

ANNUAL REPORT

2004-2005

Foundation For Innovation and Technology Transfer

Indian Institute of Technology, Delhi
Hauz Khas, New Delhi - 110016

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INTRODUCTION

The year 2005 marks 13 years since the Foundation for Innovation and Technology Transfer (FITT) was registered as a Society by the Indian Institute of Technology, Delhi (IITD). The mission of FITT is "to be an effective interface with the industry to foster, promote and sustain Commercialization of Science and Technology in the Institute for mutual benefits".

The first and foremost principal objective of FITT is promoting interaction between the Academia and Industry in a proactive manner to create greater measure of trust and collaborative work, which benefits both. Right from its inception, FITT has been directing its efforts as an effective interface between Academia and Industry by marketing the "intellectual ware" of IITD to industry on competitive terms and injecting industrial relevance to IITD's teaching and research activities.

FITT offers a number of flexible modes and mechanisms in IITD for enhancing interaction with Industry-leading to Technology Transfer. These includes faculty visits to industry, visits from industry to IITD, participation in industry exhibitions and presentations to industry/industry associations, special and customized continuing education programs and technology development/R&D oriented consultancy projects. The website of FITT has been designed so as to disseminate the strength of IIT Delhi expertise, technologies and infrastructure as well as the opportunities that exist and can be innovatively organized for the external world, especially the industry, towards fulfilling the mission of the Foundation.

In the past twelve years, the world has seen many changes, India has graduated from a closed "Licensed Raj" environment to a liberalized economy. Revolutionary progress in the Information Technology and Telecommunications has changed the way industry, academia and government functions. FITT has been in the forefront of facilitating the change process in IITD by giving boost to some of its programs and starting some new initiatives. FITT has enhanced efforts towards safeguarding Intellectual Property Rights(IPR) of faculty and researchers of the Institute, through measures like Seminars/clinics to increase the awareness among the faculty and researchers, and streamlining the processing of IPR applications. To encourage entrepreneurship based on technological innovation, a partnership mechanism is evolving at the Institute in the form of Technology Business Incubation Unit (TBIU) programme in the IIT Campus with FITT acting as its administrator. IIT Delhi was the first of the premier academic institutions in this country to have launched the TBI program in the year 2000. It is a matter of pride for FITT to have successfully promoted the concept, especially among the students, alumni community, scientists and faculty members, and as on March 2005 there are 6 resident technology start-up companies promoted for (graduate students and / or faculty members) incubating in the Institute, and a number of applications are in hand waiting for approval.

FITT utilizes all the resources and infrastructure of IIT Delhi without duplicating it. More than 440 faculty scientist and researchers are the potential contributors to R&D and technology development efforts leading to technology transfer from FITT. However, teaching and research supervision being their primary activity, in any given year typically 15 to 20% of the faculty is involved in work with Industry. FITT can avail the additional services from both public and private institutes outside IITD to complement those available from IITD.

Over the last few years, FITT has contributed significantly towards developing laboratories in IIT Delhi in cutting edge technology areas, out of surplus generated by the Foundation. Two awards have been instituted for best industry projects, for students completing Doctoral and Master's program every year.

The activity profile of FITT and charts indicative of FITT's progress over the last year are given in the following chapters of this Report, Annexure and Appendices.



FITT ACTIVITIES

A. DISSEMINATION OF IITD/ FITT MISSION AND PROGRAMMES

The primary activity of FITT is to reach out to the Industry/ Industry Associations on one side and to the IIT Delhi faculty and researchers on the other. This was pursued vigorously during this year. The objective was to bring industry and academic community a step closer. Following activities were carried out towards that end.

1. FITT Forum, the newsletter brought out by FITT periodically publishes all the important activities and events held in IIT Delhi and FITT. The newsletter reaches 3000 industries, R&D organizations, Government Departments and academic institutions and is sent free of cost.
2. Visits of faculty members of IITD to industries are arranged periodically. Industry representatives are invited to make a presentation to a group of faculty from IIT Delhi highlighting their priority R&D areas and opportunities for collaborative work with IIT Delhi. Several meetings were organized by FITT for visiting delegation from various countries and industries as outlined below:
 - A delegation from CII visited FITT office on April 13, 2004,
 - A business delegation from U.K. visited FITT office on October 5, 2004.
 - Visit of ESSEX University team., led by Prof. Jay Mitra, of the Department of Business Entrepreneurship. On March 01, 2005.
3. MD attended, as a member, the meeting of the Programme Planning Advisory Group on Information Technology of Indian International Centre, New Delhi on 10th May, 2004.
4. Dr. A.K. Sengupta, the then MD, FITT, presented a paper titled " Technology Transfer Mechanism through Academia-Industry Linkages IIT Delhi Experience "on 7th October 2004, at Bengal Engineering College, Kolkata.
5. Mr. Mohit Mahajan Executive Consultant (IPR and Technology Transfer) delivered an expert lecture on 'Creativity in Business Enterprise' at TBIU Complex on 15th October, 2004 along with a visit as an Expert Guide for the audience SVC Industries, Faridabad. The event was organized by 'World Association for Small and Medium Enterprises and International for SME's between 12-16 October 2004.
6. Mr. Partha Bhattacharya, Executive Consultant (I& D) presented a paper Titled 'IPR Issues in Digital Environment: An Overview' during the ICIM (International Conference on Information Management) during February 21-25, 2005 at Mumbai.
Mr. Partha Bhattacharya visited U.K. as a delegate under " Inward Mission Project " of British Council from June 11 to June 20, 2004.
7. FITT has re-organized its web-site on the net (<http://www.fitt-iitd.org>). The web site provides information on important current activities of the Foundation. The newsletter FITT Forum is posted on the website. The Annual Report of FITT is also put on the webpage of FITT. The FITT webpage also provides link to the IITD Alumni Association; the database on expertise of the faculty members, scientists, departments and centers of the Institute. Linkages is also enabled to web pages of other IITs at

Kharagpur, Kanpur, Mumbai, Chennai, Guwahati & Roorkee, IISc (Bangalore), JNU and a large number of technology organizations in the Govt. and private sector.

8. The Compendium of IIT Delhi Technologies has been revised and posted in the FITT and IIT Delhi website.

9. A new service called Bulletin Board Service has been incorporated in FITT web site, to solicit technical problems being encountered by Indian industries

B. INTELLECTUAL PROPERTY RIGHTS (IPR) ACTIVITIES

Scientific and technological advancement is an important catalytic factor in industrial development and in turn, nation's prosperity. The people behind such technological advances are the inventors and researchers who create Intellectual Property, which needs to be protected.

FITT has been taking proactive steps in protecting IPR for technologies developed by IITD faculty and students and processed and filed 108 IPR applications between 1998 and 2000 which include Patent, Design and Copyright applications. In 2000-01, 12 IPR applications were filed. During the year 2001-02 14 IPR applications were examined by the IPR Standing Committee of which 12 were approved, 9 applications were filed. During the year 2002-03 21 IPR applications were filed. During the year 2003-04, 20 IPR applications were filed. During the year 2004-05, 22 applications were filed.

The list of IPR applications filed during 2004-05 is given in *Appendix I*

Comprehensive Patent Search at different Patent Office sites and subject organizations sites is carried out in FITT for the technologies at IITD.

Qualified Attorneys specializing in the subject area of invention are invited as expert to the IPR Standing Committee's meetings to obtain independent professional opinion on the patentability of the inventions.

C. TECHNOLOGY TRANSFER

One of FITT's main activities is transfer of technologies developed at IITD for commercialization. Since April 2004, FITT has licensed 3 technologies to industry clients for fees of Rs.11.00 Lakhs plus periodic royalty payments.. A list of technology transfers contracted during 2004-2005 through FITT is given in *Appendix II*.

D. TECHNOLOGY DEVELOPMENT AND INDUSTRIAL PROJECTS

It is a recognized fact that technology development and its subsequent transfer to industry from an academic institute are often best accomplished through pursuance of short to medium term problem solving industrial projects. Such projects help the faculty to appreciate industry requirements at ground level and establishes rapport with industries.

A lot of thrust has been put on such projects by IITD faculty and FITT has facilitated in executing them effectively. This activity has been growing over the years.

During the year 2004-05, 27 projects were contracted at a value of Rs.183.04 Lakhs. A sample list of important Projects contracted during the year 2004-05 is given in *Appendix III*.

E. HRD ACTIVITIES



Continuing Education for industry has been a sustained activity as an important focus area of FITT and a means to initiate projects on Technology Development and Transfer. During 2004-05, the number of HRD programs held with participation from industry were 22 at the gross value of Rs.95.20 Lakhs. *Appendix IV* lists the HRD activities undertaken by FITT during the year 2004-2005.

F. CORPORATE MEMBERSHIP OF FITT

A major objective of FITT is to have a formal and effective relationship between the industry and the Institute on a mutually supportive basis. One mechanism for formalizing this relationship is to offer corporate membership to industry, Industry Associations and user-service organizations on payment of nominal fees. At present, there are about 85 corporate members of FITT. They are on the mailing list of FITT for all the programmes conducted at the Institute.

Besides getting a 10% concession in the participation fee in HRD programmes organized under the aegis of FITT, the following support services are offered to the Corporate Members of FITT:

- Newspaper Clipping Services, Magazine, Article services
- Content page services from Journals of IIT Delhi Central Library
- Library consultation cards, full length Article from Journals and Patent Information search are given on request
- Information about Seminars, Conferences, Workshops etc being held at IIT Delhi or elsewhere
- CD-ROM search services from Central Library, IIT Delhi and from FITT Information Centre

1 FITT-FORUM Newsletter

A list of Corporate Members of FITT as on 31st March 2005 is given in *Appendix V*

G. MARKETING OF EDUCATIONAL VIDEO PROGRAMMES

The Educational Technology Services Centre of IIT Delhi develops single concept and full course video programmes. These video products are marketed by FITT. The gross value of the video products sold by FITT from 1993 till 2005 has touched a figure of around Rs.162.15 Lakhs.

H. INFORMATION SUPPORT SERVICES

FITT provides periodic service to its corporate members in the form of new items clippings, technical bulletins on their areas of interest and making available copies of literature/documents requisitioned by them. FITT has augmented further its information service capabilities. FITT is now in a position to help in patent search and facilitate procurement of specific documents from India and abroad for the faculty of IIT Delhi.

I. NATIONAL TECHNOLOGY DAY CELEBRATION

The National Technology Day was celebrated at IIT Delhi on Tuesday, the 11th May 2005 with a well attended seminar meeting in the Senate Room of the Institute. The function was organized under the aegis of FITT. Prof D.P.Kothari, Director-incharge, IIT Delhi presided over the function.



