

# **ANNEXURE – VII**

## **College Development Plan**

**COLLEGE DEVELOPMENT PLAN TEMPLATE**

**1. COLLEGE BASIC INFORMATION**

**1.1 College Identity**

- Name of the College : **ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES**

Is the College approved by Regulatory Body? : **Yes / No**

Furnish approval no. : **F.No. 730-50-512(E)/ET/2007, dt: 10-08-2007**

Type of College : **Govt. funded / Govt. aided / Private unaided/**

Status of College : **Autonomous / Other Autonomous Institute as declared by University / Non-autonomous / Deemed University / Constituent College**

- Name of Principal of College and Project Nodal Officers:

Head and Nodal Officer	Name	Phone Number	Mobile Number	Fax Number	E-mail Address
Head of the College (Full time appointee)	Dr. C. Nadhamuni Reddy <b>(Principal)</b>	0877-2285695 (Off) 0877-2289168 (Res)	+91 9948 149 222	0877 – 2285608	aitstpt@gmail.com., aitstpt@yahoo.com., nadamuni_reddy@rediffmail.com

**1.2 Academic Information:**

- UG / PG / PhD programs offered in Academic year 200X-XX (Past 3 years and next 3 years)**

S. No	Title of Programs	Level (UG, PG, PhD)	Duration (Years)	Year of starting	Sanctioned annual Intake	Total Student Strength 2015-16	Total Student Strength 2016-17	Total Student Strength 2017-18	Total Student Strength 2018-19	Total Student Strength 2019-20	Total Student Strength 2020-21
1	Electronics and Communication Engineering	UG	4	2007	180	411	426	458	479	502	526
2	Computer Science and Engineering	UG	4	2007	180	307	342	412	459	511	563
3	Electrical and Electronics Engineering	UG	4	2007	120	214	191	187	192	195	197
4	Civil Engineering	UG	4	2009	180	492	504	413	391	351	312
5	Mechanical Engineering	UG	4	2010	180	377	348	328	302	275	253

6	Digital Systems & Computer Electronics (DSCE)	PG	2	2011	18	05	02	4	3	2	2
7	Digital Electronics & Communication Systems (DECS)	PG	2	2012	24	15	03	4	7	10	15
8	Computer Science & Engineering (CSE)	PG	2	2011	18	13	04	6	10	13	15
9	Computer Science (CS)	PG	2	2012	24	06	02	4	2	1	0
10	Power Systems (PS)	PG	2	2013	24	16	18	12	11	9	7
11	Power Electronics (PE)	PG	2	2014	24	20	07	16	10	8	6
12	Structural Engineering (SE)	PG	2	2013	24	41	34	36	40	44	48
13	Production Engg. & Engg. Design (PE&ED)	PG	2	2014	24	14	09	10	7	5	3
14	Master of Business Administration (MBA)	PG	2	2008	180	211	179	252	255	276	296

- **Whether College is Accredited? YES, For NAAC & NBA**

- **NBA----** UG-CSE & UG-ECE Accredited from(08-07-2016) - Academic years 2016-17, 2017-2018 & 2019 i.e., valid up to 30-06-2019.

UG-EEE-Academic years 2016-17 and 2017-2018 i.e., valid up to 30-06-2018.

- **Grade-----** NAAC-B for 5 years (valid up to may 24, 2021).

- **When-----** Accredited from May 25<sup>th</sup> 2016.

- **Accreditation Status (NBA) of UG programs:**

<b>Title of UG programs Being offered</b>	<b>Whether eligible for accreditation or not?</b>	<b>Whether accredited as on 31<sup>st</sup> March 2017?</b>	<b>Whether "Applied for" as on 31<sup>st</sup> March 2017?</b>
Electronics and Communication Engineering	Accredited Valid up to 30-06-2019	Yes	
Computer Science and Engineering	Accredited Valid up to 30-06-2019	Yes	
Electrical and Electronics Engineering	Accredited Valid up to 30-06-2018	Yes	
Civil Engineering	Yes	NA	
Mechanical Engineering	Yes	NA	

**1.3 Faculty Status (Regular/On-Contract Faculty as on March 31st, 20XX)  
(Details of past 3 years and plan for next 3 years).**

Faculty Rank	Number of sanctioned regular posts	Present Status : Number in position by Highest Qualification												Total number of regular faculty in position (3+5+7+9+11+13)	Total Vacancies (2-15)	Total No. of Contractual Faculty in Position (4+6+8+10+12+14)
		Doctoral Degree				Masters Degree				Bachelors Degree						
		Engineering Disciplines		Other Disciplines		Engineering Disciplines		Other Disciplines		Engineering Disciplines		Other Disciplines				
		R	C	R	C	R	C	R	C	R	C	R	C			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Professor	27	16		3		2								21	06	
Associate Professor	54	01		14		01		01						17	37	
Assistant Professor	162					166		38						204	-	
Total	243													242		

R = Regular; C = Contract

Year	Engineering Disciplines				Other Disciplines				Grand Total
	Prof.	Assoc Prof	Asst. Prof.	Total	Prof.	Assoc Prof	Asst. Prof.	Total	
2016-17	17	02	160	179	03	09	46	58	237
2015-16	19	03	169	191	01	08	56	65	256
2014-15	16	03	156	175	02	07	45	54	229

**1.4 Baseline Data (all data given for the following parameters to ALL disciplines)  
(Past 3 years and projections for next 3 years)**

S.No	Parameters	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
1	Total strength of students(UG/PG/PhD) in all programs and all years of study in the year 20XX-1X	2098	2148	2085	2097	2200	2300	2400	
2	Total women students in all programs and all years of study in the year 20XX-1X	585	544	516	479	520	530	550	
3	Total SC students in all programs and all years of study in the year 20XX-1X	158	145	121	104	135	145	150	
4	Total ST students in all programs and all years of study in the year 20XX-1X	25	18	13	7	8	16	20	
5	Total OBC students in all programs and all years of study in the year 20XX-1X	610	618	639	651	666	680	695	
6	Number of fully functional P-4 and above level computers available for students in the year 20XX-1X	660	680	740	760	780	800	820	
7	Total number of text books and reference books available in library for UG and PG students in the year 20XX-1X	19,527	20,908	22,884	24463	26142	27820	29499	
8	Student-teacher ratio	As per intake	17.5:1	18.02:1	19.70:1	17.2:1	18.2:1	18.3:1	18.4:1
		As per actual strength	9.71:1	9.14:1	9.39:1	12:1	12:1	12:1	12:1
9	% of UG students placed through campus interviews in the year 20XX-1X	62%	68.14%	69.23%	70%	75%	75%	75%	

