

## **ARMY INSTITUTE OF TECHNOLOGY GROWTH PLAN : 2013-2023**

1. References:-
  - (a) Para 22 HQ AWES No B/45840/Placements/ AWES dated 24 Jul 2013 Minutes of Head of Institutes Meet 2013: AWES Colleges,
  - (b) Dir AWES HQ Southern Command email dated 21 Sep 2013 titled Five Year Plan,
  - (c) Existing AIT Perspective Plan 2011-20 vide AIT/0079/PPlan 2011-20/Adm dated 10 Dec 2011.
  - (d) Suggested Measures to Improve AIT Intake vide AIT/0916/ Merit/A Cell dt 28 Aug 2013.

### **PART I - INTRODUCTION**

2. AIT had prepared a 10 year Perspective Plan 2011-20 based on directions from the previous AIT Patron-in-Chief on 09 Aug 2011 and the same was submitted on 10 Dec 2011. Proposed Growth Plan has been formulated by modifying the above-mentioned Perspective Plan based on directions from HQ AWES during MD's Conference in May 2013, further amplifications from Dir AWES HQ Southern Command on 21 Sep 2013 and suggested measures to Improve AIT Intake submitted to HQ Southern Comd for approval on 28 Aug 2013. A subcommittee was detailed to prepare this Growth Plan based on following guidelines:

- (a) Build excellence in quality of education and administrative arrangements,
- (b) Optimisation of existing AIT set-up,
- (c) Realistic assessment of future needs and visualization of expansion plans accordingly,
- (d) Need of additional infrastructure and funds,
- (e) Need to build corpus and generate funds from AITs integral resources,
- (f) Work out recurring maintenance expenditure.

3. **Composition of Subcommittee.** The Subcommittee consisted of the following members:

- (a) Brig (Retd) SK Lahiri Director AIT
- (b) Dr VP Gosavi Principal, AIT
- (c) Dr BP Patil HOD E&TC
- (d) Dr J Sankpal HOD Mech
- (e) Dr Sangeeta Jadav HOD IT

- (f) Dr S Marathe HOD ASGE
- (g) Prof S Dhore HOD Comp
- (h) Lt Col (Retd) S Karodpati
- (g) Prof Manoj Khaladkar, TPO, AIT

4. **Stakeholder Expectations.** Stakeholders of AIT and their general expectations are as given below:-

- (a) **Students:** Both immediate employment and long-term employability (including scope for doing MBA).
- (b) **Parents:** Prosperous careers for their wards and Army Category 'A' Environment in AIT administration.
- (c) **Employers:** Immediate application of Knowledge and Skills acquired – Productivity from Day 1.
- (d) **Faculty:** Effective and disciplined learning by students and scope for career growth in AIT.
- (e) **AICTE / Univ / NBA:** Academic Excellence and Research & Consultancy environment within laid down guidelines.
- (f) **AWES:**
  - Quality Education at Affordable Cost
  - Self sustenance
  - Maintenance of uniformity of AWES rules and regulations.

## **PART II - ENVIRONMENT SCAN AND SWOT ANALYSIS**

5. **Internal Environment in AIT.** Before launching a SWOT analysis the Sub-committee examined the prevailing situation in AIT with the aim of drawing some deductions from each of these factors. A brief review of this analysis is given.

- (a) **Admission Profile.** Only a handful of AITians are joining from the first 200 AIT merit holders, mainly due to doubling of the number of good government run IITs, NITs and IIITs with less than half our tuition fees. Besides, JEE Main cut-off merit of the last intake this year has gone down to 1,45,000 from 75,000 last year, partly due to some normalization problem of AICTE and primarily due to a large number of Army wards not even applying for AIT admissions because of perceived greener pastures elsewhere. It is true that JEE Main merit alone is not a true indicator of a student's actual merit as a large number (50 percent approximately) are clearing it with a preparatory gap period of one year or more, which allows them to achieve higher JEE Main merit but exhibit poor performance much below expectations after joining the engineering college. None-the-less, AIT's aim should be to remain attractive for all Army wards keen to follow engineering as a career. Hence it is imperative that following emergency measures be adopted to improve AIT intake:

- Give wide publicity for AIT in all Army establishments:
  - Forward AIT info brochure by email to principals of all APS and KVs,
  - Forward AIT write-up with DO from Chairman for publication in all Army journals, Sainik Samachar and for display in Info Room of all Army Centres,
  - Forward AIT write-up with DO from Chairman to Dept of Ex-servicemen Welfare (DESW) and Kendriya Sainik Boards for further dissemination to all Rajya Sainik Boards (32 Nos) and Zilla Sainik Boards (376 Nos).
- The fee structure should remain market friendly for wards of Army personnel, especially those of ex-servicemen.
- Bring about a culture of Zero Ragging in line with Court rulings so as to totally eliminate misgivings on this account amongst all prospective Army wards.
- Provide superior infrastructure and best facilities like horse-riding in Southern Command Riding School on Sundays, adventure treks on selected Sundays with cadets of CME, and swimming facilities in BEG and Centre etc.

(b) **Student Profile.** Present student profile based on their parentage is Officers – 18%, JCOs – 47% and OR – 35%.

- AIT must concentrate more on Soft Skills development of students.

(c) **Academic Excellence.** Presently, AIT final year results are one of the best in Pune University with more than 75% First Class in Final Yr. However, more than 10 percent are failures. We need to concentrate on the third year first sem results which decide campus placements. Approximately 40 percent are in first class and about 20% to 30% have ATKTs presently. Good companies do not entertain students below first class or with ATKT. Hence we must focus on following facets to bring about academic excellence:

- **Quality of Permanent Faculty.** Now four of the five Depts have PhD HODs and 24 faculty members are pursuing PhD. UGC/ AICTE recommended API scoring system has been adopted for Career Advancement Scheme (CAS), and incentives are being provided for paper presentations and FDPs, which have started yielding positive results.

