

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

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

(December 2004)

Submitted by



**ANDHRA UNIVERSITY
COLLEGE OF ENGINEERING
VISA KHAPATNAM - 530 003**

To

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

27th Dec 2004

EXECUTIVE SUMMARY

1. Line of action of the Institutions to meet the targets:

Already started the process of creation of various kinds of databases at the central office level and at the department levels for effective management of the information and is needed to be accelerated in view of the TEQIP. Office automation is another activity which needs to be given priority for the efficient administration. The electronic administrative setup would become quite handy in the management of TEQIP. Frequent motivational exercises are must for the success of the TEQIP

2. A long-term objective for institutional development (10-15 year time frame)

The Vision of the A.U. College of Engineering is to create knowledge capital to impart technical knowledge of highest order in tune with the needs of the country and thus to become an asset of the nation. To realize this, it is imperative that the faculty of the Engineering College has to lead a proactive role offering an integrated contribution for an overall development of the students. The Engineering College should possess laboratories with sophisticated modern equipment in identified thrust areas of research, reflecting modern technology, continuously adapting to the changes in the academic curriculum. The Engineering practices imparted to the students should be sustainable and environmental friendly development and to create a spirit of remaining in the forefront of scientific and technical development and with a social responsibility.

3. A pragmatic project-period objective

The objective is to sustain the development with a motivation by way of creating an attitudinal change in the entire campus community for a proactive role in the academic development with a sense of belongingness, respecting the transparency and accountability. The College of Engineering will be developed into a lead institute catering to needs of the industry, interacting with their research and design cells. Further, the College of Engineering identifies academic exchange programmes within and outside the country to enhance and update the knowledge of the faculty exploring thrust areas of research. The College of Engineering will provide knowledge and facility base to its sister institutions and affiliated colleges promoting interdisciplinary research. The College of Engineering would significantly contribute in imparting engineering practices for sustainable development and remain at the fore front of scientific and technological development. Thus, it would become an active contributor in the economic and infra-structural development of the country by creating and nurturing talent for changing needs of the man power resources in the country.

4. Financial requirements under the Programme

The programme envisages an outlay sanction of Rs. 627.702 millions in total. However, the Concise Institutional Proposal has been prepared (as advised by the NPIU) for an amount of Rs. 153.36 million towards the first phase sanction. The following are requirements to take up the following activities.

5. How well is the institution prepared to begin with the Programme

The Andhra University College of Engineering has already set itself for this programme with proper clearances and authorizations from the University authority. As a first step, the AUCE has been granted full fledged autonomy meeting one of the prerequisites to participate under the TEQIP. The LIPMU committee formations are under way. The organizational setup under autonomy is in progress. Another important aspect to be full filled is the 'Campus area Networking'. The AUCE has already established a Fiber Optical Cable networked connectivity linking all the department and the principals office. Intranet and office automation facilities are already on the way of implementation.

JUSTIFICATION FOR PARTICIPATION IN TEQIP

The AU College of Engineering has a number of goals. Continuous efforts are being made to achieve these.

- To make arrangements to impart computer literacy programmes for administrative staff.
- Design and creation of suitable databases for effective and efficient administration.

- Design of programmes to identify and to reward the best teachers in the form of awards and incentives.
- Design of programmes for up gradation of technical knowledge/skills for technical/supporting staff.
- Adaptation of information technology for designing teaching programmes.
- To create an Intranet for the entire Engineering College and to interface with the outside world.
- To train the students in industry during their course in the campus.
- To train the teaching faculty in the industry to update their practical exposure and consolidate periodically.

It is well established that the developed countries have established a continuous interaction between the academic institutes and industrial production centers thus bringing the gap to a minimum. The Executives of the industry such as Bharat Heavy Plate and Vessels Ltd. etc. interact with the academic as well as administrative staff of the Andhra University Engineering College in updating and exchanging their skills periodically to achieve higher goals in production. This aspect requires industrial visits / training to the teaching community to acquaint with the latest trends developed world-wide, which enables the teacher imparting to the student in the class room the right perspective. The Andhra University Engineering College has taken a lead in implementing AUCOELAN programme of providing campus networking with optical fibre assemblage of all the departments, exchange data efficiently and adopting the latest technology. This also enables the Senior Executives of the industry to equip themselves with latest knowledge.

NEED FOR AID

The Andhra University Engineering College, Visakhapatnam, though established nearly half a century ago has got good laboratories and equipment. To cope up with recent gamut of technical developments that occurred in the world, it needs large funds to revamp its programmes. The University Engineering College has good potential by the way of different and diversified industries around like Hindustan Shipyard Ltd., Rashtriya Ispat Nigam Ltd., Visakhapatnam Port Trust, Eastern Naval Command, NSTL, Hindusthan Zinc Ltd. etc., it will be of no exaggeration if the Andhra University Engineering College just interacts with all of them, it will become a premier Engineering College on par with the IITs. and Global Institutes. Aid is needed to acquire funds to establish amenities for the visiting Executives/Dignitaries and also facilities such as Internet, CAD Labs., and other electronic media equipment. With gradual induction of all these, perfection in AU Engineering College is no longer a dream but a reality.

The proposed TEQIP may accelerate the efforts of the AU College of Engineering to reach the target in the near future along with state-of-the-art technologies available.

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: *AU COLLEGE OF ENGINEERING, VISAKHAPATNAM*

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	<i>Prof D GANAPATHI RAO</i>	0891-2844999 2754586	-	0891-2747969	<i>aucec_prince@rediffmail.com</i>
Nodal Officers (TEQIP) for:					
Academic Activities	<i>Prof S RAMAKRISHNA RAO</i>	0891-2842768	0891-3119830	0891-2747969	<i>aucec_prince@rediffmail.com</i>
Civil Works	<i>Dr DSR MURTHY</i>	0891-2844789	9885155346	0891-2747969	<i>aucec_prince@rediffmail.com</i>
Procurement	<i>Dr P KING</i>	0891-2844767	9440191017	0891-2747969	<i>aucec_prince@rediffmail.com</i>
Financial Aspects	<i>Dr NBR MOHAN RAO</i>	0891-2844769	9848416455	0891-2747969	<i>aucec_prince@rediffmail.com</i>

