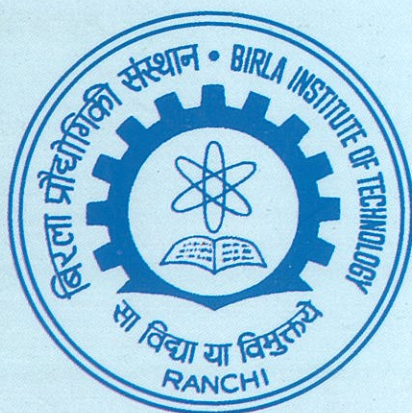


# ANNUAL REPORT

## 2001-2002



**BIRLA INSTITUTE OF TECHNOLOGY**

(A DEEMED UNIVERSITY)

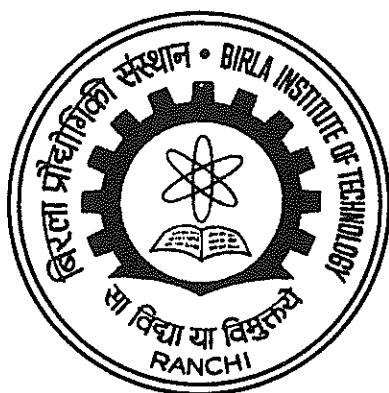
**MESRA, RANCHI, JHARKHAND**



**CONVOCATION 2001-2002**

# **ANNUAL REPORT**

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**BIRLA INSTITUTE OF TECHNOLOGY**

**(A DEEMED UNIVERSITY)**

**MESRA, RANCHI, JHARKHAND**

## प्रार्थना

यं शैवाः समुपासते शिव इति ब्रह्मेति वेदान्तिनो  
बौद्धाः बुद्ध इति प्रमाणपटवः कर्तेति नैय्यायिकाः।  
अर्हन् नित्यथ जैन शासनरताः कर्मेति मीमांसकाः  
सोऽयं नो विदधातु वाञ्छित फलं त्रैलोक्यनाथो हरिः ॥

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## **VICE-CHANCELLOR'S REPORT**

The Institute has been continuing its twin effort of consolidation and expansion during the period under review. Augmentation of infrastructure to meet the increased intake of 180 students at Under-graduate level (for different B.E. programmes) and 50 students at Post-graduate level has already been undertaken and a substantial progress has already been made. This has led to addition of almost 34,000 Sq.ft. of academic space in the R&D/Hi-Tech. building. There has been a significant addition to the computing facility available to the students in general at the main campus as well as at the Extension Centres located at Noida, Jaipur, Allahabad and Lalpur. Approvals have been obtained from the relevant statutory agencies to start MCA (Full-time) programme at Noida, Jaipur and Lalpur Extension Centres as well as to run MBA (Full-time) programme at Lalpur and Noida Extension Centres. The Post-graduate programme in M.Pharm. (Pharmacognosy) has also received approval from competent authorities.

Planning activities of the Software Development Incubation Centre, a SIDBI sponsored project, have been completed. The design of the main building of the Incubation Centre, hostel and associated residential complex have been finalized. Initially, it has been planned to host six entrepreneurs. The apex Advisory Committee has already met twice and approved the steps taken. Hardware systems to be provided to the six entrepreneurs along with adequate peripheral support have already been procured. It is expected that the entrepreneurs will start their respective units from mid-October this year in the transit location at the first floor of the Hi-tech Building.

The University Polytechnic, foundation stone for which was laid on Dec. 17, 2000, was inaugurated by the Hon'ble Chief Minister on Nov. 12, 2001. The first batch of 60 students were admitted on the basis of their performance at the Class X level public examination. Subsequently, the State Government has offered to provide

additional assistance to increase the intake to 100 wherein 32 general category, 8 backward class category, 40 ST category and 20 SC category students could be admitted during the session 2002-03. The admission requirements remain unaltered. Two additional branches, namely, Computer Science and Manufacturing Technology were added with the existing space for Automobile Engineering and Electrical Engineering out of the spectrum. The admission procedures of the second batch of students are in process and the classes are scheduled to commence from Sept. 2, 2002.

The University Polytechnic presented a challenging experience to the faculty members of BIT since the students join the programme immediately after completing their Class X level examination as against the students who are admitted to BIT for different Degree programmes only after passing XII level examination. The academic content of the Diploma programme is being continuously modified and up-dated based on the performances of the students.

The programme of increasing the intake of students at both Under-graduate and Post-graduate levels with full financial support from the Government of Jharkhand to cater to the requirements of augmenting of infrastructure as well as additional recurring support of recurring nature is well in progress. It is expected that about 1000 additional hostel seats would be available to the Institute by December 2002 and 60 additional units to provide residential accommodation to faculty and other staff members would also be available for use by March 2003. The State Government has already released the first installment of its grant-in-aid as per the project submitted by the Institute and approved by the Government. Through this funding in the two academic sessions i.e., 2000-01 and 2001-02, 260 more students at the Under-graduate level and 100 more students at the Post-graduate level were admitted to the different programmes of respective categories. Additional equipments to the different departments with which these additional students would be placed have also been procured to ensure the sustenance of the quality of education.

The State Government in its endeavour to have closer collaboration of academic institutions of repute in creating infrastructure of Research & Development in the cutting edge area of Biotechnology, approved the creation of a Center for Applied Biotechnology by B.I.T., Mesra. The foundation stone for the Centre was laid by the Hon'ble Chief Minister on March 18, 2002. The State Government has also released the first installment of fund towards the creation of the additional space and procurement of equipment for the Centre. The Institute has already approached the relevant authorities to allow it to start a 4-Yr. B.E. programme in Biotechnology and a 5-Yr. integrated programme leading to a Post-graduate degree in Biotechnology and Bio-processing Engineering. The Institute contemplates to start the B.E. programme during the end of this calendar year. It would be the first center in the State to offer Under-graduate Engineering and Post-graduate Technology programmes in the domain of Biotechnology in this part of the country.

The Institute in its endeavour to widen its activity spectrum had proposed introduction of a 4-Yr. degree programme in the domain of Hospitality Management. The All India Council of Technical Education has approved the initiation of a 4-Yr. degree programme in Hotel Management and Catering Technology from the academic session 2002-03. It is planned to have the academic activities started within this calendar year. Initially, 40 students would be admitted to this programme.

The Institute organized seven academic interaction programmes in the form of national Seminars, Workshops, Training Programmes etc. This year such activities started with a short-term Training Programme on "Intelligent Control" organized by the Department of Electrical & Electronics Engineering during June 11-23, 2001 at BIT's main campus. The second programme was in the form of a ISTE/AICTE sponsored Summer School on "Energy Technologies of Management Sustainable Perspective" organized by the Department of Mechanical Engineering during June 18-

30, 2001 at the Institute. The third one was a short-term course on “Virtual Enterprises” organized by the Department of Production Engineering in collaboration with ISTE, Bihar & Jharkhand Section, Ranchi, which was held on July 14 and 15, 2001. The fourth one was a 2-day Workshop on “Applications of Expert Systems in Infrastructural Development” organized by the Department of Civil Engineering between July 26 and 27, 2001. The fifth programme was a National Seminar on “Challenges for Development of Urban Areas in the newly formed States” organized by the Department of Architecture, which was held on December 8, 2001 at the Institute premises. The sixth one was a 2-day National Conference on “Water Resources Development and Management” organized by the Civil Engineering Department between February 9 and 10, 2002. The last programme during the period under review was a one-day User Awareness Workshop on “Remote Sensing Satellite Data Products and Services”, which was jointly held by the Department of Remote Sensing and the NRSA, Department of Space, Government of India, Hyderabad, during March 1, 2002 at the Institute. All these programmes were attended by a large number of participants from different parts of our country, who have been immensely benefited and encouraged by the valuable deliberations made by the eminent and distinguished speakers in their respective fields/domains.

During the period under report almost all the Departments of the Institute have been sanctioned grants for a total of twenty-two projects by various Government agencies like, AICTE, UGC, ISRO, DST etc. Out of these twenty-two, AICTE had sanctioned 8 Projects involving a sum of Rs. 66.80 lakhs. Another 8 Projects were sanctioned by UGC involving a sum of Rs. 29.92 lakhs. ISRO had sanctioned a total of Rs.11.22 lakhs for 2 Projects of our Institute. While one each Project had been sanctioned by DST and DSIR involving a sum of Rs. 11.75 lakhs and Rs. 3.00 lakhs respectively.

The students of the Institute have taken active part in many extramural Games and Sports activities throughout the year. Besides, the students have also joined in specific programmes of intramural competitions in various teams of Games & Sports and in the Annual Sport Meet. BIT teams participated in Inter-University Football, Tennis, Badminton and Hockey Tournaments during the academic year 2001-2002. East Zone Inter-University Volleyball Tournament was organized by BIT during Sept. 26 to Oct 1, 2001. Like the previous years East-Zone Inter-University Chetan Devraj Cricket Tournament was organized by the Institute during Oct. 14-18, 2001 and BIT, Mesra retained the Championship. This year the Annual Athletic Meet/Sport of the Institute was held between Feb.1-3, 2002. Apart from these activities, scheduled training programme in physical education, P.T., Games and Yoga were undergone regularly for the physical fitness of the students up to IV Semester. During the year under report, the Institute also organized Best Physique Competition on Oct. 15, 2001.

Like the previous years, the students of the Institute organized the Annual Cultural Event - *BITOSAV* - during February 13 and 14, 2002 in which individual participants as well as different student-activity groups participated. A few students also took part in the cultural events of other institutes and bagged several prizes.

The Institute looks forward to further consolidation of its academic resources in the coming years and at the same time would like to expand its activities at its main campus as well as Extension Centers in emerging areas like Biotechnology. The Institute acknowledges the kind help, cooperation and assistance provided to all its well-wishers. The Institute further looks forward to celebrate its Golden Jubilee during the year 2004-2005 in the most befitting manner.

B.I.T. Mesra is going to establish a GATEWAY with the help of HCL Comnet in Ku-Band from Shine Satellite Public Company Ltd. (SSA) using Thaicom-3 satellite, using its excellent inter-connectivity to the US Internet backbone. This

network will completely bypass VSNL or BSNL network. SSA's Teleport in Thailand with connectivity to APCN and the newest Pacific crossing cable, China-US that lands the circuit in San Jose. The speed is STM I (155 Mbps) all the way to US gateway, to ensure a congestion free connectivity at all times. The gateway connects to major backbone in the US such as UUNET, GTE and other national backbone providers. It also has peering agreement with major countries in Asia such as Japan, Singapore, Taiwan, Thailand, Hong Kong, Korea and Malaysia. With these services, BIT Mesra would receive a desired 384 Kbps at its locations on a QPSK-DVB carrier through a DVB carrier through Modulator DMD2401 (9.6 kbps-4mbps) using 2.4m antenna and 2 watts RFT. The Transmit Freq. Band is 14 to 14.5 Ghz and the Receive Frequency Band is 12.25 to 12.75 Ghz.

The main objective of establishing a GATEWAY is to connect our extension centers (Allahabad, Noida, Jaipur, Lalpur and Kolkata) and Bhimtal with BIT Mesra, Ranchi. It is possible to deliver lectures directly to these centers during daytime with help of video conferencing. There can also be a question answer session where the student can directly interacts with the experts on line. Later on hostels & Campus may also be connected to the Gateway for Internet Connectivity.

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## **INTRODUCTION**

The Institute was established as an All India Institute for imparting technical and research in 15 July 1955 by the Hindustan Charity Trust. Initially it was started as an affiliated college of the erstwhile Bihar University and later in 1960 upon creation of new universities in the State, its affiliation was transferred to the Ranchi University. In pursuance of the recommendation of the Education Commission, Government of India (1964-1966) and on the basis of the report of a Joint Selection Committee of the UGC and AUDIT, in march 1972, the institute was granted the status of an 'Autonomous' College by making special provision in Bihar State University Act. The Chancellor of the University of Bihar made the Rules for its governance.

The achievement of the Institute both in terms of research and excellent academic programme, led to its attaining the status of a Deemed University under section 3 of the UGC Act in August 1986.

The Institute has constantly improved on its technical facilities as well as academic in order to keep pace with the fast changing technological scenario, thereby acquiring a pride of place amongst the institutions offering technical education in the country.

### **Administration**

B.I.T. Mesra is a "Deemed University" under Sec. 3 of the U.G.C. act 1986. It functions under the overall supervision, direction and control of a high power Board of Governors, comprising representatives of the Ministry of Education, Government of India, the U.G.C., the State Government, The Chancellor. the A.I.C.T.E., The Hindustan

Charity Trust and the Institute Faculty. Shri G.P. Birla is the Chairman of the Board of Governor's. The Governor of the state of Jharkhand is the chancellor of the Institute. Composition of the Board of Governors is given in Annexure.

The Technical Council decides the academic policy of the Institute. It control and approves the curriculum, courses and the examination results. It appoints committees like Regulation Committee for Under-Graduate and Post-Graduate Courses, Semester Programme Coordination Committee, Admission Committee, Scholarship Committee, Student's Welfare Committee etc. and Departmental Board of Study to look into specific academic matters arising from time to time. The teaching, training and research activities of various departments at the Institute are constantly under review to both facilities and standards. The Vice Chancellor of the Institute is the Chairman of the Technical Council. Members of the technical council are listed in Annexure. The composition of various departmental board of study are given in Annexure.

The Finance committee gives financial advice to the Institute. Similarly, the building and works committee advises the institute in matters relating to building works. The composition of these committees are given in Annexure.

### **Institute Campus**

The Institute is fully residential and extends over 780 acres. The main building of the Institute covers in area of 30.000 sq. mtrs. and accommodates the various research and training laboratories, administrative offices and lecture rooms.

The Workshop annexure has covered area of 4,000 sq. mtrs. The laboratories and offices of the Department of Space Engineering & Rocketry are situated for security reasons in a sub – Campus, about half a Kilometer away. For the convenience of

working Engineers to participate in Post-Graduate Programmes a Technology centre was established in Ranchi City at Lalpur in 1976. The campus is self-contained amidst well-laid lawns, with its own protected water supply, marketing centre, dispensary, bank and schools.

<b>Institute Building</b>	<b>Sq. mtrs.</b>
• Main building & Administration block	3700
• Class room & laboratory, Drawing halls, Staff room's etc	9300
• Library block	2600
• Space Engg. & Rocketry block including Explosive and Fuel centre	930
• Workshop sheds, General stores, Garage/Godown	3721
• Gymnasium	850
• Animal House	400
• R & D Building (Basement – Ground Floor)	7200

### **Residential Complex**

• Staff quarters in different categories	300 Nos.
• Residential complex for supporting services: Forest Guards, Dairy, Shopkeepers, Washerman etc.	70

### **Hostel Accommodation**

• Seven Boy's Hostel	1410 Rooms (single)
• Two Girl's Hostel	198 Rooms
• One Foreign Student's Hostel	152 Rooms (single)

### **Guest Accommodation**

The Institute maintains three Guest-Houses. Two general purpose with 38 furnished rooms and VIP Guest-Houses with 3 deluxe bedrooms to accommodate Guests appropriately.

### **Auditorium**

To meet the growing needs of the community for public function on Open Air Theatre is partly completed and can seat 2500 persons.

There is also a Mini-Auditorium with seating capacity of 450 in the administrative Block.

### **Games & Sports Complex**

The Institute has a Gymnasium, which is spacious enough to arrange indoor games. Extensive playgrounds are provided for various sports. They are:

- |  |       |    |
|--|-------|----|
| • Gymnasium including Multi Gym                    | ----- | 1. |
| • Stadium for Tracks & Fields for Sports/Athletics | ----- | 1. |
| • Cricket ground including net                     | ----- | 2. |
| • Football grounds                                 | ----- | 2. |
| • Hockey grounds                                   | ----- | 2. |
| • Basket Ball courts                               | ----- | 4. |
| • Volley Ball courts                               | ----- | 6. |
| • Tennis courts                                    | ----- | 6. |
| • Badminton courts (one indoor                     |       |    |
| • And five outdoor)                                | ----- | 6. |
| • Kho-Kho ground                                   | ----- | 1. |
| • Kabaddi ground                                   | ----- | 1. |

### **Dispensary-Cum-Health Unit**

An Eight-Bed hospital provides the medical facilities to the large campus community mainly as an outdoors-patient unit. The three full-times and one part-time doctor and other para medical staff support this unit. Excellent rapport exists for acute medical needs with the Government Medical College & Hospital at Ranchi.

### Shopping Centre

A well maintained Cooperative Stores provides the daily requirements of the campus of nearly 5,000 residents. Additional Shopping Complex is provided for sundry needs. The construction of a full-fledged Marketing Complex and Cooperative bookstore to meet the growing needs of the Campus has been completed the annual commodities sold through these outlets of the campus exceeds Rs 2 crores mark in value.

### Others :

	Sq. mtrs
• Consumers co-operative stores	375
• NCC Block	400
Rifle Firing Range	1 Nos.
NCC Parade ground	1 Nos.
• Primary/High School (temporarily Housed in Mechanical Engg. Block)	744
• Gaurage Cum Quarters	200

### The Students Halls of Residence

The institute is completely residential and all the students are provided with a room in one of the hostels or Halls of Residence. The campus has seven hostels for boys and two separate hostels for girls. All the hostels are spacious and beautifully lay out in the serene and pleasant campus. The front portion has well maintained lawns with flowerbeds, elegant bushes and strategically planted ornamental trees.

The interior of the hostel includes spacious Dining Halls, Common Rooms, Reading Rooms. Rooms located on both sides of the entrance. The rooms are constructed in a row with a wide veranda in all along the length with air gaps and balconies well set for common use.

The students are provided with a single-seated room furnished with steel cot, table and chair and a built-in almirah. The girls student avails a shared furnished room, which is quite spacious and airy. Each room has a cupboard, wardrobe and a sizeable rack. Indoor games like table tennis, carom and chess etc. are available in each hostel in common room. The reading room subscribes to a large No of magazines, periodicals and newspapers covering wide taste of reading of residents. The entertainment hall has also been provided with colour television set in each hostel.

Inter-hostel tournament in indoor and outer games, quizzes, competitions and adventure trips are very attractive feature of the hostel life.

The hostel night organised by the inmates is a memorable yearly event where students interact with the faculty members amidst cultural and music programmes, fun and frolic, in festive mood. The Halls are tastefully decorated to mark the occasion.

Each hostel has an Independent Mess, completely managed by the students through Mess committee members elected from among the residents themselves. The committee looks after the complete management including the Menu, preparation, purchases and billing under the supervision of the Superintendent/Assistant Superintendent of the hostels.

## **Students Intake**

### **Courses & Degree Programmes**

Currently the Institute is offering a variety of Programmes as detailed below

#### **A. In Campus**

Course	Intake Capacity	Duration of Course.	Year of of the Course
<b>Bachelor Degree Courses</b>			
1. Electrical & Electronics Engg.	50	4 years	1955
2. Mechanical Engg.	90	4 years	1955
3. Civil Engg.	60	4 years	1957
4. Electronics & Comm. Engg.	90	4 years	1964
5. Production Engg.	30	4 years	1964
6. Pharmacy	30	4 years	1972
7. Computer Science	60	4 years	1983
8. Architecture	20	5 years	1993
9. Polymer Engg.	45	4 years	1995
10. Information Technology	45	4 years	2001

#### **Master's Degree Courses:**

Electrical	12	1 1/2 years	1964
1. Control system			
2. Power system			
Mechanical	06	1 1/2 years	1964
1. Heat Power Engg.			
Civil	02	1 1/2 years	1964
1. Soil Mechanics			
2. Structural & Foundation Engg.			
Electronics & Communication	12	1 1/2 years	1965
1. Instrumentation			
2. Microwave			

Space Engg. & Rocketry	10	11/2 years	1965
1. Rocket Propulsion			
2. Aerodynamics			
M.E. (CAAD)			
1. Computer Aided Analysis & Design -		11/2 years	1999
2. Tribology		11/2 years	1999
M.E. (Production)			
A.M.S.	-	11/2 years	
Software Engineering	15	11/2 years	2000
Business Management	60	2 years	1980
1. Marketing			
2. Finance			
3. Systems			
4. Industrial Management			
Pharmacy	25	11/2 years	1983
1. Pharm. Chemistry			
2. Pharmaceutics			
3. Pharmacology		11/2 years	1998
4. Pharmacognosy		11/2 years	1998
5. Pharm. Biotechnology		11/2 years	1998
Master of Computer Applications	60	3 years	1984
M.Sc. in Bio-Medical Instrumentation	17	2 years	1992
M.Sc. in Information Science	30	2 years	1993
M.Tech in Remote Sensing	20	1/2 years	1996

## **Continuing Education (part time) Post-Graduate Programme**

To enable working Engineers to update their technologies, the part-time Post-graduate Programme offers 3 level:

1. A certificate of Merit after Completing 5 units.
2. A diploma after completing 10 units.
3. A Degree after completing 15 units.

The Disciplines, Intake Capacity and Duration are:

Course	Intake Capacity	Duration of Course	Year of introduction of the Course
<b>P.G. Diploma Course</b>			
1. Computer Applications	30	1 years	1988
<b>Master of Engineering</b>		3 years	1974
1. Civil Engineering			
2. Electrical Engineering			
3. Mechanical Engineering			
4. Industrial Engineering			
5. Computer Aided Analysis & Design		2 1/2 years	1999
6. A.M.S.		2 1/2 yrsrs	1997
<b>Management</b>			
1. M.B.A	30	3 years	1980
<b>Computer Application</b>			
1. M.C.A.	30	4 1/2 years	1984
2. D.C.A	30	1 1/2 years	1988
<b>M.Tech Computer Sc.</b>	30	1 1/2 years	1996
M.E. Software Engineering	30	1 1/2 years	2000

In addition to the above, a number of courses in other disciplines have been planned.