- **Number of Patents held.** Presently four patents have been filed – three by Faculty and one by a student. Our target is to have at least five approved patents per Dept by 2023.
- **Research and Consultancy Opportunities.** AIT has laid down an incentive policy in 2011 to encourage consultancies. Introduction of PG depts with effect from 2014 and PhD programmes in 2020 will engender this culture.
- **More Distinctions and Univ Rank Holders.** Must encourage good students to strive for Univ marks by special coaching. Recently introduced AGIF scholarship of Rs. 40,000/- has started showing results.
- **Weak Students.** Must focus more on weak students to eliminate failures

(d) **Placement:** AIT has one of the best placements in the Western Region in terms of overall percentage, but there is tremendous scope for improvement in their quality. In 2012 batch, 96.4% were placed with an average salary of Rs 3.6 lakh, which is comparable to the best colleges in India, but there is a need to attract more higher level and core engineering firms offering Rs 5 lakh and above package:

- Ideally more than 80 percent students should have first class and less than 5 percent ATKTs in third year first sem results.
- More Industry Institute Interactions – Internships, Sponsored projects, Faculty research consultancies, In-plant training programmes, participation in National level corporate competitions and certification in Value addition courses.
- Use pool of qualified Visiting Faculty from industry – Prepared a pool of 40 technical experts including some of National Level.

(e) **College National Ranking.** AIT needs to improve its national ranking in order to attract better students and faculty. AIT is one of the select few engineering colleges which have NAAC and NBA accreditations as well as ISO 9001:2008 certification. AIT should endeavour to obtain five years accreditation for all branches in next accreditation in 2015, and be rated within the first 10 private engineering colleges by 2023. AIT has been climbing up in National ranking by Dataquest and Electronics For You (EFY) over the last few years. This year Outlook (which is a nationally recognized rating agency) has ranked AIT at 42 position amongst all private engineering colleges and at 71 amongst all colleges including IITs and NITs. Rating agencies are increasingly building in more weight-age for research and consultancy in their scoring system making

it more and more difficult for an under graduate (UG) engineering college to score high in the ranking system.

<b>Year</b>	<b>Survey by</b>	<b>Ranking</b>
<b>2013</b>	<b>Outlook</b>	<b>41 among private engg colleges (73 incl IITs and other govt colleges)</b>
<b>2012</b>	<b>Business Chronicle</b>	<b>A++ (one out of two from Maharashtra)</b>
<b>2012</b>	<b>Data Quest</b>	<b>66 incl IITs and other govt colleges</b>
<b>2012</b>	<b>EFY</b>	<b>22 among private engg colleges</b>

- AIT needs to introduce post-graduation courses, research and consultancy culture and introduce all round improvement in academics, infrastructure and quality of placements to improve recognized national ranking amongst private colleges to top 10 by the year 2023.

6. **External Environment.** Currently there are over 3,500 engineering colleges in India with approximately 16 lakh enrolled students, which has more than doubled in the last five years. This year more than 200 engineering colleges have closed down in Maharashtra and AP due to lack of intake. More than 1,500 colleges will close down in coming decade as the industry cannot absorb more than 5 lakh engineering freshers.

(a) **Placement Scenario.** Based on 2011 pass-out data for about 7.5 lakh engineering graduates, overall only 25% of BE students find campus placement. Another 13% join post graduation courses like ME, MBA etc. 40% BE students find placement within one year after passing out based on their individual effort. However, the balance 22% either transfer to other professions and manage subsequent employment, or remain unemployed. Of those 25% who manage campus placement, 75% and above find placement in IT firms. However, good engineering colleges in the first 20 national ranking, achieve almost 75% and above placement in core engineering and consultancy firms. Post recession, the average salary from the five premier IT firms (mass recruiters) like Infosys, TCS, Cognizant, Wipro and Tech Mahindra is stagnating between Rs 3.0 and Rs 3.5 lakh since 2008 due to a glut of technical graduates in the market. IT industry is working on an employee ratio of 60:40 of Freshers

: Laterals, and have decided that post recession the affordable cost of campus recruits has to be below Rs 3.5 lakh for some more time till the market stabilizes. Companies like Google, Yahoo and Microsoft pay in the range of Rs 10 lakh to Rs 30 lakh, but their numbers are very few. Core companies of Mechanical and Electronics and Telecommunication industry pick up fewer individuals and their salary structure varies from Rs 2.5 lakh for Kirloskar Cummins to Rs 6 lakh by Tata Motors to Rs. 20 lakh by some elite companies. Consultancy firms pay in the range of Rs 5 lakh (Deloitte) to Rs 40 lakh (some foreign firms) and above.

(b) **Employability Skills.** The employability of engineering graduates as per NASSCOM is stated to be somewhere around 22 % only because of their poor soft skills and lack of up-to-date technical knowledge. Foreign universities with their high standards are likely to make a strong entry soon to the Indian higher education system, primarily because the government needs huge foreign investment to improve our Gross Enrolment Ratio (GER) from the existing 20 to 30 by 2020, without which our young demographic profile is likely to become more of a liability than a source of strength. Independent rating agencies like QS will ensure that almost 50% of the existing engineering colleges would dry up due to greater competition. Under such circumstances, the only option for any engineering college to survive is to maintain high quality and modernize to maintain credibility. Besides the specifics mentioned above, general trends which would characterize the environment for technical higher education in the coming years are given below.

○ **Educational Requirements of Knowledge Economy.**

**Past Requirements**

- Skills.
- Product centric.
- Graduate.
- Cost of doing business.
- Passive participation.
- Just-in-case.
- Static content.
- Mandated.
- Instructor led courses.

**Future Requirements**

- Knowledge.
- Learner centric.
- Life-long learning.
- A competitive advantage.
- Active participation.
- Just-in-time.
- Customised content.
- Self directed.
- Library of learning methods.

- **The New Millennium Paradigm for Engineering Education.** It must incorporate the integration of several features which existed as separate entities till now:

Initial education	+	Continuing education (Lifelong learning)
Institutional component	+	Industry component
Formal education	+	Non-/In- formal education
Education	+	Training
Quantitative expansion	+	Quality assurance
Technology	+	Management
Traditional instruction	+	Web-based instruction
Print media	+	Electronic media
Traditional libraries	+	Digital libraries

- **Skills of an Employable Engineer.**

- **Basic Skills:**

- Oral & Written Communication
- Scientific and Quantitative Reasoning
- Critical Analysis & Reasoning
- Technological Competency.

- **Technical Skills :** require certification for credibility – Microsoft, IBM, Redhat, CISCO, CSI Student Chapter, CAD CAM CAE, 6 SIGMA, VLSI etc.

- **Critical Personality Traits:**

- Pro-active with an intrinsic drive for service excellence and efficiency
- Emotionally robust and used to work under pressure
- Strong team player.

