

CONCISE PROFORMA

EXECUTIVE SUMMARY

Long-term objectives (Vision):

Our Long-term objective are to

- Get recognized as an institute that offers extraordinary teaching and carries out world-class research.
- Achieve the status of becoming the most preferred destination for best students, teachers and researchers.
- Build productive partnerships to elevate and broaden the size and status of our institute.
- Produce dedicated people with appropriate knowledge and skills with a mission to serve society by providing technological solutions

Pragmatic Project objectives:

- To create advanced infra-structural facilities for teaching and training in the areas of Biotechnology, Eco-technology, Remote sensing & GIS and water resource management.

To create central computational and advanced instrumentation facilities for training students in certain specialized areas and to conduct research and consultancy

To improve upon faculty expertise by providing ample opportunities for training.

To optimize resource-sharing taking up faculty exchange and research programs in areas of mutual interest with networking institutions.

Reorienting and restructuring of some of the M.Tech. Programmes with special emphasis on emerging technologies.

Implementation of institutional reforms like

- Student performance evaluation,
- Teacher performance appraisal by students,
- Recognition of merit and outstanding performance of teachers
- Offering special training to students of weaker sections

Creation of corpus fund for developmental activities

Creation of digital library facilities

Introduction of exam reforms

Creation of additional space for locating centralized facilities like central computational facility, instrumentation facility and two seminar halls

Campus networking for providing internet / intranet facilities to all faculty, research scholars and students

Creation of additional lab and classroom furniture.

To encourage the students to involve themselves in industry oriented problem-solving projects and community services and related social activities.

To develop sustainable eco friendly technologies with the involvement of both staff and students.

Line of Action of the institute to meet the targets:

The following line of action would be adopted to meet the targets

First year:

Formation of Implementation and monitoring committees
 Procurement of approved equipment by NCB procedures
 Preparation of plans for award of civil works to eligible bidders
 Initiation of academic and administrative reforms
 Initiation of interaction with Network/Lead institutions
 Establishment of proposed new labs
 Consultancy activities
 Exchange of expertise

Second Year:

Hiring/Recruitment of staff
 Starting of New courses
 Expansion of Research and consultancy activities
 Faculty training
 Initiation of community services
 Establishment of corpus fund, staff development fund and depreciation fund
 Expansion of academic and administrative reforms

Third year:

Project appraisal
 Feed back
 Sustainability appraisal

Fourth year

Project report preparation
 Final analysis
 Achieving self sustainability

FINANCIAL REQUIREMENTS UNDER THE PROGRAM

S.No	Component /Sub component	Project Year -Wise Fund Requirement				Total fund Requirement Rs. In Millions
		1	2	3	4	
1.	Academic Excellence	11.2	88.761	14.358	8.391	122.71
2.	Networking with institutions for quality enhancement and resource sharing	0.31	0.31	0.31	0.31	1.24
3.	Rendering services to community and economy	1.00	1.70	0.9	0.5	4.10
4.	Implementation of institutional reforms	0.075	0.035	0.035		0.145
	Total	12.51	90.771	15.568	9.201	128.05

Preparedness of the institute for implementation:

A systematic SWOT analysis has given us a clear understanding of our strengths and weaknesses as a result of which we have been able to analyze and chalk out clear plan for beginning the program outlined in the project.

Output

The project if executed successfully would result in enhancing the standards of the Institution by way of increased infra-structural facilities and better trained faculty. This would ultimately result in better quality of technically trained graduates with good employment opportunities. The better infra-structural facilities would assist us in improving the quality of research. The community services proposed in this would enhance the quality of life for the economically weaker sections of the society in terms of improving their living standards.

Format -2

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME
OF
GOVERNMENT OF INDIA**

**FORMAT FOR CONCISE
INSTITUTIONAL PROJECT PROPOSAL
SECOND CYCLE INSTITUTIONS
(Supplementary Document)**

(AUGUST 2004)

UNIT-1

CURRENT INSTITUTIONAL INFORMATION

Give information in the tabular formats given below. Do not give any write-up in this Unit.

1.1 INSTITUTIONAL IDENTITY

1.1.1 **Name of the Institution:** Institution of Science and Technology JNTUniversity Hyderabad

1.1.2 **Names of Head of Institution and Nodal Officers for Academic Activities, Civil Works, Procurement and Financial Aspects**

Head & Nodal Officer	Name	Phone Numbers	Mobile Number	Fax Numbers	Email Address
Head of the Institution	Prof.Y.Anjaneyulu Director, IST, JNT University, Kukatpally, Hyderabad 72.	23058724 55598706	9391036979	23958729	Yerramillia@yahoo.co.in
Nodal Officers (TEQIP) for:					
Academic Activities	Prof.M.Lakshmi Narasu Head Centre for BioTechnology IST, JNT University, Kukatpally, Hyderabad 72.	23156129		23156129	Mangamoori@rediffmail.com
Civil Works	Prof.N.V. Ramana Rao Director BICARD JNT University, Kukatpally, Hyderabad 72.	23156110	984905431 9	23156110	nvrrao@rediffmail.com
Procurement	Prof.M.Lakshmi Narasu Head Centre for BioTechnology IST, JNT University, Kukatpally, Hyderabad 72.	23156129		23156129	Mangamoori@rediffmail.com
Financial Aspects	C.J.Rama Raju Assistant Registrar IST, JNT University, Kukatpally, Hyderabad 72.	230587731	988515274 3	23058731	Chekuri_jr@yahoo.com

1.2 ACADEMIC INFORMATION

1.2.1 Engineering Programs offered in 2003-2004 at IST

S.No.	Title of program	Level	Duration	Year of starting	Sanctioned intake	Total student strength
1.	M.Tech. Biotechnology	PG	2 years	1989	25	50
2.	M.Tech. Env. Geoinformatics	PG	2 years	2002	25	50

3.	M.Tech. Environmental Management	PG	2 years	2001	25	50
4.	M.Tech. Geo informatics and surveying technologies	PG	2 years	2002	25	50
5.	M.Tech Remote sensing and GIS	PTPG (Night college)	3 years	2003	30	30
6.	M.Tech. Spatial information technology	PG	2 years	1991	25	50
7.	M.Tech Water resources	PG	2 years	1989	25	50
	Grand Total				180	330

1.2.2	Total strength of students in all courses and all years of study in 2003-2004	330
1.2.3	Total women students in all courses and all years of study in 2003-2004	113
1.2.4	Total ST students in all courses and all years of study in 2003-2004	26
1.2.5	Total SC students in all courses and all years of study in 2003-2004	66
1.2.6	Total OBC students in all courses and all years of study in 2003-2004	108

1.2.7 Doctoral Programs

- a) Total number of candidates that obtained PhD from the institution up to 2003-04 **56**
b) Total number of candidates currently registered for PhD. **92***

*Of the 92 students only 66 are registered as full time scholars with the faculty whereas the others are part time scholars working either in industries or in private colleges.

1.2.8 Accreditation Status of Programmes

Level of Programs	Total Number of Programs being offered	Number of Programs Eligible for Accreditation	Total Number of Programs * Accredited in		Number of Programs for which Accreditation Applied for
			2003	2004	
Undergraduate	Nil				
Postgraduate	07	07	-	07	

* Our Institute has been accredited with **A Grade in 2004** by UGC-NAAC after inspection and evaluation of the performance of all the centers.

1.3 TEACHING STAFF STATUS

1.3.1 Regular/On-Contract Teaching Staff (2004-05) as on July 31, 2004

Type of Staff	No. Sanctioned	Status	Number in Position by Highest Qualification						Total Number in Position	Total Vacancies
			PhDs		Post-graduates		Degree Holders			
			Engg	Other	Engg	Other	Engg	Other		
Professors		Regular	03	02	02	03	01	04	05	-
		Contract	02		02		02			
Associate Professor/Reader		Regular	03	02	03	02	02	03	05	03
		Contract	-	-	-	-	-	-		
Assistant Professor/Lecturer		Regular	-	01	02	01	02	01	03	06
		Contract	01	08	08	11	08	11		

The Institution is going to fill up all the sanctioned vacant posts very shortly as the state govt. has lifted the ban on recruitment.

1.3.2 Visiting Faculty/Part-time Teaching Staff (2003-04)

Level for which Engaged	Number by Highest Qualification						Total Hours Taught/Week
	PhDs		Post-graduates		Degree Holders		
	Engg.	Other	Engg.	Other	Engg.	Other	
UG Teaching	Nil						
PG Teaching	10	6	8				96

1.4 AVERAGE RECURRENT COST PER STUDENT Rs. 20,000.00

(Average recurrent cost per student = Total recurrent expenditure of the institution divided by the total strength of students in all UG and PG engineering programs in March 2004)

The average recurring cost is low as most of our faculty is on contract basis at the moment. The cost per student will go up very soon as recruitment for regular faculty which will be made very shortly.

1.5 CURRENT TEACHER-STUDENT RATIO - 1: 8.25

(This is to be calculated by dividing the total number of regular faculty + full-time contract faculty + regular faculty equivalent of visiting/part-time faculty by the total strength of students in all engineering programs in March 2004)

(Number of regular faculty equivalent = total number of hours taught by visiting/part-time faculty divided by 20. During the two day workshop conducted in Delhi it was mentioned that one could even take the figure as 16 instead of 20)

UNIT 2

VISION

2.0 Institutional Vision

Please state your Institute's Vision below as given in your DPR:

Our vision is to

- Get recognized as an institute that offers extraordinary teaching and carries out world-class research.
- Achieve the status of becoming the most preferred destination for best students, teachers and researchers.
- Build productive partnerships to elevate and broaden the size and status of our institute.
- Produce dedicated people with appropriate knowledge and skills with a mission to serve society by providing technological solutions

2.1 Identify the part of the Vision you plan to achieve during the current project-life (i.e. your Pragmatic Future)

2004 – 2007

- To create advanced infra-structural facilities for teaching and training in the areas of Biotechnology, Eco-technology, Remote sensing & GIS and water resource management.

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Implementation of institutional reforms like

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Creation of corpus fund for developmental activities

Creation of digital library facilities

Introduction of exam reforms

Creation of additional space for locating centralized facilities like central computational facility, instrumentation facility and two seminar halls

Campus networking for providing internet / intranet facilities to all faculty, research scholars and students

Creation of additional lab and classroom furniture.

