

# ANNUAL REPORT

1987-88



**BIRLA INSTITUTE OF TECHNOLOGY  
MESRA, RANCHI (INDIA)**

## I N D E X

	<u>Page No.</u>
<u>Part - I : Report 1987-88</u>	
1. Preface	1 - 3
2. Administration	4
3. General Review	5 - 14
4. Microprocessor Research Centre	15
5. Computer Centre	16 - 17
6. Training and Placement	18 - 19
<u>Appendices :</u>	
Annexure- I (Board of Governors, Technical Council, Finance Committee, Building & Works Committee)	A1 - A3
Annexure-II(Seminar & Symposia)	A4
Annexure-III(Research Papers & Books Published)	A5 - A6
<u>Part - II : Annual Accounts 1987-88</u>	
1. Auditors Report	
2. Balance Sheet	
3. Income & Expenditure Statement	
4. Schedule of Assets	

## P r e f a c e

The B.I.T., Mesra was established by the Hindustan Charity Trust 33 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 unforeseen 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 programmes at the postgraduate 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 Converter of German design has been acquired and would be set up for experiments. A solar heat converter 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 the emerging area of Plasma Technology so that in the near future expertise can be developed in the area of Plasma Engineering.

Dated : June 30, 1988.

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 Governors, 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 Committees 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 - I.

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

In addition there are a number of other committees like the Regulation Committee for Under-graduate and Post-graduate courses, Examination Committee, Semester Programme Coordination 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

### Highlights and Physical Facilities

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 :

<u>Course</u>	<u>Intake capacity</u>	<u>Duration of course</u>	<u>Year of introduction of the course</u>
<u>I. BACHELOR OF ENGINEERING</u>			
1. Civil	45	4 year course	1955
2. Computer Science	30	"	1983
3. Electrical & Electronics	45	"	1955
4. Electronics & Communication	60	"	1964
5. Mechanical	60	"	1955
6. Production	30	"	1964
<u>II. PHARMACEUTICAL SCIENCES</u>			
1. B. Pharmacy	30	4 year course	1972
2. M. Pharmacy	10	3 semester or	1983
i) Pharmaceutical Chemistry		1.1/2 years	
ii) Pnarmaceutics		course	
<u>III. MASTER OF ENGINEERING</u>			
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			
<u>IV. MASTER OF BUSINESS</u>			
<u>ADMINISTRATION</u>	30	2 years	1980
i) Marketing			
ii) Personnel			
iii) Industrial Management			
iv) Finance and			
v) Maintenance Management			
V. <u>M. C. A. (MASTER OF COMPUTER APPLICATIONS)</u>	30	3 years course	1984



## VI. 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 and Power System.
- 4. Management : Marketing, Personnel, Industrial Management and Finance
- 5. Mechanical Engineering : Design of Mechanical Equipment

### Enrollment :

There are 1568 students who have enrolled during the current Academic year 1987-88. The branchwise enrollment is detailed below. Of these there are 129 Girl students, and 40 foreign students.

	<u>Full time</u>	<u>Part-time</u>
B. E.	1084	-
B. Pharm.	125	-
M. C. A.	97	21
M. B. A.	183	70
M. Pharm.	22	-
M. E.	44	22
	<hr/>	<hr/>
	1455	113
	<hr/>	<hr/>

### Faculty & Staff :

Against the sanctioned strength of 173 Faculty positions, 142 are filled with 31 vacancies. The break-up is as follows :

<u>Category</u>	<u>Sanctioned strength</u>	<u>In Position</u>	<u>Vacancies</u>
Professors	47	31	16
Associaate Professors	40	36	4
Lecturers/Associate Lecturers	86	75	11
	<u>173</u>	<u>142</u>	<u>31</u>

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 accommodation 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 accommodates 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 kilometre away.

