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J N T U COLLEGE OF ENGINEERING KAKINADA

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

**CONCISE INSTITUTIONAL PROJECT PROPOSAL
(SECOND CYCLE INSTITUTIONS)**

(21st December 2004)

**NATIONAL PROJECT IMPLEMENTATION UNIT
ED. CIL HOUSE, PLOT NO. 18 A, SECTOR 16 A,
GAUTAM BUDH NAGAR, NOIDA – 201 301
(UTTAR PRADESH)**

I N D E X

Executive Summary

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- 6 Service to Community and Economy**
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Executive Summary

The college of Engineering, Vizagpatam as was named at the time of its establishment in 1946 by the then Government of the composite Madras State. It is situated in a sprawling campus of 110 acres filled with mango trees in a sleeping port town of Kakinada on the east coast of peninsular India and situated in a zone, which through generations, contributed significantly to the political, literary and cultural heritage of the country. This college became a constituent of the Jawaharlal Nehru Technological University w.e.f 02-10-1972 through an act of legislature along with other sister institutions under the control of the then Director of Technical Education, Government of Andhra Pradesh. Earlier, it was affiliated to Andhra University. It celebrated Silver Jubilee, Golden Jubilee and now heading for its Diamond Jubilee during 2005-06.

The entire academic activity in the college is overseen by a highest body called College Academic Council, which has at least one academician of repute and an industrialist on its body along with senior Professors of the college. The college follows a continuous method of evaluation for internal marks and external mode for end-examinations under semester system. Most of the faculty members on rolls at present are having Ph.D. qualification and a few more are in the process of acquiring. The college, itself, has got the credit of producing a few Ph.Ds through various research schemes within the available resources and those obtained from different funding agencies in addition to several M. Tech. and a few M.S degrees.

The college deserves to be encouraged to its logical role in nation building by liberal grants. In order to execute the TEQIP program, a governing council has been constituted for JNTU College of Engineering, Kakinada as per the guidelines of TEQIP (refer university order No. **1245/ 2004 , dated 25-02-2004**). The governing council is as below.

1. Chairman : Vice-Chancellor, JNTU, Hyderabad
2. Six Members :
 1. Dr. K. Satyaprasad, Vice-Principal, CEK
 2. Dr. N.Chalamaiah, Head, CSED, CEK
 3. Dr. P. Udaya Bhaskar, Head, CED, CEK
 4. Sri. R. Swaroop, Sr, G.M. NFCL, Kakinada
 5. Dr. P.S. Rao, GVP College of Engineering, Visakhapatnam
 6. Nominee of UGC.
3. Member Secretary : Prof. N.S.V.V.S.J. Gandhi, Principal, CEK

Key Activities

The following activities are proposed to be taken up under the TEQIP program.

- To create additional infrastructure facilities to support the existing Undergraduate and Postgraduate programmes in various disciplines like Civil, Mechanical, Electrical and Electronics, Electronics and Communication and Computer Science Engineering.
- To enhance the research facilities in the areas of established expertise of the Institution.
- To restructure and reorient the undergraduate and postgraduate programmes in tune with needs of the Industry and Society.
- To start new Interdisciplinary P.G. programmes required for the present day needs of the society in the areas of proven expertise of the Institution.
- To provide better communication facilities for the faculty, staff and students through campus networking and Internet facilities.

Financial Requirement

(Rs in Million)

S.No.	Category of Expenditure	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.	Promotion of Academic Excellence	112.87	24.61	61.99	22.00	4.27
2.	Networking	3.30	0.05	1.55	0.85	0.85
3.	Services to Community & Economy	3.30	0.55	1.30	0.85	0.60
Total		119.47	25.21	64.84	23.70	5.72

Expected Outputs

- The completion of project will enhance the quality of training to the students to the standards required in the age of globalization.
- The project will enable the institution to take up the advanced research required for the present day needs of the society and industry.
- The facilities created under the project will enable the institution to serve the society in the vicinity for improving the quality of living.

UNIT-1

CURRENT INSTITUTIONAL INFORMATION

1.1 INSTITUTIONAL IDENTITY

1.1.1 Name of the Institution: JNTU College of Engineering, Kakinada (Autonomous)

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	E-mail Address
Head of the Institution	Dr. NSVVSJ Gandhi	0884-2366356 (O) 3090318 (O) 2343002 (R)	----	0884 - 2386516	Principal_jntucek@yahoo.com
Nodal Officers (TEQIP) for:					
Academic Activities	Dr. B.Sarvesh	0884 - 2349605(O) 2359875(R)	-----	0884 - 2386516	
Civil Works	Dr. P.Udaya .Bhaskar	0884 -2351664(O) 2350682(R)	9848231304	0884 - 2386516	p_udaya_bhaskar@yahoo.com
Procurement	Dr. B.Prabhakara Rao	0884 -2376234(O) 2349344(R)	9848451465	0884 - 2386516	drbpr@rediffmail.com
Financial Aspects	Dr. V. Ramachandra Raju	0884 -2349608(O) 2344224(R)	9866303895	0884 - 2386516	dranju_v@rediffmail.com

1.2 ACADEMIC INFORMATION

1.2.1 Engineering Programs offered in 2003-2004

S.No	Title of Program	Level ¹	Duration ² (Years)	Year of starting	Sanctioned Annual Intake ³	Total Student strength
1	Civil Engineering	B. Tech	4	1946	50	196
2	Electrical and Electronics Engineering	B. Tech	4	1946	50	202
3	Mechanical Engineering	B. Tech	4	1946	50	198
4	Electronics and Communications Engineering	B. Tech	4	1958	50	193
5	Computer Science and Engineering	B. Tech	4	1988	50	205
6	Machine Design	M. Tech	2	1971	25	50
7	Power Systems with emphasis on High Voltage	M. Tech	2	1971	25	50
8	Instrumentation and Control	M. Tech	2	1971	25	50

9	Soil Mechanics & Foundation Engineering	M. Tech	2	1971	25	33
10	Structural Engineering	M. Tech	2	2002	25	23
11	CAD-CAM	M. Tech	2	2002	25	50
12	Advanced Power Systems	M. Tech	2	2002	25	50
13	Computer and Communication	M. Tech	2	2002	25	50
14	Computer Science	M. Tech	2	2002	25	50

1.2.2 Total strength of students in all courses and all years of study in 2003-2004 : **1400**

1.2.3 Total women students in all courses and all years of study in 2003-2004 : **368**

1.2.4 Total ST students in all courses and all years of study in 2003 : **67**

1.2.5 Total SC students in all courses and all years of study in 2003 : **162**

1.2.6 Total OBC students in all courses and all years of study in 2003 : **490**

1.2.7 Doctoral Programs

a) Total number of candidates that obtained PhD from the institution up to 2003-04 : **10**

b) Total number of candidates currently registered for PhD : **34**

1.2.8 Accreditation Status of Programmes

Level of Programs *	Total Number of Programs being offered	Number of Programmes eligible for Accreditation by AICTE	Total Number of Programs Accredited by AICTE in		Number of Programs for which NBA Accreditation Applied for
			2002	2003	
Undergraduate	5	5	5	N.A	N.A
Postgraduate	9	9	9	N.A	N.A

* All the programmes are accredited by NAAC with 'A' Grade

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 No. in Position	Total Vacancies
			PhDs		Post-graduates		Degree Holders			
			Engg.	Other	Engg.	Other	Engg.	Other		
Professors	20	Regular	12	2	--	--	--	--	14	0
		Contract	--	--	--	--	--	--		
Associate Professor/Reader	30	Regular	10	3	14	--	--	--	27	0
		Contract	--	--	--	--	--	--		
Assistant Professor/Lecturer	61	Regular	1	1	17	3	5	--	70	0
		Contract	--	1	22*	5*	10*	5*		

* Lecturers working on contract against respective vacancies.

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	--	--	--	--	--	--	
PG Teaching	2	--	--	1	--	--	12

1.4 AVERAGE RECURRENT COST PER STUDENT : Rs. 45,313-00

1.5 CURRENT TEACHER-STUDENT RATIO : 1:14
(Considering technical teaching faculty only)

UNIT 2

VISION

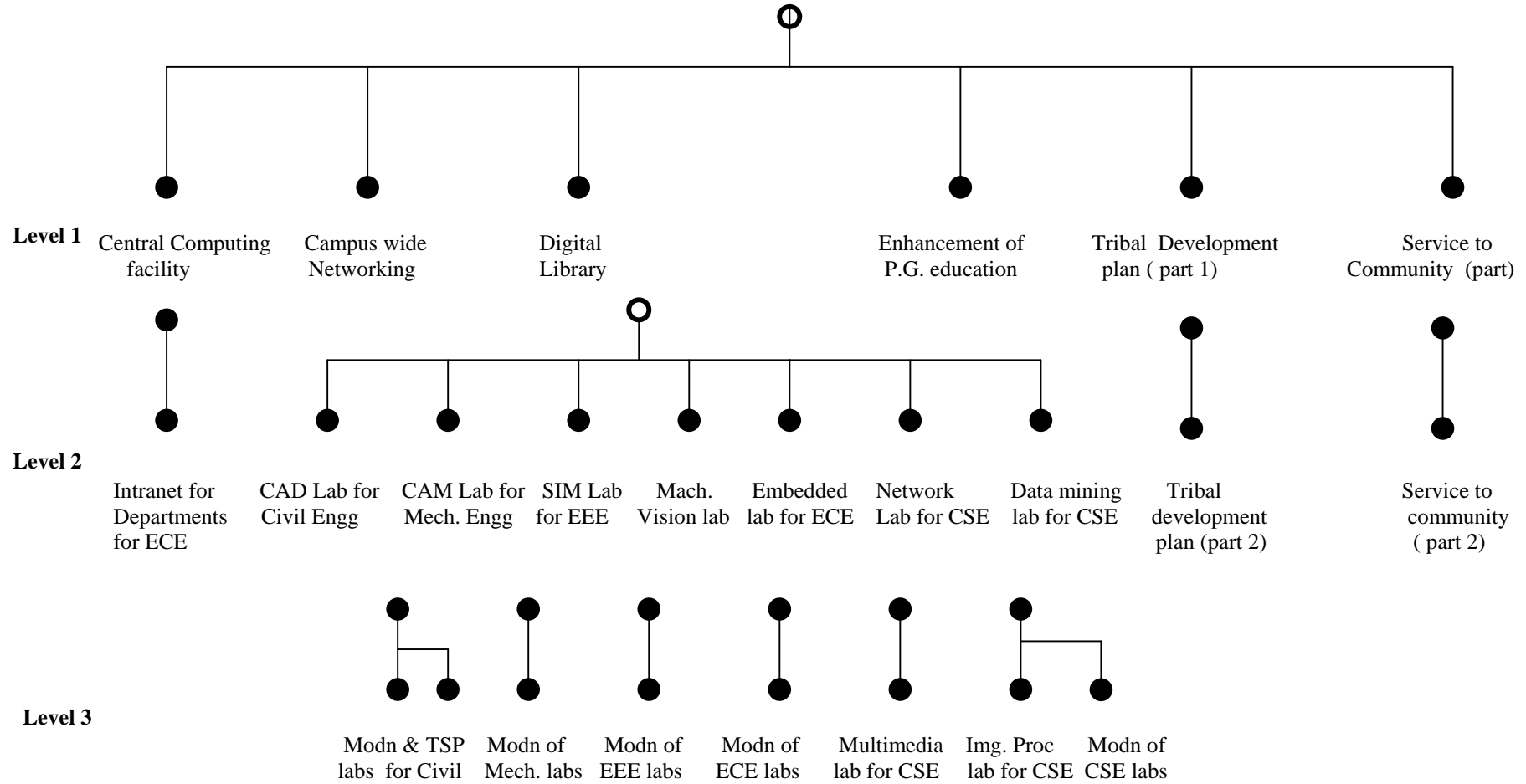
2.0 Institutional Vision

The vision of the Institute is to provide better and improved quality education to UG and PG students year by year, provide necessary R&D base for M.S. and Ph.D. streams, impart need based and application oriented technological education and advice. The Institute also aims at providing online exposure to the latest trends and developments in the continuously changing technological world. It also aims at increased revenue generation through consultancy.