To encourage the students to involve themselves in industry oriented problem-solving projects and community services and related social activities.

To develop sustainable eco friendly technologies with the involvement of both staff and students.

2.2 Indicate key activities in order of priority to achieve your pragmatic future as stated in item 2.1

1. Creation of advanced infrastructure in emerging areas
2. Creation of centralized computational and advanced instrumentation facilities for training students for achieving specialized skills.
3. Establishment of e-library facility.
4. To network with other institutions for betterment of performance
5. Reorientation and restructuring of existing courses
6. Faculty training for quality improvement
7. Offering specialized short-term training courses
8. Industry -institute collaboration
9. R&D programs in industrial problems
10. To strive for development of students belonging to under privileged communities.
8. Implementation of institutional reforms

UNIT-3

IMPLEMENTATION OF INSTITUTIONAL REFORMS

Please give brief statement about processes and activities that would be undertaken to implement the reforms

Academic Reforms	Activities to be undertaken in brief*		Indicate starting and completion time			
			2004-05	2005-06	2006-07	2007-08
1. Flexibility in academic programmes	M.Tech Biotech.	Multi-background entry	_____	_____	_____	_____
		Audit facility for mathematics paper	_____	_____	_____	_____
	M.Tech. EMT	Multi-background entry with flexibility in electives	_____	_____	_____	_____
	M.Tech. EGI	Multi-background entry with flexibility in electives	_____	_____	_____	_____
	M.Tech. SIT	Multi-background entry Opt 4 electives out of 12 offered	_____	_____	_____	_____
	M.Tech WR	Multi-background entry Specialization in Water and wastewater treatment technologies and Hydro-informatics	_____	_____	_____	_____
2. Introduction of reforms in student performance evaluation	<ul style="list-style-type: none"> • Proposal to make student examinations analytical by introducing both objective and analytical papers • Evaluation by averaging assignment marks • Credit transfer for all M.Tech. Programs • Introduce New Special Electives to M.Tech Programs • Organization of quiz / seminar / surprise tests 		_____	_____	_____	_____

Academic Reforms	Activities to be undertaken in brief*	Indicate starting and completion time			
		2004-05	2005-06	2006-07	2007-08
3. Establishment of a system for teacher performance appraisal by students, and teacher counseling	<ul style="list-style-type: none"> Proposed to have anonymous student evaluation regarding coverage of syllabus, contents and presentation 	_____	_____	_____	_____
4. Providing incentives to faculty for participation in continuing education programmes, consulting services, services to community and industry and for securing sponsored research & development projects	Certificate of appreciation		_____	_____	_____
	Preference in creating infrastructure for the best performing teachers' requirements for R&D in the allocation of funds		_____	_____	_____
5. Establishment of a system for recognizing merit and outstanding performance of teachers	Student evaluation	_____	_____	_____	_____
	No. of papers published and impact factor	_____	_____	_____	_____
	R&D projects sanctioned	_____	_____	_____	_____
	Consultancy generated	_____	_____	_____	_____
	No. of invited talks in International / national conferences / seminars / workshops	_____	_____	_____	_____
6. Offering service packages that would attract and retain good quality faculty	Offering 40% of the consultancy generated by each teacher				
7. Establishment of a system for maintaining record of graduates and conducting regular tracer studies	<ul style="list-style-type: none"> Alumni association will be created To hire expert services for tracer studies 	_____	_____	_____	_____
	Computerized database will be maintained	_____	_____	_____	_____

Academic Reforms	Activities to be undertaken in brief*		Indicate starting and completion time			
			2004-05	2005-06	2006-07	2007-08
8.Establishment of a governance system with participation of stakeholders	The institute has presently a board of governors with the Vice chancellor as Chairman and 2 professors and 2 scientists It is proposed to increase to 4 Professors, 2 eminent industrial scientists and 2 Professors from IIT's / national research labs			_____	_____	_____
9.Establishment of a modern management system – delegation of decision making, administrative and financial powers to senior functionaries with accountability	IST is governed by UGC "Autonomous College" outlines. The Director of the institute has certain administrative and financial powers. It is now proposed to create various committees for procurement, student matters, academic matters, and financial aspects involving various faculty of different centers to examine and recommend on various administrative and financial sanctions.		_____	_____	_____	_____
10.Modernization of administrative and financial management system to increase staff and student friendliness, increase time efficiency and resource efficiency	<ul style="list-style-type: none"> • Frequent interactive sessions between the staff and students will be promoted • Administrative and financial management system will be computerized 		_____	_____	_____	_____
11.Establishment of a Corpus Fund for development activities, a Staff Development Fund for supporting critical staff development activities, a Depreciation Fund for modernization of teaching and training facilities and Maintenance Fund for upkeep of equipment and physical infrastructure	i)Corpus Fund	Sources of generation		_____	_____	_____
		Industrial houses and donations		_____	_____	_____
	ii) Staff Development Fund	Contribution from alumni, savings from consultancy, assignments		_____	_____	_____

Academic Reforms	Activities to be undertaken in brief*		Indicate starting and completion time			
			2004-05	2005-06	2006-07	2007-08
	iii) Depreciation Fund	Fixed percentage of each grant received for each project		_____	_____	_____
	iv) Maintenance Fund	UGC and state grants	_____	_____	_____	_____
12. Instituting measures for increasing recovery of cost of education	Research Activity		_____	_____	_____	_____
	Consultancy services		_____	_____	_____	_____
	Problem solving Industrial Assignments		_____	_____	_____	_____
	Short term training courses		_____	_____	_____	_____
13. Instituting practices for maximizing utilization of resources and reducing wastage	By introducing centralized facilities		_____	_____	_____	_____
	Extending research and consultancy activities		_____	_____	_____	_____
	Offering value added short term courses for in-service personal and industrial technicians		_____	_____	_____	_____
14. Establishment of mechanisms for regular quality and efficiency audit of institutional activities including academic processes and administrative procedures.	A monitoring committee will be constituted with experts drawn from different areas to monitor the yearly performance of the individual centers of IST.		_____	_____	_____	_____

UNIT-4 ACADEMIC EXCELLENCE

4.1 PRIORITIES

Prioritize your objectives for the Project Period by assigning number 1 to 9 against each item below (1 is highest and 9 lowest)

S. No.	Objectives	Priority
1.	Improving Postgraduate teaching/learning processes through better curricula, better faculty competence, better delivery, better interaction, development of proper attributes, and exposure to industrial practices	01
2.	Increasing facilities for postgraduate education, equipment. LRs, internet access, etc	01
3.	Increasing efficiency and effectiveness of the education process through better academic discipline and improved governance	02
4.	Improving post-graduate admission to M.Tech and Research programs through better structuring of offerings and increased facilities	03
5.	Improving sponsored Research and Consultancy activities	04
6.	Industry-institute interaction	04

4.2 CURRICULUM REVISION

4.2.1 Reorientation/Restructuring/closure of UG/PG Programmes

S.No	Name of the course	Proposed Reorientation/Restructuring
1.	M.Tech Biotechnology	(i) Offer specialization in <ul style="list-style-type: none"> • Bio-informatics • Animal Cell Culture Technology (ii) Introduction of Audit paper in mathematics
2.	M.Tech (EMT)	(i) Offer specializations in <ul style="list-style-type: none"> • Cleaner technologies, • Bioremediation technologies,
3.	M.Tech (EGI)	Offer specializations in Space systems and hazard management GIS for environmental modeling
4.	M.Tech (SIT)	(i) Artificial Intelligence in Spatial information Technology
5.	M.Tech (WR)	(i) Offer specializations <ul style="list-style-type: none"> • Water and wastewater treatment technologies

4.2.2 UG/PG programmes to be reoriented [write nil if no programmes are to be reoriented and delete the table]

Name of the Programme	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
M.Tech (BT)				
M.Tech (EMT)				
M.Tech (EGI)				
M.Tech (SIT)				
M.Tech (WR)				

4.2.3 UG/PG programmes to be restructured [write nil if no programmes are to be restructured and delete the table]

As mentioned above

4.2.4 UG/PG programmes to be closed [write nil if no programmes are to be closed and delete the table]

NIL

4.2.5 Curriculum Improvement/Up gradation of Curricula

Name of the curricula to be improved	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Regular up gradation of syllabus keeping pace with emerging technologies				
Inclusion of a mini project in each semester				
Industrial visits				
Invited Expert lectures				

4.3 Modernization of Laboratories and Workshops including Removal of Obsolescence

Apart from creation of centralized facilities it is also proposed to strengthen the following laboratories at the different centres of the Institute.

Department	Name of the lab/workshop	Purpose/ linkage to existing Programme	Indicate starting and completion time			
			2004-05	2005-06	2006-07	2007-08
Centre for Biotechnology	Genetic engineering & molecular biology lab	To improve hands on training facilities for students and to extend research and consultancy activities	—	—	—	—
	Bioprocess engineering lab	-do-	—	—	—	—
	Tissue culture training Lab	-do-	—	—	—	—
Centre for Environment	Water, waste water characterization and treatment technologies lab	-do-	—	—	—	—
	Air pollution monitoring and modeling lab	-do-	—	—	—	—
	Environmental Microbiology lab	-do-	—	—	—	—
	Environmental Toxicology lab	-do-	—	—	—	—
	Environmental geoinformatics Labs	-do-	—	—	—	—
	Advanced Spatial Data Analysis Lab	-do-	—	—	—	—
Centre for Spatial information technology	Geographical Information systems and Data conversion lab	-do-	—	—	—	—
	Digital Image Processing Lab	-do-	—	—	—	—
	Digital Photogrammetry Lab	-do-	—	—	—	—
	GPS & Mobile Mapping Lab	-do-	—	—	—	—
Centre for Water Resources	Water Resources Modelling & simulation Lab	-do-	—	—	—	—
	Photo Hydrology Lab	-do-	—	—	—	—
	Hydro-metereological Station	-do-	—	—	—	—
	Geophysical and Surveying Lab	-do-	—	—	—	—
	Isotope Hydrology Lab	-do-	—	—	—	—

The proposed equipment or the above mentioned laboratories are as follows.