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
	UG COURSES				375	1525
1	<i>CHEMICAL ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1933</i>	<i>60</i>	<i>240</i>
2	<i>PHARMACY</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1951</i>	<i>40</i>	<i>160</i>
3	<i>MECHANICAL ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1955</i>	<i>30</i>	<i>120</i>
4	<i>ELECTRICAL & ELECTRONICS ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1955</i>	<i>30</i>	<i>120</i>
5	<i>CIVIL ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1955</i>	<i>30</i>	<i>120</i>
6	<i>MARINE ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1965</i>	<i>10</i>	<i>40</i>
7	<i>COMPUTER SCIENCE & SYSTEMS ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1981</i>	<i>30</i>	<i>120</i>
8	<i>METALLURGICAL ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1981</i>	<i>20</i>	<i>80</i>
9	<i>ELECTRONICS & COMMUNICATIONS ENGG</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1981</i>	<i>30</i>	<i>120</i>
10	<i>ARCHITECHTURE</i>	<i>UG</i>	<i>5 YEARS</i>	<i>1982</i>	<i>25</i>	<i>125</i>
11	<i>NAVAL ARCHITECHTURE</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1989</i>	<i>10</i>	<i>40</i>
12	<i>INSTRUMENTATION TECHNOLOGY</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1990</i>	<i>30</i>	<i>120</i>
13	<i>CHEMICAL ENGG (PETRO CHEM)</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1993</i>	<i>10</i>	<i>40</i>
14	<i>CHEMICAL ENGG (BIO TECH)</i>	<i>UG</i>	<i>4 YEARS</i>	<i>1993</i>	<i>10</i>	<i>40</i>
15	<i>CIVIL ENVIRONMENTAL ENGG</i>	<i>UG</i>	<i>4 YEARS</i>		<i>10</i>	<i>40</i>

	PG COPURSES				466	870
16	PHARMACY	PG	2 YEARS	1955	52	104
17	CHEMICAL ENGG	PG	2 YEARS	1962	20	38
18	MINERAL PROCESS ENGG	PG	2 YEARS	1962	10	26
19	HYDRAULIC COASTAL & HARBOUR ENGG	PG	2 YEARS	1963	12	14*
20	ENVIRONMENTAL ENGG & MANAGEMENT	PG	2 YEARS	1963	11	15*
21	SOIL MECHANICS & FOUNDATION ENGG	PG	2 YEARS	1963	12	15*
22	STRUCTURAL ENGG	PG	2 YEARS	1963	11	19
23	MACHINE DESIGN	PG	2 YEARS	1963	18	33
24	POWER SYSTEMS & AUTOMATION	PG	2 YEARS	1963	10	20
25	MARINE ENGG & MACHINE HANDLING	PG	2 YEARS	1971	6	2
26	INDUSTRIAL ENGG	PG	2 YEARS	1973	23	36*
27	HEAT TRANSFER	PG	2 YEARS	1982	10	15*
28	GEO ENGG	PG	2 YEARS	1983	18	0
29	COMPUTER SCIENCE & TECH	PG	2 YEARS	1983	26	52
30	MSc APPLIED CHEMISTRY	PG	2 YEARS	1986	10	20
31	MASTER OF COMPUTER APPLICATIONS	PG	3 YEARS	1987	40	81
32	REMOTE SENSING	PG	2 YEARS	1988	22	8*
33	BIO TEBH	PG	2 YEARS	1988	10	18
34	ELECTRONICS & INSTRUMENTATION	PG	2 YEARS	1989	32	47
35	TECHNOLOGY FORECASTING	PG	2 YEARS	1992	24	1
36	COMPUTER SCIENCE (SF)	PG	2 YEARS	1996	40	70
37	MSc COMPUTER SCIENCE	PG	2 YEARS	1998	30	60
38	RADAR & MICROWAVE ENGG	PG	2 YEARS	1999	20	28*
39	INDUSTRIAL PROCESS INSTRUMENTATION	PG	2 YEARS	2000	12	17
40	INFORMATION TECH	PG	2 YEARS	2000	20	40
41	CAD-CAM	PG	2 YEARS	2001	20	33
42	MSc INFORMATION SYSTEMS	PG	2 YEARS	2001	30	41
43	BIO MEDICAL ENGG	PG	2 YEARS	2003	20	17
44	STRUCTURAL ENGG & NATURAL DISASTER MANAGEMENT	PG	2 YEARS	2003	8	0

1 State whether UG/PG.

2 If any program is of flexible duration and or offered on part time basis, this may be stated in the column.

3 Annual intake as sanctioned by the AICTE.

* Regular PG course seats are totally filled, while the self-finance seats are not attracting the students due to high fees - structure.

1.2.2 Total strength of students in all courses and all years of study in 2003-2004 2395

1.2.3 Total women students in all courses and all years of study in 2003-2004 871

1.2.4	Total ST students in all courses and all years of study in 2003	122
1.2.5	Total SC students in all courses and all years of study in 2003	446
1.2.6	Total OBC students in all courses and all years of study in 2003	906

1.2.7 Doctoral Programs

a)	Total number of candidates that obtained PhD from the institution up to 2003-04	347
b)	Total number of candidates currently registered for PhD.	33

1.2.8 Accreditation Status of Programmes

Level of Programs	Total Number of Programs being offered	Number of Programs Eligible for Accreditation NAAC	Total Number of Programs Accredited in		Number of Programs for which Accreditation Applied for NBA 2004
			2002	2003	
Undergraduate	15	15	15		11
Postgraduate	29	29	29		

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	56	Regular	51	7	16	-	-	-	19+55*	37
		Contract	-	-	-	-	-	-	-	-
Associate Professor/Reader	90	Regular	15	15	15	3	-	-	49-1*	41
		Contract	-	-	-	-	-	-	-	-
Assistant Professor/Lecturer	128	Regular	9	5	16	2	1	-	87-54*	41
		Contract	1	1	25	1	13	-	41	-

Regarding faculty positions, the existing faculty number is more compared to the sanctioned ones due the Career Advancement Scheme (CAS)* implemented in the AU College of engineering. In other words, the present staff includes the UGC sanctioned as well as CAS promotes and is less than then overall sanctioned strength due to ban on recruitment policy of the Government.

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

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							

1.4 AVERAGE RECURRENT COST PER STUDENT Rs. 50,041/- (Rs. 0.05 millions)

(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)

1.5 CURRENT TEACHER-STUDENT RATIO: 1:12

(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)

UNIT 2 VISION

2.0 Institutional Vision

The College of Engineering with 16 departments (including 12 Engineering, Architecture, Pharmacy and 4 Basic Sciences), currently offers an impressive number of 15 UG (Full-time) and 29 PG programmes in the various departments including Architecture and Pharmacy.

The vision of the institute is as follows.

- To create knowledge capital and impart technical knowledge of highest possible order in tune with the needs of the country.
- To motivate faculty to lead a proactive roll for an integrated contribution of all round development of the students.
- To upgrade existing laboratories reflecting the modern technology trends continuously supporting the changes in the academic curriculum.
- To enhance institute – industry interaction and enriching the research facilities.
- To impart engineering practices for sustainable and environment friendly development.
- To create a spirit of remaining in the forefront technical development arena.
- To provide special coaching to SC / ST / OBC students for various entrance tests including GATE / IES, etc.
- To impart communication skills to SC / ST / OBC students.
- To provide entrepreneur skills to SC / ST / OBC students.
- Train the organized sector like artisans, vendors, mechanics, etc. to modernize their working skills and to improve their living standards by avoiding drudgory.