2.1 The vision plan proposed to achieve during the current project life (i.e. by 31-12-2007)

- To provide improved quality education at all levels through better infrastructure and research facilities
- To upgrade the institution as a referral organization for result oriented research
- To train the students in catching up their employments needs of the industry and society

2.2 Key activities in order of priority to achieve pragmatic future as stated in item 2.1



ACTIVITIES CHART IN ORDER OF PRIORITY

UNIT-3

IMPLEMENTATION OF INSTITUTIONAL REFORMS

The institutional reforms are considered in two broad areas:

- At the development of common facilities for the institution
- At the instructional level for the departments

A high amount of importance is given to strengthen the following common facilities in the campus for achieving the overall academic excellence.

- **Digital Libraries & E-Resources**
- **Central Computing Facility**
- **Campus - wide Networking and Internet**
- **Faculty and Staff Development**

At the instructional level, the reforms envisaged are:

- **Elective subjects with technical writing**
- **Summer courses**
- **Lateral and multi-level entry**
- **Appointing faculty advisers**
- **Counseling and career guidance**
- **Student evaluation on future performance**
- **Periodic interaction with old students through alumni association**
- **Establishment of student clubs and forums**
- **Liberal assistance for faculty research activity**
- **Recognizing meritorious faculty and supporting their academic needs**
- **Maximizing the utilization of resources**
- **Periodic academic and administrative audits**
- **Methods such as incentives to faculty for attracting and retaining their quality**

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	Elective subjects		←		→
	Technical writing	←			→
	Summer Courses	←			→
	Lateral entry		←		→
	Multilevel entry		←		→
2. Introduction of reforms in student performance evaluation	Continuous evaluation by conducting examinations by On-line testing through intranet		←		→
3. Establishment of a system for teacher performance appraisal by students, and teacher counseling	Appointment of Faculty advisers	←			→
	Teacher performance appraisal through feedback from students	←			→
	Teacher Counseling	←			→
4. Providing incentives to faculty for participation in continuing education programmes, consulting services, services to community and industry for securing sponsored research & development projects	Travel assistance		←		→
	Dedicated Computer / Software		←		→
	Journal subscription	←			→
	Research Assistance ships		←		→
5.Establishment of a system for recognizing merit and outstanding performance of teachers	Periodic faculty reviews		←		→
6.Offering service packages that would attract and retain good quality faculty	Research grants and incentives		←		→
7.Establishment of a system for maintaining record of graduates and conducting regular tracer studies	Online web services of ECOSAK (Engineering College Old Students Association, Kakinada) members		←		→
8.Establishment of a governance system with participation of stakeholders	Appointment of stakeholders such as Industrialists, Alumni etc. as governing body members	←			→
9.Establishment of a modern management system – delegation of decision making, administrative and financial powers to senior functionaries with accountability	Constitution of separate Board of Studies for each of the Departments		←		→
	Delegation of financial powers to HODs up to certain extent		←		→
	Constitution of Departmental Committees		←		→

Academic Reforms	Activities to be undertaken in brief*	Indicate starting and completion time			
		2004-05	2005-06	2006-07	2007-08
10.Modernization of administrative and financial management system to increase staff and student friendliness, increase time efficiency and resource efficiency	Monthly Interactive Sessions with students and staff	←			→
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 from NGOs and Alumni ii) Staff Development Fund by CWS iii) Depreciation Fund from Govt. grants iv) Maintenance Fund from University and Govt. grants	←	←	←	→
12.Instituting measures for increasing recovery of cost of education	Cost for services		←	←	→
	Cost for facility creation		←	←	→
13.Instituting practices for maximizing utilization of resources and reducing wastage	<ul style="list-style-type: none"> • Human resource studies • Remedial Classes • Self Financing Continuing Education Programmes 		←	←	→
14.Establishment of mechanisms for regular quality and efficiency audit of institutional activities including academic processes and administrative procedures.	Instituting Visiting Committees Internal periodical reviews at department level			←	→

UNIT-4

ACADEMIC EXCELLENCE

4.1 PRIORITIES

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 undergraduate teaching/learning processes through better curricula, better faculty competence, better delivery, better interaction, development of proper attributes, and exposure to industrial practices	2
2.	Increasing facilities for undergraduate education, equipment. LRs, internet access, etc	1
3.	Increasing efficiency and effectiveness of the education process through better academic discipline and improved governance	4
4.	Improving post-graduate admission to M.Tech and Research programs through better structuring of offerings and increased facilities	3
5.	Improving sponsored Research and Consultancy activities	5
6.	Any other objectives (identify)	

4.2 CURRICULUM REVISION

4.2.1 Reorientation/Restructuring/closure of UG/PG Programmes

4.2.2 UG/PG programmes to be reoriented

Name of the Programme	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
P.G. in Computer Science	←→		←→	
P.G. in Computer and Communication	←→		←→	
P.G. in EEE	←→		←→	
P.G. in Instrumentation & Control Systems	←→		←→	
P.G. in Mech. Engineering	←→		←→	
U.G. in CSE		←→		
U.G. in ECE		←→		
U.G. in EEE		←→		
U.G. in Mech. Engineering		←→		

4.2.3 UG/PG programmes to be restructured

Name of the Programme	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
P.G. in Computer Science	↔		↔	
P.G. in EEE	↔		↔	
P.G. in Mech. Engineering	↔		↔	
P.G. in ECE	↔		↔	
U.G. in CSE		↔		
U.G. in EEE		↔		
U.G. in Mech. Engineering		↔		
U.G. in ECE		↔		

4.2.4 UG/PG programmes to be closed : NIL

4.2.5 Curriculum Improvement/Upgradation of Curricula

Name of the curricula to be improved	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
B. Tech in CSE		↔		
B. Tech in ECE		↔		
B. Tech in Mech. Engineering		↔		
B. Tech in Civil Engineering		↔		
B. Tech in EEE		↔		
M. Tech in Computer and Communication	↔		↔	
M. Tech in Computer Science	↔		↔	
M. Tech in EEE	↔		↔	
M. Tech in Mech. Engineering	↔		↔	
M. Tech (Soil Mechanics and Foundation Engineering)	↔		↔	
M. Tech (Structural Engineering)	↔		↔	
M. Tech in Instrumentation & Control Systems	↔		↔	

4.3 Modernization of Laboratories and Workshops including Removal of Obsolescence

Department	Name of the lab/workshop	Purpose/ linkage to existing Programme	Indicate starting and completion time			
			2004-05	2005-06	2006-07	2007-08
Civil Engineering	Env. Engg. Lab	P.G	←→			
	Geo-tech. Engg. Lab	P.G	←→		→	
	Structural Engg. Lab	U.G	←→		→	
CSE	Programming Laboratory	U.G	←→			
	Internet Laboratory	P.G	←→			
Mech. Engineering	Workshops	Up-gradation	←→		→	
	Workshops	Removal Obsolescence		←→	→	
	CAD/CAM Lab	Up-gradation	←→		→	
	Heat Transfer Lab	Modernization	←→			
	Thermal Engineering Lab	Modernization			←→	→
	Computer Graphics Lab	Modernization	←→			
	Fuels & Lubricants Lab	Modernization			←→	→
	Instrumentation & Controls Lab	Modernization			←→	→
ECE	Basic Laboratories	P.G		←→	→	
	Strengthening of P.G. education and Research	P.G. and Research	←→		→	
EEE	Simulation Lab	P.G	←→			
	Other Lab in the Dept	U.G and P.G			←→	→

4.4 New Programmes Proposed :

Name of the Program	Level (UG/PG)	Proposed Annual Intake	Proposed Year of Starting	AICTE Approval	
				Obtained (YES/NO)	Applied for (YES/NO)
Chemical Engineering	UG	50	2005-06	NO	YES

The university has expressed its willingness to provide financial assistance required for the course in providing infrastructure for starting the course from its own funds.

4.5 Areas of Doctoral Programmes

a) Please indicate whether starting of Doctoral Programme is envisaged, and if yes indicate the areas and demonstrate capability to support the same

The institute offers doctoral programme. Areas of research works in different disciplines are given as follows.

Sl.No.	Department	Research Activities
1	Department of Civil Engg.,	Environmental Engineering, Structural Engineering and Geo Technical Engineering.
2	Department of EEE	High Voltage Engineering and Energy power systems
3	Department of Mechanical Engineering	Finite Element Methods and Robotics.
4	Department of Computer Science and Engg	Data warehousing and Mining, Image processing, Computer networks and parallel processing.
5	Department of ECE	Image processing, Computer Networks, Pattern recognition, Antennas and Communication Engineering

Teaching staff of these departments is having expertise and exposure to higher learning institutes to guide research students. They have research publications in reputed journals. Further, the staff is having regular interaction with the faculty of high learning institutes and updating the research topics, thereby active research is conducted in this institute.

b) In relation to Doctoral Programmes indicate requirements for Assistantship / fellowships

Research assistantship for the enrolled full time research scholars is needed. A total number of six research assistants are required at the rate of two in the areas of geo-technical engineering, structural engineering and environmental engineering.

4.6 Establishment of New Laboratories and Workshops

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
Civil Engg	CAD Lab	U.G	↔			
	Transportation Lab	P.G		↔		
CSE						
	Network Lab	P.G in CS	↔			
	Software Engg Lab	MCA		↔		
	Multimedia Lab	U.G.		↔		
	Database Lab	U.G			↔	
	Vision Lab	P.G			↔	
Mech. Engg	Machine Dynamics Lab	P.G.	↔			
	Stress analysis Lab	U.G. and P.G Projects		↔		
	CNC Programming Lab	Training & Consultancy			↔	
	Reveres Engineering Lab	Research and Consultancy			↔	
ECE	Embedded Systems Laboratory	U.G and P.G	↔			
	Image Processing Laboratory	U.G and P.G		↔		
EEE	Power System Laboratory	P.G	↔			

4.7 Additional Faculty and Staff Required: Required for the newly proposed UG programme in Chemical Engineering if sanctioned.