Four distinguished speakers amongst IIT Delhi faculty members made presentations in the areas of Developments in Vibrations and Noise Engineering, Accessing Legacy Documents on the Web, Geo-Technical Earthquake Engineering, From Kinetics to Molecular Machines: Unraveling Biological Membrane Fusion. IIT Delhi faculty members who made the presentations were Prof B.C.Nakra. of the Mechanical Engineering Department; Prof. Santanu Chaudhury of the Electrical Engineering Department, Dr. G.V. Ramana of the Civil Engineering Department and Dr. Aditya Mittal of the Department of Biochemical Engineering and Biotechnology.

ORGANISATION

ORGANISATION STRUCTURE

The Management of FITT is vested with a full-time Managing Director. The policy guidelines for operations are provided and overall control is exercised by the FITT Governing Council. The broad organization structure is given in the organizational chart in this section.

GOVERNING COUNCIL

The Governing Council of FITT comprises representatives from Industry Associations/Industries, nominees of IIT Delhi Senate and Board of Governors. In addition, there is one nominee of the Ministry of Human Resources Development. The Corporate Members of FITT elect one member each from three Categories, large, medium and small sector industries (Category A, B and C) respectively. The Director of IIT Delhi is the *ex-officio* Chairman of the FITT Governing Council, and the Dean, IRD, IIT Delhi is an *ex-officio* member. The Managing Director is the *ex-officio* Member-Secretary.

CONSULTATIVE COMMITTEE

A Consultative Committee consisting of members drawn from industry and faculty has been constituted to aid and advise the Managing Director in implementing the activities of FITT. The Committee also functions as Research Advisory Council of FITT.

STANDING COMMITTEE

Chairman, Governing Council constituted the following Standing Committee of FITT with a view to evolving relationship between IRD, IIT Delhi and FITT, and also to consider and review projects involving IIT Delhi faculty and facilities:

Deputy Director (Faculty)	Chairman
Dean, IRD, IIT Delhi	Member
Managing Director, FITT	Member
Executive Consultant (Tech/Admn.)	Member Secretary

The Standing Committee considers all proposals for major projects involving IIT Delhi faculty and facilities. The Committee also monitors the progress of the projects in hand in which the concerned Project-incharge and Heads of Departments are also invited. The role of the Committee has been very helpful in working out FITT/IRD relationship on all the projects handled by FITT.

The structure of Governing Council, Consultative Committee and Standing Committee is given at the end of this section.

DSIR RECOGNITION OF FITT AS SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION (SIRO)

The Department of Scientific and Industrial Research (DSIR) of the Ministry of Science and Technology conferred recognition to FITT as a Scientific and Industrial Research Organisation (SIRO). As a SIRO, FITT is eligible for full customs duty exemption for import of capital goods, raw materials and technology know-how that are required for execution of R & D programmes sponsored by industry.



GOVERNING COUNCIL

(As Reconstituted and Announced at the 10th Annual General Meeting held on the 1st October 2004)

CHAIRMAN

Prof. R.S. Sirohi
Director, IIT Delhi
(*Ex-officio*)

MEMBERS

Prof. V. K. Srivastava
Dean (IRD), IIT Delhi
(*Ex-officio*)

Mr. Sunil Jain,
MD, JLJ Financial &
Management Consultants
Faridabad

Mr. P.K. Jain
Managing Director
M/s. Malt Company India Ltd
Gurgaon

Prof. M. Balakrishnan
CSE, IIT Delhi

Prof. S.K. Koul
Head, CARE
IIT Delhi

Prof. M.Gopal
Head, Elect.Engg,IIT D

Mr. Anand T.Kusre,
GM (Govt.Banking)
ICICI Bank Ltd

Prof. H.M. Chawla
Head, Chemistry Deptt., IITD

Mr. Rakesh Baweja
AGM (Safety & Environment)
M/s Hero Honda Motors Ltd
Dharuhera,
Haryana

Mr. M.S. Sachdev,
Managing Director
M/s. Mbit Computraining Pvt. Ltd.

Mr. Anjan Das
Director, CII
Gurgaon

Mr. Rakesh Rewari
CGM,
SIDBI, New Delhi

Managing Director, FITT (ex-officio)
Member-Secretary



CONSULTATIVE COMMITTEE AND RESEARCH ADVISORY

CHAIRMAN

Managing Director, FITT (*ex-officio*)

MEMBERS

Dean (IRD), IIT Delhi (*ex-officio*)

Prof. Manoj Datta

Dean (AA & IP), IITD (*ex-officio*)

Prof. S.K. Koul

Head, CARE

Prof. H.M. Chawla

Head, Chemistry Deptt
IIT Delhi

Prof. R.Sagar

Mech. Engg. Deptt
IIT Delhi

Prof. G.P. Agarwal

DBEB, IIT Delhi

Mr. Sushil K. Jain

President, IITDAA &
Proprietor
M/s. Scheel International
F-289, Pandav Nagar,
Mayur Vihar Phase-I
New Delhi-110 091

Mr. Ramji Rai

Director (Engg., R&D)
Bharat Heavy Electricals Ltd.,
BHEL House,
Siri Fort,
New Delhi-110 049

Mr. Jasmohan Singh

Managing Director
M/s. Frick India Ltd.,
21.5 KM Main Mathura Road
Faridabad 121 003

Mr. Surya Kant

Vice President,
Tata Consultancy Services,
PTI Building
4 Parliament Street
New Delhi-110 001

Dr. Ponai S. Gopalakrishnan

Director
IBM India Research Centre
Block-1, IIT Delhi Campus
Hauz Khas
New Delhi-110 016

Dr. G. Abdul Khaliq,

Secretary, IITAA &
New Delhi-110 025

MEMBER-SECRETARY

Mr. K.K. Roy,

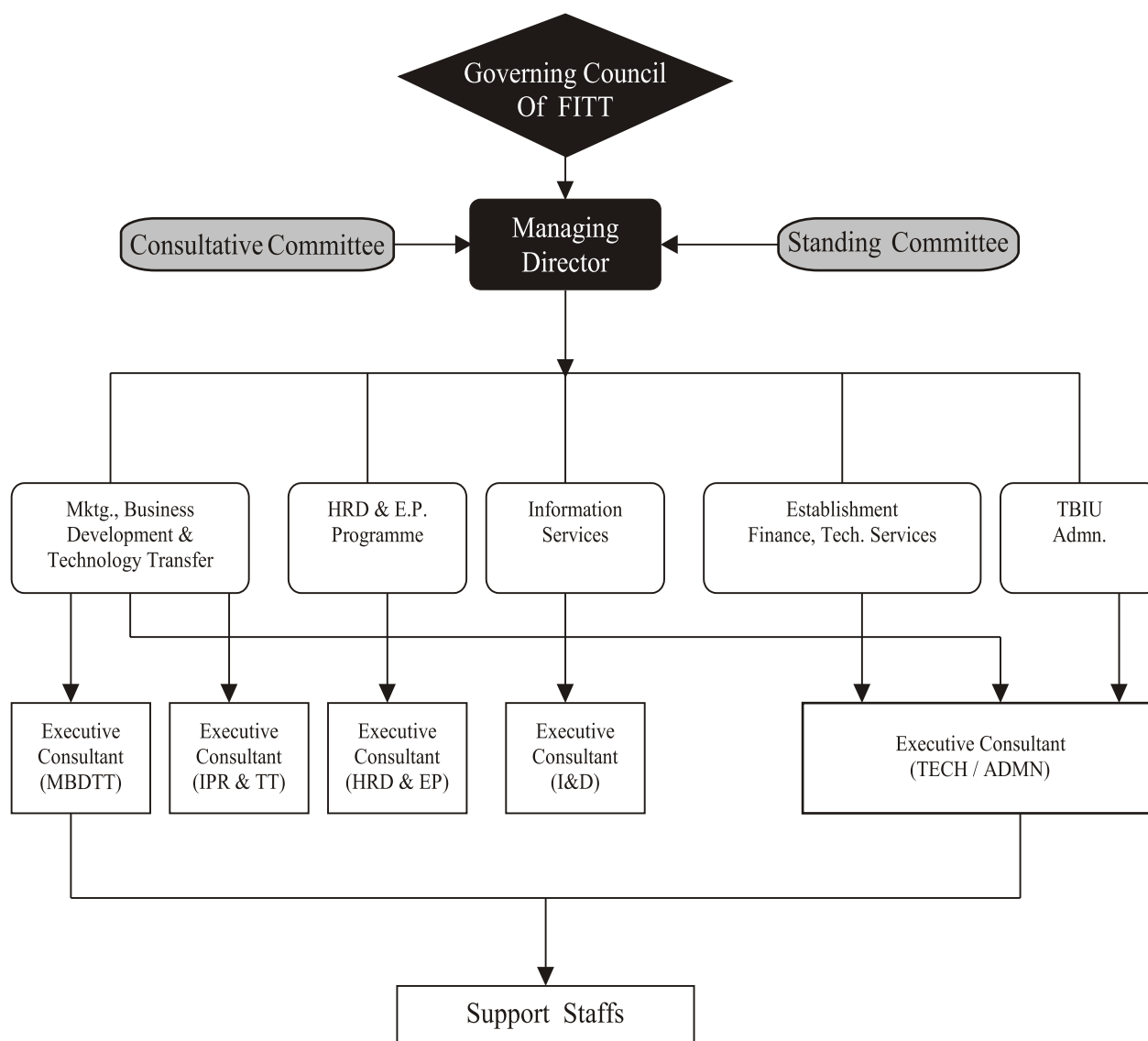
Exec. Consultant (Tech./Admn.), FITT
(*ex-officio*)

INVITEES

Part- time consultants & Core staff of FITT



ORGANISATIONAL CHART



KEY PROJECTS AND INITIATIVES

I. INNOVATIONS

Technology Business Incubation Unit at IIT Delhi

FITT had assisted in formulating and establishing the scheme of Technology Business Incubation Unit (TBIU) in the Institute campus near its departments, centers, laboratories and workshops. The objective of the TBIU is primarily to promote partnership with new technology entrepreneurs and start-up companies. As part of the TBIU scheme, limited modular space is provided to new entrepreneurs, first generation start-up companies or technology based organizations for setting up an office or workstation or a prototype laboratory within the Campus, with the intention of

- i) promoting interaction with, and technology/ expertise resourcing from, the members of academic staff and research scholars of the Departments and Centres of the Institute, and
- ii) incubating novel technology and business ideas into viable commercial products or services.