For the convenience of working Engineers to participate in Postgraduate 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. <u>Institutional buildings :</u>	<u>Sq. mtrs.</u>
i) Main building & Administrative Block	3700
ii) Class room and laboratories, Drawing Halls, Staff rooms etc.	9300
iii) Library Block	1860
iv) Space Engg. & Rocketry Block including explosive and Rocket Fuel Centre	930
v) Workshop Sheds, General Stores, Garrage/Godowns	3721
vi) Gymnasium	850
2. <u>Others :</u>	
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	294
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 accommodate indoor games. Extensive play grounds are provided to facilitate sports. They are :

1. Field Tracks for Sports/Atheletics/Cricket	- 1
2. Foot-Ball 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 court)
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 shopping complex is provided for sundry needs.

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

Out-turn of Graduates & Postgraduates :

During the year 1987-88, 374 students qualified for the award of under-graduate degree (B.E./B.Pharm.); 128 students for the Post-graduate degree (M.E., M. Pharm., M.,B.A., and M.C.A.) and 2 students for Ph.D, the break-up is as follows :

<u>I. Undergraduate Degree :</u>	<u>No. of students graduated in 1988</u>	<u>Total number of graduates upto 1987.</u>
<u>1. B. E. (4 year Degree Course) :</u>		
Civil Engineering	69	
Computer Science	34	
Electrical & Electronics Engg.	57	
Electronics & Comm. Engg.	52	
Meachanical Engg.	101	
Production Engg.	<u>27</u>	340
		7334
<u>2. B. Pharm.(4 year Degree Course):</u>		34
		267
<u>II. Postgraduate Degree :</u>		
<u>1. M. E.</u>		
Civil Engineering	2	
Electrical Engineering	3	
Electronics & Comm. Engg.	1	
Mechanical Engineering	5	
Space Engg. & Rocketry	7	18
		163
2. M. Pharm.		12
		54
3. M. B. A.		75
		305
4. M. C. A.		23
		52
5. M.Sc.(Applied Sciences)	-	-
		63
<u>III. Doctoral Degree :</u>		
Ph.D/D.Sc.		2
		30

### Books & Periodicals :

The Library subscribes over 250 Indian and foreign journals annually. During the current year 1669 volumes were added to the existing stock of Library. The upto-date stock of the Library comprises of 43282 books and 11092 back volumes. Currently only ground floor is utilised, and to meet the growing needs; additional floors are being built.

### Academic Innovations :

Since 1978 the Institute has embarked upon a bold programme of inter-disciplinary studies, incorporating new subjects such as System Analysis and Dynamics, Materials Sciences, Direct Energy Conversion, Computer Aided Analysis, Historical evolution of Science & Technology etc. with a view to yield a firm scientific basis for technical education. Further, the under-graduate and postgraduate programme involve the student on live projects identified from surrounding industries. An integrated approach has been adopted 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.

Realising the significance of the historical and evolutionary aspects of Scientific development, a Research Cell for studies on 'History of Science' was established in 1979. This Cell has rich collection of books, journals and other materials for initiating investigation for research work. The Centre is duly recognised by the Indian National Science Academy for supervising and guiding research.

### Basic and Applied Research :

The Research activity has been supported by the Post-graduate and Post-doctoral courses offered in almost all branches. Several papers, experimental models and prototypes have been developed as a result of (a) research in basic sciences (b) courses offered in applied sciences, (c) projects undertaken by engineering departments (d) special projects sanctioned by Govt. Departments in Pharmaceutical Sciences and (e) in Space Engineering & Rocketry.

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.

Currently, we are in the process of developing a Plasma Engineering Research Laboratory which is again among the first in the technological institutions of the country. Extensive research and investigation on propagation of electromagnetic waves in plasma media has been carried on.

The Microprocessor Development Centre has established a good rapport with SAIL, MECON, CMPDI, HEC for design and development of instrumentation and control systems for real time computer control. A few Robots were built and application studies on artificial intelligence for robotics is progressing well.

An efficient packaged bed solar collector was build for room heating applications. Solar water pump using Acetone/Pentane is being built for rural applications.

During the year 1987-88 several low cost buildings materials have been developed; of particular mention is fibre reinforced cement sheets, design and implementation of low cost housing designs, and improvement in rice husk cement. A new low cost house designs and models for effective dissemination 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 developed.