## B. Extension Centre

Course	Allahabad (U.P)	Jaipur (Rajsthan)	Lalpur,(Ranchi) (Jharkhand)	Kolkata (W.B.)	Noida (U.P.)
BCA	80	80	180		80
BBA		80	120		80
MCA	-	40	60	40	80
MBA (PT)	-	-	30		-
M.Tech (CS), PT	-	-	30		-
M.Sc (II)	-	-	30		-
M.Sc (E&T)	-	-	30		-
M.E. (P.T)	-	-	*	-	

\* Subject to the availability of suitable candidates

## C. Doctor of Philosophy programme

The Institute offers Research Programmes leading to Ph.D. Degree in all above disciplines.

## **Admission during 2001-2002**

### **Student Enrollment.**

During the academic year 2001-2002, a of total of 4758 students were registered in various courses. The branch-wise enrolled is detailed below.

<b>A.</b>	<b>Course</b>	<b>Full-Time</b>	<b>Part-Time</b>
	Bachelor of Engineering.	1581	-
	Bachelor of Architecture	104	-
	Bachelor of Pharmacy	132	-
	B.Sc (Computer Sc/Electronics)	12	-
	Bachelor of Comp. Applications	1160	-
	Bachelor of Business Administration	420	-
	Bachelor of Technology	-	288
	Master of Business Administration	93	47
	Master of Computer Applications	370	117
	P.G. Diploma in Comp. Applications	12	-
	Master of Pharmacy	50	-
	Master Engineering	108	16
	Master of Technology (CS, R.S).	56	110
	M.Sc (Biomedical Instrumentation)	25	-
	M.Sc (Information Science)	51	-
	M.Sc (Information Technology)	73	-
	M.Sc (Communication)	33	-
	<b>Total</b>	<b>4180</b>	<b>578</b>
	<b>Grand Total - 4758</b>		

### **B. Registration in Ph. D. Programme**

As many as sixty four students were pursuing the Ph.D. programme in the area of Engineering, Science, Pharmacy and Management during the academic session 2001-2002.

## New intake in 2001-2002

In the academic year 2001-2002, 1631 fresh students admitted in various disciplines. The branch-wise backup is given below.

A	Course	Full-Time	Part-Time
	Bachelor of Engineering	479	-
	Bachelor of Architecture	16	-
	Bachelor of Pharmacy	36	-
	B.C.A.	402	-
	B.B.A.	268	-
	M.B.A.	44	12
	M.C.A	127	17
	D.C.A	12	-
	M.E.	48	6
	M.Tech..	25	17
	M.Sc.	96	-
	M. Pharmacy	26	-
	Total	1579	52
	Grand Total -	1631	

## B. Enrollment in Ph. D Programme -

Twenty one new Scholars registered for the Ph. D Programme in the area of Engineering, Science, Pharmacy and Management during session 2001-2002. The details are given below.

S. No.	Name of Scholars	Title of Thesis
1.	Prof. S. K. Sarkar	Modelling of elastic wave propagation in an elastic heterogeneous media.

- |    |                              |  |
|----|------------------------------|--|
| 2. | Mrs. Anjana Pradhan (Ghorai) | Some problems of seismic waves in layered media.   |
| 3. | Ms. Shradha Shivani          | Promotion of entrepreneurship in India: A study of the Social Background of Ranchi District.       |
| 4. | Sri. A. K. Halдар            | Model for Consumer Decision Making Process in Online Purchase Environment.                         |
| 5. | Ms. Asha Prasad              | Electricity Sector Reforms in India on Human Resource and Labour Mgt. Relations.                   |
| 6. | Sri Tarak Nath Shaw          | Study of the Influencing Factors on Effectiveness of Techno Entrepreneurs.                         |
| 7. | Sri Debangshu Chakraborty    | Leadership and Motivation : A Critique of Western & Eastern Thoughts.                              |
| 8. | Shri Atul Anand              | Development of Multi Job Process Loading Programme with pre-emption allowed in a CAPP environment. |

9. Sri Saranjit Singh Investigation into Dynamics Effects During Mechanical Processing of Sintered Materials.
10. Sri Ritesh kr. Singh Dev. Of Strategy for Minimization of Waste in a manufacturing Industry.
11. Ms. Vibha Rani Gupta Optimization in Antenna Design.
12. Sri. B. B. Pal Studies on some Active Filters and Functions Network having Application in BMI Measurement & Wave Shaping and their Digital Control.
13. Sri Sanjay Kr. Jha Technological Adaptation productivity enhancement of rural effects manufacturing with Special reference to Jharkhand State.
14. Sri Jayaram Kumar Standardization of some Herbal Formulations.
15. Puratchi Mani V. Formulation, Standardization and Quality Control of some Anti-Diabetic Herbal Drugs.

16. Shri B. L. Das Studies Exploring the Utility of Differential Scanning Calorimetry As an Instantaneous Predictor of Drug Recipient Interactions.
17. Mrs. Neela Chatteraj Optimization of Magnetized Ferrite Micro strip Antenna Using Genetic Algorithm.
18. Mrs. Aruna Jain Traffic and Performance Analysis of a Web Proxy server.
19. Sri P. R. Thakura Study of some Aspects for Performance Enhancement of Direct Torque Control Induction Motor Drives.
20. Sri S. K. Banerjee A comparative Study of HRD Industry in the Units of Public Sector As well as Private Sector.
21. Sri Mahendra Kumar Deviation in Productivity and restoration of Energy and Human Resources and its Management with reference to Physical activities of sports.

### **A. Ph.D. Thesis Submission**

The following students have submitted the Ph.D. Thesis for evaluation during the year 2001-2002.

<b>S. No.</b>	<b>Name of Scholars</b>	<b>Title of Thesis</b>
1.	Sri Indra Bhushan Shingh	“Role of Developmental Agencies in Socio-Economic Development of Tribes of Chhotanagpur Region of Bihar-A Case Study of KRIBP (E)”.
2.	Sri Ajay Srivastava	“Effect of Subsurface Features on the Geomorphology of Gangetic Plan : An Integrated Approach using Remote Sensing and Geographic Information System”.
3.	Sri Balram Singh	“A Theoretical Study of Magneto - fluid Dynamic Flows”.
4.	Sri Pradeep Kumar Chatterjee	“Development of Strategic Marketing System for Engineering Consultancy Services in the domain of Industrial Marketing”.
5.	Sri P.R.P. Verma	“Evaluation of Lucaaena Leucocephola (Lam.) de Wide Seed Gum as a Pharmaceutical Adjuvant”.

## Convocation, Results, Degree/Diploma Awarded

Upon the recommendation of the Board, the following scholars who have cleared the programme during 2001-2002 were awarded Degree/Diploma in the convocation 2001-2002 held in April 2002.

### A. Ph.D. Degrees :

S.N.	Name of Scholar	Titles of Thesis
1.	Sri Sumit Datta	Developing a Risk Matrix for Successful Project Planning
2.	Sri Deo Nandan Prasad	Pharmacological Studies on Crude and Purified MESUA FERREA Linn. Seed Oil.
3.	Ms. Swastika Ganguly	Synthesis and Study of Newer Imidazole
4.	Sri K.S. Bhat	Analogs Process of Learning for Turnaround in Productivity.
5.	Ms. S.V. Subhashini	Numerical Studies of Laminar Compressible Boundary Layer Flows with Heat Mass Transfer.

**B. Other Degrees/Diplomas :**  
**Course & Branch Cummulative**

		<u>Class Obtained</u>			
		I	II	Total	
<b>I. Post Graduate Degees :</b>					
Total					
Master of Engineering	: Mechanical	15	-	15	
	: Electrical	21	1	22	
	: Electronics & Comm.	5	2	17	
	: Civil	1	2	3	
	: S.E. & R.	14	-	14	
	: A.M.S	10	-	10	
	: CAAD	9	-	9	
	: Software	9	3	12	
Master of Pharm. Sc.	: M.Pharm	41	6	47	
Master of Comp. App.	: M.C.A.	83	50	133	
Master of Business Admn.	: M.B.A.	27	29	56	
Master of Science	: B.M.I.	5	6	11	
	: Information Science	6	7	13	
	: Information Technology	20	4	24	
M. Tech.	: Computer Science	32	22	54	
	: Remote Sensing	25	5	30	
		-----	-----	-----	
		333	137	470	470
<b>II. Under Graduate Degrees :</b>					
		ID	I	II	Total
Bachelor of Engineering	: Mechanical	32	43	2	77
	: E.E.E.	22	26	-	48
	: E.C.E.	52	24	-	76
	: Civil	5	10	2	17
	: Computer Sc.	28	14	-	42
	: Production	5	14	2	21
	: Polymer	3	6	-	9
Bachelor of Pharm. Sc.	: B.Pharm.	16	5	-	21
Bachelor of Architecture	: B. Arch.	7	8	-	15
Bachelor of Science	: Computer	20	11	-	31
	: Electronics	4	26	1	31
	: B.C.A.	49	12	-	61
		-----	-----	-----	-----
		243	199	7	449 919

### III. Post Graduate Diploma :

		I	II	Total
Computer Science	: Computer Applications	4	7	11
Management	:	-	1	1
		-----	-----	-----
		4	8	12
				931

### Faculty Members:

Against the sanctioned strength of 213 Faculty positions, 175 are filled with 38 vacancies. The bread-up is as follows :

Category	Sanctioned	In Strength	Vacancies
Professor	57	40	17
Associate Professor	62	49	13
Asst.Prof./Lecturer/ Associate lecture	94	86	8

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## **ACTIVITIES OF ACADEMIC DEPARTMENTS**



## **DEPARTMENT OF APPLIED CHEMISTRY**

The Department is well equipped to cater the need of undergraduate courses. It is also planning to start postgraduate programme in Industrial Chemistry. The faculty of the Department are actively involved in research and development work

### **Innovation, Research & Development Activities:**

#### **A. Projects**

Two major research projects sanctioned by UGC in the year 2001-2002.

1. "Evolution of sequential oscillation in a single organic substrate in a chemical system": Dr. P.K. Srivastava, amount Rs. 2,08,560/-
2. "Removal of toxic metal ions from aqueous waste by Inorganic particulates": Dr. D.Tiwari, amount Rs. 2,08,560/-

#### **B. Seminar/Symposium/Workshop attended:**

1. Dr. (Mrs) Usha Jha was invited as resource person to deliver a lecture on "iomaterials" at an orientation programme of UGC for east zone University Lecturers/Readers in August 2001
2. Dr. (Mrs) Usha Jha presented a Paper entitled "Environmental Impact of Coal bibefeciation" accepted for presentation at National Seminar on ecofriendly chemical technologies organized by the Institution of Engineers in February 2002.

3. P.K.Srivastava & M.K. Mukul, "Synthesis of Polyglyceryl Acrylates" in National Conference on Materials for the New Millennium, 2001,Kochi.
4. P.K.Srivastava & S.S.Majhi, " Banded Polymer in Methacrylic Acid Polymerization" presented in National Symposium on Chemical Sciences: Advancing Frontiers, June 2001 , Lucknow.

**C. Publications:**

1. P.K.Srivastava & M.K. Mukul, "Synthesis and Characterization of Polyglyceryl Triacrylate", Oriental J.Chem. 17, (2) 2001.

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## **DEPARTMENT OF APPLIED MATHEMATICS**

The Department is all set to start its own Master Of Technology programme in “Scientific Computing” from the next session besides participating in teaching all mathematical subjects of allied Department at undergraduate and postgraduate level. This course is a compact and balanced one creating a suitable platform through which the students will be expertised in the application computational methods like simulation, modeling etc relevant to the solution of the problem faced by the industry and IT sectors.

The Department has also augmented the existing computer centre and software to meet the need of above course. Once this laboratory is fully functional , the Department will be able to undertake the research and development project in highly sophisticated areas of computation.

### **Academic, Innovation, Research & Development**

#### **Ongoing sponsored research project:**

1. Dr. N.C. Mahanti (Principal Investigator).” Coastal dispersion model”. Sponsored by the UGC, New Delhi.
2. Dr. S.K. Jain (Principal Investigator) “ Transient analysis of laminated Composite plates” by FEM. AICTE. New Delhi.

3. Dr. S.K. Jain (Principal Investigator) "Vibration of non-uniform sandwich plates". Sponsored by the UGC, New Delhi.
4. Dr.Rakesh Verma (Principal Investigator). "Fuzzy approach to traffic and transportation management systems" sponsored by the UGC, New Delhi.
5. Dr. S.K. Chakraborty (Principal Investigator). "Studies of evaluation of optimum depth from the immediate roof in a mine". sponsored by the UGC. New Delhi.

**B. Paper published:**

1. P. Mishra and C.K. Sharma. "A uniform storage utilization of B-tree like structures" Proceeding of the National Academy of Sciences. 2001.

**C. Participation of faculty in the national conferences/seminars:**

1. Dr.N.C. Mahanti attended the symposium on Information and Optimization organised by the Department of Applied Mathematics, University of Calcutta held during 31<sup>st</sup> Dec. 2001 and 1st Jan.2002 and delivered an invited talk on "Fuzzy optimization".
2. Dr.N.C.Mahanti attended Mathematical fete organised by Department of mathematics. Ranchi University, held on 27th Jan. 2002 and delivered an invited talk on "Fuzzy optimization". He also chaired a session of paper presentation.

3. Dr. N.C. Mahanti attended National conference on Recent trends in Mathematical Sciences held at Jadavpur University, Calcutta during March 22-23,2002 and delivered an invited talk on 'Air-Sea interaction'. He also chaired a session of paper presentation in the seminar.
4. Dr. R.Verma attended a national conference on Recent trends in Mathematical Sciences held at Jadavpur University, Calcutta during March 22-23,2002 and presented a paper on "Fuzzy approach to Uncapacited facility location Problem"
5. Pushpa Kumari Project fellow attended the national conference on "Recent trend" in Mathematical Sciences held at Jadavpur University, Calcutta and presented a paper on Dispersion model, (Co-author: Dr. N.C. Mahanti)
6. Sri. P. Mishra attended a national seminar on Mobile computing organized by Computer Society of India held during Dec. 11-12.2001. at Hyderabad and presented a paper on "Optimal implementation of Parallel Divide and Conquer Algorithm on de Bruijn".
7. Sri. P. Mishra attended 71th Annual session of the National Academy of Sciences held at University of Pune, Pune. during Oct. 5-7. 2001 and presented a paper on "An efficient parallel algorithms for shortest paths in planner layered digraphs".
8. Sri. P. Mishra attended Mathematical fete organised by Department of Mathematics, Ranchi University held on 27th Jan. 2002.

9. Sri. P. Mishra attended a workshop on parallel computing optimization performance of parallel programme organised by C-DAC Pune held at Pune during June 3-6. 2002.
10. Sri. P. Mishra attended an AICTE-ISTE sponsored short-term training program on parallel and distributed computing organised by CBIT -Hyderabad during June 24 -July 5. 2002.
11. Mrs. A. Pradhan attended Mathematical fete organised by Department of Mathematics, Ranchi University held on 27th Jan. 2002.

#### **D. Workshop organized:**

1. Workshop on mathematical models and applications (Ramanujam Day celebration). Dec. 27.2001

#### **E. Awards**

1. Mrs. S.V. Subhashini was awarded Ph.D. degree of the Institute in last convocation (April 2002) on the topic entitled. "Numerical Studies of laminar compressible boundary layer flows with heat and mass transfer"

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## **DEPARTMENT OF APPLIED MECHANICS**

The Department has been actively involved in Research and Industrial consultancy in the broad area of Computer Aided Analysis and Competitive product design. It has established an excellent infrastructure conducive for postgraduate programme. The Department is running one master of engineering programme in Computer Aided Analysis and Design besides participating in many undergraduate and post graduate programme of allied departments.

The department has initiated many activities to establish necessary infrastructure for educational research and training during the current session. A well equipped computer laboratory and a small seminar room are ready to cater the basic needs of the department. The Department has already established a good rapport with many research organizations and industries such as SAIL, MECON, CMPDI, ESCORTS, Sri Ram Ball Bearing, TELCO & TISCO.

### **Innovation, Research & Development Activities:**

#### **Seminar/ Conference/ Workshop attended:**

1. Prof. R.P. Singh attended and presented a paper in the Second International Conference on Theoretical, Applied, Computational and Experimental Mechanics held at I.I.T Kharagpur in December 27th to 30th, 2001. His paper "Asymmetric Vibration on Annular/ Circular Isotropic Plates with Elastic restraints against translation and rotation by using spline interpolation techniques" has been accepted and published in the proceeding of this conference.

2. Prof. R.P. Singh and S. K. Jain presented a research paper “Free Asymmetric Transverse Vibration of Polar Orthotropic Annular Plates using Chebyshev collocation method with Chebyshev points” which preliminary accepted for publication in the Journal of Sound and Vibration.
3. R. K. Ranjan attended short term course on “Tribology Maintenance and Safety” during 5th to 7th October 2001 organized by Institution of Engineers (India), Ranchi Local centre.
4. R. K. Ranjan attended National Conference on “Water Resource Development and Management” during 9h to 10th February 2001 organized by Civil Engineering Department B.I.T.Mesra, Ranchi.
5. Rajiv Ranjan attended short term course on “Tribology Maintenance and Safety” during 5th to 7th October 2001 organized by Institution of Engineers (India), Ranchi Local centre.
6. Rajiv Ranjan attended National Conference on “Water Resource Development and Management” during 9<sup>h</sup> to 10<sup>th</sup> February 2001 organized by Civil Engineering Department B.I.T.Mesra, Ranchi.

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## **DEPARTMENT OF APPLIED PHYSICS**

The Department offers courses in physics and applied physics at undergraduate and postgraduate level in collaboration with other Departments. In addition to this, the Department is all set to start a new Master of Technology course in “New Materials and Processing Technology”.

The Department has been carrying out front-line research in the areas of Plasma Surface Coating, Non-linear Optics, Holography, High Temperature Oxide Superconductors and Plasma Physics & Lasers. The following addition of equipments / laboratories development are made during the last year in these laboratories.

1. Ruby laser (Raytheon) is now operational. This emits pulse radiation at 639nm wavelength.
2. A student version of Nitrogen laser has been added to the laser laboratory.
3. Anodic coating unit has been improvised by the addition of biasing facility.
4. Holography lab has demonstrated nondestructive testing of thin solid samples. It has also been currently employed to analyze the properties of polymer samples.

## **Academic Innovation, Research & Development activities of the Department**

### **A. Awards / Nominations / Membership received:**

1. Dr. R. K. Popli has been a member of Grants-in-Aid Committee for Experimental and Innovative NFE Programmes, MHRD, GOI and special invited member of Committee on quality improvement of Education, MHRD, Govt. of Jharkhand.
2. Dr. J. Thomas Andrews acted as referee for International Journal on Nanoletters (USA).
3. Dr. J. Thomas Andrews joined after one year study leave to complete the Prestigious Dr. K.S. Krishnan Research Fellowship of Department of Atomic Energy, Mumbai. He worked at the Biomedical Applications Section of Center for Advanced Technology, Indore on optical coherence tomography.

### **B. Papers Publication**

1. R.K. Popli, Concepts and misconcepts in Physics -III, Kinematics,ion, Bull. IAPT, 18,101 (2001)
2. R.K. Popli, Concepts and misconcepts in Physics -IV, Forces and Newton's laws of motion, Bull. IAPT, 18,173 (2001)
3. L.Singh, S.Konar, A.K.Sharma and V.K.Tripathi, Resonant Cross modulation of two-laser beams in a semiconductor slab, J.Phys. D: Appl. Physics, 34, 2237 (2001)

4. L.Singh, S.N. Rai, S. Konar and A. K. Sharma, Information exchange between Gaussian laser beams in n-InSb, *Physics Scripta*, 65, 1 (2002).
5. P.Sen and J.Thomas Andrews, Steady state nonlinear gain in small quantum dots, *Solid State Communications*, 120,195 (2001)
6. J.Thomas Andrews and P. Sen, Nonlinear absorption in semiconductor quantum dots, *J. Appl. Physics*, 91,2877 (2002).
7. J.Thomas Andrews and P. Sen, Nonlinear absorption in semiconductor quantum dots, *Virtual J.Nanoscale Science & Technology*, 5, March 11 (2002).
8. J.Thomas Andrews, H. S. Patel and P. K. Gupta, A novel scanning technique for optical coherence tomography, *J. Optics* (In press) (2002).
9. A.Pomarico, M.Lomascolo. A.Passasco, R.Cingrlavoni, M.Berti, E>Napolitani, M.Natali, S.K.Sinha and A.V.Drigo, *Appl. Phys. Lett.*,77, 4127 (2001).
10. J.Thomas Andrews, H. S. Patel and P. K. Gupta, A novel scanning technique for optical coherence tomography, *International Conference of Optical Society of India August 27-29,2001 held at Science & Technology Museum, Trivandrum.*
11. J.Thomas Andrews, H.S. Patel and P.K.Gupta, Measurement of optical properties using optical coherence tomography, *DAE-BRNS National Laser Symposium -2001, during December 19-12, Center for Advanced Technology, Indore*

12. R.Tiwari, P.Sen, J.Thomas Andrews, R. Jain, P.K.Dutta and P.K.Sen. Second order generation conjugated polymers, DAE-BRNS National Laser Symposium - 2001, during December 19-12, Center for Advanced Technology, Indore
13. R.K.Paul, S.Mukherjee, D.Bawik and A.K.Hui, Investigation of soft X-ray emission profile in the discharge of SINP Tokamak, Plasma-2001, 16th National Symposium on Plasma Science & Technology, Dec. 17-20, 2001, Center of plasma physics, Calcutta.
14. P.K.Barhai, M.K.Sinha and B.Pathak, Plasma deposition of metallic thin films utilizing anodic vacuum arc plasma, Plasma-2001, 16th National Symposium on Plasma Science & Technology, Dec. 17-20, 2001, Center of plasma physics, Calcutta.

#### **C. Book Publication**

1. R.K.Popli. Ekal Vidyalaya Acharya Margadarshika (Ekal Vidyalaya Yojana.... 2001)

#### **D. Projects sanctioned:**

1. Dr. S.Konar, Investigation on the dispersion managed breathes in long-haul optical communication system and studies of the effects of higher order nonlinearities in optical switching by Department of Science & Technology, New Delhi.
2. Dr. (Mrs.) S.Keshri, High Pressure Investigations on Oxide Superconductors to obtain higher T<sub>c</sub> by UGC.