1. MOLECULAR BIOLOGY & GENETIC ENGINEERING LAB

**Incharge: Dr.M.Lakshmi Narasu, Ph.D.(I.I.Sc.)
Prof. & Head, Centre for Biotechnology,**

Existing Facilities:

UV Transilluminator, Electrophoresis unit, Cooling centrifuge, Balance, 70⁰C deep freezer
Water bath, Vacuum Pump, Vortex mixer

Proposed Facilities:

S.N ^o	Name of Equipment with Brief Specifications	Unit Price (Rs) lakhs	Qty Required	Cost of the item (Rs)lakhs	Present Quantity available in the Institution	Justification
1.	Sonicator (Brandson)	2.0	1	2.0	Nil	Cell disruption for intracellular study
	Ice flaking machine (200Kg/day) (Simag)	3.0	1	3.0	Nil	To generate ice for genetic engineering & biochemical practicals
	Gel Documentation	4.5	1	4.5	Nil	For storing data related protein DNA gels
	Refrigerated Microfuge	3.5	1	3.5	Nil	For DNA isolations
	UV- crosslinker (Stratagene)	2.2	1	2.2	Nil	For hybridization experiments
	Electrophoresis unit with power pack and all accessories for North/South and Western blots	2.0	1	2.0	Nil	For elucidation of DNA/RNA and proteins
	PCR Machine	4.0	1	4.0	Nil	For DNA amplicatons
	ELISA reader (Lab systems)	2.0	1	2.0	Nil	For study of Immunological reactions
	Gel documentation system (Kodak)	4.0	1	4.0	Nil	For storage and analysis of DNA and Protein gels
	Spectroflourimeter (Hitachi)	5.0	1	5.0	Nil	For Fluorescence studies
Grand total				32.20		

Amount in Millions of Rupees - 3.22

Worth of Existing Facilities: 25.18%
Worth of Proposed Facilities: 74.82%

Justification:

We are conducting Genetic Engineering practicals for students in the existing Molecular Biology lab. As the existing facilities are inadequate to conduct all the experiments, we would therefore like to upgrade the existing facilities so as to provide better training to our students. In this context we would like to add that sufficient expertise is available in this field as **Dr. M.Lakshmi Narasu** of our Centre has undergone a hands on training in Applications of Molecular Markers conducted by Rockefeller Foundation and Mahyco Research Foundation.

2. BIOPROCESS ENGINEERING LABORATORY:

Incharge: D. Kiran Kumar,
M.Tech Biotechnology,
Lecturer

Existing Facilities:

UV- Visible spectrophotometer ,Bioreactor, Lyophilizer, , Orbital shaker, Mettler balance, Fraction collector, Cooling centrifuge, Peristaltic pump, Gradient mixer, Vacuum pump, Cold cabinet, Transilluminator, Electrophoresis unit, HPLC, BOD incubator, pH Meter.

S. No	Name of Equipment with Brief Specifications	Unit Price (Rs) lakhs	Qty Required	Cost of the item (Rs)lakhs	Present Qty available in the Institution	Justification
2.	Acta Chromatography system (Amershan Pharmacia)	35.00	1	35.00	Nil	For fine purification of biomolecules
	FPLC systems (Biometra)	20.00	1	20.00	Nil	For fine elution of biomolecules
	Automated UV – Visible spectrophotometer (Shidmadzu)	3.50	1	3.50	Nil	For analytical studies of biomolecules (exclusively research purpose)
	Cold room facility	3.50	1	3.50	Nil	For protein separations and storage of cultures
	Lyophilizer (Shelf type) (Heto Holten)	4.50	1	4.50	Nil	To preserve cultures for long duration
	Anaerobic incubator (Haereus)	5.00	1	5.00	Nil	To grow anaerobic organisms
	Gas Chromatography (Schimadzu)	4.00	1	4.00	Nil	For elution of biomolecules
	Orbital Shaker with Temperature Control	3.50	1	3.50	Nil	To grow Micro organisms
	Spectrophotometer – Visible	0.35	1	0.35	Nil	For colorimetric estimations
	Total			79.35		

Amount in Millions of Rupees - 7.935

Bioprocess engineering laboratory:

Worth of Existing facilities: 40.57%

Worth of Proposed facilities: 59.43%

Justification:

In order to study the different factors affecting the fermentative production of recombinant bio-molecules, Bioprocess Engineering laboratory needs to be strengthened with a bench scale fermenter, vaccum pumps ,circulating water bath etc.,The equipment given under this category not only facilitates teaching students but also helps in carrying out research and consultancy projects.

3) TISSUE CULTURE TRAINING LABORATORY

Incharge: Dr. A.Archana Giri, Ph.D.

Existing Facilities:

Laminar air flow, BOD incubator, CO₂ Incubator, Orbital shaker, Refrigerator, Tissue culture racks, pH meter, Distillation Unit.

	Name of Equipment with Brief Specifications	Unit Price (Rs)	Qty Required	Cost of the item (Rs)	Present Qty available in the Institution	Justification
	BOD Incubator (Cintex)	0.80	1	0.80	1	For culturing purposes
	Temperature control & Humidity control (Cintex)	1.00	1	1.00	Nil	For culturing purposes
	Orbital shaker (Orbitek)	4.00	1	4.00	1	To provide aeration to cultures
			Grand total	6.10		

Amount in Millions of Rupees - 0.61

Worth of existing facilities : 44.18%

Worth of Proposed facilities : 55.82%

Justification:

The facilities proposed here to strengthen our existing laboratory are required not only for the proper teaching and training of the aseptic techniques involved in tissue culture to our students but also the women trainees in the rural women development program proposed.

Centre for Environment

1. Water, Waste Characterization and treatment lab:

Name of the Lab In-charge: Dr. V. Hima bindu, Assistant professor
Ms.C. Swarna, Lecturer,
Ms. C. Sukanya, Lecturer

Justification :

In the present existing facilities, we have pH Meter, Conductivity meter, Hot plate, Water bath, Furnace, Oven, BOD incubator, Refrigerator, Visible spectrophotometer, Nephelometer, Balance (1mg accuracy), Fuming cupboard, DO meter, COD reactor, Soxhlet apparatus, Colorimeter, Flame photometer, De-ionizer, Bench top distillation unit, Double distillation unit, Arsenic Kit, Field kit fluoride analyzer, pH meter (field instrument), DO meter (field instrument), salinity meter (field instrument), UV-vis Spectrophotometer, Balance (Mettler), Centrifuge, Incubator, Orbital shaker, Shaking water bath, UV – Vis Spectrophotometer (Schimadzu) , Photo catalytic reactor, UASB, Laminar flow, , Bench top distillation unit, Flame photometer , Moisture balance, Microscope, Tissue grinder, RBC wroth of Rs: 32.0 lakhs. However, these numbers are not sufficient to give intensive on hand training for 25 M. Tech students. So additional quantities are proposed (Annexure-XI). This additional infrastructure will help in achieving 100% efficiency in imparting essential experimental skills in the waste characterization lab to M.Tech Environmental Management students.

Name of the laboratory	Name of Equipment with Brief Specifications	Unit Price (Rs in lakhs)	Quantity Required	Cost of the item(Rs in lakhs)	Present Quantity available in the Institution	Justification
Waste characterization & treatment lab	Electronic balanceBalance (1mg accuracy)	1.0	1	1.0	1	For weighing of chemicals
	Centrifuge	1.5	1	1.50	1	For centrifuging the samples
	Reverse osmosis	2.00	1	2.0	Nil	Coagulation studies
	Ozonator	2.00	1	2.0	Nil	Coagulation studies
	Microscope	1.00	1	1.00	1	For bioremediation studies
	RBC	3.00	1	3.00	Nil	Waste treatment
	Trickling filter	2.5	1	2.5	Nil	Waste treatment
	ASP	2.0	1	2.0	Nil	Waste treatment
	UV Spectrophotometer	5.0	1	5.0		
Total				20.0 Lakhs		

Amount in Millions of Rupees - 2.00

Air Pollution Lab:**Name of the Lab In-charge: Dr. V. Hima Bindu, Assistant Professor**

Dr. Valli, Lecturer

Ms. Jyostna, Lecturer

Justification:

In the present existing facilities, we have High Volume Samplers Respirable Dust sampler, Organic vapour sampler Leaf area meter worth of Rs: 2.49lakhs. However, these numbers are not sufficient to give intensive on hand training for 25 M. Tech students. So additional quantities are proposed (Annexure-XI). This additional infrastructure will help in achieving 100% efficiency in imparting experimental skills in ambient air pollution monitoring and modeling and health effects studies to M.Tech Environmental Management students.

Name of the laboratory	Name of Equipment with Brief Specifications	Unit Price (Rs in lakhs)	Quantity Required	Cost of the item in Lakhs of rupees	Present Quantity available in the Institution	Justification
Air Pollution Lab	NDIR	4.0	1	4.0	Nil	For sampling to analyze the air pollutants
	SO _x	4.5	1	4.5	1	For sampling to analyze the air pollutants
	NO _x	4.5	1	4.5	1	For sampling
	Respirable dust sampler PM2.5	2.0	1	2.0	Nil	For sampling
Total				15.0 lakhs		

Amount in Millions of Rupees - 1.50

Environmental Microbiology Laboratory

Name of the lab in charge: Dr.Ch.Sasikala, Assistant Professor,
Dr.V.S.Srinivas, Lecturer,

Name of the Instrument	Unit Price lakhs (Rs)	Qty Required	Cost in lakhs (Rs)	Qty available	Justification
Confocal Epifluorescent Microscope	12.0	1	12.0	0	Direct measurement of microbial load of environmental samples
Microscopic Image Processing software and hardware for existing phase contrast microscope	4.0	1	4.0	0	For morphotyping of the microbial cells
Anaerobic glove Box	4.0	1	4.0	0	For inoculation and cultivation of obligately anaerobic microorganisms
Grand total			20.0		

Amount in Millions of Rupees - 2.0

Environmental Molecular Toxicology Laboratory

Name of the lab in charge: Dr. V.S.Srinivas, Lecturer,

Name of the Equipment with brief specification	Unit Price (Rs in Lakhs)	Qty required	Qty available	Amount required	Justification
Research Microscope with photographic attachment	1.0	1	--	1.0	For pictorial out puts of histopathological studies and biodiversity profiles
Automated Video tracking system	7.0	1	-	7.0	To elucidate physical and behavioural manifestations and histopathological studies in fish exposed to various xenobiotics
Total				8.0	

Amount in Millions of Rupees -0.80

Justification:

Right now Environmental Microbiology, Environmental Biotechnology, And Environmental Toxicology Biodegradation and Bioremediation and Microbiological analysis of food, water air practical are being conducted in the Environmental Biotechnological Division. Though students are trained in all these aspects well, they do not yet have experience with state of art technology for lack of instrumental facilities, which would take much less time at the same increasing the sensitivity several fold. Training of students in molecular methods is absolutely essential for especially Environmental biotechnology students. The job potential of all the students in general will increase enormously by training in this field. Hyderabad becoming hub for biotechnology industry in India, it is highly desirable that our students are trained in the latest technologies to give them an edge over others with similar degrees. This will also enable us to get many R & D and consultancy projects in which the students can obtain research.