7. **Challenges of Modern Engineering Education.** Engineering education is at an important juncture more than ever before, where engineers need to play an important role in development and creative solving of global and complex challenges in industry. Future engineers need to work with an understanding of multiple disciplines in collaborative teams that are culturally and philosophically diverse, cultivate complex communication and social skills. In today's challenges of the 21<sup>st</sup> century global economy, sharing of information, collaborative team work, innovative thinking, problem solving and decision making are key competencies necessary for an engineer.

There has been a significant shift, from merely mastering manufacturing skills, to emphasizing informational knowledge services. The increased use of technology is also transforming how students work and build new social practices. Adaptability to complex communication skills, non routine problem solving skills, self management or self development are extremely important.

8. **Changes in Teaching-Learning Process.** It is widely felt that traditional engineering education in preparing for lectures and lab sessions, are inadequate in preparing engineering students for being effective professionals. This is more so when the lectures turn out to be monologues and the laboratories are recipe driven rather than inquiry driven. Traditional classroom and lab practice encourage a passive form of learning within a compartmentalized curriculum. Therefore it is important for engineering education to rebuild a curriculum that focuses strongly on collaborative and interdisciplinary projects, tasks and assignments. Such activities would require students to be involved in active learning strategies, be engaged in high level problem solving skills and to be able to participate in team building activities in multidisciplinary teams.

9. **Technology Assisted Learning.** Hardware components of learning environment also influence learning significantly. They are important for both individual work and team activities. AIT should be well positioned in infrastructure and expertise to provide technology integrated learning. Advances in IT and Telecom technologies are bringing in a paradigm shift in the way a student can learn more effectively. Multimedia can help the student to learn concepts more clearly. Simulation models can enable more students to work on virtual prototypes and gain practical skills. Besides, the student can learn flexibly as per his convenience and pace. Recently MIT and Harvard announced launch of free online courses in five disciplines including engineering.

A few months earlier, a Consortium of Stanford, Princeton, University of Pennsylvania and University of Michigan announced online programs. Going by the excellent response they received, it appears that future of engineering colleges will be a blend of class room teaching and technology enhanced to self learning. Online presentations and video lectures by professionally trained presenters, will supplement the class room lectures and tutorial sessions. Already in some Institutions abroad, both learning and assessment are increasingly through peer to peer via social networks. AIT also needs to gear up for these breath taking developments. In a way, technology can be advantageously used in all locations to address the shortage of competent teachers, by supplementing the existing resources and by minimizing the gap between the Industry/Corporate requirements and present University syllabus. This will result in employable engineers to suit industry/corporate requirement. There is a great need of campus wide high speed network, which links all computing resources on campus such as email web based online applications, applicable software, libraries online, catalogues, web cast facilities and computer cluster Lecture halls, Seminar



rooms and tutorial rooms should be well equipped with necessary technology knowledge base.

10. **Industry Collaborations.** In order to make graduating students more employable, it is critical that AIT should build close collaboration with industry through MoUs. This type of collaboration can help in updating the curriculum and arranging guest lectures by experienced professionals. It can also help in organizing for internships and projects for the students so as to impart hands on skills. MNCs like IBM Microsoft, SAP, Oracle, Infosys, Intel, and Nokia have worked out a range of Industry academic collaboration programs which need to be leveraged by AIT.

11. **SWOT Analysis of AIT.**

<b><u>Strengths</u></b>	<b><u>Weaknesses</u></b>
JEE Main entry with no quotas.	Selected to applicant ratio low due to limited number of applicants from Army wards only.
All India background of students.	Inadequate Research & Consultancy – No PG.
Residential facilities : peer induced soft skills development.	Limited senior residential faculty.
Good Infrastructure.	Teaching Learning could be made more interactive with more tutorial discussions and application-based.
Discipline and exposure to Armed Forces background	Industry Institute interaction could be improved.
Armed Forces patronage	Slow decision-making.
Good overall placement percentage : Good image in industry	Quality of placement needs to be improved in terms of salary packages and in number of core companies.
<b><u>Opportunities</u></b>	<b><u>Threats</u></b>
Co-location with DRDO and Army Cat 'A' establishments.	Expansion of IITs/NITs with lower tuition fees attracting away higher merit students.
Networking possibilities with expanding Industry & Academia in Pune.	Competition from upgraded hostel facilities & autonomous status in some private institutions like Manipal, BITS, VIT.
Increasing Alumni willingness to support AIT growth initiatives.	Increasing proportion of students from rural background may dilute AIT's reputation of strength in soft skills.
Possibility of tapping Pune's sizable student population for sustaining evening courses.	

AICTE/DST/TEQIP funding for AIT projects.	
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12. **Governance Excellence – The Key Differentiators.**

- Nothing breeds excellence in educational institutions better than Peer Pressure & Peer Review.
- Educational institutions have long gestation periods for breeding excellence unlike industry.
- Periodic and Structured review of all academic activities.
- Involving Students and Alumni as much as possible in many areas of governance.

13. **Performance Monitoring.**

- (a) Recognize that like in every educational institution three distinct groups exist:
- **Core Academic** – Principal and other teaching staff
  - **Academic Support** – Lab Assts, Lib personnel, Placement Cell, Computer Centre – programmers
  - **Pure Administration** – Registrar, Establishment Section, Clerks, Warden and Hostel Attendants, Maintenance staff, Storekeepers, Security etc.
- (b) Deal with each of them in a different manner, else performance and excellence will suffer over time.

14. **Governance Excellence - Alternative Trajectories.**

Ser No	Criteria	Core Academic	Academic Administration	Pure Administration
(a)	Key Resources	Profs	Tech Staff with good domain knowledge	Good managers
(b)	Culture	Free, Sharing, Communicative, Peer culture	Tech skill based, Industrious, Service orientation	Procedural & Systems driven, Tech and People orientation
(c)	Value Proposition	Autonomy, Freedom	Industry orientation, Semi-autonomous	Managerial controls & systems

(d)	What drives performance?	Peer pressure, Robust feedback mechanism	Student & Client orientation, Excellence	Service	Periodic & Structured Reporting system
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### **PART III - VISION, MISSION, CORE VALUES, GOALS, & OBJECTIVES**

15. **Vision for AIT.** “Strive for excellence in providing the right environment for development of physical, intellectual, emotional and spiritual quotients with a view to produce total quality engineers preparing them to face challenges of modern information society.”

