journal, 2009	Studies on the Changes in Tensile Properties of Sewing Thread at Different Sewing Stages.
4.	Midha, V.K., Kothari, V.K., Chattopadhyay, R. and Mukhopadhyay, A.	International Journal of Clothing Science and Technology, 2009.	Effect of High Speed Sewing on the Tensile Properties of Sewing Thread at Different Stages of Sewing.
5.	Midha, V.K., Kothari, V.K., Chattopadhyay, R. and Mukhopadhyay, A	Fibers and Polymers,2010.	A Neural Network Model for Prediction of Strength Loss in Threads during High Speed Industrial Sewing.
6.	Midha, V.K., Mukhopadhyay, A. and Ramanpreet Kaur	Research Journal of Textile and Apparel, 2010.	An Approach to Seam Strength Prediction using Residual Thread Strength.
7	Midha, V.K.	The Journal of the Textile Institute, 2010.	Studies on Stiffness and Abrasion Resistance of Needle punched Nonwoven Blankets.
8.	Subrata Ghosh and Niranjan Bhowmick	The Journal of The Textile Institute January 2009.	Contribution of cone-winding operation to the fibre-shedding behaviour of cotton yarn during

			knitting.
9.	A K Patra and J N, Chakraborty	Textile Asia 2009.	Low temperature peroxide bleaching of flax.
10.	Amandeep Kaur and J N Chakraborty	Asian Textile Journal, 2009.	Computer Integrated Manufacturing: An indispensable technology for Apparel Industry
11.	Amandeep Kaur and J N Chakraborty	Asian Textile journal, 2009.	Essence of healthy and motivative clothing
12.	J N Chakraborty, Guneet Dhiman and Pratibha Singh	Asian Textile Journal, 2010.	Differential coloured effect on denim garments
13.	Arunangshu Mukhopadhyay and Kamal Dhawan	International Journal of Powder Technology, 2009.	An L ₉ Orthogonal Design Methodology to Study the Impact of Operating Parameters on Particulate Emission and related Characteristics during Pulse-jet Filtration Process
14.	S. M. Ishtiaque, A. Mukhopadhyay and A. Kumar,	Journal of Textile Institute, 2009.	Impact of high speed draw frame and its preparatory on packing and its related characteristics of ring spun yarn
15.	S. M. Ishtiaque, A. Mukhopadhaya and A. kumar	Indian Journal of Fibres and Textile Research, 2009.	The impact of carding parameters and draw frame speed on fibre axial distribution in ring spun yarn.

International conference attended by Faculty

Mr. A K Choudhary attended International conference: FILTECH 2009 at Wiesbaden, Germany, 13-15th October, 2009

National Seminar

A Mukhopadhyay

“Technical Textiles: Fabric filter for controlling industrial Pollution”, Seminar conducted by Govt. of India, Ministry of Textiles, Regional office of the Textile Commissioner, Amritsar, March 22, 2010.

Seminar organized by Faculty

Prof. Bohuslav NECKÁŘ, Department of Textile Technology, Technical University of Liberec, Czech Republic, December, 2009, organized by Dr. S K Sinha

Ongoing Projects

A Mukherjee	Designing Nonwoven fabric for pulse jet filtration	Rs. 15 Lac
A Chatterjee	Optimisation of production process of PP/Carbon nanofibre composite filament	Rs. 22 Lac
V Midha	Development of Needle Punched Nonwoven Blanket Fabric	Rs. 15 Lac

Details of faculty who have upgraded qualifications during the year 2009-2010

1. Mr. N Bhowmick - Ph D
2. Mr. V Midha - Ph D
3. Mr. K.V.P.Singh - Ph D

Details of faculty who have enrolled for higher qualifications

1. Mr. M.D.Roy for part time PhD at NIT Jalandhar
2. Ms. Monica Sikka for part time Ph D at NIT Jalandhar
3. Mr. A K Chaudhary for part time PhD at NIT Jalandhar.

Short term courses attended by faculty members: Nil

S.No	Name	Seminar/Course attended	Venue & Date
1.			
2.			

Student Activities

1. TECHNITI: 17-19 September, 2009

A technical fest on textiles was organized as per the following schedule:

- Fashion Show: 17th Sept, 2009
 - Technical paper presentation: 18th Sept, 2009
 - Quiz: 18th Sept, 2009
 - Case study: 19th Sept, 2009
2. Mr. Abhishek Shrivastava, 7th sem, was a member of NITJ team in North Zone Inter-University Cricket Championship held at Rajindra College, Bathinda. NITJ reached to top 12 teams.
 3. Mr. Abhishek Shrivastava, 8th sem is a member of NITJ team in IIT, Roorkee Sports fest 'SANGAM', 11-14th March, 2010
 4. Mr. Robi Roshan Lakra and Mr. Vikram Sharma, 8th sem, are the member of NITJ Football team to participate in Roorkee Sports fest 'SANGAM', 11-14th March, 2010

New Equipment / software purchased

- TUKATECH Studio (Basic design software)
- ABB Smart Pressure Transducer (to measure pressure drop across filter bag)
- Reach Fashion Studio Software (Fashion design software)
- Chemoffice Ultra 11

11.12 Finance and Accounts Detail