Environmental Geo informatics labs

**Name of the lab in charge: Prof. M.Anji Reddy, Head Centre for Environment,
Dr.P.Venkateswarulu, Associate Professor
Dr.T.Vijay lakshmi, Lecturer**

Proposed facilities

S.No	Name of Instrument	Unit Price (lakhs)	Quantity required	Cost in Lakhs	Quantity available with the Centre	Justification
1.	ARC GIS (8.9 ver) ARC IMS	5.00+4.00	1 (master license + 4 users)	9.0	ARC / INFO 4.2 one licence is available	To train M.Tech and M.Sc. students on this popular software
2.	Eagle Point watershed modeling software	0.40+1.00	1 (master license + 4 users)	1.40	Nil	To train students on the innovative methodologies for watershed management programs of govt.
3	Photogrammetry and visual image analysis lab Spectral radiometer (ground truth)	0.75	1	0.75	Nil	For environmental geoinformatics
4	GIS & RS digital data analysis & GPS lab Geomatica prime 9.1 software e-Cognition	2.70 2.70		2.70 2.70	Nil Nil	Environmental geo informatics
7.	Digitization software (AUTOCAD , Intellicad)	0.69	5	3.45	Nil	This software is useful for digitizing the scanned maps through a process called automated digitization and scanning method
	Total			18.69		

Amount in Millions of Rupees - 1.869

Justification:

The existing labs of environmental Geoinformatics is able to cater 40% of the need of training the PG students and 50% of the research need. Hence the above facilities are required to meet the 100% demand of the environmental Geoinformatics laboratories. Presently

environmental Geoinformatics laboratories of centre for Environment are able to cater the practical need of various PG programs of M.Tech (EMT) and M.Tech (EGI) as per academic curriculum. Since the existing facilities are only 40% it is not possible to provide the software for each student and hence we are training the students by forming into number of groups. With this aid all the facilities can be improved so that each student can operate independently to get the required knowledge. This ultimately leads to train the student at the top level. These facilities can also be useful to generate funds through R&D and consultancy that will be helpful to maintain all the laboratories even after the completion of the project.

Centre for Spatial Information Technology

1) Geographical Information Systems & Data conversion Lab

Lab In charge : : **Dr T Saraswathi**(Data Conversion)

Dr. P Kesava Rao(Geographical Information Systems)

Name of Equipment with Brief Specifications	Unit Price (Rs)	Quantity Required	Cost of the item (Rs)	Present Quantity available
Wide format scanner	10,00,000	1	10,00,000	1
Large format Inkjet plotter	2,00,000	1	2,00,000	1
GIS utility mapping software-Arc FM/ small world multiple license	8,00,000	1	8,00,000	-
Total			20,00,000	

Amount in Millions of Rupees - 2.00

Justification:

Presently lab is equipped with software's like Arc GIS, Arc Info PC, Arc View, Geo-concept, AutoCAD with stand alone systems. The present facilities are not sufficient for three M Tech. Programs and research scholars. It is necessary to upgrade present software's to multi user license. It is very much necessary to procure GIS utility mapping (AM/FM), Data conversion and Map objects software's to strengthen the present facilities and improve facilities for research activity. The available hardware facilities are older and need Scanner, Plotter and Pentium systems.

Purchase cost of the Available facilities : Rs.30,00,000/-

Additional facilities required : Rs.18,00,000/-

2. Digital Image Processing lab

Lab In charge : **J Venkatesh/ KSS Ravi Kumar**

Pentiums with dual processors & 17" monitor	70,000	10	7,00,000	10
Server & networking	1,00,000	1	1,00,000	-
UPS 5 KV	1,00,000	1	1,00,000	2 KV
Laser color printer	1,00,000	1	1,00,000	1
Digital Image processing software with multiple licenses (purchase of ENVI, EASI PACE)	6,00,000	1	6,00,000	ERDAS (5 licenses)
Total			16,00,000	

Amount in Millions of Rupees - 1.60

Justification:

Digital Image processing lab is equipped with 10 systems and 5 ERDAS and one e-Cognition software. The present facilities are not sufficient for three M Tech. Programs and Research scholars. It is necessary to upgrade present software's to multi user license. It is very much necessary to procure ENVI and EASI PACE software's for enhancing the technical capabilities required for the Industry and Research.

Purchase cost of the Available facilities : Rs.20,00,000/-
Additional facilities required : Rs.16,00,000/-

3) Digital Photogrammetry Lab

Lab In charge : **S Sailaja**

Pentiums with dual processors & 17" monitor	70,000	10	7,00,000	5
Stereo analysis glasses	40,000	15	6,00,000	1
UPS 5 KV	1,00,000	1	1,00,000	1 KV
Server & networking	1,00,000	1	1,00,000	-
Softcopy Photogrammetry multiple licenses (DVP, SSK)	15,00,000	1	15,00,000	-
Total			30,00,000	

Amount in Millions of Rupees - 3.00

Justification:

So far Photogrammetry part is covered in one of the modules of ERDAS. It is necessary to procure exclusive softcopy Photogrammetry like DVP and SSK multiple licenses, for strengthening lab and improve research activity. Hardware Systems, Stereo analysis glasses are exclusively required for use of new software's.

Purchase cost of the Available facilities : Rs.5,00,000/-
Additional facilities required : Rs.30,00,000/-

4) GPS & Mobile Mapping Lab:Lab In charge : **Prof I.V. Muralikrishna/ S Srinivasulu**

Differential Global positioning systems	10,00,000	2	20,00,000	-
Electronic distance measuring Instruments/Total Stations	6,00,000	1	6,00,000	-
Sub Total			26,00,000	

Amount in Millions of Rupees - 2.60**Justification:**

The facilities available in this lab are 20 Hand held GPS, Arc View Tracking analyst software. This lab has to be established with Differential GPS (Sub meter accuracy), and Electronic distance measuring Instruments/ Total Stations for M Tech (Geo-Informatics and surveying Technology). It is also useful for other two M.Tech programs and research. As GPS & Mobile mapping is gaining demand, it is justified to enhance and establish with new hardware. This will help in real time applications and research activity.

Purchase cost of the Available facilities : Rs. 8,00,000/-

Additional facilities required : Rs.36,00,000/-

Centre for Water Resources**1. Water Resources Modelling Lab**Incharge : **Smt.C.SARALA, Asst Professor**

Name of Equipment with Brief Specifications	Unit Price (Rs)	Quantity Required	Cost of the item (Rs)
HARDWARE			
Pentium IV P.C's of HP brand with 17" monitor	60,000	20	12,00,000
UPS 5KV	1,00,000	1	1,00,000
Visual Modflow	99,750	2	1,99,500
Feflow	47,400	2	94,800
Aquachem	34,750	2	69,500
Aquifer test pro	29,750	2	59,500
Visual Ground Water	84,750	2	1,69,500
Grapher	13,500	3	40,500
Surfer 7.0	20,800	3	62,400
Matlab 6.1	95,000	1	95,000
Watershed Modelling System (WMS)	1,12,750	2	1,12,750
TOTAL			23,06,800

Amount in Millions of Rupees - 2.3068**Note : The prices quoted for multiple units are at concessional rates.**

Justification:**APPLICATIONS SOFTWARE:**

Visual Modflow: This software is mainly used for ground water modeling and solute transport modeling in two-dimensional way.

Ground Water Modelling System: This software is used for modeling the entire aquifer in a 3-dimensional way.

Mike-Basin: Mike basin is used to compute inflows to the multi-reservoirs over the Image River System.

Surface Water Modelling System: It is a graphical pre and post processor for one-dimensional and two-dimensional hydro-dynamic modeling of complex river systems, lakes, estuaries and coastal systems.

Aquachem: Aquachem is a visual fractured software package integrating the customizable data base with a comprehensive suit of graphical and numerical analysis tool for hydro-chemical data.

Aquifer Test: This is used for conducting the pumping test of various methods to estimate the transmissivity and storage co-efficient of the aquifers.

2.Photo Hydrology Lab

Incharge: **Mr.G.Ashok**, Research Associate

Existing Equipment worth 37% of the total proposed equipment:

Name of Equipment with Brief Specifications	Unit Price (Rs)	Quantity Required	Cost of the item (Rs)
Light tables	11,000	10	1,10,000
Digital Planimeter	25,000	2	50,000
Stereo Scopes	3,500	10	35,000
Toposheets of Andhra Pradesh	34	1500	51,000
Hand GPS	25,000	10	2,50,000
Rodiometer	3000	10	30,000
TOTAL			5,26,000

Amount in Millions of Rupees - 0.526

2. Photohydrology lab:

This lab again contains the state of art Pentiums of 30 numbers in local area net work (LAN) with a server and it is powered through 10 KVA UPS apart from LCD Projection facility. Very important application, software's such as Arcinfo, Erdas, ILWIS etc. used for Remote Sensing and GIS applications in water resources (The entire list is annexed) will be installed in this lab and used for training the students as well as for the research purposes. Spatial Information Technology now a days is picked up very fast. This technology must be exposed

to all the students who are dealing with natural resources like water whose availability varies both with space and time. This lab particularly caters to such needs using remote sensing and GIS techniques. Before using the GIS technology one must learn in preparing various thematic maps such as landuse / land-cover map, drainage map, slope map, geomorphology map, soil maps etc with visual satellite imageries or aerial photos. This data is collaborated with ground truth data. Therefore this lab caters to the needs of such works.