SWOT Analysis

Strengths:

- Highly qualified, motivated faculty.
- Continuous personal development of students by organizing seminars and conferences.
- Excellent student – faculty relationship facilitated by ideal student – faculty ratio.

Weaknesses:

- Laboratories are not fully upgraded.
- No proper qualified supporting staff for maintenance of laboratories.
- No programme for quality improvement of supporting staff.
- Insufficient number of International journals. Inadequate research facilities in the form of Hardware equipment, Software tools and journals of International repute.
- Negligible research contribution from sister institutions.
- Overload of work due to depleted faculty strength.
- No proper mechanism for reward and punishment.

Opportunities:

- Mobilization of resources by self financed Courses.
- Software Industry export estimation of Rs. 2 crores makes it imperative to the institution to provide world class infrastructure for students to get their deserved share.
- With a variety of Industries, viz., RINL, BHPV, HPCL, VPT, NSTL, NSDRC, NIO, etc. provide an opportunity for an excellent interaction between Industry and Institution which can benefit for both.
- Academic Exchange programmes with foreign University can be conducted for the mutual benefit.

Threats:

With the ban on faculty recruitment in the vacant position arise due to retirement and other reasons some faculty positions are not being filled leading to a disharmony in the academic and research environment.

Strategic Plan:

- All the members of the faculty are encouraged to obtain their doctoral degrees.
- Groups of teachers are encouraged to create new thrust laboratories on the lines of those practiced in the advanced countries to be in forefront of the technological advancements.

- As a lead institute the AU College of Engineering serves as a centre for excellence to meet the needs of the industry and in general the needs of the society.
- The main objective of strategic plan is to obtain self-reliance and achieve technical excellence in all fields of Engineering.
- To train the teaching faculty in the Industry for update of the latest technological developments in the Industry so as to minimize the gap between theory and practice.
- The students visits to Industry periodically with emphasis to acquire practical knowledge make the student more practical oriented.

Goals:

1. Motivate the teaching faculty to publish at least one research paper per annum.
2. Conduct one national seminar in each department every year to be in the forefront of latest knowledge avenues.
3. Visit once in 2 years the leading Research Institutes within and abroad for a brief period.
4. Personal counseling to SC / ST / OBC students and other slow learners to decrease failures.

2.1 Project Life Achievements

The University Engineering College entered the Golden Jubilee Year and enhanced from Four Departments to Sixteen Departments having specializations like Marine, Architecture and Biomedical Engineering areas.

The assistance through TEQIP given to modernize the laboratories, help the experienced teachers to work with modern equipment that imparts precision and quality teaching to the students. The high order facilities provided to the teachers through this grant enable them to work with the equipment leading to new research areas. It keeps the teachers in tune with trends of contemporary lines.

As the facilities like e-class room and conference halls are provided use of modern teaching methods will enhance the all-round knowledge of the students. The presentation of students, participation in the in-house seminars by students using modern equipment helps to acquaint with the global scenarios in their field. Often students can participate in teleconferences with the students in lead/net work institutes to further their knowledge.

The modern, sophisticated, precision equipment will help to interact with industrial establishments to find out the solutions to their industrial problems. This helps in finding out eco-friendly solutions like treatment of wastes to achieve maximum efficiency.

The assistance in the direction of modernization of labs and providing facilities will without an irate of doubt open the horizons of knowledge. The academic benefit and training benefits to teachers and students will provide an arena to prove the inherent capacities of the faculty and students. This will help them to achieve technical advances and enhance work culture in the existing faculty and students.

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

1. Construction of Centralized Computer, CAD Laboratories and Seminar and e-class rooms.
2. Providing extra building spaces for individual Departments.
3. Modernizing the Laboratories and other infrastructure.
4. Providing modern Teaching methods.
5. Organizing seminars by students.
6. Interaction with Industrial and Research establishments.
7. Tribal development programme.
8. Participation of faculty in national and international seminars.
9. Training to organized and unorganized sectors to improve sanitation conditions by adopting simple techniques.

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	<i>Multilevel and multi back ground (existing)*</i>				→
	<i>Provision of wide choice of electives (existing)*</i>				→
2. Introduction of reforms in student performance evaluation	<i>The students are evaluated on the basis of assignments, internal and end-semester examinations. In addition to these, paper presentation and seminar participation will be considered.</i>		→		→
3. Establishment of a system for teacher performance appraisal by students, and teacher counseling	<i>Already teachers are evaluated by the students during semester. Teachers are informed about their performance.</i>				→
	<i>A system will be established to monitor the performance twice in a semester for self improvement of the teacher.</i>		→		→
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	<i>Awards like Best Teacher, Best Researcher, Consultant of the Year will be given based on the Students Evaluation Report, Self Appraisal and IRG.</i>				→
5. Establishment of a system for recognizing merit and outstanding performance of teachers .	<i>Based on the Self Appraisal Report and Annual Performance by the Teacher the evaluation committee recommends the Award.</i>				→
6. Offering service packages that would attract and retain good quality faculty	<i>The faculty will be allowed to do consultancy with enhanced ratio to be paid to him.</i>				→
7. Establishment of a system for maintaining record of graduates and conducting regular tracer studies	<i>Already records of graduates are maintained and they will be reformed.</i>				→

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	<i>The present governance system has stake holders from industries, research organizations, academic bodies and the institute. Student representative will be incorporated in the decision making body.</i>				→
9. Establishment of a modern management system – delegation of decision making, administrative and financial powers to senior functionaries with accountability	<i>In the present system the Principal has the decision making and purchasing power. This will be percolated to the Heads of the departments.</i>				→
10. Modernization of administrative and financial management system to increase staff and student friendliness, increase time and resource efficiency	<i>The online complaint register / speeding up of financial releases / administrative reforms to help students will be taken up.</i>				→
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 2% Fee collected** ii) Staff Development Fund 1% Fee collected** iii) Depreciation Fund 2% Fee collected** iv) Maintenance Fund 1% Fee collected**				→
12. Instituting measures for increasing recovery of cost of education	<i>Increase in the fee structure.</i>				→
	<i>Using student manpower for consultancy.</i>				→
	<i>Using postgraduate students and research scholars for tutorials and special classes.</i>				→
13. Instituting practices for maximizing utilization of resources and reducing wastage	<i>Continuing education and extension services to the needy community.</i> <i>Introducing Diploma and Certificate courses for the working technocrats.</i>				→
14. Establishment of mechanisms for regular quality and efficiency audit of institutional activities including academic processes and administrative procedures.	<i>Periodic monitoring by the academic, administration and financial committees.</i>				→

* Two streams from EAMCET and ECET back grounds students are entering in to the 1st and 2nd year of engineering.

