ANNUAL REPORT

1988-89

BIRLA INSTITUTE OF TECHNOLOGY
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Preface

The B.I.T., Mesra was established by the Hindustan Charity Trust 34 years ago as an all-India Institute for Technical Education, Research and Training for meeting the emerging technical manpower needs of independent India. Over the years, since its inception, it has developed an ethos for excellence, where initiative is nurtured, where new ideas are received in an atmosphere of constructive criticism. It has served as a catalyst in developing society,intimately involving itself with the technological development of India.

In pursuit of its objectives, it continues to provide excellent Under-graduate programmes which attract the cream of the students through an all-India Entrance Examination.

The curriculum places a strong emphasis on understanding of fundamentals as well as specialized knowledge.Students are involved in the project-work, and wherever possible, they are associated with live industrial problems referred to by the Industry. Thus the students gain necessary expertise in the current technology as well as acquire the capacity to solve unforseen problems and meet the impact of the rapid development of new technology. This is evident from the fact that BIT graduates are in great demand and absorbed throughout the country.

The post-graduate programmes of the Institute are modest and picking up pace in the new and emerging areas of technology. Today the Institute offers 15 programmmes at the post-graduate level in various disciplines of Technology, Management,Computers and Pharmaceutical Sciences. Several programmes are distinguished by their inter-disciplinary approach and emphasis

on a comprehensive thesis project. Besides the regular students who are admitted to M.E., M.Pharm. programmes, after qualifying the Graduate Aptitude Test in Engineering (GATE), the Institute has on its roll a good number of sponsored candidates deputed from Defence and various other organisations.

With the objective of serving the cause of technical education in the region by promoting the concept of continuing education among practising graduate engineers and Managers, the Institute runs need-based part-time Post-graduate programmes of modular nature in the various areas of specialization in Engineering and Management disciplines. Part-time courses in Computer Applications have also been introduced during the year under report. All these programmes are being well-received and are quite effective.

The third facet of our academic programme is the research activities of the Institute that provide new knowledge created by faculty and students through our Post-graduate and Doctoral programmes in addition to the developmental research through sponsored projects. During the recent years, the Institute has deliberately attempted to provide a frame-work for various academic groups to undertake projects in identified thrust areas on an inter-disciplinary basis. Some of the identified thrust areas are Energy, Plasma, Microprocessor Applications, Computer Aided Design & Robotics, Entrepreneurship development and Rocket technology.

The Institute has enjoyed a close collaboration with Industry. A significant achievement has been the successful techno-entrepreneurship programme now called BIT-STEP. Under this programme senior students are involved in developing scientific equipment or components currently imported. The students are assisted and encouraged to develop indigeneous substitutes of

these imported items. The resultant know-how has led to the establishment of a number of useful and viable manufacturing units, owned and run by young techno-entrepreneurs.

The Institute is organising a programme of high technology applications in the energy area. A Hi-Tech Wind Energy Convertor of German design has been acquired and would be set up for experiments.A solar heat convertor based on an Australian design has been developed which is to shortly lead the way for designing an experimental 100 kW steam generating station. Start has also been made in establishing basic facility in emerging area of Plasma Technology so that in the near future expertise can be developed in the area of Plasma Engineering.

Dated : June 30, 1989.
B.I.T. Mesra, Ranchi.

ADMINISTRATION

B.I.T. is a 'deemed University' under sec. 3 of the UGC Act, 1956. It functions under the overall supervision, direction and control of a high-power Board of Governers, comprising representatives of the Ministry of Education, Govt. of India, the UGC, the State Govt., the Chancellor, the AICTE, the Trust and the Institute Faculty. Mr. G. P. Birla is the Chairman of the Board of Governors. The Governor of the State of Bihar is the Chancellor of the Institute. Composition of the Board of Governors is given in Appendix - I.

The Technical Council decides the academic policy of the Institute. It controls and approve the curriculum, courses and examination results. It appoints Committee 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 improve both facilities and standards. The Director of the Institute is the Chairman of the Technical Council. Members of the Technical Council are listed in Appendix - II.

Financial advice to the Institute is given by the Finance Committee whose constitution is given in Appendix II. Similarly, the Building and Works Committee advises the Institute in matters relating to building works activity. The constitution is also given in Appendix - II.

In addition there are a number of other committees like the Regulation Committee for Under-graduate and Post-graduate courses, Examination Committee, Semester Programme Co-ordination Committee, Admission Committee, Scholarship Committee, Students' Welfare Committee etc. which are appointed by the Technical Council to help the administration in the efficient running of the Institute.

GENERAL REVIEW

BRIEF HISTORY

The Institute was established as an All India Institute for imparting Technical Education and Research in 1955 by the Hindustan Charity Trust. Initially it functioned as an affiliated college of the erstwhile Bihar University and later in 1960 upon creation a new Universities in the State, its affiliation was transferred to the Ranchi University.

In pursuance of the recommendations of the Education Commission, Government of India (1964-66) and on the basis of the report of a Joint Select Committee of the UGC and AICTE, in March, 1972 the Institute was granted the status of an 'Autonomous' College by making special provision in Bihar State Universities Act. The Rules for its governance were made by the Chancellor of the Universities of Bihar.

On the basis of its continued excellence, and approval by the UGC, the Institute was declared a "Deemed University" in August 1986 under Section 3 of the UGC Act.

Since its inception the Institute is updating its academic standards, and has now acquired a pride of place in Technical Education and is one of the Premier Institute in Eastern India.

COURSES & DEGREE PROGRAMMES

Currently it is offering a variety of curricular programmes as detailed below :

Course	Intake capacity	Duration of course	Year of introduction of the course
I. BACHELOR OF ENGINEERING			
1. Civil	45	4 year course	1957
2. Computer Science	30	"	1983
3. Electrical & Electronics	45	"	1955
4. Electronics & Communication	60	"	1964
5. Mechanical	60	"	1955
6. Production	30	"	1964
II. PHARMACEUTICAL SCIENCES			
1. B. Pharmacy	30	"	1972
2. M. Pharmacy	10	3 Semester or	1983
i) Pharmaceutical Chemistry		1.1/2 years	
ii) Pharmaceutics			
III. MASTER OF ENGINEERING			
1. Civil	2	"	1965
Soil Mechanics Structural & Foundation Engg.			
2. Electrical	12	"	1964
i) Control System & ii) Power System			
3. Electronics & Communication	12	"	1965
i) Instrumentation ii) Microwave Engineering			
4. Mechanical	6	"	1964
Heat Power Engineering			
5. Space Engineering & Rocketry	10	"	1965
i) Rocket Propulsion &			
ii) Aerodynamics			

Course	Intake capacity	Duration of course	Year of introduction of the course
IV. MASTER OF BUSINESS ADMINISTRATION i) Marketing ii) Personnel iii) Industrial Management iv) Finance & v) Maintenance Management	30	2 Years	1980
V. M.C.A. (MASTER OF COMPUTER APPLICATIONS	30	3 year course	1984
VI. D.C.A. (DIPLOMA IN COMPUTER APPLICATIONS	30	1 year	1988

VII. CONTINUING EDUCATION PART TIME POSTGRADUATE PROGRAMME

To enable Working Engineers to update their technologies, the part-time postgraduate programme offers three levels

A Certificate of Merit after completing 5 units
A Diploma after completing 10 units and
A Degree after completing 15 units of course work.

