

TECHNICAL EDUCATION

The future goals and objectives of the technical education system are to produce manpower needed to meet these diversified requirements of the user system. Directorate of Training and Technical Education coordinates its training programme to match with the policy of Government of Delhi to encourage the development and establishment of non-polluting, higher value-added and service-oriented industries.

Technical Education is a three-tier system as given under

Level	Gov. Inst.	Private Inst.	Seats
Doctorate / Post Graduate and Graduate	06	9	4000
Diploma	08	8	4500
Certificate	16	56	9805

Following are the major thrust areas requiring attention at various levels of Engineering

Doctorate / Post Graduate and Graduate

1. Increase in the intake and New Courses in Emerging Technology areas
2. Creating World-class institutions
3. Faculty Development
4. Tech Savvy Campuses
5. Improving Teaching and Learning Environment
6. Laboratories as world class test houses
7. Mission oriented R&D
8. Increased Employability and Entrepreneurship
9. Product Innovation and Technology Transfer.

Diploma Level

1. Setting up of Edusat Classrooms
2. Inviting industries in setting up of labs
3. Setting up of Digital Libraries
4. Increase in the intake
5. National / International Level Certification
6. Upgradation of Infrastructure in all Institutes.
7. Starting of Short Term Courses
8. Faculty Development
9. Lateral entry for Diploma students in Degree colleges.

Certificate Level

1. Introduction of New Courses
2. Upgradation of Libraries
3. Upgradation of Teaching aids
4. Obtaining ISO Certification for teaching & Examination systems
5. Inter-connectivity of all it is
6. Improving Industry co-operation
7. Upgradation of Hostels
8. Adjudging the Instructors Performance
9. Improving administration of it is
10. Introduction of Uniform in all ITIs

New Trades identified:

DGE&T, Ministry of Labour has already identified various trades out of which following trades will be introduced :

Architectural Assistant	1 year
Building Maintenance	6 months
Craftsman food Production (Gen)	1 year
Data Entry Operator	6 months
Dental Lab Technician	2 years
Digital Photographer	1 year
Driver cum mechanic	6 months
Front office Assistant	6 months
Health and Sanitary Inspector	1 year
Institution House Keeping	1 year
Mechanic Auto Electrical & Electronics	6 months
Mechanic computer Hardware	1 year
Mechanic Consumer Electronics	1 year
Mechanic Repair & Maintenance of Heavy vehicles	1 year
Mechanic repair and Maintenance of Light Vehicle	1 year
Mechanic Repair & Maintenance of two-wheeler	1 year
Network Technician	6 months
Physiotherapy technician	1 year
Radiology Technician	1 year
Sanitary Hardware fitter	6 months
Steward	1 year
Medical Lab technician (radiology)	1 year
Medical Lab technician (Pathology)	1 year
Dairying	1 year
Floriculture and landscaping	6 months
Gardener	6 months
Horticulture	6 months
Screen Printer	6 months
Food Processing	1 year
Screen Printing	1 year
Painter (Armco certified)	1 year
Fire safety	1 year

Appropriate no. of posts of Instructors at various level and other staff as per DGE&T laid down norms will be created. Machinery and Equipment will also be procured.

Upgradation of Libraries:

It is proposed that books should be issued to the trainees for their reference at home as well. Further the ITIs will be equipped with the latest books and computer based training CDs/material. The important teaching material would be made available in the digital form in each Library. A computer with wide screen monitor will also be made available to each ITI. Posts of Librarian shall also be created in the ITI Tilak Nagar (women), Mori Gate, BTC, Jaffarpur and ITI Narela for proper functioning of the Libraries.

Upgradation of Teaching aids:

In order to improve the quality of training, new method of teaching like using LCD Projector, Overhead Projectors and Computer based teaching material would also be used in all the ITIs. An audiovisual room is to be prepared with the help of PWD wherein a group of about at least 60 students can be accommodated. LCD Projectors are to be provided to each Institute with one Laptop computer.

Obtaining ISO Certification for teaching & Examination systems:

The ITIs, which are well equipped and having buildings/workshops in good condition will be encouraged to obtain ISO certification for improving the quality of teaching continuously year after year.

Inter-connectivity of all ITIs:

All the ITIs will be connected through EDUSAT or through High speed lease MTNL lease line for receiving the live/recorded lectures for imparting effective training and thus reducing the problem of non-availability of teachers. It is also proposed to setup one studio at Sir CV Raman ITI where recording editing and dubbing facilities shall be created for making computer based training CD/DVD, so that same can be made available to other ITIs for teaching purpose.

Improving Industry co-operation:

Industry- Institute activities shall further be strengthened by constituting the IMCs in each ITI with the help of CII, FICCI and other local industries or through TASSKS (Takniqi Shiksha Sudhar Kalyan Samiti). The same Samiti or IMC will also apprise the institute about the latest development in the industrial sector, revise the curriculum and review the courses from time to time.

Upgradation of Hostels:

It is also proposed that the minimum facilities like proper Mess with Refrigerator etc., provision for water cooler, common room facility along with furniture may be provided in the Hostel, so that students may find a conducive atmosphere to study and stay in Hostel.

Adjudging the Instructors Performance:

The teacher's performance will be adjudged on the basis of the quality of their trainees being trained by them, drop out rate, passed percentage and the time taken by the trainees to get the employment. The no. of short term evening courses conducted would also be made one of the factor for gauging the teacher's performance. The duties enumerated in the Training Manual of DGE&T are not sufficient to follow, the time has come when department has to give clear direction to work in a very efficient manner by all the staff from Peon to Principal including the Office Superintendents, Accounts functionaries and Clerical staff.

Improving administration of ITIs:

The attendance of all the staff shall be uploaded to Departmental website daily within half an hour of starting the Institute and 15 minutes after the schedule time of closing the

Institute. A Permanent movement register shall be kept with appropriate authority to keep check on proxy attendance or the movement shall be registered in the biometric attendance registration machine.

The use of office procedure as per Manual shall be made mandatory in all the ITIs and frequent refresher course shall be conducted to update their knowledge.

Introduction of Uniform in all ITIs:

In order to create a sense of one-ness and equality among the staff it is proposed that all the ITIs would have a code of wearing uniform. There would be different uniform for different level of staff like W.S.A./Peon, Instructors, Group Instructor and Principal. Likewise Superintendent and other Clerical staff. The color of summer, Winter Uniform and workshop uniform will be decided by a committee and applicable to all the staff members.

A. DTE. OF TRAINING & TECHNICAL EDUCATION

I. DIRECTION & ADMINISTRATION

1. Strengthening of the Directorate and Community Polytechnic (Rs.65.00 lakhs)

Following are the major areas of concern for strengthening of the Directorate and Community Polytechnic Scheme.

1. Complete automation
2. Creation of posts for various branches of DTTE
3. Starting of new community polytechnics and adding new courses as per the Delhi and NCT area needs
4. Providing autonomy to one or more Polytechnics.

An outlay of Rs. 65.00 lakh for Annual Plan 2007-08 is approved for the scheme.

2. Strengthening of Board of Technical Education (Rs.170.00 lakh)

The existing staff structure of the Board is, quite inadequate to handle and cope with the work of examination, curriculum revision, affiliation and monitoring of the standards of education in the affiliated institutions etc. Major areas of concern for BTE are as follows: -

1. Autonomy for BTE
2. Complete automation of BTE
3. Creation of addition posts for BTE
4. Revision of curriculum

An outlay of Rs. 170.00 lakh for Annual Plan 2007-08 is approved for this scheme.

3. Reorganization restructuring and strengthening of existing facilities in Polytechnics(Rs. 200.00 lakhs)

Major Areas of action:

1. Up gradation of Polytechnics to Degree Colleges
2. Improvement of infrastructure of the Institutes
3. To improve the standard & quality of training in the polytechnics
4. To revitalize and motivate the faculty system to enable them to tackle the challenges posed in the ever-growing field of technology
5. Implementation of AICTE schemes from time to time

An outlay of Rs. 200 lakh for Annual Plan 2007-08 is approved for the scheme

II. POLYTECHNICS

4. Replacement and modernization of machinery and equipment (Rs. 430 lakh)

Major Areas of Action

- To replace the obsolete machinery and equipment which have outlived its life with the latest type,
- Networking of all institutes
- To provide additional modern/ sophisticated equipment due to advancement in technology.
- To equip the laboratories and workshop with support facilities matching with the equipment procured.
- Setting up of Communication Skills Labs.
- Setting up of World Class test houses
- Setting up of labs enabling students to get dual certification.

An outlay of Rs. 430.00 lakh for Annual Plan 2007-08 is approved for this scheme.

5. Continuing Education & Entrepreneurship Development Programme (Rs. 5.00 lakh)

Continuing Education Programmes

Major Areas of Action:

1. Starting of part time diploma courses
2. Starting additional courses
3. Starting of Short term Courses
4. Enabling students to get additional certification.
5. Training for staff from the Industry

Entrepreneurship Development Programme

Major Areas of Action:-

1. To inculcate entrepreneurship values and providing training inputs.
2. To organize entrepreneurship resource camps.
3. To introduce curriculum on entrepreneurship development as an elective subject.
4. To organize short-term courses by inviting experts from organizations to provide necessary guidance to students.
5. To set up their own industries.
6. Arranging industrial visits for students.
7. Industries contacting institutes for recruitment.
8. Teachers deputed for QIP in industry.
9. Inviting people from the field for guest lectures.
10. Industrial/ in plant training of students.
11. Exchange of staff
12. Consultancy to be provided by institutions

Industry Institute Interaction

In order to increase the placement avenue for the students under DTTE it is proposed that a Job fair may be organized by calling various industries. And this event will be organized once in every year such that maximum possible students can get direct employment through job fair.

An outlay of Rs. 5.00 lakh for Rs. Annual Plan 2007-08 is approved for this scheme.

6. Strengthening of facilities to students of SC/ST/OBC/Minorities Communities (Rs. 5.00 lakh)

This scheme has been initiated to provide increased facilities for SC/ST category students so that they can be motivated to pursue their studies without much of dependence on their parents. Some of the essential items are given to them free of cost to pursue their studies.

1. Scientific Calculators
2. Text books
3. Stationary items

An outlay of Rs. 5.00 lakh for Annual Plan 2007-08 is approved for this scheme

7. Renovation / Addl. Alteration in the existing Institution (Rs. 200.00 lakh)(Capital Head)

Following works will be taken on priority basis under this scheme

1. Maintenance of all buildings including staff quarters.
2. Air-conditioning of Labs
3. National / International standard conference rooms, seminar halls etc.
4. To carry out all building and campus related works.

An outlay of Rs. 200.00 lakh for Annual Plan 2007-08 is approved for this scheme.

8. Setting up of New Government Polytechnics (Rs. 420 lakh)

Construction works of Integrated institute at Dwarka is in full swing and it is proposed to start the academic session from June-July 2008. And following institutes are proposed to be upgraded into Degree Colleges.

1. Kasturba Polytechnic for Women
2. GB Pant Polytechnic
3. Jaffarpur Polytechnics
4. Bhai Parmanand Institute.

An outlay of Rs. 420 .00 lakh for Annual Plan (2007-08) is approved for this scheme.

III. B.P.I.B.S.

9. Expansion of existing facilities of Bhai Parmanand Institutes of Business Studies(Rs.20.00 lakhs)

Bhai Parmanand Institute of Business Studies was set up to impart training in various diploma and post diploma programmes in the field of Modern Office Practice, Management, and Business Administration etc. MCA (full time) programme has already been introduced in the year 2000-01 in this Institute. Modernization of machinery and equipment, strengthening of existing facilities to students, industry-institute interaction, strengthening of library facilities etc. in respect of Bhai Parmanand Institute of Business Studies are to be achieved under this scheme.

An outlay of Rs. 20.00 lakh for Annual Plan 2007-08 is approved for this scheme.

IV. New Schemes

10. Staff development (Rs. 40.00 lakh)

For the development of Institutes the motivation level of staff is to be kept high. Personality development programmes

1. Timely implementation of AICTE scheme.
2. Research and Travel Grant.
3. Providing Computers, Professional society membership of any two bodies (one national and one International), sanction for purchase of Books / Magazines etc.
4. Encouraging Faculty exchange by Deputation etc.
5. Filling of vacant staff positions.
6. Sponsorship for higher studies
7. Institution of 'best teacher' award.
8. Sponsorship towards presentation of papers attending national and international conferences etc

An outlay of Rs. 40.00 lakh for Annual Plan -2007-08 is approved for this scheme.

II. EDUSAT NETWORK (Rs.100.00 lakh)

A classroom will be set up at each of the satellite Interactive terminal. Each classroom will have Learning Management Client software. The classroom through two-way VSAT installed at these remote terminals will receive the session being delivered from the teaching facility.

1. Quality of Education
2. Overcome shortage of Faculty
3. Standardization in Teaching
4. Video Conferencing
5. Sharing of Resources
6. Expert Lectures
7. Higher Education / Short Term Courses for Staff
8. To keep pace the changes following the advent of Technology

An outlay of Rs. 100 lakh for Annual Plan 2007-08 is approved for this scheme

12. Setting up of IIIT Park (Rs. 1400.00 lakh)

The Indian Institute of Information Technology (IIIT) is to be set up with the aim of pooling the strength and resources of the best companies with facilitation and support of the government. The institute should be designed to play the role that Stanford University plays in the Silicon Valley. The main objective of the IIIT will be to produce IT professionals capable of facing the complex challenges of the future. In order to achieve this, the state government initiative to set up the institute with the help of leading IT companies to promote quality IT education. The IIIT will provide a four-year under-graduate program besides Masters and Doctorate in information technology. The education programs are designed by the IIIT and these schools will impart training in various modules of these programs. The prominent companies worldwide will be invited to set collaborate with the IIIT.

IIIT will be a new generation Graduate School focusing on ALL aspects of Information Technology (IT). Promoted by the Government of Delhi and the IT industry, IIIT will represent a model of Public-Private-Partnership that will set a new benchmark in the higher education system in India.

IIIT will attract very high quality students, and highly qualified faculty members. Together, they will pursue their research-based teaching in the unique campus in Delhi that will blend together cutting-edge research and teaching.

An outlay of Rs. 1400.00 lakh for Annual Plan 2007-08 is approved for this scheme.

13. Setting up of University of Science and Technology(Rs. 2930 .00 lakh)

The university is expected fill the gap in international quality science and technical education at the post-graduate and research levels. The proposed UST of Delhi is conceived from the point of view of meeting this dire need to equip the national capital with a Knowledge Infrastructure in science and engineering to foster the growth of world class science and technology education, research and science and technology propelled innovations in an environment of integrated science and technology education and research.