The modular space, developed with appropriate infrastructures like electricity and power lines, telephone and networking arrangements without any other furniture as such, are made available to critically screened entrepreneurs, start-up companies at concessional charges. Permitted activities in the TBIU include product development, product innovations, software testing, simulation and prototyping, pilot experimentation, training and similar other technology related work, in which there exist homology with the Institute.

The Board of Governors (BoG) of IIT Delhi approved the setting up of the TBIU in IIT Delhi in its meeting in April, 1999. The responsibility of administration and day-to-day management of TBIU is vested in FITT. An Institute level empowered committee (known as TBIU Board) was formed to oversee the overall functioning of the scheme. The TBIU Board includes the Director, IIT Delhi as Chairman (*Ex-officio*), besides Deputy Director (Faculty), Deputy Director (Admn), Dean (IRD), and Chairman (Estate Committee) of IIT Delhi as *Ex-officio* members. Other members includes representatives from industry and financial institutions. MD, FITT is the Member-Secretary (*Ex-officio*). The members of TBIU Board as on 30.6.2004 is given below:

1. Prof. R.S. Sirohi, Director, IITD	Chairman
2. Prof. Surendra Prasad, DD (F)	Member
3. Prof. D.P. Kothari, DD(A)	Member
4. Prof. V.K. Srivastava, Dean (IRD)	Member
5. Prof. A.K. Jain, Chairman (Estate & Works)	Member
6. Mr. Saurabh Srivastava, Director M/s Infinity Technology Investment Pvt Ltd	Industry Representative
7. Mr. Inderdeep Singh, MD & COO M/s. Continental Devices India Ltd	Industry Representative
8. Mr. S.K. Bijlani, President Magnus Industries	Industry Representative
9. MD, FITT	Member- Secretary

Another high level committee (known as Standing Screening Committee) has also been set-up for screening of applications for membership of TBIU. The Standing Screening Committee has the following representation:

1. DD (F), IIT Delhi	Chairman(Ex-officio)
2. Dean (IRD), IIT Delhi	Member (Ex-officio)
3. Prof. K.L. Chopra, IIT Delhi	Member
4. Prof. R.K. Arora, IIT Delhi	Member
5. MD, FITT	Convenor
6. Industry Experts	Invites



An approximate area of 3500 sq.ft. in Block-I extension has been developed for the modular office spaces, with 30 seating Conference Room, Meeting Room and a separate Reception and Business Centre with common facilities appropriately equipped. The TBIU is planned for extension with new modules coming up in the roof top of Synergy Building.

Several initiatives has been taken by FITT to promote and publicise the TBIU at IIT Delhi. These include articles and features in newspapers and trade magazines like Intelligent Investors. FITT had interacted with a number of VC funds/ angel investors in an effort to build-up a network to facilitate incubates in successful setting up of commercial ventures.

Incubation proposals initiated by one or more members of faculty/student are considered the most preferred category for incubation residency. As a further measure to encourage the faculty participating in Technology Business Incubation as promoter/owner of the start-up company, the Institute has established appropriate policy guidelines. Towards commercialization of technologies developed through academic pursuits at UG/PG levels, the Institute has approved the FITT originated proposal "**An incubation programme for students/ faculty led technology start-up**". This is a proposal for initiating an incubation programme under which technology development is undertaken by students over a period of 1 to 2 years after they graduate. The development takes place at IIT Delhi under the guidance of their project supervisors and builds upon the research they carry out during their final year project, using existing departments/lab resources but with financial support from IITD/IRD/FITT, particularly in the form of student support and equipment.

On 31 March, 2005 there were six incubatee projects / companies residing in TBIU with one of the IITD faculty as a mentor / promoter. A brief status of each is given herein:

1. Elfsys Embedded Solutions Pvt Ltd

(Faculty Promoter/Director: Prof. Santanu Chaudhury & Prof. Subrat Kar, Electrical Engg., IIT Delhi)

Elfsys Embedded Solutions is an innovation driven company with the main thrust in the area of security solutions. It was founded in Summer-2004, by alumni and professors of the Dept. of Electrical Engg IIT Delhi.

The main thrust area of Elfsys is on using Wireless Sensor Network technology for solving a variety of real life problems.

2. Kritikal Solutions Pvt. Ltd

(Faculty Promoter/Director:: Prof. B.N.Jain & four other faculty members of Dept. of Computer Science & Engineering)

KritiKal Solutions, the first faculty student led start up in IIT Delhi, is on the verge of completion in incubation. The start-up company is in the process of moving out of the institute for full-scale commercial venture

The business model that the firm is following is IP licensing, wherein technologies developed in the Embedded Systems and Computer Imaging domains as part of paid projects can be translated into separate commercial ventures or products.

3. VirtualWire Technologies

(Faculty Promoter/Director:: Prof. S.Prasad and Dr. Ranjan Bose of Dept. of Electrical Engineering)

Virtual Wire has completed several projects and technology development in the wireless and



communications domain. These technologies cover design of algorithms, implementation in FPGA, DSP, embedded systems.

Virtual Wire has been working in ZigBee. It is building a SoC which will target the wireless sensor network market. The SoC design will be licensed to wireless chipset manufacturers for production. VirtualWire is also soon going to launch its first product, a VOIP phone.

4. Sanmotech

(Faculty Promoter/Director: Prof H.M. Chawla, Deptt of Chemistry , IITD)

SANMOTECH stands for Synthetic and Natural Molecular Technologies which signifies the start of innovative technology development initiative in niche chemical areas. Sanmotech laboratories are engaged in the development of new generation of multi-tasking sunscreen activities for protection from ultra-violet radiation and prevention of photoageing and sunburns.

5. Genie Network Systems Pvt Ltd

(Faculty Promoter/Director: Prof. B.N.Jain, Dept. of Computer Science & Engineering)

The company named Genie Networks has been co-promoted by two faculty members and four graduating students of the Department of Computer Science and Engineering, IIT Delhi. The main objective of the company is for embarking on incubation exercise in the area of WiFi, WiMax, Wireless Mesh Networks and 3G Systems.

6. GridSolv

(Faculty Promoter/Director: Dr. Dhiraj Bhardwaj, Dept of Computer Science & Engineering)

GridSolv has been admitted as startup company into the Technology Business Incubator Unit (TBIU) at IIT Delhi. The company's vision is to develop advance software solutions that leverage Web/Grid Computing Technologies and Open-Source Software. It focuses on building reference architectures, frameworks and reusable compute and data services with an emphasis on delivering the end product through composition and refinement. It results in lower cost, higher quality and lower delivery times. The services offered are Product Life Cycle Collaboration and Enterprise Solutions.

II. RESEARCH/TECHNOLOGY DEVELOPMENT PROJECTS:

1. Investigation and Development of a sensor actuator based smart yoke for RPS performance

(PI: Dr I.N.Kar, Deptt of Elect. Engg)

In this project, the focus is on the uses of mechatronics concepts towards the improvement of the Rack and Pinion Steering Assembly (RPS) assembly.

2. Technology Development of Asynchronous Speech Scrambler

(PI: Prof. Surendra Prasad, Deptt of Elect. Engg)

The project targets the development of a device which enables asynchronous scrambling of analog signals, and can therefore support secure and real-time voice communication over an HF channel.

3. Standardization and Technology Development for processing of polyester chips and films

(PI: Prof. A.K. Ghosh, Centre for Polymer Science & Enggg)

The project intends to correlate materials property and process parameters for standardizing and bench marking of polyester films.



4. Development of eco-friendly and value added jute based materials

(PI: Prof. P.K. Banerjee, Deptt. Of Textile Technology)

The scope of the work comprises sample development & optimization of formulation.

5. Development of a model for a folding container

(PI: Dr. Anoop Chawla, Deptt of Mech. Engg)

The project aims to develop the design of a model box with the objective that the box should fold. The size of the box to be proportional to that of a container. Once folded or collapsed, the size should preferably be one fifth, if not less, of the original size. The model should have a rigid structure which will allow it to be stacked on top of each other either vertically or horizontally.

III. TECHNOLOGY TRANSFERS: *ILLUSTRATIVE PROFILES*

1) Transfer of Technology for Trichoderma

(*Principal Inventor: Dr. Vikram Sahai, Deptt. Of Biochemical Engineering & Biotechnology*)

The transfer and commercialization is based on the know how for the manufacture of "Spores of Trichoderma viride in submerged culture fermentation and and its formulation to be used as a Bio-pesticide" which has been developed in the deptt of biochemical engineering & biotechnology of IITD.

2) Drape Meter Based on Digital Image Processing

(*Principal Inventor: Dr. B.K.Behera, Deptt. Of Textile Technology*)

This technology licensed to M/s. Innovative Engitech (P) Ltd., pertains to development of an objective evaluation system of piling, using image processing techniques. A continuous scene of piled fabric sample is converted to Digital Image and stored in a memory by the image acquisition element. The gray image is converted to frequency spectrum by a transformation technique. The filtered transformed spectrum is then reconstructed and converted to binary by thresholding and thus pills are separated from the original image and used for estimation of a detailed geometrical analysis. Based on results obtained from image processing a suitable grade is formulated to compare with the images taken from standard charts in the similar manner.

IV. HRD Programs:

Certificate Course on Embedded Systems and Applications

The Third and Fourth batch of Certificate Course was organized during Aug 18, 2004-Nov 15, 2004 and Feb 09, 2005- May 15, 2005 respectively. There were 50 participants in each batch. In all, the course had 10 modules.

Certificate Course in BioInformatics & Computational Biology

The Supercomputing facility for Bioinformatics & Computational Biology, IIT Delhi in association with NIIT Limited had conducted a 6 months Certificate Programme in Bioinformatics & Computational Biology from June 07, 2004 to Dec 10, 2004. The programme addressed requirements in both IT and Bioinformatics training. 10 modules each in Information Technology & Bioinformatics were offered during the course.