16. **AIT Mission.** “To achieve National ranking amongst the top 10 private engineering colleges in India by 2023 AD.”

17. **AIT Tenet.** “I shall be truthful, honest, forthright and trustworthy under all circumstances. I shall always uphold the honour, dignity and values of my parents, teachers, institution and my country.”

18. **Core Values.**

- Excellence
- Innovation
- Commitment
- Honesty, Integrity and Truthfulness
- Ethics
- Continuous Learning and Development.

19. **Goals.**

- To work together, striving for excellence in a free and supportive learning environment, enabling both students & staff to become sensitive, reflective, intelligent, confident and responsible.
- To establish a premier Institute for imparting high quality engineering education through student centered learning in a conducive working environment.
- To augment all available avenues for providing a healthy environment for physical, intellectual, emotional and spiritual growth of students and staff.
- To produce competent engineers by imparting knowledge and skills, imbued with the spirit of professionalism and responsible citizenship in a competitive global modern information society.

20. **Short Term Objectives (2-3 years) by 2016 AD.**

- Attract high merit UG students with last cut-off at 600 AIT merit (750 at present) for 300 vacancies.
- Achieve excellent teaching-learning environment to achieve:
  - Less than 5 % failures in each year,
  - 50% and 80 % first class in 3<sup>rd</sup> and 4<sup>th</sup> years respectively,
  - One University rank holder in at least two Departments,
  - 100% faculty with PG degree,
  - 25% Faculty with PhD degree.
- Achieve placement of 35% students in core high-end companies and maintain an overall placement of 90% students.
- Initiate Post-graduate courses and enhance Industry – Institute interaction and R & D activities to a score of 50% NBA score (from 25 % at present).
- Achieve 5 % placement in the Armed Forces.
- Introduce Civil Engineering UG department with hostel facilities to exploit inevitable infrastructure boom in the coming years.
- Establish Entrepreneurship Development Cell.
- Achieve NBA accreditation for all Departments for 5 years.

21. **Mid-term Objectives (4-6 years) by 2019 AD.**

- Attract high merit UG students with last cut-off at 500 AIT merit for 360 vacancies.
- Maintain excellence in teaching-learning environment to achieve:
  - Zero failures in each year,
  - 60% and 85 % first class in 3<sup>rd</sup> and 4<sup>th</sup> years respectively,
  - One University rank holder in each Department.
  - 35% faculty with PhD degree.
- Achieve placement of 50 % students in core high-end companies and an overall placement of 100% students.
- Introduce second Post-graduate course and enhance Industry-Institute interaction and R&D activities to a NBA score of 70%.
- Receive consultancies and research grants up to Rs 1 crore from firms and AICTE/ Pune University.
- Introduce foreign exchange programs in AIT.
- Achieve autonomous status under Pune University and introduce continuous assessment system and industry-friendly syllabus in AIT.
- Achieve at least one Patent per Department.

22. **Long Term Objectives (7-10 years) by 2023 AD.**

- Attract high merit UG students with last cut-off at 450 AIT merit for 360 vacancies.
- Maintain excellence in teaching-learning environment to achieve:
  - Zero failures in each year,

- 70% and 90 % first class in 3<sup>rd</sup> and 4<sup>th</sup> years respectively,
- Two University rank holder in each Department.
- 50% faculty with PhD degree.
- Achieve placement of 60% students in core high-end companies and maintain an overall placement of 100% students.
- Introduce Post-graduate courses in all Depts and enhance Industry-Institute interaction and R&D activities to a NBA score of 80%.
- At least one PG program ranked amongst top 10 private engineering colleges.
- Earn consultancies and research grants able to sustain all PG Departments and research projects and enable seed money for college funded projects.
- Achieve at least two Patents per Department.

23. **UG Education.**

(a) **Goal:** Create a collegiate experience that encourages intellectual rigour and productive teamwork, and results in the graduation of total quality engineers who are well prepared to succeed in the global workspace.

(b) **Strategies and Tasks :**

- **Strategy 1:** Attract high AIT merit students and provide a campus environment for producing highly motivated and successful engineers:
  - Interactive classes and TDs
  - Superior infrastructure with knowledge facilities like MOODLE etc.
  - Well equipped labs: supervised projects from SE onwards
  - Technical seminars and workshops
  - Participation in national competitions and conferences
  - Credit based system of continuous performance evaluation
  - Meaningful industry interaction and internships
  - Soft skills development through peer pressure
  - Motivational talks by eminent personalities
  - Stimulating hostel environment – flank in-charges , student mentors; Responsive administration
  - Feedback mechanism for better governance.

- Wide publicity amongst Army wards and offrs wards.
- Zero tolerance for ragging.
- **Strategy 2:** : Maintain excellent teaching, learning environment to achieve Zero failures, 70% and 90 % First class in 3<sup>rd</sup> and 4<sup>th</sup> years respectively and two University rank holders in each Deptby 2023:
  - 100% Faculty should be with PG degree by 2014.
  - 50% Faculty should be PhD holders by 2020.
  - 30% scholarships for high merit holders by 2015.
  - Reward and Recognition Awards for excellence in teaching.
  - Continuous evaluation of the effectiveness of Faculty and each course content.
  - Integration of written and oral communication skills throughout curricula.
- **Strategy 3:** Ensure that all AIT students graduate with strong core engineering knowledge enriched by a broad education to ensure that 20% students obtain post graduation, 100% registered students get placement, and 60% placements are in core engineering and consultancy firms with salary package of Rs 6 lakh and above.
  - Prepare students with the ability to use the techniques, skills, and modern engineering tools necessary for modern engineering practice – Value Addition Courses as evening classes.
  - Prepare students for ethical and professional leadership.
  - Prepare students to communicate effectively among diverse audiences.
  - Prepare students for lifelong learning and professional improvement.
- **Strategy 4:** Introduce core engineering domain of Civil Engineering by 2016:
  - Exploit the infrastructure boom
  - Offer UES candidates for recruitment to Corps of Engineers.

- **Strategy 5.** Achieve good branding for AIT:
  - NBA accreditation for all Depts in 'A' grade by 2016.
  - Ranking by recognised rating agencies within first 10 private engineering colleges by 2023.
  - Implement exchange programs with Foreign Universities by 2017.
- **Strategy 6.** Obtain Autonomous status under Pune Univ:
  - Permanent affiliation to Pune Univ by 2013.
  - Submit proposal for Autonomous status by 2018.