S.No	Parameters	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
10	% of PG students placed through campus interviews in the year 20XX-1X	22%	3%	12.5%	15%	20%	25%	30%
11	% of high quality undergraduates (>75% marks) passed out in the year 20XX-1X	39.33%	34.76%	40%	42.7%	46.03%	49.37%	52.7%
12	% of high quality postgraduates (>75% marks) passed out in the year 20XX-1X	81.2%	83.5%	80.2%	80.6%	80.2%	79.6%	79.1%
13	Number of research publications in Indian refereed journals in the year 20XX-1X	72	15	19	9	25	25	25
14	Number of research publications in International refereed journals in the year 20XX-1X	98	121	88	92	95	100	105
15	Number of patents obtained in the year 20XX-1X	-	-	-	-	-	-	-
16	Number of patents filed in the year 20XX-1X	-	-	-	-	-	-	-
17	Number of sponsored research projects completed in the year 20XX-1X	-	-	-	-	-	-	-
18	The transition rate of students in percentage from 1 <sup>st</sup> year to 2 <sup>nd</sup> year in the year 20XX-1X for : (i) all students (ii) SC (iii) ST (iv) OBC	95.91%	93.33%	97.18%	97.46%	98%	98%	98%
19	IRG from students' fee and other charges in the year 20XX-1X (Rs. In lacs)	11,29,20,825	12,10,21,821	11,91,70,331	13,10,87,364	14,41,96,100	15,86,15,710	17,44,77,281
20	IRG from externally funded R&D projects, consultancies in the year 20XX-1X (Rs. in lacs)	-	-	-	-	-	-	-
21	Total IRG in the year 20XX-1X (Rs. in lacs)	11,29,20,825	12,10,21,821	11,91,70,331	13,10,87,364	14,41,96,100	15,86,15,710	17,44,77,281
22	Total annual recurring expenditure of the College in the year 20XX-1X (Rs. in lacs)	14,17,70,806	6,19,07,410	6,89,12,970	7,58,04,267	8,33,84,693	9,17,23,162	10,08,95,478

## 2 COLLEGE DEVELOPMENT PROPOSAL (CDP)

### 2.1 Give the Executive Summary of the CDP.

- Scaling up UG education by introducing new, innovative and time-relevant courses keeping in view demand and supply scenario and by implementing regular revision of curricula and syllabi to keep pace with the emerging trends in technology. For this purpose, the year wise break up of the allotted budget is 20 lacs in the 1st year, 60 lacs for each of 2nd , 3rd and 4<sup>th</sup> years of UG programmes. Also financial support for weaker students of UG programmes will be provided with uniform year-wise breakup of 5 lacs each for the first five years of the time horizon.
- Enhancement of facilities for demand driven technological research and development to augment postgraduate and doctoral level studies, which in turn will open up new areas for providing consultancy and carrying out industrial

testing. Already the Institution is equipped with Research Center in ECE department sanctioned by JNTU Ananthapur and scholars in ECE are allotted to this research center. College is intended to establish research centers of this kind in every Engineering Department which ever fulfils the criteria. Presently the financial aid budgeted for 2017-18 is Rs. 4.4 lacs and this will be enhanced to Rs. 8.8 lacs for 2018-19 and then Rs. 13.2 lacs for 2019-20, Rs. 17.6 lacs for 2020-21.

- A comprehensive faculty development program to encourage innovative teaching practices, outcome based tertiary education, time relevant courses, self propelled growth in research and development through participation and contributions in International/ National Conferences, Seminars, Symposiums, Workshops, and initiation of academic exchange programs both at post graduate and doctoral levels. The allocated fund is 15 lacs, 15 lacs, 15 lacs and 16 lacs, 16 lacs, 16 lacs in successive years of the project span.
- Creation of Centers of Excellence in the area of Wireless Technology and Nanotechnology.
- Expansion and modernization of existing infrastructure for PG & Research Work (viz. Laboratories, Library, Networking, Smart classrooms) and creation of a centralized computing and instrumentation facility with sophisticated equipments relevant to growth of different specializations and centralized digital library facility. The allocated amounts are 25 lacs each for 2017-18 and 2018-19 and 35 lacs for each of 2019-20 and 2020-21.
- The college has initiated the setting up of 200 KW solar power plant on the roof of academic building blocks and it incurred the cost of Rs 1 crore 42 lacs to avail the best quality power as an alternative source of energy for usage in the premises and to meet the increase in power demand due to the continuous addition of air conditioners and equipments in labs.
- The Institute for implementing its strategic plan for enhancing participatory management in academic, administrative and financial affairs. The total fund allocated is 15 lacs each in 2nd and 3rd year during the mid of the project span.

- Implementation of a well defined and time bound plan of cooperation with the networked institutions / industries and open up avenues for collaborative research with Institution of importance and Universities abroad. A proactive effort for intensive interaction with industries through student training, student internships, collaborative consultations and contract research. It is planned to invest strategically in this direction to improve industry –Institute participation for the benefit of student community and Industry.

**2.2 Provide the details of SWOT analysis carried out (in terms of methodology used, analysis and information and data as collected and inferences derived with respect to strengths, weaknesses, opportunities and threats).**

The SWOT analysis is carried out in two levels i.e. at the department level and Institutional level. Each department has conducted SWOT analysis by inviting all the stakeholders including present students, alumni, industry and staff. Strengths and Weakness are discussed in detail with a focus on the respective department domains and identified the same. Further, Opportunities and Threats are also discussed at department level and reports are prepared.

SWOT is very much essential for the preparation of strategic planning. A Core team was constituted by the Principal. Preliminary environmental scan was done to obtain a valuable insight into the problems of the Institution. Participation was from various stakeholders including the faculty members, supporting staff, students, parents, alumni and other industrial personnel is arranged. Their ideas were made use of in preparing the action plan.