V. FITT AWARDS FOR BEST INDUSTRY RELEVANT PH.D. AND M.TECH./ M.S. (R) PROJECTS

With effect from the academic session of 2002-03, Foundation for Innovation and Technology Transfer (FITT) has instituted two awards, one each for Ph.D. and M.Tech./M.S. (R) projects adjudged as the best Industry Relevant Projects. The award carries an amount of Rs. 60,000/- for Ph.D. & Rs. 40,000/- for



M.Tech/M.S. (R) Projects. The award money are shared 50:50 between the concerned faculty supervisor (s) and student (s) for both Ph.D. and M.Tech./ M.S. (Research) work. The under mentioned students were selected for the 2004-05 FITT Awards:

Mr. Mr. Prem Pal Ph.D. Research Scholar in the Centre for Applied Research in Electronics. Project Titled, "Some Novel Processes and Techniques for MEMS Design, Fabrication and Characterization". The Award amount is Rs. 15,000/-

Mr. Inderdeep Singh Ph.D. Research Scholar in the Department of Mechanical Engineering. Project Titled, "Studies on Drilling of Fibre Reinforced Composites ". The Award amount is Rs. 15000/-

Mr. Shankar Sehgal, Student of M.Tech Programme in the Mechanical Engineering Department . Project titled: "Modelling and Control of MR Fluid Based System". The Award amount is Rs. 20,000/-

Further, proportionate share of award money payable to the Faculty Supervisor (s) are indicated against their names:

1. Dr. Sudhir Chandra, Centre for Applied Research in Electronics, IIT Delhi. The Award amount is Rs. 7,500/-

Dr. Suneet Tuli, Centre for Applied Research in Electronics. IIT Delhi The Award amount is Rs. 7,500/-

Dr. Naresh Bhatnagar, Department of Mechanical Engineering. IIT Delhi The Award amount is Rs. 15,000/-

2. Dr. S.K.Saha, Department of Mechanical Engineering of IIT Delhi. The Award amount is Rs. 10,000/-

Dr. I.N.Kar, Department of Electrical Engineering of IIT Delhi. The Award amount is Rs. 10,000/-

The above awards were conferred on the students concerned at the IIT Delhi Convocation held on August 13, 2005.

VII. CORPORATE MEMBERSHIP SCHEME OF FITT

An information support service unit had been set up in FITT since its inception in 1992 in order to keep abreast the industry with the technological developments, research activities and faculty and expertise of IIT Delhi and also to help IITD faculty to access details on industries as well as technology development information worldwide. In this endeavour a project has been developed at FITT known as Corporate Membership Scheme of FITT. The membership of the scheme is open to industry, industry associations, R&D organizations and financial institutions that would like to support the concept of Institute-Industry interaction. The project has valued clients like Reliance, National Thermal Power Corporation, Bharat Heavy Electricals Ltd, and Munjal Showa Ltd.

The Corporate Members have access to all the International CD-ROMs and 700 on-line electronic journals subscribed by IITD Central Library as well as CD-ROMs available at FITT. They can borrow Library books as per the rules of the Central Library. All these services can be availed over phone/fax or e-mail. There is also facility of linking the Corporate Members' homepage to FITT website.

Other services provided to the Corporate Members include providing training programmes that can be arranged according to the specific needs of the Corporate client.



FINANCIAL HIGHLIGHTS

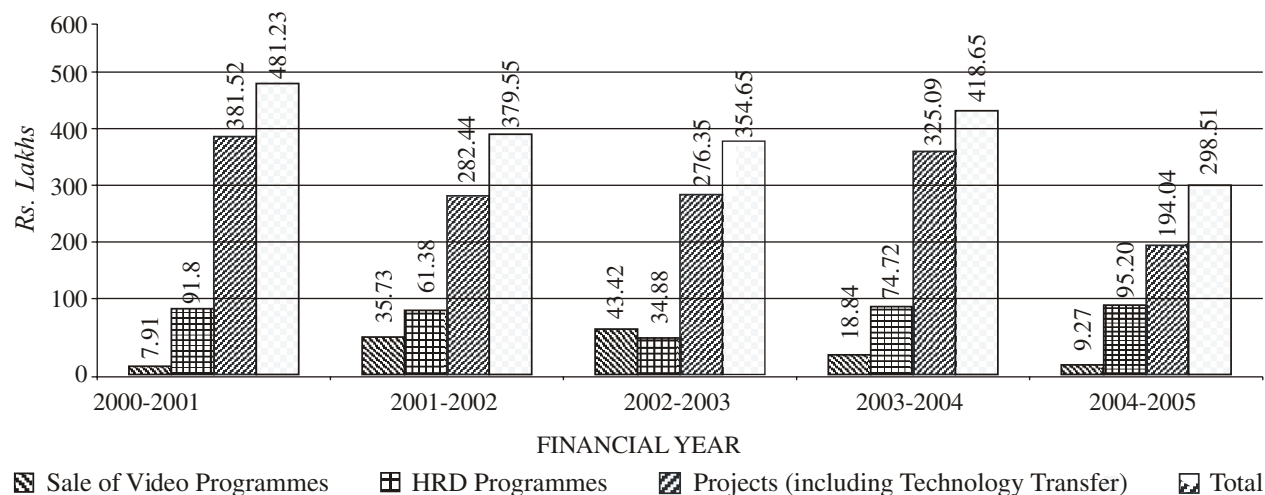
(Figures in Lakhs of Rupees)

	<i>1998-99</i>	<i>1999-2000</i>	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-03</i>	<i>2003-04</i>	<i>2004-05</i>
Investments							
Company deposits and Bank deposits	510.00	640.14	778.59	905.00	775.00	558.50	883.50
Earnings							
(i) Interest	49.79	62.38	70.97	82.70	69.70	98.77	55.34
(ii) Projects/Other Activities	23.55	26.09	28.82	32.43	26.98	28.69	24.3
(iii) Corporate Membership Fees	1.65	2.87	*	*	2.59	2.65	2.28
Expenditures							
(i) Capital	9.22	1.63	17.76	1.39	2.15	0.76	0.77
(ii) Operational/ Promotional/ Administrative	48.64	46.60	45.29	50.95	65.73	72.66	61.16
(iii) Rent for Office Premises (Payable to IIT Delhi)	7.96	9.00	8.92	9.28	8.09	8.09	8.09
Fund for Transfer to IIT Delhi (Project Activities)	20.66	22.68	25.08	29.91	26.48	30.12	27.34
Assets Generated for IIT Delhi out of project activities administered by FITT	28.59	29.08	21.29	24.06	93.70	69.64	38.61
Value of Projects Contracted/Other Activities at FITT	285.17	386.22	481.23	379.55	354.65	418.65	298.51

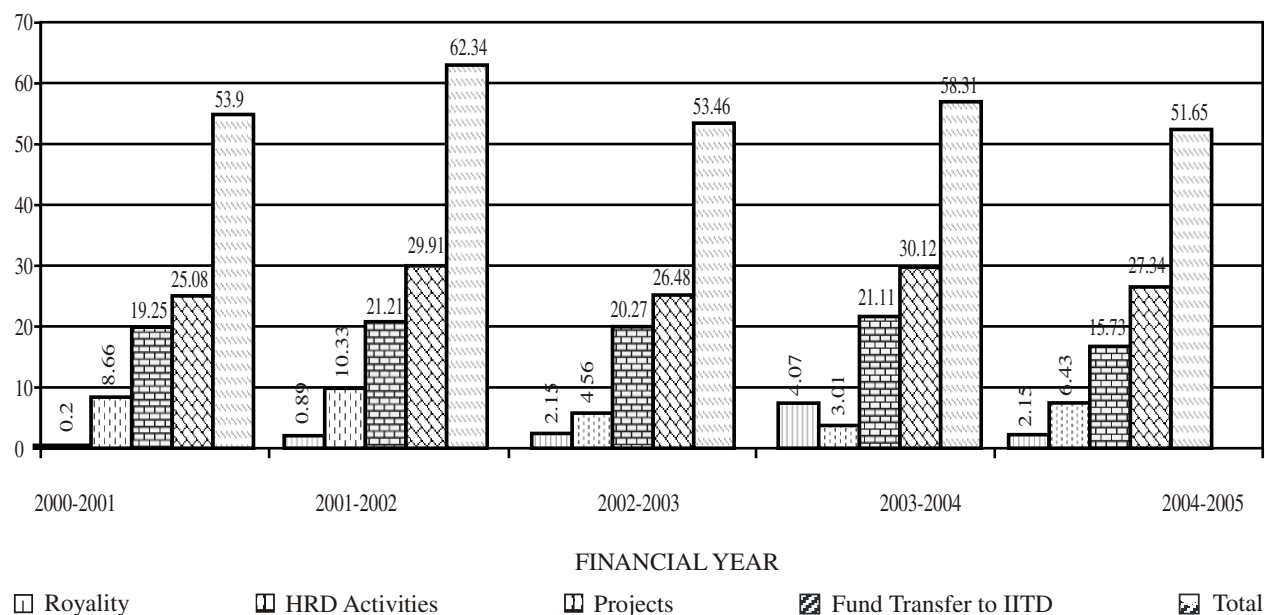
* Corporate Membership fees were accounted for under N-WISE project
In 2000-2001 the total fees received were Rs.2.46 lakhs and in 2001-2002 Rs.3.10 lakhs.