Purpose	Designation	Numbers
Newly proposed Chemical Engineering	Professor	1
	Associate Professor	2
	Assistant Professor	4

4.8 Faculty Development (Local & Foreign Fellowship programs)

Area of Training (please see slide numbers 35 to 37 of the presentation)	Training duration			
	Within India		Abroad	
	No. of Persons	Person months	No. of Persons	Person months
Web based teaching	1	1	---	---
Instructional Design	---	---	1	1
IT Enable Services	2	2	---	---
Interaction with Mechanical Engineering Industry	4	2	----	---
Image processing	2	2	---	---
Environmental Engineering	2	1	1	2
Earthquake Engineering	2	8	---	---
VLSI	1	1		
Image processing	1	1		
Natural Language Processing	1	1		
Mobile Communications	1	1		

Faculty training proposed for teaching newly introduced U.G electives in the revised curriculum.

4.9 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
Hardware Technology	1	1
Systems Administration	1	1
Network Operator	1	1

4.10 Improved Implementation of Curricula

Activity	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Alumni feed-back	←			
Market studies		←		
Industry - Institute Collaboration		←		

4.11 Improvement in Student Evaluation

Activity	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Continuous Evaluation of Student performance	←			
Conducting on-line examinations		←		
Conducting comprehensive viva-voce, seminars at the end of each semester.	←			

4.12 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 and Consultancy Cell		←		
• Organising state of the art lectures	←			
• Creating R&D facilities for faculty / students	←			

4.13 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	←			
Industrial training of students		←		
Hosting industry R&D centers			←	
Others			←	

4.14 Tribal Development Plan (TDP)

This includes establishment of book bank, conducting remedial classes for backward students

Identified Activities	Indicate starting and completion time			
	2004 - 05	2005 - 06	2006 - 07	2007 - 08
Book Bank	←	←	←	←
Remedial Classes for regular and competitive examinations		←	←	←
Training in communication skills for better placement opportunities		←	←	←

UNIT-5

NETWORKING

The following three colleges are networked for the implementation of TEQIP programme.

1. Andhra University College of Engineering, Visakhapatnam
2. JNTU College of Engineering, Anantapur
3. JNTU College of Engineering, Hyderabad

The Institutes and Industries of non - formal net working are

1. School of Information Technology, JNTU Campus, Hyderabad
2. Centre for Development of Advanced Computing, Hyderabad
3. National Informatics Centre, Hyderabad and Kakinada
4. Environmental Protection Training and research Institute, Hyderabad
5. A.P. Pollution Control Board, Hyderabad
6. Nagarjuna fertilizers and Chemicals Limited, Kakinada
7. KVR Forgings, Kakinada
8. Bharat Heavy Electricals Limited, Hyderabad
9. Sri Ramdas Motor Transport Limited, Kakinada.
10. Indian Institute of Technology, Madras
11. National Institute of Hydrology, Roorkee

5.1 Formal Networking

a) Name of the 1st Network Partner: **Andhra University College of Engineering**, Visakhapatnam

Planned bi-directional activities with 1st Network Partner

Activities/services/support which outgo from your institution to the network partner No 1	Indicate starting and completion time				Areas of support to be received from Network partner No. 1	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08		2004-05	2005-06	2006-07	2007-08
Co-coordinating research in Geo-Technical Engineering.		←			Sharing laboratory facilities in Environmental Engineering.		←		
Exchange of technical expertise and infrastructure sharing for CAD/CAM laboratory.		←			Exchanging faculty and expertise in Soft ware Engineering		←		
Extending the facilities in High voltage Laboratory.		←			Sharing the facilities in Power Electronics and control systems Laboratory.		←		

b) Name of the 2nd Network Partner: **JNTU College of Engineering, Anantapur**

Planned bi-directional activities planned with 2nd Network Partner

Activities/services/support which outgo from your institution to the network partner No 2	Indicate starting and completion time				Areas of support to be received from Network partner No. 2	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08		2004-05	2005-06	2006-07	2007-08
Exchange of Expertise in Machine Design		←			Sharing Refrigeration and Air-conditioning Lab facilities		←		
Exchange of Expertise in Soil Mechanics		←			Energy Lab facilities		←		
Extending High voltage Engineering- Lab facilities and Faculty Exchange		←			Reliability in Electrical Engineering- Faculty Exchange		←		
Exchange of Expertise in Digital Signal Processing		←			Software Engineering Practices – Faculty Exchange		←		
Exchange of Expertise in Image Processing		←			Microwave Engineering- Faculty Exchange		←		

c) Name of the 3rd Network Partner **JNTU College of Engineering, Hyderabad_**

Planned bi-directional activities planned with 3rd Network Partner

Activities/services/support which outgo from your institution to the network partner No 3	Indicate starting and completion time				Areas of support to be received from Network partner No. 3	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08		2004-05	2005-06	2006-07	2007-08
Extending expertise in Data Mining		←			Simulation & Synthesis of Digital Circuits*	←			
Computer Networking		←			Applications Software		←		
High Voltage Engineering		←			DSP / DIP Units Software		←		
Soil Mechanics		←			Electrical Application Software		←		
Machine Design		←			Hazardous Waste Management		←		
					Dynamic Testing of Structures		←		
					System Application in WR		←		

5.2 Non-Formal Networking

Activities to be undertaken	Name of the organization with which networked	Indicate starting and completion time			
		2004-05	2005-06	2006-07	2007-08
New PG programmes support	School of Information Technology, JNTU campus, Hyderabad	←	—	—	—
Training and Faculty developmental programmes	Centre for Development of Advanced Computing, Hyderabad	—	←	—	—
Software development and tools designing	National Informatics centre, Hyderabad and Kakinada	—	←	—	—
Interactive programmes in pollution control	AP Pollution control board, Hyderabad	—	←	—	—
Interactive programmes in pollution control	Environmental protection training and research institute, Hyderabad	—	←	—	—
Technical Training and Resource sharing	NFCL, Kakinada	—	←	—	—
Technical Consultancy	SRMT, Kakinada	—	←	—	—
Technical Consultancy	KVR Forging, Kakinada	—	←	—	—
P.G. Student Project works and specialized HV test facilities	BHEL, Hyderabad	—	←	—	—
Training and Faculty developmental programmes	Indian Institute of Technology, Madras	—	←	—	—
Interactive Programmes in Water resources	National Institute of Hydrology, Roorkee	—	←	—	—

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 47 to 49)

a) Services to be Rendered to the Community [the community should be in the vicinity of the institution]

Identified Activities	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Computer Awareness Courses	←			
Environmental Quality Survey			←	
Drinking Water Quality Survey			←	
Traffic Management studies			←	
Providing Training in various Mechanical Trades	←			
Bridging Digital Divide (Refresher and orientation courses for IT illiterates)	←			
Training in house wiring and repair of home appliances			←	

b) Services to be extended to the unorganized labour force

Identified Activities	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Office Automation	←			
Artisan Training in Plumbing and Carpentry	←			
Imparting of Training and Skills in Ship Building	←			

c) Services to be extended to 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	2005-06	2006-07	2007-08
Distance Education		←		
Digital Library		←		
Training to Public Sector & Private Sector Technicians in Water quality and material testing			←	
Specialized Training in Mechanical Trades		←		

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*				6.40	3.10	3.30	0.00	0.00
2.	Equipment				70.45	14.68	38.40	13.98	3.39
3.	Furniture				1.62	0.18	0.82	0.22	0.40
4.	Vehicles				6.00	0.00	6.00	0.00	0.00
5.	Books and Learning Resources				14.33	1.30	6.88	6.05	0.10
6.	Consultancy Services** & Research Studies				0.40	0.00	0.15	0.15	0.10
7.	Training/Study Tours/Fellowships (Local & Foreign)				3.83	0.00	1.68	1.15	1.00
Sub Total (A)					103.03	19.26	57.23	21.55	4.99
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				1.92	0.45	0.47	0.49	0.51
9.	Consumables				3.42	2.60	0.04	0.41	0.37
10.	Operation & Maintenance				4.50	0.80	0.75	2.05	0.90
Sub Total (B)					9.84	3.85	1.26	2.95	1.78
Grand Total (A+B)					112.87	24.11	58.49	24.50	7.77

*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

Tribal Development Plan (Slides 55 to 58)

(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				0.50	0.40	0.10	0.00	0.00
2.	Furniture				0.10	0.10	0.00	0.00	0.00
3.	Books and Learning Resources				0.20	0.10	0.10	0.00	0.00
4.	Training/Workshop				1.50	0.00	0.50	0.50	0.50
Sub Total (A)					2.30	0.60	0.70	0.50	0.50
(B)	INCREMENTAL OPERATING COST								
5.	Consumables				0.03	0.00	0.01	0.01	0.01
6.	Operation & Maintenance				0.60	0.00	0.00	0.20	0.40
Sub Total (B)					0.63	0.00	0.01	0.21	0.41
Grand Total (A+B)					2.93	0.60	0.71	0.71	0.91

7.1.2 Institutional Management Capacity Development

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed re-appropriation 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)				1.50	0.00	0.50	0.50	0.50
Total					1.50	0.00	0.50	0.50	0.50

7.1.3 Implementation of Reforms

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed re-appropriation 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				0.40	0.10	0.10	0.10	0.10
2.	Consultancy Services & Research Studies				0.10	0.00	0.05	0.05	0.00
3.	Training/Study Tours/Fellowships (Local & Foreign)				0.10	0.00	0.05	0.50	0.00
Sub Total (A)					0.60	0.10	0.20	0.20	0.10
(B)	INCREMENTAL OPERATING COST								
4.	Consumables				0.30	0.00	0.10	0.10	0.10
5.	Operation & Maintenance				0.40	0.00	0.00	0.10	0.30
Sub Total (B)					0.70	0.00	0.10	0.20	0.40
Grand Total (A+B)					1.30	0.50	0.30	0.40	0.50

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				0.30	0.00	0.10	0.10	0.10
2.	Training/Study Tours/Fellowships (Local & Foreign)				0.60	0.15	0.15	0.15	0.15
Sub Total (A)					0.90	0.15	0.25	0.25	0.25
(B)	INCREMENTAL OPERATING COST								
3.	Consumables				0.30	0.00	0.10	0.10	0.10
4.	Operation & Maintenance				0.40	0.00	0.00	0.20	0.20
Sub Total (B)					0.70	0.00	0.10	0.30	0.30
Grand Total (A+B)					1.60	0.15	0.35	0.55	0.55

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*				6.40	3.10	3.30	0.00	0.00
2.	Equipment				69.95	14.28	38.30	13.98	3.39
3.	Furniture				1.52	0.08	0.82	0.22	0.40
4.	Vehicles				6.00	0.00	6.00	0.00	0.00
5.	Books and Learning Resources				13.73	1.10	6.68	5.95	0.00
6.	Consultancy Services** & Research Studies				0.00	0.00	0.00	0.00	0.00
7.	Training/Study Tours/Fellowships (Local & Foreign)				0.73	0.00	0.63	0.10	0.00
Sub Total (A)					98.33	18.56	55.73	20.25	3.79
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				1.92	0.45	0.47	0.49	0.51
9.	Consumables				2.79	1.60	0.83	0.20	0.16
10.	Operation & Maintenance				3.10	0.80	0.75	1.55	0.00
Sub Total (B)					7.81	2.85	2.05	2.24	0.67
Grand Total (A+B)					106.14	21.41	57.78	22.49	4.46