Principal briefly explained about SWOT and its importance and then gave a presentation about the institution highlighting its Strengths and Weaknesses. Staff and Students were also given opportunity to share their opinion. Based on this, a core committee was appointed for the purpose, which prepared a detailed report indicating the *Strengths, Weaknesses, Opportunities and Threats*

## **SWOC ANALYSIS**

### **STRENGTHS**

- The Institute has developed its own Vision, Mission, Objectives and strives hard in that direction to reach the goals.
- The College is able to attract students with good EAMCET/ECET/ICET ranks for one institute of its class.
- Accredited by NBA for three UG Programmes (CSE, ECE & EEE)
- Accredited by NAAC, Bangalore.
- Adequate availability of Infrastructure in terms of land, buildings, laboratories.
- Experienced, well qualified faculty with Ph.D degrees from Premier institutes are available.
- Interaction of Faculty with other institutes and Industry is maintained.
- Although the syllabus is prescribed by the University a wide choice of electives are offered.
- For each program, Programme Educational Objectives (PEOs) and Programme Outcomes (POs) are developed and mapped.
- Effective teaching/ Learning methodologies are in vogue.
- Faculties are involved in guidance of Masters level students.
- Education system is focused more on character and personality development and does not restrict itself to class room teaching.
- Placement cell is able to attract companies and place students before the end of the final year.
- Participation of students in co-curricular and extra curricular activities is high.
- Publication record of faculty is satisfactory.
- UGC 2(f) & 12(B) obtained
- Permanent affiliation to JNTUA for all branches (except ME)

### **WEAKNESSES**

- Although adequate faculty are available, faculty with experience and with doctoral degree are inadequate.



- Industry institute interaction is just picking-up and needs further strengthening.
- Technical/consultancy services can be improved. This will help generate resources.
- Administrative procedures may be computerized.
- Internet bandwidth with Wi-Fi connectivity may be improved.

### **OPPORTUNITIES**

- Leading research institutes like IIT Madras and IISc Bangalore are in the vicinity. Also new IIT-Tirupati and IISER, Tirupati are being established. Their mentorship can be exploited for improving the research activity.
- ISRO, Sri city & other Industries are in the neighborhood of the college. Interaction with these organizations should be developed/strengthened.
- MOUs can be signed with reputed institutes and industry for mutual benefit.
- Extension activities can be carried out to determine socially relevant projects like high fluoride levels of ground water and educating high school students, Teachers & Communities on applications of ICT.
- Self learning amongst students of Masters can be encouraged.
- The faculty can be encouraged to do research and bring in research Projects.

### **CHALLENGES**

- Attracting senior Faculty and faculty with research degrees is a major challenge.
- As the job market on the software is becoming limited, providing employment to students is vital.
- As self financed engineering colleges are mushrooming, maintaining reputation in competitive environment will help in attracting good students and faculty.

An expert committee was constituted voluntarily by the institution management to assess strengths and weaknesses of the institution.

- Based on SWOT analysis, provide the “strategic plan” developed for College development.

### Strategic Plan

S.No.	Goal	Strategies
1.	Improve the research culture	<ul style="list-style-type: none"> <li>• Improve the laboratories by state-of-the art equipment.</li> <li>• Collaborate with industries and R&amp;D organizations.</li> <li>• Increase the enrollment into Ph.D programme..</li> <li>• Motivate the faculty members and students and award the best talent.</li> <li>• Establishment of specific laboratories in academic areas research activity</li> </ul>
2.	Give thrust to higher studies in Engineering Education	<ul style="list-style-type: none"> <li>• Start industry-oriented B.Tech programmes</li> <li>• Increase the enrollment in Ph.D.</li> <li>• Collaborate with Industry and R&amp;D Organizations for UG Programmes and Research.</li> <li>• Establish QIP centre</li> <li>• To start new areas and specializations in PG studies.</li> </ul>
3.	Make Engineering Education relevant to society	<ul style="list-style-type: none"> <li>• Include Community Service as part of curriculum</li> <li>• Establish Community Service Centre</li> </ul>
4.	Enhance the competitiveness of the faculty and students	<ul style="list-style-type: none"> <li>• Train and re-train the faculty members</li> <li>• Improve the quality of instruction by pedagogy training and using Learning Resources.</li> <li>• Conduct remedial classes for academically weak students</li> </ul>
5.	Enhance the consultancy	<ul style="list-style-type: none"> <li>• Enhance collaborations with industry</li> <li>• Establish Incubation Centre.</li> <li>• Offer incentives to the faculty for taking up consultancy.</li> </ul>
6.	Give thrust to inter-disciplinary approach	<ul style="list-style-type: none"> <li>• Start new inter-disciplinary UG courses.</li> <li>• Encourage inter-disciplinary projects.</li> </ul>
7	Improvement in Decision-making process	<ul style="list-style-type: none"> <li>• Automation of Student Information System</li> <li>• Use of Decision Support System.</li> </ul>
8.	Networking with other higher learning institutes	<ul style="list-style-type: none"> <li>• Signing MOUs</li> <li>• Starting joint UG and Research programmes.</li> <li>• Exchange of faculty members.</li> </ul>

### ***Challenges in implementation of the Strategic Plan***

- Built-up area for the new UG Courses and PG courses
  - Recruitment of staff on regular basis
  - Motivating faculty to work towards the new goals
  - Permissions from Industries for collaborations
- **How the key activities proposed in the College Development Proposal are linked with the results of SWOT Analysis.**

The activities under College Development Plan are mainly categorized into four types.

- (i) Infrastructural Development
- (ii) Faculty Support and Development
- (iii) New Courses and Programmes
- (iv) Research, Development and Innovation.