24. **PG Education and Research.**

(a) **Goal:** Build and sustain nationally recognised engineering research and PG programs of relevance to industry.

(b) **Strategies and Tasks :**

- **Strategy 1.** Advance research and scholarly enterprise:
  - Recruit and retain Faculty with good research and scholarship potential.
  - Introduce PG courses in a phased manner for 4 Departments by 2020.
  - Identify and support programs and areas of emerging distinction (2020 target: 1 of 4 PG programs ranked in top 10 of private research colleges).
  - Support mid-career Faculty in pursuing new research programs.
- **Strategy 2:** Initiate research culture in AIT UG students:
  - Introduce 5 years Integrated ME Course in one Dept by 2017 and integrated PhD course in 1 Dept by 2020.
  - Provide opportunities for UG research experience.
- **Strategy 3.** Improve research synergies with Industry:
  - Stimulate long-term, mutually beneficial industrial collaborations (2023 target : 50% Faculty with at least one industry research / consulting contact per year).

- Increase appreciation of entrepreneurship among students and Faculty (Establish Entrepreneurship Cell).
- Encourage registration of patents (2023 target: two patents per Dept).
- **Strategy 4:** Advance the reputation of research and PG programs in Defence industry and outside:
  - Accept Army Technology Board (ATB) projects.
  - Accept MOUs with DRDO establishments of Pune.
  - Aggressively market, at the state and national levels, the college's research enterprise and PG programs.
  - Stimulate public involvement in conferences, lectures and seminars.
  - Utilise emerging technologies and activities, such as electronic mail and electronic distance learning.
- **Strategy 5.** Obtain AICTE/DST/TEQIP grants from Government sources.
  - Modernise and remove obsolescence in lab equipment – Rs 15 lakh under MODROBS scheme of AICTE
  - Apply for MODROBS grants for promoting Continuing Education Programmes for own students and for establishing Learning Resource Centres (LRC) for local industry and consultancies.
  - Research Promotion Scheme (RPS) for innovation in established and newer technologies :-
    - Rs 5 to 10 lakh for one or more Faculty members for development of end products which encourage further research activity.
    - Rs 10 -12 lakh for young Faculty under 30 yrs doing PhD.
    - Rs 20 lakh to one or more Faculty members who aim to develop new research facilities at the parent institute.
  - Entrepreneurship Development Cell (EDC)
  - TAPTEC projects – Rs 20 lakh for research in Thrust Areas for national development



- Seminar Grants (SG), Staff Development Programme (SDP), Visiting Professorship (VP) etc.

25. **Value Addition Courses / Internal Revenue Generation (IRG) Scheme.**

(a) **Goals:** Impart industry specific beyond-syllabus learning for own students and generate income from open-to-all market friendly programmes for sustaining AIT's growth plan on a No-Profit basis to the tune of Rs 1 crore by 2023.

(b) **Strategies and Tasks :**

- **Strategy 1.** Introduce 20 hour/month value addition technical courses (CEPs) using AITs infrastructure in evening sessions after regular college hours:
  - IT Courses on C, C++, Data structures, Open Source C Programming, JAVA and .Net using current lab set-up and industry experts initially and own trained Faculty thereafter – Revenue generation @ Rs 2000/month/student.
  - Electronics & Telecommunication Engineering Courses on VLSI embedded systems techniques, Visual instrumentation using Lab-view software – Revenue generation Rs 2,000/month/student.
  - Mechanical Engineering Courses on Auto-CAD, CAM, CAE, 6 SIGMA, CNC training, CATIA – Revenue generation Rs 2,000 to Rs 4,000 / month/student.
  - Android technology course with some additional set-up cost of Rs 1 lakh – Revenue generation @ Rs 2000/month/ student.
  - Other customised modular courses after additional set-up cost of Rs 2 lakh – Revenue generation @ Rs 2000 /student/month and saleable project @ Rs 0.2 to 0.5 lakh / project.
- **Strategy 2.** Introduce SSB Coaching with ex-SSB Faculty by adding a mini-obstacle course to achieve 10% placement of AITians in Armed Forces.
  - Revenue generation @ Rs 2000/student.
- **Strategy 3.** Organise CAT and GATE classes by recognised agencies for AIT students and open to all:
  - Revenue generation @ Rs 2000/student.

- **Strategy 4.** Introduce Finishing School in conjunction with CII / MCCIA:
  - 20 hour per month courses on Soft Skills development for all streams of graduation under TPO for revenue generation @ Rs 2000/student as well as cater for AIT's own student population.
- **Strategy 5.** Offer IT lab facilities, projects and product development for other institutes and industry:
  - Cloud computing online courses and services investing Rs 15 lakh on set-up cost – Revenue generation from all AWES institutes @ Rs 1 lakh per institute and Rs 2000 /student/month.
  - Generate revenue of Rs 1 lakh and above on each product module developed for industry.
- **Strategy 6.** Offer consultancies in Civil, Mechanical and E&TC Engineering to Pune's infrastructure firms, auto industry and other SMEs in PCMC and surrounding areas:
  - For Faculty development and revenue generation for AIT and Faculty.

#### **PART IV - COLLEGE GROWTH PLAN AY 2013-23**

26. **Strategic Plan Matrics for AY 2013-23 (refer Appendix). Salient aspects of the metrics are highlighted below :-**

(a) **Accreditation.**

- **2012-13.** Permanent affiliation to Pune University.
- **2013-14.** NBA certification – 'IT Dept' for 1<sup>st</sup> time.
- **2017-18.** Obtain Autonomous status under Pune University.

(b) **Horizontal Expansion.**

- **2015-16.** Introduce Civil Engineering branch of 60 strength with additional hostel facilities for 240 children.

(c) **Vertical Expansion.**

- **2014-15.** Introduce PG course in Mechanical Engineering (Machine Design) with 18 seats PG course to be expanded later to full strength of 24 seats if response from army wards is good.
- **2016-17.** Introduce PG course in E&TC / Computer Departments based on prevailing market survey.
- **2019-20.** Introduce PG in Civil Engineering Department.
- **2020-21.** Introduce PhD Research Centre with provision to opt for ME with PhD.