1. The scientific research and PG education in science in India has not kept pace with the rapid advancement of the country in the fast emerging knowledge age.
2. The India Science Report 2005 indicates that in 2004, about a fourth of those qualified to the level of graduate and above had a background of science education.
3. There are 39.2 million graduates in all (22.3% of whom are from the science stream), 9.3 million postgraduates (19.4% of whom are from the science stream), and 0.3 million doctorates (one-third from the science stream).
4. Graduates who are unemployed, 22.3% have studied science. The share of postgraduates with science background in the total unemployed postgraduates is significantly higher (62.8%).

Delhi is the National Capital and a seat of learning and scholarship. It attracts high quality school leavers from all over India who aspire for quality education and research programmes in Science and Technology.

Science and Technology are the drivers of economic growth and Science Education forms the backbone of all S&T efforts in any country and Delhi owes it to the nation to provide world class education and research environment in which Science and Engineering could flourish and excel

Delhi is blessed with the presence of the headquarters of CSIR, Min. of Science & Technology, AICTE, Dept. of Bio-technology, and Dept. of IT and has excellent research infrastructure in its research laboratories of NPL, CRRI, SSPL (Min. of Defense), Nuclear Science Centre and other DRDO labs.

This gives Delhi an added advantage for qualitative as well as quantitative growth of technical education and research facilities.

There is high scope for growth of interdisciplinary centers of excellence in the areas of clean energy technologies, environment management, biotechnology, bio-informatics, medical engineering and infrastructure engineering, Information Technology, Network Security etc.

An outlay of Rs. 2930.00 lakh for Annual Plan 2007-08 is approved for this scheme.

14. Formation of Society for upliftment of Technical Education.(Rs. 10.00 lakh)

Utkarsh Society will be setup for promotion of Technical Education. Society is proposed to setup for smooth operations for the newly projects and society will have autonomy and will enjoy full liberty in the implementation of the projects such as payment to the faculties for Edusat Programme, collection of funds from private institutes for setting up of Edusat Network. Following will be the major activities of the society on its formation.

1. Management of Edusat Network (To be shifted from DCE to DTTE)
2. Provision of Research and Travel Grants for Faculty Members.
3. Development of Collaborative arrangement with institutions of Repute.
4. Setting up of Technical Education Fund.

An outlay of Rs. 10.00 lakh for Annual Plan 2007-08 is approved for this scheme.

15. Setting up of Technical Education Fund.(Rs. 10.00 lakh)

In order to help the poor and needy for continuing their education, training programmes will be taken up

1. Giving assistance to them such as books and other related material.
2. Funding of project expenses of students.
3. Encouraging students to become entrepreneur and provide necessary funding for the same.
4. Provision of Research and Travel Grants for Faculty Members

An outlay of Rs. 10.00 lakh for Annual Plan 2007-08 is approved for this scheme.

16. Development of Collaborative arrangement with institutions of Repute (Rs. 10.00 lakh)

Major Action points:

1. Student and Faculty Exchange programme in India and Abroad.
2. The institutes in collaboration with reputed institutions such as leading industrial houses, R & D organizations etc, shall involve in technology transfer.
3. The leading may be requested to support the institutes by sponsoring machinery & equipment, and setting up of Laboratories.
4. In the same manner as above students and faculty may be sponsored for R&D or application development projects as per requirement.
5. Core experts of their respective fields from the industry may be invited on regular basis as an expert faculty to provide latest training as per industry standards.

An outlay of Rs. 10.00 lakh for Annual Plan 2007-08 is approved for this scheme.

B. DELHI COLLEGE OF ENGINEERING

1. Construction of New Buildings for Delhi College of Engineering at Bawana Road (Rs.500.00 lakh)

The Buildings/Premises, which are under construction

1. Lecture Theatre-cum-seminar Hall.
2. PG Hostel
3. Internal detail of hydraulic lab, material testing lab & concrete lab

All of the above works are likely to be completed by 2007.

The details of the academic expansion planning for the next 5 years and proposed built up areas are given below.

1. Construction & Development of Knowledge Park & setting up of EDUSAT studio & Local Area Networking
2. Enhance hostel capacity from 970 seats to 1500 seats (two boys hostels and one girls hostel).
3. Construction of Academic Blocks for the new departments- Information Technology, Biotechnology, Environmental Engineering and Polymer Science & Chemical Technology.
- 4.* Academic Infrastructure for Centers of Excellence, Advance Centre of Bio-Informatics and Centre for Nano-Science & Technology, DCE School of Management, Centre for Advance Research and Development in Automotive Engineering, Centre for Innovation Management and Technology Incubation, Centre for Appropriate Technology, Centre for Techno Entrepreneurship and TIFAC CORE Centre in Optical Communication. Center for Appropriate Technology. Asian Centre for experimental mechanics. **THE FACULTY OF SYSTEM ENGINEERING** will comprise of 5 UG programs with intake 60 each, 5 PG programs with intake 18 and will also offer Ph.D programs in the area of **FACULTY OF SYSTEM ENGINEERING**.

Details of proposed built up areas for Phase –II Construction:

SN	Name of Building	Floor Area (sq. m.)
1	School of Information Technology	4000
2	School of Computer Engineering	4000
3	TIFAC Centre of Excellence in Communication Technology	2000
4.	Teaching Block housing Lecture Theatres of 250 and 400 capacity	4000
5	School of Bio-Technology	2000
6	DCE School of Management	3000
7	Department of Training & Placement	3000
8	Department of Polymer Science and Chemical Technology	4000
9	Centre for Advanced research & studies(detailed at pt 4)	10000
10	Extension of the Laboratory Wing LW-1 *	2000
11	Extension of the Laboratory Wing LW-2 *	2000
12	Extension of the Laboratory Wing LW-3 *	2000
13	Extension of the Laboratory Wing LW-4 *	2000
14	Extension of the Laboratory Wing LW-6 *	2000
15	Extension of Workshop + Library	3000
16	Extension of Science Block	1000
	Total Institutional Area	
17	Hostel : Boys Hostels with capacity of 1000 students and Girls Hostels with capacity of 500 students	20000 10000

SN	Name of Building	Floor Area (sq. m.)
Total Hostel Area		30000
18	Amenities :	
	i. Students Activity Centre	2000
	ii. Stadium	1500
	iii. Assorted Stores	775
	iv. Community Centre	600
	v. Faculty Club	600
	vi. Building of Care taking Unit	1000
	vii. Shopping Complex	600
Total Amenities Area		7075
19	Residential quarters:	
	i. 08 number of Wardens Flat	1200
	ii. 45 number of Type-V houses and 8 number of Type-VI houses	5000
20	Service Lines and Land scaping & Electric Power Backup	
Total Residential Area		6200
Total area (in sq. meter)		93,275 sq. meter

Other works:

- 1. Raising of the height of the boundary wall:** It is proposed to raise the height of the boundary wall to 10 ft. to avoid the illegal entries in the campus and to make the institutional complex more secure.
- 2. Additions & Alterations:** To meet the functional requirements of various laboratories due to rapid changes in Academic Curriculum, some changes of the type of additions or alterations to the existing structure are required to be made. Such type of works does not come either under the capital works or under the normal maintenance works (Minor Head 2059) done by PWD. Therefore, the provision of suitable amounts for such a large campus and this kind of works is necessary.
- 3. Establishment:** It has been experienced in the past that for speedy co-ordination/ monitoring, a full-time personnel is needed to look after the project of the Delhi College of Engineering. One post of Project Officer was created in the scale of Rs. 10,000-15200. The enormous responsibilities and work it was proposed that a post of the level of Asst. Prof. With the designation of Project Co-ordinator-Cum Estate Officer as the officer be created concerned will be required not only to look after the technical aspect of the new building proposed to be constructed vide phase-II but also required to look after the maintenance and allotment of the existing flats constructed for the employees. The matter of creation of the post was taken up with the AR department. The AR department in their work measurement study has observed that the work of Estate Officer can be looked after by a office of Supdt level and accordingly they have recommended for creation of one post of Supdt. Hence, it is proposed to revive the post of Project Officer in scale of pay of Rs. 10,000-15,200/- as the continuation of the same is not being converged by the FD for the last 8 years or so.

- It is proposed to create 3 posts during Annual Plan 2007-08
- Boundary wall to be raised, LAN services, and security and surveillance have to be developed.

2. Modernization of Machinery, Equipments for existing courses: (Rs. 400.00 lakhs)

The following activities related with the development & modernization of existing laboratories and to set up new labs are proposed to be taken up by various Academic Departments during the Plan period 2007-08.

DCE also proposes to partner with the Oracle, a known company in the data base technologies. By partnering with Oracle. This partnership will lead to the development of the world class IT skill base and also will bridge the gap between theory and practice. ORACLE will provide a student kit for Rs. 940 per module to each student registered for the course. The department therefore proposes to run ORACLE WDP batch with an intake of 30 students from the time the agreement is signed.

To strengthen the existing labs with new equipments, and addition of new hardware and software on the above eight labs is proposed during the plan period. Personal computers, Servers, Silicon Graphics Workstations, Laser Jet Printers, Net framework, Maya software for multimedia, LAN, UPS and Networking of computers are proposed to be added. It is proposed to establish the 2 new Labs namely Information storage and management lab & VLSI design & embedded systems lab in the department. The lab will also help students to acquire the necessary skills in a simulated hands-on environment. The equipments such as: Personal computers (15), Servers (1), Laser Printers (1), LAN, UPS and Networking of computers (2) and Simulators (1) are proposed to be procured for the labs during the Five Year Plan period.

ELECTRONICS & COMMUNICATION ENGG. DEPTT.

The department is planning to focus on the areas such as Pervasive Computing & Image processing, VLSI, Embedded systems, Fault Tolerant Computing, RF communication, Wireless Communication & Networking Optical Communication etc. In order to provide research facilities in these broad areas some new laboratories have to be developed and the infrastructure in existing labs has to be strengthened.

The proposal for creation of posts for Qualified technical personnel shall be submitted to the Govt. to provide required manpower support for each of the new laboratories being developed.

The department also intends to increased industry institute interaction- for students as well as faculty. In order to keep pace with the need of the industry, interaction with reputed foreign universities and research organization has to be stepped up through “knowledge Park” (as suggested by Pr. Secy. FD). The department has also planed to developed E-Learning resources for some course and conduct national & international conferences & 2-3 short term courses & workshops.

ELECTRICAL ENGG. DEPARTMENT:

In order to cope up with the future needs new labs are proposed to be established, existing labs to be strengthened with new equipments, old/obsolete equipments needed to

be replaced with change of technology, training to technical staff required to operate new equipments, facilities needed to be added in the laboratories to make them world class. The new labs which are proposed to be established 1. E.E. Simulation lab, 2. Testing calibration & Standardization Lab, 3. Industrial Automation Lab, 4. Bio-Instrumentation Lab, 5. Distributed Generation & Energy Conservation Lab, 6. Distribution and Automation Park, 7. Center for Excellence in expert Systems and SCADA.

CIVIL AND ENVIRONMENTAL ENGG. DEPARTMENT

The Department of Civil Engg has well equipped laboratories viz Structures, CAD, Concrete Technology, Heavy Structures, Soil Mechanic and Foundation Engg., Transportation Engineering, Experimental Stress Analysis, Computational Mechanics, Surveying, Environmental Engineering, Hydraulics & Fluid Mechanics. These labs are proposed to be strengthened and modernized in to world-class laboratories. Environmental Engg Lab is to be expanded for accommodating BE Environmental Engg students. The following equipments are proposed to be procured during the Annual plan 2007-08.

1. **CONCRETE TECHNOLOGY/ EARTHQUAKE ENGINEERING LABORATORY:** Shake table facility to induce vibrations in all the three directions simultaneously for all the degrees of freedom, Real time multi-analyser & recorder system, Crane on Gantry Girder with accessories,
2. **TRANSPORTATION LAB:** Lab. Mixer for Bitumen Mixer, Vehicle, Electronic Balance, Electric Oven,
3. **SURVEYING LABORATORY:** Total Stations (1") (One Nos.), Electronic Theodolite (1") (One Nos.), High accuracy automatic level (One Nos.), Computer with latest configuration (One Nos.), Surveying Software (One Unit).
4. **GEOTECHNICAL LAB:** GDS-Type soil Testing system PLAXIS Finite Element software, Geoslope Software, Software for Computer aided soil test report, U-dec, Air Compressor unit 1000 KPa working pressure with water trap 220-240 V, 1ph, Vacuum pump, complete set, Electronic Platform Scales, 20 tons cone penetration testing equipment, 20 ton cone penetration test, Automatic SPT equipment.
5. **ENV. ENGG. LAB.** C.H.N.S.& O Analyzer, Flame Photo Meter (Microprocessor based) , C.O.D. Digestion Apparatus, Water Bath Incubator Shaker, Ultra Water Purification System, Semi Micro Balance, T.O.C Analyzer (On line/Off Line), Portable Waste Water Samplers.

A new GIS and Remote Sensing laboratory is also proposed to be established. It will be equipped with the equipments such as: HP WorkStation (HPXW 9300), (ii) HP Workstation xw4300 Deskstop, (iii) Digital Colour printing system AO SIZE, (iv) Digital colour scanning system AO, (v) ARC GIS Software KIT Includes, (vi) ERDAS IMAGINE Professional, (vii) Leica SmartStation consisting of following – BASE STATION, Smart station Rover, Software.

MECHANICAL & PRODUCTION ENGG. DEPARTMENT

The department of Mechanical Engineering has well equipped laboratories such as, Instrumentation, Experimental Stress Analysis Lab., Strength of Materials, Fluid Mechanics, IC Engines, Refrigeration & Air conditioning, automotive Engineering,. Robotics, Welding

Technology lab, Automation & Flexible Manufacturing Systems (FMS) Lab, Heat Transfer & Solar Energy. In the area of Production Engineering also, it has labs, in Engineering Manufacture, Welding lab, Stand Hoting lab & Metal Cutting lab, Metrology, Industrial Engineering, Automation and FMS. To further strengthen the above laboratories with new machines and equipments the department has planned to procure Tensometer (2), Hot Wire Anemometer (1), Compressive Fluid Flow Test Rig (1), Axial Flow Pump Equipment (1), Gear Pump Test Rig (1), Hydraulic Ram Pump (1), Reciprocating Pump (1), Computer Interfacing of Hydraulic of M/cs (i) Kaplan Turbine (1), (ii) Francis Turbine (1), Air Flow Bench (1), Boundary Layer Apparatus (1), Software Symbols 2000 for Dom (1), P-IV Computer system (5), Universal Vibration Apparatus (1), Four ball wear test rig (1), Surface Roughness Measurement Equipment (1), Oscilloscope 20 MHz (2), Hydraulic Lubrication of bearing & Pressure (digitalized) (1), Reciprocating & V-Engine Balancing Machine (1), Arena 8.0, Software for optimization like LINDO, LINGO, Computer with peripherals, Computer with peripherals, Universal testing machine, Biling heat transfer apparatus, Measuring Instruments set, Profile Projector, Hand Tools & tool Kits, Tool Maker's Microscope, Piezo Electric Dynamometer, universal Tool & Cutter Grinder, Metal Cutting soft wares, Knee-Type Milling machine (with spl. Accessories), High speed precision Lathe (with spl. Accessories), Cutting Temp. Measuring instruments, Cutting Force Measuring Instruments, E.C.M. (Electric Discharge Machine), E.C.M.(Electric Chemical Machine), Polishing Station, Jomeny End Quenching Apparatus, Induction Heating Furnace, Micro hardness testing Machine, Elctron Microscope, Brinnel hardness tester, High temp. creep testing, HMT lathe 8 Feet, Fatigue testing rotary type, Scanning electron microscope, Cantilever fatigue testing, Gas Chromatograph with FID detector and accessories.