*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*				2.00	0.00	0.50	0.50	0.50
2.	Training/Workshop				1.00	0.00	0.50	0.25	0.25
Sub Total (A)					3.00	0.00	1.00	0.75	0.75
(B)	INCREMENTAL OPERATING COST								
3.	Consumables				0.20	0.05	0.05	0.05	0.05
4.	Operation & Maintenance				0.10	0.00	0.00	0.05	0.05
Sub Total (B)					0.30	0.05	0.05	0.10	0.10
Grand Total (A+B)					3.30	0.05	1.55	0.85	0.85

7.3 Services to Community & Economy (Financial Requirement) (Slides 47 to 49)

(Rs in Million)

S.No.	Category of Expenditure	Allocation indicated to institution	Proposed re-appropriation 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 (minimum)				1.00	0.50	0.25	0.25	0.00
2.	Training/Workshop to conduct				2.00	0.00	1.00	0.50	0.50
Sub Total (A)					3.00	0.50	1.25	0.75	0.50
(B)	INCREMENTAL OPERATING COST								
3.	Consumables				0.20	0.05	0.05	0.05	0.05
4.	Operation & Maintenance				0.10	0.00	0.00	0.05	0.05
Sub Total (B)					0.30	0.50	0.05	0.10	0.10
Grand Total (A+B)					3.30	0.55	1.30	0.85	0.60

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 re-appropriation 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*				6.40	3.10	3.30	0.00	0.00
2.	Equipment				73.45	15.18	39.65	14.73	3.89
3.	Furniture				1.62	0.18	0.82	0.22	0.40
4.	Vehicles				6.00	0.00	6.00	0.00	0.00
5.	Books and Learning Resources				14.33	1.30	6.88	6.05	0.10
6.	Consultancy Services** & Research Studies				0.40	0.00	0.15	0.15	0.10
7.	Training/Study Tours/Fellowships (Local & Foreign)				6.83	0.00	3.18	1.90	1.75
Sub Total (A)					109.03	19.76	59.98	23.05	6.24
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				1.92	0.48	0.48	0.48	0.48
9.	Consumables				3.82	2.70	0.14	0.51	0.47
10.	Operation & Maintenance				4.70	0.80	0.75	2.15	1.00
Sub Total (B)					10.44	3.98	1.37	3.14	1.95
Grand Total (A+B)					119.47	23.74	61.35	26.19	8.19

*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 re-appropriation 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								
4.	Promotion of Academic Excellence (Total of 7.1)				112.87	24.61	61.99	22.00	4.27
5.	Networking (Total of 7.2)				3.30	0.05	1.55	0.85	0.85
6.	Services to Community & Economy (Total of 7.3)				3.30	0.55	1.30	0.85	0.60
Total					119.47	25.21	64.84	23.70	5.72

UNIT-8

Programme Implementation and Monitoring Mechanisms

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

Implementation of academic excellence activities

- Dr. G.P.R. Sarvarayudu
- Dr. T.Raja Gopala Chary

Promoting research and consultancy – research and consultancy cell

- Dr. G.Yesu Ratnam
- Dr. GVR Prasada Raju

Faculty and staff development

- Dr. S.Srinivasa Kumar
- Sri L.Vinod Babu

Procurement of civil works

- Dr. V.Ravindra
- Sri V.Srinivasulu

Procurement of goods

- Dr. N.Chalamaiah
- Sri VV Narasimha Murthy
- Sri VV.Subba Rao

Networking

- Dr. N.Chalamaiah
- Sri A.M. Prasad

Services to Community & Economy

- Dr. N.Appa Rao
- Sri. N.Mohana Rao
- Sri K.Poornanadam

Industry Institute Interaction

- Dr. S.Srinivasa Kumar
- Dr. T.Raja Gopala Chary
- Sri GVR Prasada Raju

Tribal development activities

- Dr. N.Appa Rao
- Sri J.Suresh Kumar
- Sri G.Praveen Babu

Implementation of reforms

- Dr. L.Pratap Reddy
- Sri A.Krishna Mohan

Ensuring improvements in administrative and financial practices

- Dr. N. Appa Rao
- Sri VV. Subba Rao

Ensuring Auditing quality of Education, Training and Services

- Dr. T.Raja Gopala Chary
- Sri G.Satish Babu

Monitoring implementation of the Programme

- Dr. N.Chalamaiah
- Dr. Rama Linga Raju
- Dr. K.Ramu

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

Conducting Auditing quality of Education, Training and Services

- Dr. T.Raja Gopala Chary
- Sri. G.Satish Babu

Conducting Audit of administrative, managerial and financial practices

- Dr. N.Appa Rao
- Sri VV Subba Rao

Monitoring implementation of reforms

- Dr. L.Pratap Reddy
- Sri A.Krishna Mohan

Monitoring compliance with MOU

- Dr. N.Chalamaiah
- Sri AM.Prasad

Monitoring implementation of Tribal development activities

- Dr. N.Appa Rao
- Sri J.Suresh Kumar
- Sri G.Praveen Babu

Preparing quarterly reports on progress in project and reforms implementation, internal audits and compliance with conditions of MOU

- Sri VV Subba Rao
- Sri A.Krishna Mohan

Submitting quarterly reports to their respective BOG and SPFU (in case of centrally funded institutions to BTE in DSHE)

- Dr. N.Appa Rao
- Dr. L.Pratap Reddy

Ensuring achievement of targets set for Output Indicators

- Dr. N.Chalamaiah
- Dr. B.Sarvesh
- Dr. P.Udaya Bhaskar
- Dr. B.Prabhakara Rao
- Dr. V.Ramachandra Raju

ADDITIONS TO DPR

Note: For all the references here, please refer to the DPR.

3.4.2 Equipment of Civil Engineering

Name of the Department	Name of the Laboratory	Total requirement (Rs. Million)	Details at	
			Annexure No	Page No
Civil	Transportation Engineering	2.20	Annexure – 13	
	New Class rooms	0.10		
	Faculty Training	1.10		
	Multi purpose Vehicle	0.80		
	Service to community	1.00		
	Total	5.20		

3.3.4 Modernization of Transportation Engineering Laboratory

3.3.4.1. Justification

In the recent past, India is seen progressing leaps and bounds in the process of infrastructure development in the form of road building through two major programmes Viz: NHDP (N-S-E-W-Corridor and Golden Quadrilateral) and PMGSY (Prime Minister's Grameena Sadak Yojana) Programmes. With the involvement of several multinational companies in the process of construction, several improved techniques have been adopted. In this process, the involved personals are expected to be well aware of all the latest development in the field of Transportation Engineering. Technical institutions are responsible for providing the requisite manpower with necessary field related skills. Laboratory experimentation is the first step in developing these skills and as such, the training based on outdated equipment will become futile in providing useful engineers for the field. In view of the above, the obsolete equipment in the existing laboratory is proposed to be replaced with the state of the art equipment and the addition of new equipment like Bump Integrator, Benkelman Deflection Apparatus and Clegg Impact Soil Tester is essential, for the benefit of the department / Institution.

3.3.1.2. Resource Requirement

3.3.1.2.1. Civil works Nil

3.3.1.2..2. Equipment

S.No.	Name of the Department/Central Facility	Laboratory	Total Requirement (Rs.millions)	Details at Annexure No. Page. No.
1.	Civil Engineering	Transportation Engineering	2.00	Annexure – 13
		Total Cost	2.00	

3.3.1.2..3 Furniture NIL

3.3.1.2..4 Vehicle NIL

3.3.1.2.5 Consultancy Services NIL

3.3.1.2.6 Books & Journals NIL

3.3.1.2.7 Human Resource NIL

3.3.1.2.8 Consumables 0.10 m (4 X 0.025 m/Year)

3.3.1.2.9 Operation & Maintenance 0.10 m (4 X 0.025 m/Year)

3.5. Introduction of New Interdisciplinary P.G. Program in Environmental Engineering and Management.

3.5.1. Justification:

In order to meet the demands of growing population, infrastructural facilities and industrial development of the country are fast growing resulting in the degradation of the environment of the country. This is mainly due to lack of understanding among engineers, managers and policy makers, the various aspects of environmental management and engineering. Hence, there should be engineers in every discipline with knowledge of environmental engineering and management aspects. This will help the industry in developing environment friendly products and in taking measures for control of environmental pollution. Hence, it is proposed to start a new interdisciplinary M.Tech programme in Environmental Engineering and management which will be open for graduates of various disciplines. It is expected that the New P.G. Program will attract not only fresh graduate engineers from various disciplines but also experienced engineers from industry.

3.5.2.1. Civil Works Nil

3.5.2.2 Equipment Nil

3.5.3 Furniture

S.No.	Name of the Department	Lab / Computer Room	Total Requirement	Details at Annexure No. /Page No.
1.	Civil Engineering	Class Room.	Rs. 0.10 m	Annexure – 14

3.4.6 Books and Learning Resources NIL

3.4.7.1 Training

Table.

Purpose for which required	Estimated Person months	Estimated Cost Rs.
Study	1	0.05 m.

Name	Designation	Programme	Cost Envisaged	Proposal Venue	Duration.
Dr PUB	Prof. In Civil Engineering	Biological Waste Water Treatment	Rs 0.30 m	International	2 Months
Dr. KVSG	Assoc. Prof. in Civil Engg.,	Study Tour	Rs. 0.01m	NEERI, Nagpur	1 Week
Dr. PUB	Prof. in Civil Engineering	“	Rs. 0.01m	IIT, Bombay	“
Dr. PUB	“	“	Rs. 0.015m	IIT, Kanpur	“
Dr. KVSG	“	“	Rs. 0.015m.	IIT, Roorkee	“

3.4.7.2 Academic Staff Lecturers	1	2	3	4	Total
Lecturers	-	2			Rs. 0.90 m
Tech. Supporting Staff	-	1			Rs. 0.20 m

Proposal for Rendering Services to the Community and Economy

5.1 Environmental Quality Survey

5.1.1 Justification

Due to increase activity and industrial development, the environmental pollution i.e. Soil Pollution, Water pollution and air Pollution is increasing. At present, there is no mechanism to survey the environmental quality of the surrounding area. The Koringa Bird Sanctuary, a protected area is only about 15 kms from the institute. The facilities acquired by modernization of Environmental Engineering Laboratory can be effectively used for environmental quality survey of surrounding places including that of Koringa Bird Sanctuary.

5.1.2 Resource requirements

5.1.2.1 Civil Woks: NIL

5.1.2.2 Equipment: NIL

5.1.2.3 Furniture: NIL

5.1.2.4 Vehicles: Multipurpose Van.

Purpose for which required	Estimate Cost	Existing Vehicles
Environmental quality Survey	Rs.0.80 m	Nil
Drinking Water Quality Survey		
Traffic Management Studies		

5.1.2.5 Books and Learning Resources: NIL

5.1.2.6 Consultancy Services: NIL

5.1.2.7 Human Resources: NIL

5.1.2.8 Consumables: For the collection and analysis require an amount of Rs. 0.05 m approximately.

5.1.2.9 Operation & Maintenance: For the operation and maintenance of Vehicle purchased under the scheme require an amount of Rs. 0.05 m

5.2 Drinking Water Quality Survey

5.2.1 Justification

Due to increase activity and industrial development, the environmental pollution i.e. Soil Pollution, Water pollution and air Pollution is increasing. Many villages and hamlets around Kakinada do not have protected water supply schemes. Even at places having protected water supply schemes, there is no proper mechanism to monitor the quality of drinking water. The facilities acquired by modernization of Environmental Engineering Laboratory can be effectively used for drinking water quality survey of surrounding places.