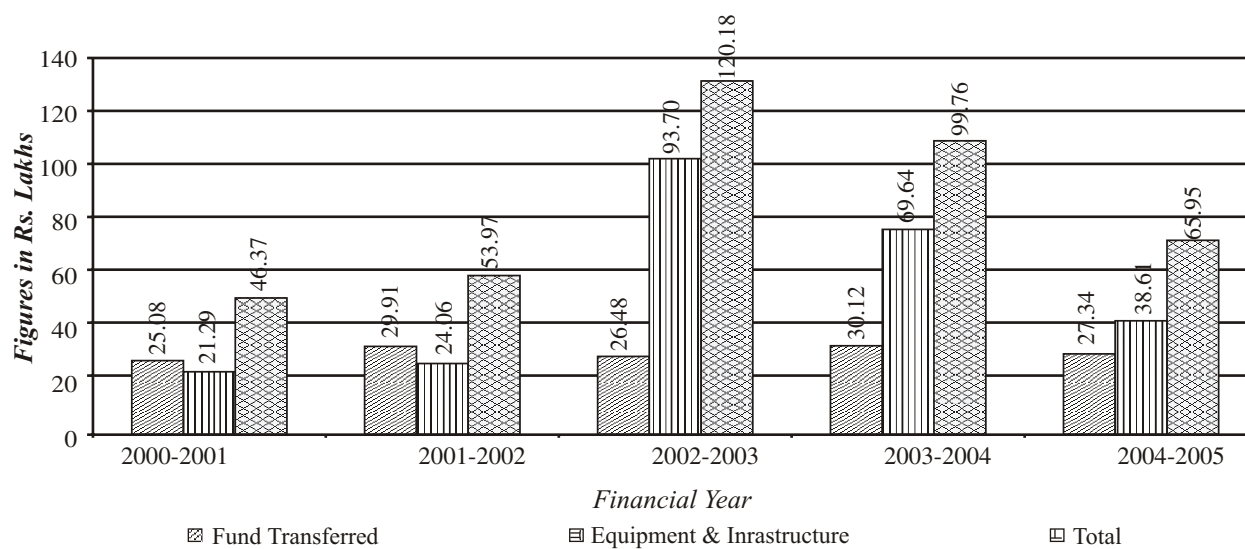
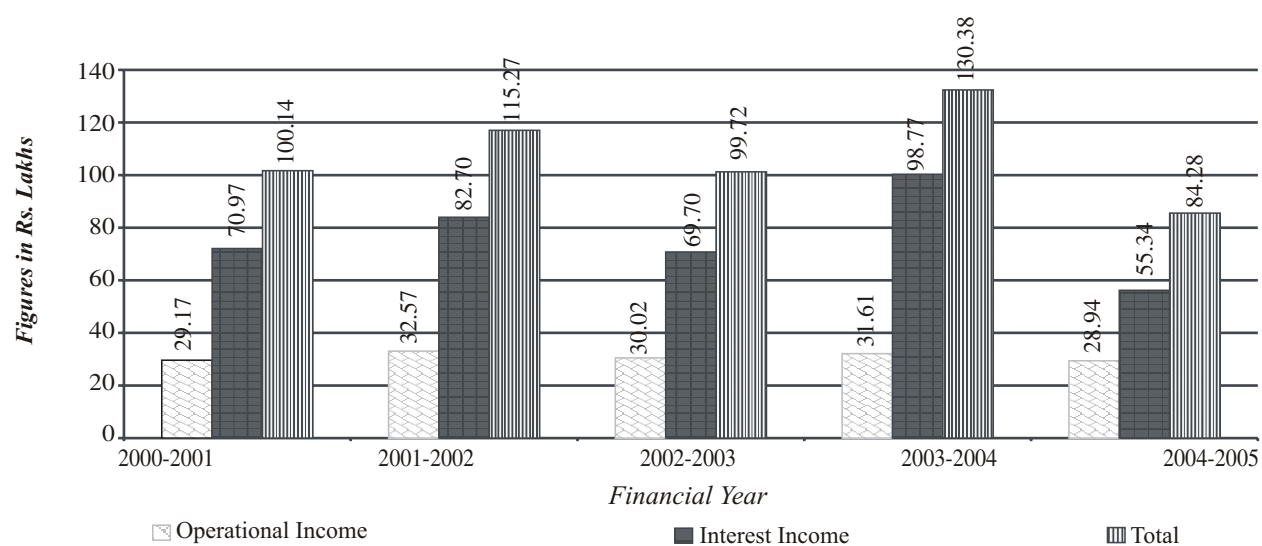


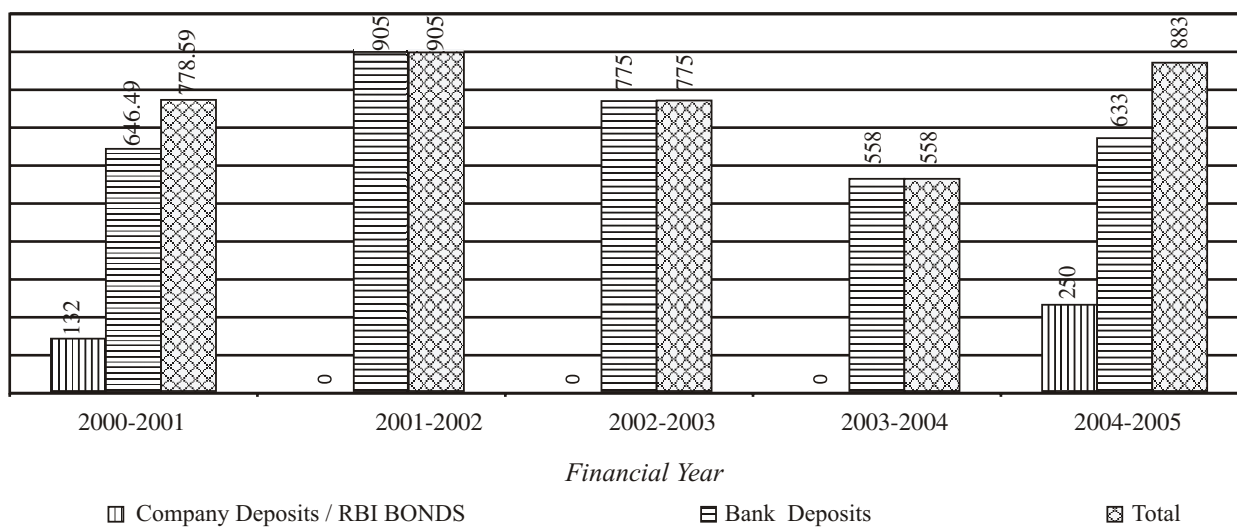
VALUE OF MAJOR ACTIVITIES UNDERTAKEN BY FITT



RESOURCE GENERATION FOR FITT & IIT



ASSETS GENERATED FOR IIT DELHI**INCOME PROFILE OF FITT**

FUND INVESTMENT PROFILE

APPENDIX-I

**LIST OF IPR APPLICATIONS APPROVED/FILED/PROCESSED BY IITD-IPR-SC
DURING THE YEAR 2004-2005**

<i>S.No.</i>	<i>Title of the Invention</i>	<i>P.Inventor/ Deptt./Centre</i>
1.	A system for achieving Broadband, lossless flat-gain Raman amplification by using an asymmetrical twin-core fiber'	Dr. K. Thyagranjan Physics
2.	An analog-to-digital converter with low hardware complexity and faculty for programmable code	Dr. Jayadeva DEE
3.	Phase transfer catalysis in polyaphrons for soap manufacture	Dr. A.N. Bhaskarwar Chemical
4.	Bioactive ABO blood grouping card	Prof. Harpal Singh CBME
5.	'COIRSORB The Superabsorbent Coir'	Prof. P.K. Banerjee, DTT
6.	A Thermography based method for detecting defects in materials	Dr. Suneet Tuli CARE
7.	Use of alkaline extract of lingocellulosics as an inducer for xylanase enzyme production	Dr. Vikram Sahai DBEB
8.	Petrol-Alcohol-Water based microemulsion fuel	Dr. A.N. Bhaskarwar D.Ch.E
9.	Innovative Heat Exchanger	Prof. K.D.P. Nigam, D.Ch.E
10.	Design Registration for a coil for a heat transfer apparatus	Prof. K.D.P. Nigam, D.Ch.E
11.	Development of a Lactic Acid Bacterial Strain for exclusively L (+) Lactic Acid Production in Anaerobic Fermentation Process	Dr. A. Srivastava DBEB
12.	Method for obtaining highly pure L (+) Lactic Acid using a mutant	Dr. A. Srivastava DBEB
13.	Segmented-Clad Fiber Design with Tunable Leakage Loss	Prof. K. Thyagarajan, Physics
14.	Compact Electron Cyclotron Resonance Plasma Source	Prof. Ashish Ganguli, CES
15.	A Chaos based system for public key encryption	Dr. Ranjan Bose DEE
16.	A New Asymmetrical Double-Gate Poly Si TFT with Modified Channel Conduction Mechanism for Highly Reduced Off-state Leakage Current	Dr. M. Jagadesh Kumar, DEE
17.	Synthesis of Mercury Cadmium Telluride Nanoparticles by Solvothermal Technique	Prof. Viresh Dutta CES
18.	High Breakdown Voltage Lateral Schottky Collector Bipolar Transistor	Prof. Jagadesh Kumar DEE
19.	Development of Contact Microbial Killer Quaternary Amine Acrylate Based Hydrogels for Water Disinfection	Prof. Harpal Singh CBME

US Patent Applications*Appendix-I(cont....)*

S.No.	Title of the Invention	P.Inventor/ Deptt./Centre
1.	A US application for Heat Transfer Apparatus	Prof. K.D.P. Nigam, D.Ch.E
2.	T7 RNA polymerase integrated corynebacterial system and method for making the same.	Dr. J.K. Deb DBEB
3.	'A system and method for blind multi-user (MU) Detection of BPSK-DS CDMA signals'	Prof. Surendra Prasad, DEE

APPENDIX- II**TECHNOLOGIES LICENSED DURING 2004-05**

S.No	Title	PI	Deptt	Client
1	Local FE Stress Analysis and Know-How Transfer of ASME Div-2 Reactors for Panipat Refinery Expansion	Dr. Santosh Kapuria	Ap.Mech	Indian sugar & General Engineering Corp. Noida
2	Transfer of Technology for Trichoderma	Dr. Vikram Sahai	DBEB	M/s. Biotech Intl Ltd, New Delhi
3	Drape meter based on Digital Image Processing	Dr. B.K. Behera	Text.Tech	M/s. Innovative Engitech.(P) Ltd

DEVELOPMENT OF PROJECTS DURING THE FINANCIAL YEAR 2004-2005

S.No	Title	PI	Deptt	Client
A. PROJECTS Involving Foreign Contribution				
1	Development of airbag models	Dr. Anoop Chawla	TRIPP	Japan Automobile Research Institute, Japan
2	Tech Devt for collecting bone & tissue properties & Devt of human body FE Model	Dr. Anoop Chawla	Mech.Engg	JARI, Japan
B. ONGOING PROJECTS CONTRACTED EARLIER WITH PROGRESS IN PHASES				
1	Preparation of code of practices of coir-geotextiles (ph-1)	Dr. G.V. Rao	Civil Engg	Coir Board
2	Implementation of GIS activities for fostering adaptation of RCTs	Prof. A.K. Gosain	Civil Engg	Rice-Wheat Consortium for the Indo-Gangetic Plains
3	Maintenance Engineering I	Prof. R. Sagar	Mech Engg	Applied Research Int'l Pvt Ltd, New Delhi
4.	Comparative Study Report on HDPE Resin Specifications for telecom Duct	Prof. A.K. Ghosh	CPSE	M/s Dura-Line India Pvt Ltd
C. New Projects, Generally Addressing Technology Devt/Tech Transfer				
1	Heat Transfer Analysis and Design of Cooling System for the Combustion System	Dr. M. R. Ravi	Mech Engg	Laser Science and Technology Centre (LASTEC), New Delhi
2	Analysis & Design of Rack & Pinion Gears for Improved Steering Performance	Dr. S.K. Saha	Mech Engg	Sono Koyo Steering Systems Ltd., Gurgaon
3	Investigation and Development of a Sensor actuator based smart yoke for RPS performance	Dr. I.N. Kar	Elect. Engg	Sono Koyo Steering Systems Ltd., Gurgaon
4	Design & Devt of Friction Buffer Stops for Indian Railways/Meto Railways	Dr. K. Gupta	Mech. Engg	M/s J Sons Co.Ltd
5	Airport Traffic Circulation Improvement in Northern Region	Dr. Geetam Tiwari	TRIPP	Airport Authority of India, IGIA, New Delhi
6	Technology Development of a Note Counting Machine	Dr. Anoop Chawla	Mech Engg	Mindmill Software Ltd
7	Technology Development of Asynchronous Speech Scrambler	Prof. Surendra Prasad	Elect Engg	CRL of Bharat Electronics., B'lore
8	Standardization and Technology Development for processing of polyester chips and films	Dr. A.K. Ghosh	CPSE	Polyplex Corporation Ltd
9	Media and Process Optimization for fermentation of Pseudomonas Fluorescence	Dr. Vikram sahai	DBEB	M/s. Biotech Internaional Ltd New Delhi
10	Devt of Ice Pelletizer/Extruder	Dr. Naresh Bhatnagar	Mech. Engg	M/s S.S.Foundry Chemical Industries Ltd

Appendix-III (Cont..)