<b>S. No.</b>	<b>Proposals</b>	<b>Link with SWOT Analysis</b>
1	Infrastructural Development	The Institute has enormous strength to increase the access, equity and excellence in higher education and provided adequate infrastructure facilities available, however ICT facilities in the classrooms and laboratories to be added.
2	Faculty Support	Another weakness of the Institute is that a few senior faculty positions are not filled. It is very unlikely that Institute will be able to fill all the vacant positions soon due to non availability of qualified faculty (Ph.Ds). Faculty support in terms of new recruitment could go a long way in enhancing the teaching and research output of the Institute.  Besides, support to existing faculty is also proposed in the plan to extract full potential from them
3	New Courses and Programmes	Major strength of the Institute is the low student teacher ratio. Along with plans for expanding existing programmes and courses, new programmes and courses have been proposed in the plan to provide more access and equity and to inbuilt employable skills.
4	Research,	Major strength of the Institute is that a few highly

Development and Innovation	qualified faculty members with high research potential. The Plan contains proposals on innovative and research centric programmes, which would utilize this potential. Faculty members are encouraged to apply for research funding to reputed organizations like DST and UGC.
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**2.3 State the specific objectives and expected results of your proposal (in terms of, “College strengthening and improvements in employability and learning outcomes of graduates”. These objectives and results should be linked to the SWOT analysis.**

**General Objective**

1. Produce graduates of Engg. With suitable skills to handle modern day work places.
2. Scale up quality of technical and demand driven PG education.
3. Undertake R&D initiatives, innovative projects and consultancy.
4. Provide training to the faculties for effective teaching quality and competence
5. Improve the associated infrastructure to aid modern teaching facilities
6. Enhance the effectiveness of institutional and system management.

S. No.	Specific Objectives	Linked to SWOT Analysis	Expected Outcome
01	Open up 2-3 new UG programme. Regular course work to be done at the institute and in the industry.	Opportunity : New UG course Weakness: Need based plan enhancing employability skills	Demand driven UG programmes and skill in activities to handle present day requirement
02	Introduction of 2 PG programmes in collaboration with Industry	Opportunity: application oriented PG course with industry.	Collaborative PG programmes
03	Foreign University collaborations	Opportunity: Registered cell abroad	Collaborative Research (globally)
04	Establishment of CAS (Centre of Advance Study) for continuing study	Strength: Strong teaching learning process. Weakness: shortage of middle level faculty	Continuing Education programme
05	Mandatory participation in annual	Weakness: B.Tech	Quality improvement

	students' project rewarding programme by each department.	project in core engineering	in UG projects
06	Up-gradation of campus with latest technology.	Opportunity: fills the gap between industry and curriculum	Improved infrastructure; maintenance, modernization, performance optimization.
07	Providing minimum 75% faculty and technical staff member in advance institutions/organizations of the country for quality improvement. Rest 25% will be on the job training.	Weakness: Planned faculty and staff development	Improvement in overall educational quality and teaching standard
08	A proactive effort for intensive interaction with industries for at least one session in each semester.	Strength: Industry Institute Partnership Cell	Improved industry – institute collaboration
09	To build up a strong academic network with other institutions (at least with 2 institutions).	Strength: Good network with Institute of importance	Collaborative research (nationally)
10	To implement socially relevant projects for the benefit of SC/ST, backward classes and minorities	Threat: sudden growth of engineering study	Supporting weaker students with social responsibility
11	Establishment of Central Instrumentation facility and Precession Manufacturing Facility	Weakness: precession manufacturing facility	Improved infrastructure
12	Augmentation of Central Computing Facility.	Weakness: limited central computing facility	Improved infrastructure

#### 2.4 Provide an action plan for: (max 1 page each)

- a) **An Academic Plan which includes courses proposed and student's admission policy and plan**

List of Programmes being run by Institution

S.No	Name of the Programme	Existing (2017-18)	Proposed (Next Academic year)
1	B.Tech-UG	05	02
2	M.Tech-PG	08	01
3	MBA	01	-

Detailed proposed course structure for each programme shown in **annexure-XI**

### **Admission Policy**

Admissions to the UG Programmes i.e B.Tech programmes are being done with the strict guidelines given by APSCHE of the AP Govt. A.P. state hires education has discretionary powers to decide the percentage of the admissions to be made through entrance test(EAMCET) and subsequently web counseling.

Latest G.O. of A.P. Govt. restricts the percentage of admissions through counseling to 70% and remaining 30%(Management Quota) will be filled by the management following the guidelines of APSCHE. For this 70% admissions will be filled by the convener of EAMCET counseling through web allotments only. For 30% management quota, college management adopts a policy of notifying in the news dailies and in the Institute web portal and collect the applications from the aspirants of admissions under management quota 30% rating. Admission committee of the Institution will go through all the applications received, sort the applications on their 10+2 aggregate marks and fill the available seats under 30% quota and submit the lists to A.P. state council Higher Education for ratification and the lists also submitted to University for further ratification.

In the similar lines admissions to MBA programme will be done. 70% admissions will be done by the state Govt. on conducting entrance test namely ICET every year and through web counseling. 30% management quota seats will be filled by the management by inserting admission notifications in the web portal and in the news daily adhere the guidelines of APSCHE and selects the candidate for 30% quota and submit the lists to A.P. state council Higher Education for ratification and the lists also submitted to University for further ratification.

In the similar lines admissions to M.Tech programme will be done. 70% admissions will be done by the state Govt. on conducting entrance test namely PG CET and nationwide entrance test i.e. GATE every year and through web counseling. 30% management quota seats will be filled by the management by inserting admission notifications in the web portal and in the news daily adhere the guidelines of APSCHE and selects the candidate for 30% quota and submit

the lists to A.P. state council Higher Education for ratification and the lists also submitted to University for further ratification.

**b) A faculty recruitment plan in keeping with the proposed academic plan**

Faculty recruitment is done in two ways

University Selection Committee – by JNTUA, Anantapuramu.

College level Selection Committee

Recruitment by the University

Advertisement in the prominent news papers, after obtaining consent from the University.

On receipt of applications and scrutiny, University suggests the schedule for interviews on payment of recruitment fee by the college.

University constitutes the university selection committee to conduct interviews at the university headquarters itself.

College level Selection Committee

- Principal
- Subject Experts (Preferably outside)
- HOD of the concerned branch
- Secretary and Correspondent

**c) Implementation of academic and non- academic reforms**

Once the institution becomes self constituent college of the proposed Technological University, all the reforms can be implemented. The plans for implementing academic and non-academic reforms are listed as follows:

The Department Council at the Department level is a basic decision making unit and most of the academic decisions pertaining to day to day functions are taken at this level.

Heads of Departments are also entrusted with financial powers to enable them to take timely decisions /fulfil department requirements.

- i. Introduction of credit based academic programmes.
- ii. Generation of repository of question banks for each subject.
- iii. Implementing curricular revision should be an ongoing academic activity involving all the faculty members.
- iv. Every major course is supplemented with foundation courses.
- v. Delegation of decision making powers to senior institutional functionaries
- vi. Online method for performance appraisal of faculty by students
- vii. Development of corpus fund through donations from alumni including commercial use of facilities, consultancy earnings etc.