5.2.2 Resource requirements

5.2.2.1 Civil Woks: NIL

5.2.2.2 Equipment: NIL

5.2.2.3 Furniture: NIL

5.2.2.4 Vehicles: NIL

5.2.2.5 Books and Learning Resources: NIL

5.2.2.6 Consultancy Services: NIL

5.2.2.7 Human Resources: NIL

5.2.2.8 Consumables: For the collection and analysis require an amount of Rs. 0.05 m approximately.

5.2.2.9 Operation and Maintenance: NIL

5.3 Traffic Management Studies:

5.3.1 Justification

Due to increased activity and industrial development, the traffic on roads is increasing alarmingly leading to traffic congestion, accidents and increased fuel consumption. The above problems can be rectified only with proper traffic management studies. The facilities created in this scheme can be utilized to conduct the traffic surveys and the results will benefit the community.

5.3.2 Resource requirements

5.3.2.1 Civil Woks: NIL

5.3.2.2 Equipment: NIL

5.3.2.3 Furniture: NIL

5.3.2.4 Vehicles: NIL

5.3.2.5 Books and Learning Resources: NIL

5.3.2.6 Consultancy Services: NIL

5.3.2.7 Human Resources: NIL

5.3.2.8 Consumables: For the collection and analysis require an amount of Rs. 0.05 m approximately.

5.3.2.9 Operation and Maintenance: NIL

5.4 Overall Financial Requirement for Rendering Services to the Community and Economy

S.No	Category of Expenditure		Project Year Wise Fund Requirement Rs. millions				Total Fund Requirement Rs. millions
			1	2	3	4	
1	Civil Works	New Constructions	--	--	--	--	--
		Repair and Modifications	--	--	--	--	--
2	Equipment		--	--	--	--	--
3	Furniture		--	--	--	--	--
4	Vehicles		0.80	--	--	--	0.80
5	Books and Learning Resources		--	--	--	--	--
6	Consultancy Services	Civil Works	--	--	--	--	--
		Procurement of Goods	--	--	--	--	--
		Implementation of Fellowship Programs	--	--	--	--	--
		Educational Studies	--	--	--	--	--
		Academic Activities	--	--	--	--	--
		Other Activities	--	--	--	--	--
7	Human Resources	Training	--	--	--	--	--
		Additional Staff Required for Proposed activities	--	--	--	--	--
		Additional Staff appointed for implementation and monitoring of the project at Institution level	--	--	--	--	--
8	Consumables		0.15	0.15	0.15	0.15	0.60
9	Operation and Maintenance		0.05	0.05	0.05	0.05	0.20
Total			1.00	0.20	0.20	0.20	1.60

Annexure – 13: Equipment for Modernization of Transportation Engineering Lab - List of Equipment costing above Rs. 0.10 m

S.No.	Name of the Department	Name of the Equipment with brief specification	Unit Price Rs. M	Quantity required	Present quantity	Utilization Present Quality Equipment
1.	Department of Civil Engineering	Bump Integrator	0.30	1	--	--
		Benkelman Beam Deflection Apparatus	0.10	1	1	--
		Pendulum type skid resistance tester	0.10	1	--	--
		Roller Compaction equipment	0.30	1	--	--
		Wheel tracking equipment	0.30	1	--	--
		Load Man (Falling weight.,) Deflecto meter	0.50	1	--	--
		Clegg Impact Soil tester	0.20	1	--	--
		Marshall's stability apparatus.	0.20	1	--	--
		Total:	2.00	1	--	--

Annexure 14 : List of Furniture for Civil Engineering Department Class Room.

S.No.	Lab/Class Room	Name of the Furniture	Unit Price Rs. Millions	Quantity required	Purpose.
1.	Class Room	Chairs	0.15	60	Furnishing Class Room .
		Black Board	0.005	1	
		Podium	0.005	1	

ANNEXURE-II

OUTPUT INDICATORS

Note: Unless specified, give data in numbers. Where financial information is required give value in Rs. Million

S. No.	Indicators	Baseline Data (June 2003)	June 05	June 06	June 07	June 08		
Academic Excellence								
1.	Increased number of high quality graduates (first degree) in relevant and cutting edge technologies	All (relevant) Engineering Disciplines including Cutting edge Technology	192	68	90/230	100/230	127/250	138/250
		Cutting Edge Technology Disciplines only	62	25	36/80	41/80	52/100	59/100
<ul style="list-style-type: none"> ▪ <i>High quality graduates are those who score 75% or more marks or equivalent GPA in the aggregate at graduation.</i> ▪ <i>Example of cutting edge technology disciplines are: Electronics & Communication, Computer Science & Engineering, Information Technology, Biotechnology, Bio-informatics, Bio-medical Engineering, etc.</i> ▪ <i>At A, give the total number of students that graduated in all engineering disciplines in 2003.</i> ▪ <i>At B, give the total number of graduates who were of high quality (as defined above) from the batch graduating in 2003.</i> ▪ <i>At B5, B6, B7 and B8, give the increased number of high quality graduates; the increase in each year should be about 10% of the value at B (if for example the value at B is 30, then the increased values in the subsequent years would be 36, 39, 42 and 45).</i> ▪ <i>Following the above guidelines, please give the values for C, D, D5...D8.</i> 								
			Baseline Data (June 2003)	June 05	June 06	June 07	June 08	
2.	Increased number of students completing in engineering disciplines	Master's degree	42	200	206	211	215	
		Doctoral degree	3	8	13	20	30	
<ul style="list-style-type: none"> ▪ <i>At M and P, give the number of students who completed Master's and Doctoral programs in 2003, and for the subsequent years, give the expected increased number of students obtaining Master's and Doctorate degrees.</i> 								

			Baseline Data (June 2003)	June 05	June 06	June 07	June 08	
3.	Increased professional outputs	Publications (Number)	18	10	12	15	18	
		Academic Products (Number)	1	2	2	2	2	
		R&D Products of Commercial use (Number)						
		Patents (applied for) (Number)						
<ul style="list-style-type: none"> ▪ <i>Please give baseline data for 2003 only.</i> ▪ <i>Give the anticipated increased numbers for the subsequent years.</i> ▪ <i>Under Publications, include all papers published in refereed journals and those presented in National and International Conferences (papers could be research papers, invited review papers, etc.). Popular articles, newspapers articles and radio/TV talks should be excluded.</i> ▪ <i>Under Academic product include books, monographs, conference proceedings and educational software.</i> 								
			Baseline Data (June 2003)	June 05	June 06	June 07	June 08	
4.	Number of Joint programs/ activities	Externally funded research, design and development projects (both ongoing and completed)	2					
		Consultancy assignments (both ongoing and completed)	Nos. 16	Rs3.07	20	25	28	30
		Publications	---					
		Training programs conducted	1		3	4	5	5
		Joint research guidance at Ph D level			2	5	8	10

<ul style="list-style-type: none"> ▪ <i>Joint programs are those that are carried out jointly between two or more networked institutions.</i> ▪ <i>Under Publications, include jointly published papers, books, monographs and conference proceedings, and educational software developed.</i> ▪ <i>Give base value for 2003 only.</i> ▪ <i>Give the anticipated increased numbers in the subsequent years.</i> 															
				FY		2003-04		2004-05		2005-06		2006-07		2007-08	
5.	Increased revenue generation * In rupees Millions			RC	IRG	702 .87	265 .76	706 .69	269 .16	733 .98	274 .65	753 .45	282 .72	780 .67	296 .88
<ul style="list-style-type: none"> ▪ <i>Against RC, give the total recurring expenditure during FY 2003-04.</i> ▪ <i>Against IRG, give the total internal revenue generated during FY 2003-04. IRG is to include income from all sources (income through Consultancies, Projects, Continuing Education Programmes, Outreach Programmes & Services, etc.) including tuition fees and other charges collected from students.</i> ▪ <i>For subsequent Financial Years, give the anticipated increased values of IRG that would be generated.</i> 															
Services to Community & Economy								Baseline Data (June 2003)	June 05	June 06	June 07	June 08			
6.	a) Total No. of Programmes							N.A.	N.A.	7	11	15			
	b) Total No. of Participants of all types							N.A.	N.A.	40	225	280			
	Increased access to technical training for socially disadvantaged groups and unemployed youth		a) Total Number of Participants from socially disadvantaged groups benefited/to be benefited					N.A.	N.A.	20	30	40			
b) Total Number of participation from unemployed youth benefited/to be benefited					N.A.	N.A.	20	25	30						
c) Total Number of Programmes offered/to be offered					N.A.	N.A.	2	3	4						
	Increase assistance to unorganized sector		a) Total Number of Programmes offered/to be offered					N.A.	N.A.	2	3	4			
			b) Total Number of Participants benefited/to be benefited					N.A.	N.A.	60	90	120			

	Increased services to industry	a) Total Number of Training Programmes offered/to be offered	N.A	N.A.	3	5	7
		b) Total Number of Industry Personnel benefited/to be benefited	N.A	N.A.	50	80	90
<ul style="list-style-type: none"> ▪ Give baseline data for 2003-04. ▪ Give expected increased numbers for the subsequent years. 							
System Management Capacity Improvement			Baseline Data (June 2003)	June 05	June 06	June 07	June 08
7.	Increased availability of well-trained institution managers		-	-	2	4	6
<ul style="list-style-type: none"> ▪ <i>Institution managers would include Head of Institution, Deans, Heads of Departments, Registrar, Deputy Registrar, comptroller/Finance Officer, Training & Placement Officer, etc.</i> ▪ <i>Well-trained implies those who have undergone formal training.</i> ▪ <i>Give baseline data for the numbers available within the institutions in June 2003.</i> ▪ <i>Give expected increased numbers for the subsequent years.</i> 							

OUTCOME INDICATORS

S. No.	Indicators	Baseline Data (June 2003)		June 05		June 06		June 07		June 08		
1.	Improved employment rate and earnings of graduates from participating institutions	U.G students Employed through campus interviews	20%	10,000	50%	15,000	60%	16,000	65%	18,000	70%	18,000
		U.G. students Employed through other means	46%	8,000	35%	10,000	30%	12,000	27%	12,000	25%	15,000
		U.G. students who got selected in P.G. program through competitive exams (GATE etc.)	28%	N.A.	20%	N.A.	16%	N.A.	12%	N.A.	8%	N.A.
		P.G. students Employed through campus interviews	10%	12,000	15%	16,000	30%	18,000	50%	20,000	60%	20,000
		P.G. students Employed through other means	65%	10,000	60%	12,000	50%	13,000	30%	15,000	30%	15,000