** Resources generated in the college i.e., tuition fee, development fee, examination fee and consultancy services..

UNIT-4

ACADEMIC EXCELLENCE

4.1 PRIORITIES

Prioritise 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 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	3
4.	Improving post-graduate admission to M.Tech and Research programs through better structuring of offerings and increased facilities	4
5.	Improving sponsored Research and Consultancy activities	5
6.	Improve staff efficiency by imparting practical training	3

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
<i>Mechanical, Marine, Instrumentation, ECE – UG*</i>				→
<i>Mechanical, ECE, CSSE – PG#</i>				→

* Mechanical Engineering and Marine Engineering courses have some common subjects like, heat transfer, fluid mechanics, etc. Similarly Electronics & Communication Engineering and Instrumentation Technology are also having some common subjects. Curriculum of these departments is being reoriented for uniformity. This helps in uniformity in examination and evaluation. This may also reduce the teaching load.

Presently these departments offer a range of electives in addition to the core specialization. Since the faculty strength is somewhat temporarily less, common teaching for electives will help in reduced teaching loads.

4.2.3 UG/PG programmes to be restructured NIL

Name of the Programme	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08

4.2.4 PG/PG programmes to be closed

Name of the Programme	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
<i>MSc - Information Systems – PG*</i>		→		
<i>MSc – Computer Science – PG*</i>			→	

* These courses are presently run as evening courses in the Department of Computer Science & Systems Engineering, which is having one UG, two PG and one MCA courses in the day time. Due to lack of class rooms and faculty, efforts are being made to shift these courses to the AU College of Science and Technology.

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
Industrial training in UG Curriculum				→

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
Mechanical Engineering	Exp. Stress analysis CAD / CAM	ME (Machine Design) ME (CAD/CAM)		→		
Metallurgical Engineering	Microscopy	ME (Industrial Metallurgy)		→		
Civil Engineering	Public Health & Environ. Engg. Structural Engg.	M. E (EEM) M.E. (Structures & Disaster Management)		→		

* These labs are used for both UG and PG courses of the department.

4.4 New Programmes Proposed NIL

Name of the Program	Level (UG/PG)	Proposed Annual Intake	Proposed Year of Starting	AICTE Approval	
				Obtained (YES/NO)	Applied for (YES/NO)

Brief justification to be given for introduction of each programme supporting your priorities. Justification must include current or future market demand and whether the institution has adequate base in terms of faculty and facilities to initiate/ adequately support the programme(s).

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

Yes, in Bio Medical Engineering- M. Tech started in 2003-04

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

Two fellowships are to be introduced. Two fellowships will be provided tenable for two years and will be offered during the TEQIP. Hence scholarships required are 12 nos. (2+4+6) during the TEQIP programme. Candidates will be advised to seek national fellowships for further support.

Make the local King George Hospital and corporate hospitals part of research activity.

* Bio Medical Engg is an inter-disciplinary course and is in demand. Research fellowships help in capacity building.

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

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
Chemical*	Energy Lab	To link community development for solar and wind energy		→		
Civil*	Rural Technology Lab	Connecting tribal development programmes		→		

* These laboratories will be relevant for educating the students and public for utilization of non-conventional energy sources.

Civil Engg deals with several environmental areas which are more pronounced in rural locations. Hence it is a direct community service, thus helping to bring up rural folk in to the main stream.

4.7 Additional Faculty and Staff Required NIL

Purpose	Designation	Numbers

4.8 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
Faculty* training for improved expertise	60	30	15	15
Faculty* training for techniques in research	60	30	15	15
Faculty training in Industry	12	6	8	8

* Faculty will be sent for training for a maximum period of 15 days in India and one month at abroad.

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
Laboratory Techniques*	40	20
Computer literacy*	60	30

* To improve technical skills of the Laboratory staff, by importing training in the industry. And hence, staff will be trained for a period of 15 days each.

Training is a must to all students and faculty to get acquainted in the latest techniques to be adopted and to suit to the local conditions.

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

Activity	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
Review with Institute – Industry interaction including Board of Studies				→

- Inviting peers for industry to interact with faculty and students through their lecturers to impart industrial managerial skills.

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

Activity	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
<i>Student evaluation on continuous basis</i>				→
<i>Problem solving projects from industry</i>				→
<i>Surprise tests / group discussions</i>				→

Some of the class rooms will be modified with latest multi-media teaching tools to impart better understanding skills to the students. The student evaluation will be done on a regular basis. Students will be assigned with projects relevant to local industry and they will be given a chance to visit the relevant industry for a better understand and surprise test will be conducted to check the alertness of the students in the regular class work. They will also be encouraged to involve in group discussions for improving their skills.

For better communication and clarity, in particular of large class room strengths the multimedia helps in the repetition of important aspects. At present AU library is equipped with INFLIBNET and also proposed to have SONET in AU College of Engineering. The e-class room can be networked with these facilities.

4.12 Research and Consultancy

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

A consultancy cell will be run in Engineering colleges on lines with the cell already existing at university campus to specially monitor for Engineering consultancy works.

4.13 Enhanced Interaction with Industry

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

Industry visits will be taken up by the faculty to identify their problems and consultancy will be promoted to cater to the local industry needs.

4.14 Tribal Development Plan (TDP)

Identified Activities	Indicate starting and completion time			
	2004-05	2004-05	2006-07	2007-08
<i>Establish language laboratory to impart communicating skills.</i>		→		
<i>Remedial classes for students in real need.</i>				→

Special classes will be conducted for SC / ST / OBC students to improve their language skills. Language communications laboratory will be established with multimedia tools.