### **Specific Plans**

- i. Increase consultancy projects by 10% every year from 2017
- ii. Facilitating for testing and certification for industries from 2018.
- iii. Providing training programmes and increase it by 20% every year from 2017.
- iv. Introduction of online performance appraisal of faculty from 2017 onwards
- v. Accreditation of all eligible courses at the end of the project period.
- vi. Organizing curriculum revision workshops with industry/alumni participation.

The institution is a meeting place for curriculum designers, developers, implementers, practioners, academic peers, employers and community at large. The feedback from all these diverse social entities is properly added and follow up activities are initiated by the institution.

### **d) Plan for strengthening research, teaching and extension activities**

With the introduction of new courses, the participation of faculty members into research will be increased. By establishing state-of-the-art equipment in laboratories, enriching the library with good volume of books and learning resources subscribing for all leading research journals like IEEE and also by providing high speed net connectivity and computational facilities, the faculty as well as students will always be in an ambience of research.

Interacting with National level R&D organization through the infrastructure facilities established will also bring good results in research. The students can



take up industry related B.Tech Projects. Because of the improved facilities, funded research projects can be brought in from various agencies.

The following action plans are envisaged for enhancing the research and consultancy activities:

- i. Introduce new courses
- ii. Encourage faculty as well as students to publish research papers
- iii. Encourage faculty to undertake consultancy works under Government Departments as well as industries
- iv. Organize national and international level conferences on state-of-the-art technology
- v. Starting up of collaborative research projects with R&D organisations
- vi. Explore funding from various state/national/international agencies for taking up research projects

Enhancing Faculty competence would receive focused attention under the project. The faculty development is closely linked to the overall goals of the institution and institutional proposal and coordinated with the proposed investment in equipment, learning resources and facilities. Faculty development needs to be carried out through the activities like qualification up gradation, subject knowledge and research competence up gradation, participation in seminars, conferences, workshops and pedagogical training.

In order to identify the specific training needs of the various staff, Training Need Analysis (TNA) was conducted with heads of departments and Principal. Some of these programmes can be conducted in the institution as in-house programmes.

**e) Plan for academia and interaction with industry**

In a world of today , education has to be necessarily linked with the practical utility in order to make it useful for the students in terms of attaining employability. The undergraduates of the institution in order to be absorbed in the industrial sector, need to be professionally qualified in terms of advanced technologies, Computer proficiency, and Spoken English in addition

to a polished personality. We have started a CRT programme for coaching the students to compete for competitive exams. We have also invited some reputed industrialists to our college from time to time to have interaction with our students and motivated them to work in Industry.

In the future we are trying to get M.O.U from some industries regarding placement of students.

The institution can encourage the faculty, technicians and students to interact with industries in all possible ways with the spirit of delivering mutual benefit. The major modes of interactions are:

- i. Visit of faculty and students to industries.
- ii. Bring industry experts for conducting lectures on industrial practices, safety and trends.
- iii. Include industry experts in the workshops for curriculum development
- iv. Offering training for students in industries
- v. Signing of MoU with industries
- vi. Undertake joint research programmes on mutually agreeable domains
- vii. Jointly organize conferences, workshops and seminars at national/international level
- viii. Encourage faculty participating in presentation of technical papers in nation/international conferences
- x. Provide scholarship /financial support for students undertaking innovative industry projects

### **Specific Plans**

- i. Signing of MoU with industries by 2017
- ii. Creation of ‘Common Experts Group’ to contain faculty and industry people having domain expertise by 2017
- iii. Increase number of industrial student projects to 25% by 2018
- iv. Conduct continuing education programmes for industry quarterly by 2018
- v. Conduct value addition education programmes for students at the end of

every semester.

vi. Take up collaborative research projects minimum one in every year

vii. Organise national/international level conference

viii. Introduce free elective subjects in curriculum

## **2.5 Measuring Outcomes (max 1 page each)**

### **a) Improving employability of graduates through placement cells**

Graduate and Post Graduate Courses of the institution aim at increasing the employability of students so that they can become self dependent and carve out a niche for themselves in the society.

CRT programmes are conducted for the students for coaching them to face interviews for Software companies, Banking and government jobs. The Courses will comprise of modules of Maths, Quantitative Aptitude, Computer Application and English. The courses will be available to students in addition to the under graduate degree programme in their faculties. The students, by attending this course can develop their reasoning ,logical capacity and speed for competitive exams.

Department of Computer Science and Engineering intends to start short term computer courses comprising of Basic computer operations, MS office, Tally and internet thereby making the students friendly with Software skills and making them eligible for various office and computer related jobs.

Spoken English , Communicative English and Functional English courses are to be started by the department of English to improve the language proficiency of students , thereby making them more confident individuals who will have better prospects in job markets.

Efforts to attain MOU's from some industries is also under process and we anticipate fruitful results in the near future.

A center of Andhra Pradesh State Skill Development Corporation (APSSDC) has been established to tackle the shortage of skilled workforce in various

sectors. The idea is to create an opportunity for the students by training them in different platforms and enabling the students to formulate problems, and solve them by coming up with software skills in the form of apps.

The Institute has also started Incubation Center and objective of the scheme is to encourage students and alumni to share their ideas to solve chosen problems which are local centric and to validate, refine and nurture the ideas. Incubation center shall provide an ecosystem to convert the ideas into proof of concept and upgrade them to a level of commercial value. After successful incubation, encourage and lead the teams towards setting up a business enterprise.

In this way we are collectively trying to make education more meaningful to the students by giving them various skills needed for employment.

**b) Increased learning outcomes of the students**

Induction programme will be held for the freshers and are informed about the college and the environment, rules and regulations, examination pattern and evaluation. The students are also made aware of the scope of the course and placement opportunities.

The expertise of the external experts is used to supplement student learning. Conducting student enrichment programmes throughout the academic year is made mandatory by the institution.

About 45% of students are girls and the institution provides them unrestricted support to come forward in every walk of life. Environmental education is a compulsory paper for UG students. NSS awareness programmes on the themes of human rights, plastic free society etc are conducted.