APPLIED CHEMISTRY AND POLYMER TECHNOLOGY DEPARTMENT

Information technology, Bio Technology and Polymer Technology will drive this millennium. The success of the first two prime areas of active interests depend on the quality of R & D work in the areas of polymer technology. The developments in conducting polymers, smart & intelligent materials, biopolymers, light-emitting polymers, nano-composites, reinforced materials, silicone materials etc. are astonishing. The polymeric bio-membranes and water-soluble polymers are the materials of wonder. Due to the emerging needs of trained technical manpower, the future objectives of the department are

- i. Development of skilled manpower for polymer industry;
- ii. Up gradation of technical knowledge through advanced training programme;
- iii. Technical consultancy and advisory services;
- iv. Quality control and standardization of polymer materials;

During Annual Plan 2007-08, the main focus will be on the (i) Recruitment of trained technical manpower sanctioned by Govt. of Delhi, (ii) Training to one member of existing technical staff. (iii) Purchase of computer softwares for labs. (iv) Electrical & Furniture fittings in new labs. (v) Purchase of chemicals & glassware for existing labs. (vi) New equipments required for labs: Thermoforming machine, compression molding machine, rotational molding machine, Hydraulic press for plastic pipes, Ultrasonic plastic welder, dilatometers, rheocord. Gas chromatograph, Differential Mechanical analyzer, C-H-N Analyzer, Computerized UTM, sine tube reactor, Spiral tube reactor, Annular reactor, tubular reactor, UV Weatherometer, Computerized Izod/Charpy impact tester, dart impact tester, metal analyzer, dye analyzer chlorinator, defluorinator, toxicity tester.

APPLIED PHYSICS DEPARTMENT

The department of Applied Physics is providing a sound science base for engineering disciplines. It offers a part-time M.Sc. programme in Applied Physics. The department is also offering Ph.D programme in the area of Fiber Optics & Optical Communication, Nano Photonics, Material Science & Ceramics and Thin film Technology. To further enhance research and development activities in association with proposed new academic programmes at UG and PG level in the department, it has planned to procure Optical Spectrum Analyzer, X-ray diffractometer, PMD Measurement set up, Liquid Nitrogen plant, High Vacuum Units with Electron Beam Gun, Plasma Sputtering Unit, AC & DC pico ammeter and voltmeter, VPI software packages, Vector analyzer, X-Y plotter with computer interface etc.

The department also proposes to set up new laboratories like Nano Science & Technology lab, Laser & Holography, Cryogenics lab, Non conventional Energy and also proposes to strengthen the existing laboratories on Advanced electronics during the next Five Year Plan. It is also planned to set up one class room in the department with LCD Projector, AC, Proper sound system and networking of U.G. labs and desires to perform few U. G. experiments with computers. All labs of the department will be networked with a view to design, develop and impart world class academic infrastructure. The department is planning to develop Open Course ware and internet enabled labs in next five years.

INFORMATION TECHNOLOGY DEPARTMENT

As the demand for a very fast transmission of information over global networks is growing at an exponential rate, the impact of optical communication is increasingly felt in nearly all aspects of communication technology. Keeping in view the phenomenal growth in fiber-optic communications, the department is also starting a M.E. level program in microwave and optical communication from the academic year 2007-2008.

The department of Information Technology has state-of-art laboratories in the various disciplines such as computer networking lab., satellite communication lab., microwave CAD lab., optical communication lab., web engineering lab., advanced signal processing lab., embedded systems lab. the thrust areas of the department are communication technology, computer networking, optical communication, data mining and data warehousing.

BIO-TECHNOLOGY DEPARTMENT

B.E. Biotechnology course requires setting up of the following laboratories. Biotechnology laboratory, Molecular cell biology laboratory, Biochemistry laboratory, Bioinformatics and data management laboratory, Microbiology and immunology laboratory, Genetics laboratory, Instrumentation laboratory & Structural biology and statistics laboratory. Biotechnology Department is in the process of setting up of Laboratory Biotechnology Laboratory, Molecular cell biology laboratory, Biochemistry laboratory, Bioinformatics and data management laboratory, Microbiology and immunology laboratory, Genetics laboratory, Instrumentation laboratory and Structural biology and statistics laboratory. The major equipments for these laboratories have already been procured. The department has also identified the equipment needed for 4 laboratories, Microbiology and immunology laboratory; Genetics laboratory, Instrumentation laboratory & Bioinformatics laboratory, Structural biology and statistics laboratory and Animal House, Laboratory for M. Tech. Program and Research Laboratories (2 nos.). The laboratories shall be developed in the phased manner during the plan period 2007-08.

OTHER ACADEMIC INFRASTRUCTURAL REQUIREMENT

Besides development of the laboratories, it is equally important to develop the necessary infrastructure to place the equipments and to maintain them. The Project Office has been providing infrastructure and support in the form of (i) Providing internet connectivity to the various centres and departments, (ii) Providing local area network (Fiber Optics backbone as well as wireless (Wi-Fi) (iii) additions & alterations to the laboratories to make them suitable for setting experiments & installations of machines (iv) providing the facilities for clean-air rooms (v) providing fixed furniture & other related accessories (vi) modernization of the classrooms (vii) creating the facilities of Committee Room in every department to facilitate R&D activities. The provision to meet expenditure on such items has also been made in the scheme during the plan year.

Manpower requirement:

It is proposed to create the 62 posts to meet the requirement of the manpower to operate the newly added sophisticated equipments/software and new proposed labs which are to be created by the academic departments during the plan period.

3. Faculty Development: (Rs. 55 Lakhs)

A renewed emphasis is to be given to the faculty and technical staff development to meet the aspirations of the national educational policy. The AICTE pay scale has been provided to the teachers along with all the benefits related with career advance scheme by the Government of Delhi w.e.f. 1.1.1996. It provides for reimbursement of 75% of the books subject to a ceiling of Rs. 3000/- per annum per teacher. The same also provides for meeting expenses of attending national seminars for every teacher once in a year and also attending international seminars/conference for every teacher, once every three years. Additionally, the AICTE scales of pay provides for reimbursement of membership fee of the societies upto the extent of 85% of the membership fee to every teacher for various professional international societies. This will continue during the 2007-08 also. It also provides that faculty members be provided computer which is under consideration of the govt. and if approved it shall also be required to be given to all the teachers working in the college from the year 2007-08.

An outlay of Rs. 55.00 lakh for the Annual Plan 2007-08 is approved for this scheme.

4. Students Welfare: (Rs.50 Lakhs)

It is proposed to establish student common rooms (both for male as well as female students) students recreation and health fitness center which will have facilities for first aid, television set, music system, indoor games like table tennis, carom, multi-gym, etc. Girls' Common Room has been proposed to be equipped with the following facilities.

1. A fully Air-conditioned room of size about 6x6 meter square and one or two rooms of size 3x4 square meter with attached bathroom and couple of toilets and proper ventilation.
2. R.O. water purifier system with proper drainage to provide a neat and clean space for drinking water,
3. Easy chairs, wall mounted bench, table tennis with balls and bats, carom boards with tables, a dressing table, hand driers and proper dust-bins with wrap up bags.

Further, computational facilities are needed to be developed in the Hostels during next 5-year plan by adding computer Hub in each Hostel with internet facility. Telephone facilities are to be strengthened for hostels.

A new PG Hostel building has been completed. It will be provided with Cot, Table, Chair, Curtains, Curtains Rods, Built in almirah shelves, Looking mirror, News paper stand, curtains with rods, Mattress & Pillows and Computer with Internet facility, Index Board, Book racks Almirah's, RO system, Public Address system, Number & Name Plates also are proposed to be provided in the existing Hostels during plan period. Besides Maintenance, replacement and repair of furniture's, Water Cooler & Aqua guard etc in all the hostel are to be carried out.

An outlay of Rs. 50.00 lakh for the Annual Plan 2007-08 is approved for this scheme.

5. **“Centres of Advanced Studies, Research and Extension Services” (Rs. 200 Lakh)**

DCE, which has attained a level of maturity in engineering education and research, both at UG and PG levels, is looking forward for development of specialized centers of excellence. It is considered highly desired that the role of this college be enhanced in the direction of providing effective linkages with the industry and professional bodies. The creation of Centres of Advanced Studies and Research proposed below are primarily conceived from this objective. These centers shall primarily cater for: -

1. Research and Development in the specific areas of technology.
2. Industrial liaison and consultancy services.
3. Specialized short term and long-term courses for practicing Engineers and Teachers of Engineering Institutions.
4. To support the existing Post-graduate Programmes and to launch new specialized Post-graduate Programmes in areas of relevance.
5. To provide effective linkages with industry and professional bodies.

5(a): **Centre of Advanced Studies & Research in Automotive Engineering and Bio-fuel Technology**

Energy security has come to be viewed as the most important factor ensuring all-round economic development of a nation. The reasons are not far to seek. Energy is a basic input for almost all the economic activities. In fact one of the indicators of economic growth has all along been the per capita consumption of energy. Fossil Fuels such as coal and petroleum, and biomass have been the energy sources of the world for centuries. However, as the 20th century drew to a close, ushering in the third millennium, there has been a growing recognition of the dangers inherent in continuing with discriminate consumption of fossil fuels for more than one reasons, Of late, world opinion has been growing in favour of looking for alternatives to fossil fuel that would ensure eco-friendly and sustainable development on the one hand and energy security on the other. Recent surge in crude petroleum prices & local and regional environmental concerns such as air pollution, water pollution, land degradation, waste generation and global environmental concerns such as the growth in atmospheric concentration of the Green House Gases (GHGs)

leading to climate change have again brought renewable energy to the Centre state. The broad goals of the Government of India under "Energy for All" concept assumes an increasing role for renewable, particularly for meeting the energy needs of rural areas and for environmental conservation by setting up decentralized power plants. There is an urgent need for promoting renewable energy technology for sustainable development.

At present, there is estimated peaking shortage of 13% and energy shortage is about 7.8%. the electricity demand is growing @ 85 annually in the country. The shortage is much greater in rural areas. The present per capita electricity consumption in India is little over 400 Kwh, which is already on a lower side and most of the consumption is in the urban areas. Conditions are thus compelling for India to attempt to meet its growing energy needs in a self reliant manner, through renewable energy.

The center has now prepared a detailed road map for strengthening the R&D facilities in the center

Physical Target

Variable Compression Ratio Engine, High performance liquid Chromatography, Tissue culture facility, CFR Engine, Malvern Spray analyzer, Ferro graph apparatus, Green House, Chassis Dynamometer, Lubricity by the High-Frequency Reciprocating Rig, Emission Measuring Instrument AVL Dix, Atomic Absorption Spectrograph (AAS) & Chassis Dynamometer along with other minor equipments.

It is proposed to create 6 posts for this Centre in A P 2007 - 08.

5(b): Centre for Appropriate Technology

Appropriate technology is the technology that is most appropriate to the environment and culture it is intended to support. In practice, it is often something that might be described as using the simplest and most benign level of technology and can effectively achieve the intended purpose in a particular location. The technology has to be apt for the circumstance or purpose, appropriate, fitting, adapted to, having a tendency to behave as specified. In addition, it is desirable that the technology should be capable of being maintained at a steady level with replenishment of natural resources and maintaining ecological balance. Appropriate technology is mindful of what we are doing. It is aware of the consequences. Appropriate technology works from the bottom up; it is not an overlay to the situation; it is a genuine grassroots solution to economic needs.

Physical Target

Purchase of machinery equipments for specialized programs, cultivation of oil seeds varing plants, Strengthening of R&D facilities & creation of post of Professor, Assistant Professor, Lecturer, Senior Technical Assistant, Junior Technical Assistant & Laboratory Attendants and infrastructure for the center.

5 (c): Center for advanced Environmental Engineering

Since the last 30 years, there has been expansion of economic activities resulting in rapid industrialization and urbanization with consequent decrease in green cover availability and environmental degradation. Due to thrust on development and with heavy increase in population in Delhi and NCR region, there has been increasing heavy pressure on natural resources thus resulting in degradation of environment on an unprecedented scale. Due to economic development & improvement in standard of living, this pressure is causing further

aggravation of the problem. Further with increase in the level of education and expansion of media, the public now has much higher level of consciousness about environmental problems, and have become demanding about the quality of environment. With growing concerns both from legislative and social pressure groups regarding deterioration of surface/ground water, quality of air, environmental planning of city, green cover, environmental toxins due to uncontrolled use of pesticides and other items of consumption, there is a growing need for specialized center in Environmental Engineering at Delhi, which can cater to the dynamic requirements of various industries and other organizations. Keeping this in mind a centre with advanced and sophisticated instruments needs to be established at Delhi College of Engineering **for environmental pollution monitoring and measurement purposes**, which will also provide a technical training hub for budding Environmental Engineers. It will also be highly useful for the purpose of M.E and Ph.D research and would help in bridging the gap between the world of academia and the profession of engineering. There is therefore urgent need for establishment of such centre, which will help in achieving this objective of resource conservation and prevention of environmental degradation by providing quality services to its clients.

The proposed center shall require some world class laboratories, like: Water Engineering Laboratory, Wastewater Engineering, Solid Waste, & Bio Gas Laboratory, Environmental Microbiology Laboratory, Air Pollution Monitoring Laboratory & Simulation Laboratory

Visits & Miscellaneous Contingent Expenses will be there:

As the proposed center is being planned to be unparalleled in the country, it will require to undertake visits to the existing such centers in the country to ascertain the requirements of center.

Physical Target:

Setting up of labs, Purchase of equipments, books and journals and creation of posts of Professor, Assistant Professor, Lecturer, Senior Technical Assistant, Junior Technical Assistant & Laboratory Attendants and infrastructure for the center. It is proposed to create 16 posts for the Centre.