The disciplines are :

1. Civil Engineering	: Structural Design
2. Computer Applications	
3. Electrical Engineering	: Control System & Power System.
4. Management	:Marketing,Personnel Industrial Management and Finance
5. Mechanical Engineering	: Design of Mechanical Equipment.

ENROLLMENT

There are 1609 students who have enrolled during the current Academic Year 1988-89. The branch-wise enrollment is detailed below. Of these there are 170 Girl students, and 69 Foreign students.

	Full Time	Part Time
B.E.	1105	-
B. Pharm.	130	-
M.C.A./D.C.A.	90	30
M.B.A.	95	68
M. Pharm.	21	-
M. E.	46	24
	1487	122

FACULTY & STAFF

Against the sanctioned strength of 173 Faculty positions, 151 are filled with 22 vacancies. The break-up is as follows:

Category	Sanctioned Strength	In Position	Vacancies
Professors	44	36	8
Associate Professor	49	44	5
Lecturers/Associate Lecturers	80	71	9
	173	151	22

The number of administrative and supporting staff are approximately 220. In addition, there are about 250 Class IV Staff to look after the General Maintenance of electricity, water supply, Gardens, Security, Hostels and allied services.

All academic staff have been provided accomodation on the Campus.

About 60% of the administrative and other supporting staff have also been provided accommodation on the campus.

CAMPUS AND PHYSICAL FACILITIES

The Institute is fully residential and extends over 780 acres. The main buildings of the Institute covers an area of over 30,000 sq. mtrs. and accomodates the various research and training laboratories, administrative offices, lecture rooms. The Workshop annexe has a 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.

II. Description of Buildings on the Institute

1. Institutional Buildings	Sq.mtrs.
i) Main building & Administrative Block	3700
ii) Class room and laboratories, Drawing Halls, Staff rooms etc.	9300
iii) Library Block	2600
iv) Space Engg. & Rocketry Block including explosive and Rocket Fuel Centre	930
v) Workshop Sheds, General Stores, Garrage/Godown	3721
vi) Gymnasium	850

2. Others

		Sq.mtrs.
i)	Animal House	400
ii)	NCC Block	400
iii)	Primary/High School (temporarily housed in Mechanical Engg. Block	744

Note : During the year 1987-88 a Navodaya Vidyalaya has also been established in the Institute campus. Presently it is housed in temporary sheds constructed for the purpose.

III. Residential Complex

i)	Staff Quarters in different categories	296
ii)	Residential Complex for supporting services: Forest Guards,Diary, Shop Keepers,Washermen etc	70

IV. Hostels

i)	Seven Boy's Hostels	1450 Single Rooms
ii)	One Girls' Hostel	60 rooms
iii)	One Foreign Student Hostel	32 rooms

V. Guest Accommodation

The Institute maintains two Guest Houses. A General purpose Guest House with 8 furnished rooms and a VIP Guest House with 3 deluxe double bed rooms to accommodate guests appropriately.

VI. Auditorium

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

VII. Games & Sports

The Institute has a Gymnasium and is spacious enough to accomodate indoor games. Extensive play grounds are provided to facilitate sports. They are :

1. Field Tracks for Sports/Atheletics/Cricket	-1
2. Football ground	-2
3. Hockey grounds	-2
4. Basket Ball grounds	-4
5. Volley Ball grounds	-6
6. Tennis Courts	-6
7. Badminton Courts	-6 (1 indoor cour
8. Rifle Firing Range	-1
9. NCC Parade ground	-1

VIII. Canteen Services

A Moderately furnished canteen, provides snacks for students and staff.

IX. Dispensary-cum-Health Unit

A eight bed health care unit serves the large campus community mainly as an outdoor patient unit. This unit supports three full time doctors. Excellent rapport exists for acute medical needs with the Government Medical College Hospital at Ranchi.

X. Marketing Centre

A well run Cooperative Stores provide the daily requirements of the campus of nearly 5,000 residents. Additional shoppping complex is provided for sundry needs.

We hope to establish a full fledged marketing centre and cooperative Book Store to meet the growing needs of the campus. The annual needs exceeds Rs. 2 crore mark.

CENTRAL SERVICES

COMPUTER CENTRE

Computer Centre provides the central facility for the students and staff members of this Insitute. It started on a modest scale with PDP-11/34 Mini computer from D.E.C.,U.S.A in 1982 and has upgraded the infrastructure form time to time not only to meet the ever increasing requirements of the Institute but the training facilities for the outside user. SN-73 which is upward compatible to PDP-11/34 has been installed and large number of BBC Micro-computers, IBM-PC's, PC-XT's and a PC/AT computer are used continuously by the users. The software support includes FORTRAN-77, BASIC, COBOL, PASCAL, C, LISP and PROLOG. We also have installed a local area network (LAN) using 80386 based file server very recently.

With support from the Dept. of Electronics, Govt. of India a "Resource Centre" for Computer Literacy and Studies in Schools (CLASS) has been established in this Insitute in 1984. A series of 3 weeks duration training programme are organised for the school teachers from various schools of the Eastern Region. Under this programme after training the school teachers in the effective use of computers, the respective schools are given two BBC Microcomputers with all the necessary software. The maintenance of these computers and software needs of the schools are met by the BIT Resource Centre.

In addition to providing the educational and training facilities the Computer Centre has completed many software projects. It is maintaining the pay-rolls for the Institute and academic transcripts of all the students.

With the support from Department of Electronics, Govt. of India, we are acting as a resource centre for MCA Teachers Re-orientation Training Programme from the year 1988. The participants are selected on all India level which will benefit the participating teachers for their re-orientation of MCA courses at Post-graduate level.

LIBRARY

The Library subscribes over 260 Indian and foreign journals annually. During the current year 1669 volumes were added to the existing stock of library. The up-to-date stock of the library comprises of 48,000 books and 12,000 back volumes. Facilities for microfilming and photocopying are also being provided by the library. Currently only ground floor is utilised, and to meet the growing needs additional floors are being built.