Tutorial effort is made to motivate and energize those who exhibit deficient skills. In extreme instances, even suggestions and advice for reorientation is provided to the students. Remedial exercises are assigned by the class teacher to those who are found to lay behind. The students also attend remedial classes run by the college.

The departments encourage the advanced learners to participate / present papers in seminars/conferences and guide them to take up various competitive examinations. Books from college library as well as from other sources are facilitated to them. Opportunities for participation in inter university and inter collegiate competitive programmes are also made available to them.

Teachers are instructed to lay special emphasis on value based pedagogy which tends to connect the academic syllabus with the social and moral concerns of everyday life, The institution sensitizes the students by organizing NSS programmes on themes such as gender inclusion, environment etc.

Most of the students admitted in this college have studied in telugu medium and rural based schools. These students scored low marks. Most of them are children of disadvantaged and marginalized parents. Low level of confidence, motivation and indifference are seen. They are at the risk of drop out. Hence a teacher must have not only to enrich his/ her knowledge but also to enrich his heart to reshape them.

For effective teaching the following teaching aids are used in the class rooms. Computer / Laptop is available in all departments with internet facilities.

The implementation of new learner centric and inclusive strategies has resulted in the palpable improvement in the cognitive abilities and communicative capacity of students.

College itself has conducted many faculty development programmes and workshops for the last three years to encourage the faculty to adopt new approaches on student learning.

**c. Improving teaching, research and quality through faculty evaluation and student's feedback**

So far feedback from the students and teaching learning environment, laboratory infrastructure and amenities are connected directly from all the students in general. Students feedback will be consolidated and such feedbacks will be available at the HOD office and the evaluated student's feedback will

have weightage of 20% in the performance appraisals of the faculty.

Faculty performance evaluation is also done every semester, the weightage/parameters considered are University examinations results of students in the subject faculty taught. Self Appraisal is for 10% based on his/her academic credentials adds in that semester in terms of publications, FDPs attended, organized and based on the contribution by him/her to the department administration: 10% weightage will given to HOD remarks for the support rendered by the faculty for organizing department level activities, works and in the file administration. Another 10% weightage will be given by the principal for his/her support, involvement and organization of central events and central activities.

Poor performers identified after the appraisals will normally be given a show cause notice to explain reasons for the poor performance and the action plan that a faculty has to improve upon. Such shows cause notices and explanations offered by the faculty in the examination branch.

A team of faculty is developing online feedback application (Software App) and would like to go for online collection of feedback, consolidated feedback online and for quicker alerts to the faculty

**2.6 Provide an action plan for organizing a Finishing School and for improving the academic performance of SC/ST/OBC/academically weak students through innovative methods, such as remedial and skill development classes for increasing the transition rate and pass rate with the objective of improving their employability.**

It has been observed that most of the students belonging to aforesaid category belongs to rural sector. Hence they naturally have hesitant response in the class. They also have poor communication skills and less contemporary exposure needed to cope with present academic requirement. With a view to enhance academic performance of these students, 3-tier modules are proposed:

### **1. Students Empowerment Program**

Students Empowerment program (SEP) (one/two week duration in a semester) steered by bonafide counsellor is proposed to explore the hidden talent and potential of these students. The SEP arranged periodically during the course of study would strengthen all round development of the students leading to cognitive learning with engineering attitude.

### **2. Special Coaching Classes**

The provision for special coaching classes in the weekend or out of the office hours during the week would be instrumental in academic upliftment of SC/ST/OBC students. These classes featuring attention on identified subject(s) or as raised by the students at UG level would lay strong foundation in the path of their academic growth.

### **3. Teacher Guardian Scheme**

Each faculty would play role of guardian of a group of students to monitor their overall academic progress. The students are expected to feel free academically with their faculty guardian to receive peer assistance and desirable guidance in all walks of their academic program.

This 3-tier module would certainly produce promising results in academic development of SC/ST/OBC students with greater confidence and accuracy.

**2.7 Attach a summary of Training Needs Analysis carried out. Also, provide Faculty Development Plan for the first 18 months for improving their teaching, subject area and research competence based on Training Needs Analysis in the following areas.**

- **Basic and advanced pedagogy**
- **Subject / domain knowledge enhancement**
- **Attendance in activities such as workshops, seminars**
- **Improvement in faculty qualifications**
- **Improving research capabilities**

For improving their teaching, subject area and research competence based on training need analysis in the following areas:

**Basic and advance pedagogy** – Action oriented approach will be used for improving teaching. Training will be imparted for developing Power point presentations, e-content, and use of smart class room.

**Subject/domain knowledge enhancement**– Orientation, refresher program, inhouse training, and conferences and symposiums would be organized and faculty will be encouraged to actively participate in such programs.

**Attendance in activities such as workshops, seminars** – efforts would be made to provide financial assistance and reduce formalities for participating in such activities.

**Improvement in Faculty Qualifications** – Faculty would be encouraged to pursue higher educational qualification like Ph.D. and Post Doctoral degree and research.

**Improving research capabilities** – faculty would be exposed/encouraged to participate in research methodology workshops for improving their understanding of research designs and conducting researches. Scientific writing workshops would all so be facilitated.

## **2.8 Provide an action plan for training technical and other staff in functional areas.**

The office and the technical staff of an Institution is the backbone on which the burden of the performance of the institutes rests. Hence it is fully justified and mandatory that they be trained with the latest advancement in technology to improve their working efficiency .Training programmes will be organized by the institution for the class three employees and training shall be imparted to them to make them computer friendly and literate.

- Training programmes for technical staff in their respective areas for proper maintenance and operation of equipment in the laboratories.
- Training for office staff in automation and maintenance of records.