<ul style="list-style-type: none"> ▪ <i>This data is to be given for each network. Lead institutions should collect information from their partner institutions and aggregate/average the values as the case may be.</i> ▪ <i>Against A, give % of students graduating in 2002 who got employment through campus interviews. Against B, give the mean annual emoluments of this group of students.</i> ▪ <i>Give the expected changed values for the subsequent years against A5 to A8 and B5 to B8 for those expected to be employed through campus interviews.</i> ▪ <i>Against C, give % of students who got employment through means other than campus interview within one year of graduation. Against D, give the mean annual emoluments of this group.</i> ▪ <i>Give the expected changed values for the subsequent years against C5 to C8 and D5 to D8 for those expected to be employed through means other than campus interviews.</i> 							
1.	Name of Networking Partner 1 JNTU College of Engineering, Hyderabad		Baseline Data (June 2003)	June 05	June 06	June 07	June 08
	Increased cooperation and resource sharing between institutions	Number of faculty-days loaned for academic activities	---	--	10	15	20
		Number of student-days for which students sent to other institutions for curricular and extra-curricular activities	---	---	10	15	20
		Joint projects, consultancies, training programs, publications, seminars, workshops etc.	NA	---	5	8	10
		Joint M. Tech. And Ph D programs	---	---	5	8	10
		Number of person-days for which labs, workshops and libraries utilized by faculty and students from other institutions within the same network	---	---	15	20	25
<ul style="list-style-type: none"> ▪ <i>This data is to be given for each network for 2002-2003.</i> ▪ <i>Give the expected increased values for the subsequent years.</i> 							

Name of Networking Partner 2 A.U. College of Engineering, ...VISAKHAPATANAM		Baseline Data (June 2003)	June 05	June 06	June 07	June 08
Increased cooperation and resource sharing between institutions	Number of faculty-days loaned for academic activities	---	---	10	15	20
	Number of student-days for which students sent to other institutions for curricular and extra-curricular activities	---	---	10	15	20
	Joint projects, consultancies, training programs, publications, seminars, workshops etc.	---	---	5	8	10
	Joint M. Tech. And Ph D programs	---	---	5	8	10
	Number of person-days for which labs, workshops and libraries utilized by faculty and students from other institutions within the same network	----	---	15	20	25
<ul style="list-style-type: none"> ▪ <i>This data is to be given for each network for 2002-2003.</i> ▪ <i>Give the expected increased values for the subsequent years.</i> 						
Name of Networking Partner 3 JNTU College of Engineering, Anapapur		Baseline Data (June 2003)	June 05	June 06	June 07	June 08
Increased cooperation and resource sharing between institutions	Number of faculty-days loaned for academic activities	---	---	10	15	20
	Number of student-days for which students sent to other institutions for curricular and extra-curricular activities	---	---	10	15	20

		Joint projects, consultancies, training programs, publications, seminars, workshops etc.	---	---	5	8	10
		Joint M. Tech. And Ph D programs	---	---	5	8	10
		Number of person-days for which labs, workshops and libraries utilized by faculty and students from other institutions within the same network	---	---	15	20	25
<ul style="list-style-type: none"> ▪ <i>This data is to be given for each network for 2002-2003.</i> ▪ <i>Give the expected increased values for the subsequent years.</i> 							
			Baseline Data (June 2003)	June 05	June 06	June 07	June 08
2.	Improved internal efficiency of the engineering education system	1. Number of teaching days in an academic year	180to 190	180to 190	180to 190	180to 190	180to 190
		2. Number of days of slippage from the announced academic calendar	0	0	0	0	0
		3. Number of days for completing the admission process * Admissions to UG Programmes are being done by state govt.	30	30	30	30	30
		4. Number of days for completion of semester examination	15	15	15	15	15
		5. Number of days for declaring results	30to45	25	20	20	20
		6. Number of Departments that Develop & Maintain question bank (6 Engineering +4 non engg Depts)	5	5	5	5	5

		7. Office expenditure (excluding amount spent on maintenance of equipment and infrastructure in lakhs)	15.0	20.0	20.0	20.0	20.0
		8. Average time taken to order equipment (from advertisement to supply/installation of equipment) No in Days	90days National Shopping	50days 75NCB	40days 60NCB	30 days 60 NCB	15 60 NCB
		9. Ratio of non-teaching staff to faculty	2:1	2:1	2:1	2:1	2:1
		10. Average number of days taken for recruitment (from date of advertisement to date of offer of appointment)	90	60	60	60	60
		a) For Faculty*	60	30	30	30	30
		b) For all other staff					
		11. Average No. of Faculty that are Computer Literate(%)	95	100	100	100	100
		c) Teaching faculty					
		d) Non Teaching Staff	15	35	40	40	50
		12. Extent of Computerized maintenance of student record	Low	Medium	High	High	High
		13. Extent of Computerized maintenance of employee record	Low	Medium	High	High	High
		14. Extent of computerization of administrative and financial processes	Very Low	Low	Medium	High	High
		15. Degree of decentralization of decision making	Low	Medium	High	High	High

<ul style="list-style-type: none"> ▪ <i>The data should be given for each institution. For baseline data, the period/year for which required has been indicated.</i> ▪ <i>Give the expected changed values for subsequent years.</i> ▪ <i>For the last 4 parameters, give base and changed values in subjective terms – very low, low, medium, high, very high</i> 							
3.	Increased involvement of institutions with communities	Number of interactions with community	---	---	3	5	6
		Number of need/demand- based service programs carried out	---	---	3	4	5
		Number of technologies transferred	----	---	2	3	4
		Number of beneficiaries from skill-based training programs	----	--	20	25	30
<ul style="list-style-type: none"> ▪ <i>Baseline values to be given for 2003-04. Interactions with community to include interaction both within and outside the institution for the purpose of assessing community needs, identifying programs, preparing action plans for service programs. This should also include follow-up visits after completion of service programs and transfer of technologies.</i> 							
4.	Improved Planning and Management of Technical Education System to make it Demand Driven	Number of Management Training Programme organized	---	---	02	03	04
		Number of People trained in Planning & Management	---	---	15	20	25
		Number of new Engineering Programs started during the Project, which are forward looking and Demand Driven	---	00	01	01	00

Annexure IV

Technical Education Quality Improvement Programme –

Networking Among Programme Institutions

Networking Work Plan Format (2005 – 2006) (From Dec 2004 to June 2005)

Name of Institution: JNTU College of Engineering, Kakinada

Name of Network Partner: JNTU College of Engineering, Hyderabad.

(Rs. In Millions)

S. No	Major Networking Activity out flowing from the institution	Steps	Starting date	Closing date	Cost Involved (if any) Rs. In Lakhs	Expected Benefits	Major Networking Activity out flowing from the institution	Steps	Starting date	Closing date	Cost Involved (if any) Rs. In Lakhs	Expected Benefits
1	One week programme on Data warehousing and mining	1	01.05.05	30.06.05	0.015	*Faculty Development Knowledge Enhancement	One week program on VLSI Tech.& Design	1	14.12.04	30.06.04	0.015	*Faculty Development Knowledge Enhancement
2	Joint organization of seminars and conferences	1	Jan2005	Dec2007		Paper presentation, proceeding preparation and *	Joint organisation of seminars and conferences	1	Jan2005	Dec2007	0.050	Paper presentation , proceeding preparation and *
3	Joint Research projects	1	Jan2005	Dec2007		Enhancing Research potentials	Joint Research projects	1	Jan2005	Dec2007		Enhancing research potentials
							Systems Applications to water resources management		April 2005	July 2005	0.015	Paper presentation proceeding preparation

Note: This format may be used for Action Plan with non-formal networking institutions/organizations also.

Technical Education Quality Improvement Programme

Networking among programme institutions
Networking work plan (2005-2006)

Name of the Institution: JNTU College of Engineering, Kakinada

Name of the Network partner3: JNTU College of Engineering, Anantapur

Activities/services/support which outgo from your institution to the network partner No 3	Steps	Startin g date	Closing date	Cost involve d Rs. Million	Expected Benefits	Areas of support to be received from Network partner No.3	Starting date	Closing date	Cost involved Rs. Millions	Expected Benefits
Organisation of Workshop Data warehousing and mining	1	1-1-05	30-6-05	0.015	Faculty Development, Knowledge exchange	Organising workshop on alternative fuels	14-12-04	30-6-05	0.015	Faculty Development, Knowledge exchange
Planning for Joint research and Projects	1	1-1-05	30-6-05	----	Augmenting research activities	Planning for Joint research and Projects	1-1-05	30-6-05	----	Augmenting research activities
Total				0.015			Total		0.015	

;

Grand Total : Rs 0.030 Millions

NETWORKING

5.3 Formal Networking

a. Name of Institution **JNTU College of Engineering, Kakinada**

Name of Network partner : AU College of Engineering, Visakhapatnam

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		
			January 2005	June 2005	Rs.		January 2005	June 2005	Rs.					
1.	Interaction in Geo-technical Engineering	1. Select topic			90,000	Sharing of Knowledge, Information Research, Seminars in joint – venture	Interaction in Environmental Engineering	1. Select topic			1,00,000	Sharing of Knowledge, Information Transfer, Collaborative Research, Seminars in joint – venture		
		2. Identify Expert							2. Identify Expert					
2.	Exchange of Technical Expertise and Infrastructure sharing in CAD / CAM in Mechanical Engineering	3. Fix dates						Power and Control Systems	3. Fix dates					
3	High Voltage Test Facility							Software Technology						

Two faculty members will be deputed for each activity once in a month. Expected expenditure is Rs. 2500/- per faculty per trip. Item no. 1 will be executed during the first six months.