11	Active Constrained Layer Damping (ACLD) treatment on beams and plates	Dr. S.P. Singh	Mech. Engg	NSTL, Visakhapatnam
12	Suitability of Portable Water Mist Technology based Fire Fighting Equipments for "C" Class Fire	Prof. Rajat K. Baisya	DMS	M/s. Advanced Fire fighting Technologies Pvt Ltd., Bangalore
13	Technology Development Project "Study of RF MEMS Phase Shifter and Switch Using GaAs	Prof. S.K.Koul	CARE	RCL, DRDO, Hyderabad
14	Technology Development Project "Non Linear Modelling of PHEMT and Design of Active Mixer at K-Band "	Prof. S.K. Koul	CARE	Solid State Physics Laboratory, New Delhi
15	Development of eco-friendly and value added jute based materials	Prof. P.K. Banerjee	Text.Tech	National Centre for Jute Diversification
16	Structural & Thermal Analysis of Large Apert. Silicon Mirror upon high power laser radiation	Dr. Sudipto Mukherjee	Mech.Engg	LASTEC

APPENDIX-IV**HRD ACTIVITIES UNDERTAKEN DURING 2004-2005**

S.No	Title	PI/Deptt	Client
1	Short Term Course on Emerging Wireless Technologies	Dr. Ranjan Bose, EE	Participation based
2	Certificate Course in Bioinformatics & Computational Biology	Prof. B. Jayaram, Chemistry	Participation based
3	Electro Technical Officers of Berry Inter oceanic training and advise program	Prof. R. Sagar, Central Workshop	ARI, New Dehi
4	Landfills-Design, Construction & Operation	Prof. Manoj Dutta, Civil	Mumbai Waste Management Ltd., Maharashtra
5	Advise & Training on Algorithms & Data	Dr. Naveen Garg, CSE	Cadence Design Systems (I) Ltd., Noida
6	Advise & Training on Digital Logic Design	Prof. M. Balakrishnan, CSE	Cadence Design Systems (I) Ltd., Noida
7	Certificate Course on Embedded Systems & Applications	Prof. S. Chaudhury, EE Dr. Subrat Kar, EE	Participation based
8	National Workshop on GPS and RWC-PRISM sponsor from Rice-Wheat Consortium for the Indo-Gangetic Plains, New Delhi	Prof. A. K. Gosain, Civil	CIMMYT
9	Coal Ash Transportation at Thermal Power Stations	Dr. S. N. Singh, AM Dr. V. K. Agarwal, ITMMEC	Participation based
10	RAM Engineering for Western Central Railway, Jabalpur	Dr. G. S. Yadav, ITMMEC Dr. O. P. Gandhi, ITMMEC	Western Central Railway, Jabalpur
11	Advise & Training on "CMOS Image Sensors for Digital Camera"	Prof. G. S. Visweswaran, EE	ST Microelectronics Pvt. Ltd., Noida
12	Maintenance Engineering-II Training Program Electrical Engineering Graduates	Prof. R. Sagar, ME	ARI, New Delhi
13	Value Addition Training at IIT Dehi for TME's	Dr. Sunil Pandey, CW	ARI, New Delhi
14	Training Course on Safety Biomechanics and Crashworthiness Module-II of "International course on Transportation Planning and safety"	Prof. Dinesh Mohan, TRIPP Dr. Geetam Tiwari, TRIPP	WHO, SEARO, Fort Motor Co., Min. of Transport & Highways
15	Certificate Course on Embedded Systems and Applications	Dr. I. N. Kar, EED Dr. Lipika Dey, Maths	Participation based
16	One Day Workshop on Recent Trends in Vacuum Systems Design and Applications	Prof. V. D. Vankar, Physics	M/s Leybold Vacuum, Thane (W), Maharashtra

Appendix-IV (Cont...)

17	Workshop on Global Land Cover Network	Prof. A. K. Gosain, Civil	Food and Agriculture Organisation (FAO), UN/ICAR, New Delhi
18	Workshop on Issues in Low Power VLSI Design: Digital Circuits and Memory	Prof. Jayadeva, EED Dr. R. Potluri, EED	Participation based
19	Short Course on Cryptography: Public Key Encryption	Dr. Ranjan Bose, EED	SateNet Infotech Pvt. Ltd., New Delhi
20	Training Programme on Fibre Optic Communication and Networking	Prof. B. P. Pal, Physics Prof. A. K. Ghatak, Physics	ONGC Academy, Dehradun
21	Basics of Radio Frequency and Microwave Circuits	Prof. S. K. Koul, CARE	Tata InfoTech Limited, Goa
22	Progress and Prospects in Weather & Climate Studies	Prof. S. K. Dash, CAS	The British Council, New Delhi

APPENDIX-V

LIST OF CORPORATE MEMBERS OF FITT

S.N.	ORGANISATIONNAME	AREAS OF INTEREST
CATEGORY - A		
1	Reliance Industries Ltd. Reliance Centre 19, Walchand Hirachand Marg, Mumbai	Petrochemicals (polymers fibres, chemicals)
2	BHEL Corporate Research & Development Division Vikasnagar, Hyderabad 500 093	Electric Power and Generation, Transmission and Distribution, Equipment
3	Pidilite Industries Limited Ramkrishna Mandir Road Off M. VasANJI Road, Andheri East Post Box No.- 17411, Mumbai-400 059	Synthetic Resins & Adhesives, Art Material, Surfactants, Pigments Dyestuff and Speciality, Chemicals
4	Jubilant Organosys Ltd., Plot No. 1A, Sector 16A, Institutional Area, Noida Distt. Gautam Budh Nagar, U.P. 201301	Vamicol, Wood paints, adhesives
5	National Hydroelectric Power Corporation Ltd. (NHPC) NHPC Office Complex Sector-33, Faridabad, Haryana-121003	Hydroelectric development, power generation
6	FIBCOM India Ltd. 77 A, IFFCO Road Sector-18, Gurgaon-122015	Electronics/Electrical/ Computer Science Mechanical/Chemical
7	Nestle India Ltd. Cereals Nestle House, Jacaranda Marg Products DLF City Phase II, Gurgaon 122002	Infant Formulae, Weaning Milk Powders, Culinary Health Beverages, Water instant Coffees/Tea
8	National Thermal Power Corporation Ltd. (NTPC) (Environment Engineering Deptt.) 2nd Floor, EOC, A-8A, Sector-24 NOIDA-201301	Energy & Environment Waste management Non-conventional energy

9	TVS MOTOR Company Ltd. Knowledge Centre Post Box No. 4, Harita, Hosur, Tamil Nadu-635109	Two Wheeler Manufacturing IC Engines Design, Combustion Technology, Emission Control,
10	RICO Auto Industries Ltd. 38 K.M. Stone, Delhi-Jaipur Highway Gurgaon-122001, Haryana	Auto Components for 2 & 4 Wheelers
11	Subros Ltd. C-51, Phase-II NOIDA	Manufacturing of Automotive air-conditioning & heating system
12	Moser Baer India Ltd. 66, Udyog Vihar, Greater NOIDA-201306	Manufacturing of Optical Storage Media (CDs & DVDs)
13	Garware-Wall Ropes Ltd. Plot No. 11, Block D-1 MIDC, Chinchwad, Pune-411019	Polymer Processing Technology, Textiles: Geotextiles & Nettings Geosynthetics Products
14	Hero Honda Motors Ltd. 69th KM Stone, Delhi-Jaipur Highway Dharuhera, Distt.-Rewari, Haryana-122100	Manufacturing Processes HR/Safety/Environment Material Management, etc.
15	SAMTEL COLOR LTD. Village- Chhapraula, Bulandshahar Road Ghaziabad-201009, U.P.	Color picture tubes/electronics

CATEGORY - B

1	Victor Forgings A-4, Focal Point, Bye Pass G.T.Road, Jalandhar-144 004	Hand tools manufacturerers and exporters
2	Rieter India Pvt. Ltd. 1005-1008, Hemkunt Tower 98, Nehru place, New Delhi - 110 019	Sale and Service of Textile spinning machinery
3	Munjal Showa Ltd. 9-10, Maruti Industrial Area Gurgaon - 122 015	Automotive components such as shock absorbers and front forks for two wheelers and windows balancers
4	Frick India Ltd 21.5 KM Mathura Road, Faridabad- 121003	Industrial refrigeration and research in refrigeration
5	MINDARIKA Pvt. Ltd. 36-A, Rajasthan Udyog Nagar, Delhi-110033 Manufacturing & Heat Treatment; Quality Systems;KAN-BAN,TPS	Design Software & hardware; Moulding; Tool Designing,
6	Gallium Industries Limited Plot No. 117, Sector-59 HSIDC Industrial Estate, Faridabad 121 004	Manufacturers of steeltube and equipment