5(d): Advanced Centre for Entrepreneurship Development

The unemployment and underemployment amongst the educated youth cannot be eradicated unless employment generating entrepreneurial efforts is made by the technically qualified engineers. However, it is necessary that the productivity of such ventures, which would be in small and medium scale, should be high. Therefore, the Production System studies specially suited for small and medium scale ventures need to be carried out and developed. This is in accordance with the national policy of Science and Technology and also the national policy of industry. It is, therefore, proposed that an advanced center for Entrepreneurship Development be set up in the college. The center will be imparting short-term courses pertaining to entrepreneurship to our students and others conduct Entrepreneurship Development Programmes (EDP) for engineering graduates, besides providing consultancy services to entrepreneurs in and around Delhi. The center will offer an optional course on entrepreneurship in our BE programmes.

Physical Target:

Organizing Entrepreneurship development programs, creating awareness about the program among the students and creation of post of Professor, Assistant Professor, Lecturer, Senior Technical Assistant, Junior Technical Assistant & Laboratory Attendants and infrastructure for the center.

It is proposed to create 6 posts for this centre during Annual Plan 2007-08

5(e): Centre for Innovation Management and Technological incubation

Innovation Management and Knowledge Management have become the pivots of today's competitive organizations in the new global order. The power of innovation and knowledge management in the new global order. The innovation management system provide the much needed mechanism and structures for taking the ideas to the level of process improvement, product innovation and enhanced productivity. Technology incubation is emerging as an essential requirement for harnessing the good ideas and facilitating the innovators to take the ideas to the level of innovative products and improved processes. Technology incubator units have already become phenomena in major universities in the developed economies. The concept of having an incubation Centre attached to a technological university/institute, though fairly novel in India, is quite a well known and successful one in the industrially advanced countries. In all these incubator organizations the emphasis is on assisting new start-up entrepreneurs, particularly 'spin-outs' from the universities, who want to develop a new technological idea of a product or a service or a concept into a marketable commodity.

In India there is an urgent need to take up a national mission on innovation technology incubation. So that, technological institutions, universities and R&D organizations are able to create institutional structures to transform knowledge into prosperity.

This center shall be interdisciplinary for research and development in the area of technology, production and process management. To support the center the positions of Professor, Technical Assistant, Lab Attendant and Peon cum Farash (One each) and necessary infrastructure proposed to be created .

Physical Target

Conduct of interdisciplinary research in a area of technology production process management, Purchase of machinery equipments consumables and creation of post of Professor, Assistant Professor, Lecturer, Senior Technical Assistant, Junior Technical Assistant & Laboratory Attendants and infrastructure for the center.

5(f): Centre of Relevance and Excellence in Fiber Optics and Optical Communication:

There is rapid development in the area of telecommunication systems and stress is being put on Optical Fiber based telecom systems and network. Keeping in view, this fact, Applied Physics and Electronics and Communication Engineering Department have proposed to open a center for imparting education and research in this area. The proposal for establishing this center is already approved and is supported by a programme called

MISSION REACH under Technology Vision 2020, Department of Science and Technology, Government of India. This center will run courses in this emerging technology besides carrying out advance level interdisciplinary research and development work. As per terms and conditions of the TIFAC, entire recurring expenditure and non-recurring expenditure up to 50% of the project cost are to be met by the college which includes maintenance of the machinery, equipment and consumables, salary, TA/DA of the staff monitoring the scheme, books, generals, telephone, fax, internet facility and publication materials related with the course.

Activities of center:

- (1) To run courses related to Fiber Optics and Optical Communication courses at BE/M.Sc./M.E. level.
- (2) To run separate program at M.E. level in the area of Optical Communication.
- (3) To take-up advance research in the area of lightwave propagation through optical fibers, optoelectronic devices and multiple access techniques in Optical Communication system.
- (4) To take up sponsored R & D projects from Government/industrial organization.
- (5) Establish collaboration with leading laboratories and scientists across the Globe with an objective to emerge a center of excellence in the field of Fiber Optics and Optical Communication.

The center will also get support from the Department of Science & Technology, Govt. of India and other leading telecom companies which will be 50% of the non-recurring expenditure for first three years.

The number of personal required during the plan period given in the table.

Physical Target

1. Equipments, as well as infrastructure for the operation of lab classes for ME Programme will be procured.
2. Classes and seminar halls for the newly introduced M.E. programme in Fibre Optics and Optical Communication will be made in first year.
3. Three labs (i) Optical Fibre Characterization (ii) Optical Communication (iii) Fibre Optic Sensor lab in addition to Advanced computation lab under this scheme are to be developed and strengthened. The equipments like Optical Spectrum Analyses, EDFA Systems, PMD measurement set up, Optical Power with BER system etc will be produced in next two years.

It is proposed to create 7 posts for this Centre during the Annual Plan 2007-08.

5(g): **Center for Information security and Intel planet lab**

This center has mainly two sections namely Information security and Intel planet lab. The objective of the first section is to create awareness in the area related to data and

information security, while the other section will be part of Intel planet lab consortium. Planet Lab Consortium already has one hundred fifty of the world's top universities and industrial research labs including MIT, Stanford, Princeton University, UC Berkeley, University of Washington, AT&T Labs, Cambridge University, France telecom, HP, NEC Labs, as its members. Planet Lab is an open, globally distributed test bed for developing, deploying and accessing planetary-scale network services. It provides an environment for testing the next generation of distributed applications and services. There are currently 599 nodes at 284 sites world wide available to support both short-term experiments and long-running network services.

The hardware for Information security mainly consists of ten computers, one server, LCD projector, one screen etc. The hardware for Intel planet lab consists of two high-end nodes which will connect to planet Lab network via a high speed internet connection. As suggested by Intel, in order to maintain the security of the planet Lab network these nodes are to be placed in a reasonably secure location, such as on a rack in a dedicated server room. These nodes should be treated as any heavily used servers. Adequate power, connectivity, and ventilation should be provided to the nodes. These equipments and nodes are to be properly installed so that they can be used by students and faculty members in a resourceful manner.

The center should have a dedicated server room, proper flooring, false ceiling, modular and fixed furniture. The center should be fully air conditioned. All the computers and server in the center should be connected via a high speed LAN and a high speed Internet connection. In order to transform it into a world class center, Show Rack/Bag space, Anti Electrostatic charge flooring, Venetian blinds, Condensing Unit 6 ton, Fixed Furniture, White boards, LAN, UPS, Networking of Computers and a provision of high speed internet connection. will be required to be procured.

Physical Target

Purchase of computers, servers, creation of infrastructure for fixed furniture, LAN, UPS & Networking of computers and creation of posts of Network Administrator, Assistant Programmer & Lab Attendant

It is proposed to create 3 posts for this Centre during Annual Plan 2007-08.

5(h): Advanced VLSI and embedded system design Center for conducting PG Programme and strengthening UG curriculum in the field of VLSI and embedded system design technology in Delhi College of Engineering

There is demand of 4000-5000 trained and qualified VLSI and EMBEDDED SYSTEM Design engineers per year to meet the growing business opportunities in the field of microelectronics. At present the output from the various engineering colleges and universities in this field is around 500 per annum. Delhi College of Engineering is a leading premier institute in the country. The institute is providing high-end training in the field of hardware and software along with its research and development activities.

The Indian IT industry has an export orientation, primarily for software services. The size of India' hardware industry is rather not prominent. Further the technology advancement and regularly reform are likely to drive demand for electronic equipment and thereby for digital components. For examples,

- Emergence of 3G and 4G telecommunications standards would drive the demand for compliant devices & network equipment.
- International telecommunications market would demand for indigenous networking equipments such as amplifiers, transmitters and receivers.
- RF-ID domain and FM radio services would require digital transmission equipments.
- MPS compatible digital systems and consumer appliances such as digital television would also require digital embedded components.

Domestic production of digital devices could help in lowering prices and thus driving the demand. Indigenous development of digital components for such devices would require both hardware designing and software development skills.

Actual development of the VLSI goes would require the following;

- 1) Design engineering would involve the usage of advanced design software, which requires microelectronics-engineering skills.
- 2) Software designing & programming skills would be required because of the increasing amount of software is being embedded into the hardware as below-Os level software, as part of the miniaturization of the end components.
- 3) It involves physical production of semiconductors on silicon wafers that requires silicon foundries.

We would introduce a PG Course in VLSI & Embedded system design, for which AICTE has already given us its approval. Also, UG course curriculum and VLSI techniques. Further, micro controllers, DSP and art of embedded system design would be introduced into the UG level curriculum.

All these would require an effective and creative laboratory to be developed. The following items will be required to strengthen laboratory activities.

A. HARDWARE

- i. Clusters of 20 advanced PCs running on Linux and Windows
- ii. High end NT/Windows 2000 servers
- iii. Sun Solaris server (DCE is already having sun blade 200 workstations)
- iv. For extending college facilities of 2 Mbps Internet links to the VLSI CAD laboratory

B. SOFTWARE/HARDWARE COMBINED SYSTEM (as follows):

- i. Multiple copies of xilinx foundation express university version software's with MODELSIM VERILOG and VHDL facilities with hardware downloading equipments
- ii. FPGA test facility supporting Spartam, Spartan 2 & vertex series of xilinx devices with DAQ cards.
- iii. DSP trainer Kit with reconfigurable FPGAs.
- iv. ORCAD-7: PCB layout & design.

Physical Target

Purchase of modern software infrastructure development for fixed furniture, organizing workshop and creation of post.

An Outlay of Rs. 200.00 lakh for the Annual plan 2007 - 08 is approved for this scheme.

6. **Book Bank & Library Innovation (. Rs. 200.00 lakhs)**

The library services at Delhi College of Engineering are provided to student, staff & faculty member for updating their knowledge and supporting the research, and teaching learning activities. These services are provided through a central library and departmental libraries. The advancement of technology is at such a fast pace that the present library facility is just not sufficient and requires complete; modernization with innovations. Keeping this aspect into consideration, it is necessary that the knowledge base of the library is updated regularly by way of adding new literature in the form of text books, reference books, reports, proceedings, abstracts & indexes, encyclopedias, data books, standards (National & International) Journals & on-line databases. Some new section and services are also to be started to make the library services of ISO 9001 standard. Accordingly, New Services and Sections of Text book for teachers and students, CD Rom and on line accesses to engineering and scientific database are proposed to be started. The existing services and section viz book bank, reference section, additional reading section are to be strengthened. Automation of library services is to be completed and strengthened.

To make library facilities automated, apart from the data entry & purchase of databases, the requisite up-to-date hardware & software shall also be required, which will consist of computer system, Library automation and office management software systems, leased line, internet connection & other accessories. This shall also require the web page designing and constant updating for access through Internet & Intranet. For smooth running of library activities and modernization of its services, it is suggested to divide the collections and functions for management with in the central library pyramid.

The following initiatives will be taken during the plan :

1. Strengthening of Book Bank
 2. Modernization, up gradation and Digitization of Library resources and services
- A. Departmental Libraries
 - B. Furniture for library
 - C. Training courses and other activities on Knowledge Management and Knowledge Engineering
 - D. Reference Materials
 - E. Re-Engineering of library
 - F. Strengthening of Library Administration

It is proposed for 14 posts upgradation and 32 posts to be create during the plan period 2007 - 08.

An outlay of Rs.200.00 lakh for Annual plan 2007 - 08 is approved for this scheme.

EMPLOYMENT GENERATION GIVEN IN ANNEXURE C

7. Part-time Degree Course (Rs.40 lakhs)

Due to persistent demand from in-service diploma holders in engineering for an avenue to upgrade their knowledge and qualification, the Parliament in 1980 decided that part-time degree courses shall start in Delhi College of Engineering. The University of Delhi formulated a 5 year part-time B.E. (Tech.) Degree Programme for the purpose. The first batch of 120 part-time students was admitted in 1982. Another batch of 45 students, 15 each in discipline of Civil Engg. Electrical Engg. and Mechanical Engg. were admitted in 1989.

In 1990, for the first time, University of Delhi introduced an Entrance Examination for admission to these courses and the students were admitted from the merit list. The college is regularly conducting B.Tech. Entrance Examination in the month of July of every year from 1991, 120 students are being admitted every year. At present there are about 480 students who are undergoing teaching instructions. Every year, nearly 1000 students compete for 120 seats (30 each in Civil Engg., Mechanical Engg., Electrical Engg. and Electronics Engg.). The B.Tech Programme has been made of 4 years duration from the year 1996-97.

The programme is presently run with the help of regular and part time faculty engaged from the outside as the sanctioned posts of 8 Asstt. Professors and 14 Lecturers are not enough to meet the requirements of 480 students admitted under the programme.

An outlay of Rs. 40.00 lakh for Annual Plan 2007-08 is approved for this Scheme.

8. Computerisation of e-Infrastructure of DCE (Modern Computer Centre and Networking) (Rs.400 Lakhs)

With the importance of computer application in the various fields of industrial and commercial establishments, training of engineering students in computer software has become absolutely essential. Facilities for computer education and software development are to be provided in all engineering institutions as suggested by the national education policy, Government of India. With this objective, computer training has been made compulsory for all the Under-graduate and Post-graduate students. A new computer center building has been built and made functional. The center is catering the students, faculty and staff of the college. The entire new campus is networked by wide Area LAN, (Wi-Fi). E-infrastructure of the organisation is proposed to be strengthened during the 2007-08.

Computer Centre

The computer Centre is presently equipped with approximately 160 PIV computers, two servers, four SUMBLADE workstations and with all relevant software. It is networked with CAT five cables. 2 MBPS leased line connectivity is available in the Centre for internet access. To further strengthen the infrastructure of the Centre, it is proposed to procure six High End servers, Line printers and Cisco Firewall along with peripherals. Besides, computer Table/chair & fixtures are proposed to be provided. The provision for ISP charges for internet band width also made. Hardware & Software are required for Antivirus server, Gateway server, Mail server, Wave server, Database server, Data server, DNS server, SYS Log server & Hi-capacity storage server.

A number of lease lines are required for faster connectivity of Internet. Color Laser printer, High speed scanner, color copier, Digital Camera, Digital projectors, Digital Music system and Laptops are required Hardware's for efficient working of the centers. Various type of High speed computers are also proposed to be procured miscellaneous items like Camera, Surveillance and Video storage systems, Large plasma/ LCD screen and direct services from AMC servers along with consumable items will also be procured

The Computer Centre has presently, been sanctioned 2 posts of programmer, 1 post of console operator and 1 post of data entry operator. Two more positions of system engineer and system analyst, (1 each), which were created for the center have to be revived. The additional 7 posts are required to be created to cater the manpower requirements of the center

Integrated LAN Services: In the present age of advance information technology, the institute like Delhi College of Engineering should have a LOCAL AREA NETWORK, backed by sufficiently wide internet bandwidth. For this, it is proposed to lay Fibre Optics backbone connecting all necessary premises and CAT-5 cabling inside the premises. WI-FI connectivity has to be further to cover all the area/building in the campus to enable the teachers to access Internet from any where in the campus.