#### **E. Conference / seminar participation:**

1. Dr. P. K. Barhai participated in Plasma -2001, Plasma Science Society of India, held at Center of Plasma Physics, Gowhati, Dec. 17-20,2001.
2. Dr. P. K. Barhai, Dr. S. Konar and Dr.S.Medhekar attended WALMI - 2002 held at Jadhavpur University during Feb. 22-24,2002.
3. Dr. J. Thomas Andrews presented a paper on "A novel scanning technique for optical coherence tomography" in Second International Conference of Optical Society of India during August 27-29, 2001 held at Science & Technology Museum, Trivandrum.
4. Dr. J.Thomas Andrews presented two papers on "Measurement of optical properties using optical coherence tomography" and "Second order generation conjugated polymers" in DAE-BRNS National Laser Symposium - 2001 during December 19-12, at Center for Advanced Technology, Indore.

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## DEPARTMENT OF BIOMEDICAL INSTRUMENTATION

The Department offers in collaborations with B.M. Birla Heart Research Centre, a postgraduate programme in Bio-Medical Instrumentation.

### **Activities of the year 2001-2002**

1. Sanctioned intake of students for M.Sc. (BMI) has been raised from 15 to 20.
2. Out of 76 scholarships for students selected from 25 Institutes of the country, two scholarships were awarded to students of M. Sc. B.M.I. each amounting to Rs. 1.24 lakh, in the current year by the G.E. Fund.
3. Faculty and students of Department of Biomedical Instrumentation attended one-day workshop on “Modern Medical Equipments” arranged specially for them by Advanced Diagnostic Centre, Ranchi.

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## **DEPARTMENT OF CIVIL ENGINEERING**

The department offers undergraduate degree course, postgraduate degree course with soil mechanics as specialisation for full time scholars, and a postgraduate degree course with structural Engg. as specialisation as continuing education for working engineers. The department also offers adequate facilities for research work. The faculty members are actively engaged in research and consultancy in which all departmental students have ample opportunity of active involvement. Both undergraduate and postgraduate students are trained in Computer applications in Civil Engineering problems and the latest software are made available to them. Major areas of current research in the department include composite materials, soil-structure interactions and deep foundation system magneto-hydrodynamics.

The Department possesses well-equipped laboratories worth mentioning here are: The material testing laboratories including concrete laboratories: Road materials laboratory; Rock Mechanics laboratory; Soil Mechanics laboratory; Environmental Engg. laboratory etc. are all well equipped for all sorts of testing satisfying all requirements of Indian Standard Codes. Hydraulics laboratory and Structural Engineering laboratory are well equipped for conducting experimental research work. Survey laboratory contains total station equipment suitable for advanced geodetic survey work. These laboratories are upgraded by the addition of equipments such as Tar visco-meter, Float Test Apparatus. Abel Flash Point Apparatus, Cloud & pour point Apparatus, Universal Penetrometer, Profilograph. Benkelman Beam, Centrifuge Extractor, Hubbard Field Test Apparatus, Dynamic Conepenetro-meter and Ductility Testing Apparatus.

## **Academic Innovation, Research & Development Activities:**

### **A. Ongoing Projects:**

The department has taken up and is continuing work on two major research project of total cost of about Rs.80 lacs in collaboration with coal India Ltd., and CMPDI, Ranchi.

1. Utilization of overburden materials through modification of Physico-mechanical properties for the construction of haul roads.
2. Optimization of ambient air quality monitoring networks and application of mathematical models of air pollution control in North Karanpura Coalfields under Central Coalfields Ltd.

### **B. Nominations /Awards:**

1. Prof.A.K.Sinha, a faculty member of the department received Ph.D. degree in July. 2000 from Indian Institute of Technology, Kharagpur
2. Prof. Gopal Pathak was appointed as a member of the Scientific advisory Board for the 17<sup>th</sup> Annual International Conference on contaminated soils, sediments and water, which was held in the university of Massachusetts. AMERST, U.S.A during Oct. 2001. He was also invited to chair a technical session on “Heavy metals in the Environment”.

### **C. Guest Lecture/Tour Arranged:**

The department organised the following activities in this year for the undergraduate and Post-graduate students:

1. A lecture on Information Systems and their roles in Career Building.
2. An educational tour to Getalsut Dam and Rajrappa coalfields.
3. A seminar on modern trends in concrete technology with special reference to admixtures.

### **D. Participation in services at national level :**

1. Prof. S.Sengupta nominated as a member of National Evaluation Team for validation of Technology in West Bengal by Ministry of Human Resource Development. Govt.of India. New Delhi and programme was executed in the month of March. 2001.
2. Prof. Sengupta was a member of National Evaluation Team for Gujarat repair and rehabilitation work before releasing 0£ next installment 0£ fund by the Govt. of India and investigation was done in the month of November and December 2001.

### **E. Conferences/Courses attended:**

1. Prof. V.C.S.Rao attended AICTE/ISTE sponsored winter school on "Neuro-Fuzzy and Expert System Applications in Civil Engg." during 3-13 January 2000 at Osmania University. Engg. College. Hyderabad - 7.

2. Prof. V.C.S.Rao attended National Institute for Training of Highway Engineers sponsored Short Term course in Road Sector at the Institution of Engineers (India). Ranchi centre during 15-21 May 2000.
3. Prof. Binay Kumar Singh attended a short-Term course on Advances in Concrete Technology and Practice organised by IIT Madras during 18-23 December. 2000.
4. Prof. Balram Singh presented a paper titled, "Hydrographic Study of steady plane Rotating MHD Second Grade Fluid Flows in International Conference on Geometry. Analysis. Fluid Mechanics and Their Applications. Department of Studies in Mathematics, Kuvempu University, Karnataka. India during 15-17 January 2000.
5. Prof. Gopal Pathak participated in World Congress on Sustainable Development held at Calcutta during 20-23 January. 2000.
6. Prof. Gopal Pathak presented a paper titled." Anaerobic Biological Treatment of Industrial Wastes- an overview in an International Seminar on Combined Waste Water Treatment held at Hyderabad during 23-24 March 2000.
7. Prof. Gopal Pathak presented a paper titled. Role of Heavy Metals in Water Pollution Profile of Coal Washeries and its Management at the 16th Annual International Conference on Contaminated Soils, Sediments and Water held at University of Massachusetts, Amherst USA during 16-19 October 2000.

8. Prof. Gopal Pathak was invited to present a paper titled, Air Pollution: Characteristics and Perspectives in a National seminar on Environment and Development held at Pune during 25-26 March 2000.
9. Prof. Gopal Pathak was invited to participate as a member of the select group in the round table discussion, was invited to Chair the session on case studies, and was invited to present a paper titled. Restructuring for sustainability with Reference to Human Cities in an international Conference on Sustainable and Human cities held in Manila Philippines, during 10-12 April 2000.
10. Prof. Arun Kumar presented a paper titled. Joints in composite materials in an International Conference held at Punjab University organised by the Institution of Engineers (India) during 18-20 November. 2000.
11. Prof. Birendra Kumar Singh participated in the course of Patent Awareness held at B.I.T. Mesra. Ranchi during 4-5 November 2000.
12. Shri Anil Kumar. Roll No.171/98, the then seventh semester Civil Engg. student selected and attended the prestigious" an Academia - Industry - Interaction Programme- 2001 summer camp" at IIT Kanpur from 4th June 2001 to 2nd July. 2002. He was one of the 30 students selected at national level. He was identified as one of the successful participants in the camp.

#### **F. Workshop Organized:**

The department has successfully organized two-days national workshop on "Applications of Expert Systems in Infrastructural Development" from July 26-27, 2001. This was sponsored by AICTE. This workshop was well attended by the participants from different states; eminent personalities were invited to share their knowledge and experiences with the participants.

#### **G. Paper Publications:**

1. Prof. Balram Singh "Study of Variably Inclined MHD Flows Through Porous Media in Magnetograph Plane," Bull. Cal. Math. Soc. 92(1) P 39-50 (2000).
2. Prof. Binay K. Singh "An Experimental Study of Residual Compressive Strength after Fatigue Damage on Glass/Epoxy Composites", Jr. of Inst. of Engrs (India) Vol. 80 P. 158-161 March 2000.

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## **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

The Department provides ample facilities for its undergraduate and post-graduate students. The department is equipped with the finest Computer Laboratories providing Computing facilities to 250 students at a time. During the current year these facilities are further strengthened with the addition of one PARAM – 10000 Super Computer and six Super Minicomputer. The Details of each one is given below:

- \* PARAM-10000 Super Computer, 8 CPU (Ultrasparc 11 @ 450 Mhz), 2 CPU/node, 2.5 GB aggregate memory, 10x9.1 GB Ultra SCSI HDD, 32 X CD ROM drive per node, 1.44 MB FDD per node, 2 X 360W power supply per node, PGx32 Graphics card per node, 1011 00 fast Ethernet card in each node, 8 port P ARAMNET switch, 4 nos. P ARAM NETCPP2 Card, 12 port fast Ethernet switch, console 21", 4 mm 12124 GB DAT, Solaris 7 Server unlimited user license, university workshop softwares, C, C++, F-7, F-90, Pascal, Visual XP, Teamware, on P ACT, SP ARC works, NEO works, Java, JOE and performance libraries. This system will be installed in our new site and will be connected with 110 PC's in a switched network.
  
- \* DEC-Alpha-600 has Alpha@175 MHz with 2.5 GB Hard disk, 600 MB CDROM, 500 MB CTD and 96 MB RAM. It runs on VMS operating system and has FORTRAN, PASCAL, C, C++ and COBOL compilers, GKS and PRIGS package installed as RDBMS. It has linked with two 8-port terminal server over DECNET.

- \* SILICON GRAPHICS INDY R-4600 system for Image processing and multimedia presentation having processor MIPS R4600, 100 MHz, MIPS rating 119,32 MB RAM, 16KB data & Instruction cache, video camera, microphone, Speakers, Mouse, 535 MB HDD, CD ROM, IRIX Operating system with C, C++, Pascal, Cobol compilers, Multimedia showcase.
- \* SUN ULTRA 140 workstation/64MB/2GB HDD/17" color monitor/CD ROM Drive/Microphone/Built in Ethernet/Solaris 2.5 operating system/Java workshop/C/C++/Fortran Compiler installed in July, 1997.
- \* One high end IBM Netfinity Server Pentium-II having clock speed 450 MHz/ 256 MB SDRAM/ 9.00 GB HDD/ 40X CD ROM/ Floppy Drive IBM Mouse and 17" SVGA Color monitor with Window NT Operating System and is networked with 50 Nos. NET PC purchased from IBM Singapore.
- \* 20 Nos. IBM PC-GL-300 Pentium II System with 350 MHz clockspeed/32 MB SDRAM/4.3 GB HDD with compiler Lotus smart-suit.
- \* 2 Nos. Server of HCL Infinity MNC brand System PII 333 MHz made server/64MB SD- RAM/ 4.3 GB HDD/1.44 FDD/SVGA With 2MB Color Monitor Digital 32X CD Drive Keyboard/ Mouse.
- \* 50 Nos. IBM Thin Client/Video Memory 1 MB/DRAM 16MB/14" Color Monitor Digital/ Keyboard/ Mouse.
- \* 25 Nos. IBM Thin Client/Video Memory 3 MB/DRAM 32MB/14" Color Monitor Digital/ Keyboard/ Mouse.

- \* 60 Nos. IBM MNC brand system PIII 800 MHz Speed/128 MB SDRAM/256 KB cache/10 GB HDD/ 1.44 FDD/ 14" Color Monitor / Mouse / 10/ 100 Ethernet Card.
- \* One COMPAQ Proliant 400 server with Intel PIII 550 MHz CPU, 516 MB SDRAM, 512 KB Cache, 15" color monitor, 110 keys keyboard, mouse, ATX cabinet, 18.2 GB HDD, 1.44 MB FDD, 48x CDROM.
- \* 50 Nos. COMPAQ Deskpro EC with Intel Celeron 500/66 MHz CPU, 810e Motherboard, 64 MB RAM, 10 GB HDD, 1.44 MB FDD, 110 keys keyboard, Mouse, 15" color monitor, preinstalled Windows 98.
- \* 2 Nos. Multimedia System of Wipro System Genius 6100-HMOE/Intel Pentium II-333MHz/512 KB Cache/APG Graphics with 4MB VRAM/4GB Ultra DMA Controller/2\*16550 Serial Port/1 EPP-ECP Port/2USB Port/96 MB SD-RAM/104 KBD/Win98/14" Monitor Multimedia kit/40X CD Drive/SBS 10 Creative speaker sound card/Microphone.
- \* 18 Nos. VT 100 dumb terminals connected with UNIX server.
- \* 6 Nos. Wipro ACER PC with 1 GB HDD, 1.44 MB FDD, 16 MB RAM, 256 kb Cache, 15" color monitor, KB, Mouse.
- \* 6 Nos. Assembled PCs with CELERON 566 MHz processor, 8 GB HDD, 1.44 MB FDD, 64 MB RAM, 108 keys Keyboard, mouse, 15" color monitor.

There are a number of Dot Matrix Printers and a line printer with a printing speed of 600 lpm as a common facilities to the above mentioned systems. All these systems are networked on Ethernet with TCP/IP and NFS. The microcomputer based software packages includes FOX-Pro for Windows, MS FORTRAN, MS Office for windows, MS Visual Basic 6.0, Borland C++, Turbo (7.0, JAVA, J++, Visual Studio etc. Recently Institute has started E-mail and plans to start Internet access facility through Department of Telecommunication, Government of India, for students and staffs. The department currently providing computing facilities for 200 students at a time in, and kept open all 7 days from 8 am to 8 pm for the users and plan to start Internet access facility through Department of Telecommunication, Government of India.

## **Academic Innovations, Research & Development activities**

### **A. Ongoing Projects:**

1. Dr.P.K. Mahanti is awarded a major Research Project from University Grant Commission, New Delhi to undertake a Application of Mathematical Concepts to Develop learning Model for a period of 3 years.
2. Received a grant of Rs. 10.00 lac for research and development from AICTE, New Delhi on the application of genetic algorithm for dynamic simulation, July 2001.
3. Received a grant of Rs. 3.00 lac from AICTE, New Delhi for upgradation of computer in Aug. 2001.

4. Signed an MOU with IBM, New Delhi for software development & teaching IBM software courses in Oct. 2001.

#### **B. Participation Conference/Seminars**

1. Dr G. Sahoo. Associate Professor, attended International Conference on "Current Trends in Differential Equations and Dynamical Systems" held at IIT Kanpur, Dec. 15-17, 2001.

#### **C. Publications:**

##### Research Papers

1. Mahanti, P.K., et al "Intelligent Multi-Agent Computational Architecture for resource management in Complex Systems", published in International Journal of Information and Computer science, vol-3, no-2, July 2001.
2. Mahanti, P.K., et al "Development of a Simulation Technique for Engineering Control System", published in International Journal SAMS, Netherlands, Oct-Nov 2001.
3. Mahanti, P.K., et al "Simulation of Digital Control System", accepted for publication in International Journal SAMS, Netherlands, Nov 2001.

4. G. Sahoo - An efficient approach for numerical integration of ordinary differential equations by embedded Runge-Kutta formula Pairs. Presented in the International Conference on Current Trends in Differential Equations and Dynamical Systems Dec. 15-17,2001 at I.I.T. Kharagpur.
5. K.K. Verma and G.Sahoo - A class of 5 (4) Runge - Kutta Nystrom formula pairs. Presented in the International Conference on Current Trends in Differential Equations and Dynamical Systems Dec. 15-17,2001 at I.I.T. Kharagpur.

### **Books**

1. Mahanti, P.K., etal., 'Introduction to Object Oriented Programming in C++". Khanna Publication, New Delhi, January 2001 (2<sup>nd</sup> Edition).

#### **D. Students' activities:**

Department has started Hardware & Software integration and PC maintenance including trouble shooting from April 2001 for 3rd & 4th year Computer students on Saturday/Sunday for practical exposure on actual system handling.

#### **E. Short term course conducted:**

1. Six Month's Short term Desk Top Printing & Multimedia course has started at BIT's Lalpur extension centre from January 2001 on regular basis to impart training to local Ranchi resident's Computer awareness program.

2. Six month's short tem course on oracle developer 2000 has started at BIT's Lalpur extension centre from April 2001 for computer professionals in and around Ranchi.
3. Six month's Short Term course on Web Page Design has started from April 2001 at BIT's extension centre for Computer professionals in and around Ranchi.
4. Department has initiated DOE's 'O' level courses w.e.f January 2002 for SC/ST/OBC candidates. This course is fully financed by Ministry of Information Technology, Govt. of India, New Delhi.

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## **DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

The Department offers postgraduate and undergraduate programme. It has well equipped state-of-the-art laboratories and workshop facilities. The new equipments added in these laboratories are: PC (Wipro)(2), EMC Machine(1), ECG Machine(1). The Department, apart from teaching and research work, undertook industrial project and renovation of laboratories during this period.

### **A. Academic Innovations, Research & Development Activities:**

Various attempts in different directions have been initiated in the last academic year for the academic improvement of students and faculties.

#### **A. New Courses Introduced.**

The following courses were introduced at undergraduate level:

1. Electric Energy Generation & Control
2. Modern power System Control
3. Power System Dynamics & Reliability

In lab experiments, digital signal processing kits TMS320Cxx have been introduced for both PG and UG students. Power systems laboratory has been developed. We are in the process of developing power system and electric drive lab, high voltage lab and advanced instrumentation lab. These are meant for serving the testing and calibration of electrical instruments and machines.

## **B. Research Activities in 2001- 2002**

The integration of fuzzy logic and ASIC leading to the development to an Application Specific Fuzzy Switching (ASFS) for optimal switching for induction motor control in A. C. drives is developed. The result of the ASFS proves to be very promising for optimal switching of direct torque control using space vector modulation of induction motor. This will result in elimination of PWM modulators thereby reducing heating of the motor and increasing its efficiency.

Research activities on power systems include Fuzzy Logic Based Automatic Generation Control, Simulated Annealing Based Maintenance Scheduling of Generating. Units have developed during the last year. The work on the solution of unit commitment problem and Maintenance Scheduling with reliability consideration is on progress.

Experimental research work has been done in the field of core less high frequency induction heating for home appliance like hot plates, steamer, geyser, rice warmer etc. and also for fluid heating in non-metallic pipe lines for medicinal plants. Core less induction heating has been selected for the present project to minimize iron loss in the core material. Induction heating appliances with core can offer a maximum efficiency to an extent of 50 % to 60 % .Now, to save core loss, it is essential to introduce air as core.

Work is also going on the development of controlled prosthetic limb for an amputated person. Muscles and veins responsible for particular movement were identified. The EMG signal is collected from identified locations. These EMG signals have been digitised to train neural network. The trained will control the movement of prosthetic limb. It is being restricted for two movements only. We are also developing

a tilting table that provides the statistical data from ECG recording system and ambulatory blood pressure monitoring device, which confirms the disease of syncopic patient.

### **C. Students' activities:**

BIT Student Chapter of IEEE organized UNNAYAN-2001 during 5-7 October: 2001 in which distinguished personalities like -Prof. Ranjan Ghosh, IIM, Kolkata, Dr. Amol Chakravarty, Scientist-H, DRDL, DRDO, Hyderabad, Dr. Alok Nath De, Director EDSP, Hughes Software Systems, Gurgaon and Mr. A. N. Jha, CEO, BigLeap Academy gave lectures. Activities of IEE, Student's Chapter (Year 2001-02) Industrial tour to Patratu Thermal power Station Insight, a newsletter, two editions of which were published during the year. Organized guest lectures given by Prof. (Dr.) Rupen Chakrabarti, Head, Department of Electrical Engineering, Jadavpur University and Dr. T. Ghose, Lecturer, Department of EEE, BIT Mesra.

### **D. Participation in Conferences, Seminars, Symposia Workshop.**

- 1 Prof. P. K. Sinha attended International Conference on Control Instrumentation and Information Communicated organized by Department of Applied Physics, University of Calcutta, December 13-15, 2001
2. Dr. T. Ghose attended International Conference on Control Instrumentation and Information Communicated organized by Department of Applied Physics, University of Calcutta, December 13-15, 2001
3. Prof. K. Chatterjee attended International Conference on CERA-01", held at Roorkee, Feb. 21-23, 2002.

4. Dr. P. K. Sadhu attended National Seminar on Economics of Development in Power Sector in Developing Nations "ECO-POWER 200 I" and Annual Paper meeting organized by The Institution of Engineers (I), Nagpur Local Centre.
5. Dr. P.K.Sadhu attended International Conference on Control Instrumentation and Information Communication organized by Department of Applied Physics, University of Calcutta, December 13-15, 2001

#### **E. Publications:**

1. Dr. B. M. Karan, Prof. P.K. Sinha & P. Chatterjee , " Application Specific Fuzzy Switching" presented in "International Conference on Control Instrumentation and Information Communicated" organized by Department of Applied Physics, University of Calcutta, December 13-15, 2001.
2. Dr. T. Ghose & Prof. R.C. Jha , "Solution of Economic Generation Scheduling of Thermal Units Using Genetic Algorithm", presented in "International Conference on Control Instrumentation and Information Communicated" organized by Department of Applied Physics, University of Calcutta, December 13-15, 2001.
3. Dr. T.Ghose & Prof. R.C.Jha presented the paper "Role of Maintenance Scheduling in Power System Planning" in Seminar on "POWER 2002" organized by IE (I) at Ranchi on 30th March, 2002.

4. Dr. T. Ghose published the paper "Development of a New Technique for the Solution of Capacitor Placement Problem", in the proceeding of the International Conference on CERA -01, held at I.I.T. Roorkee, Feb. 21-23, 2002.
5. Prof. D.K. Mohanta & Dr. T. Ghose presented the paper "Maintenance Scheduling of Generating Units of a Captive Thermal Power Plant Using Intelligent Computational Technique", in "International Conference on Control Instrumentation and Information Communicated" organized by Department of Applied Physics, University of Calcutta, December 13-15,2001.
6. Prof. K. Chatterjee, Dr. B. M. Karan & Dr. T. Ghose presented the paper "Software For Load Flow Simulation In A Power System Using Object Oriented Programming, in "International Conference on CERA -01", held at I.I. T. Roorkee, Feb. 21-23,2002.
7. Prof. K. Chatterjee, Dr. B. M. Karan & Dr. T. Ghose presented the paper "Optimization of Gain of the Integral Controller for Automatic Generation Control" presented in Seminar on "POWER 2002" organized by IE (I) at Ranchi on 30th March, 2002.
8. Prof. P.K. Sadhu, Dr. B.M. Karan et al. published the paper "A new generation microprocessor based radio-frequency operated induction heating for sterilisation & boiler plant" published in the Journal of "IEEMA" Worli, Mumbai; Vol- XXII No-2, Feb-2002, Page -36-48 .