(d) **Research and Consultancy / MOUs with Industry.**

- **2012-13.** Introduce AICTE / DST / TEQIP research promotion schemes and best practices.
- **2013-14 onwards.** Introduce R&D and MOUs with Industry in a phased manner along with introduction of PG courses.

(e) **Exchange Programs with Foreign Universities.**

- **2014-16.** Explore possibilities of exchange programs in Mechanical and E&TC Branches.
- **2016 -17.** Implement pilot projects.
- **2017 -18.** Implement exchange programs.

(f) **Value Addition Courses / Internal Revenue Generation(IRG) Schemes (2013 onwards).**

- **IT Courses.** C,C++,Data Structures, Open Source C Programming, JAVA, .NET, Android technology, Software testing, Cloud Computing Courses and Services, Modular Courses, Saleable projects, Product Development
- **E&TC Engg Courses.** VLSI Embedded Systems Techniques, Visual instrumentation using Lab-View S/W
- **Mech Engg Courses.** 6 SIGMA, CAD, CAM, CAE, CNC Trg.
- **Soft Skills Course.** By Professional coaching agencies in GD, PI, English and Foreign languages, Logical reasoning, Personality Development etc.
- **CAT/GATE/GRE/SSB Preparation Courses.** In conjunction with training orgs like IMS, Career Launcher, TIME, private SSB coaches etc.

- **Project Mgmt Courses.** For working professionals.

(g) **Alumni Contribution.**

- **2012-13.** AIT Alumni Coordination Cell of 40 student members formed to coordinate with Alumni Association.
- **2013-14 onwards.** Organise class-wise events.
- **2014-15 onwards.** Develop alumni special interest and “friends” groups for appropriate Depts.

27. **Infrastructural Development Plan.**

(a) **Academic Infrastructure.**

- **2012 - 14.**
  - New Library Building including PG Centre and modification of three new IT and Civil Engg labs - Rs 5.0 crores.
  - E&TC Dept:
    - Radio Frequency & EMI/EMC lab - Rs 27 lakh.
    - Modification of three E&TC labs – Rs 11 lakh.
    - Upgradation of lab as per new Second Year curriculum – Rs 5 lakh.
    - Signal Processing & Communication Lab – Rs 5 lakh.
  - Mechanical Dept :
    - CNC Trainer, FEA, MATLAB & CAM Software & Vib Set-up – Rs 30 lakh.
    - Modification of TOM, DOM and Fluid Mechanics labs – Rs 3 lakh
    - One new lab/ tutorial room for CNC trainer in Workshop – Rs 2 lakh.
    - Three new Lecture Halls in Workshop building – Rs 10 lakh.
- **2014 - 15.**
  - New Civil Engineering Dept Building – Rs 5 crores.
  - **E&TC Dept:**
    - Embedded & VLSI Lab with Microwind Software – Rs 6 lakh.

- Computer System Lab – Rs 8 lakh.
- Upgradation of lab as per new Third Year curriculum – Rs 5 lakh.
- **2015 -16.**
  - **E&TC Dept:**
    - Advanced Communication Lab Equipment – Rs 10 lakh.
    - Upgradation of lab as per new Fourth Year curriculum – Rs 5 lakh.
- **2016-17.**
  - **E&TC Dept:**
    - PG Lab equipment and furniture – Rs 20 lakh.
    - E&TC PG tutorial rooms (2 Nos) – Rs 10 lakh.
    - Advanced DSP Lab Equipment for PG – Rs 10 lakh.
- **2020-21.**
  - Research Centre for PhD – Rs 20 lakh.

(b) **IT Infrastructure.**

- **2012 -13.**
  - Server Room Renovation – Rs 8 lakh.
  - Additional Network Security Firewall – Rs 3 lakh.
  - Wi-fi extension to Boys hostels & rest of Academic Block – Rs 12 lakh
- **2013-14.**
  - Additional Network Security (Firewall) - Rs 12 lakh.
  - Wi-fi extension to New library, Girls hostel and NBH II & rest of Academic Block – Rs 6 lakh.
  - Internet bandwidth increase from 25 to 75 Mbps – Rs 10 lakh recurring.
  - New Network & Info Security lab – Rs 15 lakh

- **2014 -15.**
  - ERP system for college administration – Rs 12 lakh recurring.
  - Number Access Point system in Hostel Rooms – Rs 6 lakh
  - Virtual class-room – Rs 10 lakh.
  - Wi-fi of complete campus – Rs 1.5 lakh.
  - New Desktop PCs (40 Nos) – Rs 16 lakh.
- **2015-16.**
  - Cloud computing and server virtualisation – Rs 5 lakh.
  - Replacement of all Switches with Manageable Switches – Rs 3.5 lakh.
- **2016-17.**
  - Cloud computing and server virtualisation – Rs 10 lakh.
- **2017-18.**
  - New Desktop PCs (40 Nos) – Rs 18 lakh.

(c) **Hostel Infrastructure.**

- **2014 -15.** Introduce one more flank with capacity of 105 students in New Boys Hostel I – Rs 2.61 crores.
- **2016-17.** Additional hostel accommodation for 240 UG Civil Engineering students
- **2017-18.** Cater for a small hostel with dining facilities for 60 persons for International Students Exchange programs and other research scholars if required.

(d) **Library Infrastructure in New Library Building.**

- **2012-14.**
  - State of the art Digital Library – Rs 14 lakh annually
  - Separate library server – Rs 1.5 lakh.
  - Book bank for first 10 in all departments – Rs 1 lakh.
  - Internet connectivity including wi-fi to NLB –Rs 5 lakh.

- Departmental libraries in all departments –Rs 10 lakh.
- **2014-16.**
  - Photocopying facilities – Rs 2 lakh.
  - Group Study cum Presentation Room – Rs 4 lakh.
- **2018-19.**
  - Self loan machines/ RFID based – Rs 20 lakh.

(e) **Sports Infrastructure.**

- **2012-13.**
  - Permanent lights for Basketball Court – Rs 2 lakh
  - Resurfacing of Football ground – Rs 10 lakh
- **2013-14.**
  - Resurfacing of second Volleyball court – Rs 1.5 lakh.
  - Flooring of Badminton Court – Rs 1 lakh.
  - Garware net fencing around Tennis & Basketball Courts and Volleyball grounds – Rs 1 lakh.
  - Turf practice cricket pitch – Rs 1 lakh.
- **2014-15.**
  - Re-surfacing of 2<sup>nd</sup> basketball court – Rs 7 lakh.
  - Renovation of one Squash court – Rs 5 lakh.