Academic Departments: Computation facilities to be developed in terms of connectivity, computer peripherals, etc in the department as well as classrooms. Personal Computers with internet connectivity & printers for faculty & Office, E-Class rooms (two) with recording facility, Procurement of technical software's are proposed to be provided to each academic department period to strengthen the infrastructure in the department and institution as a whole. To connect all the labs in the departments via ISDN LEASED LINE and V-SAT (in addition to Wi-Fi connectivity), LCD Projector along with screen (3) for modern classrooms and Modern boards with PC and printer interface (1) for seminar room are to be provided in all the departments. Besides it is proposed to provide laptops to all the teachers as teaching aid .

Library

Creation of Electronic Resources

Electronic resources are proposed to be created with the following major aims, objectives and benefits.

- Resources :** proposed additional Electronic resources to be subscribed are
Databases i) Compendex ii) Ei village iii)Inspec. iv) Web of Science v)Scopus etc.
Books i). E-Books ii). E-Reference Resources.
On line Journals i) on-line journals archives of library holding
- Membership:** - Additional consortia membership required are: 1. U.G.C.- Info-net, 2. INDEST- AICTE, 3. Any other in the field of Science, Engineering and Technology.
- Digitizing the library resources:** - i) Rare documents ii)Thesis Dissertation iii) Most useful books. iv) Faculty publications

- 4. Hardware requirement:** 6.1 Capturing :- Data capturing equipments such as high-resolution scanners, VCP and compatible capture cards to handle audio, video, images and text. 6.2 Storage :- Storage Servers with multiple CPUs, with RAM in GB range and HDD of few 100 GB to TB., web server with allied necessary software and hardware, few workstations of decent configuration with enhanced processor speed and storage and a few CD-recorders/ writers, jukebox, etc. 6.3 Dissemination :- 1. 10 MBPS speed internet connection 2. Infrastructure for LAN, 3. ATM/100 mbps card and high speed routers 4. Large display terminals for servers and workstations 5. LCD displays for projection High/low resolution printers
- 5. Software requirement:-** 1. Digital library software :- Dspace (Digital Repository Software) has been installed but it needs further customization as per the requirements of the users, Software's for developing website i.e. Microsoft Front page, Macromedia Dream weaver, Flash, Swish etc, Software's for uploading web site on internet i.e. Cute FTP etc, Software's for anti-virus for security of databases and resources. i.e. firewalls etc, Software for database management, Web servers, content authoring /editing, etc, Operating systems i.e. LINUX, Windows etc, Developmental Software viz Visual studio, C++, java & internet tools etc, are proposed to be procured.

Annual maintenance: Annual maintenance of computers, servers softwares and other hardwares including electronic surveillance system will be required for efficient and smooth running of the library .

The E-Governance Project at DCE:

Good governance holds the key to create an academic environment conducive to a world-class institution to create transparency and provide cost effective and efficient management of academic and administrative functions. At the same time, knowledge centric information and work flow systems improve productivity at all levels for students, faculty and staff as well as of institute top management. The Govt. of Delhi has already introduced e-governance as its major strategy to provide efficient administration and to enhance public satisfaction.

- Assessing the operational performance
- Ensuring effective utilization of resources
- Developing appropriate bases for planning future goals
- Taking scientific decisions and
- Fostering academic and professional excellence.

In order to achieve the above broad objective, Delhi College of Engineering (DCE) envisages web-based application software comprising of the following categories of Management information Systems:

- Manpower Information Management Systems (MIMS)
- Students Academic Information Management Systems (SAIMS) – with Smart Card Interface (SCI)
- Students Hostel Information Management Systems (SHIMS) – with Smart Card Interface (SCI)
- Financial Information Management Systems (FIMS)
- Project and Consultancy Information Management Systems (PCIMS)

- Academic Departments and Centers Information Management System (ADCIMS)
- E-Learning Information Management System (ELIMS)
- Physical Resources Information Management System (PRIMS)
- Library Information Management Systems (LIMS)
- Document Management and Retrieval Systems (DMRS)

The scope of the project involves development of a comprehensive end-to-end solution leading to the integrated E-Governance software implementation in DCE. The work involves the development of the customized e-governance software, specifying the hardware and network needs, design and specifications on which the proposed e-governance software shall be installed and tested in the institute environment, database development, training of local manpower, trial runs over a defined period and satisfying the reliability, quality and security of the software developed and installed.

It is proposed to create 7 posts during Annual Plan 2007-08.

An outlay of Rs.400.00 lakh for the Annual Plan 2007-08 is approved for this Scheme.

9. **Expansion of Existing Educational Facilities (Scholarship & Stipends)(Rs. 240 lakhs)**

To meet the shortage of technical manpower in the emerging areas of technology, the following courses are either spilled over to XI Year Plan from the X Plan or started afresh during X Plan :

B.E. COURSES (Under Graduate Degree Programme

i. **Applied physics** : The department of Applied Physics has altogether 3 (UG) & 5 (PG & Research) laboratories and actively involved in imparting Doctoral level research work with Eight fulltime Ph.D students in the cutting area of emerging Science and Technology e.g. Smart Materials, Nano Photonics and Optical Communication systems and networks etc. In addition, many of these labs are truly serving as a mini center of interdisciplinary research in terms of sponsored research project leading to product development. Within next years, department would like to come up as full fledge engineering department by introducing new academic programs in the area of B.E.(Engineering Physics), M.E.(Material Science), Integrated M. Sc. in Material Science with Specialization in Nano Technology & Integrated M.E. (Engineering Physics with specialization in Photonics).

The department proposes to set up new laboratories like Nano Science & Technology lab, Laser & Holography, Cryogenics lab, Non conventional Energy and also proposes to strengthen the existing laboratories on Advanced electronics during the next Five Year Plan. It is also plan to set up one class room in the department with LCD Projector, AC, Proper sound system and networking of U.G. labs and desires to perform few U. G. experiments with computers. All labs of the department will be networked with a view to design, develop and impart world-class academic infrastructure. The department is planning to develop Open Course Ware and Internet enabled labs in next five years.

ii. **COMPUTER ENGG.** : Keeping in view the phenomenon growth that has taken place in computer technology during the last one decade, the need to generate proportionate quality man power and to cope up with the demand, **the department decided to increase intake at UG level from 90 to 120** as per the perspective plan of technical education 2010. Efforts will be made to fill up newly created position during X plan and to get additional post of faculty and technical staff created.

iii. **PRODUCTION & INDUSTRIAL ENGG.-.** Having seen the growth of the industries and the manpower requirement, it has been decided to enhance the intake of the program **from 30 per year to 60 per year during Annual Plan Period 2007-08.** The proposal in this regard shall be submitted to the AICTE, university of Delhi & Govt. of NCT of Delhi as per the perspective plan of Technical Education – 2010.

iv. **ENVIRONMENTAL ENGG.** – it is planned to increase the intake of the program from 30 per year to 60 per year during the Annual Plan.

v. **POLYMER SCIENCE & CHEMICAL TECHNOLOGY** – The programme is proposed to be continued during the XI plan period. The faculty positions and positions of the technical staff, which were taken up for its creation during X Plan period, has to be approved by the govt. Its approval is expected to be received during the annual plan 2006-07. **The newly created position shall be filled during 2007-08 . Besides, it is also planned to enhance the intake of the program from 40 per year to 60 per year during the Plan period.**

vi. **ELECTRONICS AND COMMUNICATION ENGG** : The department presently has sanctioned strength of 4 Professors, 8 Assistant Professors and 17 Lecturers out of which 1 P and 4 AP and 10 Lecturers were sanctioned during X Five Year Plan 2002-07 to cope up with the increased intake of the 50. The recruitment action for filling up the above posts are in progress. It is expected that all the posts created will be filled up during Annual Plan 2007-08

vii. **ELECTRICAL ENGINEERING:** The intake was further increased from 70 to 90 from the academic session 2006-07. The department has been sanctioned 4 Professors, 8 Assistant Professors and 14 Lecturers. In order to cope up with the increased intake, no additional faculty position will be required to be created due to change in the student teacher ratio as 15:1.

(viii) **INFORMATION TECHNOLOGY:** The government has sanctioned 20 faculty positions (2 Professors, 6 Assistant Professor, 12 lecturers) to meet the requirement of IT programme. Besides, technical staff to the extent of 2 technical assistant and 2 lab attendants have also been sanctioned. All the posts created shall be filled during Plan period for which necessary provisions have been kept in the scheme.

(ix) **BIO TECHNOLOGY:** It has been planned to increase intake in Bio Technology from 20 per year to 60 per year during Plan period 2007-08. The faculty position for the programme is yet to be sanctioned by the government. Efforts will be made to get the proposal for creation post approved.

M.E. COURSES (Post-Graduate Degree Programme)

1. **M. Sc. APPLIED PHYSICS:** M. Sc 3 years (Part Time) Programme in Applied Physics with intake of 10 per year - course is approved by the University of Delhi

Delhi College of Engineering is admitting 10 students every year for employed scientists in and around Delhi on a part-time basis to the course of M. Sc. in Applied Physics. Admission to this course has continued for the last several years and thus the lab. Facilities already exist and naturally the course is approved by the University of Delhi. **The college proposes to continue this course and extend to full-time students during the Plan period with an intake of 15 students per year.** It is proposed to start the full-time course of M. Sc. in Applied Physics with emphasis on material science and electronics. It is also proposed to create the positions of the faculty and technical supporting staff to meet the laboratory and technical facilities of this program.

2. **ME (Software Engineering):** Due to Computer Software and Communication Engg. Industries boom in the global market, the manpower requirement in these fields have increased manifold. Indian software and its specialists have been in great demand all over the world. The Indian experts in these fields are now taking leading role globally. So, Delhi College of Engineering feels that to cater, for the demand, it must start the new post-graduate courses in computer Engineering. It is proposed to start the programme with an intake 15 during the plan period. To run the programme effectively, the posts of 1 Professor, 1 Asstt. Professor and 1 Lecturer are required to be created.

3. **M.E. (MICROWAVES AND OPTICAL COMMUNICATION ENGINEERING)** There is a need for basic infrastructure development in the area of Microwave and Optical communication due to the boom that is totally place in the area of networking using Microwave and Optical Communication. The internet revolution needs the basic communication like that mainly involves microwave satellite and optical communication. The manpower requirement needs to be upgraded in these areas as these are the basic infrastructure for the I.T. Industry.

The area of Microwave and Optical Communication, being the thrust infrastructure requirement in the demand in the above area, it is proposed to start a new PG programme in this specialized field with an intake of 18 during the Plan Period. To run the programme, the post of 1 professor, 1 assistant professor and one lecturer during the plan is required to be created.

4. **M.E. INFORMATION TECHNOLOGY:** Intake 18 per year. The course is to be approved by the University of Delhi and AICTE. It is proposed to start this course during the Plan.

5. ME in Bio-technology, Bio-informatics, Information Systems Management, VLSI Design & Embedded Systems, Software Engineering, Geo technical Engg., Disaster Management, Microwaves & Optical Communication, CAD & CIM, Industrial Management, Construction Technology & Infra-structure Management, Nano Technology, Transportation Engineering, Optomechatronics, Computational Mathematics, and Knowledge and Technology Management (intake 18 each)

The students admitted under M.E. programme are paid scholarship at the rate of Rs. 5000/- p.m. and contingency amount of Rs. 5000/- per annum from the session 2002-03. The duration of M.E. programme has also been increased from 1 & 1/2 years to 2 years from the year 2002-03. The provision for payment of scholarship and contingent amount to the student under ME full time program have been made in the scheme.

**Establishment of DCE School of Management, as its constituent department
Follow up action will be taken during the Annual Plan 2007-08**

Ph.D. PROGRAMMES

The Ph.D programme has been found very useful for the students interested in research and development activities. The programme is proposed to be continued during 2007-2008 also. The duration of the Ph.D programmes has been increased from 3 years to 4 years and scholarship has been enhanced from RS. 5000/- per month to Rs. 6000/- p.m. for the students of Science stream whereas it has been enhanced from Rs. 6000/- to Rs. 7000/- p.m. for engg. stream students. Contingency amount has also been increased from Rs. 7500/- per annum to Rs. 10,000/- per annum. The total number of Ph.D scholars at any point of time are limited to 25 during the 10th five year plan. The intake of the Ph.D program is also proposed to be enhanced from 25-50 during 2007-2008.

The 61 posts teaching and laboratory are proposed to be created during the Annual Plan 2007-08 for consolidation and expansion of educational facilities under the above scheme:

An outlay of Rs.240.00 lakh for the Annual plan 2007-08 is approved for this Scheme.

10. Coaching Classes for SC/ST Weaker Students (Rs. 5 lakh)

There is need for separate intensive coaching for students belonging to SC/ST and other weaker sections of the society. Such classes are quite regularly arranged in the college, normally before or after office hours on working days and approximately 700 students get benefited from this coaching. The programme has been proved to be very beneficial for the students during the last one decade. The expenditure proposed under this scheme is meant for providing remuneration to the teachers engaged for taking coaching classes, stationery, books and other miscellaneous items. It is proposed to continue the scheme during the 2007-08 Plan period.

An outlay of Rs.500 lakh for the Annual plan 2007-08 is approved for this scheme.

11. General and Hostel Administration (Rs.160 lakh)

The existing administrative structure was designed long time ago to cater to the needs of the college when it had only three-degree level courses with an annual intake of 180. The college presently caters 1 UG level programmes and 11 Post Graduate level programmes. The intake under UG programme has gone upto 670 whereas under PG programme it has raised at the level of 162. The existing position of officers and staff in administration and accounts therefore also needs to be increased in proportion to the increase in number of faculty technical staff and students. Therefore, in order to strengthen general and hostel administration, the college had taken up the proposal for work-study measurement with the AR department during tenth five year plan. AR department has completed their work-study and recommended for creation of 21 administrative posts

The proposal for creation of administrative posts, which include officers in accounts, planning and other ministerial staff, has been submitted to the government for approval. However, proposal for work study measurement in respect of some of the important positions, Registrar, Dy. Registrar, Asstt. Registrar which were not considered by AR

Department on the ground that these are prevalent in the autonomous institutions such the file shall be taken up with them again during 2007-08. For considering creation of above posts with alternative designations such as Chief Administrative Officer, Jt. chief Administrative officer and Administrative Officer or Director (Admn.), Dy. Director (Admn.), Assistant Director (Admn.) In DCE as administrative work has substantially increased due to increase in the intake of the students, faculty and staff in the institution during the last two decades.