9. Pradip Kumar Sadhu published the paper , "A new generation fluid heating in non-metallic pipe-line using BJT & IGBT "published in the Journal of Institute of Engineer (I); Authors: - Vol -82, March 2002, Page- 273-280.
10. Prof. P.K. Sadhu, Dr. B.M. Karan et al. published the paper "A new generation microprocessor-based series resonant inverter for induction heated cooking appliances" published in the Journal of "Indian Institution of Industrial Engineering" Navi Mumbai; Vol- XXX No-9, Sep-2001, Page -10-15.

#### **F. Ongoing Project, Project Completed, Consultancy Work:**

The following industrial project was completed during the last year:

1. Study & Design of Intelligent Observer & Controller for Induction Motor Control.

The following project is on going

1. Control of Dynamical System Using Neural Networks and Fuzzy Systems.

#### **G. Seminars, Conferences, Symposia organized by the Department :**

1. The following course is conducted by the department Short term training programme on Intelligent Control sponsored by AICTE - ISTE on June 11-23, 2001
2. ISTE Day organized by this department on June 10,2001.

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## **DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

The Department has modern laboratories and support facilities in all major areas of electronics and communication. Worth mentioning them are Instrumentation, Analog and Digital Communication, Digital Electronics and Integrated Circuits, Microwave, Microprocessor, Fiber Optics Communication, Television, Industrial Electronics, PCB design and testing, VSLI Design.

The fibre optics laboratory is equipped with LED and laser diode sources, O/E and E/O converters, power-meters, optical couplers and attenuators, optical video and data links, WDM, monochrometer, SM/MM tapered Erbium doped/fibres.

The Digital communication laboratory is well equipped with PCM, DM, signal sampling and reconstruction, carrier modulation and demodulation, pulse amplitude modulation, AM and FM working modules.

A Scalar network analyzer with plotter going to 22 GHz, Spectrum analyzer spanning 9 KHz to 22 GHz range, Sweep Oscillators for 5.9 to 12.4 GHz, 22 GHz microwave frequency counter milliwatt and power-meter support R&D work in the microwave area.

Four P-III & P-IV Computers support the research work in the VLSI design and Image processing area. One more well equipped Basic Electronic Laboratory was set up during the current session to accommodate the enhanced intake of undergraduate students. The equipments added to this laboratory are: CRO-30 Nos., LCRO Bridge-02 Nos., Function Generator – 20 Nos., Frequency Counter – 02 Nos., Pulse

Generator – 02 Nos., AC Millivolt Meter – 20 Nos., Twin Power Supply – 20 Nos., IC Tester – 01 Nos., Custom Built switch Mode Power supply Multi output – 15 Nos. Initiation were undertaken to install a VLSI Design lab during the current session. Space allocation and computer P-IV (20Nos) installation has already done. It is expected that the laboratory will be operational within a year.

### **Academic Innovations, Research & Development Activities:**

#### **A. Ongoing Projects:**

1. “Use of Nonlinear Photo refractive Materials in Fiber Interconnections” Sanctioned by UGC, New Delhi on 12 Oct.2000. Sanctioned amount of Rs. 4.19 Lacs. : Principal Investigator: Dr. S. K. Ghorai.
2. “High Sensitive Inter-fero-metric and Distributed Fiber Optic Sensor” Sanctioned by AICTE, New Delhi on 24 March.2000. Sanctioned amount of Rs. 10.00 Lacs. : Principal Investigator: Dr. S. K. Ghorai.
3. “Robotic Vision for Automating Production System” Sanctioned by UGC, New Delhi in 1999. Sanctioned amount of Rs. 8.00 Lacs. : Principal Investigator: Dr. D. Pal.
4. “Intelligent Transport System (ITS) using Millimeter Wave Technology for Prevention of Road Accidents”, Sanctioned by AICTE, New Delhi 2002. Sanctioned amount of Rs. 3.5 Lacs. : Principal Investigator: Dr. J. S.Roy.

5. “Use of Fiber Optic Sensors for Strain, Displacement and Load measurement Data Acquisition Transmission through FO Glass”, Sanctioned by ISRO, Sanctioned amount of Rs. 9.73 Lacs. : Principal Investigator: Dr. S. K.Ghorai.
6. “Design and Development of Active Filters and Oscillators to operate at Low frequencies”, Acceptance received from ISRO. Principal Investigator: Dr. D. Pal.
7. “Set up of Electronic Testing, Research and Development Centre”, Under active consideration by Department of Industries, Govt. of Jharkhand, Amount Rs 3.63 Crores (2001-2002), Principal Investigator: Prof. S. C. Goel.

## **B. Publications:**

### International Journal:

1. W. Chamma, N. Gupta and L. Shafai, “Dispersion Characteristics of Grooved Microstrip Line (GMSL), IEEE Trans, No. 4, April 2000, PP 611-615.
2. Shweta Srivastava and Babau R. Vishvakarma, “Noise Considerations in a Tunnel Diode Integrated Rectangular Microstrip Antenna”, International Journal of Electronics (U.K), Vol. 88, No. 5, PP. 561-573.
3. Shweta Srivastava and Babau R. Vishvakarma, “Ge Tunnel Diode Loaded Microstrip Patch Antenna”, IEEE Trans. On Antennas and Propag. (U.S.A)(In Press).

4. Shweta Srivastava and Babau R. Vishvakarma, "Tunnel Diode Integrated Rectangular Patch Antenna for Millimeter Range", International Journal of Electronics (U.K), Vol. 88, No. 11, PP. 1177-1188.
5. S. K. Ghorai, Shoumik Maiti, Harpreet Singh and Rana Bhowmick, "Effect of Cross Sensivity in low coherence optical fiber interferometric fiber sensor", Proc. SPIE, Vol. 4417, PP. 515-519, (2001).

National Journal:

1. Shweta Srivastava and Babau R. Vishvakarma, "Tunnel Diode Integrated Two Layer Microstrip Patch Antenna", Indian Journal of Radio and Space Physics Vol. 29, Dec. 2000, PP. 349-356.
2. Shweta Srivastava and Babau R. Vishvakarma and J. A. Ansari, "Frequency Agile Microstrip Antenna on Ferrite Substrate for Circular Polarization", Institute of Electronics and Telecommunication Engineers, Vol. 18, No. 5, Sept.-Oct. 2001, PP. 419-428.

**C. Conferences/ Seminars/ Workshops Attended:**

1. D. Pal, A. Chakraborty, S. Datta, P. Anita & A. Bhusan, "Automating a simple machine vision using template matching technique for application in production enviroment", Proceedings IEEE Conf. On Mechatronics & Machine Vision in practice, Hong Kong, P.143-147, Aug. 2001.
2. D. Pal, A. Chakraborty, "A simple technique to detect surface defects by incorporating rotation invariance in a pattern matching algorithm", 4<sup>th</sup> Int. Conference on Mechanical Engineering, Vol. 3, PP. 35-40, Dec.

3. S. Das, A. Mitra, A. Dasgupta and J.S.Roy, "Optimisation of gain of a microstrip antenna using Genetic Algorithm, NCAMTATD, BIT, Ranchi, Jan.2001.
4. M .K. Jha & Dr .K. K. Shukla, "AI Based Routing Techniques for Communication Networks", Symposium on Advances in Electronics – Electro 2001, January 4-6,2001.Department of Electronics Engineering ,Institute of Technology, BHU, Varanasi.
5. M. K. Jha & Dr. K. K. Shukla, "Noise Sensitivity of Phoneme FFT Coefficients for Speech Signal Processing", sent for acceptance at International Conference on Optimization Techniques & It's Applications in Engineering and Technology.September 223,2001,.B.S.College,(F.E.T.) Bichpuri, Agra.
6. N. Gupta, " A New Approach to method of Lines" ,Advanced Mathematical tools for Antenna theory & Design, BIT Mesra,Jan.2001.
7. Raman Gupta & N. Gupta, "Constraint Satisfaction in Engineering Electromagnetics", Advanced Mathematical tools for Antenna Theory & Design, BIT Mesra ,Jan 2001.
8. S .S .Solanki & S. C. Goel, "Fuzzy System based Conveying control",IPROMM-2000,Seminar on Industrial Automation & Application, Pridarsini College of Engineering & Architecture, Nagpur, Jan. 2001.

9. Sagar G. and Barman S., "Isolated Handwritten Character Recognition", The 3<sup>rd</sup> Internal Conference on Intelligent Processing Manufacturing of Materails"IPMM-2001 Vancouver, British Columbia, Canada.
10. Shweta Srivastava, Anjali Nayak and Babau R. Vishvawakarma "Theoretical Analysis of Tapered Slot Antenna", Proceedings of the Microwave Conference – 2001, Jodhpur, India.
11. Shweta Srivastava and Babau R. Vishvakarma, "Various Methods for Frequency Agile Operation of Microstrip Antenna" Proceedings of the Microwave Conference - 2001, Jodhpur, India.
12. V. R. Gupta and N. Gupta, "Beam Steering in Microstrip Reflectarray Antenna - A Genetic Algorithm Approach", Proceedings of IEEE 2002 APS International Symposium, Texas, USA, pp. 160-162.
13. S. K. Ghorai, S. Maiti, P. Maji and N. R. Srivastava. "Multiobjective Genetic Algorithm for Routing and Wavelength Assignment in Optical Network", Proc. Of International Conf. On Broad Band Optical Fiber Communication Technology, N.M.U., Jalgaon, India, pp. 249-250.2001.
14. S. K. Ghorai, I. Kumar, D. Tiwari and M. Ghose, "Phase extraction in low coherence optical fiber interferometric sensor", Presented at International Conf. On Control Instrumentation and Information Communication, held at Kolkata, Dec. 13-15, 2001.

#### **D. Research papers & Books published with references**

1. S. Barman, "Agile Engineering", Satya Prakashan, New Delhi 2000, (One chapter).

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## **DEPARTMENT OF INFORMATION SCIENCE**

In Society where information is the lifeline for all development activities, Information management has become imperative. This paradigm shift has paved the way for the emerging trends in information science and technology.

In this context, the Department is playing an important role in fulfilling the need for skilled manpower to design developed and operate numerous components of international, national, regional and local information systems.

### **Activities of the Department in the year 2001-2002**

1. Bhaskar Karan attended UNESCO-NISSAT Workshop held at Univ. of Mysore in June 2001.
2. Bhaskar Karan attended seminar on “Development Information” held at NIRD Hyderabad in August 2001.
3. Bhaskar Karan was selected as Reporter in IASLIC conference held at Kerela University, Trivandrum in December 2001.
4. Bhaskar Karan attended ICADL-2001 at Bangalore in December 2001.

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## **DEPARTMENT OF MECHANICAL ENGINEERING**

The Department of Mechanical Engineering is well equipped in the conventional areas of Material Testing, Mechanics of Materials, Hydro and Aero Machinery, Combustion Engines, Heat Power, Non conventional Energy resources with particular reference to Solar Energy, Wind Energy and Biogas Energy. The following equipments were added to these laboratories in last year. Heat pipe demonstrator model NO 4T MIC No 212002 Solar Water Heater 125 lit/day. Hamag 150 MHz analog cum Digital Oscilloscope During the last year, the Department put more thrust on Curriculum development. As a result, many new courses were introduced at the undergraduate level.

### **Academic Innovation, Research & Development**

#### **A. Publication**

1. "Customer Orientation in B2B Marketing: Making it Happen in Engineering Consultancy sector", P.K. Chatterjee & A. Prasad, I.I.M., Ahmedabad, Vol 27, No.1, Jan-March 2002.
2. "Creating a Customer Driven Organization", P.K. Chatterjee & A. Prasad, Productivity, Vol. 42, No. 1, April-June 2001.
3. "Discrete Transfer Method Applied to Transient Radiative Transfer Problems in Participating Medium" , P. Rath, submitted for publication in Journal of Numerical Heat Transfer, Part A, May 2002.

## **B. Seminar/Symposium/Workshop attended**

1. Dr. Arvind Kumar attended All India Seminar on Emerging Technologies for Eco-friendly Chemical Industry on 23 Feb. 2002 organized by the Institution of Engineers, Jharkhand State Centre.
2. Dr. Arvind Kumar presented a paper entitled "Hydrogen energy: A new approach to space cooling" in the All India Seminar on Development in Power Sector Problems & Perspective, organized by the Institution of Engineers. Jharkhand State Centre, Ranchi on 30<sup>th</sup> March 2002.
3. Mr. M.P. Sharma presented a paper entitled "Numerical Study of Three Dimensional Natural convection in a porous Box" by R.P. Sharma & Dr. M.N. Verma, International Symposium on Recent Trends in Heat and Mass Transfer held at I.I.T., Guwahati, January 6-8, 2002.
4. Mr. S.K. Sinha attended All India Seminar on "Application of CNG as an Automotive Fuel" on 31st May 2002 organised by Institution of Engineers (India) Assam State Centre, Guwahati.
5. Mr. S.K.Sinha undertook a Short Term course on "Virtual Enterprises" on July 4-15, 2001 sponsored by Department of Production Engineering, B.I.T Mesra, Ranchi.

6. Mr. B.S.Choudharv attended a All India Seminar on Development in Power Sector - Problem Perspective Institution of Engineers (India), Ranchi, March 30, 2002.
7. Mr. B.S.Choudharv attended a All India Seminar or Emerging Technologies for Eco-friendly Chemical Industry, Institution of Engineers, Ranchi, Feb. 23, 2002.
8. Mr. B.S.Choudharv attended a Workshop on Kinematics and Dynamics, B.I.T Mesra, Ranchi, April 2002.
9. Mr. B.S.Choudharv attended a Summer School on Energy Technologies & Management sustainable perspective, B.I.T., Mesra, Ranchi, June 2001.
10. Math V.B., Naveen Agrawal, Satish Chand "A Thin Rimmed External Spur Gear. A parametric study" International Conference on Multi disciplinary Design In Engineering CSME MDE 2001, November 21-22, 2001 Concordia University, Montrenl Cauchee Canada.
11. Mr. Praseniit Rath attended International Symposium on Recent Trends in Heat and Mass Transfer' Jan 6-8, 2002, I.I.T., Guwahati.

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## **DEPARTMENT OF MANAGEMENT**

The Department is continuing with the MBA Full-time and Part-time degree programme with upto date syllabus. New courses at the level of Bachelor of Business Administration (BBA) started at extension centres as well as overseas international centre and two Post Graduate. Degree level courses started in the continuing session. The department has expanded by the merging of existing information sciences department, which earlier being under the library department was getting projected as library & documentation sciences and currently, the faculties and students are befitted with managerial culture.

The Department has maintained its academic leadership in the eastern region by its ambitious plan and commitment to the qualitative requirements of the professional world. The faculties and students have earned good reputé by representing the department in various all India level activities.

The Department has completed all the formalities to run one Master of Engineering Course in “Quality Engineering and Management” and one undergraduate programme in Hotel Management and Catering Technology. Both the courses will commence from next year. Also the Department has made functional a system laboratory for its postgraduate programme.

## **Academic Innovation, Research & Development Activities:**

### **A. Publications:**

The department of Management released quarterly newsletter “MANAGE-A-BIT” and bi-annual management journal ”The Alternative" was resumed after a long gap. The inaugural issue of the newsletter and the journal were released by Dr.H.C.Pandey V.C.Emeritus.

The department has also initiated exchange programme of journals among the management Institution thus creating a large collection of journals for reference reading of students and faculty.

### **B. Training Programmes:**

A three days residential training programme on SSI Financing for Bank Officers was conducted at the department during April 16 -18, 2001.

Staff Development Programme was organised during March 4-23,2002 for university teachers and 15 participants from all over the country attended the residential training programme.

### **C. Extra Curricular Activities:**

The three-days management festival –“Samagam 2002” started from 14th March 2002 and apart from the local host teams,six other institutes participated in the various events of the festival.The events ranged from essay,quiz, debate,personality contest and the management game – Birla Stock Exchange.

The Department sent a team of 10 MBA students to BITs Pilani On 6th February 2002 to participate in their Management Festival “INTERFACE 2002”. A research paper on the topic:Managing and Leading the Corporate World in turbulent times” was presented before a five member panel comprising the Director, BITs Pilani and other senior faculty.

#### **D. Ongoing Research Projects/Project completed:**

One AICTE project completed and one more in progress. One DSIR project continued in the department.

<b>Title</b>	<b>Sponsor</b>	<b>Principal Investigator</b>
A pronged approach for the Management of NPAs of commercial bank for the development of south Chotanagpur region.	AICTE	Dr.S.K.Bose
An investigation of reasons for low level of women entrepreneurship in south Chotanagpur region.	AICTE	Ms.S.Shivani
The Influence of the integration of technological strategies with business strategy of a large public sector organization on small and medium scale suppliers.	DSIR	Dr. S.K.Mukherjee
Industry Institute Partnership Cell	AICTE	Dr. A.M.Agrawal
Professional Education and its impact on of Industrialization in Tribal Region – Need for Government Support for creation of Infrastructure (Jharkhand & Chattisgarh)	Min.of Tribal Affairs	Dr. A.M.Agrawal

#### **D. Guest lectures arranged:**

Ten Guest lectures were delivered on the contemporary topics.

<b>Speakers</b>	<b>Topic</b>
Father A.Jesuraman	Preparing for Interviews.
Mr. Gautam Sinha	Customer Service in the Indian Steel Industry.
Dr. P.K.J.Mohapatra	E-Business.
Mr. C.Raipath	Management of Urban Development.
Mr. Pranay Kumar	Concept or Pure Risk.
Mr. Someshwar Nath	Emerging issues In management or services
Dr. P.K.David	Language Management.
Mr. Taposh Goshal	Enhancing Customer Care.
Dr. A.K.Saxena	Challenges in the contemporary Business Environment.
Dr. T.Pandeya	Management Education in India- Post Liberalization.

#### **E. Research, Publications:**

1. Dr. A. N. Jha, "Future outlook and aggressive measures of mutual funds in India" published in "GROWTH" vol.-29, III, (Oct-Dec 2001, a quarterly journal of MTI, SAIL, Ranchi.
2. Mr. S. C. Mishra delivered his seminar paper on "Is Science and religion Coming Together" at the department of humanities, Indian Institute of Technology, Kharagpur.

3. Mr. Debangshu Chakraborty presented his paper "Leadership philosophies of East and West" in Stockholm, Sweden and visited Germany to study indigeneous model of leadership.
4. Dr. S. K. Bose, "Impact or Corporate Restructuring on Financial Reality", 'The Alternative', Dept. of Management. B.I.T. Journal. Vol 1, No.1 (Sept '01-March '02).
5. Dr. A. N. Jha, " A Case study of NGOs in Jharkhand", 'The Alternative', Deptt. Of Management. B.I.T. Journal, Vol 1, No.1 (Sept '01-March '02).
6. Mr. Utpal Baul, "Augmenting Relationship -The Role of Organisational Customers", 'The Alternative', Deptt. of Management. B.I.T. Journal. Vol 1, No.1 (Sept. '01-March '02).

**F. Conferences/Seminar attended:**

1. Dr. A. M. Agrawal participated in the 'Investors Meet' organised by Ministry of Mines, Govt. of Jharkhand at New Delhi
2. Ms. S. Shivani attended a conference on "e-Governance" organised by Confederation of Indian Industry and Government of Jharkhand at Indian Institute of Coal management, Kanke, Ranchi.
3. Mr. D. Chakraborty attended a 5 days' Management Development Programme at IIM-Calcutta in " Managerial Leadership & Team Building" between February 18-22, 2001.

#### **G. Award:**

1. Mr. Sumit Dutta produced his thesis under the guidance of Dr. S. K. Mukherjee. The title of his research was “Developing Risk Management Matrix for Successful Project Planning”.

#### **H. Innovations in Teaching Methodology:**

1. Mr. S. C. Mishra initiated the deliverance of course material and lecture hand-outs in electronic media. The web edition of course material in subjects of management and business environment marks a big leap into the Information world using state-of-the art educational technology.
2. The department in consultation with board or studies member finalized its proposal to switch over to trimester system offering more subjects and specialization at par with international management schools subject to approval of Technical Council.

#### **I. Faculty nominations:**

1. Dr. A.M. Agrawal, Member, Board of Examination, Indian Institute of Industrial Engineering (India).
2. Mr. S.C. Mishra empanelled on the paper review committee of the Society of Automotive Engineering, USA.
3. Dr. S. K. Bose selected as one of the empanelled management consultant and valuer of State Bank of India.

4. Dr. R.N.Bhagat elected as Vice-Chairman in the District level Agricultural Product Market Committee, Ranchi. Under his initiation a website 'jharkhandkrishibazar.com' has been launched which is a novel step towards the development of on-line agro market.

#### **J. Externalities/Consultancy:**

The Department has been invited by the state ministry of industries as well as tribal welfare to render its services and contribute its expertise in critical tasks. A sick industry K.P.Minerals' (manufacturer and exporter of ultramarine products) revival package is to designed and prepared.

The department has encouraged and deputed students to modernize the data and office keeping records of the welfare directorate of Jharkhand government.

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## **DEPARTMENT OF POLYMER ENGINEERING**

The Department of Polymer Engineering has facilities for research and development in the areas of Polymer Characterization, and Polymer processing. Major facilities in Polymer Characterization include X-Ray Diffractometer, Microscope with photographic arrangement, Tourque Rheometer, Cone and plate Rheometer, IR Spectrophotometer. Polymer processing workshop facilities include Injection moulding, Compression moulding, Thermoforming, Extrusion, blow moulding etc.