7	Wonder Polymers (P) Ltd. 201, Nikita Tower-II Azadpur Commercial Complex Delhi-110033	Manufacturing and marketing of a wide range of Self Adhesive Tapes
8	Escorts Ltd. (Railway Equipment Division) 115, Sector-24 Faridabad-121005 absorber	Composition Brake Block Air Brake, Coupler, Rail Fastening Systems, Shock
9	M.Bit Computraining Pvt. Ltd., 307, Ashirwad Complex, D-1, Green Park, New Delhi 110 016	computer training, consultancy
10	JASCH Industries Ltd. JASCH House (Behind Khalsa College) 51051/1, Dev Nagar Karol Bagh, New Delhi-110005	Manufacturer of coated fabrics, Non-wovens and Nucleonic measurement Gauges
11	GM- Finance & Commercial DATT MEDIPRODUCTS LTD. 56, Community Centre East of Kailash, New Delhi-110065	Bio-Medical Technology
12	Bihani Manufacturing Co. Pvt. Ltd. B-184, Okhla Industrial Area Phase-I, New Delhi-110020	Polymers, Biotechnology Chemical Engineering

CATEGORY - C

1	New Life Pharmaceuticals A-246, Okhla Industrial Area, Phase-I, New Delhi-110 020	Pharmaceuticals formulations
2	Allied Alloy Products E-51, Indl. Area Yamuna Nagar - 135 001, Haryana	Heat recovery, systems, boilers, pressure vessels and components thereof
3	Trak Services (P) Ltd., B-19, Defence Colony, New Delhi 110 024	Management consultancy, technology development, software development,
4	National Research Development Corporation 20, Zamroodpur Community Centre, Kailash Colony Extension New Delhi-110048	Transfer of technology
5	Institute De Informatica No.155, I Floor C Block Plot 32 to 57 Community Centre Janakpuri, New Delhi - 58	Training, Consultancy and Software development
6	NetEdge Computing Solutions Pvt. Ltd. A-14, Sector-7, NOIDA, UP-201301	Consultancy, software, chemicals, training, networking



7	Adcon Instruments Pvt. Ltd. #44 Udyog Vihar, Phase-I Gurgaon - 122 016	Process control, instruments, manufacturing and servicing
8	Micromation (P) Ltd. E-38 Phase - VIII Industrial Area, Mohali, Chandigarh Punjab-160059	Manufacturing, Electronic cash register, computer telephone callloggers and callindicators
9	Applied Research International B-1, Hauz Khas, New Delhi-110 016	Marine education and training, HRD, R&D in marine simulation media
10	Transwitch India Pvt. Ltd A-2/9, Safdarjung Enclave, New Delhi-110 029	Design for microelectronic chips fortelecom systems
11	Allied Industries Ltd A 2/3, Mayapuri Indl Area, Phase I, New Delhi	Manufacturers of PVC shoe and cable, grademaster batches and compounds and synthetic ironoxide
12	Communication Media Products B-7,Raj Towers, G-1, Alaknanda Shopping Complex Alaknanda, New Delhi 110 019	Office automation, telecommunications, visual system
13	Malik Enterprises SP-2, Maurya Enclave Pitampura, Delhi-110034	Manufacturing building hardware
14	Quasar Systems Pvt. Ltd D-10/2, Okhla Industrial Area, Phase II, New Delhi -110020	On-line UPS power electronics, solar photovoltaic energy
15	S.S Construction & Engineers 38, Ring Road, Lajpat Nagar-III New Delhi-110024	Effluent treatment plants
16	Mr. Harish Chandra Manager Marketing Resistoflex Pvt. Ltd. B-103, Sector-5 Noida-201 301 e-mail : resistoflex@vsnl. Com	Vibration shock, noiseisolation systems design and production of specificisolation systems for railways, defence industries TQM
17	Ambala Cements Limited c/o Chanderpur Works Jorian, Radaur Road, Haryana	Cement manufacturing
18	JLJ Financial & Management Consultants (P) Ltd. 6-B, Central Green, NH-5, N.I.T. , Faridabad	Consultancy, software Development and computer education



19	BONANZA Consultants B-2/70 (Back Side), Safdarjung Enclave New Delhi-110029	Embedded Technologies, Wireless Technologies, Digital Signal Processing, Artificial Intelligence, Software Development
20	Global Environmental Geotechnologies Pvt. Ltd 820 8th Floor & 1401-1410 14th Floor DLF Galleria, DLF City Phase-IV Gurgaon-122002, Haryana	Consulting geotechnical & civil engineering
21	CMDC Design Pvt. Ltd. A-58, Ground Floor, Gulmohar Park, New Delhi 110 016	Consulting engineering services
22	Core Engineering Group D-2 Dhawan Deep, 6, Jantar Mantar Road New Delhi-110001	Consulting
23	Diamond Auto Industries C-35, Meerut Road Industrial Area (Near to M/s Unichem Laboratories) Ghaziabad-201001 (U.P.)	manufacturers of all kinds of pistons
24	Sriram Chempro Pvt. Ltd., W-54/H Sector 11 Noida, U.P. 201301	Job work process Polymers and Additives
25	Geoscope Information Systems (I) Ltd., B-226, Greater Kailash I New Delhi - 110048	Software Product development
26	Beni Softwares Pvt. Ltd., 2nd Floor, Bank of India Building Avtar Nagar Road Jalandhar - 144003, Punjab	ERP Development Application Software
27	ARAG Biotech Pvt. Ltd. Plot 220, Reshimbag Nagpur-440009, Maharashtra	vermiculture, bioagents mushrooms
28	SPAN INTERNATIONAL Chanderlok Building, 36, Janpath, New Delhi-110001	IT Enabled Services
29	SIFTER INTERNATIONAL 83, Sector-6, Industrial Area Faridabad-121006, Haryana	Agro based food processing technology
30	Global Business Solutions #4, Fourth Floor, Crown Court 128, Cathedral Road, Chennai-600086	Intellectual property consultancy



31	S.S.Foundry Chemical Industries Pvt. Ltd. A-6/3, Jhilmil Industrial Area G.T. Road, New Dehi-110095	Carbon dioxide gas plants, Anaesthetic gas plants, hydrogen gas plants, storage tanks & transportation tankers, Chemical plants
32	Pluss Polymers Pvt. Ltd. F-213/B, 1st Floor Lado Sarai, MB Road New Delhi-110030	Plastics Technology Polymers, Chemistry
33	OM MID WEST INDUSTRIES CP-166, Pitampura New Delhi-110088	Adhesives
34	USHA Consultancy Services 523/6 Sainik Farms New Delhi-110062	Consultancy
35	AVAANA 208 Pragati House, 47-48, Nehru Place New Delhi-110019	RFID
36	Sanarti International S-46, Okhla Phase II New Delhi-110020	Digital & Analog Electronics
37	RAMA WOODCRAFT Near I.T.I., P.O.- Birla Vikas Satna-485005 (M.P.)	Plywood, M.S. Steel, Furniture and Allied Products
38	AG HOMSAFE Ltd. Goyal House Roshan Road Hoshiarpur-146001, Punjab	Home security systems

CATEGORY - D

1	R & D Centre for Iron & Steel Steel Authority of India Ltd. (SAIL) Doranda, Ranchi - 834002, Jharkhand	Research and Development of Iron and Steel
2	Central Research Laboratory Bharat Electronics Ltd. Ministry of Defence P.O. Bharat Nagar - 201 010 Ghaziabad (U.P.)	R & D
3	Society for Computer Technology and Research Survey No. 27 Pune - Satara Road Dhankavdi; Pune 411 043	Computer Education and Telecommunication
4	Intercontinental Consultants and Technocrats Pvt. Ltd. A-8, Green Park, New Delhi-110016	Consulting, Project supervision R&D in New technology, material and software



5	NEDO(New Energy & Industrial Technology Development Organisation) A 258, Defence Colony SB House, 2nd Floor, New Delhi 110 024	Energy Conservation Energy Efficiency
6	Regional Research Laboratory (CSIR) Hoshangabad Road, Near Habibganj Naka Bhopal-462026 (M.P.)	Research & Development
7	Centre for Development of Advanced Computing (C-DAC) Anusandhan Bhawan C-56/1, Institutional Area Sector-62, NOIDA-201307	IT related services and consultancy, Human resource development in Hi-Tech areas
8	Dabur Research Foundation 22, Site IV, Sahibabad Ghaziabad-201010 (U.P.)	R&D (Pharmaceuticals)
9	Development Alternatives B-32, Tara Crescent Qutab Institutional Area New Delhi-110016	Technology Development
10	Frigoglass India Pvt. Ltd. Plot No. 26A, Sector-3 IMT-Manesar, Gurgaon-122050	Commercial Refrigerators
11	Senergy Global Pvt. Ltd. D-33, Defence Colony New Delhi-110024	Carbon Trading/Regulatory Practice

FINANCIAL STATEMENT WITH AUDITOR'S REPORT

SANDEEP RAMESH GUPTA & Co.
CHARTERED ACCOUNTANTS

90/31B, Malviya Nagar
New Delhi-110 017
Ph: 55648424 Fax 51003436
E-mail: Sandygupta@vsnl.com

To
The Trustees
Foundation for Innovation and
Technology Transfer
New Delhi-110 016

AUDITOR'S REPORT

We have examined the annexed Balance Sheet of M/s Foundation For Innovation and Technology Transfer as at March 31, 2005 and the Income and Expenditure Account for the year ending on that date which is in agreement with books of account maintained by the said institution.

We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purposes of audit. In our opinion, books of accounts have been kept by the head office and branches of the above named institutions visited by us so far as appear from our examinations of the books and proper returns adequate for the purposes of our audit have been received from branches not visited by us.

In our opinion and to the best of our information and according to the explanations given to us the said accounts give a true and fair view:

1. In the case of the balance sheet of the state of affair of the above named institution as at March 31, 2005.
2. In the case of the income and expenditure account, of the income over expenditure for the year ending on that date.