MICROPROCESSOR RESEARCH CENTRE

During this year the laboratory facility have been expanded to facilitate application programming on fast 32 bit processors namely :

(a) 68020 at 25 MHz, programming and real time trigger trace with performance analysis.

(b) IMST 414 Transputer System for 32 bit multiprocessor environment, emulation using PC-XT, to yield system throughput upto 10 MIPS, using occam language.

both these system design facilities are unique in the eastern sector, and gives BIT the design ability on fast real time processor based system development.

The Hewlett-Packard 9000-350 system has been installed for AI applications with UNIX-OS C, Prolog, and Lisp and assembly language facility. The system is the state of the art machine capable of expansion. Currently the HP 9000 is networked with two HP 64000 development stations to constitute the 'HP-Design Centre'.

The laboratory has completed the following projects

(a) Camma ray thickness Gauge for Tinplate Company

(b) Non contact automatic length measurement system for Usha Industries.

and the following projects are nearing completion :

(a) Control of Ortho cyclic winding machine for Usha Industries.

(b) Eddy current inspection of fast moving tinplates.

Collaborative programmes are initiated with local R & D groups for automatic gauging of rolled steel items by laser techniques combined with Microprocessor instrumentation, In-circuit PC-board checking of industrial PCB's using PC XT and the development of specialised programmes for public sector industries.

OUT-TURN OF GRADUATES & POST-GRADUATES

During the year 1988-89, 382 students qualified for the award of Under-graduate Degree (B.E./B.Pharm.); 96 students for the Post-graduate Degree (M.E., M.Pharm., M.B.A., and M.C.A.) and 1 students for Ph.D., the break-up is as follows :

I. Undergraduate Degree	No. of students graduated in 1988.		Total Number of graduates upto 1988.
1. B.E. (4 Year Degree course)			
Civil Engineering	38		
Computer Science	36		
Electrical & Electronics Engg.	38		
Electronics & Commu. Engg.	41		
Mechanical Engg.	91		
Production Engg.	15	259	7593
2. B. Pharm.(4 Year Degree Course)		27	294
II. Post-graduate Degree			
1. M.E.			
Civil Engineering	3		
Electrical Engineering	5		
Electronics & Comm. Engg.	5		
Mechanical Engineering	2		
Space Engg. & Rocketry	1	16	179
Diploma in Elect. Engg.	1		1
2. M. Pharm.	10		64
3. M.B.A.	43		348
4. M.C.A.	26		78
5. M.Sc. (Applied Sciences)	-		63
III. Doctoral Degree	-		
Ph.D./D.Sc.	1		31

ACADEMIC INNOVATIONS & RESEARCH

After a thorough retrospective analysis of the academic innovations of the past, and with the encouraging response received from the Government of India, the Institute's primary objective, during the year 1988-89, has been to create infrastructures for interdisciplinary arena of research and development which would storm the brains, flourish ideas, broaden the imagination of the elite scientists, engineers from different disciplines and students of the Institute to evolve new domains, newer concepts.

With this primary objective in mind, realising the significance of the historical and evolutionary aspects of scientific development, a research cell for studies on "History of Science" has already been established at the Institute in 1979. This cell, headed by its founder faculty member of International repute, is continuously growing with richer collection of books, journals and other materials for initiating investigation for research work. The centre is duly recognized by the Indian National Academy for supervising and guiding research. One of the most significant contributions of this research cell has been that the International Commission on History of Mathematics has inserted the title of its International Journal in the Indian National Language, HINDI as well; earlier the title was printed only in Five important languages of the world.

In accordance with the directives of the Ministry of Human Resource Development, Department of Education, the Institute is keeping pace with the latest technological advances in identified areas of emerging technologies and is creating necessary infrastructure for Education, Research and Training. The Microprocessor Development Centre has already established a good rapport with SAIL, MECON, CMPDI, HEC for design and development of instrumentation and control systems for real time computer

controls. Artificial Intelligence and Robot technology are being moved from the research domain to the solution of practical problems.

Currently, we are in the process of developing Plasma Engineering Laboratory. Extensive research and investigation on propagation of electromagnetic waves in plasma has been carried on. A grant-in-aid project, in this context, has already been submitted to the Ministry of Human Resource Development.

It is significant to place on record that the Institute has been the pioneer among the technological institutions to start the programme of post-graduate studies and research in the area of Space Engineering & Rocketry. It has successfully developed several rocket fuels for solid propellant rockets and has set up a sophisticated research facility in Hybrid and liquid propellant technology. Several projects have been undertaken for the Ministry of Defence, Atomic Energy Commission and I.C.A.R. The work on gelled propellants is noteworthy. Extensive investigations have been made in developing rocket systems for weather modification. The Department also organised the Fourth National Convention of Aerospace Engineers and All India Seminar on Aircraft Propulsion, in collaboration with the Institution of Engineers. The Department has also developed a new hydrazine based hybrid fuel. Acoustic Strand burners have been designed and fabricated to measure the burning rates of PVC-AP and HTPB-AP type solid propellants both at high and low pressures.

As initiated during the preceeding years, fibre reinforced cement sheets, design and implementation of low cost housing and improvement in rice husk cement are now on nearly completion stage. The new low cost house designs and models for effective dissemenation of knowledge regarding earthquake safety and flood mitigation along with a model of rural water supply scheme to be applied to the water starved districts of the state have been exhibiting encouraging results.

The Institute is organising a programme of high technology applications in the energy area. A Hi-tech Wind Energy Convertor of German design has been acquired and installed at Puri (Orissa) for experiments. A solar heat convertor based on an Australian design has been developed which is leading the way for designing an experimental 100 KW steam generating station. Significant research work has been carried out in the area of bi-fueling of I.C. Engines. Emphasis has been laid on investigation into the suitability of various types of alternate fuels for reciprocating combustion engines. Bio-gas energy and geo thermal energy research works have also been initiated and relevant grant-in-aid projects proposals have been submitted to the Govt. of India.

Discovery of stress induced Electromagnetic Radiation (EMR) and its new bio-physical application in Neurosurgery have already brought the Institute on the international map of research. During the year 1988-89 two specific projects have been initiated in the arena of research. First, application of this new effect in understanding the behaviour of human brain, pulmonary sensor and chemoreceptors. The necessary theoretical research has been completed and experimentation, as a part of bio-engineering research, is expected to be completed during the VIII Plan of Govt. of India. Second one is the application of this effect in the development of new material. A zinc-based bearing material has already been developed. Service-testing is now being planned out.