- Training on Modern Workshop Practices for Mechanical Engineering Technical Staff.
- Basic Training on Computer Knowledge and Internet Usage.
- Training in up gradation of skills for technical staff in their respective areas for proper maintenance and operation of equipments.
- Enhancement of Computer literacy and its applications.
- Training for office staff in automation and maintenance of records
- Training on Modern Workshop Practices for Mechanical Engineering Technical Staff.
- PC assembly and maintenance
- Maintenance of electronics equipment

**2.9 Describe the relevance and coherence of College Development Proposal with State's/National (in case of CFIs) Industrial/Economic Development Plan.**

**National Scenario:** India has the potential to be a global technology leader. The Indian economy has been growing at the rate of 7% per year. The Indian industry has also become globally competitive in several sectors and can increase its global market share. A critical factor in this will be the success of the Engineering education system in India. A comprehensive report on “Engineering Education in India” submitted by Rangan Banerjee and Vinayak P. Muley has made the following recommendations to improve the Engineering education:

- Strengthening Ph.D initiatives
- Attracting Quality faculty.
- Incentivizing performance
- Industry-Institute interaction
- Making Engineering education relevant to society
- Faculty Quality Improvement
- Continuing Education and skill upgradation
- Administrative reforms

**State Scenario:** More than 600 Engineering colleges have been running in the AP state offering UG programmes in various disciplines. There is a big gap between the availability and requirement of quality staff in the engineering institutions. The AP state has time and again been stressing on the manpower development particularly in the technical education. Further, the quality of the students coming out of these colleges is a big concern.

NASSCOM made a statement that not even 25% of the graduates are employable. The expected outcomes of the CDP of this college addresses these problem by way of scaling up and strengthening the UG education, focusing on the quality of the students by way of remedial classes and finishing school concept.

The State Government has been making all efforts in improving the employability of graduates by a centre (APSDC) which collaborates with educational institutions and helps imparting the relevant training required by the industry. In the proposal prepared by the college, the strategy and action plan are in line with the policies of the State Government.

The national and state scenarios in engineering education are taken into account in the preparation of this CDP proposal. The main focus has been on the strengthening and scaling up of UG education and Research & Development. Also, the emphasis has been on the bridging the gap between Institutes and Industry by fostering the collaborative research, projects and joint programmes. The expected major outcomes of the proposal after implementation are:

- 1) Improved Quality of UG students
- 2) Increased Industry-Institute collaboration
- 3) Faculty development in terms of Quality of teaching, research and consultancy

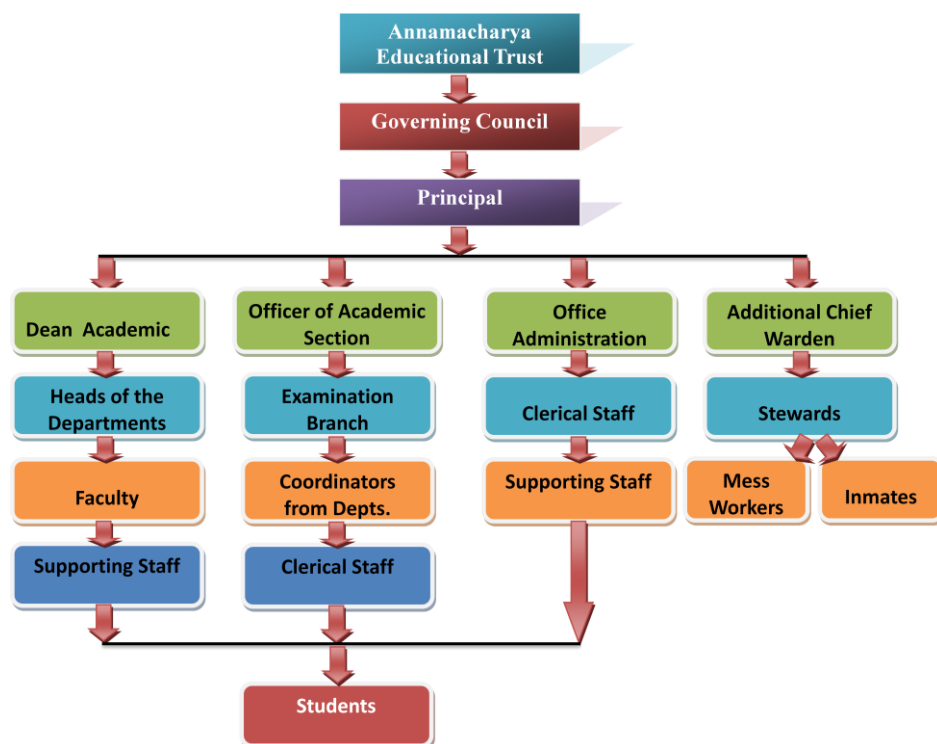
#### **2.10 Describe briefly the participation of departments/faculty in the CDP preparation.**

The College Development Plan (CDP) is step through which the institutions can achieve the targets of access, equity and quality education. It is a vision for the future in which all the stakeholders- the different departments, students, parents are actively involved in making the plan.

The Institute has ensured the participation of all the Departments through a well-designed structure of Plan preparation. The Heads of the Departments, on their part, convened several Departmental Council meetings to prepare the Developmental Plans. The Department Heads met frequently in order to arrive at a Draft Plan. Moreover, the Heads also interacted with the Principal and administrative staff in the process of Plan preparation.

**2.11 Describe the College project implementation arrangements with participation of faculty and staff.**

The project would be implemented with due approval of Board of Governors of the institute. Existing faculty of the supporting department would contribute for preparing scheme of studies and syllabus for the proposed courses. It would also determine the staffing, laboratories, equipments, and other infrastructural requirement for the same. Monitoring would also be important for proper implementation.



Layout of Administrative and Academic setup

**2.12 Provide an College Project budget as per table below:**

**Financial Plan for College (Rs. In Crore)**

Sl. No	Activities	Plan Life Allocation (2012-13)	2013-14	2014-15	2015-16	2016-17
1	Infrastructure	2.07	1.71	0.46	0.47	0.47
2	Modernization and strengthening of laboratories	0.234	0.22	0.47	0.38	0.39
3	Establishment of new laboratories for existing UG and PG programs and for new PG programs	0.17	0.07	0.24	0.54	0.35
4	Modernization of classrooms	0.056	0.138	0.54	0.48	0.14
5	Updating of Learning Resources	0.30	0.148	0.21	0.28	0.51
6	Procurement of furniture	0.15	0.157	0.23	0.29	0.31
7	Establishment / Upgradation of Central and Departmental Computer Centres	0.32	0.26	0.11	0.27	0.31
8	Modernization / improvements of supporting departments					
9	Modernization and strengthening of libraries and increasing access to knowledge resources	0.14	0.16	0.031	0.032	0.18
10	Refurbishment (Minor Civil Works)	0.056	0.01	0.54	0.48	0.14
11	Research and development support					
12	Providing Teaching and Research Assistantships to increase enrolment in existing and new PG programmes in Engineering disciplines					
13	Provision of resources for research support					
14	Enhancement of R&D and College consultancy activities					
15	Faculty Development Support					
16	Faculty and Staff Development (including faculty qualification upgradation, pedagogical training, and organising/participation of faculty in workshops. Seminars and conferences) for improved competence based on TNA	0.013	0.014	0.01	0.007	0.02
17	College reforms					