3. Hydro Meteorological Station Lab

Incharge : **Mr.C.Venkateswara Rao**

Designation: Research Associate

Existing Equipment worth 31% of the total proposed equipment:

Name of Equipment with Brief Specifications	Unit Price (Rs)	Quantity proposed	Cost of the item (Rs)
Automatic weather Data Recorder powered by solar panels	4,00,000	1	4,00,000
Infiltrometer	50,000	1	50,000
Pan Evaporometer	20,000	1	20,000
Rainfall simulator and Fencing	4,00,000	1	4,00,000
Total			8,70,000

Amount in Millions of Rupees - 0.87

3. Hydrometeorological Station:

This station is planned at a suitable location in the campus of JNT University, Kukatpally and the foundation stone was laid by none other than Claudio Caponi, Chief Capacity Building of WMO, Geneva. This station is used to generate crucial data such as rain fall, temperature, humidity, infiltration, evaporation at a given location. At the same time it is also used to demonstrate to the students how these hydrometeorological parameters are recorded with the state-of-the art of the equipment available in the market. If this data accumulated over the large number of years then it is very much useful for research

Geophysical and Surveying Lab

Incharge : **Dr.B.Venkateswara Rao**

Designation: Head

Name of Equipment with Brief Specifications	Unit Price (Rs)	Quantity proposed	Cost of the item (Rs)
Pumping Test equipment with Submersible Pump	50,000	1	50,000
Automatic Water Level Recorders	5,000	5	25,000
Well logging equipment	15,00,000	1	15,00,000
Sediment Sampler	50,000	1	50,000
Stream Gauging Equipment	10,000	1	10,000

Drilling of bore holes for field investigation purpose	33,000	3	1,00,000
TOTAL			17,35,000

Amount in Millions of Rupees - 1.735

Justification:

5. Geophysical and Surveying Lab

This equipment is essentially consists of surveying equipment such as civil survey equipment, ground water exploration equipment, equipment to measure flows and sediment discharge in natural streams . Watershed will be delineated within the reasonable distance from the JNTU Campus at kukatpally.. All the field measuring equipment such as stream gauges, water level recorders , sediment samplers and automatic weather data recorder will be permanently installed in the watershed . Geophysical equipment and civil surveying equipment will be taken to the field as and when necessary for the survey.

6. Isotope Hydrology Lab

Incharge : Mr. K. Ramamohan Reddy

Designation: Asst. Professor

Existing Equipment worth 55% of the total proposed equipment

S.No	Name of the laboratory	Name of Equipment with Brief Specifications	Unit Price (Rs)	Quantity proposed	Cost of the item (Rs)
6	Isotope Hydrology Lab	Radon Measuring Equipment	5,00,000	1	5,00,000
		Spectrophotometer	40,000	1	40,000
		TOTAL			5,40,000

Amount in Millions of Rupees - 0.54

Justification:

6. Isotope Hydrology Lab

This lab is mainly intended to have isotope applications in water resources. For example, these applications will throw greater light on the origin of the water. Say, whether the water has come from meteoric origin or from surface water body or from ground water body. Moreover age of the water, recharging to the ground water and climate change variabilities could be determined. These techniques are very useful in resolving conflict resolution in sharing the waters from big river basins.

4.4 New Programmes Proposed

NIL

4.5 Areas of Doctoral Programmes

Doctoral programmes are being offered in all the centers of the Institute since the last few years

- a) Please indicate whether starting of Doctoral Programme is envisaged, and if yes indicate the areas and demonstrate capability to support the same
- Genetic engineering and molecular biology
 - Bioprocess engineering
 - Air pollution monitoring and modeling
 - Innovative technologies for industrial waste treatment
 - GIS and Remote sensing for environmental management
 - Mobile mapping and GPS
 - Precision farming using high resolution satellite data
 - Infrastructure mapping and application development
 - Watershed management
- b) In relation to Doctoral Programmes indicate requirements for assistantship/fellowships
- Four fellowships(JRF) in each centre

Brief justification to be given for introduction of Doctoral programme in the areas selected above

4.6 Establishment of New Laboratories and Workshops

It is proposed to establish Centralized computational facilities, learning resource unit, seminar hall and strengthen the existing facilities at Central Library and the central instrumentation unit of our Institute. The proposed facilities are as follows.

Department	Name of the lab/workshop	Purpose/ linkages to an existing/ new Programme	Indicate starting and completion time			
			2004-05	2005-06	2006-07	2007-08
Institute of Science and Technology	Centralized Computational facilities	To improve hands on training facilities for students and faculty.	—	—	—	—
	Centralized Instrumentation facilities Central Learning resource unit.	To improve hands on training facilities for students and to extend research and consultancy activities To conduct training programs	—	—	—	—

**CENTRALIZED COMPUTATIONAL FACILITIES
JNTU, Institute of Science and Technology (IST)**

S.No.	Name of the Item	Unit price (lakhs)	Quantity required	Cost in Rs.
(A) Remote Sensing / Image Processing Infrastructure Solution:				
1.	Image Processing Server: 1 No – Sun Fire, Clients / Workstation: 5 No's of Sun Blade 150 and 10 No's of HCL Challenger 5205 (Intel Xeon Workstation) and 5 No's of HCL Challenger 5100 (High end Pentium IV) System (all with high graphics card)			29,00,000
2.	Application Software			15,00,000
(B) Geographical Information Systems (GIS) Infrastructure Solution:				
1.	GIS server: 1 No. – Sun Fire V880Z, Clients / Workstation: 10 No's of HCL Challenger 5205 (Intel Xeon Workstation) and 10 No's of HCL Challenger 5100 (High end Pentium IV) System (all with high graphics card)			21,00,000
2.	Application Software			12,00,000
(E) Bioinformatics lab				
1.	Computers	0.5	20	10,00,000
2.	Software (Accelrys, Tripos & MOE)	8.0	1	8,00,000
3.	Server networking and internet connectivity			1,00,000
Common Amenities				
1.	UPS(10KV) Integrated instruments pvt ltd)	3.00	4	12,00,000
Total				108..00

Amount in Millions of Rupees - 10.80

Justification:

It is proposed to develop common computer facilities for offering hands on training on various softwares and modelling to all the M.Tech students of different centres. It is expected to cater to the needs of scientific computing for research purposes.

**LEARNING RESOURCE UNIT
J.N.T.U. Institute of Science and Technology (IST)**

S.No	Description of the equipment	Amount in Lakhs (Rs)
1	Network attached storage server(NAS)	2.50
2	Digital cameras	1.00
3	Video Cameras	1.00
4	Multimedia Software	1.00
5	Macromedia Director, Graphic Work Station	1.00
6	Sound Equipment	5.00
7	3 D Studio Max	0.50
8	LCD Projectors	3.0
	Total	15.00

Amount in Millions of Rupees - 1.50

Justification:

It is proposed to prepare multimedia lessons on certain important technological concepts relevant to students of the Centers at the institute. It is also proposed to develop the necessary infrastructure to maintain the lectures of each faculty in the institute web which can be upgraded every year.

CENTRAL LIBRARY

S.NO	Description of the equipment	Year wise projection Amount in Lakhs			Amount in Lakhs
		1 st	2 nd	3 rd	
1	e-journals	10.0	-	5.0	15.0
2	Books	20.0	20.0	20.0	60.0
3	Server	5.0			5.0
4	Workstations (10Nos)	10.0			10.0
5	Networking with in the Library	5.0			5.00
6	Software (Library Management Software) & Digital Library Management Software	10.0			10.0
	Total				105.00

Amount in Millions of Rupees - 10.50

Justification:

This amount is proposed for making available more numbers of textbooks and reference books in all the related areas of IST. Apart from this it is also proposed to procure library management software and subscription of electronic journals.

Institute of Science and Technology
A. CENTRAL INSTRUMENTATION FACILITY

S.No.	Name of Instrument	Unit Price (lakhs)	Quantity required	Cost in Rs Lakhs
1.	LC-Mass Spectrophotometer	35.0	1	35.0
2.	ICP for analysis of elements & toxic metals in environmental samples	25.0	1	25.0
3.	AAS with graphite furnace for toxic metal analysis	5.0	1	5.0
4.	UV-VIS Spectrophotometer for aalysis of organic and inorganic samples with thermostat for kinetics	8.0	1	8.0
5.	Automatic Thermal de-sorber	7.00	1	7.00
6.	Software for HPLC (Waters)	4.0	1	3.0
7.	Analytical balance	1.5	1	1.5
8.	UPS (10 kva) 1 hour back up	1.5	2	3.0
9.	Gas chromatograph with ECD,FID,NPD and TCD with capillary column for analysis of organic compounds and pesticides in environmental samples	15.0	1	15.0
10.	Particle size analyzer	9.0	1	9.0
11.	Surface area analyzer	9.0	1	9.0
12.	TOC analyzer	10.0	1	10.0
13.	Hydrocarbon analyzer	8.0	1	8.0
14.	Flue combustion flue gas analyzer	4.0	1	4.0
15.	Area VOC monitoring	3.0	1	3.0
16.	Gas detection unit	3.5	1	3.5
17.	Head space extractor	6.0	1	6.0
18.	Pesticide library for GC MS	0.70	1	0.70
19.	Millipore water unit	1.0	1	1.0
20.	CHNSO analyzer	20.0	1	20.0
		Total		182.7

Amount in Millions of Rupees - 18.27

Justification:

In the present existing facilities, we have GC , HPLC, AAS, UV–Vis Spectrophotometer Ion Analyzer, GCMS, FTIR wroth of Rs: 71.0 lakhs. It is proposed to create common advanced instrumentation facilities by procuring sophisticated analytical instruments for the analysis of biological materials, environmental samples, hazardous and toxic pollutants at ppb levels, advanced facilities in GIS and remote sensing and also in the areas of Protein chemistry and Genetic engineering. These facilities will be useful for providing hands-on training to students for following the biochemical reaction processes and pollution assessment and for optimizing reactor design parameters particularly for the reaction engineering labs for following various cleaner production processes this instrumentation facilities will be highly useful. It is proposed to offer short-term training programs to in-service personnel of various government and non-government organizations.