The next important project, initiated in consultancy with "the Atmospheric Research and Exposure Assessment Laboratory, USA" and in collaboration with SAIL (R&D),

Ranchi, is the Environmental Pollution Control. The first aspect of this project is the development and Testing of Receptor Models moving from the research domain into application to practical problems. Second aspect is the - recovery of NO_x and SO_2 Waste gases using Electron accelerator. This project is not only of pollution control importance but also of immense importance to the Ministry of Agriculture. A complete project report is under process and would be submitted to the Govt. of India in near future.

During the preceeding year, a new approach to the analysis of environmental pollutant concentration was studied and completed in collaboration with MECON, Ranchi.

As a part of Ph. D. programmmes, in collaboration with SAIL (R&D) and MECON respectively development of new materials for hostile environment and CAD analysis of shape control in cold Rolling research has been under progress.

A specific project based on the crucial problems in the Producer gas generators in India, with special reference to Heavy Engineering Corporation, Ranchi, was successfully completed in 1988-89.

"Industrial Robots and Flexible Manufacturing" and Industrial Pollution Control are two new additions to the Department of Production Engineering of the Institute.

Under the grant in aid project from Ministry of Human Resource Development for Materials Science Laboratory, Mossbauer Spectrometer-MS 1200 and Atomic Absorption

Spectrophotometer–Model AA-680 are awaited which would provide experimental base to the theoretical research done in polymer technology. Design of Heterostructure lasers for use in optical communication systems and computers is one of the significant projects under progress.

In the area of Pharmaceutical Sciences extensive research in Aromatic and Medicinal plants has been undertaken and several research facilities have been developed for isolating active principles as well as for the field trials of a variety of herbs and plants.

The Institute has also taken up, in collaboration with the Bihar State Chemical & Pharmaceutical Corporation, a Drug development, testing and standardization facility.

The Department of Management of the Institute has been active in its own distinct way. Eminent scholars and Industrialists have been regularly invited as Guest Speakers in the various conferences. It has also organised the 42nd All India Commerce Conference 1988. Research works on decision making, human resource management, value engineering, value and human resource development, leadership and Managerial Effectiveness and materials management are continuously updated befitting to the latest technological requirements of the nation.

We are proud to mention here that in achieving the landmark in the arena of academic innovations of the various departments of the Institute mentioned above, there has been an active participation of the under-graduate, post graduate, doctorate and post-doctorate students/members. In view of their enthusiastic response to the development

of modern technology, new courses like environmental engineering, non conventional energy, microprocessor applications, power electronics, CAD, CAM, Environmental Geo technique, Bio technology have been/are being introduced at various levels. Further, the under graduate and post graduate programme involve the students on the projects identified from surrounding industries. In this context, it would not be out of place to mention here that three final year students of the previous batch had solved the problem of vertical centrifugal casting machine which was posing a serious problem for the H.E.C., Ranchi.

Overall, Institute has adopted an integrated approach such that research, dissemination and extension of knowledge go hand to hand. An inter disciplinary Research and Development is encouraged for optimum utilisation of manpower and resources, and it is optimistically expected that the overall academic and research plans under progress, would be successfully completed within the time bound programme under the encouraging response of the Government of India.

SCHOLARS REGISTERED FOR Ph.D.

During the year 1988-89 the following Scholars were registered for Ph. D. Programmes; the subject/areas of their study is stated against each :

	Name of Scholar	Subject of study
1.	Sri Ashok Kr. Tiwary Jr. Research Fellow	Pharmaceutical Science
2.	Sri B. P. Srivastava	"Combustion Studies of HTPB-AP Composite Solid Propellants at Sub-Atmospheric Pressure".
3.	Sri Madhukar Puri	"Some Studies on High Speed Devices".

Besides the above, the following scholars who were registered for their Ph.D. in the previous year(s) are continuing their work under the guidance of the respective Doctoral Committees:

	Name of Scholar	Subject of Study
1.	Sri Gopal Pathak	"Air Pollution in Coal Fields with special reference to Jharia Coalfields".
2.	Sri A. K. Malhotra	"Studies of Leguminous Seed Gums for Pharmaceutical Applications".
3.	Sri S. Roy	"Deformation of Asymmetric Elastic Medium under Magnetic Field and Thermal Loading".
4.	Sri N. K. Jha	"History of PI with Special Reference to India".
5.	Sri B. N. Sinha	"Pharm. Chemistry Studies on Pseudopelletierine Analogues."

6.	Sri Alok Verma	"New Strategies for improving Industrial Productivity."
7.	Sri U. N. Singh	"Physics Research in middle-level Countries : "A Scientometric Analysis of High-Tech Physics in Australia, Canada, India, and Israel During the last 35 years."
8.	Sri M.K. Kolay	"Development in Human Resource Accounting - its applicability in Indian Context."
9.	Prof. Awadh Prasad	"Corporate Long Range Planning using system Dynamics & Simulation Techniques for Heavy Engineering Industries - a case study of Heavy Engg. Corporation Limited, Ranchi.
10.	Sri Hari Haran	"Marketing Information system in Steel Industry with special reference to Steel Authority of India."
11.	Ms. Suneeta Singh	"Organisational Climate and its impact on Managerial Styles in Coal India Ltd., with special reference to Central Coalfields Limited, Ranchi.

12.	Sri Pradeep Kr. Singh	"Organisational Climate and Effectiveness in R & D of SAIL."
13.	Sri B. K. Arya	"A story of Non-Linear Programming Models and Application to some Optimization problems in Engineering Design."
14.	Sri Anirudh Singh	"Study in Export Marketing Problems of H.E.C. Limited, Ranchi.
15.	Sri R. R. Prasad	"Performance appraised : An Analytical study of its effectiveness in Public Systems."

STUDENT ACTIVITIES

During the year 1988-89, the students were given ample encouragement for participating in co-curriculars extra-curricular activities. Currently, there are more than twenty flourishing Student-Forums and Societies apart from the Athletics and Games. These Societies cater to the widest possible range of extra-curricular activities for an alround development of the students personality.

The year-long activities of these societies culminate in two annual functions which were over a couple of days each, (1) Bitotsav was organised for the students of the Institute wherein participation of as many as 200 students of the Institute made it quite live and fruitful. (2) Pebbles has been an Inter-college students festival or organised on a national invitation basis. At these-festivals, models, theatre, music, debate, quizzing, fine arts, photography, creative writing etc. were very effectively organised, a number of light-hearted informal events on stage and field were also held wherein the participants and audience derived wholesome satisfaction.

Dramatic Society : The 'Stage' has been a proven and vital medium of expression. Dramatics Society provided to the students an opportunity to present serious theatre and play on one hand and a touch of humour and stire through monoact mimicry and skit. Seven plays in various languages were staged by the society during 1988-89. The Institute Dramatic Team won the championship at the Kashi-Yatra an all India competition organised by the IT, BHU at Varanasi.