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

standardisation facility. Research efforts are being augmented to take up advanced studies in the following areas :

1. Energy Engineering
2. Environmental Engineering
3. Water Resource Management
4. Robotics and Artificial Intelligence
5. Materials Science & Technology
6. Management Science in the area of
  - Small Scale Industries,
  - Entrepreneurship
7. Recycling & Waste Utilisation
8. Fuel Efficient I.C.Engine
9. Solar Energy based Heating & Cooling Systems
10. Wind Energy Systems
11. Computer Integrated Manufacturing
12. Water Resource Development
13. Composite Materials
14. Off-shore structure
15. Management Education for Small Scale / Unrecognised Sector
16. Remote Sensing
17. Fibre Optics.

#### Seminars & Publications :

A list of Seminars and Symposia conducted at the Institute during the year under report is given at Annexure- II.

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

#### Convocation :

The Convocation for 1987 was held on 31.3.1988. Shri Satyen Gangaram Pitroda, Advisor to Prime Minister on Technology Missions delivered the convocation address; the solemn function was presided over by the Hon'ble Chancellor, H.E. Shri Govind Narain Singh, Governor of Bihar.

Seven Gold Medals were awarded for outstanding performance to the toppers of various branches of Engineering/Pharmaceutical Sciences and one Gold Medal for the Best alrounder. Out of 504 graduating students over 300 turned up to receive their degrees at the Convocation - the remaining students were admitted to the respective Degrees in absentia.



## MICROPROCESSOR RESEARCH CENTRE

The Microprocessor Development Centre has expanded its expertise on 16 and 32 bit processors and have established interactive programmes with Telco Computer Centre. Interactive programmes have been initiated with HEC, for work on Numerical Control Machines and development of software, to debug circuit boards.

The Development laboratory is expanding into Artificial Intelligent area, with Hewlett-Packard 9000-350 system, for debugging fast 32 bit processors and to develop expert system software using PROLOG and LISP. A number of robot sensors are built to acquire Tactile Information for object-identification, finger torque displacement and force measurement for direct interface to a computer.

## COMPUTER CENTRE

Computer centre provides the central facility for the students and staff members of this Institute. 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 from time to time not only to meet the ever increasing requirements of the Institute but the training facilities for the outside users. SN-73 which is upward compatible to PDP-11/34 has been installed and large number of BBC Microcomputers, IBM-PC's and a DCM spectrum computer are being used continuously by the users. The software support includes FORTRAN 77, BASIC, COBOL, PASCAL, C, LISP and PROLOG.

With support from the Dept. of Electronics, Government of India a "Resource Centre" for Computer Literacy and Studies in Schools (CLASS) has been established in this Institute in 1984. A series of 3 - weeks duration training programmes are organized for 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 payrolls for the Institute and academic transcripts of all the students.

For Computer Aided Design (CAD) a graphics section has been added with 4115-B Tektronix Interactive Colour Graphics system with plotter. The system can be used in the stand-alone mode or can be networked with a host of computer in this centre.

The Institute has an excellent Microprocessor Laboratory with single user and multiuser software Development stations, Hardware Debugging facility and PCB making facility for fabricating new microprocessor based systems.

## 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 organizations. 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. organizations 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, along with the reputation of the Institute.

The Training & Placement section endeavours to liaise between the organizations 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 organization, 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 organizations all over the the country. During the last 5 years, over 600 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 consequent 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.

During the last academic session, 1987-88, we were visited by 36 premier organizations. By June 1988, 25 of these companies had intimated their final selections, offerings appointments to 110 graduates from different disciplines. The remaining 11 organizations were expected to finalize their selections by July or August, and we confidently expect that the total number of selected candidates would rise to atleast 150, representing approximately 50% 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 organizations who have been contacting us after June. We are also frequently consulted by students requiring advice and guidance in relevant matters.

During the year under report 235 students received vocational training at various factories and establishments during their summer vacations in May and June 1988.