18	Technical assistance for procurement and academic activities					
19	College management capacity enhancement					
20	Academic support					
21	Creation of new departments/courses					
22	Enhanced interaction with industry					
23	Student support activities					
	Others					
	Total	3.509	2.887	2.841	3.229	2.82

### 2.13 Measurement Index for College Performance

Indicator	Weightage	Present Rating	Present Score	Target Rating	Target Score
<b>GOVERNANCE QUALITY INDEX - 16%</b>			<b>13.83</b>		<b>16</b>
% of Faculty Positions, vacant	2.0%	0% Vacancy	2	0% Vacancy	2
% of Non-permanent faculty	4.0%	30%	2.67	20%	4
% of Non-teaching staff to teaching Staff	3.0%	50%	3	50%	3
Total no of under graduation programs	1.0%	5 (100%)	1	5 (100%)	1
Total no of post graduate programs	1.0%	9 (100%)	1	9 (100%)	1
Total no of doctoral programs	1.0%	1 (20%)	0.2	5 (100%)	1
Faculty appointment - turn around/cycle time in months	2.0%	1 month	2	1 month	2
Delay in payment of monthly salary payment of faculty	2.0%	1-2 days	1.96	No delay	2
<b>ACADEMIC EXCELLENCE INDEX - 21.5%</b>			<b>18.51</b>		<b>21.5</b>
Delay in exam conduction and declaration of Results	3.5%	No delay	3.5	No delay	3.5
Plagiarism Check	1.0%	Only for PG progs.	1	Only for PG progs.	1
Accreditation	4.0%	NBA for 3 UG (Progs.) NAAC for all progs.	4	NBA for 3 UG (Progs.) NAAC for all progs.	4
Teacher Student ratio	4.0%	1:15 (UG) 1:12 (PG)	4	1:15 (UG) 1:12 (PG)	4
% of Visiting professors	1.0%	20%	1	20%	1
% of graduates employed by convocation	0.5%	60%	0.38	80%	0.5
% Number of students receiving awards at National and International level	0.5%	0%	0	2-3 students	0.5
% of expenditure on Library, cyber library and laboratories per year	1.0%	100%	1	100%	1
Ratio of expenditure on teaching staff salaries to non-teaching staff salaries	1.0%	3:1	1	3:1	1
% of faculty covered under pedagogical training	1.0%	50%	0.3	60%	1

Indicator	Weightage	Present Rating	Present Score	Target Rating	Target Score
% of faculty involved in "further education"	0.5%	15%	0.25	30%	0.5
Dropout rate	1.5%	0.92%	1.38	0%	1.5
No. of foreign collaborations	1.5%	0%	0	2 to 3	1.5
Subscription to INFLIBNET	0.5%	0%	0	Yes (100%)	0.5
<b>EQUITY INITIATIVE INDEX - 12.5%</b>					<b>12.5</b>
SC Student%	3.0%	7.5%	1.5	15%	3
ST Student%	3.0%	0.81%	0.32	7.5%	3
Gender Parity	3.0%			1F:2M	3
Urban to Rural Student population	2.0%	40:60	2	40:60	2
Existence of CASH	0.5%	Yes	0.5	Yes	0.5
Existence of Social Protection Cell	0.5%	Yes	0.5	Yes	0.5
Language assistance programs for weak students	0.5%	Yes	0.5	Yes	0.5
<b>REASERCH AND INNOVATION INDEX - 24%</b>					
Per-faculty publications	2.0%				2
Cumulative Impact Factor of publication	3.0%	200 (50%) (5 Years)	1.5	300 (75%) (5Years)	2.25
H Index of scholars	2.0%	30 (5 Years)	0.8	75 (5 Years)	2
% of staff involved as principal researcher	1.0%	0%	0	2%	0.2
% of research projects, fully or more than 50% funded by external agencies, industries etc	2.0%	No funded	0	10%	0.2
Total no of patents granted	1.0%	0%	0	3	0.43
% of faculty receiving national / international awards	1.0%	0%	0	1%	1
% of research income	1.0%	0%	0	1%	0.1
Doctoral degrees awarded per academic staff	1.0%	9 (for 5 Years)	0.9	10 (for 5 Years)	1
% doctoral degrees in total number of degrees awarded	3.0%	N/A (right now)	0	N/A (right now)	0
% expenditure on research and related facilities	1.0%		1	7-10%	1
Digitization of Masters and Doctoral thesis	0.5%	Not Yet	0	Not Yet	0
UPE/CPE	3.5%	No	0	Yes	3.5
% of Income generated from non-grant sources	2.0%	100%	2.0	100%	2
<b>STUDENT FACILITIES - 15%</b>					
No of new professional development programs	1.0%	SDC, Innovation Chapter	0.5	4	1
Existence of Placement Cells and Placement Policy	1.0%	Yes	1	Yes	1
% of expenditure on infrastructure maintenance and addition	3.0%		3		3
Availability of hostel per out-station female student	3.0%	Yes	3	Yes	3
Availability of hostel per out-station male student	2.0%	Yes	2	Yes	2
% of students on scholarship	2.0%	70%-75%	2	70%-75%	2
Average scholarship amount per student	1.0%	Rs.35,000	1	Rs.35,000	1
Student Experience Surveys	1.0%	Yes	1	Yes	1
Graduate Destination Surveys	1.0%	Yes	1	Yes	1
<b>Infrastructure and Others - 11%</b>					
%Income generated from training courses (CRT)	1.0%	<1%	0.5	1%	1
% Income generated from consulting	1.0%	0%	0	1 Lacs per	0.1

<b>Indicator</b>	<b>Weightage</b>	<b>Present Rating</b>	<b>Present Score</b>	<b>Target Rating</b>	<b>Target Score</b>
				annum	
Infrastructural sufficiency	3.0%	Yes	3	Yes	3
Computer coverage	3.0%	Yes	3	Yes	3
Internet connectivity of Campus	3.0%	Yes	3	Yes	3
	<b>100.0%</b>				