ANNEXURE-V

Technical Education Quality Improvement Programme

Services to community and Economy

Networking work plan (2005-06)

Name of the Institution: **JNTU College of Engineering, Kakinada.**

S.No	Activity to be undertaken	Steps involved in undertaking the activity	Expected No of beneficiaries	Starting date	Finishing Date	Cost involved Rs Millions	Expected cost recovery Rs Millions
1	a) Environmental quality Survey	Collection of samples	2000	Nov 2005	Feb 2006	0.400	Nil
	b) Drinking water quality survey	Analysis of samples	2000	July 2005	Oct 2005	0.400	Nil
			From Organized Sector				
2	a) Artisan Training b) In plumbing & Training	Conduct of Training to rural youth	100	July 2005	Feb,2006	0.200	0.020
3			From Organized Sector				
	a) Distance Education	Preparation of e-lectures	500	July 2005	Feb 2006	0.300	0.030

ANNEXURE-VI

Technical Education Quality Improvement Programme

Services to community and Economy

Networking work plan Format (2005-06)

Name of the Institution: **JNTU College of Engineering, Kakinada**

S.No	Activity to be undertaken	Steps involved in undertaking the activity	Expected No of beneficiaries	Starting date	Finishing Date	Cost involved Rs Million
1.	Book bank	a) Procurement of Books b) Issue of books	100	July 2005	Feb 2006	0.50
2.	Remedial classes	a) Conduct of coaching classes b) Special Coaching classes	50	July 2005	March 2006	0.21

JNTU COLLEGE OF ENGINEERING, KAKINADA

Procurement of goods upto 31st March,2005

1. Direct contracting upto US\$ 500

<u>Sl.No.</u>	<u>ITEMS</u>	<u>AMOUNT (in Millions)</u>	<u>TARGET</u>
<u>1</u>	<u>16 Port Ethernet Hub</u>	<u>0.005</u>	<u>31st March 2005</u>
<u>2</u>	<u>Cables &Connectors</u>	<u>0.005</u>	<u>31st March 2005</u>
<u>3</u>	<u>Un-interrupted Power Supply</u>	<u>0.005</u>	<u>31st March 2005</u>
	<u>TOTAL:</u>	<u>0.015</u>	

2. Direct contracting for proprietary items upto US\$ 20,000

<u>Sl.No.</u>	<u>ITEMS</u>	<u>AMOUNT (in Millions)</u>	<u>TARGET</u>
<u>1</u>	<u>I * SIM (Dynamic Simulation Software)</u>	<u>0.800</u>	<u>31st March 2005</u>
<u>2</u>	<u>Power Engineering Software Tools CYMDIST, DAPPER for Primary Distribution Analysis</u>	<u>0.900</u>	<u>31st March 2005</u>
<u>3</u>	<u>Simulation Environment Software for Power Electronics & Motor Control (P SIM)</u>	<u>0.500</u>	<u>31st March 2005</u>
<u>4</u>	<u>Soft ware for Power Flow Module</u>	<u>0.525</u>	<u>31st March 2005</u>
<u>5</u>	<u>Soft ware for Fault Analysis Module</u>	<u>0.525</u>	<u>31st March 2005</u>
<u>6</u>	<u>Soft ware for Harmonics Analysis Module</u>	<u>0.525</u>	<u>31st March 2005</u>
<u>7</u>	<u>Soft ware for Transient Stability Module</u>	<u>0.935</u>	<u>31st March 2005</u>
<u>8</u>	<u>Soft ware for Protective Device Co-ordination Module</u>	<u>0.220</u>	<u>31st March 2005</u>
<u>9</u>	<u>Soft ware for Substation Grounding Module</u>	<u>0.525</u>	<u>31st March 2005</u>
<u>10</u>	<u>Soft ware for Power World Simulative</u>	<u>0.300</u>	<u>31st March 2005</u>
<u>11</u>	<u>Soft ware for Power System Analysis (MiPower Package)</u>	<u>0.400</u>	<u>31st March 2005</u>
<u>12</u>	<u>Soft ware for Electronics Circuit Design (PSPICE)</u>	<u>0.200</u>	<u>31st March 2005</u>
<u>13</u>	<u>Analysis and Design Structures Soft ware (STAAD/Pro)</u>	<u>0.100</u>	<u>31st March 2005</u>
<u>14</u>	<u>Structural Design Suit SCADDS/ – SCADDS Chennai</u>	<u>0.025</u>	<u>31st March 2005</u>
<u>15</u>	<u>Detailing of Reinforced Concrete Structures RC- Drafting Suite</u>	<u>0.030</u>	<u>31st March 2005</u>
<u>16</u>	<u>Building Estimator SCADDS/Building Estimator</u>	<u>0.030</u>	<u>31st March 2005</u>
<u>17</u>	<u>Structural Bridge Analysis and Design Optimization / STUDDS</u>	<u>0.100</u>	<u>31st March 2005</u>
<u>18</u>	<u>Highway Design and Survey Contour Package / Geomatics</u>	<u>0.145</u>	<u>31st March 2005</u>
<u>19</u>	<u>Design and Drafting Package Auto Cad 2D / 3D</u>	<u>0.100</u>	<u>31st March 2005</u>
<u>20</u>	<u>Fine Element Package for Structural Analysis and Dynamic Load Analysis /SAP 2000</u>	<u>0.200</u>	<u>31st March 2005</u>
<u>21</u>	<u>General Finite Element Package</u>	<u>0.200</u>	<u>31st March 2005</u>
<u>22</u>	<u>Design of Reinforced Concrete Beam as per IS 456 Package CAD / R.C. Suite + Smart Engineer</u>	<u>0.025</u>	<u>31st March 2005</u>
<u>23</u>	<u>Package to plot 2D and 3D graphs</u>	<u>0.040</u>	<u>31st March 2005</u>

<u>24</u>	<u>GIS Package Arc GIS University lab Kit version 8.3</u>	<u>0.650</u>	<u>31st March 2005</u>
<u>25</u>	<u>One dimensional Non-linear Ground motional Analysis Packages</u>	<u>0.065</u>	<u>31st March 2005</u>
<u>26</u>	<u>Books & Learning Resources in Civil Engineering</u>	<u>0.800</u>	<u>31st March 2005</u>
<u>27</u>	<u>LCD Projector</u>	<u>0.100</u>	<u>31st March 2005</u>
<u>28</u>	<u>LAPTOP</u>	<u>0.070</u>	<u>31st March 2005</u>
<u>29</u>	<u>IBM XEON PROCESSOR SERVER</u>	<u>0.270</u>	<u>31st March 2005</u>
<u>30</u>	<u>Books and Learning Material of CSE</u>	<u>0.200</u>	<u>31st March 2005</u>
<u>31</u>	<u>OLAP TOOLS (Business object/COGNOES/SAS-DWH tools or equivalent</u>	<u>0.500</u>	<u>31st March 2005</u>
<u>32</u>	<u>ETL TOOLS (Erwin Data mining tools /DB miner or equivalent)</u>	<u>0.500</u>	<u>31st March 2005</u>
<u>33</u>	<u>WINDOWS NT</u>	<u>0.200</u>	<u>31st March 2005</u>
	<u>TOTAL</u>	<u>10.705</u>	

3. National Shopping upto US\$ 50,000

<u>Sl.No.</u>	<u>ITEMS</u>	<u>AMOUNT (in Millions)</u>	<u>TARGET</u>
<u>1</u>	<u>CNC Lathe Machine with Accessories and Tooling</u>	<u>0.800</u>	<u>07-03-2005</u>
<u>2</u>	<u>CNC Milling Machine with Accessories and Tooling</u>	<u>0.775</u>	<u>14-02-2005</u>
<u>3</u>	<u>6 Axis Articulated Robot with Automatic Storage & Retrieval system and related software</u>	<u>1.175</u>	<u>21-02-2005</u>
<u>4</u>	<u>CAD – CAM Software Design, Analysis and Modeling</u>	<u>0.678</u>	<u>31-01-2005</u>
<u>5</u>	<u>Books and Learning Resources in Mechanical Engineering</u>	<u>0.230</u>	<u>07-02-2005</u>
<u>6</u>	<u>P IV Computer Systems</u>	<u>0.940</u>	<u>31-03-2005</u>
<u>7</u>	<u>Printers</u>	<u>0.150</u>	<u>31-03-2005</u>
<u>8</u>	<u>ProLiant DL360 G3 – Server - Xeonth or Pentium IV Processors and dual processors and base memory Of 1024 MB max memory of 8 GB</u>	<u>0.15</u>	<u>31-03-2005</u>
<u>9</u>	<u>Block Vibration Equipment with accessories</u>	<u>0.40</u>	<u>31-03-2005</u>
<u>10</u>	<u>Electronic fibre Testing machine with accessories</u>	<u>0.200</u>	<u>31-03-2005</u>
<u>11</u>	<u>Concrete core drilling Machine with accessories</u>	<u>0.250</u>	<u>31-03-2005</u>
<u>12</u>	<u>Open reflux CAD Apparatus</u>	<u>0.200</u>	<u>31-03-2005</u>
<u>13</u>	<u>Solid Waste Analyser</u>	<u>0.200</u>	<u>31-03-2005</u>
<u>14</u>	<u>Analog Comm. Trainer Boards (AM, SSB, DSB, FM, Mixer, Preemphasis, Radio receiver etc.,)</u>	<u>0.210</u>	<u>31-03-2005</u>
<u>15</u>	<u>Antenna Trainer</u>	<u>0.214</u>	<u>31-03-2005</u>
<u>16</u>	<u>Digital Comm. Trainers (DM, PCM, DPCM, ASK, FSK etc.,)</u>	<u>0.231</u>	<u>31-03-2005</u>
<u>17</u>	<u>Transmission line Analyzer</u>	<u>0.077</u>	<u>31-03-2005</u>
<u>18</u>	<u>Mobile communication trainer</u>	<u>0.289</u>	<u>31-03-2005</u>
<u>19</u>	<u>Satellite Comm. Trainer</u>	<u>0.214</u>	<u>31-03-2005</u>
<u>20</u>	<u>Radar training system</u>	<u>0.105</u>	<u>31-03-2005</u>
<u>21</u>	<u>ISDN simulator</u>	<u>0.462</u>	<u>31-03-2005</u>
<u>22</u>	<u>EPABX trainer</u>	<u>0.058</u>	<u>31-03-2005</u>
<u>23</u>	<u>Spectrum analyzer (2 Nos.)</u>	<u>0.825</u>	<u>31-03-2005</u>
<u>24</u>	<u>Network analyzer</u>	<u>0.231</u>	<u>31-03-2005</u>
<u>25</u>	<u>Power supplies (10 Nos.)</u>	<u>0.052</u>	<u>31-03-2005</u>
<u>26</u>	<u>Micro voltmeter / power meter (5 Nos.)</u>	<u>0.052</u>	<u>31-03-2005</u>
	TOTAL	9.168	

4. National Competitive Bidding (NCB) between US\$50,000 to US\$ 30,000

<u>Sl.No.</u>	<u>ITEMS</u>	<u>AMOUNT</u> (in Millions)	<u>TARGET</u>
<u>NIL</u>			

JNTU COLLEGE OF ENGINEERING, KAKINADA

Procurement of goods upto 31st March,2006

1. Direct contracting upto US\$ 500

<u>Sl.No.</u>	<u>ITEMS</u>	<u>AMOUNT (in Millions)</u>	<u>TARGET</u>
<u>1</u>	<u>SCR, MOSFET, IGBT & TRAIACSTATIC CHARACTERISTICS MODULE</u>	<u>0.008</u>	<u>31-03-2006</u>
<u>2</u>	<u>R,RC & UJT Firing Module</u>	<u>0.006</u>	<u>31-03-2006</u>
<u>3</u>	<u>Single Phase AC Voltage Controller Training Kit</u>	<u>0.014</u>	<u>31-03-2006</u>
<u>4</u>	<u>Single Phase Bridge Converter with R, RL Loads</u>	<u>0.016</u>	<u>31-03-2006</u>
<u>5</u>	<u>Commutation (Chopper) Circuit Module</u>	<u>0.016</u>	<u>31-03-2006</u>
<u>6</u>	<u>Jones Chopper Trainer Module (Class D Type Commutation) with accessories</u>	<u>0.014</u>	<u>31-03-2006</u>
<u>7</u>	<u>Single Phase Cycloconverter with accessories</u>	<u>0.022</u>	<u>31-03-2006</u>
<u>8</u>	<u>Single Phase Half Controlled Bridge Converter with R Load</u>	<u>0.014</u>	<u>31-03-2006</u>
<u>9</u>	<u>IGBT Based PWM Inverter i) IGBT Module ii) PWM Inverter Control With accessories</u>	<u>0.016</u>	<u>31-03-2006</u>
	<u>TOTAL</u>	<u>0.126</u>	