**Note :** The branch-wise number of students who secured employment through campus interview during the year under report (upto June '88) is as follows:

Electronics & Communication Engineering 21,  
Electrical and Electronics Engineering - 15, Computer  
Science - 17, Mechanical Engg. - 35, Production Engg.-  
2, Civil Engg. - 5, MBA - 2, MCA - 14.

BOARD OF GOVERNORS

Chairman	: Shri G. P. Birla
Members :	
Nominee of the Govt. of India, Ministry of Human Resource Development	: Shri I. B. Sangal
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 B. B. Sahay
Commissioner & Secretary, Education, Govt. of Bihar	: Shri R. S. Tiwari
Commissioner, Chotanagpur Division(South),Bihar,Ranchi.	: Shri 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,B.I.T.,Ranchi	: Dr. H. C. Pande
Member of Institute Faculty	: Prof. R. A. Sharma
" "	: Dr. D. Jairath
Member selected by the General Council	: Shri D. N. Patodia
" "	: Shri S. R. Jain
" "	: Shri C. S. Jha
Secraetary :Registrar & OSD	: Shri J. B. Saksena

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	:
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
Professors 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. J. N. Mishra 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 Dr. P. N. Singh 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
Librarian - Ex-officio	: Shri U. N. Singh
Controller of Exams. Ex-Officio	: Prof. S. P. Bhatnagar
Secretary : Registrar & OSD	: Shri J. B. Saksena

## FINANCE COMMITTEE

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

## BUILDING & WORKS COMMITTEE

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



ANNEXURE - II

WORKSHOPS, SEMINARS & CONFERENCES ORGANISED DURING SESSION 1987-88.

<u>Seminar Topic :</u>	<u>Chief Guest</u>	<u>Seminar sponsored &amp; conducted by</u>	<u>Schedule From - To</u>
'Advanced Management Development Programmes for Nigerian Executives'.	Sri S.S.Rangenekar Bombay	Nigerian Engg. Works Ltd. Nigeria.	4. 9. 87 to 5. 10. '87
'Productivity in Public Sector Jointly organised by Bureau Public Enterprises.'	Sri R. N. Sharma Tinplate Company Jamshedpur(Bihar)	Govt. of Bihar & the Dept. of Management, B.I.T. Mesra.	18. 2. 88 -to 20. 2. '88
	Sri A.U.Sharma, 'Chairman', Bureau of Public Enterprise, Patna.		
'Leadership & Managerial Effectiveness'.	Sri S.S.Rangenekar Bombay	Dept. of Management B.I.T.Mesra	27. 7. 87 to 31. 7. '87
	Sri K. Banerjee Indian Aluminium Company, Choti Muri,Ranchi		
'Management Convention & B.M. Birla Memorial Lectures'(6th Management Convention)	Sri G.L.Tandon Coal India Ltd.	Dept.of Management B.I.T., Mesra,Ranchi	2. 4. 88 to 3. 4. '88
	Sri J. Prasad New Delhi.		

RESEARCH PAPERS & BOOKS PUBLISHED

Civil Engineering:

Prof. B. S. Rajeevalochanam, "Trials and Tribulations of Water Supply Schemes in the Tribal Belt of Bihar", International Symposium on Water Resources System at Winnipeg, Montitoba, Canada.

Physics :

Dr. P. K. Barhai, "Some Average Nuclear Properties with an Effective Interaction", CZECH Journal of Physics(Czechoslovakia).

Dr. P. K. Barhai, "Nuclear Properties with a Density Dependant Effective Interaction", Indian Journal of Pure & Applied Physics (India) Aug. 1988.

Production Engineering :

Dr. Surender Kumar, "Cold Forging of Sintered Iron Powder Preforms", Journal of Institution of Engineers(I),MH-2,Vol.68,Mar.88

Dr. Surender Kumar,"Interfacial Friction During Cold Processing of Metal Powder Preforms -", Proc. Int. Tribology Conference, Australia, Dec. 1987.

