



Lokmanya Tilak Jankalyan Shikshan Sanstha's

Lokmanya Tilak College of Engineering

Sector-4, Vikas Nagar, Koparkhairane, Navi Mumbai

(Approved by AICTE, Affiliated to University of Mumbai, & Accredited by NAAC)



Best Practice- I

1. Title of the Practice: LTCE Green Initiative

2. Objectives of the Practice

Environmental issues bring about thoughtful questions on the roles of Institutes in society. Irrespective of whether they are contributing to a better environment or worsening it, Institutions have to acknowledge environmental or green issues through impact research and measurement. Based on the approach LTCE has significant Green Initiatives to,

- Promote sustainability by creating awareness
- Expert talks about environmental problems and possible solutions
- Deploy eco-friendly technologies for greening and cleaning our campuses

3. The Context

The main contexts are (i) Water Management, (ii) Waste management, (iii) Energy (conservation and generation) and (iv) Landscaping and tree plantation.

4. The Practice

- **Water management:** Rain water harvesting structures are in place which collects the roof top rain water and discharges it to ground with the capacity of 2000 ltr. The pipelines are constructed from rooftop to ground floor bore, for collecting the shed water in the institute. This water is used for cleaning and gardening purpose.
- **Waste management:** E-waste generated is first reused in the campus itself. The institute follows the guidelines from NMMC regarding waste handling and management.
- **Energy conservation:** The Internal stakeholders takes all measures to save the power. More than 80% lighting requirements are met through LED sources.
- **Use of renewable energy:** Interactive solar power generating system of 277 KW is provided on the roof top of the academic buildings. With the installation of this system 70 to 75% of the total electricity requirement is met.
- **Efforts for carbon neutrality:** By conserving and reusing energy, the need for excessive use of fossil fuels can greatly reduce, thus reducing carbon emissions. Installing solar panels helps in reducing carbon emissions. The installation of 277 kW solar power systems has saved the amount of carbon dioxide released into the air. Thus, the emission of carbon dioxide is well controlled with these efforts in the institute to achieve carbon neutrality.
- **Plantation:** Every year plantation drives are organized by the institute for lush and green campus.

5. Evidence of Success

- **Water Management:** In the rainy season, around 100 litres water per day is collected in the borewell. Water conservation awareness initiatives are taken by NSS. Sensor based water pump operation is in functioning.
- **Waste management:** The canteen waste of 5 kg/day is given to NMMC separately as per contract between canteen and Corporation. 5 to 10 kg dry and wet waste collected from laboratories, classrooms, cabinets per day and it is handed over to NMMC for further treatment after segregation.



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- Solar System: 5000 kWh/month equivalent electrical energy is generated by rooftop solar plant.
- Landscaping and Trees: LTCE has Total 15000 kg Carbon Sequestered/annum by landscaping and planting around 700 trees in the campus. On the occasion of World Meteorological Day, the trees were tagged by Quick Response (QR) codes.

6. Problems Encountered and Resources Required

The Green Initiative provides a platform of environmental knowledge and research for truly transformative change. Cost for implementation sometimes puts barrier for immediate deployment.

Best Practice- II

1. **Title of the Practice:** Student support systems for holistic development.

2. Objectives of the Practice

The heart of holistic education should address the various dimensions of the personality of the whole person, i.e., physical, emotional, intellectual and spiritual personalities and in a nut shell KNOWLEDGE-SKILL-BEHAVIOR, “The basic mantra of OBE”. Holistic education values and encourages learning both inside and outside the classroom, enables the development of confident, well-rounded graduates who are prepared to serve as the next generation of creative thinkers and leaders.

3. The Context

Engineering education has to rethink and develop teaching systems. The students must have the 3C's (Curiosity & Creativity, Collaboration and Compassion) for prospective future. Institute put efforts for holistic development of students from the pre-engineering studies till graduation. The activities organized are categorized into,

- Activity Based Learning
- Technology Based Learning
- Project Based Learning

4. The Practice

a) Activity Based Learning (ABL): The institute offers learning through various ABL activities such as to enhance research ability, team work, communication, leadership, time management, moral and ethical development etc. Through ABL, we provide multiple platforms to students in form of domain activities, quizzes, debates, hackathons, seminars and workshops etc. to make them industry ready.

b) Technology Based Learning (TBL): To bridge the gap between curriculum and Industry expectation, we have introduced TBL through IIC. Students are encouraged towards self-learning platforms to learn at their own pace in their area of interest through NPTEL, Coursera etc. to strengthen the foundation and improve employability.



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c) Project Based Learning (PBL): PBL integrates knowing and doing where in students not only learn knowledge and elements of the core curriculum, but also apply what they know to solve authentic problems and produce results that matter. Through PBL students take advantage of advanced computing tools to produce high quality, collaborative products.

5. Evidence of Success

i) Projects Research Grants through ASHRAE/ISHRAE Apex Bodies

The ISHRAE Students LTCE Chapter and ASHRAE LTCE STUDENT BRANCH are active in the multidisciplinary mode. These two chapters provides research funding to the students for research projects, industrial visits, internships, quiz competitions, seminars, panel discussion etc. https://ltce.in/activities_ASHRAE_Report

https://ltce.in/activities_ISHRAE_Report

ii) Students Associations and student's chapters

LTCE has various student associations and chapters at departmental and IIC Cell at Institute level. NSS unit organizes social programs beneficial to the society. Training and Placement Cell provides placement assistance, internship opportunities to the students.

iii) Curricular and Cocurricular Platforms for Students Activities

Annual events like Cultural Zephyr, Sports Zephyr provides leadership and management opportunities to students by managing institutional events.

https://ltce.in/activities_zephyr_cultural

iv) Technical Level Platforms for Students Activities

Institute supports Aavishkar Research Convention, Smart India Hackathon etc. to help the students to demonstrate the UG major and mini projects at University and State level. Institute organizes Annual technical fest for students to present their project ideas, innovations, paper presentations etc.

6. Problems Encountered and Resources Required

The foremost challenges faced are time management by students and faculty at par, loss of academics, timely submission of academic work.