(f) **Administrative Infrastructure.**

- **2013-14.**
  - New Main Gate – Rs 10 lakh.
  - Sewage Treatment Plant – Rs 50 lakh
  - Alternative solar energy source for supplementing electricity needs - Rs 12.5 lakh.
  - Additional outdoor dining arrangements – Rs 5 lakh.
  - Renovation of existing two mess dining halls – Rs 12 lakh.

- Push Cock System for flushing – Rs 10 lakh
- Replacement of existing drainage lines behind Shopping Complex, GH and OBH – Rs 15 lakh.
- **2014-15.**
  - New Dining Hall modified from old gym – Rs 12 lakh.
  - Kitchen Waste Grinding Machine – Rs 2 lakh.
  - Cookhouse renovation – Rs 5 lakh
  - Solenoid system for all overhead water tanks – Rs 2 lakh.

28. **Infrastructural Maintenance Plan.**

Ser No	Item of Work	Life Cycle	Remarks
(a)	Roads (Rs 1 lac/100m)	3 yrs (AIT 4 yrs)	Rs 12 lakh pa
(b)	Terrace water proofing (Rs 55 lakh by AIT)	10 yrs	Rs 60 lakh in 10 years
(c)	Seepages through bathroom blockages etc	As and when occurs	Rs 10 lakh in 5 years
(d)	Whitewash (cookhouse, stores, toilets)	6 monthly	Rs 2 lakh pa
(e)	Whitewash & Dry distemper (Rooms)	1 yr	Rs 8 lakh pa
(f)	OB Distemper (Class-rooms & labs)	2 years	Rs 2.5 lakh pa
(g)	External paint (acrylic) for Aca Block front face & hostels	5 yrs	Rs 10 lakh in 5 years
(h)	External paint (cement based for balance surfaces)	2 yrs	Rs 3 lakh pa
(j)	Painting (steel & woodwork)	2 yrs	Rs 1 lakh pa
(k)	Wire mesh (windows & hostel corridors)	5 yrs	Rs 5 lakh in 5 yrs
(l)	Drainage	As required	Rs 1 lakh pa
(m)	Plumbing (external & internal)	As required	Rs 0.5 lakh pa & Rs 1.5 lakh pa.
(n)	Overhead Water Tanks	As required	Rs 1 lakh pa



(o)	STP	As required	Rs 2.5 lakh pa
(p)	Termite treatment	5 years	Rs 1 lakh pa
(q)	Plastering repair work	As required	Rs 2 lakh pa
(r)	Solar water heater maintenance	As required	Rs 3 lakh pa
(s)	Electrical maintenance	As required	Rs 4 lakh pa
(t)	Water coolers & Aquaguards	As required	Rs 2 lakh pa
	<b>Total</b>		<b>Rs 58 lakh pa</b>

**PART V - BUDGETARY ANALYSIS**

29.

**BUDGET FOR FY 2013-14**

**(Rs IN LAKH)**

Ser No	Income				Expenditure			
	Particulars	College	Hostel	Total	Particulars	College	Hostel	Total
1	College Fees#	907.50	-	907.50	Pay & Allowances	905.00	25.00	930.00
2	Hostel Fees @	-	205.00	205.00	Electricity & Water	30.00	70.00	100.00
3	Interest on Investments	247.00	12.30	259.30	Projects (Civil Works & Maint)	48.00	76.00	124.00
4	Sale of Prospectus (5000 Nos x Rs 750/-)	37.50	-	37.50	Departmental Expenditure/ Library/IT Infra	157.87	-	157.87
5	Rent & Allied Charges (Married Accn / Shopping)	10.00	10.00	20.00	Scholarship & Students co-curricular activities	43.30	11.50	54.80
6	Promotional Charges FE : Rs 15,000/- X 300.	60.50	-	60.50	Adm & Maint, Security etc	53.50	43.00	96.50
7	Misc Income (Eg Barrack damage, maint)	16.00	4.00	20.00				
8	Wi-Fi Facilities for Students	-	18.00	18.00				

<b>Total Income</b>	<b>1278.5</b> <b>0</b>	<b>249.3</b> <b>0</b>	<b>1527.8</b> <b>0</b>	<b>Total Expdr</b>	<b>1237.6</b> <b>7</b>	<b>225.5</b> <b>0</b>	<b>1463.1</b> <b>7</b>
				<b>Surplus</b>	<b>40.83</b>	<b>23.80</b>	<b>64.63</b>
				<b>Total Income</b>	<b>1278.5</b> <b>0</b>	<b>249.3</b> <b>0</b>	<b>1527.8</b> <b>0</b>

**# College Fee:-**

(a) Tuition Fee : FE to BE 70000X 1200 Nos =Rs 840.00 lakh  
(Rs 65000/- + 7.5% increase = Rs 70,000/-)

(b) Development Fee : FE-BE 5000 X 1200 = Rs 60.00 lakh

(c) Registration Fee : FE = 2500X 300 = Rs 7.50 lakh  
Total = Rs 907.5 lakh.

**@ Hostel Fee**

1000 Nos X 20500 = Rs 205.00 lakh  
(Rs 19,000/- + 7.5% increase = Rs 20,500/ )

**Note:** Depreciation of assets is Rs 102 lakh from College fund and Rs 35 lakh from Hostel fund which are accruing in the College Asset Replacement Fund.

**30. AIT Fund State (Fixed Deposit) in Rs. Lakh as on 31 Aug 2013.**

(a) <u>AWES Funds (interest not available for AIT)</u>	
(i) Corpus(50% interest fed back to corpus)	861.55
(ii) Asset Replacement Fund (ARF) AWES (fed from bal 50 % interest of corpus fund)	593.47
Sub-total	1,455.02
(b) <u>College Funds (interest available for AIT)</u>	
(i) College Fund	1,524.44
(ii) Asset Replacement Fund (ARF) College (fed from depreciation of assets)	245.09
(iii) Alumni Fund	23.43
(iv) Medals & Awards Fund	13.60
(v) AIT Teachers Welfare Fund	5.00
(vi) Vehicle Fund	10.32
Sub-total	1,821.88

(c)	<u>Security Funds (interest available for AIT)</u>	
	(i) Students Refundable Security Deposit	315.00
	(ii) Gratuity & leave encashment (Staff)	327.34
	(iii) Director AIT & DTE Bombay Deposit	15.00
	Sub-total	657.34
(d)	Hostel Fund	157.81
	<b>Total</b>	<b>4092.05</b>