**UNIT-5
NETWORKING**

5.1 Formal Networking

a. Name of Institution AU College of Engineering
Name of Network partner 1 JNTU College of engineering, Kakinada

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 Environmental Engineering	1. Select topic 2. Identify Expert 3. Fix dates			-	Sharing of Knowledge, Information Research, Seminars in joint – venture	Interaction in Geo-technical Engineering	1. Select topic 2. Identify Expert 3. Fix dates			90,000	Sharing of Knowledge, Information Transfer, Collaborative Research, Seminars in joint – venture
2.	Power and Control Systems						Exchange of Technical Expertise and Infrastructure sharing in CAD / CAM in Mechanical Engineering					
3	Software Technology						High Voltage Test Facility					
4												

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.

b. Name of Institution AU College of Engineering, Visakhapatnam
 Name of Network partner 2: **Bapatla Engineering College, Bapatla**

S. No.	Major Networking Activity out flowing from the institution	Steps	Starting date	Closing date	Cost Involved (if any) Rs.	Expected Benefits	Major Networking Activity flowing in from the Network partner	Steps	Starting date	Closing date	Cost Involved (if any) Rs.	Expected Benefits
			January 2005	June 2005					January 2005	<u>June 2005</u>		
1.	Guest lectures in 1. Radar and Microwave Engineering (ECE) 2. Power Systems (EEE) 3. Bio Technology 4. Computer Science	1. Select topic 2. Identify expert 3. Fixing dates				Sharing of Knowledge, Information Transfer, Collaborative Research, Seminars in joint – venture	Sharing of Lab facilities in 1. civil Engineering 2. Signal Processing in ECE	1. Select Experiments 2. Identify faculty 3. Fix dates			60,000	Sharing of Knowledge, Information Transfer
2.	Sharing of labs in 1. Bio Medical Engg. 2. CAD /CAM	1. Select Experiments 2. Identify faculty 3. Fix dates						1.				
								2.				
								3.				
								4.				
3	Research Activity in Energy Studies	1 Select area of interest						1				
								2				
								3				

Mechanical Engg., Chemical Engineering	2 Identify guide 3 Propose project							4				
--	---------------------------------------	--	--	--	--	--	--	---	--	--	--	--

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.

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
<i>PG Education and Research Studies in Computer Science & Systems Engineering and Metallurgical Engineering</i>	<i>Indian Institute of Science, Bangalore</i>				→
<i>PG Education and Research Studies in Mechanical Engineering and Electrical & Electronics Engineering</i>	<i>Indian Institute of Technology, Madras</i>				→
<i>PG Education and Research Studies in Electronics & Communication Engineering and Civil Engineering</i>	<i>Indian Institute of Technology, Kharagpur</i>				→

Interaction with machine dynamics laboratory of IIT, Madras in initiating works relating to vibration testing and dynamic stress analysis measurements.

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 ----)

Services to be Rendered to the Community

Identified Activities	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
<i>Creating awareness for abatement of Pollution in the sub-urban areas.¹</i>		→		
<i>Provide energy saving tools to small workers²</i>			→	
<i>Transfer of Technology like improving the storage facility of vegetable vendors with natural materials³</i>				→

1. Normally the sub-urban residential areas / thatched colonies do not have proper drainage and healthy surroundings. Technical assistance to improve sanitary conditions will be provided in order to improve community health.
2. The utilization of energy saving techniques and reusing of solid waste/economic generation from wastes in the community will help improve the profitability.
3. Market Yards do not have proper storage facilities for left over farming vegetable to keep them fresh. By using natural materials one can keep the vegetables fresh. Such technologies will be transferred to the vendors to sell in fresh condition which will improve the earnings.

- c) Services to be extended to the unorganized labour force

Identified Activities	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
<i>Train the small vendors to improve environment and health and extend technical assistance to improve their kiosks /shops/carts.</i>		→		

At present the vendors are selling the foods exposed to dust, insects and pollutants.. The technical feasibility to improve the sale conditions in healthy way will lead to profitability and increasing earnings.

- d) Services to be extended to the organized labour force (suggested activities could be Continuing Education Programmes, specialized training sought by industry etc)

Identified Activities	Indicate starting and completion time			
	2004-05	2005-06	2006-07	2007-08
<i>Training capsules / presentation of state of art technology to the industry.</i>				→

In this programme PG students will participate in creating awareness and popularizing the simple technologies useful to community. However the UG students upto 3rd year are pressed for time and only final year students will be involved where ever necessary. To increase the activity a large group of faculty drawn from various departments will be involved. However the participation of the students will be encouraged to take up community oriented projects for their dissertation work. To fulfill the above, additional financial assistance is required. An estimate is proposed for transport, demonstration material and other contingencies.

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

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*				15.0	10.0	5.0	-	-
2.	Equipment				81.0	41.0	40.0	-	-
3.	Furniture				9.2	0.2	9.0	-	-
4.	Vehicles				2.4	2.4	-	-	-
5.	Books and Learning Resources				5.8	0.075	5.575	0.075	0.075
6.	Consultancy Services** & Research Studies				6.1	0.925	2.3	1.75	1.125
7.	Training/Study Tours/Fellowships (Local & Foreign)				16.99	1.39	5.5	5.9	4.2
Sub Total (A)					136.49	55.99	67.375	7.725	5.4
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				3.965	0.651	1.172.	1.172	0.97
9.	Consumables				3.28	0.695	0.945	0.945	0.695
10.	Operation & Maintenance				4.6	0.425	1.675	1.675	0.825
Sub Total (B)					11.845	1.771	3.792	3.792	2.49
Grand Total (A+B)					148.335	57.761	71.167	11.517	7.89

*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				1.0	1.0	-	-	-
2.	Furniture				0.2	0.2	-	-	-
3.	Books and Learning Resources				0.3	0.075	0.075	0.075	0.075
4.	Training/Workshop				0.9	-	0.5	0.2	0.2
Sub Total (A)					2.4	1.275	0.575	0.275	0.275
(B)	INCREMENTAL OPERATING COST								
5.	Salaries for Additional Key Faculty and Staff (only honorarium)				1.0	0.25	0.25	0.25	0.25
6.	Consumables				0.3	0.075	0.075	0.075	0.075
7.	Operation & Maintenance				0.3	0.075	0.075	0.075	0.075
Sub Total (B)					1.6	0.4	0.4	0.4	0.4
Grand Total (A+B)					4.0	1.675	0.975	0.675	0.675

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)				3.74	0.24	1.5	1.0	1.0
Total					3.74	0.24	1.5	1.0	1.0

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				0.5	-	0.5	-	-
2.	Consultancy Services & Research Studies				0.3	-	0.3	-	-
3.	Training/Study Tours/Fellowships (Local & Foreign)				2.0	0.3	0.5	0.7	0.5
Sub Total (A)					2.8	0.3	1.3	0.7	0.5
(B)	INCREMENTAL OPERATING COST								
4.	Consumables				0.5	0.05	0.2	0.2	0.05
5.	Operation & Maintenance				1.2	-	0.4	0.4	0.4
Sub Total (B)					1.7	0.05	0.6	0.6	0.45
Grand Total (A+B)					4.5	0.35	1.9	1.3	0.95

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				1.0	0.125	0.5	0.25	0.125
2.	Training/Study Tours/Fellowships (Local & Foreign)				3.0	0.5	1.0	1.0	0.5
Sub Total (A)					4.0	0.625	1.5	1.25	0.625
(B)	INCREMENTAL OPERATING COST								
3.	Consumables				0.4	0.05	0.15	0.15	0.05
4.	Operation & Maintenance				0.6	0.1	0.2	0.2	0.1
Sub Total (B)					1.0	0.15	0.35	0.35	0.15
Grand Total (A+B)					5.0	0.775	1.85	1.6	0.775