Music Club : Provided an opportunity to bring out melody with a full-band Orchestra, equipped moderately well on an individual or small group basis, presenting songs gazhals or music such as classical or modern-Western, Hindustani or Karnataka etc.

Unesco Club : Under the auspicious of the Unesco Club the students participated in serious debates and quizzing. Interesting events like 'Just-a-minute' 'block and tackle' etc. were also organised by the club.

The Bhartiya Sahitya Parishad : is a forum for promoting cultural activities in the national language : the Parishad organised Kavi Sammelans, Mushaira, Folk dances,Creative writing and publications contests.

Photographic Society : Expression and creativity through synthesis of ideas and color through a Camera or a canvas is an accepted truth and enjoyable pastime. Photographic Society provided ample opportunity to students interested in Camera or Darkroom/studio work. During the year the Society had over 200 members. There are a number of Darkrooms with full facility for development & Printing of films in the Institute, and also in the Residential Halls.

The Fine Arts Society : Looked after the generation of skills in using pencil, pastel, water and oil colors paints as well as sculpture and handicrafts. On the occasion of the Republic Day an on-the-spot competition was held by the society in which over 200 young artists including Campus children took part.

Bitian's Nature Club : An affiliate of the World Wide Fund for Nature has encouraged students participation to know and love, respond to and vibrate with the Nature in all the immensityand totality.

The Highlender's Adventure Club : Which is an affiliate of NAF and NTMC provided ample opportunity for the participants to derive delight from adventure-hitch- hiking, cycle expeditions, rock climbing or mountaineering at no or very low cost.

Spic-Macay : The society for the promotion of Indian Classical Music and Culture amongst Youth had its fair share of activities by inviting famous exponents of Indian Classical Music and Dance. During the year, among others,the following distinguished Artists gave their demonstration and performance in the Insitute.

1. DHANJAYAN'S (Bhartanatyam)

2. Ms. KIRAN SEHGAL (Oddissi)

The Audio Visual Education Club : While presenting recent and classic fims every weekend for entertainment and relaxation of the students the Club also provided a number of technical and educational films and documentaries. The Club is very popular amongst all the residents of the campus.

Pooja Committee : Looked after the celebration of 'Saraswati Pooja' and 'Vishwakarma Pooja' to promote the religious sentiments of the students and staff.

The Engineering Society : In the technical and scientific arena, the Engineering Society promotes the interest of the students in the design, development and complete fabrication of working engineering models. The society organised a number of technical talks by eminent Scientists and Engineers.

It is note-worthy that the various Engg. Faculties with their concentrated extra curricular efforts have been encourag-ing fraternity and identity, through the Societies/Clubs in their respective areas e.g. Electrical and Communications Engineering Society, Computer Engineering Society, Civil Engineering Society and Pharmaceutical Society etc. The students' chapter of the Institution of Engineers (India) and Institution of Electrical and Electronics Engineers (India) are also engaged in a variety of technical persuits.

The Amateur Radio Society : has a membership of over hundred students; these students are able to reach out all-over the world through intricate communication network under the Radio-HAM Society.

The Indian Association of College Going Scientists : bubbles with activities including organisation Technical trips to industrial areas, Seminars, Technical quizzes, apart from initiating astronomical observations.

The News and Publication Society : While providing an opportunity for news reporting, Journalism and creative writing contributed substantially, bringing out the latest news in the regular issues of "Campus Times", "Sports Times" and in quarterly issues of the BIT by BIT.

Other Voluntry Clubs : The BIT chapter of Leo Club and Rotract Club have a record of creditable performances. During the year 1988-89 they arranged a couple of Health Camps, Blood Donation Camps, with the support of the eminent Doctors of the town. Moreover, visits to rural areas for identification of their problems, adult education camps and such other social service activities were also organised by these Voluntry Clubs.

GAMES AND SPORTS

Since inception the Institute has placed emphasis on Games and Sports. Earlier this activity was organised as a co-curricular programme but from 1984 the Games and Sports have been provided in the regular curriculum of the under-graduate course by treating it as a full subject in the 1st and 2nd Semester of the B.E. and B. Pharm. Degree programme. Accordingly,the students are exposed to PT & Drill, Gymnastics etc. thrice a week and on the other days they are required to play the alloted Games. Suitable arrangement for training and participation of Girl students has also been made and their participation in P.T. & Games is also compulsory. Now-a-days, on an average, over 50 percent of the student take part in the Games, sports and athletics on a regular basis.

Apart from the regular participation of students in the P.T./Drill, Games and Sports a number of intra-mural competitions and tournaments in the various events are arranged spread all over the year. The Annual Athletic Meet for 1988-89 was held from March 3-5, 1989. Sri Zico Motheb, a foreign student from Botswana, was adjusted as the best Athlete and won the Individual Athletic Championship of the year. He also established a new BIT record in the 400 Metres Run - clocking - 49.9 sec.

This year the Institute teams participated in the following national and regional events and the attainments of our boys has been creditable :-

Events	Participants	Attainments
1. All India Inter-Univ. Athletic Meet - held at University of Calicut. (Dec.27-31, 1988)	Mr. Nchena Zico Motheb	First in 400 Mts. Run - Gold Medal.
2. All India Inter Tech. Athletic Meet - held at B.E. College, Shibpur, Howrah. (Jan. 13-15, 1989)	Mr. Raj Kamal Narayan	Won Individual Championship.
3. Inter Tech. Badminton Championship - held at B.E.College, Shibpur, Howrah	a) Badminton Team	Champions
	b) Mr. Prasanna Gurusekra	Won Individual Championship.
4. Inter Tech. Hockey Tournament - held at B.E.College, Shibpur, Howrah.	Hockey Team	Champions
5. Inter Tech. Volleyball Tournament - held at B.E. College, Shibpur, Howrah.	Volleyball Team	Champions.

During February 1989 the Institute also hosted the participants of National Women's Sports Meet, 1989 wherein over 1000 women delegates from all over the country were provided facilities for Practice-games, boarding and lodging etc. on the campus.

Over the years the Institute has produced outstanding state level players in Cricket, Basketball and also University level players in Basketball, Football, Hockey, Badminton, Tennis, Kabbaddi and Athletics.

The Institute has also produced one National Champion in Archery Shri Sanjay Singh who graduated in B.E.Degree (Mechanical Engineering) last year participated and represented India in the last Asian Games held at Seoul.