During the 2007-08, efforts will be made not only to get the recommended administrative position approved from the government but also to get their recruitment rules framed and post filled within the five-year plan period. Besides, it is also proposed to take up the matter for creation of additional position of Chief Administrative officer, Joint Chief Admn. Officer, Administrative Officer, Security Cum House Keeping Officer and Assistant Security Cum House Keeping Officer, Hostel Supdt. Asstt. Hostel Supdt & Hostel Assistant, Care Taker. Security & Sanitation Services shall be given to private service providers during the Annual Plan.

Care Taking Unit

Care taking unit of this institute is required to be strengthen to provide better monitoring of work related with security and upkeep of the non-consumable stores procured by the institute as care taking unit takes care of the stores procured for general uses of the departments as well as also supervise the repair & maintenance of fixed furniture and stores related to students committee, rooms in the campus. It also helps in proper upkeep and maintenance of the buildings, which needs repair due to wear & tear with the passage of time. It is therefore, proposed that 4 additional posts of Care Taker 1 in senior scale and 3 in lower scale shall be created during 2007-08 to meet the requirement of the institute.

Guest House

The college has a beautiful guesthouse, which has 8 rooms, 4 rooms at the ground floor and 4 rooms at the first floor for visitors coming to the institute. Besides it has a dining Hall, Common Room, Kitchen for providing necessary amenities to the guests. Due to non-availability of manpower it is not being managed properly, a person hired from the security agency is helping in the work. In order to look after the activity, 4 posts of Caretaker and 4 posts of Guest House Attendants, (One each in 3 shifts of 8 hrs and one shall be in reserve) 1 post of cook are proposed to be created. so that they could take care of the accounts of the Guest House charges, maintain inventory of stores & kitchen and also maintain the office records.

Solid waste Management

The aim of this program is to provide a clean and hygienic campus to the residents by efficient handling of waste using Eco friendly principles. The key issues to be addressed under this program are:

1. Stop unhygienic land filling
2. Use of the two-channel system of recycling by the residents.
3. Encourage community participation and inculcate a feeling of ownership.
4. Use of waste material to build infrastructural facilities within the campus.

The initial infrastructure cost of the project is approximately 2.5 lacks. In addition, a recurring equipments approximately 2 lakhs shall also will be required by the institute for payment to NGO who will operate the project. Accordingly, the provision for the same has been made in the scheme.

The 59 plan posts are proposed to be created during 2007-08:

An outlay of Rs. 160.00 lakh for Annual Plan 2007-08 is approved for this scheme.

12. **Strengthening of Examination Cell (10 lakh)**

The University of Delhi introduced the mode of Combined Entrance Examination (CEE) for admission to B.E. courses for the candidates passing Board Examination from schools located in Delhi and the CEE for the first time was conducted on 2.6.1990. The college had provided massive support in organizing this big task. Again, the University of Delhi introduced Entrance Examination for admission to B.E. (Tech.) Part-time Degree Course and the college was asked to conduct this Entrance Examination taking the complete responsibility. Both these entrance examinations were conducted successfully. In addition, the University of Delhi has handed over the semester examination work to the college in a big way and the college is executing this work for the last several years. Lastly, the Faculty of Technology, University of Delhi, has passed a flexible type of examination reform for the B.E. courses, which takes into its stride continual evaluation of a student throughout the semester in accordance with the guidelines of the national Educational Policy of the government. Adequate space has now been provided for proper functioning of the examination cell at the new campus of the college. Being convinced regarding the dire need of an Examination Cell in the college.

It is proposed to create 4 posts for the Cell during Annual Plan 2007-08.

An outlay of Rs.10.00 lakh for the Annual Plan 2007-08 is approved for this Scheme.

New Schemes

13. **Setting up of Knowledge Park: (Rs.500 Lakh) (NEW SCHEME)**

Recently in a bid to bridge the gap between the industry and technical institutes, the Delhi Government has given a green signal to the idea of developing a 'Knowledge park' at Delhi College of Engineering (DCE). The 'Knowledge park' will have an intellectual property rights (IPR) cell and a computer aided design center besides other world class facilities.

This facility will also be extended to Netaji Subhas Institute of Technology (NSIT), since both NSIT and DCE are on the threshold of becoming deemed universities."

This development is a step in the direction of research and development work joining hands with the industry. The objective is making it functional in two years. For this about 15 acre land will be identified and World class Knowledge Infrastructure will be created. New buildings blocks will be constructed to accommodate Corporate Block, Patent Facilitating Cell, Shared Analytical Facilities, Instrumentation and Testing Lab, CAD Center, CFD Center, Knowledge Technology Center, Technology Business Incubation Unit etc. This may require approximately 15,000-20,000 sq mtr covered area.

It will have Interface with TIFAC CORE at DCE and Innovation foundations in Leading Institutions in India and Abroad and will be a Knowledge Center cum Information Hub. It will be a Ideation cum Technology Incubators to develop new products. This Knowledge Enterprise Hub will be having 10 Mbps connectivity. Well-equipped workshop & laboratories for innovative research in various fields will have strong alliances with Industry.

The objective of this Knowledge Park is primarily to promote partnership with new technology entrepreneurs and start-up companies. As apart of the scheme, limited modular space will be provided to new entrepreneur or technology based organizations for a limited period of time for setting up an office or a workstation or a prototyping laboratory within the campus. With a view to

- (i) Promoting interactions 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 expenditure required on developing Knowledge Park will include construction of World Class Building Infrastructure & Development of Facilities, purchase of machine / equipments etc.

An outlay of Rs.500.00 lakh for the Annual Plan 2007-08 is approved for this scheme.

14. **Establishment of Technical Education EDUSAT NETWORK and DCE EDUSAT STUDIO cum Classroom.(Rs. 140 Lakhs) (New Scheme)**

EDUSAT Classroom set up at Delhi College of Engineering is operational since last three months through which educational programs relayed by IGNOU, CIET, CEC, Vigyan Prasar (DST) and AICTE are received. Educational Programs beamed by AICTE are made available to the students from 9:00 am to 2:00 pm and 2:00 pm to 5: 00 pm on all working days.

Delhi College of Engineering has been chosen as one of the fifty institutions for the participation in ISROs INDO-US University Network. The MOU for the purpose has already been signed by Delhi College of Engineering and ISRO. The Classroom for receiving the educational content through SIT has been prepared as per the technical requirements for installation and commissioning of extended-C Band remote SIT. ISRO has already sent the up linking equipments and are likely to be installed soon.

Delhi College of Engineering has planned to set up teaching hub (studio), which will be connected to engineering colleges and technical institutes in and around National Capital Territory of Delhi. The teaching hub will be uplinked to EDUSAT which in turn will beam lectures by eminent academicians on subjects which have direct relevance to the courses / curriculum at UG and PG levels of Science and Engineering. The facility at Delhi College of Engineering will also provide connection for online transmission of expert lectures, seminars, tutorial updates and faculty orientation programmes.

The HUB is proposed to have facility to connect more classrooms of DCE and / or other similar studios within the area of the scope of EDUSAT spot, so that four parallel sessions can be beamed simultaneously. The remote user will have a choice among the four streams.

Two numbers of classrooms (each of 100 students capacity) along with 6 nos. of ancillary rooms have been identified. Some preliminary works have already been carried out. If, necessary, the requirement of additional space may be taken care of in the II Phase of construction.

The proposed Teaching Hub will have following over all System Specifications:

➤ **SYSTEM DESIGN REQUIREMENTS**

❖ **NOC [Hub station] Traffic:**

- Outbound - Four multicast streams of 1 mbps per stream. Total outbound capacity of 4 mbps user traffic.
- Inbound – Four inbound video streams of 384 kbps per stream plus four shared 64 kbps data channels and 64 kbps voice channels.
- NOC sized to support between 50 to 100 remote stations.
- Non-redundant NOC equipment configuration.

❖ **SIT Traffic:**

- Capable of receiving (forward link) the 4 simultaneous outbound streams from the NOC.
- Capable of transmitting (return link) one 384 kbps video stream as well as simultaneously accessing the 64 kbps shared data channel and 64 kbps voice channel.

➤ **LEARNING MANAGEMENT SYSTEM REQUIREMENTS**

A. LIVE ONLINE LECTURE AND QUESTION/ANSWER SESSIONS THROUGH:

1. Two way video and audio (video-conferencing)
2. One way video and One-Way audio
3. Two-way audio
4. Ability to interface handycam or PTZ camera to establish video link with teacher end.
5. Teaching end can initiate video call with student via GUI
6. Student end video streamed as pip with teacher end video.
7. Can select one video input from multiple inputs provided to video capture card or any other means.

B. Video Conferencing Capability

- ❖ Learning Management System – Asynchronous Component, Virtual Institute, User Registration Module with Personal Web-page and Learning Preferences, Online Collaboration Module

TEACHING END WITH AUDIO-VIDEO AIDS

There will be two types of teaching facilities in the network, which will include studio (with students- live class room) based teaching facility and virtual classroom based teaching facility.

a. PROPOSED TEACHING FACILITY CONFIGURATION.

The teaching facility will have an instructor area with full function Instructor's Desk, LMS Server, Recording Machines, PTZ Cameras, wireless microphone, Audio Mixers, Video Switchers, Video Mixer, Video Distribution Amplifiers, VGA-PAL Converter.

Bill of Materials:

NOC (Network Operating Center) will comprise of Ku Band HUB, Virtual Classroom Studio End Installation charges, HUB Installation & Remote Terminals. It will involve expenditure of Rs.84,46,100/-.

ISRO will provide the item viz: Ku Band SIT, Student SIT, & LMS Client. It will cost Rs. 2,29,200/-

The following additional equipments will be required for operation of Studio cum class room and editing. These are: 1) PTZ Cameras 2) Video mixer and switcher 3) Video Editor 4) Storage equipments 5) Professional CD writers etc. 6) On-line UPS (20kVA)

A class room with 100 seating capacity and area of 2500 sq ft is identified to convert it in to Studio. The works which are proposed to be taken up are: Air conditioning (Low Noise), False ceiling with Acoustic absorbent tiles, Acoustic Wall Paneling, Acoustic absorbing Flooring, Networking of all the seat, Construction of control room by acoustic partitioning, Construction of NOC room and Providing studio lighting.

In order to carry out the action and gave manpower will be required. It is therefore proposed to create 13 posts during year 2007-08.

An outlay of Rs.140.00 lakh for the Annual Plan is approved for this Scheme.

C. NETAJI SUBHASH INSTITUTE OF TECHNOLOGY

Netaji Subhas Institute of Technology is a premier, hi-tech institution of Delhi Government. It is affiliated to Delhi University & provides Hi-tech courses in the emerging areas of technology at UG, PG & Ph.D level .

The objectives of the Institute are:

- i. To provide for excellence in instruction at the Undergraduate and Postgraduate levels and undertaking and sponsor research in such branches of Engineering and Technology, Applied Sciences and Management Science as the Institute may think fit, and for the advancement of learning and dissemination of knowledge in such branches according to the provision thereof in the Rules and Regulations of the Institute with primary emphasis on emerging Technology;
- ii. To set up a Science and Technology Park;
- iii. To organize and undertake extramural teaching and extension services;
- iv. To undertake industrial and R &D consultancies;
- v. To lend support in identifying and starting small scale industry in and around the Institute through Entrepreneurship Programmes;

- vi. To undertake Technology Transfer programmes;
- vii. To develop suitable programmes for effectively utilizing the built-in infrastructure facilities in the Institute;
- viii. To establish linkage between the Institute, Industries, R & D Organisations and other Universities/Institutes of higher technical education for teaching and research programmes in India/Abroad;
- ix. To enrich mental, spiritual, cultural, and physical potentialities of the students;
- x. To enthuse a sense of values worthy of the Democratic norms of India.

Besides, the Institute envisages to integrate the following activities also:

- (i) Integration of Science and Technology Entrepreneurs' Park with the overall objectives of the Institute; and
- (ii) Institutional categorization of R & D activities through advanced Labs/Centres at three levels, viz. (a) Mission; (b) Thrust; and (c) Blue sky (Open ended research).

The R & D activities of Universities and Institutes by and large fall in the area of Blue sky i.e. open ended research which no doubt is essential for the growth of knowledge, civilization and future of mankind but is not normally addressed to the present day to day problems. Therefore, in addition to the normal research activities in the Blue sky area, emphasis will be on thrust and mission areas. For example, if Computer is thrust area, development of say PCB around a particular Processor with complete specifications and a time schedule could be a classified Mission. On the other hand, Optical Computing could belong to Blue sky. A conscious effort will be made so that a certain research effort in the Blue-sky area migrates to the Thrust and Mission areas under the Technology Transfer Programme. The recommendations of the 44th meeting of Central Advisory Board on Education held in sep'88 have been envisaged to be integrated through Divisions, Schools, Centers and Sciences & Technology Entrepreneurs' Park.

Instruction programmes have been divided into Undergraduate, Postgraduate and Doctoral programmes with a provision of cross migration for different disciplines. Postgraduate programmed would be tailored and run in co-operation with Industries and R & D Organisations as far as possible. Special courses of variable duration and modular nature would be developed. Research and Development Centers have been conceived to build special thrust and to undertake execution of certain Missions in chosen areas.

The academic scheme at NSIT provides for organization into Units of Divisions and Schools. Divisions are organic aggregation of wide areas which are the most important thrust areas and which would need the maximum investment and resources. A particular Division would consist of various groups and subgroups of identified areas of specializations. The schools are the aggregation of areas which are pointed and peaked to some extent but they also play their independent roles and are in no way subsidiary to the main Engineering Divisions. Divisions and Schools are complementary in their functions and at the same time autonomous in implementing their programmes in a co-ordinated manner.

Besides the Science & Technology Entrepreneurs' Park, the academic activities would be located in the Divisions and the Schools as given below:

a) Divisions

1. Electronics & Communication Engineering, 2. Computer Engineering, 3. Instrumentation and Control Engineering, 4. Manufacturing Processes and Automation Engineering, 5. Information Technology, 6 Bio-Technology

b) Schools

1. Applied Sciences, 2. Humanities and Social Sciences, 3. Management and Entrepreneurship.

Courses offered and Intake

Presently, 440 students are being admitted every year in undergraduate and 54 at PG level programmes.

UNDER GRDUATE COURSES (B.E.)	Intake
1) Electronics and Communication Engineering	100
2) Computer Engineering	100
3) Information Technology	60
4) Instrumentation and Control Engineering	100
5) Manufacturing Processes and Automation Engineering	60
6) Bio-Technology	20
TOTAL	440

POST GRADUATE COURSES (M.TECH.)	
1) M.Tech in Signal Processing	18
2) M.Tech in Information Systems	18
3) M.Tech in Process Control	18
TOTAL	54

DOCTORAL (Ph.D.)