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*				15.0	10.0	5.0	-	-
2.	Equipment				80.0	40.0	40.0	-	-
3.	Furniture				9.0	-	9.0	-	-
4.	Vehicles				2.4	2.4	-	-	-
5.	Books and Learning Resources				5.0	-	5.0	-	-
6.	Consultancy Services** & Research Studies				4.8	0.8	1.5	1.5	1.0
7.	Training/Study Tours/Fellowships (Local & Foreign)				7.35	0.35	2.0	3.0	2.0
Sub Total (A)					123.55	53.55	62.5	4.5	3.0
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				2.965	0.401	0.922	0.922	0.72
9.	Consumables				2.08	0.52	0.52	0.52	0.52
10.	Operation & Maintenance				2.5	0.25	1.0	1.0	0.25
Sub Total (B)					7.545	1.171	2.442	2.442	1.49
Grand Total (A+B)					131.095	54.721	64.942	6.942	4.49

*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.	Training/Workshop				1.0	0.1	0.4	0.4	0.1
Sub Total (A)					1.0	0.1	0.4	0.4	0.1
(B)	INCREMENTAL OPERATING COST								
3.	Consumables				0.1	0.01	0.03	0.04	0.02
4.	Operation & Maintenance				0.9	0.1	0.3	0.3	0.2
Sub Total (B)					1.0	0.11	0.33	0.34	0.22
Grand Total (A+B)					2.0	0.21	0.73	0.74	0.32

*Equipment needed for communication between Institutions such as video conferencing etc.

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				1.525	0.1	0.5	0.6	0.325
Sub Total (A)					1.525	0.1	0.5	0.6	0.325
(B)	INCREMENTAL OPERATING COST								
2.	Consumables				0.5	0.05	0.2	0.15	0.1
3.	Operation & Maintenance				1.0	0.1	0.3	0.3	0.3
Sub Total (B)					1.5	0.15	0.5	0.45	0.4
Grand Total (A+B)					3.025	0.25	1.0	1.05	0.725

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*				15.0	10.0	5.0	-	-
2.	Equipment				81.0	41.0	40.0	-	-
3.	Furniture				9.2	0.2	9.0	-	-
4.	Vehicles				2.4	2.4	-	-	-
5.	Books and Learning Resources				5.8	0.075	5.575	0.075	0.075
6.	Consultancy Services** & Research Studies				6.1	0.925	2.3	1.75	1.125
7.	Training/Study Tours/Fellowships (Local & Foreign)				19.515	1.59	6.4	6.9	4.625
Sub Total (A)					139.015	56.19	68.275	8.725	5.825
(B)	INCREMENTAL OPERATING COST ***								
8.	Salaries for Additional Key Faculty and Staff				3.965	0.651	1.172	1.172	0.97
9.	Consumables				3.88	0.755	1.175	1.135	0.815
10.	Operation & Maintenance				6.5	0.625	2.275	2.275	1.325
Sub Total (B)					14.345	2.031	4.622	4.582	3.11
Grand Total (A+B)					153.36	58.221	72.897	13.307	8.935

*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)				148.335	57.761	71.167	11.517	7.89
2.	Networking (Total of 7.2)				2.0	0.21	0.73	0.74	0.32
3.	Services to Community & Economy (Total of 7.3)				3.025	0.25	1.0	1.05	0.725
Total					153.36	58.221	72.897	13.307	8.935

UNIT-8
Programme Implementation and Monitoring Mechanisms

1. A. Academic Excellence Cell

Chairman	Prof. D Ganapathi Rao, Principal
Convener	Prof. L Joga Rao
Member	Prof S Sarveswara Rao
Member	Dr. GVR Srinivasa Rao
Member	Dr. SV Naidu

The functions of the Committee are

- a) Core departments (Civil Engineering, Electrical and Electronics Engineering, Mechanical Engineering, Electronics and Communication Engineering, Chemical Engineering, Computer Science and Systems Engineering) look into the syllabus review to eliminate duplication of any subject in any department.
- b) Possibly arrange common lectures for any subject with grouping of branches
- c) Suggest monitoring methods on quality of Teaching, examination paper setting and evaluation.
- d) Review the results of the class for corrective measures.

B. Research and Consultancy Cell

Chairman	Prof. D Ganapathi Rao, Principal
Convener	Prof. GSN Raju
Member	Prof M Shashi
Member	Dr. VV Balasubrahmanyam
Member	Dr. K Venkata Subbaiah

The functions of the Committee are

- a) Call for leading professors of major departments and pool up the capability list.
- b) Address to the local industry bringing in them awareness of our AUEC capability and facility available.
- c) Identify the projects by individual departments or a composite proposal suiting to any industry
- d) Analysis and discussion with reporting

C. Faculty and Staff Development Cell

Chairman	Prof. D Ganapathi Rao, Principal
Convener	Prof Ibrahim Khan
Member	Prof K.R. Rajeswari
Member	Sri. Ch. Satyanarayana
Member	Sri. S. Viziananda Row

The functions of the Committee are

- a) Identify local industry directly relevant to the main branches of engineering.
- b) Prepare draft proposal to the training of faculty for a period of one week especially in first semester end and second semester end (at December and May)
- c) Monitor training in batches both for teaching and non-teaching
- d) Study the impact of the training in the subsequent semesters.

2. A. Procurement Cell (Civil)

Chairman	Prof. D Ganapathi Rao, Principal
Convener	Prof. PSN Raju
Member	Sri. P Satyanarayana
Member	Dr. DSR Murthy
Member	Dr. A Bhujanga Rao

The functions of the Committee are

- a) Discuss thoroughly the total requirement of the department space extra needed.