2. Direct contracting for proprietary items upto US\$ 20,000

<u>Sl.No.</u>	<u>ITEMS</u>	<u>AMOUNT (in Millions)</u>	<u>TARGET</u>
1	<u>Pentium – IV Configuration Systems</u> (25 Nos)	0.750	31-03-2006
2	<u>Books and Learning Resources</u>	1.200	31-03-2006
3	Complete experimental set up to study percentage bias differential relay to plot the characteristics of a percentage bias differential relay for 3%, 40% and 20%	0.100	31-03-2006
4	Complete experimental set up to Study Gas actuated Buchholz relay and checking it. Metering and control panel on 4` x 2` M.S. cubicle with all Terminals brought out for making connection and taking Readings. Phantom fault creation and its simulation	0.060	31-03-2006
5	Complete experimental set up to Study under frequency relay with metering and control panel on 4` x 2` M.S. cubicle with all terminals brought out for making connection and taking readings. Phantom fault creation and its simulation. With Static type under frequency Relay	0.070	31-03-2006
6	Complete experimental set up to study the 1. Single Line to ground fault Line to ground fault. Verify results with the theoretical values.	0.050	31-03-2006
7	Complete experimental set up to study the 1. Line to Line fault 2. 3 Phase fault .	0.030	31-03-2006
8	Complete experimental set up to study the performance and verify results with theoretical values of a transmission line using transmission line Simulators Complete with phase shifting transformer variacs, Digital Metering suitable to perform the experiment	0.040	31-03-2006
9	To study the over current relays (IDMT) type and determine the time current characteristics. It will comprise control panel with control circuit mock fault creation and its Simulation Digital metering Time totalizer and Alarm complete with Electromechanical type over current relay (IDMT) for the	0.190	31-03-2006

	complete live demonstration and provision to draw characteristic Single phase configuration over current IDMT relay (English electric Make) The relay provided will be Draw out type for showing all the parts of the relay by taking out from the Panel 3 Phase configuration over current IDMT relay it will have 2 over current relay and one earth fault relay Continental / Tech Track Make		
10	Complete experimental set up to study the distance Relays a) It will comprise of control panel with draw out type Reactance Relay for demonstration purpose b) It will comprise of control panel with draw type MHO relay for demonstration purpose, with terminals brought. The relay will be draw out type for showing internal parts and construction of MHO relay	0.065	31-03-2006
11	Complete experimental set up to study the construction and principle of operation of a directional earth-fault relay. And to study the construction and operation of time meter Continental/Tech Track	0.070	31-03-2006
12	Complete experimental set up to study the State stability limit of a Transmission line. And to draw the power angle diagram for a Transmission line. Continental/Tech Track	0.130	31-03-2006
13	Complete experimental set up to study the change in power transfer for variations in transfer reactance and sending end & receiving and voltages. Continental/Tech Track	0.050	31-03-2006
14	Complete experimental set up to study the protection of a faulty system by an oil circuit breaker operated by a relay. Complete with oil circuit breaker fault creation by phantom loading with metering and protection Continental/Tech Track	0.065	31-03-2006
15	Complete experimental set up Differential protection of alternator against short circuit and earth fault within stator winding and determination of pick up and reset values of relays Continental/Tech Track	0.065	31-03-2006

16	Complete experimental set up to study the Performance of a solid State time delay relay. Continental/Tech Track	0.007	31-03-2006
17	Complete experimental set up to determine dry one manual standard and dry flash over 50Hz voltages for an 11 kV pin insulator. Continental/Tech Track	0.075	31-03-2006
18	Complete experimental set up to draw characteristics of Thermal Bi-metallic Relay, HRC fuse and MCB	0.018	31-03-2006
19	Complete experimental set up to draw characteristics of direction Solid state relay for three phase configuration.	0.025	31-03-2006
20	Complete experimental set up to draw characteristics of non direction solid state earth fault relay for single phase configuration.	0.015	31-03-2006
21	Complete experimental set up to draw characteristics of solid state frequency relay	0.055	31-03-2006
22	Complete experimental set up to draw demonstrate working of single phasing and reverse phasing preventer relays. Continental/Tech Track	0.012	31-03-2006
23	Complete experimental set up to draw characteristics of field mapping using electrolytic tank Continental/Tech Track	0.025	31-03-2006
24	Working model of substation with 11 KV Transformer, bus bar and Protection relays and metering. Continental/Tech Track	0.180	31-03-2006
25	Complete experimental set up for cable fault locating with digital cable fault locator complete with all required accessories. Continental/Tech Track	0.065	31-03-2006
26	Complete experimental set up to for test of surface leakage affect in cable insulation complete with all required accessories. Continental/Tech Track	0.055	31-03-2006
27	Complete experimental set up to demonstrate maximum demand in a substation at any time complete with all required accessories Continental/Tech Track	0.042	31-03-2006
28	Complete experimental set up to draw characteristics of electro mechanical type under voltage relay and solid state type under voltage and over voltage relay in	0.050	31-03-2006

	one module.		
29	Power analyzer PZ 4000	1.200	31-03-2006
30	Clamp-on Power meter CW 140	1.180	31-03-2006
31	Electrical Safety Automatic Test System	0.600	31-03-2006
32	Power Supply Test System	0.600	31-03-2006
33	Line Leakage Current Tester	0.200	31-03-2006
	TOTAL	7.339	

3. National Shopping upto US\$ 50,000

<u>Sl.No.</u>	<u>ITEMS</u>	<u>AMOUNT (in Millions)</u>	<u>TARGET</u>
1	Three Phase Half & Fully Controlled Bridge Converter With accessories	0.079	31-03-2006
2	Single Phase Series Inverter with accessories	0.024	31-03-2006
3	Single Phase Dual Converter	0.048	31-03-2006
4	Multi Media Projector – SANYO (without /Computer)	0.250	31-03-2006
5	Split Type A/c units	0.100	31-03-2006
6	Microprocessor based SCR/MOSFET/IGBT trainers	0.030	31-03-2006
7	Microcontroller based SCR/MOSFET/IGBT trainers	0.030	31-03-2006
8	DSP based controller for IGBT, MOSFET and SCR Modules	0.025	31-03-2006
9	Computer Systems	0.080	31-03-2006
10	Meters and Measuring equipments	0.200	31-03-2006
11	Power Electronic Components	0.030	31-03-2006
13	200 MHz Digital Storage Oscilloscope – PC Based	0.100	31-03-2006
14	PLC Trainer	0.120	31-03-2006
15	Oscilloscopes – 20 MHz	0.200	31-03-2006
16	Printers	0.100	31-03-2006
17	P-IV Systems for DSTC Lab & Peripherals	0.875	31-03-2006
18	Diesel Engine Test Rigs with dynamo meters & Accessories	1.000	31-03-2006
19	Heat Transfer Lab Equipment	0.450	31-03-2006
20	Pollution measurement Apparatus	1.000	31-03-2006
21	Production type Milling Machine	2.500	31-03-2006
22	Equipment for Balancing of Rotors	2.000	31-03-2006
23	Metrology Lab Equipment	0.500	31-03-2006
24	Un –Interrupted Power Supply	0.126	31-03-2006
25	Server	0.079	31-03-2006
26	P-IV Systems (20 Nos.)	0.711	31-03-2006
27	Scanner & Laser Printer	0.053	31-03-2006
28	Image Grabber cards with Camera	0.126	31-03-2006
29	MATLAB (Concurrent License Type)	0.176	31-03-2006
30	MATLAB Tool Boxes	1.025	31-03-2006
31	Level Control Analyzer	0.315	31-03-2006
32	Temperature Control Analyzer	0.263	31-03-2006
33	Pressure Control Analyzer	0.315	31-03-2006
34	Dead weight Tester for pressure calibration	0.105	31-03-2006
35	Pressure Sensors with Digital Pressure	0.053	31-03-2006

	Indicator		
36	Velocity Meter	0.027	31-03-2006
37	Load cell with Digital Indicator	0.027	31-03-2006
38	Displacement Measurement (LVDT)	0.027	31-03-2006
39	Temperature Measurement Tutors	0.053	31-03-2006
40	Programmable Logic Controllers	0.105	31-03-2006
41	Link B Fiber Optic System	0.315	31-03-2006
42	Fibre optic Toolkit box	0.105	31-03-2006
43	Optical Power Meters (3 Nos.)	0.111	31-03-2006
44	Power Supplies for Fiber Optic Systems	0.027	31-03-2006
45	Laser Training System	1.050	31-03-2006
46	Laser/LED's/ Detectors/Fiber Optic cable	0.027	31-03-2006
47	RF Generator	0.300	31-03-2006
48	Hi-frequency Oscilloscopes with storage facility (2 Nos.)	0.350	31-03-2006
49	Pressure meter 'GA' bar capacity with accessories	0.600	31-03-2006
50	Damper Testing with accessories	0.200	31-03-2006
51	Digital Noise level meter Repairable Particulate Sampler.	0.300	31-03-2006
52	Campus Networking (components) a. Active Components 1.868 Mill b. Passive Components 0.502 Mill c. Racks 0.068 Mill d. Laying charges 0.375 Mill	2.814	31-03-2006
	TOTAL	19.526	

4. National Competitive Bidding (NCB) between US\$50,000 to US\$ 30,000

Sl.No.	ITEMS	AMOUNT (in Millions)	TARGET
1	P-IV Systems (2.66 GHz., 256 Mb RAM, 40 GB HDD, 48 X CDW, 1.44 FDD, 15' Monitor, XP and capability to connect to the SOLARIS server given in item no. 04 below) 60 no's	4.200	31-03-2006
2	Networking Hardware (Switches, Cables, Cabling, installation and commissioning false roofing, Site preparation, Air Conditioning.	1.000	31-03-2006
3	Dot Matrix Printer 4 no's	0.040	31-03-2006
4	Sun server with SOLARIS: tow Ultra sparc III 1.015 GHz processors with 16 Mb cache, 2 GB memory, 4x 73 GB Disk with pre installed SOLARIS 8 OS (dual bootable with windows 2003), 10/100 Mbps Ethernet, USB, IEEE1394, 17' Color monitor, capable for 60 clients connectivity. 1 no's.	0.600	31-03-2006
5	Wireless Cars for P-IV systems 60 no's	0.600	31-03-2006
6	Networking cost	0.500	31-03-2006
7	Bench Mark LAN – T Trainer 30 user 1 no's	0.500	31-03-2006
8	UPS (10 KVA – 1 Hr Backup with Battery) 2 no's	0.400	31-03-2006
9	Infrastructure furniture: computer tables, chairs and partitions 60 no's	0.480	31-03-2006
10	Air Conditioning split 2.00 ton 4 no's	0.280	31-03-2006
11	Operation and maintenance after warranty of 3 years.	1.000	31-03-2006
12	Atomic Absorption Spectrophotometer	2.700	31-03-2006
13	Cyclic Tri-axial control system with data requisition (load frame and soft ware, 220 - 240 V, 50/60 HZ PH) including accessories	2.300	31-03-2006
	TOTAL	14.600	