In the emerging areas of technology and basic sciences. Scholarships under TRF & JRF schemes are available to deserving candidate.

Proposed Activities

I. M.Tech Programmes

- (i) M.Tech in Mechatronic Systems
- (ii) M.Tech in Industrial Electronics & Automation
- (iii) M.Tech. in Bio-Medical Engineering
- (iv) M.Tech in Bioformatics Engg.,
- (v) M.Tech in Production and Automation Engg.

II. Opening of Advanced Centers at each division of NSIT

The following advance centers are planned to be open

1. Centre for Virtual Reality and Multimedia Technology (VRMT) in the division of Computer Engineering,
 2. Centre for Virtual Instrumentation and Control Technology (VICT) in the Division of Instrumental and Control Engg.,
 3. Centre for Rapid Prototyping and Product Design (CRPPD) in the Division of Manufacturing Processes and Automation Engg.,
 4. Centre for Application of Information Technology in Financial Systems (CAITFS) in the Division of Information Technology.
1. **NSIT(Library, Faculty, Development & Student Welfare, Renovation work, Addition/Alteration and Rent & taxes) (Rs. 760.00 Lakh)**

Salary of the employee (for the plan post), Security, Horticulture charges, hiring of office labours, office expenses, part time professional charges, other charges etc. are booked under this head.

FACULTY DEVELOPMENT & STUDENTS WELFARE

This Institute is in the process of establishing collaboration, for research and development activities with other Institute, Universities, R & D organisations in India as well as abroad. This is in pursuance of the objectives No.3 (viii) of the Institute as set out in the Memorandum of Association which reads as follows: -

VIII "To establish linkages between the Institute , Industries, R & D organisations and other Universities/ Institute of higher technical education for teaching and research programmes in India and abroad. "

LIBRARY & BOOK BANK

The Institute has started a new B.Tech. course in "Biotechnology" and in the process of starting two M.Tech. Courses on Mechatronics and Industrial Electronics. In addition, the institute has enrolled a good number of research scholars for Ph.D. programmes consisting of internal faculty members as well as some students on full time basis. Keeping this development in mind Institute's requirement for research & high standard academic journals will grow considerably, Therefore, in the age of information explosion, central library requires at least Rs.89 lakhs to meet its recurring budget towards existing journal subscriptions and new additional journals for the above mentioned new upcoming areas and their management

MINOR ADDITIONS / ALTERATIONS

To make provisions for the works which are not directly covered in the EFC.

Details : To make minor additions and alteration in the infrastructure of the Institute as needed from time to time.

PROPERTY TAX, LEASE RENT , R&M

To meet out the mandatory/statutory tax requirements for functioning of the Institute and Misc. R & M works.

Details: - Ground rent to DDA, Water Charges to DDA, Property tax to MCD and Misc. R & M works

An Outlay of Rs.760.00 lakh for Annual Plan 2007-08 is approved for this scheme.

2. PROCUREMENT OF MACHINERY & EQUIPMENTS (Rs. 300.00 Lakh)

To keep pace with the expanding academic activities, it is proposed to establish a chain of advanced laboratories in addition to modernizing the existing one. New branches of academic programmes in Post Graduate streams are to be started shortly. B.E. programme in Bio-technology is functional and new labs are being setup.

An Outlay of Rs.300.00 lakh for Annual Plan 2007-08 is approved for this scheme.

3. AWARDS OF SCHOLARSHIP / RESEARCH ASSOCIATESHIPS (RS. 20.00 LAKH)

The Scheme for merit/merit-cum-means scholarships is proposed to be introduced for students. Certain awards are also proposed to be extended to deserving students. Associateships according to U.G.C norms are also proposed to be awarded.

An outlay of Rs.20.00 lakh is approved for Annual Plan 2007-08 is approved for this scheme.

4. CENTRE FOR ELECTRONICS DESIGN & TECHNOLOGY (CEDT) (Rs. 30.00 Lakh)

The CEDT was started in August 2003, to offer workspace that allows the faculty and students of the institute to carry out research and developmental activities tuned to the needs of the industry. The aim of the centre is to develop necessary expertise in the areas of telematics, instrumentation and control systems , power electronics, space electronics , communication systems, electronics packaging and production systems and industrial product design.

The following advance centers are planned to be open

1. Centre for Virtual Reality and Multimedia Technology (VRMT) in the division of Computer Engineering.
2. Centre for Virtual Instrumentation and Control Technology (VICT) in the Division of Instrumental and Control Engg.
3. Centre for Rapid Prototyping and Product Design (CRPPD) in the Division of Manufacturing Processes and Automation Engg.

4. Centre for Application of Information Technology in Financial Systems (CAITFS) in the Division of Information Technology.

An Outlay of Rs.30.00 lakh for Annual Plan 2007-08 is approved for this scheme.

5. **SCIENCE AND TECHNOLOGY ENTREPRENEURSHIP PARK (STEP) (Rs. 5.00 Lakh)**

Major objective of STEP are as follows.

To create trust and confidence among academic/research institutions and Industrial Enterprises

To Help financial institutions in the monitoring of Industrial Enterprises financed by them .

Students will be actively involved for this activity.

- a. Direct interaction with Industrial Enterprises through their associations and encourage students to under-take development work for them. STEP will support such development work financially also.
- b. Arrange short duration training course and week-end workshops for students on management/ technology related topics
- c. 2-3 day meets of engineering students in which they share their experiences in industry with students from other engineering colleges and institutions
- d. Identify talented students and help them develop as entrepreneur.
- e. Holding of workshops and seminars, for generation of newer ideas and for increasing participation from all partners viz. industry, academic/research institutions and financial institutions.
- f. Any other activity, which encourages entrepreneurship amongst students.

6. **CONTINUING EDUCATION PROGRAMME (CEP) (Rs. 5.00 Lakh)**

Some of the activities proposed under this program are as given below:

- a. Engaging faculty members to write monographs on theory courses and lab exercises. Such monographs will be useful in organizing training programs for teachers of various science colleges and polytechnics. In the next phase this facility will be extended to the faculty of science colleges and polytechnics as part of their training program.
- b. Organise courses for practicing engineers, managers and executives working in industries. In some cases this may require augmenting of laboratory facilities of the institute, and also enhancement of the skill of technicians.

- c. Organise skill development courses for unemployed youth in such disciplines as computers, electronics equipment maintenance etc. for improving their job potential. Such course shall be run on payment basis.
- d. Organise training course for faculty and technicians to augment their skill in the maintenance of laboratory equipments.
7. **CONSTRUCTION OF NEW COMPLEX FOR NSIT AT DWARKA(Rs. 450.00 lakh)**

(Phase-III) (Part-II) (Ongoing Works) :

S.No.	Name of the Buildings	Area (Sq. Mtr.)
1.	Extension of Library Building and Computer Centre	7364
2.	Auditorium	3485
3.	Commercial complex	200
4.	Workshop	2816
5.	3 Nos. Boys Hostel	20274
6.	Guest House	717
7.	Development works/ Bulk services	Job

Total Area of the above buildings under Phase-III is 34856 sqm.

Proposal in respect Phase-III works has been approved by EFC amounting to Rs.41.63 crore.

Phase-IV (Part-III) (Future Works):-

S.No.	Name of Buildings	Area (sqm.)
1.	Office Building	1614
2.	Centres	19392
3.	Academic Blocks	20896
4.	Hospital	1142
5.	Canteen	1500
6.	Sub Station	250
7.	Gym.	3600
8.	Boys Hostel	8250
9.	Girls Hostel	5339
10.	Development works/Bulk services	Job

Total area to be constructed under Phase –IV (Part-III) is 61893 sqm.

Estimated cost of the works under Phase-IV Part III is Rs. 5684 lacs approximately.

The works under Part-III (Phase-IV) shall be taken up after the completion of Part-II

MINOR ADDITIONS & ALALTERATIONS IN THE NSIT CAMPUS

With the growing demand of the Institute, additions/ alteration works such as development of labs, aluminum partitioning , false ceiling, additions/ alterations in the building etc. are to be taken up on yearly basis as per requirement.

It is proposed that the works under Phase-III shall be completed in 33 months.

Phase-IV (Part-III):-

S.No.	Name of Buildings	Area(sqm.)
1.	Office Building	1614
2.	Centres	19392
3.	Academic Blocks	20896
4.	Hospital	1142
5.	Canteen	1500
6.	Sub Station	250
7.	Gym.	3600
8.	Boys Hostel	8250
9.	Girls Hostel	5339
10.	Development works/Bulk services	Job

Total area to be constructed under Phase –IV (Part-III) is 61893 sqm.

Estimated cost of the works under Phase-IV Part III is Rs. 5684 lacs **approximately**.

The works under Part-III (Phase-IV) shall be taken up after the completion (Phase –III) programme.

An Outlay of Rs.450.00 lakh for Annual Plan 2007-08 is approved for this scheme.

8. COACHING FACILITIES TO SC/ST/WEAKER STUDENTS/TRAINING PROGRAMME (Rs.5.00 Lakh)

Briefly, the activities under SCP are:

- i. Extra coaching classes for NSIT students in the evenings / week-ends and even during vacations
- ii. Computer hardware courses for SC/ST category outside students, who have passed 10+2 exams.
- iii. Computer literacy and personality development courses for SC/ST category outside students, who have passed 10+2 exams.
- iv. Any other activity which can improve employability of SC/ST candidates. Basic idea is to impart various skills to SC/ST candidates, which improve their employability in the market. In the forth-coming plan skills for which laboratory facilities can be arranged at NSIT would be imparted through short duration courses. There is a genuine need to include courses on the repair of household equipments, motor winding, workshop practices and personality development. Steps have already been

taken to induct competent manpower in order to expand the scope of this programmed.

An Outlay of Rs.25.00 lakh for Annual Plan 2007-08 is approved for this scheme.

9. **INSTITUTE NETWORKING SCHEME (INTERNET / INFRANET (Rs. 225.00 Lakh)**

Institute networking scheme requires budget to meet broadly three types of system requirements.

- i. Maintenance and expansion of existing networking equipment:-we have developed campus wide computer networking infrastructure comparable to any iit and leading institutions in the world by spending about 1 crore only on active equipment. There are matching installations for ups and airconditioners at 8 different locations with the campus. In the next phase this infrastructure has to be extended upto hostel as well.
- ii. Internet access tariff:-. Ins has acquired two leased circuit, one of 256 kbps on 2 mbps foc and another of 18 kbps through radio link which serves the purpose of 100%up time even if one link physically gets disturbed. Existing bandwidth is not adequate at all and proposal to upgrade them in to 8 mbps and 512 kbps is under process waiting approval from the competent authority.
- iii. Networking Application Servers and their maintenance:- institute procured servers along with networking equipment in the year 1998 and made it operational since 1999 . But during last three years despite of sincere efforts, institute could not upgrade it in time and now servers have become obsolete and non-functional. At present some adhoc arrangement has been made. Institute has to procure matching applications server to meet the latest requirement of it related world class activities that includes video conferencing, e-governance, security threats etc. In addition to necessary internet applications.

An Outlay of Rs.225.00 lakh for Annual Plan 2007-08 is approved for this scheme.

NEW SCHEME

10. **Setting up of Science & Technology Park (Rs.1200.00 lakh)**

With the objective of focusing on High & Collaborative Research having Commercial viability i.e. Applied Research and Commercialization instead of Basic Research and also aiming at transfer of Technology, Govt. of NCT of Delhi has decided to set up a Science & Technology Park at NSIT in consultation with NASSCOM. The park will be spread over an area of 25 acres. Rs.35 lakh have already been allocated for this purpose in the Plan Budget of NSIT for the financial year 2007-08 for preparing the DPR of the Science & Technology Park. The preparation of DPR by NASSCOM & Price Water House Complex is in progress. DPR will include all relevant requirements relating to infrastructure, services, concepts, objectives/Mandates etc. of proposed Science & Technology Park. The references will be taken from some globally recognized models. The DPR of Science & Technology Park is likely to be ready by Oct., 2007.

The key objective of the Science & Technology Park at NSIT will be to establish Delhi as a Hub of knowledge economy, specially in the area of High Technology & supporting the industries in and around Delhi(NCR). A Special Purpose Vehicle(SPV) will be created to manage the Science & Technology Park.

An outlay of Rs.1200.00 lakh for Annual Plan is approved for this scheme.

11. Center for Nano Technology (Rs.800.00 lakh)

Nano Technology involves phenomena related to objects having Nano Dimensions. It encompasses disciplines like Chemistry, Physics, Biology, Mathematics, Mechanical Engg., Metallurgy, Electronics & Textiles. It often offers unique methodology of tailoring properties of materials. Nano Mechanical systems consisting of Nano Machines are built at molecular level. Nano Technology will revolutionize the Technology Development in the time to come. NSIT is engaged in teaching & research in cutting edge area of technology. Continuing with the trend, the Institute has decided to put up a Centre in Nano Technology which is emerging area of technology. It is possibly one of few institutions in India including IITs having taken such initiative.

To begin with this an amount of Rs.8 crore has been allocated by the Govt. of Delhi to set up a base laboratory of Nano Technology at NSIT.

An outlay of Rs.800.00 lakh for the Annual Plan 2007-08 is approved for this scheme.

D. COLLEGE OF ART

Starting of new Courses at post graduate level and under graduate level (under active initiation of the College) in Photography, Printmaking and History of Art, and the proposed increase of the existing intake of students from 100 to 135 of BFA and from 21 to 30 of MFA in all the three disciplines are the future plans.

The following Schemes are to be executed during Annual Plan 2007-08:-

1. DEVELOPMENT OF EXISTING COLLEGE BUILDING AND CONSTRUCTION OF ADDITIONAL BLOCKS IN THE CAMPUS OF THE COLLEGE (Rs. 150 lakhs)

The 1st Phase along with Lift Block of the permanent building was completed in 1976 and Phase II and III consisting of Studios and Administrative Block, Foundry workshops and development of land was completed and occupied in 1986.

- i. On completion of the continuing projects, additions and alterations and re-allocation of Studios and workshops.
- ii. Construction of Central Block which includes an Archives area in the Basement, an Art Gallery on the Ground Floor, an Auditorium seating (370) on the First Floor.

The Archivist (Curator), proposed Post to be created, will oversee and assist the graduate and post-graduate students in their research.

On the second and third floors above the Auditorium, 2 studios/classrooms on each floor will house the newly proposed Master Course in Art History. Also the existing area for essential services such as Electric Sub-station, Fire fighting and Pump-room will continue to operate from adjacent to this building.