- b) Identify the site keeping in view Master Plant of AUEC
- c) Design, Estimate and Call for Tenders
- d) Supervise the construction activity

B. Procurement Cell (Equipment)

Chairman Prof. D Ganapathi Rao, Principal
 Convener Prof. KA Gopala Rao
 Member Dr. P Mallikarjuna Rao
 Member Dr. M Pramila Devi
 Member Sri. M Sampath Kumar

The functions of the Committee are

- a) List out in the Data Bank the National and International Equipment manufacture and supplier collecting data from each department
- b) Study the indent and discuss for optimum utilization of funds
- c) Place orders on the selected firms and procure.
- d) With relevant faculty test the equipment received and advise for installation in the department and observe its application

C. Community Service Cell

Chairman Prof. D Ganapathi Rao, Principal
 Convener Prof. S Ramakrishna Rao
 Member Prof K Linga Murthy
 Member Dr. T Bhanu Prakash
 Member Dr. R Padmasree

The functions of the Committee are

- a) Enumerate the possible best services to be rendered to the nearest community
- b) Set up teams to survey and study the community problems and prepare a feasibility report for remedial action
- c) Action plan implementation with resource allocation to complete the task
- d) Get feed back from the community with regard to change in economy and service

D. Tribal Development Cell

Chairman Prof. D Ganapathi Rao, Principal
 Convener Dr. N Ramakrishna
 Member Dr. K Durga Rani
 Member Dr. B Indira
 Member Sri. VVS Prasad

The functions of the Committee are

- a) Study the needs of this section of people and identify the learning methods needed
- b) Organize camps for educating them in improving their skills
- c) Provide plans and improvising techniques to reduce drudgery
- d) Indicate methods for self discipline and self care

3. Administrative and Finance Working Cell

Chairman Prof. D Ganapathi Rao, Principal
 Convener Prof. T Subramnyam
 Member Dr. NBR Mohan Rao
 Member Sri. I Niranjan Kumar
 Member Dr. S Balaprasad

The functions of the Committee are

- a) Look after the activities of the departments for smooth and trouble free running including finance.
- b) Suggest corrective actions for reduction of wastage
- c) Arrange periodic meetings of the Administration and office staff

4. **A. Reforms Cell**

Chairman Prof. D Ganapathi Rao, Principal

Convener Prof. P Krishna Rao

Member Dr. P Srinivasa Rao

Member Dr. P King

Member Dr. K Ramjee

The functions of the Committee are

- a) Periodically collect information from all the cells.
- b) Analyze and advice if lapses are existing
- c) Report to the Administration the bottle necks to be opened up periodically
- d) Collect opinion from the faculty and staff, place quarterly reports before Governing Council for approval

B. Auditing Cell

Chairman Prof. D Ganapathi Rao, Principal

Convener Prof. D Radhakrishna

Member Prof MMM Sarcar

Member Dr. D Subba Rao

Member Dr. G Jai Shankar

The functions of the Committee are

- a) Compare the reports of the cells with targets
- b) Examine the causes and suggest remedies
- c) Fix up new guide lines for the cells

5. **Networking Cell**

Chairman Prof. D Ganapathi Rao, Principal

Convener Prof. V Bapi Raju

Member Prof V Dharma Rao

Member Dr. PVGD Prasad Reddy

Member Sri GMJ Raju

The functions of the Committee are

- a) Oversee the networked departments and their active involvement of academic programmes to collect data on the subject handling, no. of classes, leaves, examinations, valuation and returning of scripts
- b) Set target dates and contents for mid term examinations and see the staff comply with it
- c) For departmental non-teaching staff working activity, set a procedure to log-in data relating to attendance, leaves, increments, disciplinary actions.
- d) To keep a data sheet for departments' overall functioning indicating the departmental timings, classes not handled, troubles faced.

Note: All the committees mentioned above may be amended from time to time as and when the need arise by the appropriate authority.

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	A 255	B 161	B5 167	B6 170	B7 173	B8 176
		Cutting Edge Technology Disciplines only	C 57	D 43	D5 47	D6 49	D7 51	D8 53
<ul style="list-style-type: none"> ▪ High quality graduates are those who scores 75% or more marks or equivalent GPA in the aggregate at graduation. ▪ Example of cutting edge technology disciplines are: Electronics & Communications, Compute Science & Engineering, Information Technology, Biotechnology, Bio-informatics, Bio-medical Engineering, etc. ▪ At A , give the total number of students that graduated in all engineering disciplines in 2003. ▪ At B, give the total number of graduates who were of high quality (as defined above) from the batch graduating in 203. ▪ 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). 								
2.	Increased number of students completing in engineering	Master's degree	Baseline Data (June 2003)		June 05	June 06	June 07	June 08
			M	323	336	342	349	355
	Completing in engineering disciplines	Doctoral degree	P	17	19	21	23	25
<ul style="list-style-type: none"> ▪ 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 								
			Baseline Data (June 2003)		June 05	June 06	June 07	June 08

3.	Increased professional outputs	Publications (Number)		171	178	181	185	188
		Academic Products (Number)		14	14	15	15	16
		R&D Products of Commercial use (Number)		-	-	-	-	-
		Patents (obtained/applied for) (Number)		-	-	-	-	-
<ul style="list-style-type: none"> ▪ Please give baseline data for 2003 only. ▪ Give the anticipated increased number for the subsequent years ▪ Under Publications, including 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. ▪ Under Academic product include books, monographs, conference proceedings and educational software. 								
Networking			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)	-	-	1	1	2	2
		Consultancy assignments (both ongoing and completed)	Nos.	Value Rs.	1	1	1	1
		Publications			1	2	2	3
		Training programs conducted			2	4	6	6
		Joint Research guidance at Ph.D. level			1	2	3	3
<ul style="list-style-type: none"> ▪ Joint programs are those that are carried out jointly between two or more networked institutions ▪ Under Publications, including jointly published papers, books, monographs and conference proceedings, and educational software developed 								

<ul style="list-style-type: none"> ▪ Give bas value for 2003 only ▪ Give the anticipated increased numbers in the subsequent years 							
		FY	2003-04	2004-05	2005-06	2006-07	2007-08
5.	Increased revenue generation	RC	1197	1221	1245	1267	1291
		IRG	125	131	137	143	149
<ul style="list-style-type: none"> ▪ Again RC, give the total recurring expenditure during FY 2003-04 ▪ Against IRG, give the total internal revenue generated during FY 2003-04. IRG is to include income from all source (income through Consultancies, Projects, Continuing Education Programmes, Outreach programmes & Services, etc.) including tuition fees and other charges collected from students. ▪ For subsequent Financial Years, give the anticipated increased values of IRG that would be generated. 							
Service to Community and Economy			Baseline Data (June 2003)	June 05	June 06	June 07	June 08
6.	a) Total No. of Programmes	56	-		5	18	20
	b) Total No. of Participants of all types	1180	-		110	380	420
	Increased access to technical training for socially disadvantaged groups and	a) Total Number of Participants from socially disadvantaged groups benefited/to be benefited. 4 / 100			1 20	1 20	2 40
	Unemployed youth	b) Total number of participation from unemployed youth benefited/to be benefited 6 / 180	-		1 30	2 60	2 60
		c) Total Number of Programmes offered/to be offered 18 / 360	-		1 20	6 120	6 120
	Increased assistance to unorganized sector	a) Total Number of Programmes offered/to be offered 8	-		1	2	3

		b) Total Number of Participants benefited/to be benefited 160	-		20	40	60	40
	Increased services to industry	a) Total Number of Training Programmes offered/to be benefited 19	-		1	7	7	4
		b) Total Number of Industry Personnel benefited/to be benefited 380	-		20	140	140	80
System Management Capacity Improvement Management: 41, Network: 8, Technical Training: 37				Baseline Data (June 2003)	June 05	June 06	June 07	June 08
7.	Increased availability of well trained institution managers		42		50	80	90	107
<ul style="list-style-type: none"> ▪ Institution managers would include Head of Institution, Deans, Heads of Departments, Registrar, Deputy Registrar, comptroller/Finance Officer, Training & Placement Officer, etc. ▪ Well-trained implies those who have undergone formal training ▪ Give baseline data for the numbers available within the institutions in June 203 ▪ Give expected increased numbers for the subsequent years. 								