To maintain the enthusiasm and raise the standards of games and sports-activities,recently the UGC has extended financial support for developement of the following Sports infra-structure during the Seventh Plan Period (1988-90) :

1 - Swimming Pool
2 - Stadium
3 - Development of Play-fields
4 - Flood-lighting of Play-fields
5 - Sports Equipment

THE STUDENTS' HALLS OF RESIDENCE

The Institute is completely residential and all the students are required to stay in one of the Hostels or Halls of Residence numbered serially - as Hostel 1 to 7. In addition there are two separate Hostels one for girls and the other for foreign students. Plan for construction of another Hostel for girls have been submitted to the U.G.C. and the State Government.

All the hostels are laid out beautifully to match the screne and pleasant campus with flower beds, bushes and trees encompassing each hostel, besides the well maintained lawns in front. The architecture of the hostel includes central facilities like spacious Dining Halls in the Centre and Common Rooms and Reading Rooms, placed symmetrically on both sides of the central entrance and wide varandahs all along the length with air gaps and balconies well set for common use.

Each student is accomodated in a single-seated room, furnished with a steel table and a steel chair. The girl students are kept in two-or-three furnished rooms. Each room is quite spacious with a big size window and a steel door oppositely placed to make the room airy. Each room has a cup-board, wardrobe and a wide and deep rack.

Each hostel has a Common Room, where Indoor Games are available. Each hostel has a Reading Room also - where sufficient number of Magazines, Periodicals and Newspapers by consensus are made available to the residents of the hostel. Provision of getting the old magazines and periodicals issued to students are available. Each hostel has also been provided with a Color Television Set.

Frequent competitions are organised among the inmates of the hostel in a number of indoor games. Inter-Hostel Tournaments in the indoor and outdoor games are a regular and very attractive feature of the hostel life.

Once in a year, the inmates organise a Hostel-Night, where in the improvised stage, well selected cultural and musical programme, games and special items based on intimate knowledge pack the evening with fun and exciting festive mood.

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 hostel. The bills are made on 'no profit-no loss' basis and the monthly bills of the residents are submitted in the Mess Accounts Office, where individual student pays accordingly. The menu and monthly bills of the various hostels are assessed and revised periodically in the Meeting of the Hostel Council.

NATIONAL CADET CORPS

A unit of the National Cadet Corps was set up in the Institute in 1957 for imparting technical as well as general training to the students. Initially, it functioned as an EME Sec. with a strength of 60 cadets. The seventies have been a period of sericus student - unrest all over the State and consequently the NCC programme also suffered to a considerable extent. However, there was some revival in the early 'Eightees'. In order to encourage students' active participation in this programme in 1984 the Institute provided it in the regular curriculam with a weightage of '2 unit' equivalent to two courses of 100 marks each, in the 1st and 2nd Semester of the undergraduate B.E./ B.Pharm. courses.

At present NCC unit is functioning as a full fledged Composite Technical Company of three different sections, viz. (i) Engineers Corps, (ii) EME Corps and (iii) Signal Corps, and its designation is "3 Bihar Comp. (Tech.) Coy., N.C.C., B.I.T., Mesra". It has a sanctioned strength of 200 Cadets.

The 3rd Bihar Comp. (Tech.) Coy of B.I.T., Mesra works under the command of a whole time Army Officer of the rank of Major or Lt. Colonel. In addition, it has on its staff two trained Part-time NCC Officers who are Professors of the Institute, five P.I. Staff from the Army,about 8-10 clerical and other supporting Staff who are provided by the State Govt. Beside an administrative building on the main Campus the NCC has adequate facilities like Parade Grounds, Firing Range and Armament Stores, Library, Staff quarters etc.

The training programme is designed to lay stress upon the technical aspects of training in the form of Engg. Projects duly supported by lectures and prctical classes (6 period/week); the training for Engineers Corps mainly covers Field Work, Field defence, Military Bridges, Roads and Aerodromes; Water supply, Demolition etc.The Technical training of EME Corps covers Inspection and repairs of vehicles,Driving practice and maintenance, Acquisition with different components of Automobiles,Mechanism and elementary principles of different class of army vehicles; and for the Signal Corps it covers Wireless equipment operation, Line equipment, Line transmission theory, Acquisition with More's code and handling or telegraphic instruments etc.

Apart from the technical training the NCC also provides general training to all cadets in order to inculcate the leadership qualities, high morals, unity, discipline etc. The NCC has special arrangement for training of those cadets who appear for 'B' and 'C' Certificate exam. of NCC (Tech).

During the year 1988-89, 144 cadets were enrolled in the NCC Coy of the Institute - 59 in the Engineers Corps 43 EME Corps, and 42 in the Signal Corps. This year 75 cadets attended the NCC Annual Training Camp which was held from 30.1.89 to 10.2.89 at Ramgarh Cantt. At this camp about 600 cadets from various Institutions from all over the State participated. The overall performance of our boys was examplary. The cadets from our Institute got the 1st Prize in the Drill Competition, 1st in Kit Lay-out and Line Dressing and also 1st position in the Volleyball tournament. Our Cadet Ajay Kumar Verma was adjudged as the best Cadet in the whole State. Four special prizes for cultural activities were also awarded to our cadets.

SEMINAR AND PUBLICATIONS

A list of Seminars and Symposium conducted at the Institute during the year under report is given below :

1. 42nd All India Commerce Conference.
2. Productivity & Efficiency in Public Enterprises - sponsored by U.G.C.
3. National Workshop on low cost Housing Tech. (Oct.'88) relevant to Indira Niwas Yojna.
4. Improving Productivity in Public Enterprises - sponsored by Bureau of Public Enterprises, Govt. of Bihar.

5-10 Five Workshops on various aspects of Management were held during 1988.

11. B. M. Birla Memorial Lectures.
12. Fourth National Convention of Aerospace Engineers - sponsored by Institution of Engineers.

A list of Publications, research papers brought out by the members of faculty is listed at Annexure - III.

TRAINING AND PLACEMENT

During the last 5-6 months of each academic session the Institute plays host to senior executives and officers from a large number of organisations. They visit us to recruit technical and managerial personnel via interviews conducted on campus of our outgoing B.E., M.E., MBA and MCA students. The visiting teams are mostly from the premier private companies, some Govt. and Semi-Govt. organisations and the defence services. The visiting selection teams are invariably impressed by the facilities of the Institute, the environment and well-maintained surroundings, the general discipline and behaviour of the students and, most important, by their technical aptitude and talent. We are proud to state that the demand for our graduates has been steadily growing, alongwith the reputation of the Institute.