The Student Activity Block will cater to the preparation/practice of all students' endeavors including the sports, medical and common room. The four studios/Classrooms above the Cafeteria will house the proposed Master Course in Photography which will also substantiate as an infrastructure source feeder to the existing Photography section of BFA. Along with the Department-wise increase of intake of existing BFA/MFA Courses and the increase in work area for those students, the proposed new Course in Printmaking will be housed in the Studio/classroom space (14 studios) in the new MS Block of seven floors and will occupy the 3rd & 4th Floor Studios. The Foundation classes, in its new form of increased intake (135 seats), presently functioning from two class rooms on the third floor of existing building, will be shifted to the upper floors and occupy the Studios 5th 6th & 7th Floors of the M.S.building.

The first phase of Additional Block would be completed in the Five Year Plan period and second phase consisting of more additional blocks will be started for which the PWD will work out the details.

The existing administrative Block housing the Stores, Office, Principal's Office, and Studios for BFA & MFA Sculpture on the Ground Floor, (It may be noted that Sculpture BFA/MFA will also extend its occupation to the Ground Floor and 1st Floor of new MS Building adjacent to it) the Painting BFA & MFA on the First Floor, the Applied Art BFA & MFA on the IInd Floor and III Floor work continue to function from the allotted spaces managing to accommodate themselves and facilitate smooth functioning. An outlay of Rs. 150.00 lakh for Annual Plan 2007-08 is approved for this scheme.

2. EXPANSION OF COLLEGE OF ART RE-ORGANISATION OF COURSES DEVELOPMENT OF LIBRARY, INDIAN ART & FACULTY DEVELOPMENT (Rs. 79.00 lakh)

The College has proposed to start three New Courses at BFA & MFA considering the demand from the academic and professional areas, with an intake capacity of 10 students respectively in each of the following disciplines:-

Photography (Cinematography/Video)
Graphic Printmaking
History of Art

These Courses are to be introduced as there is great pressure for admissions for all BFA & MFA Courses. An additional allotment of funds will be required for material and supply issued to the students and office maintenance. Also Furniture is required to be purchased for the new Studios which are being constructed in the Additional Block.

DEVELOPMENT OF LIBRARY AND ACQUISITION OF SPECIMEN OF INDIAN ART

The Library of the College has been growing to become one of the finest of its kind in the country. Now it has to be further equipped with the Latest Publications on the varied topics of relevant specialization for meeting the Post-Graduate/Research requirements etc.

The College also proposes to enhance the existing Slide and Film Library of selected works of Art from all over the world.

The scheme to acquire selected works of traditional and contemporary Indian Art annually as College Art Collection has been in force since 1969 and presently this collection has become quite a significant collection for display in the proposed air-conditioned Art Gallery.

STUDENTS/FACULTY DEVELOPMENT PROGRAMME

Development programmes are extremely necessary and important for Students and Faculty Members of the College for improving, refreshing and providing them opportunities to allow them exposure to professional and academic developments in the field of Fine Art.

Holding of important Exhibitions and Seminars on new innovations in the field of Visual Arts, arranging illustrated lectures by eminent Artists and professionals from India and Abroad, publication of College Year Book, Reports that include Education, History of art, Creative interaction, with other visual arts etc. are also envisaged. While the Faculty and Students continue to achieve the planned objectives on the academic and administrative fronts. To facilitate interactions by mutually opening avenues between the college and other institutions/academicians, the Scheme of Students/Faculty Development Programme will be instrumental and hence, very essential.

An outlay of Rs.79.00 lakh is approved for Annual Plan 2007-08.

3. ACADEMIC DEVELOPMENT OF SC/ST STUDENTS OF THE COLLEGE (SPECIAL COMPONENT PLAN SCHEME) (Rs.1.00 lakh)

Good art material and equipment are quite expensive but very important to produce quality work. Under this continuing Scheme, it has been planned all eligible SC/ST students of this College are provided, assistance, free of cost materials. In addition to this, also provided are special classes in Theory subjects to the students who are found to be weak, in such subjects as History of Art, Aesthetics and Methods & Materials. In view of the rise in the cost of materials, the proposal for enhancement of cost limit of material per students has been sent to the Govt. of Delhi for their approval which is still awaited.

An outlay of Rs.1.00 lakh is approved for Annual Plan 2007-08.

4. INTRODUCTION OF NEW COURSES OF STUDIES (Rs.20.00 lakh)

The College has proposed to start three New Courses at BFA & MFA considering the demand from the academic and professional areas, with an intake capacity of 10 students respectively in each of the following disciplines:-

Photography (Cinematography/Video)
Graphic Printmaking
History of Art

These Courses are to be introduced as there is great pressure for admissions for all BFA & MFA Courses. An additional allotment of funds will be required for material and supply issued to the students and office maintenance.

With the increase of intake of the students in BFA & MFA and introduction of new courses at BFA & MFA level as detailed in para 2 of this write-up and as per the recommendation of the AICTE to provide one Faculty against ten students in the proportion of 1 Professor : 2 Asstt. Professor 4 Lecturers, the following new additional faculty posts are to be created and 42 post will be proposed to be filled up during 2007-08.

Besides the above posts, the following 34 administrative posts are also required due to the proposed increase in intake of students, introduction of new courses at BFA & MFA level and essential upgradation with facilities such as an archives, Art gallery, Auditorium, Stores and the Accounts section.

The Proposal of up-grade the post of the existing Librarian to a senior scale is under consideration of Govt. of Delhi. The existing post filled under Non-Plan side will be surrendered as soon as the proposed post is filled up.

The existing post of Store Supdt. in the pay scale of Rs.4500-125-7000 is proposed to be upgraded in the Pay scale of Rs.6500-200-10500. If the said post is created under Plan the existing post of Store Supdt. in Non-Plan will be surrendered.

An Outlay of Rs.20.00lakhs for the Annual Plan 2007-08 is approved in this scheme.

E. DELHI INSTITUTE OF PHARMACEUTICAL SCIENCE & RESEARCH **[COLLEGE OF PHARMACY]**

1. Expansion of Existing facilities in College of Pharmacy (Rs. 800.00 lakh)

The institute is one of the best pharmacy institute in India, with strength of approximately 500 students, situated on a beautiful 10- acre campus in south Delhi. The college is experiencing a fast academic growth and commitment to the challenges of the 21st century. In the highly competitive environment, the college is capitalizing on its strength in areas such as academic innovation, comprehensive training and flexible educational delivery systems.

The institute awards Bachelors, Masters and Doctoral degrees in pharmacy under University of Delhi, in addition to D.Pharmacy.

It is the institution directly under the Govt. NCT of Delhi and affiliated to University of Delhi. The institute imparts Master's degree in various specializations viz. Pharmacology, Pharmaceutics, Hospital Pharmacy and Quality Assurance. The Institute has got approval for starting new 4 PG courses by the Delhi University and Delhi government and it is under the active consideration of AICTE.

The number of candidates passing out from the various courses are:
Over 2200 D.Pharm. More than 1100 B.Pharm 500 M. Pharm and more than 20Ph.D's have been produced by the institute for a bright rich career in various pharmaceutical sectors.

The institute is maintaining an outstanding record of academic excellence. Many research laboratories like *Anti- fertility and Infertility research center, Ayush research center, Ocular pharmacology research center, Radio immuno assay research centre, Novel drug delivery system research center, Drug Information centre and Medicine and

Poison information center etc*. Besides this state of art auditorium, seminar halls, museum and lecture halls are also created. Majority of the students qualify GATE with flying colors every years. This year too 38 out of 39 students have secured more than 95 percentile marks; out of them six have secured more than 99 percentile marks.

The institute has been identified as a Nodal Centre for Quality Improvement Programme (QIP) of AICTE for continuing Pharmacy Education to teachers of various colleges of India to upgrade their knowledge and skills besides admitting them for career advancement in various disciplines of M.Pharmacy and Doctorate Programmes. DIPSAR is identified as National Co- coordinating center for quality improvement programmes in India for next 3 years. The institute has produced more than 45 M.pharms so far under this scheme. 3 Ph. Ds are submitted their thesis and out of that one awarded and 9 teachers are continuing their Ph. D work at DIPSAR at present.

All B.Pharm and M.Pharm students are placed in national and international Pharmaceutical companies/institutes well before the declaration of their results mainly through campus interviews.

*I *The institute has proposed 4 new courses from the current academic year and each course will require Professor 1, assistant professor 2 and 2 lecturers. The 4 new M.pharm courses are: *a. Pharmaceutical Chemistry b. Clinical Pharmacy c. Pharmaceutical Management d. Pharmacognosy and Herbal Drug Technology.*

*II *The institute is taking steps to start 4 more M. pharm courses as per the increasing demand from the regulatory bodies and pharmaceutical industries. They are as follows *Regulatory affairs, Pharmaceutical Biotechnology, Pharmaceutical Biochemistry and Pharmaceutical Bio-informatics*.

*III *The institute has proposal 12 centers of Excellence as follows:

- *1. **Pharmacodynamic center*
- *2. ** Novel Drug Development and Discovery Center*
- *3. **Intellectual Property Rights and Drug Regulatory Affairs Center*
- *4. **Medicinal Chemistry and New Chemical Entities Center*
- *5. **Training Center for Clinical Research*
- *6. **Pharmaceutical Biotechnology center*
- *7. **Molecular Modeling Center*
- *8. **Pharmaceutical Management Center*
- *9. **Pharmacogenomics center*
- *10. **Pharmacoinformatics center *

*11. **Bioavailability and Bioequivalent Center*

*12. **Pharmacovigilance center.*

*IV *The institute has identified a 54-acre piece of land at village satabari for its 2nd campus extension. Out of 54 acres, 15 acres will be utilized for herbal plantation and 35 acres will be utilized for research centers.

*V *UGC is considering actively for granting deemed* to be University for DIPSAR*.

The institute is striving to carve a niche for itself by addressing different need based areas on such area is the area of Clinical Research where India is one of the Important destination where many multi National Companies are trying out source Clinical Research which required properly trend man power. With this in mind a Clinical Research Laboratory has been established which will in part training in Clinical Research over to Post Graduate students.

The current life style is increasing the incidence of Cardio Vascular Diseases especially is Charnic Heart Diseases coupled with diabetes this is increasing both Merbidity and Merfality therefore a good Cardio Vascular lab to address some of these problems is the need of the hours.

The student community is processing for some sports amenities like Swimming Pool as such a swimming pool is planned.

With increase use of Information Technology and Computer there is a need of a big IT lab to accommodate at least 30 students at a time so a new IT lab is constructed.

There has been increased in the Girls getting admission of the hostel of new mess for Hostel Girls has been constructed.

In view of the great studies in the Pharmaceutical Science there is need to develop proper postgraduate laboratories we are running 4 PG courses viz. Pharmacology Hospital Pharmacy, Quality Assurance and pharmaceuticals and few new courses have been approved by academic council of Delhi University and under process with AICTE and a 8+1 PG block has to come up behind the present building.

Considering the above development it is proposed to inaugurated the following facility

1. Swimming Pool
2. Cardio Vasculler Lab
3. Clinical Reaserch Lab
4. 8+1 PG Block
5. Hostel Mess for girls

We have also been able to provide a Gym with State of Art Facility considering long & function demand of Student Community.

Also since lot of guests/Examiner/Speaker on in conferences and seminars and eminent personality and industry visit the capital the institute want to provide proper guesthouse facility which is also and important point for accreditation of the institution.

An outlay of Rs.800.00 lakh for Annual Plan 2007-08 is approved under this scheme.

2. Setting up of Tifac Center for the Drug Dev. And Discovery (Rs. 500.00 Lakh) (New Scheme).

A provision of Rs.500.00 lakh has been made for setting up of Tifac Center for Drug Dev. And Discovery during Annual Plan 2007-08.

F. AMBEDKAR INSTITUTE OF TECHNOLOGY [RS.1385.00 LAKH]

The Ambedkar Institute of Technology (AIT), Geeta Colony runs two UG courses, namely B.Tech, Electronics and Communication Engineering (ECE) and B.Tech, Computer Science and Engineering (CSE) with 60 intake in each branch. At present the institute is being run with the help of regular faculty diverted from DCE and Polytechnics under DTTE Delhi. Prof. Ashok De, Professor in ECE Deptt. D C E is working as the Principal on diverted capacity.

Objectives:

New courses and increase in intake in various courses, Faculty requirement (year-wise), Creating World-class institution (Strengthening of A I T), Latest equipments/instruments for various labs of respective departments, e-Governance and paperless office, Networked digital library/ Wide area network enabled by Wi-max, EDUSAT classrooms, Web-casting of lectures and learning resources, Data-warehousing, Dynamic website, Use of ICT, Research Centres, Hostel and Faculty residences, Continuing Education and Industry Institute interaction, SC/ST/OBC/ Minorities development, Book Bank and Student welfare.

Significant Achievements

• **New Campus work Started:**

The construction work, being executed under PWD, Govt. of Delhi, of the same, is in full swing and is likely to be completed by the end of year 2007.

• **Recruitment of Faculty:**

AIT currently has quite a few able and experienced contractual faculty also at senior and junior level The recruitment process at UPSC for regular faculty positions is underway and by the end of first quarter of year 2007 institute shall have 02 Asstt Prof (CSE), 02 Asstt Professors (ECE), 04 Lecturers (CSE), 04 Lecturers (ECE), 01 Lecturer (Mechanical) and 01 Lecturer (Mathematics). The recruitment process for additional 03 posts of Professors, 04 Asstt Professors and 04 Lecturers will start soon after shifts to its new campus. The regular post of Principal has also been sanctioned and recruitment process is being initiated.

- **Recruitment of Administrative / Support staff:**

Posts of a large number of administrative, ministerial and technical-support-staff have recently been created and the recruitment process has already been initiated.

- **Placements:**

Two batches of B.Tech CSE and ECE have passed out with remarkably good campus placements with an average salary of Rs.2 to 3.5 Lakh per annum. Some of the prominent companies participated in campus placements are Microsoft, CISCO, HCL.

During 2007, institute proposed 60 intake capacity in 1 B.Tech (ECE), B.Tech (CSE), & B.Tech (IT) and 18 intake in M.Tech (ECE). Under these courses, total 438 students strength has been proposed. For Ist and IInd year of B.Tech(ECE) and B.Tech(CSE), 60 students strength has been proposed and for IIIrd and IVth year, 30 students strength has been proposed. For B.Tech(IT) Ist year, 60 students strength proposed and for M.Tech. (ECE)-Ist year 18 students strength.

An outlay of Rs.1385.00 lakh for has been approved for this scheme in the Annual Plan 2007-08 is approved for this scheme..