Space Engineering & Rocketry :

Dr. N. L. Munjal, Mohan Verma And B.L.Gupta, "Ignition of Unsymmetrical Dimethyl Hydrazine-Red Fuming Nitric Acid Gelled Rocket Propellants", 75th Session of the Indian Science Congress, Pune, Jan. 1988.

Dr. B. L. Gupta, Mohan Verma, and N. L. Munjal, "Theoretical Performance of Metallized Unsymmetrical Dimethyl Hydrazine-Red Fuming Nitric Acid Systems", Journal of Propellants Explosive Pyrotechnic, 1988.

Dr. B. L. Gupta, Mohan Verma,"Ignition and Combustion Studies on Metallized UDMH-RFNA Systems", Journal of Propellants Explosives Pyrotechnics, 1988.

Sri R. K. Singh, "Effect of the Magnetic Field on the Rotating Inhomogeneous Anisotropic DISC", 39th International Astronautical Congress of the IAF.

**Computer Science :**

Dr. N. C. Mahanti, "Numerical Solution of Mass Transport Equation - An Application to the Dispersal of Air Pollutants", Seminar-Computational Techniques in Mechanics of Continua, Calcutta-9 - 16 March, 1988.

Dr. P. K. Mahanti, "Modelling and Simulation of Petroleum Reservoir Using Computer Techniques", Proc. Conf. Int. Simulation Modelling, August 1988.

Dr. P. K. Mahanti, "System Simulation Methodology & Modelling, Conference Int. BICSC, China, Oct. 23-29, 1988.

**Information Science :**

Shri U. N. Singh, "Where do Israeli Scientists Publish?", Journal of Information Science(U.K.), Aug. 88, Vol. 14.

Shri U. N. Singh, "Profile of Scientific Output of Developing Countries; A case study of India, ICUS Conference, 1988, New York, USA.

ANNUAL ACCOUNTS

1987 - 88

Chartered Accountants

-L, Gandhi Nagar, Gwalior-474002

Founders: Late Shri B. S. Vidyarthi, F.C.A.

Late Shri K. S. Vidyarthi, M.Com. F.C.A.

Phones : 20870

20056

S. K. Gupta

M. Com, F.C.A.

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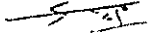
Phone 26311 (Res)

### AUDITORS' REPORT

We have examined the annexed Balance Sheet as at 31st March, 1988 and the Income and Expenditure Account for the year ended on that date of BIRLA INSTITUTE OF TECHNOLOGY MESRA, RANCHI with the books of account maintained by the Institute and produced before us.

We do hereby certify that according to information and explanations given to us the said statements have been correctly drawn up and are in agreement with the books of account of the Institute audited by us.

For Vidyarthi & Sons  
Chartered Accountants,

  
( S.K. Gupta )  
Partner.

Camp - Mesra, Ranchi.

Dated 17th September, 1988.

**VIDYARTHI & SONS**  
**CHARTERED ACCOUNTANTS**  
**G WALLIOR**

BHRA INSTITUTE OF TECHNOLOGY, NESTRA, PANCHI  
BALANCE SHEET AS AT 31ST MARCH, 1938.