OUTCOME INDICATORS

S. No.	Indicators		<u>Baseline Data</u> (June 2003)		June 05		June 06		June 07		June 08	
			A	B	A5	B5	A6	B6	A7	B7	A8	B8
1.	Improved employment rate and earnings of graduates from participating institutions	Employed through campus interviews	110	2.4	120	2.4	120	2.6	125	2.6	130	3.0
		Employed through other means	C	D	C5	D5	C6	D6	C7	D7	C8	D8
<ul style="list-style-type: none"> ▪ 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. ▪ 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 (Rupees, in lakhs) ▪ Give the expected changed values of the subsequent years against A5 TO A8 AND B5 to B8 for those expected to be employed through campus interviews. ▪ 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. ▪ 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. 												
2.	Networking		Baseline Data (June 2003)		June 05		June 06		June 07		June 08	
	Increased cooperation and resource sharing between institutions	Number of faculty / student days loaned for academic activities	-		5	7	5	10	5	10	5	10
		Joint projects, consultancies, training programs, publications, seminars, workshops etc.	-		1		2		2		1	
		Joint M.Tech. And Ph.D. programmes	-		2		5		5		2	

		Number of person-days for which labs, workshops and libraries utilized by faculty and students from other institutions within the same network	-	10	20	20	25
<ul style="list-style-type: none"> This data is to be given for each network for 2002-2003. Institutions should collect information from their partner institutions 							
			Baseline Data (June 2003)	June 05	June 06	June 07	June 08
3.	Improved internal efficiency of the engineering education system	1. Number of teaching days in an academic year	180	200	200	200	200
		2. Number of days of slippage from the announced academic calendar	Nil	2	5	5	5
		3. Number of days for completing the PG admission process. (UG controlled by APSCHE)	7	7	7	7	7
		4. Number of days for completion of Semester/annual examination	15	15	15	15	15
		5. Number of days for declaring results	30	30	30	30	30
		6. Number of Departments that Develop & Maintain question bank	Nil	Nil	5	5	5

		7. Office expenditure (excluding amount spent on maintenance of equipment and infrastructure in Rs. million) Cost inflation – Consumption minimized)	0.8	0.8	0.8	0.8	0.8
		8. Average time taken to order equipment (from advertisement to supply/installation of equipment) (in months)	3	3	3	2	2
		9. Ratio of non-teaching staff of faculty	1:2	1:2	1:2	1:2	1:2
		10. Average number of days taken for recruitment (from date of advertisement to date of offer of appointment) – Recruitment by CAO	90	90	90	60	60
		11. Average a) No. of faculty (156) are Computer Literate b) All other staff (300)	150	152	155	155	156
		12. Extent of Computerized maintenance of students record	10%	20%	50%	60%	75%
		13. Extent of Computerized maintenance of employee record	10%	25%	50%	60%	75%

		14. Extent of computerization of administrative and financial processes	20%	30%	40%	50%	60%
		15. Degree of decentralization of decision making	Suggestive Status	10%	25%	30%	50%
<ul style="list-style-type: none"> ▪ The data should be given for each institution. For baseline data, the period/year for which required has been indicated ▪ Give the expected changed values for subsequent years ▪ For the last 4 parameters, give base and changed values in subjective terms – very low, low, medium, high, very high 							
4.	Increased involvement of institutions with communities	Number of interactions with community 10	-	1	3	3	3
		Number of need/demand-based service programs carried out 20	-	1	6	7	6
		Number of technologies transferred 8	1	1	2	2	2
		Number of beneficiaries from skill-based training programs 378	8	30	110	120	110
<ul style="list-style-type: none"> ▪ Baseline values to be given for 2003-04 ▪ Interactions with community to include interaction both within and outside the institutions 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 							
5.	Improve planning and Management of Technical and Education system to make it	Number of Management Training Programme organized	3	3	4	5	5
		Number of people Trained in Planning and Management	1	2	8	20	20
	Demand Driven	Number of new Engineering Programmes started during	1	-	-	-	-

		the Project, which are forward looking and Demand Driven					
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Technical Education Quality Improvement Programme –
Work Plan Format (2005-06)

Name of Institution Andhra University

Release of Funds – JANUARY 2005

Sr. No.	Activity to be undertaken	Steps involved in undertaking the activity	Starting date	Finishing Date	Cost involved
1.	Civil Works	1. Advertisement 2. Approval of Contracts 3. MOU between the Institute and Executer 4. Execution 5. Measurements 6. Payment	20th Jan 05	30th Jun 05	Rs. 100 lakhs
2.	Equipment	1. Advertisement 2. Call for quotations 3. Approval by the Committee 4. Placement of orders 5. Receipt of equipment 6. Installation & Checking 7. Payment	20th Jan 05	30th Jun 05	Rs. 410 lakhs
3.	Vehicles	1. Call for quotations 2. Approval by the Committee 3. Procurement & Payment	Jan 05	Feb 05	Rs. 24 lakhs
4.	Faculty training	1. Consent from faculty 2. Contact Training Institutions 3. Panning of Programmes 4. Depute faculty 5. Sharing of experience	<u>Dec 04</u>	<u>Jun 05</u>	Rs. 14 lakhs
5.	Library	1. Contact secretary, SONET 2. Development of infrastructure 3. Establish facility	<u>Jan 05</u>	<u>Mar 05</u>	Rs. 21 lakhs
6.	Services to Community	Awareness Creation and Health Improvement.	26th Jan 05	Jun 05	Rs. 5.5 lakhs
7.	Tribal Development Plan	Language Labs and Workshops	17th Jan 05	30th Apr 05	Rs. 16 Lakhs
8.	Networking	1. MOU between partners. 2. Interaction between the Networking partners. 3. Exchange of faculty and students.	Jan 05	Jun 05	Rs. 1.5 lakhs
9.	Networking of Faculty	1. Quotations 2. Approval by the Committee 3. Purchase 4. Intra -Connectivity	Jan 05	Mar 05	Rs. 50 lakhs