31. **Budgetary Analysis.**

- (a) AIT has to be self-sustaining as per AWES norms, but AWES funds are available for major projects.
- (b) Cost of education of a student in AIT is approximately Rs 1.2 lakh per annum.
- (c) FD interest generated from AIT College funds and Students Security deposit subsidises about 15% to 20% of the revenue expenditure.
- (d) AIT College Fund must grow at 20 % per annum to cater for inflation and salary hikes. However, to cater for long term growth another 10 % growth of College Funds is also desirable. Hence, college funds should not be allowed to deplete under any circumstances.
- (e) AIT revenue income is primarily based on tuition fees, whereas in premier colleges 40% to 50% of the income is generated from grants and consultancies.
- (f) Pay and Allowances consume 90% of the revenue income leaving very little for financing other college activities. There is a need to generate at least 10% more income from grants, consultancies and IRG schemes ie approximately Rs 1 crore per year to provide scope for healthy growth, industry-institute interaction and meaningful research work.

**PART VI - CONCLUSION**

32. In the next 10 years a number of Post Graduate (PG) courses and a Research Centre should be introduced to inculcate a research & consultancy culture in AIT. Initially the first PG course would have to depend on civilians and possibly Army officers on study leave to fill up the PG vacancy. But after the initial years, students passing out of AIT would definitely fill bulk of the vacancies as future trend suggests that industry would be recruiting greater number of post graduates in attractive jobs. Students undergoing Post-graduation would also be available for taking lectures for UG classes. These would also enable AIT to attract AICTE and University grants and consultancies from the industry.

33. Introduction of a number of certification courses and market friendly soft skills and SSB / CAT courses and AICTE schemes, ATB and DRDO projects would definitely improve the employability of AIT graduates besides generating revenue for sustaining AIT's infrastructural growth and maintenance plans. Simultaneously, implementation of MOUs with foreign universities would be necessary to improve AIT's branding at the national level.

34. Technical higher education system in India is likely to undergo rapid transformation in the coming decade to keep pace with the imperatives of a booming national economy which necessarily has to ride on a sound technological foundation. There is likely to be much greater competition amongst the premier educational institutions to be counted amongst the first twenty. Corporate and foreign universities are likely to enter this field introducing their corporate governance norms and practices with fast decision-making systems. Existing University and labour tribunal service rules which are applicable to AIT also, are excessively sympathetic towards employee grievances. Adoption of corporate norms and practices are likely to enable a more incentive oriented governance system which would allow incentives to the performers and harsher deterrents for non-performers.

35. AIT would have to adapt to these systems and practices to implement all the recommended measures in a highly competitive environment. It would necessitate granting greater functional autonomy to the local college management and especially the college Director in terms of faster decision-making as done in other professional educational institutions.

**Appendix**(refer Para 23 of AIT  
PP Plan 2011-20)**Strategic Plan Metrics for Academic Years 2013 – 2023 (in percentage progress)**

Ser No	Goal , Strategy	Metric	Baseline 2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
1	<b>UG Edu</b> Strategy 1	Attract high AIT merit students and provide a campus environment for producing highly motivated and successful engineers.	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%
2	<b>UG Edu</b> Strategy 2	Maintain excellent teaching, learning environment to achieve Zero failures, 70% and 90% First class in 3 <sup>rd</sup> and 4 <sup>th</sup> years respectively and two rank holders in each Dept by 2023.	30%	40%	50%	60%	70%	80%	85%	90%	95%	100%
3	<b>UG Edu</b> Strategy 3	Ensure that all AIT students graduate with strong core engineering knowledge enriched by a broad education to ensure that 20% students obtain post-graduation, 100% registered students get placement and 60% placements are in core engineering and consultancy firms with salary package of Rs 6 lakh and above.	50%	56%	62%	68%	74%	80%	86%	92%	98%	100%
4	<b>UG Edu</b> Strategy 4	Introduce core engineering domain of Civil Engineering by 2016.	0%	0%	25%	50%	75%	100%	100%	100%	100%	100%
5	<b>UG Edu</b> Strategy 5	Achieve good branding for AIT	40%	50%	60%	70%	80%	90%	100%	100%	100%	100%
6	<b>PG Edu &amp; Research</b> Strategy 1	Advance research and scholarly enterprise.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
7	<b>PG Edu &amp; Research</b> Strategy 2	Initiate research culture in AIT UG students.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
8	<b>PG Edu &amp; Research</b> Strategy 3	Improve research synergies with Industry.	20%	30%	40%	50%	60%	70%	80%	90%	100%	100%

9	<b>PG Edu &amp; Research</b> Strategy 4	Advance the reputation of research and PG programs in Defence industry and outside.	0%	10%	20%	30%	45%	60%	75%	90%	100%	100%
10	<b>PG Edu &amp; Research</b> Strategy 5	Obtain AICTE/DST/TEQIP grants from govt sources	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
11	<b>IRG Scheme</b> Strategy 1	Introduce 20 hr / month value addition technical courses (CEPs) using AITs infrastructure in evening sessions after regular college hours.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
12	<b>IRG Scheme</b> Strategy 2	Introduce SSB Coaching with ex-SSB Faculty by adding a mini-obstacle course to achieve 10% placement of AITians in Armed Forces.	10%	20%	25%	50%	75%	100%	100%	100%	100%	100%
13	<b>IRG Scheme</b> Strategy 3	Organise CAT & GATE classes by recognized agencies for AIT students and open to all.	10%	20%	25%	50%	75%	100%	100%	100%	100%	100%
14	<b>IRG Scheme</b> Strategy 4	Introduce Finishing School in conjunction with CII / MCCIA.	10%	20%	25%	40%	55%	70%	85%	100%	100%	100%
15	<b>IRG Scheme</b> Strategy 5	Offer IT lab facilities, projects and product development for other institutes and industry.	10%	20%	25%	40%	55%	70%	85%	100%	100%	100%
16	<b>IRG Scheme</b> Strategy 6	Offer consultancies in Civil, Mechanical and E&TC Engineering to Pune's infrastructure firms, auto industry and other SMEs in PCMC and surrounding areas.	0%	0%	10%	20%	40%	60%	80%	100%	100%	100%