The Training & Placement section endeavours to liase between the organisations that wish to visit us, the students who need jobs and the Departments and faculty concerned, to best achieve the aspiration of the students and the requirements of the organisation, also keeping the interests of the Institute in view. Apart from arranging Placement services, this section also tries to arrange industrial training for interested students during their vacations through correspondence with organisations all over the country. During the last 5 years, over 750 graduates have benefited by receiving confirmed offers of appointment while still completing their studies. Several times this number have benefited by their interview experiences on campus and consequest gain of confidence to obtain jobs within a short time of graduating. Further, a few thousand have undertaken vacation training, thereby enhancing their technical awareness and increasing their prospects for employment.

We are happy to note that the placement activities have shown a continuously successful trend.

During the last academic session, 1988-89, we were visited by about 30 premier organisations. By June 1989 most of these companies had intimated their final selections, offerings appointments to 172 graduates from different disciplines, about 20 of whom had received more than one offer. Some organisations were expected to finalise/increase their selections later. The total number of B.E. candidates offered jobs was about 150, representing approximately 70% of the Year's graduates.

The placement activities do not end with the academic session. Students leaving the campus without jobs are asked to leave their bio-datas, and these are still being despatched on request to organisations who have been contacting us after June. Some companies are due to visit us in late August. We are also frequently consulted by students requiring advice and guidance in relevant matters.

During the year under report about 300 students received vacation training at various factories and establishments during their Puja Vacations 1988 and Summer Vacations in May and June, 1989.

Note : The branch-wise number of students who secured employment through campus interview during the year under report (upto June, 1989) is as follows :

Electrical & Communication Engg.	30
Electrical & Electronics Engg.	40
Computer Sciences	21
Mechanical Engineering	55
Production Engineering	02
Civil Engineering	01
M.B.A	12
M.C.A.	11

The details of the placements are given below :

A. CONFIRMED APPOINTMENTS :

Sl. No.	Organisation	Branches	Total No.
1.	Tata Consultancy Services Bombay	(MCA-8,Comp.Sc.-6)	14
2.	Hindustan Motors Ltd., Indore (Passenger Car Division)	(Mech-4,Prod-1,EEE-5)	10
3.	TISCO (Systems Trainees) Jamshedpur	(MBA-1,CS-3,ECE-3)	07
4.	Hindustan Motors Ltd. Earth Moving Equipment Divn. Tiruvallur	(Mech-6,Prod.-1)	07
5.	TISCO (G T),Jamshedpur	(mech-9,EEE-2,ECE-6)	17
6.	Hindustan Computers Limited New Delhi.	(MBA-7,Mech-1,ECE-10, MCA-2,EEE-10,CS-4)	34
7.	TISCO (Raw Materials Divn.) Jamshedpur	(Mech-8,EEE-7)	15
8.	WIPRO Information Technology	(MCA-1,CS-3,ECE-2,EEE-2)	08
9.	a) Otis Elevator (INDIA)	(MBA-1)	01
	b) Magma Leasing Co. (Calcutta)	(MBA-2)	02
10.	TELCO, Jamshedpur	(Mech-3,EEE-3,ECE-2)	08
11.	Associated Cement Co. Ltd. Bombay.	(Mech-3, EEE-1)	04
12.	Batliboi & Company Ltd.,Caclutta	(EEE-1)	01
13.	CMC Ltd., Calcutta (Software)	(ECE-1)	01
14.	CMC Ltd., (Hardware)	(EEE-1,ECE-1)	02
15.	ORG Systems,Calcutta/Baroda	(MBA-1,CS-2)	03
16.	Hinditron Tektronix Instruments Ltd., Calcutta	(EEE-2, ECE-1)	03
17.	Fusion Engineering Products Limited, Jamshedpur	(Mech-3)	03

18.	Larsen & Tubro Limited ECC Construction Group, Madras	(Mech-3,EEE-3,Civil-1)	07
19.	Hindustan Aluminium Corporation Ltd., Renukoot	(mech-6,EEE-2)	08
20.	Orient General Industries,Calcutta	(Mech-3,EEE-1)	04
21.	Usha Martin Industries,Ranchi	(Mech-6)	06
22.	Crompton Greaves Ltd., Bombay	(ECE-2,CS-1)	03
23.	Pertech Computer Ltd., New Delhi	(EEE-2, ECE-2,CS-3)	07
24.	INCAB Industries Ltd.,Jamshedpur	(Mech-1)	01
25.	Pyrites, Phosphates & Chemicals Ltd., Amjhore	(Mech-5, EEE-2, ECE-2)	09
26.	Hero Honda Motors Ltd.	(Mech-4)	04

B. DETAILS OF SHORTLISTS/UNDECLARED RESULTS

1.	National Engineering Industries Jaipur.	Final interviews of shortlisted candidates (Numbers not known yet), to be held in May, 1989 at Jaipur.
2.	National Dairy Development Board, Calcutta	Final interviews of shortlisted candidates, (2 candidates of Mechanical) held at Calcutta.

C. OFF CAMPUS INTERVIEWS THROUGH T & P

1.	McNally Bharat Engg. Company, Kumardhubi	Biodatas of applicants despatched to company. Interviews of 12 candidates held in Nov.'88. Results awaited.

D. BIODATAS OF CANDIDATES WERE ALSO SENT TO THE FOLLOWING COMPANIES ON REQUEST

1. Industrial Cables Ltd., New Delhi
2. Semi Conductor Corporation, Chandigarh
3. Gannon Dunkerly & Co., New Delhi
4. Hindustan Cocoa Products, New Delhi
5. Webel Business Machines, Calcutta
6. Kesoram Rayon, Calcutta
7. Zenith Ltd., New Delhi
8. J. N. Marshal, Hydrabad
9. DCM Data Products, New Delhi
10. Hoogly Dock & Port Engineers, Calcutta
11. Uptron India Ltd., Lucknow
12. Porrits & Spencer, New Delhi
13. HUDCO, Calcutta
14. Composite Tools Company (India) Ltd., Jamshedpur
15. Orient Engineers, New Delhi.

The companies at Sl.No. 3,4,5,8 & 9 were expected to visit as to conduct interviews, but could not for reasons not known.

RURAL HOUSING DEVELOPMENT CENTRE

The Rural Housing Development Centre is housed in Civil Engineering Wing of the Institute has been performing various complex functions. An important and specific function being a live partner alongwith the State Government in improving housing and environmental conditions of the tribal people located in Chota-nagpur Tribal belt by developing appropriate techonologies, and propogating technology transfer through field demonstrations for the construction of low cost dwellings.

Considering that special attention is required to be given for the improvement of housing and environmental conditions in the tribal settlements, the Rural Housing Development Centre has initiated socio-economic studies and engineering surveys of tribal settlements in different parts of the state to identify the specific problems and suggest appropriate solutions.