Department initiated to establish facilities for Product Development by procuring a Vacuum Casting machine, from MCP-HEK. Other equipment procured in the present academic year are Single screw extruder with pelletizer-Kolsite, Million mega ohm meter, Dielectric break down tester, Static load deflection meter, Hot air welding system, Leister.

The Department also provides ample facilities for research work. The faculty members were involved in Laboratory development and in research work in the areas of Polymer blends, Interpenetrating Networks, Process optimization etc.

### **Academic Innovations Research & Development:**

#### **A. Curriculum Development**

Department of Polymer Engineering designed a one- year training programme for workers in HDPE and PVC pipe plants of Amiantit Oman, Muscat. The course is to be conducted by BIT Extension Centre, Muscat, and to be commenced from September 2002.

## **B. Students activities.**

Mr. Vishal Das and Mr. Sarat Chandra, final semester students of B.E. (Polymer Engineering) won 2nd Prize, in All India, Charles Good Year Memorial Quiz Competition, Organised By Rubber Technology Centre, Indian Institute of technology, Kharagpur, held during 29th to 30th Sept. 2001.

## **C. Seminar/Symposium/Workshop attended:**

1. Mr. G. Sarkhel, Lecturer, attended a Seminar on "Green Plastics -An ecofriendly approach", organised by IPE and IPI, Calcutta Chapter, on 20th December, 2001.
2. Mr. Kausik Kumar, Associate Lecturer, attended a Short term course on "Plastics injection moulding technology", organised by CIPET Lucknow on 20th and 21st December, 2001
3. Dr. P. Mukhopadhyay, Lecturer, attended All India Seminar on "Emerging Technologies for Ecofriendly Chemical Industry", organised by The Institute of Engineers (I), Jharkhand State Centre and R & D Centre for Iron and Steel, on 22nd and 23rd Feb 2002.

## **D. Consultancy work undertaken:**

Department of Polymer Engineering, took up testing work for local Industries and organizations. The Department also conducted one day Laboratory class in Polymer Processing, for Undergraduate Engineering students of NIFFT, Hatia.

**E. On going projects of the Department:**

1. Mr. Sanjay Dutta, Lecturer, is engaged as principal investigator, in a 7.9 Lacs AICTE sponsored Project "Development of Grooved Pads for Indian Railways".
2. Mrs Sudipta Goswami is the Principal Investigator of a Project titled "Development of Injection Moulding Grade PE/PS and PP/PS Blends with Improved Ability". This project is funded by UGC.
3. Dr. (Mrs) M. Mukherjee, is engaged in an UGC funded project "Rheological Studies of Commingled Plastics Recyclates".

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## **DEPARTMENT OF REMOTE SENSING**

India as a part of its strong space programme has launched several remote sensing satellites for mapping and monitoring the natural wealth of the nation. In future, many other satellites with better resolution and enhanced features are planned. This calls for a large number of trained personnel to take up the above mission. Looking to the growing significance of Remote Sensing (RS), a one and a half-year M. Tech. Programme in Remote Sensing has been introduced from July 1997 at B.I. T., Mesra. The course is designed to introduce Remote Sensing and GIS techniques-Principles, Photogrammetry, Digital Image Processing of satellite data, and its application towards mapping and management of various natural resources.

The fourth batch (2000-2001) of M.Tech. Students have passed out this year. The students did their M. Tech. Thesis works at the National Remote Sensing Agency (NRSA), Hyderabad, UPRSAC, and IIRS. The topics of the thesis work included Prediction, Decision Making, Road Alignment Watershed Modeling, landslide Wasteland Mapping, Hydrological Investigation, Environmental Information Systems, Pollutant Mapping Snow cover Mapping etc.

The faculty members of the Department and M.Tech. students of 2001 batch are actively engaged in research work in various areas like development of Geographic Information system (GIS) for B.I.T. campus, GIS for the transportation network in Ranchi city, Decision Support System (DSS) for Jharkhand state etc.

During last year, an image processing and GIS Lab. has been established in the R&D building of the Institute. Four Intergraph TD 260 desktops and one Wipro

Voyager machine has been procured and installed. Department has also purchased Magellan Promark V Global Positioning System (GPS), Umax Scanner. Department has also procured software for GIS, Cartography and Digital Image Processing such as Arc Info 7.2, Image Analyst, Modular GIS Environment (MGE), I/RAS, Geomedia Professional, Geomedia, Microstation SE, Oracle 8.0.

### **Academic Innovations, Research & Development:**

#### **A. On Going Research Projects/Consultancy Work**

1. EIA Study for-2500MW Hydro-electric Power Project on Subansiri river (Arunachal Pradesh) with MECON-NHPC.
2. EIA Study for 2000MW Hydro-electric Power Project on Kamla river (Arunachal Pradesh) with MECON-NHPC.
3. Landuse/Landcover and Hydrogeomorphological Study of Gamharia Watershed for KGVK.

#### **B. Research Proposals Prepared And Submitted**

1. "Establishment of State NRDMS Center of Jharkhand & "Creation of Geo-Spatial Data Base for Decentralized Planning and to Develop Decision Support System," to DST, Govt. of India, New Delhi.
2. " Watershed Prioritisation and Natural Resource Management in South Koel & Karo Basin Covering Parts of Ranchi, Gumla & West Singhbhum Districts (Jharkhand) Using Remote Sensing & Geographic Information System techniques" to the Dept. of Rural Development Govt. of Jharkhand.

3. "Creation of GIS for Rural Roads Networks for Physical & Financial Monitoring in Jharkhand" to the Dept. of Rural Engineering, Govt. of Jharkhand.
4. "Proposal for Master Plan for Urban Areas" to the Dept. of Urban Development, Govt. of Jharkhand.
5. "Proposal for Creation of State Geo-spatial Data Base Infrastructure" to DST, Govt. of Jharkhand.
6. Landuse, forest cover and Wasteland Mapping of Hazaribagh and Koderma District A case Study Using IRS Data and GIS. Submitted to: DST, GOI.

#### **C. Conference, Seminar & Workshop Organized by the Dept.**

1. Organized One-Day User Awareness Workshop on Remote Sensing Data Product at B.I.T in Collaboration with NDC, Dept. of Space, Hyderabad on 1st March 2002.

#### **D. Conference, Seminar & Workshop attended.**

1. Dr. M.S.Nathawat attended International Seminar Map India 2002, 6-8-February 2002 New Delhi and presented a paper.

2. Dr M. S. Nathawat, Dr. N. Patel, Dr. A.K. Singh, A. Srivastava and V.S. Rathore attended National Seminar on the Challenges for Development of Urban Areas in the Newly Formed States." December 6-8th 2001, B.I.T. Ranchi, Jharkhand.
3. Dr. M.S. Nathawat, Dr. N. Patel, Dr. A.K. Singh, A. Srivastava and V.S. Rathore, attended the National Conference on Water Resource Development & Management , Feb -9-10, 2002, Bolo T 0, Ranchi, Jharkhand.
4. Mrs. Richa Sharma attended national conference on Remote Sensing at SAC Ahmedabad and presented a Paper.

#### **E. Research Papers, Books and Articles Published**

1. "Predicting Temporal Variation in Urban Development of Ranchi City using Remote Sensing and GIS" D.K. Nishad, Shantanu Lala, A. Srivastva, M.S. Nathawat in proceedings of National Seminar on the Challenges for Development of Urban Areas in the Newly Formed States." December 6-8th 2001, B.I.T. Ranchi, Jharkhand.
2. "Water Resource Mapping and Management Using Remote Sensing Technique: A Case Study in Panchkula Dist., Haryana." A. C. Pandey, M.S. Nathawat, A. Srivastava, V.S. Rathore in Proceedings of National Conference on Water Resource Development & Management Feb-9-10, 2002, B.I.T., Ranchi, Jharkhand.

3. "Spatial Decision Support System Using GIS based Infrastructures planning in Health & Education for Ranchi District." Mili Gosh, Shantanu Lala, M.S. Nathawat in proceedings of Map India 2002 6-8-February 2002, New Delhi.
4. "Evaluation of Bauxite Active Mining Area in Lohardaga District of Jharkhand Using GIS and Remote Sensing" R.N.K. Sharma in proceedings of ISPRS , Ahmedabad.

#### **F. Award/Nomination**

1. Mrs. Richa Sharma nominated by the Planning commission for drafting the Jharkhand Development Report for the Natural Resource Development.

#### **G. Guest Lecture arranged.**

1. Dr. N.C. Gautam Ex Group Director Land use and Cartography NRSA Dept. of Space and Director, Center for Land use Management Hyderabad delivered Guest lectures on Cartography, Land use Planning & Project Management in February 2002.

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## **DEPARTMENT OF SPACE ENGINEERING & ROCKETRY**

The Department is actively engaged in modernization and development of its various Laboratories. The faculty members have carried out and guided R & D work in the area of Aerodynamics, Propellant Technology, Combustion, Rocket Propulsion and Composite Materials.

In addition to the existing M.E. Programme in Space Engineering and Rocketry with two specializations, viz. Aerodynamics and Rocket Propulsion started in 1968, the Department is all set to offer M. Tech. Programme in Fuels and Combustion on the basis of approval of the Course by AICTE. There would be ten seats and the admission eligibility would be B.E. in Mechanical/Chemical Engineering or M. Sc. in Chemistry. The research work carried out during the period of Report is summarized below:

### **Aerodynamics Division :**

Extensive work has been done on the measurement of unsteady pressures around typical protrusion of a launch vehicle (PSLV) at Supersonic speeds. Kulite – make unsteady pressure transducer, together with OROS software were used. Data were analysed. This study was carried out under RESPOND Project from ISRO. Results were presented during RESPOND meet at Trivandrum. Further experiments and analysis of results are being done.

Experimental studies using the above facilities were also made to study the flow field around typical protrusion mounted on a cone - cylinder model at Supersonic Speed. Unsteady pressures obtained are useful for missile and rocket applications.

Flow field in the base region of a cone - cylinder model at Supersonic Speed was obtained by making pressure measurement in the base region. Using this data, base drag was estimated. Effect of nose shape on the base drag has been obtained. These results are useful for prediction of jet off base drag of missiles and rockets. Computations have been made to obtain nozzle flow field by solving quasi 1-D, unsteady Euler equations using Mac Cormack's explicit scheme. Algorithm is validated by comparing with available results in literature.

Flow past NACA 0010 airfoil at Subsonic and Transonic speeds have been obtained by using transonic small perturbation theory. Small perturbation equations are solved to capture the flow field around airfoil in Mach number range of 0.5 to 0.9. Results are validated using available results.

Shock capturing technique has been adopted to obtain flow field around 2-D compression corner at Supersonic Speed. Euler equations were solved using finite difference techniques. Results were also compared with corresponding exact solutions.

Experiments have been made in the subsonic tunnel to obtain flow field around typical high-rise buildings under a UGC Project. Experiments consisted of flow visualisation, measurement of static and r m s pressures. Effect of gap between buildings were studied. Very high unsteady pressure have been recorded when the buildings are at a very close distance. Details are being compiled and analysed. This study is being carried out under UGC Project.

Various subsystems of existing Schlieren System of Supersonic Wind Tunnel are being modified/replaced to improve the quality of the results.

## **Propellant Technology Division:**

The successful utilization of newly developed heterogeneous gelled fuels in liquid rocket motor or in altitude control thrusts depends on clear and in-depth

understanding of their complex flow behaviour under varying operating conditions. An experimental set - up comprising of storage tank, fuel reservoir, orifice adapters, pressure feed lines and efflux container has been designed along with necessary instrumentation to study the flow behaviour of metallised gelled propellants at varying shear rates. Efforts are being made to develop a Computer Program for deduction and analysis of data acquired from flow meter. The Program will be ideally suitable for pseudoplastic and thixotropic materials.

The R & D work on Eco - friendly composite solid propellant systems, initiated in the previous year, is progressing well. New propellant formulations have been developed with acceptable burn rates and thermal decomposition characteristics. The dual catalysts - which not only enhance the burn rate but also phase stabilize the ammonium nitrate oxidizer, have been discovered. The thermal degradation behaviour of Hydroxy terminated Polybutadiene (HTPB), the main polymeric fuel used in composite solid propellant, has been investigated with and without catalysts using a thermo-gravimetric analyzer.

## **Rocket Propulsion Division**

Extensive Static Tests have been carried out to find the effect of various parameters on the performance characteristics of PVC-AP solid propellant motor using the Auto Firing Console and associated software. Erosive burning phenomenon has been recognised to affect the burning characteristics of large solid rocket motors.

In view of this, efforts have been made to predict the effect of gas flow velocity and combustion chamber pressure on burn rate enhancement due to cross flow of combustion products using FEM. Extensive work has also been carried out to determine the effect of various parameters on the regression rate of PVC Plastisol burning in the stream of gaseous oxygen.

A test facility has been set - up for studying the performance of herringbone-grooved journal bearing. The assembly consists of a vertically placed rotor supported by two herringbone-grooved journal bearings, two aerostatic bearings (for start/stop transient operations) and an aerostatic thrust bearing. The rotor is to be run by expanding the compressed air/nitrogen (7 atm max. ) through a turbine fitted at one end of the rotor. Software have also been developed to obtain the groove parameters of herringbone grooved bearing and to obtain the coordinates for preparation of herringbone template using Auto CAD.

A transistor based switching circuit, which will act as a signal conditioner, for recording voltage signal at an interval of 10 -14 micro second has been developed. This unit is being used for ignition delay measurement for liquid, propellants and also to be used for studying flow behavior of gel - propellants. Data can be recorded in a computer through a data acquisition card.

#### **Composite Materials Division :**

Extensive research has been carried out in the Department for determining the mechanical properties of composite materials under static and dynamic loading conditions by using unidirectional and bi-directional Carbon Fibre Reinforced Composite (CFRC) and Glass Fibre Reinforced Composite (GFRC). This study has wide application towards characterization composite materials in space vehicles.

Fracture behavior of short fibre composites has been determined by fractographic and experimental methods. Elaborate research has been carried out to determine the effect of various loading condition, the Cumulative Damage and Residual Strength of composite materials in order to predict sate life. Work has also been progressed in the area of elasto - buckling studies and vibrational effect on stiffened composite plates. Significant progress has been made towards fatigue characterisation of different types of adhesive lap joints of CFRC.

## **INNOVATION,RESEARCH & DEVELOPMENT ACTIVITIES:**

### **A. PROJECTS**

#### **1. Projects Completed**

Three grants - in - aid Projects could be successfully completed during the period of Report.:

1. Transonic Buffeting : Shock Boundary Layer Interaction -RESPOND(ISRO) :  
9.96 lac : Aug 1997 : Dr.A.K.Chatterjee
2. Buffeting of a High Rise Block -An Unsteady Aerodynamic Study- UGC :  
7.164 lac: Apr 1999: Dr.J.K.Prasad.
3. Development of Herringbone- Grooved Journal Bearing for Cryogenic Turbo  
Expander Rotors-DST : 2.415 lac : Mar 1999: Dr. T.K.Nandi.

## **2. On -going Project**

Two grants – in – aid Projects sanctioned in earlier years are currently running in the Department:

1. Combustion Studies on Eco-friendly Composite propellants - UGC : 4.908 lac : Dec. 2000 : Dr.M.Varma & Dr.P.C.Joshi.
2. Studies of Flow Behaviour of Heterogeneous Gelled propellant-AICTE: 9.20 lac : July 2001 : Dr. M. Verma & Dr. T.K.Nandi.

## **3. Project Sanctioned**

An ambitious Project has been sanctioned by UGC at the level of DRS for 5 years under the Special Assistance Programme (SAP) - 1st Phase in the Thrust Area "Cryogenic Propulsion System". The Project Proposal "Development of Cryogenic Propulsion System" has been sanctioned with a grant of 49 lacs.Dr.A.K.Chatterjee is the Co-ordinator and Dr.T.K.Nandi is the Dy. Co-ordinator for the Project.

## **4. Projects Submitted**

The following grant – in - aid Projects have been submitted during the period of Report:

1. National Centre for R & D for Aerodynamics and Scramjet Studies :UGC :615 lac : Dr.A.K.Chatterjee & Dr.J.K.Prasad.
2. Supersonic Wind Tunnel Test Facility :DST (FIST Level II) :24.7 lac.
3. Augmentation of Supersonic Wind Tunnel: AR &DB : 11.26 lac : Dr. J.K. Prasad..

4. Aerodynamic Study of Advanced Aerospace Vehicles :AICTE(R & D) :8.50 lac :Mr. Sudip Das.
5. Progressive Damage and Durability Studies of CFRC under Different Environmental Condition :AICTE (R & D) :7.79 lac :Mr. P.K. Dash.
6. Modernisation and Up gradation of Liquid Propulsion Laboratory : AICTE (MODROBS) : 18.20 lac: Dr.A.K. Chatterjee & Dr. P.C. Joshi.

## **B. Publications**

1. T.K.Nandi: Heat Transfer through Cryogenic Rocket Propellant Tank Insulation during Ground Hold Conditions: Journal of Spacecraft and Rockets, Vol. 38, 2001, pp. 360 -367.
2. P.K.Dash, K.Satish and Dr.A.K.Chatterjee: Effect of Notch and Environment on Tensile Strength of Bi-directional Carbon/Epoxy Composite - An Experimental Study. Journal of the Institution of Engineers India) ,Aerospace Engineering Division, Vol. 8, :May 2001, pp. 7-15.
3. P.K.Dash, K.Satish and Dr.A.K.Chatterjee: A Complete Characterization of Woven Carbon Fibre Reinforced Composite for Aerospace Application: Journal of the Institution of Engineers ( India), Aerospace Engineering Division, Vol. 8, Nov. 2001, pp.57-64.
4. M. Varma and R.K. Singh : Ignition and Combustion Studies of Framalazine: Proceeding of 32nd International Annual Conference of ICT, Karlsruhe, Germany, July 2001.

### **C. Short Term Course/Conference Attended**

1. Dr Mohan Varma Professor participated in the 32nd International Annual Conference of ICT at Karlsruhe, Federal Republic of Germany, 3-6 July 2001.
2. Mr .Sudip Das, lecturer attended a Short Term Course on Wind Tunnel Testing at National Wind Tunnel Facility at Indian Institute of Technology, Kanpur, 11-15 Feb. 2002.

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## **DEPARTMENT OF PHARMACEUTICAL SCIENCES**

The Department of Pharmaceutical Sciences was established in 1972. The Department offers academic programmes leading to B. Pharm, M. Pharm in five specializations viz. Pharmaceutics, Pharmaceutical Chemistry, Pharmacology, Pharmacognosy and Pharmaceutical Bio-technology as well as Ph.D. in diverse areas of Pharmaceutical Sciences.

The courses are accredited by Pharmacy Council of India and AICTE. The courses are designed to train and create professionals in Pharmaceutical Science including Biopharmaceutics, Synthetic Drugs, Natural Products, Herbal Pharmaceuticals, Pharmacology, Toxicology, Microbiology etc. The Department has state-of-the-art laboratories both for teaching and research and has a herbal garden, spread over 10 hectares of land.

Department of Pharmaceutical Sciences is maintaining a “Medicinal Plant Garden” spread over 10 acres of land on the campus. The facilities are used by the students of the Department. With the introduction of several species of medicinal plants, an interest in the student has been generated in the subject. In addition, a number of prospective entrepreneurs have been trained in processing and cultivation of medicinal plants.

A drug testing laboratory is also attached to the department which is fully accredited by the Drug Administration of the State. It is also approved and functions as Govt. Analyst.

In collaboration with the ‘STEP’, the department is instrumental in guiding of few enterprising graduating students who have set up their own pharmaceutical manufacturing units in and around Ranchi.

## Academic Innovation, Research & Development:

### A. On going Projects:

Title	Sanctioned to	Area	Funding Agency	Amount in Rs. Lakhs
1. Preparation of Edible Grade Pongamia Pinnata Seed Oil and Its Toxicological Studies for Possible Utilization in Pharmaceutical Industry.	Dr. D. Sasmal/ Dr. B.N. Sinha	R & D	U.G.C.	5.0
2. Standardization and Quality Control of Some Herbal Drugs Recommended by WHO for Re-investigation.	Dr. S. Jha	R & D	U.G.C.	7.0
3. Modernization & Removal of Obsolescence of the Laboratories (MODROB).	Head, Pharm. Sc.	MODRO B	AICTE	10.0
4. Ethno-botanical Study of Antidiabetic Plants of Ranchi District.	Dr. S. Jha	R & D	AICTE	5.0
5. Studies on Potent Anti-inflammatory Agents from Natural Sources.	Dr. B.N. Sinha/ Dr. D Sasmal	R & D	U.G.C.	5.81
6. Design and Evaluation of Transdermal drug delivery of selected drugs.	Mr.PRP Verma /Mrs. SM Verma	TAPTEC	AICTE	10.00
7. Micro computerized Identification of indigenous drugs & Development of standards.	Prof. SP Bhatnagar/ Dr. S. Ganguly	TAPTEC	AICTE	12.00
8. Thermodynamic Approach to Drug-Excipient Interactions.	Dr. GM Panpalia/ Prof. SP Bhatnagar	R & D Major	U.G.C	5.85

## B. Project Sanctioned in 2001-2002

Title	Sanctioned to	Area	Funding Agency	Amount in Rs. Lakhs
1. Design and Evaluation of Transdermal drug delivery of selected drugs.	Mr.PRP Verma /Mrs. SM Verma	TAPTEC	AICTE	10.00
2. Micro computerized Identification of indigenous drugs & Development of standards.	Prof. SP Bhatnagar Dr. S. Ganguly	TAPTEC	AICTE	12.00
3. Thermodynamic Approach to Drug-Excipient Interactions.	Dr. GM Panpalia/ Prof. SP Bhatnagar	R & D Major	U.G.C	5.85

## C. Publications

### International Journals

1. A. Balasubramaniam and G.M. Panpalia, "Drug-adjuvant interaction study using DSC supported by isothermal method", Drug Dev. Ind. Pharm., 27 (5), 476-480 (2001).
2. P.R.P. Verma and B.K. Razdan, "Studies on Leucaena leucocephala seed gum: Evaluation of Suspending Properties" STP Pharm. Sciences., 2001, 11 (4), 289-293 (France).
3. P.R.P. Verma and B.K. Razdan, "Evaluation of Leucaena leucocephala seed gum in Tabletting I. Disintegrant Properties" STP Pharm. Sciences., 2002, 12 (2), 109-112 (France).