B. Equipment for Seminar hall

S.No.	Name of the Laboratory	Name of the Equipment	Unit Price	Quantity required	Present Quality available
1.	Seminar Hall	Lap – top Computer	Rs. 80,000/-	1	-
		LCD Projector	Rs. 1,50,000/-	1	-
		Over head Projector	Rs. 20,000/-	1	-
		Audio Facilities with amplifier, CD/Tape Player, Cordless mikes, Cordless Collar mikes etc.,	RS. 1,00,000/-	1	-
		Total:	Rs. 3,50,000/-		
For 2 Seminar Halls 3, 50,000 * 2					7,00,000/-

Amount in Millions of Rupees - 0.70

Total of A and B = Rs. 189.7 lakhs

Amount in Millions of Rupees - 18.97

Apart from establishment of Centralized facilities the following civil works are also proposed for IST.

CIVIL WORKS FOR IST

S.No	Name of the Facility	Total Gross Area required in Sq.m	Amount required in lakhs (Rs)
1	Seminar Halls (2)	250	81.25
2	Computer facilities	500	
3	Learning resource unit	500	
TOTAL		1250	

Amount in Millions of Rupees - 8.125

Department	Name of the lab/workshop	Purpose/ linkages to an existing/ new Programme	Indicate starting and completion time			
			2004-05	2005-06	2006-07	2007-08
	Centralized Instrumentation facilities Central Learning resource unit.	To improve hands on training facilities for students and to extend research and consultancy activities To conduct training programs	—	—	—	—
Centre for Biotechnology	Animal Cell culture technology lab	To improve hands on training facilities for students and to extend research and consultancy activities To conduct training programs	—	—	—	—
Centre for Environment	Reaction Engineering Lab for development of cleaner technologies	To improve hands on training facilities for students and to extend research and consultancy activities To conduct training programs		—	—	—

PROPOSED NEW LABS:**Centre for Biotechnology****1. ANIMAL BIOTECHNOOLOGY LABORATORY**

**Incharge: 1.Dr.M.Lakshmi Narasu, Ph.D.(I.I.Sc.)
Prof. & Head, Centre for Biotechnology,
2.P. Lakshmi,
M.Tech Biotechnology,
Lecturer**

Existing Facilities: CO₂ incubator only

S.no	Name of Equipment with Brief Specifications	Unit Price (Rs)	Qty Required	Cost of the item (Rs)	Present Quantity available in the Institution	Justification
1.	Millipore water deionizer (Millipore)	3.00	1	3.00	Nil	To obtain de-ionized water for practicals
2.	Inverted Microscope (Olympus)	2.00	1	2.00	Nil	For visual Observation of micro organisms
3.	Florescence microscope (Olympus)	2.00	1	2.00	Nil	For visual Observation of micro organisms
4.	Mettler balance (Mettler)	1.50	1	1.50	1	For weighing various compounds
5.	Grand Total			8.50		

Amount in Millions of Rupees - 0.85

Justification:

In order to cater the needs of research and consultancy activities we would like to establish a well equipped laboratory with the proposed facilities. This lab will also be used not only for training our students but also faculty and students of affiliated engineering colleges in the advanced techniques of Biotechnology.

Proposed new facilities for Centre for Environment

S.No	Name of the laboratory	Name of Equipment with Brief Specifications	Unit Price (Rs)	Quantity Required	Cost of the item (Rs)	Present Quantity available in the Institution	Justification
1.	Reaction engineering lab (catalysis lab)	Fixed bed reactor	5.0	1	5.0	NIL	To carry out cleaner technology practicals
		Stirred tank reactor	5.0	1	5.0	NIL	-do-
		Incinerator	5.0	1	5.0	Nil	-do-
		Auto claves	0.5	1	0.5	NIL	-do-
		High vacuum system	3.0	1	3.00	NIL	For establishing reaction engineering lab
Total					18.5		

Amount in Millions of Rupees - 1.85

○ **Additional Faculty and Staff Required**

Purpose	Designation	Numbers
To recruit faculty in areas of proposed specialization as given in page 15	Professors	01
	Associate Professors	04
	Assistant Professors	04
To carry out R&D in each centre	Junior research fellows	04
For maintenance of equipment and computers to be procured	Data entry operators	02
	Technical assistants	08
	Instrumentation analyst	02
	Senior SIT analyst	01
	Junior SIR analyst	02
Total estimated expenditure on salaries and benefits	Rs. 155.0 lakhs	

4.7 Faculty Development (Local & Foreign Fellowship programs)

Area of Training (please see slide numbers ---- of the presentation)	Training duration			
	Within India		Abroad	
	No. of Persons	Person months	No. of Persons	Person months
Centre for Biotechnology	5	2	1	2
Centre for Environment	8	2	4	8
Centre for Spatial Information Technology	3	2	4	8
Centre for Water Resources	1	2	3	6

Details regarding the proposed foreign fellowship programs

S.No	Name of the centre	Name of the person & Designation	Functional area of training	Year of traveling	Duration	Amount required in Rs lakhs
1	CBT	Dr M.Lakshmi Narasu	Proteomics	2005	2 months	3.0
2	CEN	Prof.Y.Anjaneyulu	Energy Technology	2005	2 months	3.0
3	CEN	Prof.M.Anji Reddy	Geoinformatics	2005	2 months	3.0
4	CSIT	Prof.I.V.Muralikrishna	Spatial information	2005	2 months	3.0
5	CSIT	J.Venkatesh	Spatial information	2005	2 months	3.0
6	CWR	Dr.B.Venkateswar Rao	Water shed Management	2005	2 months	3.0
					Total	18.0

S.No	Name of the centre	Name of the person & Designation	Functional area of training	Year of traveling	Duration	Amount required in Rs lakhs
1	CEN	Dr.Ch.Sasikala	Microbial biotechnology	2006	2 months	3.0
2	CSIT	Dr.S.Srinivasulu	Watershed modeling	2006	2 months	3.0
3	CWR	C.Sarala	Water resource management	2006	2 months	3.0
					Total	9.0

S.No	Name of the centre	Name of the person & Designation	Functional area of training	Year of traveling	Duration	Amount required in Rs lakhs
1	CEN	Dr.V.Hima Bindu	Environmental management	2007	2 months	3.0
2	CSIT	Dr.P.Kesava Rao	Spatial information	2007	2 months	3.0
3	CWR	Ram Mohan Reddy	Water resource engineering	2007	2 months	3.0
					Total	9.0

Details of proposed National level training

S.No	Name of the centre	Name of the person & Designation	Functional area of training	Year of traveling	Duration	Amount required in Rs
1	CBT	D.Kiran Kumar	Enzyme engineering	2005	2 months	50,000
2	CEN	Dr.Valli Manickam	Environmental data modeling	2005	2 months	50,000
3	CEN	Dr.T.Vijayalakshmi	GIS	2005	2 months	50,000
					Total	1,50,000

S.No	Name of the centre	Name of the person & Designation	Functional area of training	Year of traveling	Duration	Amount required in Rs lakhs
1	CBT	P.Sreenivas	Advanced chromatographic techniques	2006	2 months	50,000
2	CBT	P.Lakshmi	Hybridoma technology	2006	2 months	50,000
3	CEN	Dr.V.S.Srinivas	Envi.Toxicology	2006	2 months	50,000
4	CEN	Dr.Zareen Khan	Envi. Impact Assessment	2006	2 months	50,000
5	CEN	Dr.B.Swarnalatha	Photo catalysis	2006	2 months	50,000
6	CWR	P.Srinivas	Water conservation	2006	2 months	50,000
					Total	3,00,000

S.No	Name of the centre	Name of the person & Designation	Functional area of training	Year of traveling	Duration	Amount required in Rs lakhs
1	CBT	T.Radhika	Molecular biology	2007	2 months	50,000
2	CBT	J.Venkateshwar Rao	Bioinformatics	2007	2 months	50,000
3	CEN	Dr.Syeda Azeem	Industrial pollution	2007	2 months	50,000
4	CEN	Ms.C.Jyotsna	Environmental Management	2007	2 months	50,000
5	CEN	Ms.C.Mary Sukanya	Environmental Management	2007	2 months	50,000
					Total	2,50,000

4.8 Staff Development (within India only)

Functional areas in which staff is required to be trained.

Functional areas of training	Training duration	
	No. of Persons	Person months
Centre for Biotechnology (Instrumental Methods)	1	1
Centre for Spatial Information Technology	1	1

4.9 Improved Implementation of Curricula (for possible activities see slide ---)

Activity	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Modernization and strengthening of Labs	—	—	—	—
Reorientation of existing programs		—	—	—
Conduct of continuing education programs			—	—

4.10 Improvement in Student Evaluation (see slide --- for possible evaluation mechanisms)

Activity	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Proposal to make student examinations analytical by introducing both objective and analytical papers	—	—	—	—
Evaluation by averaging assignment marks	—	—	—	—

4.11 Research and Consultancy

Activities to be taken for implementation	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
• Establishment of Research Promotion and Coordination Cell		—	—	—
• Establishment of Consultancy Cell	—	—	—	—
• Organizing state of the art lectures	—	—	—	—
• Creating R&D facilities for faculty / students	—	—	—	—

4.12 Enhanced Interaction with Industry

Activity	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Establish I-I Cell		—	—	—
Conduct Continuing Education Programmes	—	—	—	—
Organizing Industrial training of faculty		—	—	—
Industrial training of students		—	—	—
Undertaking Consultancy	—	—	—	—
Hosting industry R&D centers	—	—	—	—
Others				

4.13 Tribal Development Plan (TDP) (please refer TDP document for details and slide no 35,36,37, and 38)

Identified Activities	Indicate starting and completion time			
	2004-05	2004-05	2006-07	2007-08
Implementation of reservation policy	—	—	—	—
Conducting remedial teaching classes	—	—	—	—
Establishment of Book Banks	—	—	—	—
Conducting of language classes	—	—	—	—
Establishing PETCs	—	—	—	—

- The reservation policy which is already being implemented will be continued
- Establishment of PETC for giving special training for entrance examinations
- Establishment of a Book bank exclusively for SC/ST & OBC students
- Remedial teaching for weaker students

Proposed action plan for Tribal Development Plan

SrNo	Activity to be Undertaken	Steps involved in undertaking the activity	Expected No of beneficiaries	Starting Date	Finishing date	Cost Involved (Lakhs)
1	Reservation policy already being	implemented as per Govt. of India rule				nil
2	Establishment of Book Bank	Book procurement	175 students per year	March 2005	July 2005	12.00
3	Conducting of English language classes	Language books to be procured	175 students per year	March 2005	July 2005	0.20
4	Conducting of remedial classes	Extra coaching to be offered	175 students per year	March 2005	July 2005	
5	Establishment of PETC	1. preparation of study material 2. Conducting of training classes	175 students per year	March 2005	July 2005	6.00

UNIT-5 NETWORKING

5.1 Formal Networking:

The network partners will be involved in exchange of teachers and students and in jointly organizing conferences, seminars and continuing education programs and information exchange.