	As at 31st March, 1937:		As at 31st March, 1938:
<u>As at 31st March, 1937:</u>		<u>LIABILITIES:</u>	
2,41,51,169.23		Special Fund:	
		As per last Account: 2,53,12,905.70	
		Add: Contribution received during the year: 79,50,000.00	1,20,00,000.00
97,85,000.00		3,27,62,905.70	
3,39,36,169.23		Less: Deficit Transferred from Income & Expenditure Account: 75,10,703.23	2,52,43,202.47
		<u>Loans:</u>	
91,23,263.53		From Government for Hostel Buildings: 23,41,000.00	22,38,092.50
2,53,12,905.70		Less: Repaid: 10,25,01.00	1,27,69,161.51
		13,15,999.00	33,943.29
		<u>Outstanding Liabilities:</u>	
		Sundry Creditors: 1,08,37,270.33	33,325.78
		Accrued Liabilities: 33,325.78	17,68,094.55
1,55,32,290.39			
		<u>ASSETS:</u>	
		Fixed Assets:	
		As per Schedule annexed: 1,22,00,000.00	
		Interests (4,00,000 Units) 51,61,400.00	
		Current Assets, Loans & Advances:	
		(A) Current Assets:	
		Stores & Building: 1,27,153.67	
		Materials: 1,44,93,372.22	
		Sundry Debtors: 1,44,93,372.22	
		Cash & Bank Balances:	
		Bank Balances with Scheduled Banks: 27,66,031.17	
		On Current Accounts: 1,27,69,161.51	
		On Fixed Deposit Accounts: 1,13,99,661.51	
		With Post Office: 42,537.24	
		On Swires Bank Account: 42,537.24	
		Cash in hand: 59,322.94	
		(Including cheques for Rs. 4,79,55.10)	
		1,48,67,602.96	
		2,91,53,123.25	
		(B) Advances & Deposits: 15,46,542.25	
		2,10,34,671.80	
		<u>TOTAL ASSETS:</u>	
		4,33,96,071.80	
		<u>TOTAL EXPENSES:</u>	
		4,33,96,071.80	

As per our separate report attached.

For Vidyarthi & Sons,  
 Chartered Accountants,  
 ( S.K. Gupta )  
 Partner.

Camp : Nestra, Ranchi.  
 Dated : 17th September, 1938.

**VIDYARTHII & SONS**  
CHARTERED ACCOUNTANTS  
G WALIOR

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI**  
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1988.

FIGURES FOR THE PREVIOUS YEAR:		FIGURES FOR THE PREVIOUS YEAR:	
	<b>EXPENDITURE:</b>		<b>INCOME:</b>
	To Salaries, Allowances & Provident Fund Contribution:	By Fees:	
83,63,251.39	Laboratories & Workshops:	Admission:	5,170.00
3,10,597.95	Traveling & Conveyance:	Tuition:	11,64,975.00
4,80,99.92	Stationery & Printing:	Miscellaneous Income:	11,70,145.00
96,307.55	Postage, Telegrams & Telephones	Sale & Registration of Application Forms:	32,76,015.90
1,24,258.23	Students Activities:	Miscellaneous receipts	12,43,735.49
1,02,254.99	Advertisements:	Interest:	9,15,141.51
43,502.00	Maintenance & Repairs:	Rent Realised	51,35,395.00
4,12,705.90	Audit Fee:	Hotel Rent:	2,67,007.10
5,000.00	Electricity & Water Supply:	Other Rent:	1,59,053.49
11,61,123.29	Entrance Test:	Material Testing:	
9,15,534.05	Institute Examination:	Securing Grants from Government:	
2,27,763.64	Bus Expenses:	Central Government (for Post Graduate Courses	19,54,033.83
4,35,126.53	Library Expenses:	Central Govt. Contribution for 3 years Master course in Computer Application:	1,62,823.50
2,73,564.25	General Expenses:	Central Government Contribution for M.B.A. Programme:	3,30,502.30
5,35,021.97	B.I.T. School:	Bihar Govt. Grant for Additonal D.A. at Central Rate:	21,26,572.50
28,112.25	Business Management Courses:	Bihar Government Contribution of UGC/AICTE Pay Scales:	1,59,562.54
5,83,422.42	Space Engg. & Rocketry:	UGC Contribution regarding Institute functioning as an Autonomous College:	-
10,51,730.61	Expenses on P.G. Courses:	Bihar Government Grant for Adhokar Pay Scales/ Interim Relief Deficit:	4,21,130.00
14,55,394.57	Interest	Being excess of expenditure over Income transferred to Balance Sheet:	52,14,390.62
4,788.90	Truck & Tractors:		75,19,703.23
29,955.95	Tanzanian Students:		
66,073.75	Convocation:		
2,16,736.79	3 years Master course in Computer Engg.		
3,14,765.33	Depreciation:		
12,01,735.89			
	<b>TOTAL RUPES:</b>		<b>TOTAL RUPES:</b>
	<u>1,98,47,976.68</u>		<u>1,98,47,976.68</u>

As per our separate report attached.