4. P.R.P. Verma and B.K. Razdan, "Evaluation of *Leucaena leucocephala* seed gum : II Binding Properties in Granules and Tablets" STP Pharm. Sciences., 2002, 12 (2), 113-119 (France).
5. S. Jha, "Pharmacological Studies on Saponin Extract of Fenugreek (*Trigonella foenum – graceum* L.) seeds with special reference to Anti-inflammatory and Anti-oxidant property", *Fitoterapia* (accepted in April 2002).
6. Rupa Mazumder, Kumkum Ganguly, Sujata G. Dastidar, A.N. Chakraborty, "Trifluoperazine : a broad spectrum bactericide especially active on staphylococci and vibrios", *International Journal of Antimicrobial Agents*; 18 (2001); 403-406 (U.K.).

#### National Journals

1. Papiya Mitra Mazumder, Rupa Mazumder, Avijit Mazumder and D.Sasmal, "Antibacterial activity of the mycotoxin Citrinin obtained from *Pencillium citrinum*" , *Ancient Sc. Of Life*, Vol. XXI (3), Jan, 2002, P 191-197.
2. B.N. Sinha, Bharti Dhasan P., "Chemistry and Pharmacology of *Jatropha* species (A Review)", *Indian Journal of Heterocyclic Chemistry*, 11 (Jan – March), 237-240 (2002).
3. B.N. Sinha, 'Cultivation of Herbals can be a source of earning', *Prabhat Khabar*, Ranchi, April 02, 2001.

4. P.R.P. Verma and B.K. Razdan, "Studies on *Leucaena leucocephala* seed gum : Rheological Properties" J. Sci. Ind. Res., 2002, 61, 437-443. (India).
5. S.M. Verma, R. Prasad and N. Kudada, "Investigations of Anti-viral Properties on Extract of *Pleurotus sajor caju*" Anc. Sc. of Life, Vol. XXI, P 34-36, 2001.
6. S.M. Verma, R. Ramachandran, R.K. Verma, "Phytochemical Characterization and Anti-microbial activity of *Vitex negundu* leaves", Anc. Sci. of Life, Vol. XXI (2), P 96-98, 2001.
7. S.M. Verma, K. B. Suresh, "Phytochemical Investigation of *Indigofera tinctoria* Linn. Leaves", Anc. Sci. of Life, Vol. XXI (4), P 235-238, 2002.
8. R. Chandra, "Drug Discovery in this new millennium : Application of High performance computing in Biotechnology", Science & Culture, 67, Nov. – Dec., 2001, 377.
9. Avijit Mazumder, Rupa Mazumder, S.P. Basu, S.K. Singh and B. P. Saha, "Anti-microbial action of the leaf extract of *Lagerstroemia parviflora* Roxb.", Anc. Sc. of Life, Vol. No. XXI (3) January 2002: 198-201 (India).
10. S. Ganguly "Combinatorial Chemistry – Emerging Technology in Synthesis of New Drug Molecules", Science & Culture, March 2002, 56-58.

#### D. Seminar/Symposium Paper Presentation

1. G. Narsimman and R. Chandra, "Production of antibiotic zwittermicin –A from *Bacillus thuringiensis*", Proc. of International workshop on Environment and Energy, Thanjavur, Tamilnadu, 1-3 Nov. 2001. P-17.
2. S.G. Ghosh, G.M. Panpalia, "Application of DSC in prior prediction of variable dissolution behaviour of norfloxacin generic raw materials", proceedings of Pharmaceutical Technology (Oral) section of 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001, pp. 25-26.
3. Sinha B.N, Mane U.R. & S. Mukherjee, "Anti-inflammatory activity of *Smilax Zeylancia* Linn. Through Cyclooxygenase enzyme analysis", Proc. of 53<sup>rd</sup> Indian Pharm. Congress, New Delhi, December 2001.
4. Subir Samanta, "Wealth of Herbal Medicines", in the seminar entitled Possibilities and development of medicinal and aromatic plants of Jharkhand organised by B.I.T., Mesra and D.S.T. Jharkhand on 27<sup>th</sup> May, 2001.
5. Subir Samanta, "Basic Test for common medicines" in PCI-WHO seminar organised at B.I.T., Mesra on 20-24<sup>th</sup> February, 2002.
6. P.R.P. Verma, K. Kiruba Florence and Narendra "Kinetic Interpretation of In-vitro Drug Dissolution Profile by Software Technology" 53<sup>rd</sup> Indian Pharm. Congress, New Delhi, Dec., 2001.
7. P.R.P. Verma, Sanjay Gurule and Abhishek Sinha "Formulation and Evaluation of Transdermal Films of Ephedrine Hydrochloride using Eudragit" 53<sup>rd</sup> Indian Pharm. Congress, New Delhi, Dec, 2001.

8. P.R.P. Verma and N.V. Ravindra "Software for Drug-Drug Interaction Information Retrieval and Storage" 53<sup>rd</sup> Indian Pharm. Congress, New Delhi, Dec, 2001.
9. S.M. Verma, Mohamed Diwan, M.J. Bhaskar, P. Harikrishnan, R. K. Kumar and M. Ismail, "Pharmacognostical, Phytochemical, Anti-microbial and Larvicidal Screening of Stem Bark of *Crataeva Religiosa* Forst", 53<sup>rd</sup> Indian Pharm. Congress, New Delhi, Dec., 2001.
10. S.M. Verma, M.S. Raghvendra, A.C. Mishra, "Synthesis and Anti-inflammatory Activity of some Analogs of Oxicam", 53<sup>rd</sup> Indian Pharm. Congress, New Delhi, Dec., 2001.
11. Avijit Mazumder, Subhendu Mukherjee, Rupa Mazumder, " Self medication – A Threat to the newly formed State of Jharkhand", 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001.
12. Avijit Mazumder, Subhendu Mukherjee, Rupa Mazumder, " Self medication – A Threat to the newly formed State of Jharkhand", 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001.
13. Avijit Mazumder, Subhendu Mukherjee, Pawan Sharma, Rupa Mazumder, " Preliminary Survey on the prescribing pattern for the treatment of Diabetes Mellitus in the State of Jharkhand", 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001.
14. Avijit Mazumder, Manisha, Rupa Mazumder, " The most pharmaceutically potent brand always occupy largest sales volume : Myth or Reality", 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001.
15. Avijit Mazumder, Rupa Mazumder, S.P. Basu, " Pharmaceutical Engineering – A subject neglected by Pharma educationist", 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001.

16. S. Jha, S.P. Bhatnagar, Jayaram Kumar K, "Pharmacognostical and Phytochemical Investigations of *Argyreia nervosa* (Linn.) Fam. Convolvulaceae", 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001.
17. S. Mukherjee, Jayaram Kumar K, "CADD-Its implementation at the grass root level-need of the hour", 53<sup>rd</sup> Indian Pharmaceutical Congress, New Delhi, Dec. 21-23, 2001.
18. G.M. Panpalia delivered an invited lecture on "Recent trends in Cosmeceutical", at S. Bhagawan Singh Post-Graduate Institute of Biomedical Sciences & Research, Balawala, Dehradun, April, 24, 2001.
19. G.M. Panpalia delivered lecture on "Pharmaceutical standards on Drugs and Formulations", and "Advance in Drug Delivery Systems", at WHO-PCI sponsored professional training programme for Pharmacists, at B.I.T., Extension Centre, Lalpur Ranchi. March, 20-24. 2002.
20. R. Chandra participated in "Cobit-01 International conference on Biotech and IT", Patna, January 8-9, 2002.
21. J. Jayram Kumar attended Workshop on Sustainable rural development, Rajsthan, 18-19, April, 2001.
22. S.P. Bhatnagar was invited to chair scientific paper presentation session at 53<sup>rd</sup> IPC, 22<sup>nd</sup> December, 2001, New Delhi.
23. S.P. Bhatnagar was the organizing secretary of Seminar on Medicinal plant potential in the State of Jharkhand on behalf of Science and Tech., Govt. of Jharkhand, Ranchi, April 2001.
24. Avijit Mazumder delivered lecture on "Drug Resistance – A Global Menace" in WHO-PCI sponsored professional training programme for Pharmacists, at B.I.T., Extension Centre, Lalpur Ranchi. March, 20-24. 2002.

#### **E. National Seminars/Conferences/Workshops organised by the Department**

The Department of Pharmaceutical Sciences organized National seminars and Workshops at regular interval:

1. Bioinformatics and Biotechnology workshop conducted by BIT Mesra from April 16-19, 2001.
2. “Possibilities and Development of Medicinal and Aromatic Plants of Jharkhand”, Organised by Dept. of Pharm, Sciences, BIT, Mesra and Dept. of Science & Technology, Govt. of Jharkhand on May 27, 2001.
3. Training Programme, ‘Cultivation of Medicinal and Aromatic Plants’ organized on request from users/farmers from April 2001.  
Seminar on Expanding Biotechnology Horizon organized by Dept. of Pharm. Sciences BIT, Mesra, on March 11, 2002.
4. “PCI-WHO sponsored workshop for professional pharmacist” organised by BIT, Mesra, Ranchi from 20-24, Feb. 2002.

## F. Nomination, Awards

Name of the Faculty	Recognitions Received
1. Prof. S.P. Bhatnagar	<p>Expert member (Pharm. Science) – All India Board of Pharmacy Education, AICTE – MHRD for three years.</p> <p>Member of Board of Biotechnology, Govt. of Jharkhand.</p> <p>Chairman Examination in Diploma in Pharmacy, Ministry of Health, Family Welfare &amp; Education, Govt. of Jharkhand.</p> <p>Member on AICTE-NBA visiting team.</p> <p>Invited to be expert member, Selection Committee, UP Public Service Commission, Allahabad, University of Sagar, Bhopal, REC, etc.</p>
2. Dr. G.M. Panpalia	<ul style="list-style-type: none"> <li>• Expert on Merit and Normal Assessment Scheme (MANAS) of CSIR (CDRI, Lucknow) Scientists.</li> <li>• Expert on Selection and Promotion Panel of Department of Pharmaceutical Technology, BHU, Varanasi.</li> <li>• Nominated on Ph.D. expert panel of Nagpur University in the Faculty of Medicine (Pharmaceutics).</li> </ul>
3. Mr. P.R.P. Verma	<ul style="list-style-type: none"> <li>• Conferred : Best Annual Publication Award in Pharmacy in the year 2000 by P.C. Dandiya Endowment Trust.</li> <li>• Appointed as referee of Internationally reputed “Indian Journal of Pharm Sciences”, Published by Indian Pharmaceutical Association Mumbai.</li> </ul>

4. Mrs. Rupa Mazumder	<ul style="list-style-type: none"> <li>• Member of Registration Tribunal of Jharkhand, State Pharmacy Council</li> <li>• Appointed as examiner of Pharm Microbiology in Utkal University,</li> </ul>
5. Mr. Avijit Mazumder	<ul style="list-style-type: none"> <li>• Appointed as examiner of Pharm Management in Utkal University, Bhubaneswar.</li> <li>• Appointed as examiner of Pharm Management and Pharm Microbiology in North Orissa, University.</li> <li>• Appointed as examiner of Drugs Store and Business Management, Orissa State Board of Pharmacy.</li> </ul>

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## **DEPARTMENT OF ARCHITECTURE**

The department was established in the year 1993 and offers a 5-year Degree course in Architecture. The fourth batch of students (1996 batch) graduated this year and the students have found gainful employment besides those who have opted for higher studies in India and USA. 17 students of 1997 batch are expected to graduate in May '02.

### **Academic Innovations, Research & Development Activities**

#### **A. Seminar and Colloquiums organised:**

1. National seminar on "The Challenges for Development of Urban Areas in the newly formed States", 6th to 5th December 2001, supported by AICTE and Govt. of Jharkhand.
2. Role of Architects in "Concept to Completion" of Architectural projects (12th Jan'02).
3. Architect and Industrial Structures (9th Feb'02).

#### **B. Ongoing research activities:**

1. Conservation Strategy for Terracotta Temples of Bengal - Prof. Ajay Khare
2. Architectural Education Reforms - Prof. Manjari Chakraborty

#### **C. Seminar/Symposium/Workshop attended:**

1. Prof. N. Sengupta, H.O.D. of Architecture Department chaired a session in the International Seminar (Medical Workshop) organized by IIA and sponsored by AIIMS and WHO from 15th to 17th March 2002 in New Delhi.

2. Prof. Ajay Khare, visited United Kingdom during may-July, 2001 to attend De Montfort University, Leicester for this Doctoral Research Programme. He attended two conferences one each at York University and at London, and participated in a workshop led by Dr. Adam Hardy at PRASADA, UK.
3. Manjari Chakraborty "Building Materials of future: the Future of Building Materials - In search of an Approach Philosophy." - paper published for the "17th National Convention of Architectural Engineers AEC 2001". In 29-31 October 2001. in New Delhi.
4. Manjari Chakraborty "Architectural Education - Time to act now". -A paper for XVIII National Convention of the Indian Institute of Architects at Aurangabad, Maharashtra, December, 2001.
5. Prof. Ajay Khare - Design Interventions in the Existing Urban Areas of Jharkhand -Urban Transformation, National Seminar on The Challenges for Development of Urban Areas in the Newly Formed States, December, 2001 B.I.T. Mesra.
6. Prof. Pawan Kumar - Sustainability and quality in Human Settlement planning, National Seminar on The Challenges for Development of Urban Areas in the Newly Formed States, December, 2001, B.I.T. Mesra.
7. Prof. Sudipto Roy - Natural Systems & Processes -Interpreting them as a component of framework for outlining the pattern of Human Settlements; New Cities, National Seminar on The Challenges for Development of Urban Areas in the Newly Formed States, December, 2001, B.I.T. Mesra.

8. Prof. N. R. Mandal - Tourism in Jharkhand: A policy framework, National Seminar on The Challenges for Development of Urban Areas in the Newly Formed States, December 2001, B.I.T. Mesra.
9. Prof. Rachna Khare - Fly ash as environmental friendly building material, National Seminar on The Challenges for Development of Urban Areas in the Newly Formed States, December 2001, B.I.T. Mesra.
10. Mr. S. P. Bhattacharya - Intensive Construction in Urban Scenario, National Seminar on The Challenges for Development of Urban Areas in the Newly Formed States, December 2001, B.I.T. Mesra.

#### **D. Publications:**

1. Manjari Chakraborty: "Herbal Garden: A Dream Scheme" In Journal of Landscape Architecture, vol. 1, issue, 3, Monsoon 2001.
2. Manjari Chakraborty: "Temporary Architecture, Permanent Impressions - A Fleeting Chronicle of Kolkata Puja Pandals": In Architecture + design, May, June-2002 (National/International circulation)
3. S.P. Bhattacharya: "Architectural Design Consideration for electro - acoustics", "Journal of the Acoustical Society of India", Volume-29, No.=2 -4, 2001, pp 334-339.

#### **E. Student's Activities:** (Educational tours, Competitions and NASA meets)

1. The 3rd year and 4th year students took part in a design competition of an Auditorium Complex at Ranchi for Ranchi Regional Development Authority and received monetary prizes.

2. An educational tour was organized from 12th to 26th December 2001 with visits to four cities namely Hyderabad, Pune, Goa and Mumbai for the students of 2nd, 3rd year and 4th year. The students were given exposure to both heritage complexes as well as modern and contemporary built premises.
3. The students participated in Zonal NASA (National Association of Students of Architecture) meet and won many competitions. The meet was hosted by Jadavpur University, Calcutta.
4. The students also participated in the Annual NASA meet at Dr. D. V. Patil college of Architecture at Nerul, Navi Mumbai. 86 colleges of architecture from all over India and Nepal attended the meet. The students won many prizes in this meet too.

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## **DEPARTMENT OF PHYSICAL EDUCATION** **(GAMES & SPORTS)**

The Department possesses a well planned sport complex. It has all the necessary facilities to conduct indoor games, outdoor games, track events, multigymnesism on a large scale. Work has been already undertaken to construct a new Indoor Badminton complex which will be having all facilities to conduct the tournaments at highest level. It is expected that the facilities will be operational within a year.

The Department is also planning to run a postgraduate course in Physical Education. The primary survey has already been done and it is expected that the courses will start soon.

### **Activities of the year 2001-2002:**

#### **A. Tournament organized at B.I.T.**

1. 1st chancellor Cup in Jharkhand Inter-university Volleyball Tournament organised by Ranchi University, Ranchi during 21-23 Sept. 2001 B.I.T. got 3rd place.
2. East Zone Inter-university Volleyball tournament was organized by B.I.T. during 26th sep. 2001 to 1st Oct 2001 which was sponsored by A.I.U. Delhi and B.I.T. performed well.
3. Chetan Devraj Inter-Technical Institutes Cricket Tournament was Organised by B.I.T. during 14.10.01 to 18.10.01 and B.I.T. became the winners of Tournament.

4. B.I.T. Best Physique Competition for 'Mr. B.I.T.' till was organised on 15th Oct. 2001 and Mr. Amit Kr. of Civil Engineering was adjudged Champion.
5. Annual Athletic/ Sports Meet was organised from 1-3 Feb.2002.
6. 1st Chancellor Cup Inter-university Hockey Tournament was organised by B.I.T. Mesra,Ranchi during 15-17 March 02 and B.I.T. was runnersup.
7. Inter Hostel Tournaments in various discipline of Games & Sports such as Football,Basketball,Volleyball,Cricket etc was organized and concluded with Indoor games prize distribution ceremony of respective games.

#### **B. Participation in Tournaments :**

1. In 1st Chancellor Cup Inter university Football Tournament organized by S.K. University Dumka during 28 Nov to 02 Dec.01. Institute Team participated and exposed performance well.
  2. B.I.T. participated in North & East Zone Inter university Lawn Tennis Tournament organised by Punjab university Chandigarh during 17~26 January 2002.
  3. B.I.T. participated in Inter University Badminton tournament, organised by Gurughasi Das University Bilaspur (Chatisgarh), during Feb 02.
- 12.Awarded Ph.D. from Ranchi university Ranchi, topic "Leadership Style in Indian Automobile Industry-A Case Study of Telco Ltd.".

### **C. Seminar/Conference attended:**

1. Mr.Mahendra Kumar presented paper on Topic "Kinesiology and its influence on sports performance" in the national conference on Phy.Edu. & Sports Science & Medicine on 2-3 Nov. 2001 organised by B.H. U Varanasi .
2. Mr.Mahendra Kumar presented paper at National Seminar organised by National Institute L.N.I.P.E. Phy. Edu. Gwalior on 5-6 Jan 2002 on Topic "Status of Phy. Edu. & sports on contemporary Indian society." with special reference to Technical Institutions. Industries & coal mines & its Management.
3. Mr. Mahendra Kumar attended refresher course on Physical Education & sports at L.N.I.P.E Gwalior organised by U.G.C.(A.S.C.) during 17.12.01 to 06.01.02.
4. R.S.Singh attended National Seminar on "the Challenges for development for urban areas in the newly formed States,organized by Dept. of Architecture, B.I.T.Mesra,Ranchi on 6.12.2001 to 8.12.2001.

### **D.Nomination**

1. R.S.Singh was nominated vice president of "Jharkhand Women Hockey Association", a Jharkhand State unit .

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## **Extension Centres**



To impart quality education in the field of Technology, Science, and Management, the Institute has opened educational centres commonly known as B.I.T. Extension Centre in India and abroad. These centres are self-sufficient to carry out different academic programmes to meet the local requirements. At present such centres are located at Lalpur (Ranchi), Allahabad (U.P), Kolkatta (W.B), Jaipur (Rajasthan), Noida (Delhi), Bahrain, Muscat (Saltanate of Oman). A brief summary of these centres is given below. Viewing their academic performance, the Institute is continuously being approached to open such centres in many other places in India and abroad. Recently Academy of Maritime Education and Training, Chennai, has approached the Institute for calibrations in its B.E programme in Marine engineering. The proposal is under considerations.

### **B.I.T Extension Centre Jaipur**

Located in Malviya Industrial area, Jaipur, the centre has sufficient infrastructure to carry out academic programmes in the area of Computer Science, Management and Remote sensing. The centre is running postgraduate and undergraduate programmes leading to the degree of Master of Technology in Computer Sciences, Master of Computer Applications, Bachelor of Computer Applications and Master of Technology in Remote Sensing. It has also planned to start a Bachelor of Business Administrations Course. Likely the course will start from next academic year.

A total of 301 students are enrolled in various programmes at the centre and out of these about 108 students belonging to different programmes successfully completed the respective programme and awarded the degree certificate during the year 2001-2002

### **B.I.T. Extension Centre Noida**

Established in 1996 at Noida Industrial area (U.P), the centre enrolls the students for its one postgraduate programme – Master of Computer Applications and two undergraduate programmes- Bachelor of Computer Applications, Bachelor of Business Administration. The total enrollment during the year was 366. The first batch of B.C.A comprising 38 students has qualified the respective programme and were awarded the degree during the year. The centre is also planning to start one more postgraduates programme namely Master of Business Administration. The basic formalities are being done and most likely the course will start from the next academic session.

The centre possesses well equipped computer laboratories to enhouse more than 100 students to perform laboratories and sessional like class work at a time. The upgradation of these laboratories is under progress and it is expected that in near future these laboratories will be able to support the research and development activities at the centre.

The centre possesses a library with sufficient readings materials for the above courses, CDs and internet connectivity. ISDN internet connectivity and a reading hall where the students can study whenever they want. It also has a conference hall, offices for faculty and other facilities essential for smooth functioning of its different programmes.

The students of the centre have actively participated in extracurricular activities round the year. They participated in the festival ‘Kshitij’ hosted by ISHAAN-IMT along with 15 other colleges of Delhi and won five prizes in various competitions.