The networking partners for different Centres have been identified and the details are as shown below:

Technical Education Quality Improvement Programme Networking Among Programme Institutions Networking Work Plan Format (2005-06)

Name of Institution : **Institute of Science & Technology**

Name of Network partner 1 : **Sreenidhi Institute of Science & Technology**

S. No.	Major Networking Activity out Flowing from the Institution	Steps	Starting date	Closing Date	Cost Involved (if any)	Expected Benefits	Major Networking Activity flowing in from the Network partner	Steps	Starting date	Closing Date	Cost Involved (if any)	Expected Benefits
1.	Expertise in Down stream processing	Lectures in Downstream Processing	February 2005	July 2005	15,000	Sharing of Faculty	Expertise in Immunology	1 Lectures in Immunology	April 2005	July 2005	15,000	Sharing of Faculty
2.	Conducting of Workshops , Seminars and Conferences	Jointly organize seminars and workshops in Biotechnology related areas, cleaner technologies	Once in a year starting from 2005 onwards		50,000	Good exposure to students and interaction with experts in related areas	Conducting of Workshops , Seminars and Conferences	Jointly organize seminars and workshops in Biotechnology related areas	Once in a year starting from 2005 onwards		50,000	Good exposure to students and interaction with experts in related areas
3.	Carrying out collaborative research programs and offer joint consultancy	Will apply for joint research funding and offer joint consultancy					Carrying out collaborative research programs	Will apply for joint research funding				

Name of Institution : **Institute of Science & Technology**

Name of Network partner 1 : **JNTU College of Engineering, Kukatpally, Hyderabad**

S. No.	Major Networking Activity out Flowing from the Institution	Steps	Starting date	Closing Date	Cost Involved (if any)	Expected Benefits	Major Networking Activity flowing in from the Network partner					
							Steps	Starting date	Closing date	Cost Involved (if any)	Expected Benefits	
1.	Expertise in GIS and Remote Sensing	Lectures in GIS and Remote Sensing	April 2005	July 2005	15,000	Sharing of Faculty	Expertise in systems application to water shed management	Lectures in systems application to water shed management	April 2005	July 2005	15,000	Sharing of Faculty
2.	Conducting of Workshops , Seminars and Conferences	Jointly organize seminars and workshops in water resource management.	Once in a year starting from 2005 onwards		50,000	Good exposure to students and interaction with experts in related areas	Conducting of Workshops , Seminars and Conferences	Jointly organize seminars and workshops in water resource management	Once in a year starting from 2005 onwards		50,000	Good exposure to students and interaction with experts in related areas
3.	Carrying out collaborative research programs	Will apply for joint research funding					Carrying out collaborative research programs	Will apply for joint research funding				

Name of Institution : **Institute of Science & Technology**

Name of Network partner 1 : **University College of Technology,**

S. No.	Major Networking Activity out Flowing from the Institution	Steps	Starting date	Closing Date	Cost Involved (if any)	Expected Benefits	Major Networking Activity flowing in from the Network partner	Steps	Starting date	Closing Date	Cost Involved (if any)	Expected Benefits
1.	Expertise in Biology related concepts	Lectures in Microbiology, Molecular Biology, Genetic Engineering etc.	April 2005	July 2005	30,000	Sharing of Faculty	Expertise in Chemical Engineering concepts	Lectures in Chemical Engineering Related subjects	April 2005	July 2005	30,000	Sharing of Faculty
2.	Conducting of Workshops , Seminars and Conferences	Jointly organize seminars and workshops in Industrial Biotechnology and Process control systems	Once in a year starting from 2005 onwards		50,000	Good exposure to students and interaction with experts in related areas	Conducting of Workshops , Seminars and Conferences	Jointly organize seminars and workshops in Industrial Biotechnology and Process control systems	Once in a year starting from 2005 onwards		50,000	Good exposure to students and interaction with experts in related areas
3.	Carrying out collaborative research programs	Will apply for joint research funding					Carrying out collaborative research programs	Will apply for joint research funding				

The proposed cost for academic activities listed above with the networking institutions is Rs. 2.10 lakhs per year. The estimated cost for the entire project period would be Rs. 8.4 lakhs.

5.2 Non-Formal Networking

Students of the different centers of the IST are sent for carrying out their project work in the institutions listed below and also the experienced scientific personnel of these institutions are invited for giving lectures in their respective areas.

Name of the centre	Name of the Non-Formal Networking Partner
Centre for Biotechnology	<ul style="list-style-type: none"> ▪ Andhra pradesh Forensic science lab ▪ Directorate of rice research ▪ Indian Immunologicals ▪ Biological Evans
Centre for Environment	<ul style="list-style-type: none"> ▪ Indian institute of science and technology (IICT) ▪ National remote sensing agency (NRSA) ▪ National geographical research agency (NGRI) ▪ Geographical survey of India (GSI) ▪ Survey of India (SOI) ▪ Jackson state university (JSU) USA ▪ Griffith university, Australia
Centre for Spatial information technology	<ul style="list-style-type: none"> ▪ Dr MS Swami Nathan Research foundation ▪ Asian institute of technology ▪ Gottingen university, Germany ▪ Pennsylvania University ▪ George Mason university, Virginia
Centre for Water resources	NGRI CRIDA ICRISAT NRSA MANAGE NIRD

The expenditure in this case would be related to honorarium payments for the scientists who come to deliver lectures in different specialized areas. On an average the estimated number of lectures delivered by scientists from each of these institutes would be between two and three which would work out to 50 lectures per year. The cost of conducting these lectures would amount to Rs. 50,000/- per year. The amount for four years would be Rs.2.0 lakhs.

The total financial requirements for both formal and non-formal networking would be Rs.10.40 lakhs.

UNIT-6

SERVICES TO COMMUNITY AND ECONOMY

- 6.1 Services to Community and Economy** [these should be planned to be rendered with the involvement of all the Departments, Faculty, Staff and Students]. Suggested Activities: (pages 13 & 14 of PIP and slides ----)
- a) Services to be Rendered to the Community [the community should be in the vicinity of the institution]

Name of the department	Identified Activities	Indicate starting and completion time		
		2004-05	2006-07	2007-08
Centre for Biotechnology	Creating awareness about nutritive values of food and hygienic living among the people residing in slums around Kukatpally area Conducting Tissue Culture Training Programs to the unemployed	—	—	—
Centre for Environment	Evaluation of water quality and adaptation of low cost field kits for water quality assessment and water purification survey of impacts, environmental, social and cultural factors, the health problems of school, children in industrially polluted Patancheru mandal and preparation of health information system.	—	—	—
Centre for Spatial Information Technology	Conducting of Basic computer training program for youth in nearby villages	—	—	—
Centre for water resources	To create awareness among rural people about soil and water conservation	—	—	—

b) Services to be extended to the unorganized labour force

Identified Activities	Indicate starting and completion time			
	2004-05	2004-05	2006-07	2007-08
Creating awareness about nutritive values of food and hygienic living among the people residing in slums around Kukatpally area	—	—	—	—

c) Services to be extended to the the organized labour force (suggested activities could be Continuing Education Programmes, specialized training sought by industry etc)
Please refer to page 14 of PIP

Identified Activities	Indicate starting and completion time			
	2004-05	2004-05	2006-07	2007-08
Tailor made program for industrial needs (Advanced Instrumental methods of analysis)	—	—	—	—
Computer training program for youth	—	—	—	—
Short term training courses in Tissue Culture	—	—	—	—

UNIT-7**Overall Programme Life Time Financial requirements for Institutional Development**

Institutions should sum the expected resource requirement for different years for all the activities proposed under Institutional Development (Academic Excellence, Networking, Services to Community and Economy and Tribal Development Plan) in the formats given in para 7.1 to 7.6.

If there is no fund requirement under any of the expenditure categories or sub-categories or in any project year, this should be shown as 0.00.

7.1 Promotion of Academic Excellence (Financial Requirement) – Total of 7.1.1 to 7.1.5

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Civil Works*				8.125	0.50	7.625	0.00	0.00
2.	Equipment				68.915	7.6	61.315	0.00	0.00
3.	Furniture				2.762	0.5	2.00	0.262	0.00
4.	Vehicles				0.00	0.00	0.00	0.00	0.00
5.	Books and Learning Resources				13.2=10.5+1.5+1.2	1.700	7.00	4.50	0.00
6.	Consultancy Services** & Research Studies				3.000	0.00	1.000	1.000	1.000
7.	Training/Study Tours/Fellowships (Local & Foreign)				4.950	0.00	2.350	1.450	1.150
Sub Total (A)					100.952	10.3	81.29	7.212	2.15
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				17.038	0.1	5.646	5.646	5.646
9.	Consumables				2.075	0.25	0.825	0.500	0.500
10.	Operation & Maintenance				2.645	0.55	1.0	1.0	0.095
Sub Total (B)					21.758	0.9	7.471	7.146	6.241
Grand Total (A+B)					122.71	11.2	88.761	14.358	8.391

*Restricted to 10% of Project - life time allocation

** Consultancy may be given for civil works, procurement of goods, implementation of fellowship programs, educational studies, academic activities and other activities

*** Restricted to 15% of Project life time allocation

7.1.1 Tribal Development Plan

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Equipment				0.00	0.00	0.00	0.00	0.00
2.	Furniture				0.00	0.00	0.00	0.00	0.00
3.	Books and Learning Resources				1.20	0.80	0.20	0.20	0.00
4.	Training/Workshop (PETC)				0.60	0.00	0.40	0.20	0.00
Sub Total (A)					1.80	0.80	0.60	0.40	0.00
(B)	INCREMENTAL OPERATING COST								
5.	Salaries for Additional Key Faculty and Staff (only honorarium)				0.1	0.02	0.04	0.04	0.00
6.	Consumables				0.00	0.00	0.00	0.00	0.00
7.	Operation & Maintenance				0.00	0.00	0.00	0.00	0.00
Sub Total (B)					0.00	0.00	0.00	0.00	0.00
Grand Total (A+B)					1.9	0.82	0.64	0.44	0.00