For Vidyardhi & Sons,  
Chartered Accountants,

( S.K. Gupta )  
Partner.

Camp : Mesra, Ranchi  
Dated : 17th Sept., 1988.

**VIDYARTHJI & SONS**

CHARTERED ACCOUNTANTS

GWALIOR

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI.

SCHEDULE OF FIXED ASSETS ANNEXED TO AND FORMING PART OF THE BALANCE SHEET AS AT 31ST MARCH, 1988.

A.	Particulars:	As on 31st March, 1987:	Additions during the year:	Total:	Deductions during the year:	Net Amount as on 31st March, 1988:
	Instanute's Assets:					
	Land & Buildings:	2,29,47,050.13	11,90,227.76	2,41,37,277.89	-	2,41,37,277.89
	Machinery:	40,57,193.28	9,341.35	41,06,534.63	-	41,06,534.63
	Library Books:	24,10,555.82	76,591.57	24,87,357.39	2,295.94	24,85,061.45
	Furniture & Fixtures:	20,07,393.54	1,32,967.10	21,90,350.64	-	21,90,350.64
	Vehicles:	9,54,529.08	-	9,34,529.08	-	9,34,529.08
	Office Equipments:	2,12,530.61	-	2,12,530.61	-	2,12,530.61
	Total Rupees:	<u>3,26,73,952.46</u>	<u>14,59,227.78</u>	<u>3,41,39,190.24</u>	<u>2,295.94</u>	<u>3,41,36,894.30</u>
B.	Assets under Central Govt. Grant 'CO; Basis					
	Buildings:	11,47,357.10	-	11,47,357.10	-	11,47,357.10
	Equipments:	1,08,53,101.78	25,04,670.05	1,33,62,771.83	-	1,33,62,771.83
	Library Books:	2,95,024.59	-	2,95,024.59	-	2,95,024.59
	Total Rupees:	<u>1,23,00,483.47</u>	<u>25,04,670.05</u>	<u>1,48,05,153.52</u>	-	<u>1,48,05,153.52</u>
C.	Assets under Govt. Grant on 'SO; Basis.					
	Buildings:	5,52,070.00	-	5,52,070.00	-	5,52,070.00
	Equipments:	18,24,693.07	-	18,24,693.07	-	18,24,693.07
	Total Rupees:	<u>23,75,763.07</u>	-	<u>23,75,763.07</u>	-	<u>23,75,763.07</u>
D.	Assets under Bihar Govt. Grant:					
	Equipments:	9,63,155.18	-	9,63,155.18	-	9,63,155.18
	Library:	-	20,347.52	20,347.52	-	20,347.52
	Total Rupees:	<u>9,63,155.18</u>	<u>20,347.52</u>	<u>9,84,002.70</u>	-	<u>9,84,002.70</u>
	Grand Total Rupees:	<u>4,83,41,211.70</u>	<u>39,53,397.83</u>	<u>5,23,05,109.53</u>	<u>2,295.94</u>	<u>5,23,02,813.59</u>
	Less: BLOCK UNDER GOVT. GRANT:					
	As per total 'B' above:			1,48,05,153.52		
	Less: Unrealised Debt Balance of Govt. adjusted:			1,32,739.01		
	SO of total 'D' is 23,76,763.07					
	Bihar Govt. Grant:			1,46,22,364.51		
	Building for M. Pharma from Central Govt.			11,88,391.54		
	Depreciation withn Ofg			13,45,345.43		
	From the year 1960-61 to 1986-87:			2,00,000.00		
	during the year 1987-88:			24,89,790.27		
				12,56,931.84		
				<u>2,27,46,722.11</u>		
				<u>TOTAL RUPREES:</u>		<u>4,01,02,813.59</u>
						<u>1,22,00,000.00</u>

Camp : Mesra, Ranchi.  
Dated : 17th September, 1988.

For Vidyarthji & Sons,  
Chartered Accountants,

( S.K. Gupta )  
Partner.