## **B.I.T. Extension Centre Lalpur**

Established in 1980, the centre offers the various full-time and part-time courses in Engineering, Computer Science and Management areas leading to the Master of engineering degree in Electrical, Mechanical, Civil, Master of Computer Applications, Master of Business Administration, Master of Science in Information Technology, in Electronics & Communication, Bachelor of Science in Electronics, in Computer, Bachelor of Business administration and Bachelor of Computer Applications.

A total of 1221 students participated in these programmes at different level during the year, and around 210 students completed their respective programmes. The successful students were awarded the degree certificates in the convocations 2001-2002 held in April 2002.

The centre has adequate infrastructure to support its academic activities. The computer laboratories are well equipped and can accommodate more than 100 students at a time for their sessional classes. Library of the centre is well organised. It has around 5000 books, journals, internet connectivity and reading room where the students and staff can use their free time in creative reading. It has a small canteen branch U. CO bank and other amenities to cater the need of its students and staff members.

### **Other academic activities of the centre.**

1. The centre arranged the campus interview. The participant companies were Spectra Mind, and Call Concept.

2. Prof S.K. Chakraborty delivered a guest lecture. 'Human Value' to its students and staff.
3. The centre organised computer training programme for teachers and entrepreneurship programme of SI SI.
4. The centre arranged a book fair in Feb 2002 in which more than 10 publisher participated. This helped students and centre to purchase book of their choice.
5. A two- days annual festival 'Aarohan' took place at the centre on 18-19 Oct 2001 which consisted of various programmes such as debate, extempore, allegation & clarifications and paper presentation.
6. The debating society of the centre organised a Competition on 'It's a man's world" on 12 Feb 2002.

### **B.I.T. Extension Centre Kolkata**

It offers one postgraduate programme "Master of Computer Applications for regular and as well as for part-time students. A total of 92 students were enrolled during the year and 29 students cleared the programme. They were awarded degree certificate in the convocation held in April 2002. The centre is also planning to add one undergraduate course 'Bachelor of Computer Applications" from next academic year.

The centre possesses computer laboratories with adequate number of Computer Software and other computer peripherals for its sessional classes and other activities. Its library has a good number of books, internet connectivity and ISDN like to support above programmes.

The centre organised seminar/ guest lecture for the benefit of its student and faculties. Its faculty R.T. Goswami attended an International workshop on 'Distributed computing' organised by Kalkatta University in Dec 2001.

### **B.I.T. Extension Centre Allahabad**

Located at Industrial Area, Naini, the centre offers academic programme at graduate level. It conducts a full time Bachelor of Computer Application programme and a part-time Bachelor of Technology Programme in Mechanical, in Civil, and in Electrical for working Diploma holders. The total number of students in these programme is 433. The centre is planning to introduce two new courses viz Master of Computer Applications and Bachelor of Business Administration. The basic ground work has been already done. The courses will start from next academic session.

The centre possesses sufficient infrastructure in terms of laboratories, library, class room, man power for smooth conduct of its academic programmes.

#### **A. Infrastructure added during 2001-2002 :**

Computer Laboratory – Compaq P-IV (39 Nos), Linux server (Compaq P-IV (1 No) Switch (24 and 48 port) for Networking (1. No Each) Switch (48 port) for Networking (1 No) Computer Chairs (100 Nos) and Software - Windows 2000 professional, Norton Anti Virus 2002, Visual J++, Java Collection, Windows NT, Linux, MSDH.

Surveying Laboratory – Ranging Rod (steel)(20 Nos), Measuring Tape (Liver) –30m- (05 Nos). Plane table sets-Alidade (1 sets), Trough Compass (1 sets), U-Fork (1 sets), Spirit level (1 sets), Plumb-Bob (1 sets). Prismatic Compass with stand 2 Nos).

Library- 432 new books in different subjects were added during 2001-2002.

Facilities for the following Indoor and outdoor games are under a process of developing at the Institute promises – Cricket, Badminton, Volley ball.

### **B. Academic Innovation, Research & Development Activities**

Seminar/Symposium attended:

1. Prof. B. N. Jha, has delivered a lecture on “Quality in IT Education” on May 26,2001 at the National seminar organized by Institution of Electronics and Telecommunication Engineers, Allahabad Centre, Allahabad University.
2. Mr. Anil Kumar Singh, Lecturer, Dept. of Mechanical Engineering, Allahabad, attended summer school Training Programme on “Sustainable Energy Development” during 8<sup>th</sup> June to 31<sup>st</sup> June 2001 at BIT Mesra sponsored by AICTE/ISGTE.

### **C. Guest Lecture arranged.**

Mr. O. P. Srivastava, CM-HRD, ITI, Naini, Allahabad delivered two guest Lectures on “Managerial skills” on 01/02/2002 and 08/02/2002.

### **D. Interaction with other organization.**

The centre organised interaction programme with MNREC, UP Tech., IERT, ITI, BPCL TSL, Allahabad.

### **E. Student activities**

1. The students’ cultural committee organized various competitions such as debate, solo song and group song to promote a spirit of healthy competition among the students.

2. Participated in Table-Tennis, Carom, Chess tournament in Dr Jagdish Lal Memorial Indoor Games tournament held 1<sup>st</sup> –3<sup>rd</sup> Feb 2002 at MAREC Allahabad.

### **B.I.T. International Centre, Bahrain**

It is the first extension centre of BIT located outside India. The first academic session was started in the year 2000. It offers academic programmes in Bachelor of Technology in Computer, Bachelor of Science in Information Technology and Diploma in Technology for Bahrain Government's sponsored students. The Bachelor of science course was introduced during 2001-2002 session. The total number of students admitted in these programmes is 97.

The centre has sufficient infrastructure in term of Laboratories, Library and class room. There are 10 laboratories spread over 12056 sq ft. area for different subjects such as Computer, Physics, Workshop, Production Engineering. These laboratories are well equipped for the academic programmes of the centre. The library of the centre possesses more than two thousand books of different subjects of the programmes running at the centre.

Apart from usual class work, the student of the centre actively participate in other extra curricular activities such as group discussions, debate, and various sports.

The centre organised a guest lecture for. Dr. P.L. Joshi on "Cost Management Practice" in Nov 2001.

## **B.I.T. Extension Centres Muscat**

It is the latest addition in the series of B.I.T. extension Centres. The centre started functioning from this academic session only. Courses offered were Bachelor of Engineering in Computer Science, in Electronics & Communication, and Bachelor of Computer Applications.

The centre is under a process of extension its present laboratories, library, class rooms and other facilities to accommodate more courses likely to start in coming years.

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## UNIVERSITY POLYTECHNIC

The Polytechnic was established in 2001 as a result of signing of a "Memorandum Of Understanding" between the Department of Welfare, Govt. of Jharkhand and Vice-Chancellor of the Institute. Main aim of setting University Polytechnic was to impart quality supervisory level education to the students of this nascent state with the generous financial assistance for modern and well-equipped laboratories and other infrastructural facilities by Deptt. Of Welfare. Govt. of Jharkhand on one side, and expert well qualified and experienced Faculty of the Institute on the other. This Polytechnic endeavors to prove to be model of Polytechnic education in India with more of practical inputs based on a solid theoretical background.

The Project work for setting up the Polytechnic started in right earnest after its foundation laying ceremony by the first Chief Minister of newly founded state Sri Babulal Marandi on 17th Dec.2000. Initially it was planned for only S.T. and S.C. students of the state. But the Chief Minister announced the increase in the seats from 60 to 100 to accommodate the general category students also.

Over coming the teething troubles the infra-structural facilities like Institute building, hostel for boys and girls, mess, class rooms, computer center, library, drawing halls, etc. were successfully created in a record time of 11 months. First batch of 60 students comprising of 40 S.T., 5 Primitive Tribes and 15 S.C. students were admitted in two branches of Electronics and Automobile disciplines. With great fanfare the Polytechnic was inaugurated on 12th Nov 2001 by the Chief Minister of Jharkhand Sri Babulal Marandi.

The Chief Minister, the Welfare Minister and large number of other dignitaries visited all the facilities created and had all the praise for doing so much in such a small time.

The classes for 1st batch of 49 boys and 11 girls started from 19th Nov 2001 with the help of Faculty of the Institute. Its students used some of the laboratories of B.I.T. and the workshop of B.I.T. STEP, The untiring efforts of Faculty and all other staff associated with running the educational schedule of the Polytechnic. Two semesters have been completed by July 2002.

In last eleven months after inauguration a second boys hostel accommodation 72 students with central mess for boys of both hostels and a common room have been completed. The girls hostel has been partly constructed and is ready to accommodate second batch of 25 girls. Other facilities in the girls hostel are also ready. Block C-a part of Polytechnic building is also ready having four big size classrooms and four laboratories.

The second batch of 100 students have been admitted in four disciplines namely Automobile. Computer, Electronics and Manufacturing Technology. 77 boys and 23 girls start their regular classes from 23rd Sept.2002.

The Polytechnic has well equipped library to cater to the needs of students community .It has more than two thousand books, scientific journals and daily news papers.

The Computer center is equipped with 30 Pentium -IV computer and a number of software for the students. Physics Lab, Basic Electrical Lab., Basic Electronics Lab. and Printed Circuit Board Lab, have already been established. All labs. are well

equipped and have all modern equipments. Electrical Machine Lab., Applied Mechanics Lab. Garage etc. are in the process of being set up. Faculty and supporting staff have been added to meet the needs of the Polytechnic. The campus has all modern facilities and more facilities are to be made available in future.

Students are disciplined and highly motivated. Apart from studies, they have participated in the games along with the students of B.I.T and one girl even created records and was adjudged as the best women athlete in B.I.T sports meet. Other boys and girls also participated and won prizes. They also arranged a grand show on "Teachers' Day".

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# **CENTRAL LIBRARY & DOCUMENTATION** **SERVICES**

An upto date collection of publications like book, periodicals, conference proceeding, technical reports, CD-ROM data base, standards as reported through literature, catalogues, and bibliographies has been maintained for the use at national level.

The library is fully equipped with CDNET with four drives, one server and 20 nodes all connected in LAN and two workstations attached with one laser printer for getting the full text. A TCP/IP account for Internet with necessary hardware and accessories exist in the library. The internet system of library consists 12 terminals to cater the need of students and faculty.

As the central facilities in the Institute, it provides Xeroxing, Microfilming, printing services for in house publications, day-to-day circulars, office order, special reports etc.

#### **Library statistics**

Book added during the period	–	11 129
Total number of books	-	78379
Bounded volume of journals added during the period	-	122
Total bounded volume in the library	-	16927

#### **Other facilities added during 2001-2002.**

1. Cyber Lab has been given shape. It will be used to inhouse existing internet system, CDS library and library automation system.

2. A book fair was organized in the month of No : 2001 which was participated by reputed booksellers of Ranchi, Kolkata, Delhi.
3. Books purchased during the year were technically detailed and kept in the shelves for the use of readers.
4. The automation of library was initiated. In the first phase of the programme, all books of test and general sections were computerized. It is expected that by the middle of next year, the automation system would be open to readers.

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**TRAINING AND PLACEMENT**  
**DIVISION**



The Training & Placement Division interacts with potential employers to try and best match the aspirations of the students with the requirements of the organizations. Campus placements have shown a continuously successful trend for several years. Over 3800 graduates and post-graduates have been successfully recruited through campus interviews during the past 18 years.

During 2001-2002, 31 premier Organizations visited the Institution offering 206 appointments to students from different disciplines. Some students have got offers from more than one company. The majority of the Organizations are offering starting salaries ranging from Rs. 1.5 to 4.5 lacs per annum with an average of Rs. 2.5 lacs per annum.

Bio-data and profiles of students of various disciplines (MBA, M.Sc. Bio-Medical Instrumentation, etc.) have been dispatched to potential employers, with positive responses.

The Training and Placement Division also encourages and assists students to go for industrial training during their summer vacations and winter break.

The summary of campus placements during 2001-2002 is as given below:

Discipline/Branch	No of Jobs
B.E. MECHANICAL	23
PRODUCTION	01
ELECTRICAL & ELECTRONICS	33
ELECTRONICS & COMMUNICATIONS	43
COMPUTER SCIENCE	37
CIVIL	-
POLYMER	02
B. PHARM.	10

B. ARCHITECTURE	-
MBA	10
MCA	16
M.E. ELECTRONICS	-
MECHANICAL	01
ELECTRICAL	02
SOFTWARE ENGINEERING	03
M.Tech. Remote Sensing	-
M. Tech. Computer Science	02
M. PHARM	-
M.Sc. Information Science	02
M.Sc. BIO-MEDICAL INSTRUMENTATION	01
M.Sc. Information Technology (Lalpur)	02
BCA (Lalpur)	19
TOTAL NO.OF APPOINTMENTS	207

The details of confirmed appointments offered to the outgoing students during 2001-2002 are as follows:

#### **Composite Campus Placement Status 2001-2002**

	Organization	Appointments
1.	Cadence Design Systems (I) Pvt Ltd, New Delhi	02
2.	Hughes Software Systems, Gurgaon,	01
3.	Oracle Software India Limited, Hyderabad, Bangalore	15
4.	Tata Consultancy Services, Calcutta	30
5.	Motorola, Bangalore/Delhi	09
6.	HCL Technologies, Noida	04
7.	Indian Airlines, Delhi	01
8.	TISCO , Jamshedpur	09
9.	Computer Science Corp. India Ltd, Indore	07
10.	ITC Infotech, Bangalore	03
11.	Tata Telecom, Delhi, Calcutta	04

12.	Vikram Sarabhai Space Centre, Trivandrum	03
13.	Tata Infotech, Noida	05
14.	Samtel Color Ltd, Delhi	04
15.	Timken India	03
16.	L & T Powai, Mumbai	03
17.	Telco, Jamshedpur	07
18.	Telcon, Jamshedpur	02
19.	HCL Infosystems, Noida	03
20.	ITC Tribeni Tissues, Calcutta	01
21.	Elililly, Calcutta	02
22.	Alstom, Bangalore	-
23.	Birla Soft Limited, Noida	37
24.	Sterlite Group	04
25.	Spectra Mind	21
26.	GE Medical	01
27.	The Tinplate Co. India Ltd., Jamshedpur	04
28.	Cambridge, Health Care Ltd., Mehsana (Gujrat)	04
29.	India Foils, Calcutta	04
30.	Dr. Reddy's, Patna	04
31.	Tata Cummins, Jamshedpur	01
	Total (Including off –m Campus)	207

### Off-Campus Recruitment 200-2001

	Organization	Disciplines
1.	Dr. Reddy's, Ahmedabad (For M.Pharm)	**
2.	ESAB India Ltd., Calcutta	**
3.	ANURASH INSURANCE	MBA-05

4.	Apollo Hospitals	MBA-01
5.	Xpro India Limited	BE Polymer-01
6.	Satna Cement Works, Satna (M.P)	MBA-01

#### **COMPANIES VISITED FIRST TIME IN 2001-2002**

1. HUGHES SOFTWARE SYSTEMS, GURGAON (Usually selected off- campus)
2. ORACLE SOFTWARE INDIA LIMITED, HYDERABAD, BANGALORE
3. INDIAN AIRLINES, DELHI
4. COMPUTER SCIENCE CORP. INDIA LTD, INDORE
5. VIKRAM SARABHAI SPACE CENTRE, TRIVANDRUM
6. ALSTOM, BANGALORE
7. STERLITE GROUP
8. CAMBRIDGE HEALTH CARE LTD., MEHSANA (GUJRAT)
9. INDIA FOILS, CALCUTTA.

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## **STUDENTS ACTIVITIES**

There are 22 students societies/ clubs in the Institute. Various cultural activities of the students are traditionally organised by these societies/clubs. Each society/club is supervised by a Professor-in-charge. All the student's activities are held under the supervision of Cultural Coordinator. A number of activities were organised by different clubs/societies in the year 2001-2002. Some of the activities which deserve special mentioning are.

### **A.V.E.C.**

Organized feature film regularly in Sunday afternoon apart from participating in BITOTSAV and organizing Antakshari, Hallowood and Cine-Quiz.

### **IEEE**

Organised Unnayan-2001, Biannual Inter-college Tech. Fest where students from IIT, BHU, MNR, RIT, NIFFT, Jadavpur etc took part. During BITOTSAV-2002, this society organised- 'Wong Theory Right Proof' and 'Flip-Flop' shows.

### **UNESCO**

The students of this club organised 'Genesis' where the fresh batch was introduced to speaking events. They organised 'Open House Debate', Jan, Quiz, Turn-coat, 'Four man in a boot', 'Spin a yarn' in BITOTSAV-2002.

### **High londers Adventure Club**

Since its inception, the students had been organizing local and distant trekking on foot in hilly areas and forests. This year the students under the leadership of its Prof-in-charge organised two separate trekking programmer in the month of December by trekking the very high altitude regions of Himachal Pradesh.

### SPIC MACAY

The students of this society organised a Music Night programme on 5<sup>th</sup> October, 2001 by inviting some artists from Jamshedpur during Unnayan-2001 Tech Fest. This society also organised Cultural Quiz, Introvision, and Essay writing events during BITOT SAV- 2002.

### NSS

This club organised tree plantation programme in Hostel No 7. and inside the campus of B.I.T. in the month of July-August-2001. A blood donation camp was organised on 13<sup>th</sup> Aug, 2001. Prabhat Pheris both on 15<sup>th</sup> Aug, 2001 and 26<sup>th</sup> Jan, 2002 were also organised by this club. Quiz, debate and essay competition for B.I.T. students and several such programmes for other school children were organized under the banner of N.S.S. This club also actively participated in BITOTS AV-2002 by organizing Debates and Crisis Management programme.

### NAPS

The students of NAPS published two managng JOSH'02 and SHADES. They also organised 'Press conference', 'Editor's Choice' Soup D., Heavy Lines and Creative writing during in BITOTS AV-2002.

Besides these activities, the other societies/clubs-LEO Club, ROTARACT Club, FAS, Photographic Society etc actively participated in various events throughout the year, and particularly during BITOTS AV-2002. The Fine Arts Society's exhibition of paintings and rangoli which exposed the latent tatent of many B.I.T. students was amazing in BITOTS AV-2002.

During the Annual Function of NIFFT Ranchi, a team of B.I.T. students participated and won several prizes in different cultural events.

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## **Students Welfare Scheme**

### **Financial Assistance to needy students:**

The Institute provides Full free ship/half free ship under merit cum means scheme. This year, the following number of free ships were given.

1. Full free ships - 14
2. Half free ships - 123

### **Book bank:**

Books are loaned to the needy students through book banks scheme.

### **Remedial classes :**

The Institute organised remedial classes for students of weaker class to improve their performance.

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## ANNEXURES

## **Members of the General Council**

### **1. Founder Members:**

- |                        |                           |
|------------------------|---------------------------|
| 1. Shri G.P. Birla     | 7. Dr. A. R. Kidwai, M.P. |
| 2. Shri C.K. Birla     | 8. Shri G.D. Kothari      |
| 3. Shri S.L. Bhattar   | 9. Shri Rusi Modi         |
| 4. Shri G.L. Bansal    | 10. Shri B.K. Nehru       |
| 5. Dr. A.K. Chatterjee | 11. Shri D.N. Patodia     |
| 6. Shri Sarosh Ghandy  | 12. Dr. Karan Singh       |

### **2. Life Members**

Dr. H.C. Pande

### **3. Members by Representation:**

- |  |   |   |
|--|---|---|
| 1. Representative of Ministry of Human Resource Development Govt. of India | : | Jt Secretary (Technical Education) Dept. of Secondary & Higher Education. |
| 2. Representative of the University Grants Commission                      | : | Prof. S.K. Khanna   |
| 3. Representative of the Department of Science & Technology Govt. of India | : | Dr. P.K. B. Menon   |
| 4. Representative of the All India Council for Technical Education         | : | Dr. M. D. Tiwari  |

- |   |   |                      |
|---|---|----------------------|
| 5. Representative of the Department of Science & Technology Govt. of Jharkhand. | : | Shri J.B. Tubid IAS  |
| 6. Representative of Birla Institute of Scientific Research                     | : | Shri S.S. Jajodia    |
| 7. Vice Chancellor of the Institute   | : | Prof. S.K. Mukherjee |

**4. Corporate Members:**

- |   |   |  |
|---|---|--|
| 1. M/s National Engg. Industries Ltd.       | : | Represented by<br>Shri H.P. Singhi     |
| 2. M/s Hyderabad Asbestos & Industries Ltd. | : |  |
| 3. M/s Orient Paper & Industries Ltd.       | : |  |
| 4. M/s Indian Press Exchange Ltd.           | : | Representative by<br>Dr. P. Ghosh      |
| 5. M/s Hindustan Motors Ltd.                | : |  |
| 6. M/s Orient General Industries Ltd.       | : |  |
| 7. M/s General Marketing & Mfg. Co.Ltd.     | : | Representative by<br>Shri P.C. Agarwal |

**5. Alumni Members :**

1. Shri A.P. Gandhi
2. Shri Subodh Kumar.

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## **Board of Governors**

Chairman	:	Sri G. P. Birla
Vice-Chairman	:	Sri. C. K. Birla
Nominee of the Government of India Ministry of Human Resources Development	:	Jt. Secretary (Technical Education, Department of Secondary and High Education, MHRD, Govt. of India
Nominee of the University Grants Commission	:	Prof. S. K. Khanna
Nominee of the All India Council for Technical Education.	:	Dr. M. D. Tiwari
Commissioner & Secretary, Science & Technology Government of Jharkhand, (Ex. Offico)	:	Shri J. B. Tubid, IAS
Commissioner & Secretary, Higher Education, Government of Jharkhand, (Ex. Offico)	:	Sri N. N. Pandey, IAS
Commissioner, South Chotanagpur Division, Jharkhand, Ranchi (Ex. Offico)	:	Smt. Sheela Rapaj Kisku
Nominee of the Chancellor	:	Dr. V.A. Pai Panandiker
Nominees of the General Council	:	Shri D.N. Patodia Shri G.P. Lal Dr. P. Ghosh

Nominees of the Hindustan Charity Trust	:	Shri C.K. Birla Shri Deepak Chatterjee Dr. H.C. Pande
Vice-Chancellor, BIT, Ranchi (Ex.Offico)	:	Prof. S.K. Mukherjee
Members of Institute Faculty	:	Prof. S.P. Bhatnagar Ms. Nutan Lata Nath
Secretary		
Registrar of the Institute	:	Dr. K.V. Krishnamurthy

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## FINANCE COMMITTEE

Chairman : Sri G. P. Birla

### Members

Nominee of the University Grants Commission : Shri O.P. Nigam

Nominee of the Chancellor : Shri S.D. Saxena

Nominee of the Board of Governors : Shri C.K. Birla

Nominee of the General Council : Dr. H.C. Pande

Vice-Chancellor, BIT, Mesra, Ranchi : Dr. S.K. Mukherjee

Hony. Treasurer, BIT, Mesra, Ranchi : Shri S.S. Jajodia

### Secretary

Registrar : Dr. K.V.Krishnamurthy

\*\*\*\*\*

## **Building & Works Committee**

### Chairman

Vice-Chancellor, BIT, Mesra, Ranchi : Dr. S.K. Mukherjee

### Members

Adviser, Planning & Campus Development : Prof. P.P. Singh

Treasurer, B.I.T., Ranchi : Shri S.S. Jajodia

Representative of the Institute Architects : M/s. Kothari &  
Associates. Calcutta.