7.1.2 Institutional Management Capacity Development

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Training/Study Tours/Fellowships (Local & Foreign)				4.35	0.00	1.95	1.25	1.15
	Total				4.35	0.00	1.95	1.25	1.15

7.1.3 Implementation of Reforms

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Books and Learning Resources				0.00	0.00	0.00	0.00	0.00
2.	Consultancy Services & Research Studies				0.00	0.00	0.00	0.00	0.00
3.	Training/Study Tours/Fellowships (Local & Foreign)				0.00	0.00	0.00	0.00	0.00
Sub Total (A)					0.00	0.00	0.00	0.00	0.00
(B)	INCREMENTAL OPERATING COST								
4.	Consumables				0.075	0.025	0.025	0.025	0.00
5.	Operation & Maintenance				0.070	0.050	0.010	0.010	0.00
Sub Total (B)					0.145	0.00	0.00	0.00	0.00
Grand Total (A+B)					0.145	0.075	0.035	0.035	0.00

7.1.4 Project Monitoring and Implementation

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Consultancy Services& Research Studies				0.00	0.00	0.00	0.00	0.00
2.	Training/Study Tours/Fellowships (Local & Foreign)				0.00	0.00	0.00	0.00	0.00
Sub Total (A)					0.00	0.00	0.00	0.00	0.00
(B)	INCREMENTAL OPERATING COST								
3.	Consumables				0.075	0.025	0.025	0.025	0.00
4.	Operation & Maintenance				0.00	0.00	0.00	0.00	0.00
Sub Total (B)					0.075	0.025	0.025	0.025	0.00
Grand Total (A+B)					0.075	0.025	0.025	0.025	0.00

7.1.5 Financial Requirement for Promotion of Academic Excellence other than Tribal Development (7.1.1), Institutional Management Capacity Development (7.1.2), Implementation of Reforms (7.1.3) and Project Monitoring and Implementation (7.1.4)

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Civil Works*				8.125	0.50	7.625	0.00	0.00
2.	Equipment				68.915	7.6	61.315	0.00	0.00
3.	Furniture				2.762	0.5	2.00	0.262	0.00
4.	Vehicles				0.00	0.00	0.00	0.00	0.00
5.	Books and Learning Resources				12=10.5+1.5	0.9	6.8	4.3	0.00
6.	Consultancy Services** & Research Studies				3.000	0.00	1.000	1.000	1.000
7.	Training/Study Tours/Fellowships (Local & Foreign)				0.00	0.00	0.00	0.00	0.00
Sub Total (A)					94.802	9.5	78.74	5.562	1.0
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				16.938	0.08	5.606	5.606	5.646
9.	Consumables				1.97	0.2	0.775	0.495	0.500
10.	Operation & Maintenance				2.395	0.50	0.9	0.9	0.095
Sub Total (B)					21.303	0.78	7.281	7.001	6.241
Grand Total (A+B)					116.105	10.28	86.021	12.563	7.241

*Restricted to 10% of Project - life time allocation

** Consultancy may be given for civil works, procurement of goods, implementation of fellowship programs, educational studies, academic activities and other activities

*** Restricted to 15% of Project life time allocation

7.2 Networking (Financial Requirement)

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Equipment*				0.00	0.00	0.00	0.00	0.00
2.	Training/Workshop				1.04	0.260	0.260	0.260	0.260
Sub Total (A)					1.04	0.260	0.260	0.260	0.260
(B)	INCREMENTAL OPERATING COST								
3.	Consumables				0.00	0.00	0.00	0.00	0.00
4.	Operation & Maintenance				0.20	0.05	0.05	0.05	0.05
Sub Total (B)					0.20	0.05	0.05	0.05	0.05
Grand Total (A+B)					1.24	0.31	0.31	0.31	0.31

7.3 Services to Community & Economy (Financial Requirement)

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Training/Workshop				0.910	0.060	0.290	0.290	0.270
Sub Total (A)					0.910	0.060	0.290	0.290	0.270
(B)	INCREMENTAL OPERATING COST								
2.	Consumables				0.675	0.075	0.200	0.200	0.200
3.	Operation & Maintenance				2.515	0.865	1.21	0.41	0.03
Sub Total (B)					3.19	0.94	1.41	0.61	0.23
Grand Total (A+B)					4.10	1.00	1.70	0.9	0.5

7.4 Category wise Total Allocation

This Table is total of the figures given in Table 7.1, 7.2 and 7.3. Also provide Project lifetime allocation based on the formula given at the end of this table.

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Civil Works*				8.125	0.50	7.625	0.00	0.00
2.	Equipment				68.915	7.6	61.315	0.00	0.00
3.	Furniture				2.762	0.5	2.00	0.262	0.00
4.	Vehicles				0.00	0.00	0.00	0.00	0.00
5.	Books and Learning Resources				13.2=10.5+1.5+1.2	1.700	7.00	4.50	0.00
6.	Consultancy Services** & Research Studies				3.000	0.00	1.000	1.000	1.000
7.	Training/Study Tours/Fellowships (Local & Foreign)				6.9	0.32	2.9	2	1.68
Sub Total (A)					102.902	10.62	81.84	7.762	2.68
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				17.038	0.1	5.646	5.646	5.646
9.	Consumables				2.75	0.325	1.025	0.70	0.70
10.	Operation & Maintenance				5.36	1.465	2.26	1.46	0.175
Sub Total (B)					25.148	1.89	8.931	7.806	6.521
Grand Total (A+B)					128.05	12.51	90.771	15.568	9.201

*Restricted to 10% of Project - life time allocation

** Consultancy may be given for civil works, procurement of goods, implementation of fellowship programs, educational studies, academic activities and other activities

*** Restricted to 15% of Project life time allocation

7.5 Component Wise Financial Requirement

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed reappropriation of allocation of col.3	Additional funds required to meet priorities	Total project life time allocation (4+5)	Year-wise fund requirement for the remaining period of Project			
						2004-05	2005-06	2006-07	2007-08
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(A)	INVESTMENT COST								
1.	Promotion of Academic Excellence (Total of 7.1)				122.71	11.2	88.761	14.358	8.391
2.	Networking (Total of 7.2)				1.24	0.31	0.31	0.31	0.31
3.	Services to Community & Economy (Total of 7.3)				4.10	1.00	1.70	0.9	0.5
Total					128.05	12.51	90.771	15.568	9.201

UNIT-8

Programme Implementation and Monitoring Mechanisms

Please indicate in detail the mechanism of implementing various elements of the project and monitoring progress periodically. Please also indicate names of the members of the groups.

Suggested mechanism:

The institutions may form action groups for various implementation and monitoring purposes to divide the responsibility and to ensure proper implementation of the Programme. A regular meeting/discussion schedule may be worked out for all groups to meet and evaluate progress with the Head of the Institutions on weekly or bi-monthly basis.

Faculty and staff groups could be involved in implementation of the following :

The following groups have been constituted for monitoring and implementation of different activities

Monitoring implementation of the Programme

Prof.Y.Anjaneyulu (**Director**)
Prof.I.V.Murali Krishna
Prof. M.Lakshminarasu
Prof.M.Anji Reddy
Dr. B.Venkateswar Rao

Implementation of academic excellence activities

Prof.I.V.Murali Krishna
Prof.K.Mukkanti
Dr. B.Venkateswar Rao
P.Srinivas Rao
Dr. P.Kesava Rao
Dr.Valli Manickam

Promoting research and consultancy – research and consultancy cell

Prof.Y.Anjaneyulu
Prof.I.V.Murali Krishna
Prof. M.Lakshminarasu
Prof.M.Anji Reddy
Dr. B.Venkateswar Rao

Faculty and staff development

Prof.Y.Anjaneyulu
Prof.I.V.Murali Krishna
Prof. M.Lakshminarasu
Prof.M.Anji Reddy
Dr. B.Venkateswar Rao

Procurement of civil works

Prof.N.V.Ramana Rao
 Prof.Y.Anjaneyulu
 Prof.I.V.Murali Krishna
 Prof. M.Lakshminarasu
 Chandrasekhar

Procurement of goods

Prof.Y.Anjaneyulu
 Prof.I.V.Murali Krishna
 Prof. M.Lakshminarasu
 Dr.Syeda Azeem

Networking

Prof.M.Anji Reddy
 D.Kiran Kumar
 Dr. V.S.Srinivas

Services to Community & Economy

Dr. V.Hima Bindu
 Dr.Ch.Sasikala
 T.Radhika
 P.Srinivas
 K.S.S.Ravi Kumar

Industry Institute Interaction

Prof.Y.Anjaneyulu
 Prof.I.V.Murali Krishna
 Prof. M.Lakshminarasu
 Prof.M.Anji Reddy
 Dr. B.Venkateswar Rao

Tribal development activities

Dr.Ch.Sasikala
 Dr.S.Srinivasulu
 Ram Mohan Reddy
 L.Lakshmi
 Dr.B.Swarnalatha

Implementation of reforms

C.Sarala
 J.Venkatesh
 J.Venkateshwar Rao
 Dr.T.Vijayalakshmi
 C.Jyotsna

Ensuring improvements in administrative and financial practices

Prof.Y.Anjaneyulu
 Prof.M.Lakshminarasu
 C.J.Rama Raju

Ensuring Auditing quality of Education, Training and Services

Dr. B.Venkateswar Rao
 Dr.Zareen Khan
 Ms.C.Mary Sukanya

Faculty and staff could also be involved in monitoring implementation of the following activities:

Conducting Auditing quality of Education, Training and Services
 Conducting Audit of administrative, managerial and financial practices
 Monitoring implementation of reforms
 Monitoring compliance with MOU
 Monitoring implementation of Tribal development activities
 Preparing quarterly reports on progress in project and reforms implementation, internal audits and compliance with conditions of MOU
 Submitting quarterly reports to their respective BOG and SPFU (in case of centrally funded institutions to BTE in DSHE)
 Ensuring achievement of targets set for Output Indicators

The same groups will be involved in monitoring of the corresponding activities

Please indicate groups (with names of responsible faculty and staff) to be formed for various activities indicated above the methodology of performing activities to ensure proper monitoring and implementation of the Programme.