The main objective of the Centre is to promote research in the improved use of local materials and construction techniques using locally available labour force. Further, motivate rural people to construct their houses by material developed by the Centre. The extension activities like workshop, 'on low cost housing technologies and training programme for the executive personnel of the State is widely acclaimed and attended. So far 300 officers of the rank of Deputy Development Commissioners, Executive Engineers, Assistant Engineers, Block Development Officers, Junior Engineers have been benefited by this programme.

With a view to promote better understanding of low cost constructional technology a number of research projects has been initiated and completed. Here are some project profiles

- § Research on rice husk ash for stabilising local soil.
- § An experimental investigation on soil-cinder ash stabilization.
- § Improved Pot chlorinators for village wells.
- § Low cost primary school building scheme for tribal area.
- § Tribals and Tribulation of Rural Water Supply Scheme.
- § Design and development of low cost houses in earth-quake and flood hit zones of Bihar.
- § An experimental investigation of sunn fibre as reinforc -ing material in cement matrix.

The centre is working on a project entitled 'Typology and Mapping of Housing Zones' sponsored by Dept. of Science and Technology'. Further, the centre alongwith HUDCO has established a Building Centre to train local people in the art of low cost construction technology paving way for the trainee to establish a small scale unit for manufacturing buidling materials.

The centre has been extending help to various state and central government agencies. Here is a short list of the same.

- ¶ Design of low cost houses in earthquake zones of North Bihar (Assistance offered to Govt. of Bihar).
- ¶ Modification of Indira Mass housing scheme using cost reduction technique
  (Assistance offered to Rural Development Dept. Govt. of Bihar).

- ¶ Rehabilitation of displaced advasi families, scheduled caste, scheduled tribe due to land submergence of North Koel Karo Hydroelectric scheme (Assistance offer to National Hydroelectric power Corporation).

- ¶ Design of low cost nightshelter (Assistance offered to Social Welfare Ministry, Govt. of Bihar).

- ¶ 'Remodelling of slums in and around Dhanbad' (Assistance offered to Coal Mining Authority,Dhanbad).

The centre is involved in construction of demonstration clusters. It has already completed one such cluster at Rudia village, Kanke Block, Ranchi and distributed to identified landless adivasis.

ANNEXURE- I.

BOARD OF GOVERNORS

Chairman	: Shri G. P. Birla.
Members :	
Nominee of the Govt. of India Ministry of Human Resource Development	: Shri S. N. Chakraborti
Nominee of the University Grants Commission	: Dr. Amitabh Bhattacharya
Nominee of All India Council for Technical Education	: Dr. D. C. Biswas
Commissioner & Secretary Science & Technology, Govt. of Bihar	: Shri K. K. Saha
Commissioner & Secretary, Education, Govt. of Bihar	: Shri A. U. Sharma
Commissioner Chotanagpur Division (South), Bihar, Ranchi	: C. K. Basu
Nominee of the Chancellor	: Shri G. P. Lal
Nominee of the Hindustan Charity Trust	: Shri C. K. Birla
" "	: Shri A. L. Goenka
" "	: Shri K. P. Singhi
Director, BIT, Ranchi	: Dr. H. C. Pande
Member of Institute Faculty	: Dr. C. B. Mishra
" "	: Mrs. Mandira Mukherjee
Member selected by the General Council	: Shri D. N. Patodia
" "	: Shri S. R. Jain
" "	: Shri C. S. Jha
Secretary : Registrar & OSD	: Shri J. B. Saksena.

ANNEXURE II.

TECHNICAL COUNCIL

Chairman : Director, BIT,Ranchi	:	Dr. H. C. Pande
Members :		
Nominee of the Chancellor	:	Shri R. K. Sandhir
Director of Technical Education, Govt. of Bihar	:	Ex-officio
Director of Education (Higher Education), Govt. of Bihar	:	Dr. P. N. Ojha
Dean of Science, Ranchi University	:	Dr. G. L. Das
Dean of Engg. Faculty, Ranchi University	:	Dr. Janardhan Jha
Professor of the Institute	:	Dr. C. B. Mishra Dr. B. Kanta Rao Dr. B. Narayan Prof. G. P. C. Rao Prof. K. P. Sinha Prof. U. M. Nayak Dr. B. K. Razdan Dr. M. C. Srivastava Dr. N.L.Munjal Prof. K. C. Pande Prof. A. K. Mehta Dr. B. S. Sahay Prof. M.B.Gopalakrishnan Prof. A. K. Bhattacharjee Prof. J. S. Ruhela Prof. A. K. Aggarwal Dr. R. C. Gupta Dr. S. Kumar Prof. R. A. Sharma Prof. S. H. Kekre Prof. S. C. Goel Prof. B.S.Rajeevalochanam Dr. R. K. Shrivastava Dr. Ashok Misra Prof. Awadh Prasad Dr. A. K. Chatterjee Dr. K. N. Sahu Dr. R. C. Prasad Dr. D. P. Gupta

		Dr. M. N. Banerjee Dr. B. B. Mishra Dr. B. G. Varshney Dr. B. P. Ambasht
Persons appointed by the Chairman Vide clause 4(e) of the regulation		Prof. M. K. Saksena Shri R. S. Yadav Dr. D. Jairath Dr. P. K. Mohanty
Librarian - Ex-officio	:	Shri U. N. Singh
Controller of Examins. Ex-officio	:	Prof. S. P. Bhatnagar
Secretary : Registrar & OSD	:	Shri J. B. Saksena

FINANCE COMMITTEE

Chairman	:	Shri G. P. Birla
Members :		
Nominee of the University Grants Commission	:	Sri D. Swaminadhan
Nominee of the Chancellor	:	Sri U. Narain
Nominee of the Board of Governors	:	Sri A. L. Goenka
Nominee of General Council	:	Sri P. C. Agarwal
Director, B.I.T., Ranchi	:	Dr. H. C. Pande
Treasurer, B.I.T., Ranchi	:	Sri S. S. Jajodia
Member-Secretary :		
Registrar & OSD	:	Sri J. B. Saksena

BUILDING & WORKS COMMITTEE

Chairman :		
Director, B.I.T., Ranchi	:	Dr. H. C. Pande
Members :		
Assistant Director, B.I.T., Ranchi	:	Dr. C. B. Mishra
Treasurer, B.I.T., Ranchi	:	Sri S. S. Jajodia
Representative of the Architects	:	M/s. Kothari & Associates, Calcutta
Representative of the State PWD	:	Sri G. P. Lal
Executive Director (Civil) BIT-STEP	:	Prof. A. K. Agarwal
Head, Dept. of Civil Engg. B.I.T., Mesra	:	Prof. G. R. C. Rao
Member-Secretary :		
Registrar & OSD	:	Sri J. B. Saksena

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