Representative of the State PWD : Nomination Awaited

Head, Department of Civil Engg. : Prof. S. Sengupta

### Members-Secretary

Registrar : Dr. K.V.Krishnamurthy

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## TECHNICAL COUNCIL

### Chairman

Vice-Chancellor, BIT, Mesra Ranchi (Ex. Offico) : Prof. S.K. Mukherjee

### Members:

Chancellor's Nominees	:	Dr. D.D. Guru Dr. R. Badrinarayan Dr. J.D. Rai
Director of Technical Education	:	
Government of Jharkhand, (Ex. Offico)		
Director of Higher Education	:	
Government of Jharkhand, (Ex. Offico)		
Professor of the Institute	:	Dr. S. Kumar Prof. S.C. Goel Prof.B.S.Rajeevlochanam Dr. Ashok Mishra Prof. Awadh Prasad Dr. A.K. Chatterjee Dr. R.C. Prasad Dr. P.K. Mahanti Prof. S.P. Bhatnagar Prof. B.P. Roy Dr. N.C. Mahanti Prof. A.P. Singh Dr. P.K. Barhai Prof. S. Sengupta Prof.K.R.Roy Choudhary

Prof. B.M. Karan  
 Prof. K.P. Singh  
 Prof. B.L. Gupta  
 Dr. D. Jairath  
 Prof. R.K. Narayan  
 Dr. G.M. Panpallia  
 Dr. D. Sasmal  
 Prof. Ram Pal Singh  
 Prof. N. Sengupta  
 Prof. G.C. Singh  
 Prof. B.K. Verma  
 Dr. R.K. Popli  
 Dr. B.N. Das  
 Prof. R. Sukesh Kumar  
 Dr. (Mrs.) M. Mukherjee  
 Dr. Gopal Pathak  
 Dr. L. Sahoo  
 Prof. A.K. Srivastava  
 Dr. M.S. Nathawat  
 Prof. A.K. Ray  
 Dr. A. M. Agarwal

Under Clause 4 of the Regulation :

Controller of Examinations Dr. Mohan Verma

Secretary

Registrar : Dr. K.V. Krishnamurthy

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### **Executive and Department Heads/In charge**

Vice-Chancellor	:	Dr. S.K. Mukherjee
Treasurer	:	Shri S.S. Jajodia
Registrar	:	Dr. K.V. Krishnamurthy
Deans		
Post-Graduation Studies	:	Prof. S.C. Goel
Under-Graduate Studies	:	Dr. D. Sasmal
Collaborative Research Programmes:	:	Dr. P.K. Barhai
Academic Coordination	:	Dr. P.C. Johsi
Extension Centres	:	Dr. P.K.Mahanti (on lien) Dr. A.M. Agrawal
Associate Dean		
Planning & Development	:	Dr. A.M. Agrawal
Departmental Heads/ In charge :		
Applied Chemistry	:	Dr. (Mrs.) Usha Jha
Applied Mathematics	:	Dr. N.C. Mahanti
Applied Physics	:	Dr. P.K. Barhai
Applied Mechanics	:	Prof. A.K. Ray
Civil Engineering	:	Prof. S. Sengupta
Architecture	:	Prof. N. Sengupta
Computer Science & Engineering	:	Dr.P.K.Mahanti (on lien) Prof. S.C. Goel
Electrical & Electronics Engineering	:	Dr. B.M. Karan
Electronics & Communication Engineering	:	Prof. S.C. Goel
Management	:	Dr. A.M. Agrawal

Bio-Medical Instrumentation	:	Dr. B.N. Das
Mechanical Engineering	:	Prof. Awadh Prasad
Pharmaceutical Science	:	Dr. S.P. Bhatnagar
Polymer Engineering	:	Dr. (Mrs.) M. Mukherjee
Information Science	:	Prof. A.M. Agrawal
Production Engineering	:	Dr. S. Kumar
Physical Education & Sports	:	Shri R.S. Yadav
Remote Sensing	:	Dr. M.S. Nathawat
Space Engineering & Rocketry	:	Dr. A.K. Chatterjee
OSD & Controller Entrance Examination	:	Prof. S.P. Bhatnagar
Controller of Examination	:	Dr. Mohan Verma
Co-coordinator Semester Programme	:	Dr. D. Sasmal
Finance (Comptroller)	:	Shri M.L. Verma
Finance (Chief Accountant)	:	Shri G.S. Sharma
Library	:	Dr. P.C. Joshi
Chief Medical Officer	:	Dr. Arjun Prasad Singh
Nodal Centre	:	Dr. B.L. Gupta
Training & Placement	:	Shri B.B. Pant
Chief Warden	:	Dr. Gopal Pathak
Cultural Coordinator	:	Prof. Ram Pal Singh

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## Departmental Board of Study

### 1. Applied Mathematics:

Chairman – Head of the Department

- |            |                     |    |                        |
|------------|---------------------|----|------------------------|
| Members-1. | Dr. S.S. Roy        | 2. | Dr. S. K. Chakraborty, |
| 3.         | Prof. Sukesh Kumar, | 4. | Prof. Awadh Prasad, l. |

Panel of Experts from outside of the Institute

- |    |   |    |  |
|----|---|----|--|
| 5. | Prof. K.S. Choudhary,<br>Deptt of Mathematics<br>Jadavpur University, Kolkata | 6. | Prof S. Nanda<br>Deptt. of Mathematics<br>IIT, Kharagpur                   |
| 7. | Prof. K.C. Prasad<br>Deptt of Mathematics<br>Ranchi University, Ranchi        | 8. | Prof. S. Dev<br>Deptt. of Mathematics<br>Indian School of Mines<br>Dhanbad |

### 2. Department of Applied Mechanics

Chairman – Prof. S. Sengupta, Head of the Department

- |            |                    |    |                         |
|------------|--------------------|----|-------------------------|
| Members-1. | Dr. S. Kumar       | 2. | Prof. K. R. Rochoudhary |
| 3.         | Prof. Rampal Singh | 4. | Prof. A.K. Roy          |
| 5.         | Prof. U.S. Prasad  |    |                         |

Panel of Experts from outside of the Institute

- |    |  |    |                                    |
|----|--|----|------------------------------------|
| 7. | Dr. S. Talapatra<br>B.E College Shibpur. | 6. | Dr. B.N. Sreedhar<br>IIT Kharagpur |
|----|--|----|------------------------------------|

### 3. Applied Physics

Chairman- Dr. P.K. Barhai, Head of Dept.

- |            |                     |    |                |
|------------|---------------------|----|----------------|
| Members-1. | Dr. D. Jairath,     | 2. | Dr. R.K. Popli |
| 3.         | Dr. A.K. Srivastava | 4. | Dr. S. Konar   |
| 5.         | Dr. J.T. Andrews    | 6. | Dr. S. Kumar   |
| 7.         | Dr. N.C. Mahanti,   |    |                |

Panel of Experts from outside of the Institute

- |    |   |    |   |
|----|---|----|---|
| 1. | Dr. N.K. Narain<br>Dept. of Physics,<br>JIT, Jamshedpur                     | 2. | Dr. C.K. Sarkar<br>Dept. Electronics &<br>Telecommunication Engg.<br>Jadavpur University,<br>Jadavpur, Calcutta |
| 3. | Dr. S. Chatterjee<br>Senior Manager R&D Division,<br>MECON, Doranda, Ranchi | 4. | Dr. A.K. Roy<br>Dy General Manager,<br>Physical Metallurgy<br>Group, RDCIS, SAIL,                               |

### 4. Department of Civil Engineering:

Chairman - Prof. S. Sengupta, Head of the Department

- |            |                        |    |                    |
|------------|------------------------|----|--------------------|
| Members-1. | Prof. K.R. Rochoudhary | 2. | Prof. Gopal Pathak |
| 3.         | Prof. V.C.S. Rao       | 4. | Prof. Arun Kumar   |
| 5.         | Dr. Ashok Mishra       | 6. | Prof. A.K. Ray     |

Panel of Experts from outside of the Institute

- |    |  |    |                                |
|----|--|----|--------------------------------|
| 1. | Dr. B.P. Verma<br>Prof. Dept. of Civil Engg.<br>RIT Jamshedpur | 2. | Dr. S.K. Ghosh<br>SAIL, Ranchi |
|----|--|----|--------------------------------|

3. Dr. S. Talapatra  
Dept. of App. Mechanics  
Bengal Engg. College Howrah.-9

4. Dr. C.K. Singh  
Engineer-in-Chief,  
P.W.D. Ranchi

5. Department of Computer Science & Engineering

Chairman – Prof. S.C. Goel, Head of the Department

Members-1. Dr. G. Sahoo

2. Prof. S. Dutta

3. Mrs. Arun Jain

4. Dr. P.K. Barhai

5. Dr. B.M. Karan

Panel of Experts from outside the Institute

1. Dr. S.K. Rath  
Dept. of Computer Science & Engg.  
Regional Engineering College  
Rourkela

2. Dr. B.C. Saxena  
Professor & Dean  
School of Computer &  
System Sciences  
J.N.U New Mehrauli  
Road New Delhi

3. Dr. A. Mishra  
Professor & Head dept. of M.C.A.  
RIT Jamshedpur

6. Department of Electrical & Electronics Engineering

Chairman – Dr. B.M. Karan, Head of The Department

Members-1. Dr. R.C. Prasads

2. Prof. B.P. Roy

3. Dr. B.N. Das

4. Prof. R.K. Narayan

5. Prof. P.K. Sinha

6. Prof. R.C. Jha

7. Prof. S.C. Goel

8. Prof. A.P. Singh

9. Dr. P.K. Mohanti

10. Prof. (Dr.) M.K. Ghosh

Panel of Experts from outside the Institute

11. Prof. (Dr.) T.K. Basu  
(Dept. of EEE, IIT  
Kharagpur)

12. Prof. (Dr.) Samiran  
(Dept. of EEE, IIT  
Kharagpur)

7. Department of Electronics & Communication Engineering

Chairman – Prof. S.C. Goel, Head of The Department

Members-1. Prof. R. Sukesh Kumar

2. Prof. M. Puri

3. Mrs. S. Barman

4. Dr. P.K. Barhai

5. Dr. B.M. Karan

Panel of Experts from outside the Institute

1. Dr. G. Panda  
(Prof. & Head Dept. of Applied  
Electronics & Instrumentation Engg.  
Regional Engg. College  
Rourkela

2. Dr. P.C. Rakshit  
(Prof. Dept. of Radio  
Physics & Electronics)  
Calcutta University  
92, A.P.C. Road  
Kolkata

3. Dr. Ajay Chakraborty  
Prof. & Head Dept. of Electronics  
& Comm. Engg. I.I.T.  
Kharagpur.

## 8. Department of Mechanical Engineering

Chairman- Prof. A. Prasad, Head of the Department

- |            |                     |    |                     |
|------------|---------------------|----|---------------------|
| Members-1. | Dr. Ashok Mishra    | 2. | Prof. B.K. Verma    |
| 3.         | Dr. M.N. Verma      | 4. | Mr. B.N. Giri       |
| 5.         | Mr. R.P. Sharma     | 6. | Dr. A.K. Chatterjee |
| 7.         | Dr. Surendra Kumar, |    |                     |

### Panel of Experts from outside the Institute

- |    |  |    |  |
|----|--|----|--|
| 1. | Dr. P.K. Nag,<br>Prof. & Head, Mech. Engg.<br>I.I.T., Kharagpur.   | 2. | Dr. R.K. Charawaj<br>Princip. Institute of Engg.<br>& Technology, M.I.A.<br>Alwar (Rajsthat) 31030 |
| 3. | Dr. S.K. Agrawal<br>Retired Prof. of Mech Engg.<br>BCE., Bhagalpur | 4. | Dr. S.R. Bhattacharaya<br>Head of the Dept. of<br>Mech. Engg., Jadavpur<br>University, Jadavpur    |

## 9. Department of Management

Chairman – Head of The Department

- |            |                 |    |                  |
|------------|-----------------|----|------------------|
| Members-1. | Prof. S. Kumar  | 2. | Prof. A. Prasad, |
| 3.         | Mr. Utpal Baul, | 4. | Mrs. S. Shivani  |

### Panel of Experts from outside the Institute

- |    |  |    |                                    |
|----|--|----|------------------------------------|
| 5. | Prof. J. Mahapatra,<br>Sambalpur University<br>IIM Kolkata | 6. | Prof. R. Mazumder,<br>IIM, Kolkata |
|----|--|----|------------------------------------|

#### 10. Department of Polymer Engineerin

Chairman – Dr. (Mrs) M. Mukherjee, Head of The Department

- Members- 1. A.P. Singh 2. Prof. B.L. Gupta  
3. Mrs. S. Goswami

Panel of Experts from outside the Institute

- |  |  |
|--|--|
| 1. Prof. S.Maiti,<br>Rtd. Prof. Materials Sc.<br>IIT Kharagpur | 2. Prof. P. Ghosh,<br>Rtd Prof, Dept. of<br>Polymer, Sc.& Tech.<br>University of Calcutta. |
|--|--|

#### 11. Department of Remote Sensing

Chairman Head of The Department

- Members-1. Dr. A. K. Singh 2. Prof.B.S.Rajeevlochanam  
2. Prof. S.H. Kekre

Panel of Experts from outside the Institute

- |  |  |
|--|--|
| 1. Dr. J. R. Sharma<br>(Dept. of Space, GoI)<br>CAZRI Campus, Jodhpur. | 2. Dr. N.C. Gautam<br>(Dept of Space, GoI)<br>Balanager, Hyderabad |
|--|--|

#### 12. Department of Space & Rocketry Engineering

Chairman – Dr. A.K. Chatterjee, Head of the Deptt.

- Members-1. Dr. P.C. Joshi, 2. Dr. Mohan Verma  
3. Dr. J.K. Prasad 4. Dr. T.K. Nandi,  
5. Mr. P.K. Dash 6. Dr. S. Kumar  
7. Dr. M. Mukherjee

#### Panel of Experts from outside the Institute

- |   |   |
|---|---|
| 1. Dr. A.K. Ghosh,<br>Dept. of Aerospace Engg.<br>IIT Kharagpur               | 2. Dr. N.G. R. Iyengar<br>Dept. of Aerpc Engg.<br>IIT Kharagpur |
| 3. Shri A.K. Chakrabarti<br>Dept. of Aerospace Engg,<br>k-15, DRDL, Hyderabad | 4. Shri S.C. Ghosh,<br>Aerpc Engg,<br>LPSC, Trivandrum          |

#### 13. Department of Production Engineering

Chairman- Head of The Department

- |                              |                       |
|------------------------------|-----------------------|
| Members-1. Prof. A.K. Thakur | 2. Prof. Vinay Sharma |
| 3. Dr. Ashok Mishra          | 4. Dr. A.M. Agrawal   |

#### Panel of Experts from outside the Institute

- |   |  |
|---|--|
| 1. Dr. B. Kumar<br>(Dept. of Mech. Engg.)<br>R.I.T. Jamshedpur          | 2. Dr. A.K. Jha<br>(Dept. of Mech. Engg.)<br>IT, BHU Varanasi.                 |
| 3. Dr. S. Sahu<br>(Dept. of Industrial Engg. & Mgt.<br>I.I.T. Kharagpur | 4. Dr. S.K. Agrawal<br>(Dept. of Mech. Engg.)<br>M.N.R.E. College<br>Allahabad |

#### 14. Department of Architecture

Chairman-Prof. N. Sengupta, Head of The Department

- |                             |                           |
|-----------------------------|---------------------------|
| Members-1. Prof. Ajay Khare | 2. Prof. Pawan Kumar      |
| 3. Prof. S.Sengupta         | 4. Prof. K.R Roychoudhary |

Panel of Experts from outside the Institute

5. Prof. S. Chakraborty  
Dept. of Architecture,  
Jadavpur University, Kolkata
7. Mr. B.K Chanda, Architect  
Dy. General Manager,  
MECON, Ranchi

6. Mr.Dulal Mukherjee  
Architect, Kolkata  
West Bengal.

15. Department of Information Science

Chairman – Dr. A.M. Agrawal, Head of Dept.

Member-1. Dr. B.M. Karan

3. Dr. G. Sahoo

5. Bhaskar Karan

2. Dr. S.C. Goel

4. Prof. Atul Anand

Panel of Experts from outside the Institute

6. Dr. A.R.D. Prasad  
Associate Prof., DRTC,  
ISI, Bangalore.

7. Dr.C.R.Kariddappa,  
Head & Chairman,  
Dept. of LIS  
Karnatak Univ.  
Dharwad.

\*\*\*\*\*

## IMPORTANT TELEPHONE NUMBER

Sno.	Name	Department	Phone No	Fax
1.	Dr. S.K. Mukherjee	(Vice-Chancellor)	275402	274401
2.	Dr. K.V. Krishnamurthy	(Registrar)	276052	
3.	Prof. Awadh Prasad	(Mechanical Department)	275924	
4.	Prof. S.C. Goel	(Computer Department and ECE Department)	275333,276184 (R&D,) 276185 275750	
5.	Dr. S. Kumar	(Production Department)	275044	
6.	Dr. A. K. Chatterjee	(Space & Rocketry )	275983,276224	
7.	Dr. P.C. Joshi	(Dean Academic )	276290, 275290	
8.	Dr. P.K. Barhai	(Physics Department)	275522	
9.	Mr. B.B. Pant	(Training & Placement)	275566	
10.	Prof. N. Sengupta	(Architecture Department)	276249	
11.	Prof. S. Sengupa	(Civil Department)	276051	
12.	Prof. A.K. Ray	(Applied Mechanics)	276083	
13.	Dr. N. C. Mahanti	(Depart. of Mathematics)	276182	
14.	Dr. B.M. Karan	(Department of Electrical)	276499	
15.	Dr. (Mrs.) M. Mukherjee	(Department of Polymer)	276053	
16.	Dr. M.S. Nathawat	(Depart. Of Remote Sensing)	276003	
17.	Dr. B.L. Gupta	(NTMIS)	276181	
18.	Dr. A.M. Agrawal	(Depart. Of Management)	276223	
19.	Prof. S.P. Bhatnagar	(Pharmacy Department)	276249	
20.	Dr. Mohan Verma	(Controller of Examination)	275138	275923

21.	Dr. D. Sasmal	(Dean UG)	275872
22.	Dr. Gopal Pathak	(Chief Warden)	276004
23.	Prof. A.P. Singh	(University Polytechnic)	276008
24.	Mr. R.K. Singh	(STEP/SIRDO)	275823
25.	Mr. D. Jha	(Purchase)	275352

B.I.T Exchange 275444,275896,276002,276210(INPCO)

V.I.P Guest Huse 275213

Chairman Bungalow 275214

Hostels: H1-276074, H2-276073, H3-276072, H4-276071

H5-276069, H6-276068, H7-276067, H8-276075, H9-276076.

#### **Off Campus Centre :**

1.	Kolkata	2818384	2818393
2.	Jaipur	751567	751601
3.	Allahabad	697363	695682
4.	Noida	4553661	4554146
5.	Ranchi (Lalpur)	209827, 202229 200085, 300469,317682	
6.	Bahrain	973690025	97369287
7.	Muscat	968683011	968684663

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## ADDRESS OF THE EXTENSION CENTRES

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|--|--|
| 1. B.I.T. Extension Center Allahabad<br>B-7 Industrial Area<br>P.O TSL<br>Naini, Allahabad-211010<br>Phone : (0532) 697363<br>Fax: 695682                        | 2. B.I.T. Extension Center Noida<br>A-7 Sector-1<br>Noida-201301<br>Phone: (0120) 553661-2<br>Fax : 4554146  |
| 3. B.I.T. Extension Center Lalpur<br>Lalpur Chowk<br>Ranchi-834001<br>Phone : (0651) 209827<br>Fax : (317682)  | 4. B.I.T. Extension Center Kolkata<br>14-B CAMAC STREET<br>Kolkata-700017<br>Phone (033) 2818384<br>Fax : 282-8393   |
| 5. B.I.T. Extension Center Jaipur<br>BISR Campus<br>27, Malviya Industrial Area<br>Jaipur -302017<br>Phone : (0141) 751457<br>Fax : 751601                       | 6. B.I.T. Extension Center Bahrain<br>C/o Mohmmmed Jalal & Sons<br>W.L.L.<br>Post Box-747, Manama<br>Bahrain (A-Gulf)<br>Phone: 00973404785<br>Fax : 00973254638 |
| 7. B.I.T. Extension Center Muscat<br>P.O. Box 249, Hamriya,<br>Postal Code 131,<br>Muscat, Sultanate of Oman<br>Phone: (968) 683011, 9238782<br>Fax : 968 684663 |  |

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Foundation stone laying ceremony of Applied Biotechnology Centre by Shri Babulal Marandi, Hon'ble Chief Minister, Jharkhand



Inauguration of University Polytechnic by Shri Babulal Marandi, Hon'ble Chief Minister, Jharkhand



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Annual Athletic Meet 2001-02

## **Birla Institute of Technology**

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