The prescribed particulars are annexed hereto

For Sandeep Ramesh Gupta & Co.
Chartered Accountants

Sd/-
Sandeep Gupta
(Partner)

Place: New Delhi
Date: August 18, 2005



FOUNDATION FOR INNOVATION AND TECHNOLOGY TRANSFER
BALANCE SHEET AS AT 31st MARCH, 1998

	SCHEDULE		31.3.98		31.3.97
	No.	Rs	Rs	Rs	Rs
<u>SOURCES OF FUNDS</u>					
1 CORPUS FUNDS					
SEED MONEY			16,200,000		16,200,000
2 RESERVES AND SURPLUS	1		10,690,573		7,180,913
3 RESEARCH AND DEVT. FUND	2		3,085,331		973,807
			<u>29,975,905</u>		<u>24,354,720</u>
<u>APPLICATION OF FUNDS</u>					
1 FIXED ASSETS	3				
(A) GROSS BLOCK		2,131,012		1,791,730	
(B) LESS: DEPRECIATION		<u>1,108,053</u>		<u>884,237</u>	
(C) NET BLOCK			1,022,959		907,493
2 INVESTMENTS	4		42,443,813		37,443,813
3 CURRENT ASSETS LOANS & ADVANCES	5				
		2,816,657		1,790,578	
LESS : CURRENT LIABILITIES	6	<u>16,307,525</u>		<u>15,787,164</u>	
NET CURRENT ASSETS			(13,490,867)		(13,996,586)
			<u>29,975,905</u>		<u>24,354,720</u>
NOTES ON ACCOUNTS	10				
THE SCHEDULE REFERRED TO ABOVE FORM AN INTEGRAL PART OF THE ACCOUNTS					

As per our attached Report of even date

for SANDEEP RAMESH GUPTA & CO
Chartered Accountants

Sd/-
SANDEEP GUPTA
(PARTNER)

NEW DELHI
DATE: 04.06.97

Sd/-
K K ROY
(MANAGER ADMINISTRATION)

Sd/-
DR. A K SENGUPTA
(MANAGING DIRECTOR)



FOUNDATION FOR INNOVATION AND TECHNOLOGY TRANSFER
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31ST MARCH, 2005

PARTICULARS	SCHEDULE No.	31.03.2005 Rs	31.03.2004 Rs
<u>INCOME</u>			
INTEREST INCOME	7	5,533,634	9,877,016
PROJECT & CONSULTANCY INCOME	8	2,430,868	2,868,658
CORPORATE MEMBERSHIP FEE		227,957	265,000
OTHER INCOME		235,093	27,500
		8,427,552	13,038,174
<u>EXPENDITURE</u>			
ESTABLISHMENT EXPENSES		3,738,652	3,959,925
PATENT & COPYRIGHT		20,552	240,283
INFORMATION SUPPORT SERVICES		388,779	501,479
ADMINISTRATIVE EXPENSES	9	2,430,756	3,166,802
RESEARCH & DEVT EXPENSES	10	119,789	4,593,775
AWARD / SCHOLARSHIP		100,000	100,000
PROMOTION EXPENSES		126,948	106,360
DEPRECIATION		282,942	360,226
		7,208,418	13,028,850
EXCESS OF INCOME OVER EXPENDITURE		1,219,134	9,324
NOTES ON ACCOUNTS	11		
THE SCHEDULE REFERRED TO ABOVE FORM AN INTEGRAL PART OF THE ACCOUNTS			

As per our attached Report of even date

for SANDEEP RAMESH GUPTA & CO.
Chartered Accountants

Sd/-
SANDEEP GUPTA
(PARTNER)

Sd/-
K K ROY
(MANAGER ADMINISTRATION)

Sd/-
PROF K D P NIGAM
(MANAGING DIRECTOR)

NEW DELHI
DATE: 18.08.2005



SCHEDULES FORMING PART OF THE BALANCE SHEET

PARTICULARS	31.03.2005	31.03.2004
	Rs	Rs
1 : <u>RESERVES & SURPLUS</u>		
Capital Reserve	2,555,812	2,555,812
General Reserve	16,817,667	16,808,343
Excess of Income Over Expenditure	1,219,134	9,324
	20,592,613	19,373,479
2 : <u>RESEARCH & DEVELOPMENT FUNDS</u>		
FITT PROJECT PROMOTION FUND		
Opening Balance	8,288,198	8,061,583
Add : Additions During the Year	473,359	228,090
	<u>8,761,557</u>	<u>8,289,673</u>
Less : Utilised During the Year	2	1,475.00
	<u>8,761,555</u>	<u>8,288,198</u>
FITT CONSULTANT FUND		
Opening Balance	6,127,982	5,598,452
Add : Additions During the Year	1,224,196	1,398,777
	<u>7,352,178</u>	<u>6,997,229</u>
Less : Utilised During the Year	1,200,017	869,247
	<u>6,152,161</u>	<u>6,127,982</u>
FITT DEPARTMENT DEVELOPMENT FUND		
Opening Balance	4,086,069	3,726,283
Add : Additions During the Year	1,036,834	871,683
	<u>5,122,903</u>	<u>4,597,966</u>
Less : Utilised During the Year	439,855	511,897
	<u>4,683,048</u>	<u>4,086,069</u>
CENTRAL ADMN. FUND		
Opening Balance	2,204	
Add : Additions During the Year	290,729	178,639
	<u>292,933</u>	<u>178,639</u>
Less : Utilised During the Year	292,933	176,435
	<u>-</u>	<u>2,204</u>
IIT STUDENT WELFARE FUND		
Opening Balance	114,000	114,000
Add : Additions During the Year	-	-
	<u>114,000</u>	<u>114,000</u>
Less : Utilised During the Year	15,000	-
	<u>99,000.00</u>	<u>114,000</u>
TBIU - MCIT FUNDS		
Opening Balance	4,000,000	-
Add : Additions During the Year	8,376	4,000,000
	<u>4,008,376</u>	<u>4,000,000</u>
Less : Utilised During the Year	1,673,314	-
	<u>2,335,062.00</u>	<u>4,000,000.00</u>
	22,030,826	22,618,453



3 : FIXED ASSETS

S.NO.	ASSET	RATE	GROSS BLOCK			DEPRECIATION			NET BLOCK	
			AS ON 1.4.2004	ADDITIONS IN 2004-2005	TOTAL	UPTO 1.4.2004	FOR THE YEAR	TOTAL	AS ON 31.03.2005	AS ON 31.3.2004
1	COMPUTERS	60%	1,763,160	42,700	1,805,860	1,664,671	80,993	1,745,664	60,196	98,489
2	FURNITURE & FIXTURES	15%	1,545,829	1,300	1,547,129	839,827	105,998	945,825	601,304	706,002
3	AIR CONDITIONERS	25%	370,500	-	370,500	294,499	19,000	313,499	57,001	76,001
4	PHOTOCOPIER	25%	203,175	-	203,175	180,307	5,717	186,024	17,151	22,868
5	PROJECTOR	25%	22,960	-	22,960	21,829	283	22,112	848	1,131
6	OFFICE EQUIPMENTS	25%	665,090	32,700	697,790	539,778	36,253	576,031	121,759	125,312
7	FITT EXTN. OFFICE	5%	232,000	-	232,000	43,035	9,448	52,483	179,517	188,965
8	TBIU OFFICE MODULE	5%	620,000	-	620,000	115,007	25,250	140,257	479,743	504,993
TOTAL			5,422,714	76,700	5,499,414	3,698,953	282,942	3,981,895	1,517,519	1,723,761

SCHEDULES FORMING PART OF THE BALANCE SHEET

PARTICULARS	31.03.2005	31.03.2004
	Rs	Rs
4 : <u>INVESTMENTS</u>		
Deposits with Scheduled Bank	63,350,000	55,850,000
RBI Bonds	25,000,000	
	88,350,000	55,850,000
5 : <u>CURRENT ASSETS, LOANS AND ADVANCES</u>		
BALANCE WITH SCHEDULED BANK		
Canara Bank	2,546,808	32,060,356
SBI	186,367	470,042
SBI FCRA Account	5,016,019	1,825,572
Tax Deducted at Source	1,408,606	1,090,949
Development Support	16,351	-
Project Advance	748,127	1,396,242
Security Deposit	24,863	36,000
Staff Advance	25,719	60,110
	9,972,860	36,939,271
6 : <u>CURRENT LIABILITIES</u>		
Advance Against Projects	41,016,940	36,321,100
	41,016,940	36,321,100
7 : <u>INTEREST INCOME</u>		
Interest on Deposit with Banks	5,175,801	9,587,889
Interest on Savings Account	357,833	289,127
	5,533,634	9,877,016
8 : <u>PROJECT & CONSULTANCY INCOME</u>		
Fitt overhead Charges	1,573,374	2,161,213
Seminar / Workshops / HRD Prog	642,620	300,890
Royalty Income	214,874	406,555
	2,430,868	2,868,658

SCHEDULES FORMING PART OF THE BALANCE SHEET

PARTICULARS	31.03.2005	31.03.2004
	Rs	Rs
9 : <u>ADMINISTRATIVE EXPENSES</u>		
Communication	245,198	247,064
Legal & Professional	178,810	807,490
Books & Periodicals	8,572	34,478
Printing & Stationery	87,603	82,530
Conveyance	166,021	150,032
Membership & Subscription	15,594	28,646
Seminar & Meeting Expenses	85,185	164,966
Travelling Expenses	71,940	165,354
Contingent Expenses	61,116	146,677
Repair & Maintenance	220,037	221,625
Audit Fees	13,224	23,760
Entertainment / Hospitality	23,101	26,656
Recruitment & Training Expenses	262,496	125,000
Office Rent	809,280	809,280
Bank Charges	4,173	2,223
Electricity Charges	178,406	131,021
	2,430,756	3,166,802
10 <u>RESEARCH & DEVT EXPENSES</u>		
Devt Support	91,778	51,459
Laboratory Setup DBEB	-	3,567,546
TBIU Account	28,011	974,770
	119,789	4,593,775

11. NOTES ON ACCOUNTS

1. SIGNIFICANT ACCOUNTING POLICIES

i) Accounting Convention

The Financial Statements are prepared under the Historical Cost Convention.

ii) Method of Accounting

All accounts are maintained on cash basis.

iii) Fixed Assets And Depreciation

Fixed assets are valued at cost and Depreciation on fixed assets is provided on Written Down Value method in accordance with the rates and provisions of the Income Tax , 1961.

iv) Revenue Recognition

Income on projects undertaken is recognized on the completion of the project. Income from Consultancy, Seminars, Retainerships etc. is recognised on rendering of the service and receipt of the fees.

v) Investments

Investments are valued at cost.

2. Equipment purchased for the project becomes the property of the IIT(D) on the conclusion of the project as per FITT's " Guidelines for handling consultancy Proposals".
3. FITT has received a grant of Rs.40 lakhs from Ministry of Communication and Information Technology for creation of a fund to be used for Incubation of Units under TBIU programme. During the year FITT has disbursed Rs.16.73 lakhs under the programme.
4. Previous year's figures have been regrouped/reclassified wherever considered necessary to make them comparable with those of the current year.

As per our attached Report of even date

for SANDEEP RAMESH GUPTA & CO.
Chartered Accountants

Sd/-
SANDEEP GUPTA
(PARTNER)

Sd/-
K K ROY
(MANAGER ADMINISTRATION)

Sd/-
PROF K D P NIGAM
(MANAGING DIRECTOR)

NEW DELHI
DATE: 18.08.2005





Foundation For Innovation and Technology Transfer

Indian Institute of Technology, Delhi

Hauz Khas, New Delhi - 110016